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**NATIONAL REGISTER OF HISTORIC PLACES
 INVENTORY -- NOMINATION FORM**

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
 TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC

Pueblo Grande Ruin and Irrigation Sites Ariz. U:9:1--State Museum Survey No.

AND/OR COMMON

Pueblo Grande Municipal Monument, Park of the Four Waters

2 LOCATION

STREET & NUMBER T.1N, R.4E., in Sec.7

Washington and 48th Street, 4619 E. Washington Avenue

NOT FOR PUBLICATION

CITY/TOWN

Phoenix

VICINITY OF

CONGRESSIONAL DISTRICT

First

STATE

Arizona

CODE

04

COUNTY

Maricopa

CODE

013

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
DISTRICT	PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	AGRICULTURE <input checked="" type="checkbox"/> MUSEUM
BUILDING(S)	PRIVATE	UNOCCUPIED	COMMERCIAL <input checked="" type="checkbox"/> PARK
STRUCTURE	<input checked="" type="checkbox"/> BOTH	WORK IN PROGRESS	EDUCATIONAL <input checked="" type="checkbox"/> PRIVATE RESIDENCE
<input checked="" type="checkbox"/> SITE	PUBLIC ACQUISITION	ACCESSIBLE	ENTERTAINMENT RELIGIOUS
OBJECT	<input checked="" type="checkbox"/> IN PROCESS	<input checked="" type="checkbox"/> YES RESTRICTED	GOVERNMENT SCIENTIFIC
	BEING CONSIDERED	YES UNRESTRICTED	INDUSTRIAL TRANSPORTATION
		NO	MILITARY OTHER

4 OWNER OF PROPERTY

NAME

City of Phoenix, Arizona

c/o Don Hiser, City Archeologist

Pueblo Grande Museum

4619 E. Washington Avenue

STREET & NUMBER

251 West Washington Avenue

CITY/TOWN

Phoenix

VICINITY OF

STATE

Arizona

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE
 REGISTRY OF DEEDS, ETC

Maricopa County Courthouse, Records Office

STREET & NUMBER

125 West Washington Avenue

CITY/TOWN

Phoenix, Arizona

STATE

6 REPRESENTATION IN EXISTING SURVEYS

TITLE (1) Arizona Archeological Survey

(2) Pueblo Grande Survey

DATE

(1) 9/26/39

FEDERAL 1 STATE COUNTY 2 LOCAL

DEPOSITORY FOR
 SURVEY RECORDS

(1) Arizona State Museum

(2) Pueblo Grande Museum

CITY/TOWN

Tucson, Arizona

4619 E. Washington Avenue

Phoenix, Arizona

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input checked="" type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input checked="" type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input checked="" type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Located in Phoenix in the Salt River Valley, the landmark consists of both Pueblo Grande Ruin plus Park of the Four Waters (formerly called Hohokam-Pima Irrigation Sites Landmark) and surrounding property. The city of Phoenix has plans for consolidating these two areas into a single municipal park, and the two original landmarks (Pueblo Grande and Hohokam-Pima Irrigation Sites) have likewise been combined. This re-designation is completely logical and justified, for the two areas are adjacent, contemporary, and complementary in terms of their contributions to an understanding of Hohokam prehistory.

The name Pueblo Grande refers to the settlement area of the site located mainly to the north of the Grande Canal. The most spectacular feature of this area is a rectangular masonry and rubble platform building covering an area of about 3.3 acres and measuring about 550 feet east-west, 300 feet north-south, and 20 feet in height. Dating from the Classic Hohokam period (about 1150-1450 A.D.), this elevated platform unit was enclosed by a wall and contained numerous floors and fill levels, abundant cultural materials, burials, hearths, and other features. Northeast and northwest of the large mound are extensive archeological resource areas which have yielded information on burial practices--inhumations and cremations, and on domestic activities--houses, living floors, storage pits, hearths, caliche borrow pits, and roasting pits. This area has also provided insight into the length of occupation at the site, for the cultural materials occur at a maximum depth of 7 feet and an average depth of 3 feet and probably date from a continuous occupation from 1-1450 A.D. A ball court dating from the later periods of occupation in the northeast resource area has been excavated and stabilized. This reconstructed Casa Grande type ball court contains unusual bench-like constructions along the floor area and is 85 feet long (north-south), 41-feet wide (east-west), and oriented 7° east of north.

The other area of the landmark is located south of the major ruin and consists of what was formerly called Park of the Four Waters and some surrounding property. Within this area are mounded embankments of two major prehistoric canals constructed and used between 1100 and 1300 A.D. Closely paralleling each other for 1200-1300 feet and running in a general east-west direction, the embankments rise to a height of about 6 feet and measure 60 feet (north canal) and 85 feet (south canal) in width from crest to crest of the banks. Cross-sections of the canals indicate that the southern was V-shaped and about 6 meters wide and 4 meters deep while the northern was U-shaped and measured about 10 meters in width and 3 meters in depth. To the east of these stabilized prehistoric canal sections, sub-surface portions of other prehistoric canals may be extant although no surface remains are visible.

Segments of historic canal systems are also visible within this southern portion of the landmark. The Joint Head Canal in use from 1868 to about 1930,

8 SIGNIFICANCE

OD X PREHISTORIC 1400 1499 1500 1599 1600 1699 1700 1799 1800 1899 1900	X ARCHEOLOGY PREHISTORIC ARCHEOLOGY HISTORIC AGRICULTURE ARCHITECTURE ART COMMERCE COMMUNICATIONS	AREAS OF SIGNIFICANCE - CHECK AND JUSTIFY BELOW COMMUNITY PLANNING CONSERVATION ECONOMICS EDUCATION ENGINEERING EXPLORATION/SETTLEMENT INDUSTRY INVENTION	LANDSCAPE ARCHITECTURE LAW LITERATURE MILITARY MUSIC PHILOSOPHY POLITICS/GOVERNMENT	RELIGION SCIENCE SCULPTURE SOCIAL/HUMANITARIAN THEATER TRANSPORTATION OTHER (SPECIFY)
--	---	---	---	---

SPECIFIC DATES about 1--1450 A.D. BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

One of the few municipally administered archeological parks in the country, the Pueblo Grande Ruin and Irrigation Sites landmark in Phoenix, Arizona, contains remains of an extensive prehistoric village of irrigation farmers who constructed a large rectangular platform building, a ball court, large-scale canals, and numerous domestic structures. Although urban expansion has destroyed similar village sites in the area and has encroached upon the peripheries of the landmark itself, the 20 foot high platform which covers over 3 acres, the wide canal heading which distributed water from the Salt River, and the extent of other features of the landmark all bear witness to the size and organization of Hohokam communities in the Gila-State River basin of Arizona. The site's long, continuous occupation from 1-1450 A.D. makes it especially important as an illustration of the developmental stages of Hohokam culture.

DISCUSSION

Hohokam culture of the southern Arizona desert probably began about 100 B.C.--possibly as a development from Cochise roots. The Hohokam communities were largely confined to the desert valleys and depended primarily upon intensive irrigation farming for their subsistence. Hohokam houses were constructed of wattle and daub or massive adobe without stones. Red-on-buff wares were the characteristic ceramic type of the Hohokam.

The best known Hohokam area lies in the Gila-Salt River Valley in which the landmark is located. Other Hohokam areas include the vicinity of Tucson which exhibits remains closely related to those of the Gila-Salt Valley and the vicinity of the Papago Indian Reservation which yields remains of the Desert variation of Hohokam culture exhibiting less emphasis on agriculture.

Hohokam prehistory has been roughly divided into four periods: Pioneer (about 100 B.C. - 500 A.D.), Colonial (about 500 - 900 A.D.), Sedentary (about 900 - 1150 or 1200 A.D.) and Classical (about 1150 or 1200 - 1400 or 1450 A.D.). Trends of Hohokam development include the transition from large wattle and daub structures in the early Pioneer period to smaller single-family type dwellings, and from a red or brown monochrome ware in early Pioneer times to red-on-gray and red-on-buff wares by late Pioneer times. Throughout the Sedentary period, designs on ceramics became smaller

9 MAJOR BIBLIOGRAPHICAL REFERENCES

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY approximately 120 acres

UTM REFERENCES

A	1, 2	4 0, 91 4 0	3, 7 0, 1 2 0, 0	B	1, 2	4 0, 91 3 0	3, 7 0, 0 2, 2, 0
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C	1, 2	4 0, 83 3 0	3, 7 0, 0 2, 1, 0	D	1, 2	4 0, 83 3 0	3, 7 0, 1 2, 0, 0

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

Francine Weiss, Staff Archeologist, Landmark Review Project

(Parts taken from unofficial form by

ORGANIZATION

Historic Sites Survey, National Park Service

DATE Kelly & Gordon, 1973).

STREET & NUMBER

1100 L Street, N.W.

TELEPHONE

202-523-5464

CITY OR TOWN

Washington, D.C. 20240

STATE

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE

LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89 665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE

DATE

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I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST:

DATE

KEEPER OF THE NATIONAL REGISTER

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Refer to the black line on the USGS map for a clarification of the boundary description.

Beginning at a point at the SE corner of the intersection of 44th street with Washington Boulevard, the boundary proceeds south (along what will eventually become the eastern right-of-way of the Hohokam freeway) for about 2925' to its intersection with the lower edge of the first terrace of the Salt River between the 1125 and 1130 feet contour lines, then eastward along the lower terrace edge and contour for about 2500 feet to its intersection with the western right-of-way of 48th Street, then north along the western right-of-way of 48th Street about 650 feet to its intersection with the southern right-of-way of Grand Canal, then in a general northwestern direction along the southern right-of-way of Grand Canal about 2500 feet to its intersection with the western right-of-way of Cross Cut Canal, then in a general northeastern direction along the western right-of-way of Cross Cut Canal about 1150 feet, then west about 100 feet, then north about 300 feet to its intersection of the southern right-of-way of Washington Boulevard and then west along the southern right-of-way of Washington Boulevard about 1250 feet to the point of beginning.

A boundary for the Pueblo Grande landmark was originally proposed by Roger Kelly, an archaeologist with Western Region of NPS, and Garland Gordon of the Arizona Archeological Center. Their boundary included the main ruin and archeological resources to its northeast and northwest, the irrigation canals to the south, and adjacent areas to the west containing canal remains and potential for archeological research. It enclosed a greater area than the current boundary because of the inclusion of some of the property west of 44th Street. This initially proposed boundary was the subject of a great deal of controversy. Plans for a highway and airport runway had been based on the assumption that the landmark was smaller and did not include the western area. The City Archeologist of Phoenix, Don Hiser, was in agreement that the western area was not integral to the landmark designation. As a result of this controversy, Alfred Johnson of the University of Kansas was hired to survey the western area and to prepare a report indicating his recommendation for the inclusion or deletion of the western area. Johnson (1975) suggested that the property in question be deleted, and the Historic Sites Survey decided to adopt his decision. This decision does not reflect the opinion of the author of this form (refer to Memo dated February, 1975). The landmark as it now stands thus consists of the main ruin and archeological resource areas to its northeast and northwest plus the irrigation canals to the south. It does not include the peripheral archeological areas or the canal remains to the west which will be destroyed by the highway and runway.

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the Grand Canal in use from 1878 to the present, the Cross-Cut Canal in use from 1889 to the present (not actually within the landmark but just outside the eastern boundary), and portions of small ditches in use during the early to middle 20th century may be seen. East of the stabilized prehistoric canal, substantial sub-surface portions of the Joint Head and Swilling (1867-1868) Canals may still remain extant.

Excavations have been conducted on landmark property since 1925 when Eric Schmidt of the American Museum of Natural History in New York examined a portion of a trash mound west of the platform mound. In 1929, the City Archeologist of Phoenix, at that time Odd Halseth, continued investigations with excavation of exploratory trenches to determine the nature of the platform mound. Further examination of Pueblo Grande was conducted during the depression years of the 1930's under the direction of Halseth, Paul Ezell, Julian Hayden, and Albert Schroeder. Although these excavations served primarily to salvage information from destruction caused by the construction of a laboratory and roadways, parking facilities, and an enclosing wall, they also were able to yield information for studies of a more problem-oriented nature relating to such concerns as an architectural sequence for Pueblo Grande and the cultural-historical sequence for the Salt River Valley. Most of the data resulting from these excavations remains in note form at the Pueblo Grande Municipal Monument. Research at the site continued following World War II with the hiring of first Charles Di Peso and then Donald Hiser whose reports are likewise at the Monument. G. Iverson is known to have excavated at the site in 1965-66. In 1970, Hiser, who had by that time been promoted to City Archeologist of Phoenix, initiated a program of on-going excavation within the landmark. Salvage work plus excavations in the archeological resource areas northeast and northwest of the large ruin were conducted during the early 70's. Manuscripts in Pueblo Grande Museum describing these research projects--which continue to the present--include reports by Lintz and Simonis (1970); Fliss and Zeligs (1971); Burton, Shrock, Knoob, Spears, and Phinney (1972); and Best-Ellis, Lindsay, Effland, Froncek, and Smith (1973). The major archeological research on the irrigation systems within the landmark was conducted by Richard Woodbury who cross-trenched the two prehistoric canals as part of a study on Hohokam irrigation techniques (1960).

Surveys have been conducted in the Pueblo Grande vicinity between 1959 and 1971 by Don Hiser, in 1970 and 1972 by the Office of the Arizona State Highway Archeologist, in 1973 by Chad Phinney-- a museum assistant at the Pueblo Grande Municipal Monument, and in 1975 by Alfred Johnson. The last survey mentioned was instrumental in the determination of the present boundaries of the Pueblo Grande landmark and will be discussed in more detail in the boundary description and justification.

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Parts of the Pueblo Grande Ruins and Irrigation Sites landmark were purchased by the City of Phoenix in the 1920's. In the 1930's, the city park was developed with the construction of a laboratory and museum, public utilities, roadways, parking facilities, and an enclosing wall. A new museum building completed in 1974 to replace the obsolete 1930's structure and modern outdoor recreation and office facilities necessary to the operation of a city park are also located within landmark boundaries. These elements do not contribute to the national significance of the landmark. The museum, however, while a non-contributing factor to the site's national significance, does significantly aid in its interpretation. Likewise, the historic canal portions within the landmark do not relate directly to the reasons for the declaration of the site as nationally significant, but they nevertheless do make an important contribution to an understanding of the history of irrigation in this arid country.

It should be remembered that the landmark is located within the City of Phoenix and has thus suffered greatly from the encroachment of the urban environment. Historic sources indicate that hundreds of sites were located in the Salt River Valley with 28 major ruins such as Pueblo Grande in the Phoenix vicinity alone. Because of urban expansion, only a few of these hundreds remain, and Pueblo Grande is the only one left in Phoenix. Extensive prehistoric irrigation systems have likewise been eradicated by modern development. (Refer to Map C). Industrial development, nearby freeway and boulevard traffic, feedlot operations and manure dumping, aircraft traffic from the nearby airport, railroad tracks cutting through the site, and buried water and sewer lines are among the negative impacts on the landmark area.

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and finer and the number of vessel forms increased. Ball courts were first used during the Colonial period and continued in use throughout much of Hohokam time although the courts of the Sedentary and Classical periods were a smaller variety known as the Casa Grande type. The large, heavy, stemmed points of the Pioneer period gave way to long, slender, stemmed points during the Colonial period which in turn gave way to the small triangular points of Sedentary times. Other artifacts of the Hohokam include: numerous metates, manos, and pestles which indicate the reliance of the people on agriculture for subsistence; pottery figurines; paint palettes; ear plugs; and trade items from Mexico such as mosaic plates and mirrors inlaid with pyrite crystals. Another typical Hohokam trait was cremation rather than inhumation of the dead.

The Classic period of Hohokam development is marked by the arrival of the Salado, an Anasazi culture. The Salado brought with them apartment-style buildings and red, black, and white polychrome pottery to the Hohokam culture area. Unlike the Hohokam, the new arrivals did not cremate their dead. The two cultures were mutually influenced and partially integrated. Canal systems expanded and ball courts continued in use. Inhumation and cremation as well as both Salado and Hohokam pottery styles were evident. The apartment style buildings characteristic of the Salado appeared in combination with the platform mounds.

After 1400 A.D., some currently unknown forces caused the Salado and perhaps some of the Hohokam to abandon the region. The Pima are probably the descendants of those Hohokam who remained in the river valleys and the Papago probably descended from the Hohokam inhabitants of the more inhospitable desert.

Pueblo Grande, initially settled during the Estrella phase (about 1 A.D.) of the Pioneer period, was continually occupied for the next 1450 years into the Civano phase of the Classic period. The platform building at Pueblo Grande dates from the Classic period, and the ball court at the site likewise is from the latter periods of Hohokam development. Information concerning the earlier periods has come primarily from the excavations northeast and northwest of the large mound. This long, continuous occupation is of special archeological interest and makes the site important for research into Hohokam culture and development. Excavations at the ball court and irrigation systems revealed modes of building and maintenance which add important data to the archeologist's knowledge of these types of aboriginal construction. Various other excavation projects have yielded data pertinent to habitation units, utilization of raw materials, and patterns of settlement. Irrigation systems, ball courts, platform construction, and artifacts within the landmark point to the lasting

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impact of pre-conquest Mexican civilizations upon the prehistoric river-dwelling Hohokam agriculturalists of central Arizona. Comparisons between the sequence of architecture and artifacts at Pueblo Grande and Snaketown, another Hohokam settlement south of Phoenix, has resulted in the conclusion that the development of the two sites is parallel with some differences in detail. Explanations of the variability within and between these sites can provide insight into the processes of cultural development. There is considerable potential for future research and excavation within the landmark which would continue to add to the clarification of these concepts.

It has been suggested by Johnson (1975) that future research at Pueblo Grande will disclose evidence for an increasing population during Hohokam times which will be correlated with technological improvements, better subsistence practices, and changes in social organization. Specialized features, such as the ball court and the platform mound and building which appear late in the sequence at Pueblo Grande, may have served a dual function: first, as important parts of the religious or ceremonial life of the inhabitants of the site, and second, as an integrating mechanism necessitated by the increasing population. Johnson points out that data available from past and future excavations at Pueblo Grande may clarify this issue.

The development of the prehistoric irrigation systems present in the southern portion of the landmark is undoubtedly related to the cultural development at Pueblo Grande, for the large population at the site could only be supported by sufficiently advanced agricultural techniques. The historic canals within landmark boundaries are not integral to the national significance of the site but nevertheless tend to add to the integrity of the landmark. These canals, necessary to the development and growth of Phoenix, appear to parallel the orientation of the prehistoric canals and offer contrasts and comparisons with the earlier water utilization and management practices of the Hohokam.

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The Hohokam canal system in the Gila-Salt River area has been estimated at approximately 150 miles. The largest of these was 75 feet wide at the top, 40 feet wide at the bottom, and 6 feet deep. The system may have supported as many as 200,000 people. The prehistoric people had no leveling instruments but nevertheless managed to construct their canals in the best possible places with a precision which has not been improved upon with the use of modern engineering devices.

The Hohokam also lacked efficient digging tools and had to build their canals by hand, using stone hoes without handles. If the hoe became dulled from use, it was sharpened on a basaltic grindstone.

The sides of the canals were often terraced so that when water was scarce there might still be a usable flow of water in the narrow bottom of the canal. The canal was tamped and plastered with clay to prevent seepage. A canal sometimes ended in a reservoir, one of which was about one mile long by $\frac{1}{2}$ mile wide. Some villages had their own reservoirs, perhaps 100' x 200' and 15' deep with tamped and plastered sides and bottom.

According to archaeologist H. S. Gladwin, "The engineering knowledge, the directed effort, and the cooperative labor which went into the making of these canals were unique in Southwestern history...." (History of the Ancient Southwest, 1957, p. 84)

The reasons for the dispersal of the Hohokam and the deterioration of their culture are not clear. When the Spanish arrived in Arizona, however, the Pima were engaged in irrigated agriculture, and it is possible that they are the descendants of the Hohokam. The Spanish occasionally traversed this area but never occupied it.

The first Anglo settlers in the valley appeared in the 1860s and discovered the abandoned canals of the Hohokam. At first, many of these were used for wagon roads and were not recognized as canals. However, the realization that an extensive irrigation system had once served the valley inspired Anglo exploitation of the area. Old canals were cleaned out and new ones were dug.

In the Mesa area the old canals required new heads as erosion had left the canals as much as 25 feet above the river level. The largest prehistoric canal in the area became known as the Montezuma. The

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Mormon settlers dug new heads upstream and made use of the prehistoric canals wherever possible when they settled there in 1878. The Mormon canals were built with team drawn slips and hand tools, a long, tire-some process. Like the Hohokam before them, they found patches of caliche which were a nightmare to cut through. The pioneers estimated that as much as \$25,000 had been saved on the Mesa Canal by cleaning out several miles of a prehistoric canal.

Like their predecessors, the Mormons lacked surveying equipment. In order to determine the grade and prevent seepage, they excavated just ahead of the advancing water. The gravelly portions were thus sealed by the silt carried by the water. However, in some places the problem was so bad that silt had to be hauled in and tamped down by horses.

The earlier canals were replaced by the large cement-lined Consolidated Canal built in 1891-1892. The giant dredge used in construction was made to dig a harbor for itself when the work was completed, and it remained there in what became a popular swimming hole. Eventually the dredge deteriorated and was dismantled for scrap. The dredge hole is part of the park.

The Park of the Canals is unique in the United States in preserving prehistoric and pioneer waterways. It also contains several significant Hohokam ruins. The city hopes to create an unusual indoor-outdoor irrigation museum on the site.

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