

**CITY OF PEORIA, ARIZONA  
COUNCIL COMMUNICATION**

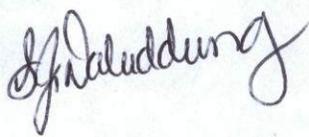
**Date Prepared: August 11, 2011**

**Council Meeting Date: September 20, 2011**

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**TO:** Carl Swenson, City Manager

**FROM:** Chris Jacques, AICP, Acting Planning & Community Development Director 

**THROUGH:** Susan J. Daluddung, AICP, Deputy City Manager 

**SUBJECT:** HP11-0001 - Palo Verde Ruin Historic Landmark

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**Purpose:**

This is a request for City Council to take action on a proposal to designate a portion of the Palo Verde Ruin that is known as Palo Verde Park as a City of Peoria Local Historic Landmark with Historic Preservation Overlay Zoning, and to list the property on the Peoria Register of Historic Properties.

**Background/Summary:**

The 16-acre site in question is directly adjacent and west of the recently completed Palo Verde Park, located west of the intersection of 73<sup>rd</sup> Drive and Briles Road in Terramar. The site encompasses a portion of the Palo Verde Ruin archaeological site, the largest prehistoric village situated on the New River. The site was inhabited by the Hohokam Native Americans around 1000 years ago, from approximately 900-1070 A.D. The 16-acre site is part of a larger approximately 20-acre City owned property, the remainder of which has been developed as a recreational park that includes features such as ramadas, a basketball court, and playground equipment.

The City plans to maintain the site as a cultural preserve due to the nature of its archaeological resources. The site is currently nominated and undergoing approval for listing on the National Register of Historic Places, a designation that will provide national recognition of the historic significance of the site.

The Local Historic Landmark designation will mark over 10 years of City efforts in coordination with the State Historic Preservation Office to properly manage the City-owned portion of Palo Verde Ruin, balancing the preservation of cultural resources with the need for recreational amenities for area residents.

**Previous Actions:**

- On July 13, 2011, the Historic Preservation Commission voted 5-0 in favor of recommending approval of the Peoria Local Historic Landmark Designation with Historic Preservation Overlay Zoning for the property in question.
- On August 18, 2011, the Planning and Zoning Commission voted 5-0 in favor of recommending approval of the Peoria Local Historic Landmark Designation with Historic Preservation Overlay Zoning for the property in question.

**Options:**

- A: Approve the request, designating the property in question as a City of Peoria Local Historic Landmark with Historic Preservation Overlay Zoning and list it on the Peoria Register of Historic Properties.
- B: Deny the request.
- C: Remand the case back to the Historic Preservation Commission or the Planning and Zoning Commission for further review and discussion.
- D. Continue the case to a future date.

**Staff's Recommendation:**

The Mayor and Council concur with the Historic Preservation Commission's recommendation (5-0), the Planning and Zoning Commission's recommendation (5-0), and adopt the attached Ordinance designating the described portion of the Palo Verde Ruin as a Peoria Local Historic Landmark having Historic Preservation Overlay Zoning and placing it on the Peoria Register of Historic Places.

**Fiscal Analysis:**

This request will not generate any direct budgetary impacts.

**Narrative:**

The Local Historic Landmark designation with Historic Preservation Overlay Zoning will provide protection for the cultural resources located within the 16-acre afore mentioned portion of the Palo Verde Ruin. This designation will affirm the City's intention to maintain the cultural resources of this site. With the designation and zoning overlay in place, any changes or development of the site potentially impacting the cultural/archaeological resources present,

would require approval of a Certificate of Appropriateness issued by the Historic Preservation Commission.

**Exhibit(s)**

**Exhibit 1:** Planning and Zoning Commission Staff Report with exhibits (8/18/11)

**Exhibit 2:** Draft Ordinance

**Contact Name and Number:** Melissa Sigmund, Planner, x 7603



# Historic Landmark Designation

## REPORT TO THE PLANNING & ZONING COMMISSION

**CASE NO.:** HP11-0001

**DATE:** August 18, 2011

**AGENDA ITEM:** 5R

**Applicant:** City of Peoria

**Request:**

- 1) Designation of a portion of the Palo Verde Ruin, also known as Palo Verde Open Space Park, as a City of Peoria Local Historic Landmark with Historic Preservation Overlay zoning; and
- 2) Request for the property to be listed on the Peoria Register of Historic Properties.

**Location:** The property is located west of the intersection of 73<sup>rd</sup> Drive and Briles Road. The property is more particularly described as a portion of Maricopa County Assessor Parcel Number (APN) 201-09-044.

**Site Acreage:** Approximately 16 acres.

**Support /Opposition:** The City has not received any public comments in support or opposition to this request.

**Recommendation:** Recommend **approval** to City Council for the designation of a portion of the Palo Verde Ruin as a Peoria Local Historic Landmark having Historic Preservation Overlay Zoning.

### Surrounding Land Use and Zoning:

1.

HP11-0001	LAND USE	ZONING
<b>On-Site</b>	<b>Palo Verde Ruins</b>	<b>Suburban Ranch (SR-43)</b>
North:	Single family residences	Single Family Residential (R1-8)
East:	Palo Verde Park	Suburban Ranch (SR-43)
West:	Vacant, undeveloped land	General Agriculture (AG)
South:	Single family residences & undeveloped residentially-zoned property	Single Family Residential (R1-6 & R1-8)

## Background:

2. The Palo Verde Ruin archaeological site is the largest prehistoric village situated on the New River. First recorded in the 1930's, the site possesses an extensive Hohokam Native American artifact scatter dating from the late Colonial Period (A.D. 900) to the middle Sedentary Period (A.D. 1070). The City of Peoria owns an approximately 20 acre parcel of land (APN 201-09-044) that encompasses a portion of the Palo Verde Ruin. Of the 20 acre City-owned parcel, approximately four acres are currently under development for use as a recreational park (Palo Verde Park) that will contain features such as playground equipment, ramadas, and half-court basketball (Exhibit D). The cultural resources of the recreational park area have already been mitigated through archaeological investigation, collection, and sensitive site design. The City plans to preserve the remaining approximately 16 acres of the site as a cultural reserve. As such, future development of the site would be greatly controlled. The development of educational/interpretive features such as trails and signage may be pursued in order to enhance the public's understanding of the nature and importance of the cultural resources of this and other locations throughout northern Peoria. The 16-acre cultural reserve portion of the City-owned property will be the area pursued for designation as a Local Historic Landmark. Due to the previous mitigation of the cultural resources in the 4 –acre recreation park, this area is not included in the Local Historic Landmark nomination.
3. As a consultant for the City, Logan Simpson Design, LLC completed much of the archaeological investigation, analysis, and reporting for the site over the past several years. Previous archaeological reports on the site recommend the site as eligible for National Register Listing under Criterion D for its demonstrated and potential ability to yield data important to archaeological understanding of the prehistoric Northern Periphery of the Phoenix Basin. The Northern Periphery is identified as the area between the Agua Fria and Verde Rivers, south from the New River mesas and uplands to the Phoenix Mountains.
4. The City is currently pursuing nomination of the entire ~20 acre City-owned portion of the Palo Verde Ruin to the National Register of Historic Places (National Register). The City contracted with Logan Simpson Design, LLC to have their professional archaeological staff prepare the nomination documentation. The nomination was reviewed by the Arizona Historic Sites Review Committee (HSRC) at their July 29<sup>th</sup> meeting, after undergoing initial review by the State Historic Preservation Office staff. The HSRC has recommended that following changes to correct minor typographical errors, the nomination be placed on the Arizona State Historic Register and be forwarded to the Keeper of the National Register of Historic Places for final review to determine if it will be listed on the National Register. National Register designation will not restrict future development of the site. Instead, it is primarily

a designation that confers national recognition of the historic significance of the site.

## Discussion/Analysis

5. Historic Preservation Overlay Zoning (HP) does not affect the underlying base zoning of the property. Therefore, the permitted uses or bulk standards (i.e. setbacks, parking etc.) for the property will not be changed by the application of the Historic Preservation Overlay Zoning designation. Historic Preservation Overlay Zoning acts to preserve and protect the historic character of properties so designated by requiring approval of a Certificate of Appropriateness by the Historic Preservation Commission for any significant exterior alteration, restoration, reconstruction, demolition, new construction or moving of a landmark, or property within a historic district, and for any material change in the appearance of such a property.

Other plans put forth by the City have previously identified the intended use of the property in question as preserved open space. The Historic Preservation Overlay Zoning will serve to ensure that the open space remains preserved, and will require the Historic Preservation Commission's approval before any material changes are made to the site.

6. According to Section 14-38-3, (Designation of Landmarks or Historic Districts) of the Zoning Ordinance, the Historic Preservation Commission may recommend to the City Council that an individual property be designated as a landmark if it:
  - a. possesses special character or historic or aesthetic interest or value as part of the cultural, political, economic or social history of the locality, region, state or nation; or
  - b. is identified with historic personages; or
  - c. embodies the distinguishing characteristics of an architectural style; or
  - d. is the work of a designer whose work has significantly influenced an age, or;
  - e. because of a unique location or singular physical characteristic, represents an established and familiar visual feature of the neighborhood.

### *Historical Value/Significance*

7. The Palo Verde Ruin qualifies for listing on the Peoria Register of Historic Places under criteria "a" described above, as it possesses special historic interest as part of the cultural history of the region. The National Register nomination prepared for this site provides an in-depth description and justification of the property's historic significance. As previously stated, the site is significant for its demonstrated and potential ability to yield data important to archaeological understanding of the prehistoric Northern Periphery of the Phoenix Basin. Excerpts of the nomination describing the site and its significance are attached

as Exhibit E. Due to the sensitive nature of these resources and the possibility of vandalism of the site, certain information from the nomination has not been included with this report.

8. Property owner approval must be received in order to proceed with designating a property as a Local Historic Landmark. The property in question is owned by the City of Peoria. The City's existing plans to preserve the cultural resources of the site are in concurrence with the Local Historic Landmark designation. The Planning and Community Development Department has applied for Peoria Local Historic Landmark Designation for the property in question on behalf of the City.

#### *Proposition 207 Discussion*

9. In late 2006, the voters of Arizona approved Proposition 207, which amongst other things requires municipalities to compensate property owners for actions that have the effect of diminishing the value of property. The City Attorney's Office has drafted an agreement that waives the applicant's rights to future Proposition 207 claims against the City. Due to the City's ownership of the property in question, it has been determined that a Proposition 207 waiver is not required.

#### Historic Preservation Commission Hearing

10. On July 13, 2011, the Historic Preservation Commission voted 5-0 in favor of recommending approval of the Historic Landmark Designation with Historic Preservation Overlay Zoning for the property in question.

#### Recommendation:

11. Based on the following findings:
  - The request is consistent with the Historic Preservation Master Plan; and
  - The Historic Preservation Master Plan advances the General Plan by protecting historic and cultural resources within the City of Peoria
  - The designation request meets the requirements of Section 14-38-3 concerning characteristics necessary for Peoria Local Historic Landmark Designation due to its significance in terms of its demonstrated and potential ability to yield data important to the archaeological understanding of the cultural history of Peoria's early pre-European inhabitants.
  - The property is at least 50 years old, thereby rendering it old enough to qualify for National Register listing.

It is recommended that the Planning and Zoning Commission take the following action:

**Recommend approval of HP11-0001 to City Council, designating the above**

**described portion of the Palo Verde Ruin, as identified in Exhibit A, as a Peoria Local Historic Landmark with Historic Preservation Overlay Zoning.**

Attachments:

Exhibit A: Aerial Location Map

Exhibit B: Zoning Map

Exhibit C: General Plan Land Use Designations Map

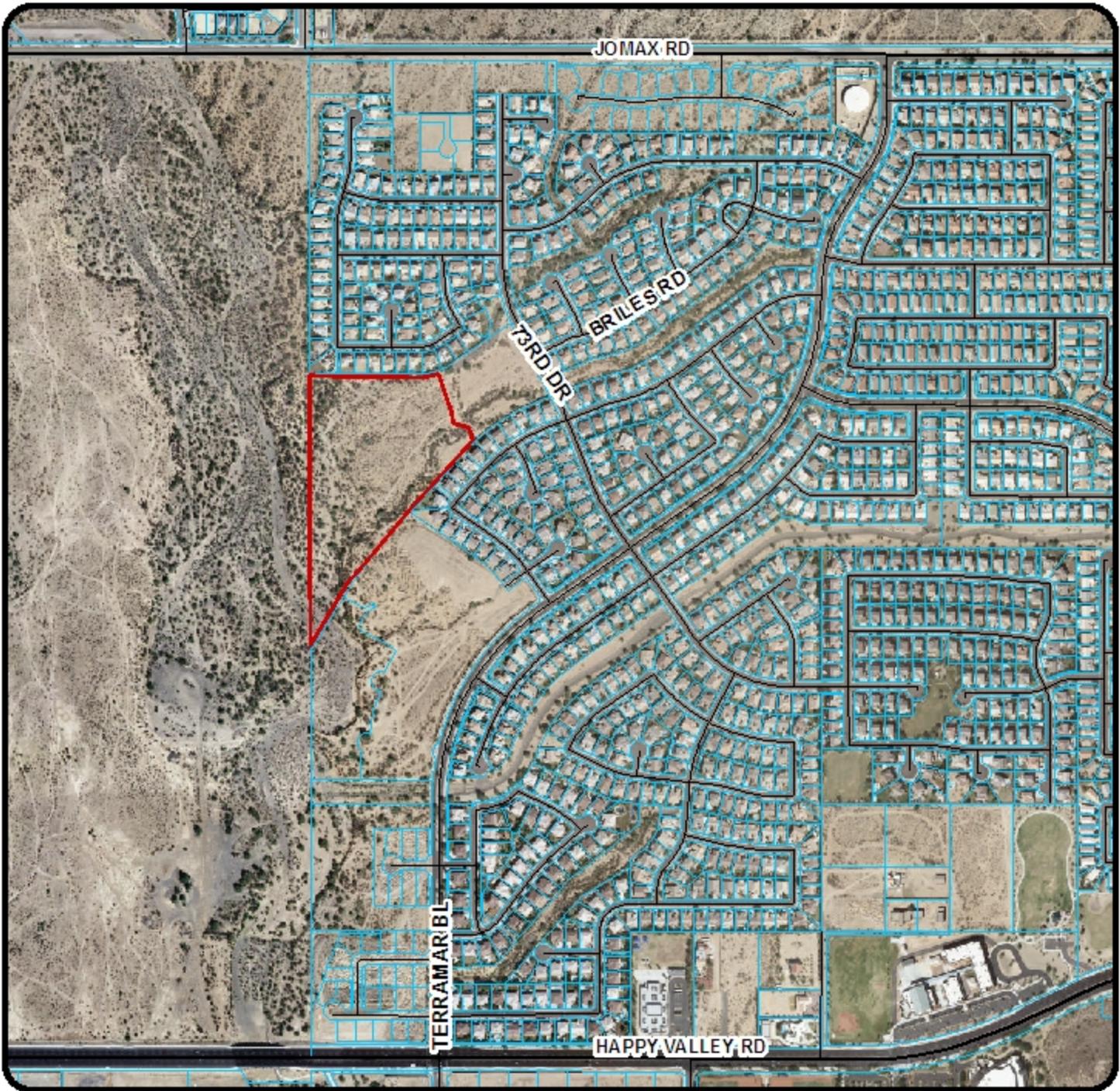
Exhibit D: Palo Verde Recreation Park Site Plan

Exhibit E: Excerpts from the National Register nomination for the Palo Verde Ruin

Prepared by:

Melissa Sigmund, Planner

# Vicinity/Location Map



**HP11-0001 Palo Verde Ruin Applicant: City of Peoria**

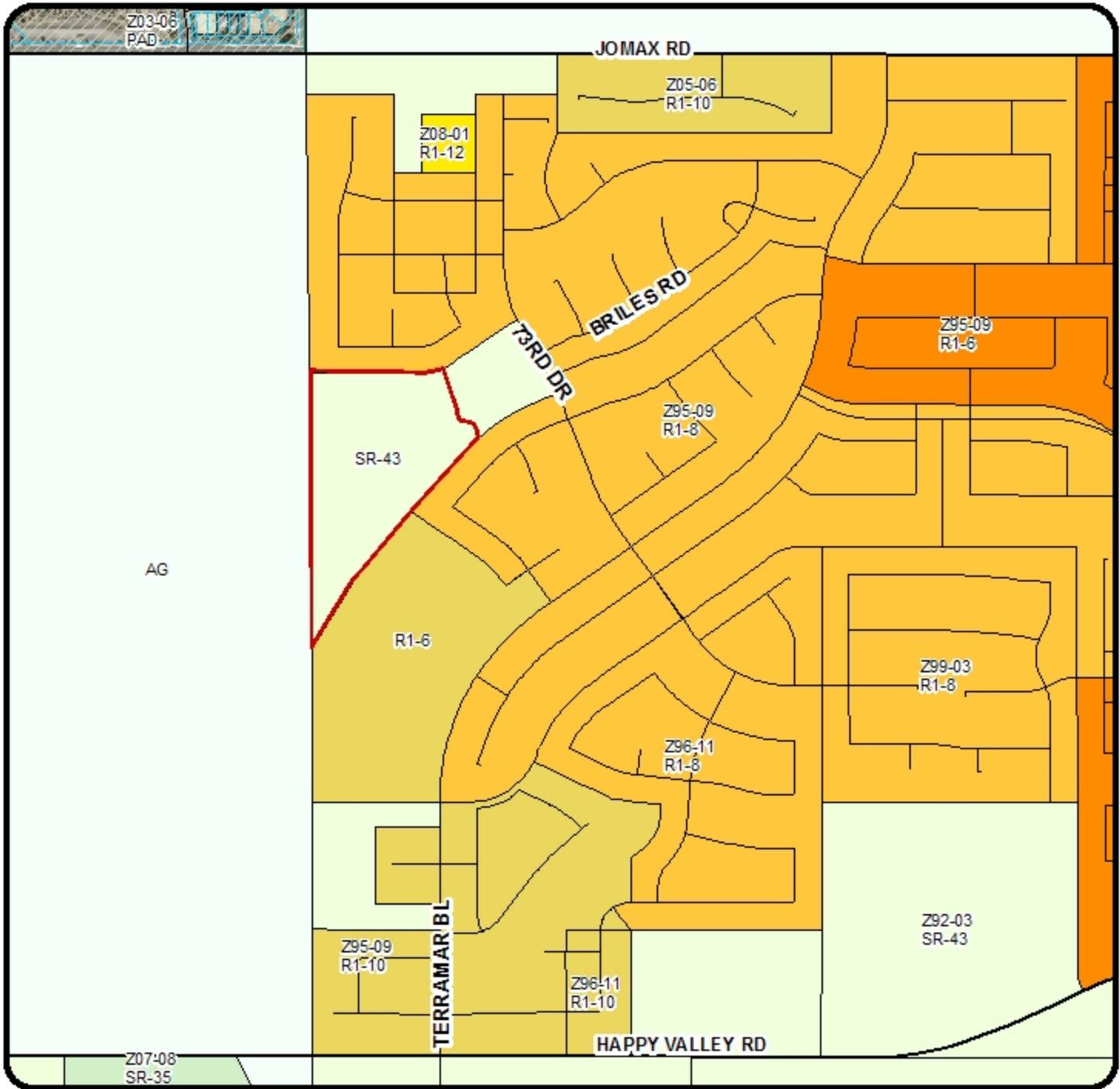
**Exhibit A**

Request: Establish Local Historic Landmark Designation with Historic Preservation Overlay Zoning for a portion of Palo Verde Ruin, located west of the intersection of 73rd Drive and Briles Road. The location is more particularly described as a portion of APN 201-09-044.



Not to Scale

# Zoning Map



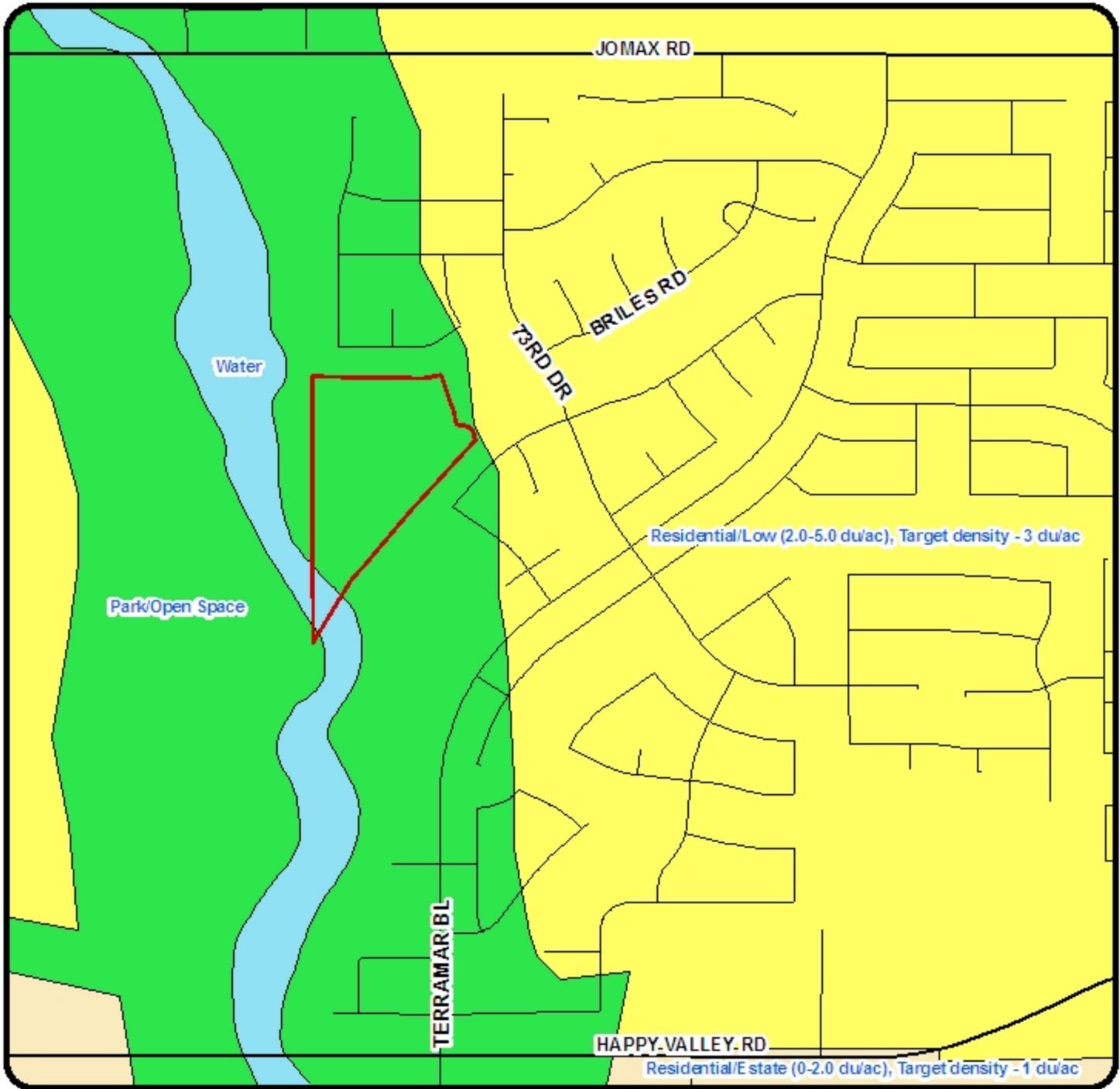
## HP11-0001 Palo Verde Ruin Applicant: City of Peoria

Exhibit B

Request: Establish Local Historic Landmark Designation with Historic Preservation Overlay Zoning for a portion of Palo Verde Ruin, located west of the intersection of 73rd Drive and Briles Road. The location is more particularly described as a portion of APN 201-09-044.



# General Plan Land Use Designation Map



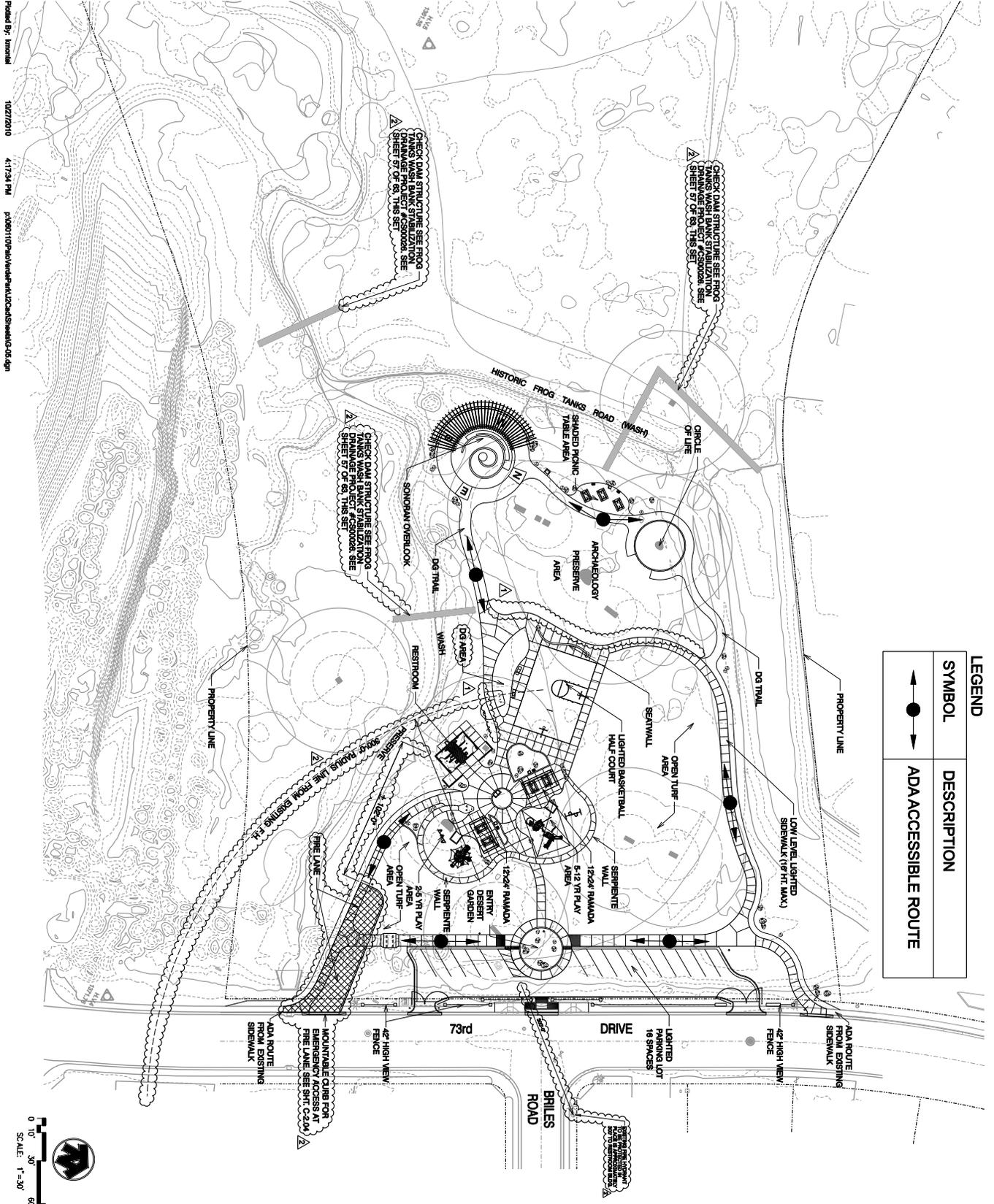
**HP11-0001 Palo Verde Ruin Applicant: City of Peoria**

**Exhibit C**

Request: Establish Local Historic Landmark Designation with Historic Preservation Overlay Zoning for a portion of Palo Verde Ruin, located west of the intersection of 73rd Drive and Briles Road. The location is more particularly described as a portion of APN 201-09-044.

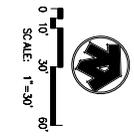


Not to Scale



LEGEND	
SYMBOL	DESCRIPTION
	ADA ACCESSIBLE ROUTE

Prepared By: Inwood  
 10/27/2010  
 4:17:34 PM  
 p:\080119\PaloVerdePark\2010\080119\080119.dwg



**WARNING**  
 THE USER OF THIS PLAN SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

**1-800-STAKE-IT**  
 THE ONLY SURVEYING SERVICE PROVIDER IN THE SOUTH CENTRAL STATES.

DATE	06.01.10
DESIGNED BY	K. HORTON
CHECKED BY	K. HORTON
APPROVED BY	D. CHAMBERS
SCALE	1"=30'
DATE	08/28/2010
PROJECT NO.	06.0110
SHEET NO.	5 OF 64

DATE	06/02/2011
DESIGNED BY	SCS
CHECKED BY	SCS
APPROVED BY	SCS
SCALE	AS SHOWN
DATE	06/02/2011



**CITY OF PEORIA**  
 City of Peoria  
 3401 West Morton Street  
 Peoria, Arizona 85345  
 Phone No.: 623-775-1125

**PROJECT:** Palo Verde Park  
**TITLE:** PROJECT SITE PLAN

**CLIENT:** City of Peoria  
 3401 West Morton Street  
 Peoria, Arizona 85345  
 Phone No.: 623-775-1125

**CONSULTANTS:**

**J2**  
 Engineering and Environmental Design  
 4649 E. COTTON CIRCLE, SUITE 82  
 PHOENIX, AZ PHX (602) 438-2221  
 USA 85040 FAX: (602) 438-2225  
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**Narrative Description**

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**Summary Paragraph**

Palo Verde Ruin is a prehistoric Hohokam village located in northeastern Peoria, Arizona (Figure 1). The site has an irregular shape that extends 1,000 m along the eastern bank of the New River and more than 600 m to the east. The overall site boundary covers approximately 80 acres; the central 19.8 acres in the City of Peoria's Palo Verde Ruin Open Space Park represents the portion of the site nominated for listing in the National Register of Historic Places (NRHP). The prehistoric site is eligible for listing under Criterion D for its demonstrated and potential ability to yield data important to archaeological understanding of the prehistoric Northern Periphery of the Phoenix Basin. The site possesses an extensive late Colonial (A.D. 900) to middle Sedentary Period (A.D. 1070) Hohokam artifact scatter that is associated with 104 trash mounds found on the alluvial fan (bajada). The bajada has a moderately dense cover of Sonoran Desert vegetation of the Upper Colorado River cactus-paloverde series. Vegetation is mainly creosote bush and bursage with some saguaro, palo verde trees and desert broom. A historic component, the Keefer Ranch locus, is a noncontributing element of the site that covers 2.5 acres near the site's southern boundary. Currently, modern housing in Terramar, a single-family housing development constructed after 1999, covers 52 acres of the 80 acre site.

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**Narrative Description****Environmental Setting**

Palo Verde Ruin, the largest prehistoric village situated on the New River, is located within the Northern Periphery, a cultural-geographic term that refers to the area between the Agua Fria and Verde Rivers and south of the New River mesas and uplands as far as the Phoenix Mountains (Figure 2). This region of arid basins is traversed by permanent and intermittent water sources that begin in the uplands and flow south to the Salt River. The Northern Periphery supports a cactus-paloverde series of plants that are common to the Sonoran Desert. The prehistoric environmental setting of the region was similar to modern conditions; however, Phillips (1998) believes the amount of rainfall may have been higher in the past. The higher rainfall would have increased the water flows in desert streams like Cave Creek and New River, which increased the amount of vegetation that grew on the bajada. However, the presence of a wetter environment would not have dramatically affected the types or variety of flora observed in the region today.

Prior to development activities that commenced in 1999, the site's environmental setting was characterized by unfenced range land, which represented a largely unchanged state from the late nineteenth century. The site was not leveled or plowed for agriculture, resulting in a natural undulating ground surface. During rain events, surface water collects on the bajada in shallow washes northeast of the site and flows to the southwest. Modern washes in the site are incised as much as 1–2 m below the modern ground surface. Water flows on the bajada have been captured and channeled by Frog Tanks Road, a historic period road which crosses the ground surface roughly perpendicular to the washes. The historic Frog Tanks Road alignment has become deeply incised from water flows in the Terramar Development's Northern Greenbelt. Water diverted into the historic road alignment enters the Southern Greenbelt before flowing into the New River floodplain, approximately 220 m west of Frog Tanks Road. The New River has been regulated by construction of a flood-control dam located 1 mile upstream from the site.

**Archaeological Investigations**

The Palo Verde Ruin was first recorded in the 1930s as a large village on the east and west sides of the New River by Midvale (n.d.). Later surveys redefined the site and split it into two sites; the area east of the river was identified as the Palo Verde Ruin, AZ T:8:68 (ASM). The portion of the site that was west of the river was assigned a separate site number, AZ T:8:37 (ASM) (Dittert 1976; Madsen 1984; Ruppé 1966). Later surveys re-examined the site boundary, quantified the number of surface features, and identified human remains in the spoils piles of looter disturbances (Hackbarth 1996, 1997, 2000; Larkin 1996).

Three excavation projects have been conducted at Palo Verde Ruin. The first project was a limited reconnaissance and testing project for the New River flood control dam. Limited subsurface testing was conducted in the center of the site where the greatest density of trash mounds and artifacts was noted (Ciolek-Torrello 1981). Ciolek-Torrello (1982) identified the site's central precinct—the area currently within the 19.8 acre Palo Verde Ruin Open Space Park—as having the highest artifact density and the oldest component. The site's age, Colonial through Classic period Hohokam, was identified from decorated ceramics including Kana'a, Sosi, and Black Mesa black-on-whites, plus Deadmans Black-on-red (Ciolek-Torrello 1982). The ceramic data was used for a later reassessment of habitation sites along the New River (Doyel and Elson 1985).

The second excavation project at Palo Verde Ruin was conducted in 1998 for Richfield Investments in advance of construction of the Terramar housing development. Investigations consisted of archaeological testing and data recovery of 52 acres within Palo Verde Ruin, including the historic Keefer Ranch locus. Phase 1 data recovery determined the extent of subsurface remains from 352 backhoe trenches (4,845 linear meters). The trenches exposed 199 prehistoric and 32 historic features, including 79 trash mounds, 44 pit houses, 1 ball court, 51 pits, 4 secondary cremations, 7 rock features, and 1 possible canal that was later determined to be the historic Frog Tanks Road alignment (Hackbarth et al. 1997). The prehistoric component of Palo Verde Ruin was recommended as eligible for inclusion in the NRHP, but the historic Keefer Ranch locus was recommended to be a noncontributing element of the site. Mechanical excavation was used in the following Phase 2 data recovery excavations to expose nearly 12 acres (5 ha) of the site. Excavations were conducted in 113 pit houses, of which 76 were fully or partially excavated by hand, along with 326 extramural pits, 1 ball court, and 83 features with human remains (Hackbarth and Craig 2007a, 2007b). Information from these excavations demonstrated that the site was first inhabited during the Santa Cruz phase and by A.D. 950/975 had grown to represent three small hamlets or farmsteads along the river's edge. The village expanded during the early Sacaton phase as migrants arrived at the site and established discrete residential areas (Figure 3). The village was occupied through the middle Sacaton phase, but experienced rapid decline and abandonment by A.D. 1070.

The third series of excavations at Palo Verde Ruin were conducted in conjunction with the construction of a proposed recreational park for the City of Peoria (Hackbarth 2006, 2011; Hackbarth and Gomez 2008; Marshall et al. 2004; Moore 2005). A Phase 1 data recovery project was conducted in the eastern 4.5 acres of the city park to establish the extent of subsurface remains, evaluate their level of preservation, and assess the internal structure of the site—with particular regard to the presence or absence of habitation areas, cemeteries, and a prehistoric plaza. Testing in the park involved excavation of 37 backhoe trenches, totaling 685 m. Testing identified two pit houses, one possible pit house, six thermal pits, two nonthermal pits, one midden, and two natural strata or disturbances (Moore 2005:23–29). Artifacts collected during the testing phase were from surface ( $n = 384$ ) and subsurface ( $n = 185$ ) contexts. The ceramic analysis indicated a few decorated artifacts derived from a Santa Cruz phase occupation, but most of the others were from the Sedentary Period (Moore 2005:18). Phase 2 data recovery included geophysical sensing, mechanical excavations, and hand excavations. Archaeological resources sampled in the park include prehistoric pit houses, extramural pits, and middens (Hackbarth 2011). Phase 2 excavations focused on the area where recreational park facilities would be concentrated, which comprises roughly 2.2 acres; the rest of the proposed park was not investigated or had limited excavations. Limited excavations were conducted in areas where few park developments were planned and subsurface archaeological resources were likely preserved.

All three investigations at Palo Verde Ruin have demonstrated that the site initially was occupied in the late Colonial Period (A.D. 900–950/975). The 1998 excavations indicate that the first habitations were three small farmsteads, each less than 50 m in diameter, situated on the edge of the floodplain at what later became the village (Hackbarth and Craig 2007a). The three Colonial Period farmsteads at Palo Verde Ruin were part of a larger community composed of at least 45 other archaeological sites, including small farmsteads, agricultural fields, quarries, and limited activity sites, that are distributed along the New River and surround Palo Verde Ruin (Doyel and Elson 1985). Although these sites extend as much as 5 miles north of Palo Verde Ruin, they are considered elements of the New River community during the Colonial Period. Sites in the Colonial Period New River community were loosely integrated, with farming the main economic activity. Hunting and gathering of plant resources supplemented farming as the chief subsistence.

### **Sedentary Period New River Community**

Around A.D. 1010, the population at Palo Verde Ruin increased dramatically, as early and middle Sedentary Period households immigrated to the site. Each household consisted of related families that constructed multiple houses in a discrete residential area. The site area expanded as numerous households moved into the site. Eventually, 15 or more residential areas, identified as Residential Areas A–O, were established at the site (Figure 3). The site boundary increased to an area almost 1000 m along the length of the river and more than 600 m east of the river. Small farmsteads in the New River community continued to be occupied but did not experience the population growth of Palo Verde Ruin. Throughout the Sedentary Period the economy remained rooted in subsistence farming, hunting, and gathering of native resources, similar to that of the Colonial Period occupation. However, Sedentary Period residents of Palo Verde Ruin dramatically increased the quantities of food produced and stored at the site. The expanded production and storage of food probably supported communal ball court activities. Surplus goods created at the household level were likely exchanged with visitors from outside the New River community during ball court

activities. Individual households may have specialized in the production of a particular resource for exchange, as suggested by unusually high concentrations of single exotic artifact classes, such as shell, obsidian, and decorated pottery, found in some residential areas (Hackbarth and Craig 2007a).

The occupation of Palo Verde Ruin and the New River community declined rapidly around A.D. 1070 when much of the Northern Periphery was abandoned. The site's abandonment was concomitant with a decline in the regional Hohokam ball court system which occurred in the late Sedentary Period. Despite the evidence for Hohokam abandonment of the New River community, there is evidence of early Classic Period habitation farther north on the New River and elsewhere. Classic Period (A.D. 1150–1350) habitation sites on the Agua Fria River include large compound villages (Nelson 1993) and small farmsteads (Green 1989; Potter and Neal 2000). However, the Classic Period sites have different architectural styles, higher population densities that are concentrated in stone-walled compounds, and settlement on mesas (North 2002), a settlement pattern departing from that of Classic Period Hohokam sites in the Phoenix Basin, which could indicate a difference in cultural affiliation.

### **Cultural Affinity**

Cultural affinity of sites in the Northern Periphery has been variously identified as: Sinagua Tradition; Hohokam Tradition; a frontier market manifestation of the Hohokam deemed the Hohokam Northern Periphery; or more recently, (and perhaps tongue-in-cheek), the Southern Periphery of the Perry Mesa Tradition (Gumerman and Spoerl 1980; Weaver 1980; Whittlesey 2002). The lack of agreement for cultural affiliation is partially a result of the few excavations in the region and partially due to the ubiquitous assemblage of plainware ceramics tempered with phyllite. As archaeological evidence has accumulated, the issue of cultural affiliation still has not been resolved. Early Formative Period (A.D. 150–700) sites in the Northern Periphery have small artifacts scatters, semi-flexed inhumation burials- and only rarely- ephemeral structures that are assumed to be ancestral Hohokam (Brown and Crespin 2009; Rogge 2009). The small size of Formative Period sites suggest that population density was low and that the sites were occupied by seasonal residents. By the late Hohokam Pioneer Period and early Colonial Period (A.D. 700–950), however, the ceramics, public architecture, and settlement patterns indicate a strong association with the Hohokam. This association remains constant until the end of the Sedentary Period. The Palo Verde Ruin is obviously a Hohokam village, as suggested by the site's physical characteristics: an expansive size of 80 acres; a dense settlement with 104 trash mounds that was divided among a minimum of 15 residential areas; and a ball court, the quintessential public architecture of pre-Classic Hohokam society. However, ceramic temper types found in the pottery assemblage of each residential area in Palo Verde Ruin have nearly equal proportions of all six phyllite types found at the site, suggesting the investigated households all shared the same social and exchange networks (Abbott 2007a:295, 2007b). This uniform distribution of ceramic temper types throughout the site is different than that found at Hohokam sites in the lower Salt River Valley, where ceramic diversity among households is indicative of long-distant and short-distant pottery exchange (Abbott 1994).

The abandonment of Palo Verde Ruin may be related to a regional abandonment event or trend. Emigration and possibly violence may have contributed to the population shift that led to abandonment of much of the Hohokam Northern Periphery (Rankin 1989:346–347; Rice 2001; Wilcox et al. 2001). During the Classic Period, prehistoric occupation of the region is concentrated in large villages on the Agua Fria River- five miles to the northwest, along the Verde River- 32 miles to the east, and near Cave Creek- 10 miles to the east (see Figure 2). The ceramics and architecture of these Classic Period residents differs significantly from that of the residents of the pre-Classic Palo Verde Ruin, strongly suggestive of a difference in cultural affiliation.

### **Palo Verde Ruin Feature Assemblage**

The physical characteristics of Palo Verde Ruin were largely identified during the 1998 investigations completed for the Terramar Development. Along with the uniquely massive excavation effort that involved a crew of 36 archaeologists working for nearly 6 months to recover 135,000 artifacts and 8,000 biological samples, the site's preservation was also exceptional; the project area was never plowed or leveled and the surface artifact scatters, trash mounds, and ball court were clearly identifiable from an inspection of the ground surface. Most cultural features were found within the upper 20–50 cm of the soil column. The shallow depth of the cultural resources and excellent preservation provided a rare opportunity to investigate a relatively undisturbed Hohokam village. In one case, a schist artifact projecting vertically 3 cm above the modern ground surface was found to be a riser at the entry of a pit house. The intact schist riser extended to a depth of 20 cm below the modern ground surface where the pit house floor was found.

The ball court and houses excavated at Palo Verde Ruin were similar to contemporary features found at Hohokam sites within the Salt River drainage. Palo Verde Ruin's ball court was nearly identical in size and shape to the ball court at the Los Solares Locus of La Ciudad; only the orientation was slightly different. Likewise, pit houses excavated at Palo Verde Ruin had similar sizes and shapes as houses investigated at La Ciudad, 30 miles to the south on the Salt River (Henderson 1987). The main difference between Palo Verde Ruin houses and other Hohokam houses was the low incidence of plastered house floors at Palo Verde Ruin and an unusually high frequency of burned houses; almost 68 percent of the Palo Verde Ruin houses had some evidence of burning. As with Hohokam villages throughout Arizona, houses at Palo Verde Ruin were found in clusters and had entries facing a common courtyard. Small cemeteries were often located to the east or southeast of the house clusters. Extramural pits were common throughout the residential areas.

### **Palo Verde Ruin Artifact Assemblage**

A large number of burned and unburned houses at Palo Verde Ruin had sizeable floor assemblages. Artifacts found at the site provide evidence of the manufacture and use of exceptionally large ceramic vessels, probably used to store surplus resources. Pottery was manufactured at Palo Verde Ruin, as suggested by recovery of 1 pottery anvil and 34 polishing stones (Abbott 2007a:71–73; Marshall 2007a). Ground-stone tools and ground-stone manufacturing debris are common elements in the lithic assemblage, partially because ground stone quarries were close to Palo Verde Ruin (Brunson 2000; Hoffman and Doyel 1985).

Hunting was a common activity and undoubtedly contributed to the subsistence base of site residents. Faunal remains were widely distributed within most residential areas. The total count of faunal bone from 32 pit houses amounted to 7,152 bone fragments. The majority of the faunal bone derived from rabbit or other small mammals, but nearly 25 percent represented deer and desert bighorn sheep. This frequency of artiodactyl bone is exceptionally high compared to faunal assemblages from Hohokam sites on the Salt River. However, the high frequency of artiodactyl is tempered by the observation that much of the bone are cranial elements, which have small amounts of meat. The meat-bearing elements may have been transported to other sites, an observation which has implications for regional trade and exchange (Glass 2007).

The 1998 excavations recovered 197 projectile points that were classified into 12 point types and one indeterminate class. The points were recovered from residential features, trash deposits and mortuary contexts, suggesting the use and discard/loss of utilitarian artifacts, as well as production of special mortuary goods (Marshall 2007b). The 2010 excavations at Palo Verde Ruin recovered an additional six projectile points.

Intrusive and exotic artifacts were relatively common at Palo Verde Ruin. Obsidian recovered from the site represented a mixture of both finished tools and manufacturing debris, suggesting raw material was imported to the site. Geochemical sourcing of the 866 obsidian artifacts indicates they originated from five sources. However, 97 percent of the obsidian assemblage is derived from two sources, the Vulture source and a group of northern Arizona sources. The nearly equal proportion of these two obsidian sources, located at different distances and directions from Palo Verde Ruin, suggests the supply network for Palo Verde Ruin was varied and effective at obtaining desirable resources, despite long distances (Marshall 2007b). Likewise, the intrusive ceramic assemblage consisting of 319 sherds representing five ware groups and nine ceramic types also derived from a variety of sources. Most intrusive ceramics were whitewares, redwares, and orangeware from the Four Corners area of northern Arizona, although graywares from Flagstaff and Prescott were present (Walsh 2007). Marine shell was relatively common with 1,441 artifacts in the assemblage. However, evidence for manufacturing shell artifacts was lacking. The shell artifacts encompassed 15 artifact types, representing nearly all types common to Hohokam sites. The variability of the shell assemblage and lack of manufacturing evidence indicates a wide variety of Hohokam artifact forms were imported to the site (Vargas 2007).

Subsistence at Palo Verde Ruin was based on plant resources. Corn provided the bulk of subsistence, but gathered plants did contribute a significant proportion of the total consumed resources. Mesquite and cholla were common in the flotation samples, with smaller amounts of agave and cotton (Dering 2007). The pollen analysis identified saguaro, cholla, and prickly pear as common plant resources. These resources were unequally distributed throughout the site, and may be evidence of resource specialization among the residential areas (Smith 2007). Agave processing was also inferred from the presence of 175 tabular tools. This large number of tabular tools starkly contrasts with the handful of tabular tools found farther north at small sites on the New River (Green 1989). This difference in the

intersite distribution of artifacts associated with agave processing may be related to temporal differences or differences in economy and/or cultural affiliation of the sites.

The 1998 excavations at Palo Verde Ruin encountered a relatively well preserved site despite decades of looting and trash dumping. Looting was noted by Museum of Northern Arizona archaeologists as early as 1979 when the site was tested for the first time (Ciolek-Torrello 1981). Significantly, the Museum of Northern Arizona investigations described the center of the site as having the greatest artifact density and largest trash mounds. These resources probably represent a prehistoric residential area and an important part of the site (Ciolek-Torrello 1982; Doyel and Elson 1985; Hackbarth and Craig 2007a).

Erosion has damaged archaeological resources in the park. The historic Frog Tanks Road, a late nineteenth century trail connecting Phoenix and the Lake Pleasant vicinity, crosses the city park (Figure 4). The trail's original surface has been destroyed as a result of erosion and incision of the wash channel. No historic artifacts related to the trail are present and the only evidence for the trail is its identification on historic and modern maps. It is mentioned in this nomination as context; however, it is no longer visually evident within the boundaries of the site.

Single-family housing was constructed over 52 acres of Palo Verde Ruin following completion of the 1998 excavation project. The portion of the site that remains undisturbed includes a 10 acre parcel at the northern end of the site in private ownership and the city's 19.8 acre park. Between 1998 and 2005, unregulated dumping of trash and dirt spoils occurred at the park. In early 2003, the city and a newly-created advocacy organization, the Friends of Peoria's Archaeological Heritage, removed the trash and most of the dirt spoils from the park. A cable barrier was constructed along the east and west sides of the park in late 2003 to limit off-road driving. The western and southwestern cable barrier was replaced with a three-rail welded pipe fence in early 2007 following repeated destruction of the western cable barrier.

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**Period of Significance (justification)**

Palo Verde Ruin appears to have been occupied for a relatively brief period of time. Evidence for the beginning of the occupation is found in three loci that have pit houses dating to the late Colonial Period (A.D. 900–950/975). Radiocarbon and archaeomagnetic samples substantiate the late Colonial dates; decorated ceramics from this time period are present, but rare. The site's occupation probably ended in the middle Sedentary Period (A.D. 1070), as indicated by radiocarbon samples and the relative frequencies of temporally diagnostic ceramics. However, recent radiometric data may suggest a small population could have been present at the site as late as the middle twelfth century A.D. (Hackbarth 2011).

**Statement of Significance Summary Paragraph (**

Palo Verde Ruin has been previously recommended eligible for listing in the National Register under Criterion D (Hackbarth et al. 1997; Larkin 1996). Excavations were completed in 1998 in conjunction with construction of the Terramar Development (Hackbarth and Craig 2007a, 2007b) and again in 2010 prior to construction of a recreational park (Moore 2005; Hackbarth 2011). Palo Verde Ruin has the potential to provide further information about prehistory in the Phoenix Basin, including a record of site occupation that is contemporary with: 1) the founding of the site in the tenth century A.D., probably around A.D. 900; 2) the maximum population density in the village during the Sedentary Period; and 3) the abandonment of the Northern Periphery, at roughly A.D. 1070, or possibly later. The site's nearly two centuries of occupation corresponds to the peak of the Hohokam regional ball court system and ends as ball courts cease to be constructed and used across north-central and southern Arizona. Hohokam ball courts represent important integrative facilities central to Hohokam society and the collapse of the ball court system led to the contraction of Hohokam society into southern Arizona. The demise of the ball court system occurred at the same time that large sites near major rivers increased in size and a new form of public architecture, platform mounds, became increasingly common. Households that abandoned the Northern Periphery may have joined communities near the Salt River, contributing to the population increase at riverine villages. The cause of the Northern Periphery's abandonment is unknown, but the development of the Perry Mesa Tradition, 20 miles northeast of Palo Verde Ruin, may have been related to the collapse. Information from Palo Verde Ruin has the potential to address research issues related to the abandonment of the Northern Periphery and Hohokam ball court system as well as issues related to Hohokam chronology, site structure, settlement systems, social structure and organization, subsistence, trade and exchange, and regional conflict.

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**Narrative Statement of Significance** (provide at least **one** paragraph for each area of significance)**Cultural Context**

## EXHIBIT E

Archaeological evidence suggests that human presence in the Northern Periphery may have begun as early as 11,000 years ago. The initial period of occupation, termed the Paleoindian Period, dates from approximately 9500 B.C. to 8500 B.C., and appears to have been intermittent in the Phoenix Basin, given the limited amount of recovered evidence. The evidence consists primarily of isolated surface finds of Clovis points, probably left by dispersed mobile groups that hunted now-extinct megafauna and possibly supplemented their diet with collected wild plant materials (Waters 1986). Two isolated Clovis points have been found in the Northern Periphery (Crownover 1994; North et al 2005), representing the only known evidence, to date, of Paleoindian occupation or use of the Phoenix Basin.

Following climatic amelioration and the extinction of megafauna, a new cultural pattern emerged. The Southwestern Archaic was manifested by small, mobile, residential groups that hunted medium-sized to small game and foraged for diverse floral resources (Huckell 1995; Mabry 2000). This adaptive pattern persisted through the Early (8500 B.C. to 5000 B.C.) and Middle (5000 B.C. to 1500 B.C.) Archaic periods. By the Late Archaic Period (1500 B.C. to A.D. 1), some groups occupied well-watered upland locations along primary or secondary stream courses where crops could be planted. In these locations they adopted maize horticulture, maintained substantial storage facilities, and established a semi-sedentary subsistence-settlement pattern (Potter and Neal 2000; Wright 2002).

The succeeding Early Formative Period, which dates between A.D. 1 and approximately A.D. 700, is characterized primarily by the introduction and early development of plainware ceramics. This period is considered to be a period of transition, during which sedentism and the reliance on horticulture increased throughout the region (Mabry 2000). The earliest occupations are characterized by groups of small pit houses of varying configurations comprising small semi-sedentary hamlets. No definitive Early Formative-period sites have been identified along the New River, but some Early Formative artifact scatters are present on the Agua Fria River (Brown and Crespin 2009).

The emergence of the Hohokam as an integrated cultural pattern likely occurred as early as A.D. 700. Recent assessments have suggested that the suite of cultural traits and developments that marked the beginnings of regional cultural differentiation that characterized the Hohokam appears to be fully established as late as the middle of the Gila Butte phase of the Colonial Period, beginning around A.D. 750 (Dean 1991; Doyel 1991; Wallace et al. 1995; Wilcox 1979; Wilcox and Sternberg 1983). By this time, the Hohokam had developed an integrated belief and ritual system, including the adoption of public architectural forms, such as ball courts, into the settlement structure, development of a characteristic mortuary complex, large-scale irrigation agriculture, and naturalistic iconography on decorated ceramics. Along the New River, prehistoric occupation during the early Pioneer Period was likely transitory with seasonal camps and activity areas (Doyel and Elson 1985).

The establishment of numerous villages throughout southern and parts of central Arizona, including the Northern Periphery, characterizes the Colonial Period. Habitation at village sites consisted of courtyard groups focused on a common external living area or workspace. Sites consisting of one or two courtyard groups, trash mounds, cemetery areas, and roasting pits tend to be arrayed around the margins of the courtyard. At larger villages, composed of clusters of courtyard groups, central plazas, communal cemeteries and work areas were incorporated into the village structural layout (Howard 1985; Wilcox and Sternberg 1983). The introduction of ball courts at some of these villages suggests the beginnings of site functional differentiation and intercommunity integration. Ball courts, as a widespread form of public architecture, increased in number and expanded in areal extent throughout the Colonial Period.

The late Colonial Period and early Sedentary Period represented times of substantial growth in the number and size of Hohokam settlements and ball court villages (Doyel 1991). During this time, it is likely that the settlement system along the New River started. The Palo Verde Ruin became the center of the New River Community regional system, which was characterized by numerous hamlet-size settlements, ground-stone manufacturing sites, and temporary activity areas and agricultural sites. The decline and eventual collapse of the ball court system occurred in the late Sedentary Period as social activity formerly associated with the ball courts became focused upon platform mounds (Gregory 1987). In the Northern Periphery, late Sedentary Period and subsequent Classic Period sites tend to cluster along the Agua Fria River (Doyel and Elson 1985). Classic Period sites have stone-lined pit houses, as evidenced along Cave Creek and farther north along the New River drainage (Doyel 1985). All prehistoric villages along the Agua Fria River and elsewhere in the Northern Periphery were abandoned by A.D. 1350–1450.

### **New River Community**

Palo Verde Ruin reached its maximum size in the early Sedentary Period, possibly by A.D. 1010. Abbott (2007a) contends that the growth of the village was related to ball court activities. The ball court at Palo Verde Ruin is one of only seven

ball courts in the Northern Periphery. Ball courts integrated the members of multiple communities through regional exchange of locally produced resources. Most ball courts in the Northern Periphery are 12–25 miles distant from Palo Verde Ruin and have a variety of ages and morphologies (Hackbarth and Craig 2007a). The closest ball court to Palo Verde Ruin is the rare rock-lined ball court at the Terrace Garden Site- AZ T:8:19 (ASM), only one mile to the northwest (Marshall 2009). The close proximity of two ball courts in the New River community, built with entirely different materials, may indicate that the regional ball court and settlement systems were not defined by a geographical distance. Rather, the differences in ball court morphology could reflect that multiple social networks operated within the local community. Alternatively, the two ball courts in the New River Community may not have been contemporary; unfortunately, neither of the ball courts have clear date associations. Current and future investigations at Palo Verde Ruin may contribute to a better understanding of how Hohokam ball court communities were integrated.

A critical factor to assessing the significance of the two ball courts in the New River community is the age of the features at their associated sites. The age of occupation at both ball court sites is important for delineating the cultural development of the New River community and the abandonment processes that occurred throughout the New River community, within the regional ball court system, and within the Northern Periphery. The Terrace Garden ball court is not directly dated and could have either been a predecessor or contemporary of the Palo Verde Ruin ball court. The end of occupation at the Palo Verde Ruin, proposed as approximately A.D. 1070 (Hackbarth and Craig 2007a:163), is predominantly based on ceramic frequencies and chronometric data from as few as three pit houses (Abbott 2007c:254). This date is problematic in light of one radiocarbon date from the 2010 excavation that suggests occupation as late as the middle of the twelfth century A.D. (Hackbarth 2011). Radiocarbon and archaeomagnetic samples with post-A.D. 1070 date ranges were assigned less weight in the chronometric analysis because the ceramic associations were small (Abbott 2007c).

The 1998 excavations mainly used mesquite wood from architectural features for radiocarbon assays; because architectural wood can be re-used over time and because mesquite is a long-lived species, radiocarbon dates from mesquite specimens may have underestimated the end date of the site's occupation (i.e., the dated wood samples that Abbott (2007c) used to date the terminal ceramic assemblages may have come from a tree that died long before the Palo Verde Ruin was abandoned). The radiocarbon sample analyzed during the 2010 excavations derived from an annual plant and has a  $2\sigma$  date range of A.D. 1040–1260 which overlaps the A.D. 1070 date; however, at  $1\sigma$ , the date range for this sample is A.D. 1160–1220. Further investigations in the city park may recover chronometric samples that could further refine the age of the site's earliest occupation and abandonment, and by implication, the dates for decline of the Hohokam in the Northern Periphery and the regional ball court system.

### **Dating/Chronology**

Dating of Palo Verde Ruin has largely been accomplished through chronometric dating of radiocarbon and archaeomagnetic samples and relative dating of deposits and features using diagnostic ceramics. Future research of chronology may benefit from the application of new technologies. Extremely small samples of charred materials (100–500 micrograms) can be assayed for radiocarbon dates using microsample AMS. Although AMS samples (requiring >1 gram of carbon) were preferred during the 1998 excavations, the five analyzed samples that dated the ceramic assemblages from the site derive from conventional radiocarbon assays collected from architectural structure elements, which are subject to “old wood” problems such as recycled use and long-lived species of wood (Abbott 2007c:254). Annuals comprise only 6 of the 59 radiocarbon samples submitted for analysis in 1998 and none of them were used to date the ceramic assemblages that were used to establish the end of the site occupation (Hackbarth and Craig 2007a). The extremely small size of microsample AMS assays makes it possible to submit extremely tiny fragments of charcoal for dating, increasing the possibility of selecting annuals that provide more precise dates for the end of the site occupation. Other chronometric technologies that were not available in 1998 include thermoluminescence dating of ceramics or soils. This method may be especially useful to date houses that lack charcoal, but have ceramic artifacts.

Another potential chronometric method that may be useful is the relative dating of faunal bones from stratified features, using fluoride dating. This method, used in conjunction with evidence of superimposed features, does not provide an absolute date, but it can arrange the sequence of feature use if stratified deposits or multiple, overlapping radiocarbon or archaeomagnetic dates with long  $2\sigma$  date ranges are available. Determining the relative age of features may allow some date ranges to be truncated, indicating a shorter range of time when a feature may have been used. The portion of the site located within the city park has evidence for intensive occupation, which may include superimposed features that could provide data for fluoride dating. As faunal bone is very common at Palo Verde Ruin, two variables needed for this relative dating method to succeed are available. The combination of new chronometric methods and refined analyses will provide a new chronological perspective for the site.

### **Site Structure and Organization**

The presence of public architecture, such as the ball court, is an important element of Hohokam site structure. Recognition of other forms of public architecture at Palo Verde Ruin would contribute new data about site structure and organization. Besides the ball court, other forms of public architecture are anticipated to be present at Palo Verde Ruin. Large pre-classic Hohokam villages in the Gila River valley, such as Snaketown and Grewe, have central plazas and community cemeteries located near ball courts. Plazas tend to have very few artifacts and a few dedicatory features (Wallace 2003), whereas the community cemeteries near the center of the site tend to have prestige goods that represent conspicuous displays of wealth. The “Shrine Area” at Grewe had a large number of exotic goods that probably were deposited during memorial rituals related to the nearby cemetery. Testing of the portion of the site within the Palo Verde Ruin city park has indicated that Feature 1283, a trash mound, has an exceptionally high density of decorated ceramics (Ciolek-Torrello 1981). The decorated ceramics and high artifact density in Feature 1283 could be a local analog to the concentration of prestige goods found at the Grewe site’s Shrine Area. In addition, a possible plaza was identified during the 2010 excavations at Palo Verde Ruin. Erosion and off-road vehicle travel have impacted the hypothesized plaza area, making feature identification problematic.

Data on site structure and organization of Palo Verde Ruin was collected during the 1998 and 2010 excavations that identified a total of 15 residential areas clustered around the geographical center of the site. Archaeological resources in the city park are likely the remains of one or more additional residential areas and may possibly include the earliest Colonial Period remains at the site (Ciolek-Torrello 1981). The largest trash mounds at the site are located within the park, which suggests that the area proposed for nomination constitutes either an area of particularly intensive or long term occupation. Regardless of whether a large population or a long duration of site use contributed to the development of the numerous large mounds in the central portion of the site, the information potential of the portion of the site proposed for nomination has implications for an appreciation of the diachronic growth of the village and its population size. Furthermore, because the area proposed for nomination possesses an early component that is located at the center of the site, it is possible that the household(s) that occupied this area were the original settlers of the site and may have had special use rights to nearby resources. Their primacy at the site might have translated into a preeminent social standing within the community, resulting in unequal access to wealth, ritual goods or other resources. Further study of the structure and organization of residential areas, as well as the distribution of exotics and prestige goods in this portion of the site, will provide further information about the development of Palo Verde Ruin over time.

### **Exchange**

Ball court activities likely attracted households from distant communities, which facilitated trade and exchange of resources between communities (Abbott 2007a, 2007d). Surplus goods produced in one community may have been consumed during the ball court activities or exchanged with community members from other sites. Commodities distributed in this manner may have involved face-to-face interaction of producers and consumers. Alternative modes of trade and exchange have been proposed for Hohokam society, including elite control of prestige goods and production of some goods by full-time specialists. The high density of faunal remains at Palo Verde Ruin, especially artiodactyl, as well as ground-stone tools obtained from nearby quarries, are candidates for resources that residents of Palo Verde Ruin produced and exchanged during ball court activities. Ceramics and projectile points from Palo Verde Ruin may be amenable to analyses that could identify production by specialists, if present.

To determine whether the ground stone at Palo Verde Ruin was a locally manufactured good, ten ground-stone tools from Palo Verde Ruin were sourced with X-ray fluorescence. The results of analysis indicated that the ten artifacts derived from a total of six sources (Skinner 2007). The numerous sources contradict the expectation that local resources, rather than items imported from a distance, would dominate the Palo Verde Ruin assemblage. Small sample size may have influenced this apparent variability of sources; additional sourcing of ground stone, and other artifact classes, from newly excavated contexts may augment this sample and better inform about the nature and frequency of exchange between ball court communities.

### **Subsistence**

The types of subsistence resources consumed at Palo Verde Ruin have been established from 125 pollen samples and 124 flotation samples analyzed for the 1998 excavations (Dering 2007; Smith 2007). Two new technologies that were not available in 1998 may provide additional insight into resources consumed at Palo Verde Ruin. Phytoliths, small silica plant parts deriving from stems, leaves and seeds of some plants, can be identified from microscopic examination of soil samples. Protein residue analysis can be conducted on artifacts and soil samples to identify families of plants and animals

that were processed at the site. Furthermore, gas chromatography (GC) and Fourier Transform Infrared Spectroscopy (FTIS), are also now available for identification of lipids that may have been sealed into ceramic vessel walls when the vessels were used for the first time. Lipids that are unique to broad classes of plant and animals can be identified using GC and FTIS, which provides insight about the use of ceramic vessels and subsistence at the site.

**Conflict**

Further study of Palo Verde Ruin may contribute to studies of regional conflict. Most sites in the Northern Periphery were abandoned before the twelfth century A.D. resulting in depopulation of the area between Perry Mesa and the Salt River Valley (Rice 2001). Prehistoric abandonment of the Northern Periphery may be related to the rise of the Perry Mesa Tradition in the mesas and uplands northeast of the Palo Verde Ruin. The Perry Mesa tradition is characterized by dense populations living in masonry pueblos atop fortified mesas (Spoerl and Gumerman 1984). Scattered Hohokam farmsteads and hamlets in the New River community and the large Palo Verde Ruin village, represent a significantly different settlement pattern and likely a different cultural tradition than that of the Perry Mesa sites. Raiding, or simply the threat of conflict, may have contributed to regional abandonment of the New River community. Collapse of the ball court system also may have contributed to the abandonment process.

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**Developmental history/additional historic context information**

Looting has occurred at Palo Verde Ruin and will undoubtedly affect the future recovery of archaeological information. However, the looter's holes largely have been excavated into trash mounds, features that normally have mixed strata. The amount of damage caused by looting in trash mounds may be minimal. Looting may be a more serious issue where trash mounds accumulated over houses or other large features and the digging intruded into the lower features. In 1998, archaeological excavations did encounter looted contexts in Residential Area D, an area with extensive pot hunting disturbances. However, the archaeologists were able to distinguish between prehistoric deposits and looter disturbances, suggesting that similar success at discriminating between preserved contexts and disturbed areas may be expected in the portion of the site located in the city park.

Erosion of deposits containing prehistoric archaeological resources has occurred within the park. Excavations in 2010 documented the destruction of at least one thermal pit by overbank floods from the wash channel. The overbank scouring also has cut a channel across a previously undisturbed portion of the site and exposed ceramic and lithic artifacts. A drop structure constructed in the wash channel has been designed to confine future overbank flows in the wash channel.

Archaeological resources cover approximately 80 percent of the city park's modern ground surface. The remaining 20 percent of the park is divided between wash channels and alluvial settings that lack surface archaeological resources (8 percent) and the New River floodplain (12 percent). The floodplain has an elevation that is minimally 50 cm lower than the bajada where the Palo Verde Ruin resources are visible on the surface. One possible archaeological resource is visible along the interface of the floodplain and the bajada where a possible irrigation canal is identifiable as a shallow depression that does not follow the modern surface contours. Off-road vehicles have damaged the surface of the floodplain, but it is possible that ephemeral agricultural fields are buried within the floodplain.

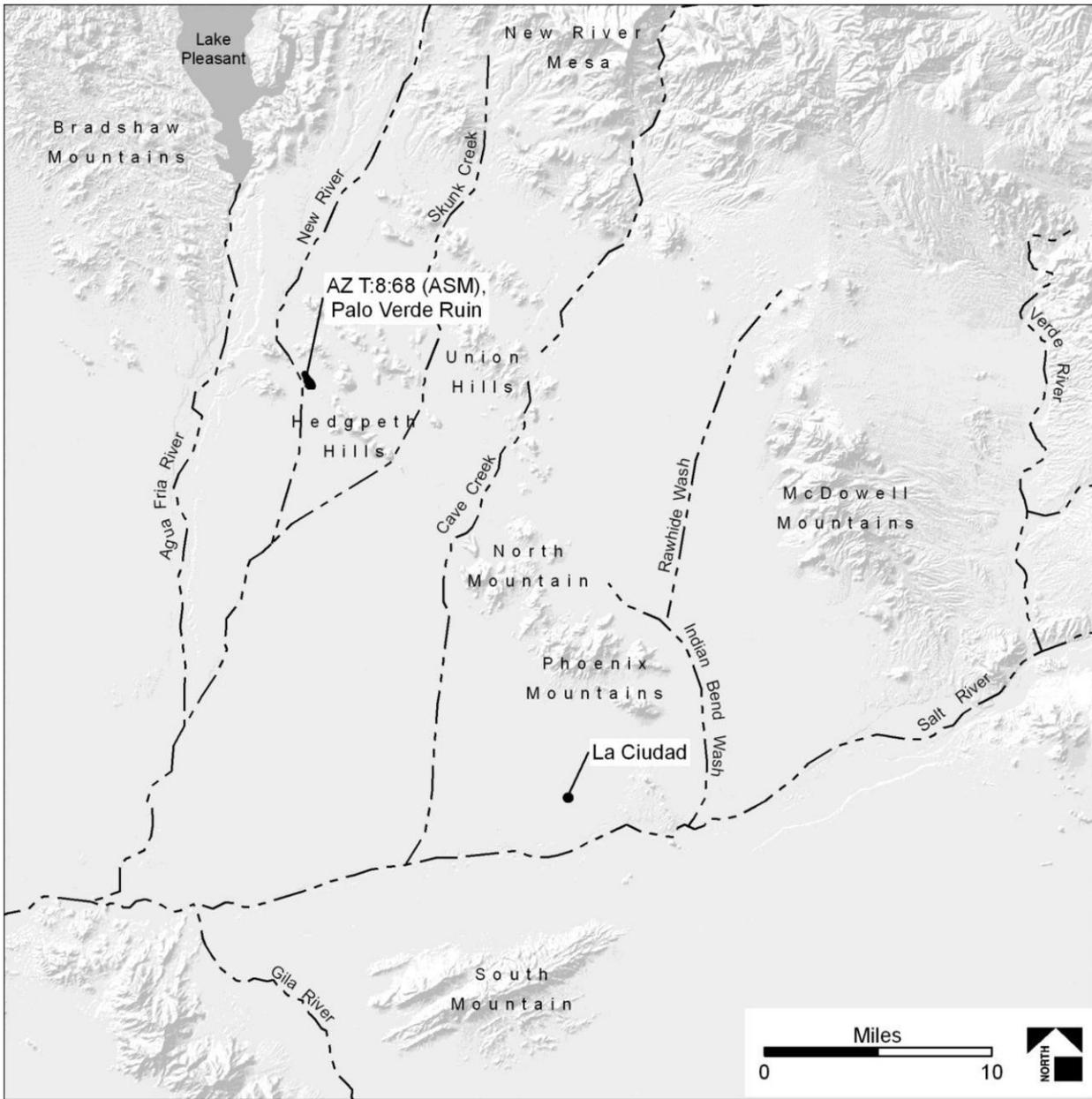


Figure 2. Overview of the Northern Periphery.