

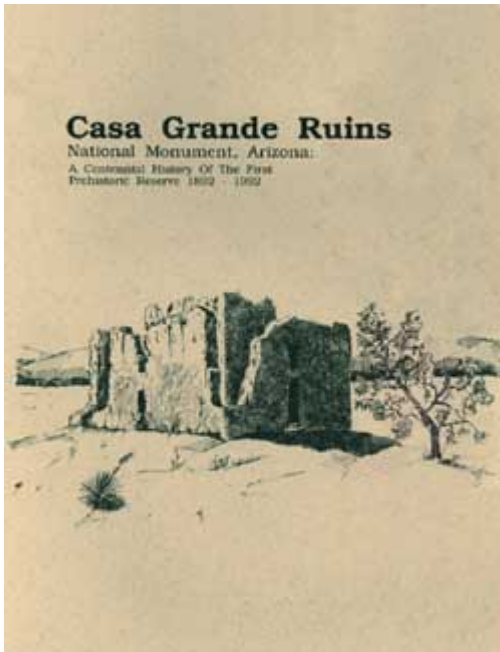


**Casa Grande Ruins  
National Monument, Arizona:  
A Centennial History of the First  
Prehistoric Reserve  
1892 - 1992**

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An Administrative History**

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## **INTRODUCTION**

Casa Grande Ruins National Monument lies within the basin and range area of southern Arizona which is a part of the Sonoran Desert. The mountain ranges around the monument are pre-Cambrian granites and schists. Some are cut by younger granitic rocks and flanked by tertiary lava flows. The nearly level plains between the mountain ranges contain Sonoran Desert scrub characterized by creosote bush — bursage vegetation. The monument elevation ranges from 1427 feet in the southeast corner to 1414 feet on the northwest side. Casa Grande is on the drainage of McClellan Wash, a tributary of the Gila River. Its soil is Coolidge sandy loam with caliche, a limy hardpan, two to four feet below the surface. The monument's biotic community is surrounded for the most part by irrigated agricultural land. There are sixty documented archeological sites in the monument. Some of these sites have been dated to AD 550-700, while the compounds were built between AD 1200-1450.

Casa Grande Ruin Reservation was created on June 22, 1892 by order of President Benjamin Harrison to protect a one-of-a-kind remaining Casa Grande or Great House. As a result, Casa Grande became the first prehistoric and cultural site to be established in the United States. The 480 acre reservation boundary changed in 1909, but retained the same acreage. An act in 1926 reduced that area to 472.5

acres. Some controversy has occurred over the years about the exact name of the monument. Originally, it was set aside as Casa Grande Ruin Reservation. In 1918 President Woodrow Wilson proclaimed it to be Casa Grande National Monument. Subsequent congressional acts in 1926 and 1930 called it Casa Grande Ruins National Monument. Some National Park Service personnel have held that the national monument proclamation of 1918 should determine the name, but, on the basis of the later legislation combined with a legal opinion and desire by monument management to be known as Casa Grande Ruins National Monument, the National Park Service Chief Historian recommended on December 17, 1991 that it be recognized as Casa Grande Ruins National Monument.

## CHAPTER I: THOSE WHO HAVE GONE

The significance of Casa Grande ruins lies in its prehistoric past when the builders and inhabitants achieved a sophisticated culture. Casa Grande fell within the heartland of an extensive prehistoric agricultural society. The Hohokam (a Pima Indian term meaning "those who have gone"), with their lengthy canal irrigation system, were masters of the desert.

The Hohokam culture did not suddenly appear. Its antecedents lay in a previous, local Archaic culture. These Archaic peoples, who appeared in the desert Southwest about 5500 BC, functioned as hunters and gatherers who depended upon wild plants and animals for their subsistence. Whether domesticated corn became available before 1000 BC or not, these people did not cultivate it because they had little need to invest their labor in such a crop when they could subsist by hunting and gathering. A growing population perhaps combined with some dry periods, however, began to outstrip the flora and fauna used for food. By 1000 BC, this situation forced the population to augment their ration by cultivating a small cob popcorn. By 500 BC regular corn appeared in the area and was crossed with the small cob popcorn. The prehistoric population in turn, crossed this hybrid with an eight-row flour corn several centuries later. About 350 BC, common beans (pinto, red, and navy) were introduced. The Archaic peoples' casual dry land cultivation, however, did not produce sufficient yields to supply the growing demand. To ensure crop yields in the Southwest required considerable attention. Such attention began to curb the mobility of these hunter/gatherer peoples. Decreased mobility only forced the people to place greater reliance on domesticated crops. This more sedentary life, in turn, depleted the wild resources in an area. Returning to a hunting and gathering way of life then became no longer viable. As a result, this Archaic culture began a slow transition into a hydraulic (water based) society which used irrigation to support its agriculture. By AD 300 this water-based culture appeared as the Hohokam. [1]

Archeologists have divided the Hohokam culture into the following approximate four periods. The four periods include: Pioneer, AD 300-750; Colonial, AD 750-950; Sedentary, AD 950-1175; and the Classic, AD 1175-1450. The Pioneer period found the Hohokam living as simple farmers in a series of small villages along the middle Gila River. Several factors determined the location of an early Hohokam village — good arable land, a suitable location from which the Gila could be tapped for irrigation water, and a shallow aquifer so that wells for domestic water need not be dug more than ten feet deep. Early Hohokam houses consisted of branches bent in a semi-circular fashion and covered with twigs, reeds, and mud. House locations had no consistency. Instead, they were placed in what has been called a rancheria style; that is, they were scattered randomly over an area of as much as a square kilometer. Irrigation canals at first were of simple construction which served only a small village and thereby did not require intervillage cooperation or a large, disciplined labor force to maintain them. Because of this uncomplicated situation, the early Hohokam lived a life in which all were equal without a central authority to direct them. [2]

Between AD 300 and 500 the Hohokam acquired a new group of cultivated plants from Mexico. These plants included first cotton and tepary beans followed by sieva and jack beans, green-striped cushaw

squash, warty squash, and pigweed. The Hohokam also augmented their food with wild plants such as goosefoot seeds, saguaro fruit and seeds, carpetweed seeds, grass seeds, prickly pear cactus fruit and pads, mustard seeds, wild primrose roots, four-o'clock roots, cholla buds, cattail roots and catkins, cocklebur, and coyote melon. They hunted animals such as jackrabbits, cottontails, and mule deer. Some fish and clams from the Gila River and the canals varied their diet. [3]

In their everyday life, the early Hohokam used manos and metates to grind seeds into coarse meal for cooking. Cooking was accomplished in plain brown pottery. This same pottery supplied storage vessels and containers for the cremated remains of the dead. These Pioneer period people had ceremonies as attested by fired clay human and animal figures and the use of incense burners. Some basic regional trade occurred, especially to obtain shell from the Gulf of California which was used to fashion jewelry. [4]

In the Colonial period (AD 750-950) the population increased. Some villages grew larger as a more refined social system developed. Social ranking began to play a role, as later noted, because some graves had more ornate items associated with them. At the larger settlements, ball courts came into existence. Although these large, oval-shaped depressions varied in size, they served as a focal point for games and ceremonies. In daily life a distinctive red-on-buff pottery came to predominate. [5]

The Sedentary period (AD 950-1175) brought numerous changes to the Hohokam civilization as the population continued to increase. Villages became an altered rancheria style as clusters of three to five houses were grouped together all facing a common or courtyard area. Post reinforced caliche pit houses came into use. These courtyard segments became the basic unit of village life. Most activities occurred out-of-doors under adjacent ramadas as the houses played only a small part in day-to-day life. It was here that the women tended roasting pits or slow baked food in large earth ovens. The development of a more complex canal system altered society. Since expanded canals now served more than one village, it was necessary to develop a leadership to coordinate water distribution. From the new need for greater authority, elite classes arose. They, no doubt, received much of their prestige from religion. The platform mounds which appeared in the villages had some association with the elite members and religious ceremonies. Rulers, of course, required symbols of their position. As a result, craftsmen became another select group to occupy larger settlements. These artisans produced finer jewelry products of shell, stone, and bone as well as carved stone and fired clay figures. Hohokam craftsmen used acid etching long before its use in Europe. Textile work in cotton flourished as well. Traders, too, came to have an enlarged role as extensive trade developed from the Little Colorado River area in the north to Mesoamerica on the south. Items obtained from the southern part of Mexico included copper bells, mosaics, stone mirrors, and ornate birds like macaws. [6]

During the Classic period, which began about AD 1175, organizational changes began to occur. The population stabilized and perhaps declined somewhat. Some settlements were abandoned as the population shifted into fewer and larger villages. Rancheria style villages were no longer the favored arrangement. The focus became more compact villages with each of these units composed of walled compounds around a central zone or civic-ceremonial district. At Casa Grande Ruis National Monument the central district is identified by the ball court and community plaza surrounded by Compounds A, B, C, and D. A uniting of the canal systems into fewer and longer canals can possibly explain this reorganization of the villages. By AD 1300 canal consolidation also produced an extended level of managerial/religious authority centered in a few select villages. These centers of power could probably be identified with the construction of "Great Houses" as exemplified by the Great House in Compound A at Casa Grande Ruins National Monument. These multi-storied caliche buildings served more than managerial functions, for they were also associated with astronomical uses. The Classic period also witnessed a reduction in trade, especially in Mesoamerican items. Although red on buff ceramics remained the standard, some polychrome pottery, obtained in trade from Pueblo groups in what

comprises present-day Arizona and New Mexico, made an appearance especially in the centers of power. [7]

All adjustments in Hohokam society were tied to the preservation of their irrigation based society. Nature, however, ultimately robbed them of their lifestyle. Between 1200 and 1350, periodic years of high volume river flow caused a deepening of the Gila River channel. These times were interspersed with periods of low water. Consequently, the Hohokam farmers found that their canal intakes along the river could no longer divert sufficient water for irrigation. Intakes had to be moved further upstream and thus it became a struggle to continue farming. One answer was the consolidation of canal systems combined with the extension of political and religious control. This situation seems to have been the case with the Casa Grande canal which was ultimately consolidated and extended to obtain water from a point on the Gila River eighteen miles to the northeast of that village. Following 1355 times got worse as more catastrophic flooding appears to have taken place. A failure of the managerial/religious system to deal with the situation seems to have resulted in a slow societal collapse. Sometime between 1355 and 1450 the Hohokam abandoned their large, central settlements. The social system became decentralized as groups moved into the desert or established small villages along the Gila River and founded the Piman-speaking tribes encountered by the Spanish at the end of the seventeenth century. [8]

### **Chapter One Footnotes:**

1. Linda S. Cordell, *Prehistory of the Southwest* (Orlando, FL: Academic Press, 1984) 154-165, 178, 186-188; "Miscellaneous Introductory Hohokam Readings," located in the Casa Grande Ruins National Monument library. Casa Grande Ruins National Monument hereafter is cited as CAGR.
2. Cordell, *Prehistory of the Southwest*, 210, 222-224; Lynn Teague, "The Hohokam Classic Period and the Casa Grande (typescript in the CAGR library), 1.
3. Cordell, *Prehistory of the Southwest*, 179; David E. Doyel, "The Prehistoric Hohokam of the Arizona Desert," *American Scientist* 67 (September-October 1979) 548; "Miscellaneous Introductory Hohokam Readings."
4. Doyel, "The Prehistoric Hohokam of the Arizona Desert," 544, 548; Cordell, *Prehistory of the Southwest*, 281.
5. Doyel, "The Prehistoric Hohokam of the Arizona Desert," 548, 550; "Miscellaneous Introductory Hohokam Readings."
6. Teague, "The Hohokam Classic Period and the Casa Grande," 2-3; Cordell, *Prehistory of the Southwest*, 281, 322; "Miscellaneous Introductory Hohokam Readings"; Doyel, "The Prehistoric Hohokam of the Arizona Desert," 549.
7. Teague, "The Hohokam Classic Period and the Casa Grande," 2-3; Cordell, *Prehistory of the Southwest*, 322-323; "Miscellaneous Introductory Hohokam Readings"; Doyel, "The Prehistoric Hohokam of the Arizona Desert," 549-550.
8. Cordell, *Prehistory of the Southwest*, 323-325; Teague, "The Hohokam Classic Period and the Casa Grande," 2-4; "Symposium: Prehistoric Irrigation in Arizona," Notes taken by John M. Andresen (Casa Grande Ruins National Monument) at Pueblo Grande Museum, October 28-29, 1988.

## CHAPTER II: THE EYE OF THE BEHOLDER

Many late nineteenth and early twentieth century writers believed that the early Spanish explorers Alvar Nunez Cabeza de Vaca, Fray Marcos de Niza, and Francisco Vasquez de Coronado viewed the Casa Grande between 1537 and 1540. Some of these authors were certain that it was the "Red House" described in Coronado's journal. These men's travels, however, did not take them to the Hohokam Great House. It was not until 154 years after Coronado traveled through Arizona that the first European beheld the remains of this once great culture. [1]

In 1694, when the Jesuit padre Eusebio Francisco Kino arrived in present-day southern Arizona for the first time, he heard the Piman-speaking peoples talk of a *hottai ki* not far away. In November of that year, accompanied by Sobaipuri Indians from the village of Bac, Kino set out to view this *hottai ki* or Casa Grande as he translated it in Spanish. After traveling forty-three leagues (about sixty-four miles) north of Bac, Kino found the large building. He recorded in his journal that

the Casa Grande is a four story building, as large as a castle and equal to the largest church in these lands of Sonora. Close to this Casa Grande there are thirteen smaller houses, somewhat more dilapidated, and the ruins of many others, which make it evident that in ancient times there had been a city here. On this occasion and on later ones I have learned and heard, and at times have seen, that further to the east, north, and west there are seven or eight more of these large old houses and the ruins of whole cities, with many broken metates and jars, charcoal, etc. [2]

From that point onward, the Great House received a notoriety that caused many travelers to come to behold this work of a mysterious people and to speculate on its origin and meaning. Padre Kino led a large party which included Capts. Juan Mateo Manje and Cristobal Martin Bernal to the Casa Grande three years later. When they arrived on November 18, 1697, Kino said Mass in the Great House. Following the service, the men explored the immediate area, and Bernal and Manje wrote descriptions of the prehistoric remains. These accounts present the first detailed narrative of the Great House and its surroundings. Manje's report provided enough detail that visitors two hundred years later could note that little had changed in the structure. He wrote:

there was one great edifice with the principal room in the middle of four stories, and the adjoining rooms on its four sides of three stories, with the walls five and one-half feet in thickness, of strong mortar and clay, so smooth and shining within that they appear like burnished tables, and so polished that they shine like the earthenware of Puebla. At a distance of an arquebus shot twelve other houses are to be seen, also half fallen having thick walls, and all the ceilings burnt except in the lower room of one house which is of round timbers, smooth and not thick, which appear to be of cedar or savin, and over them sticks of very equal size and a cake of mortar and hard clay, making a roof or ceiling of great ingenuity. In the environs are to be seen many other ruins and heaps of broken earth which circumscribe it two leagues, with much broken earthenware, plates and pots of fine clay, painted many colors, and which resemble the jars of Guadalajara in Spain. It may be inferred that a city of this body politic was very large; and that it was of one government is shown by a main canal which comes from the river from the plain, running around for the distance of three leagues and enclosing the inhabitants of its area, being in breadth ten varas [twenty-eight feet] and in depth about four [eleven feet], through which was directed perhaps one-half the volume of the river, in such a manner that it might serve as a defensive moat as well as to supply the wards with water and irrigate the plantations in the adjacencies. [3]

Manje also noted that the Great House measured thirty-one paces long and twenty paces wide. Bernal added that the plaster used on the interior and exterior of the Great House was reddish-colored mud. He also agreed with Manje's dimensions for the large canal, but Kino differed from them when he wrote that it was three varas deep [8.4 feet] and six or seven wide [16.8 to 19.6 feet]. The observation that the



roofs had burned would be repeated by nearly everyone who subsequently visited. Later, many writers would erroneously ascribe the burning to Apache activity. It was probably not wanton destruction which accounted for the burning, but rather a method used by local Pima Indians to remove much needed construction timber from the buildings. [4]

Other padres purportedly visited Casa Grande in 1736, 1744, and 1762. Of these men, only the anonymous author of *Rudo Ensayo* provided a description which remains. As a result of his 1762 visit, this individual wrote that the roof was intact. The author for the first time referred to the Casa Grande as the house of Montezuma. He did so because he thought that the Aztecs had built it while on a sojourn before their travels ultimately took them to the Valley of Mexico. This misrepresentation persisted until the twentieth century. [5]

In 1775, Lt. Col. Juan Bautista de Anza recruited potential settlers in the area of present day southern Arizona and northern Sonora for an overland journey to establish an outpost in the area of current day San Francisco, California. These people, with their military escort, began their journey from the Presidio at Tubac in October. The Franciscan Friars Pedro Font and Francisco Garcés were among the travelers. Upon reaching the Gila River on October 31, 1775, de Anza decided to give the people a day of rest. Garcés and Font took the opportunity to visit the nearby Casa Grande which Font termed the "Palace of Montezuma." Garcés deferred to Font's diary description rather than write his own account. Font began with the assumption that the structure had been built by the Aztecs who had "lived here when the devil took them on their long journey." These two friars were the first to make interior measurements of the Great House rooms as well as give the exterior dimensions. It consisted of five "halls" of which the three in the center were identical in size measuring twenty-six feet north to south and ten feet east to west. The two "halls" at each end were twelve feet north to south and thirty-eight feet east to west. Font found the doors to be five feet high and two feet wide. Exterior walls were four feet thick while interior walls exceeded those of the exterior by two feet. Outside dimensions ran seventy feet north to south and fifty feet east to west. The outer surface of the exterior walls sloped inward near the top. The Great House consisted of three stories and the two friars thought they detected indications of a fourth floor. Font and Garcés observed that the Great House was surrounded by an enclosure inside of which there were other buildings. The enclosure walls measured 420 feet north to south and 260 feet east to west. The ruin of a "castle or watch tower" was located in the southwest corner of the enclosure. Another ruin just east of the Great House had a twenty-six by eighteen-foot dimension. The remains of this structure was ultimately called Font's room where it was thought he had said a mass. Font reported that the ground was littered with pieces of pots and jars. [6]

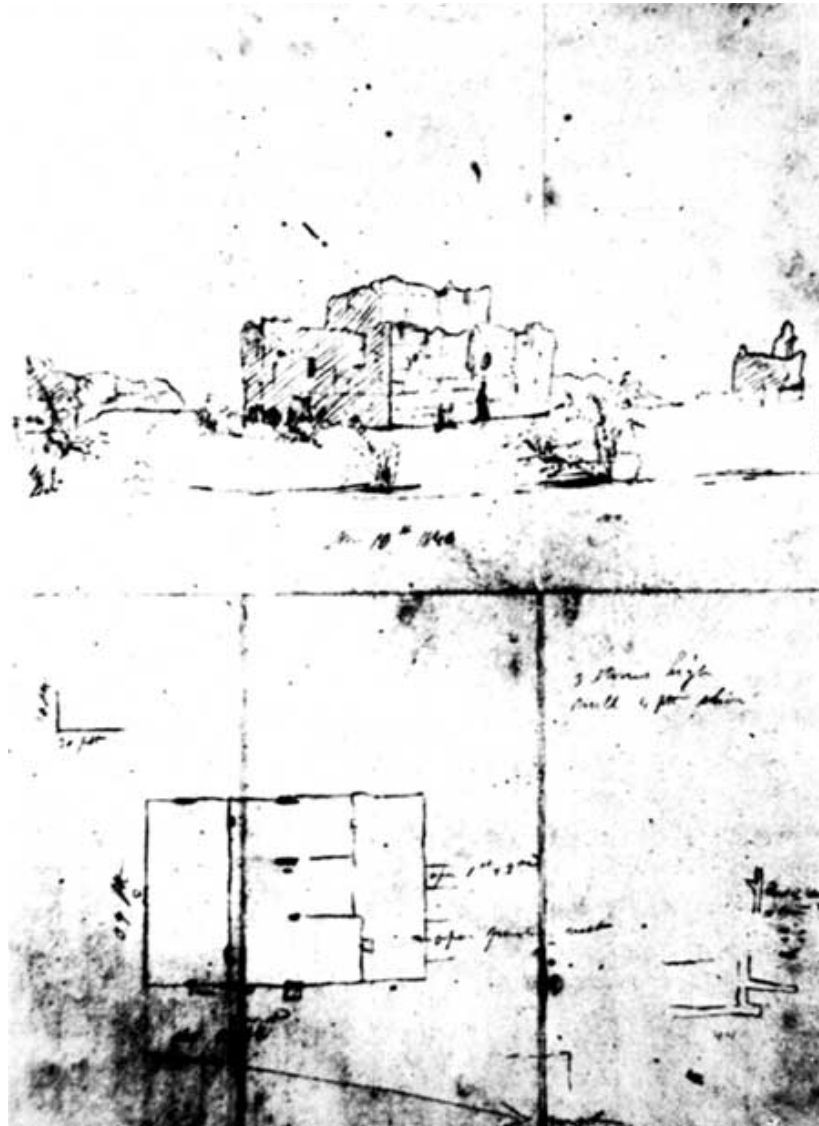


Figure 1: 1846 Sketch of the Great House by Stanley of the Kearny Expedition.  
Courtesy of Casa Grande Ruins National Monument.

For about sixty-five years after the Font and Garces visit, few white men visited Casa Grande, and no one published a description of the structure. The ten-year Mexican rebellion for independence succeeded in 1821. Politicians of the new republic, however, rarely took note of any activity outside of the Valley of Mexico. Consequently, American fur trappers began to arrive in the area in the early 1830s attracted by the beaver that inhabited the Gila River. Evidence of their presence is seen on a wall of the Great House where a trapper named Pauline Weaver scratched his name and date. Not everyone in Mexico ignored the area, however. Copies of Garces and Font's diaries evidently circulated about Mexico for years. In 1844 Eduard Muhlenpfordt, a German who had resided in Mexico for ten years, published a description of that nation. In it he wrote of having read the two friars' "incomplete" diaries. He wrote that little was known about the area of the Gila River except that there were ruins of an old city there "which is known to the neighboring Indians as Hottai-Ki." Muhlenpfordt gave the first report of artifact removal when he noted that more than one piece of pottery had been found there. As a consequence of his two-volume work, which he published in Germany, Casa Grande received greater foreign notice. [7]

On October 29, 1848, Cave J. Couets passed within sight of Casa Grande. He called it the "Aztec Castle or temple" and exaggerated its dimensions when he wrote that it "is seven stories high with walls 10 or 12 yards in thickness." The men in a neighboring Pima village told Couets that the building "was left by their grandfathers, as a sacred place." These Pima could not give a date when it had been built, but,

according to their legend, all the races of mankind had come from it with the whites coming "from one side, Mexicans from another, Indians from another, etc." Since there were only four sides to the Great House, the Pima recognized only four races, but then they had not encountered other ethnic groups. [8]

Soon after Muhlenpfordt's work was published, the start of the Mexican-American War caused Casa Grande to be visited by ever increasing numbers of people from the United States. The first such group, a military detachment on its way to California under the command of Brig. Gen. Stephen Watts Kearny, arrived at noon on November 10, 1846. At the time the party halted for its midday meal, Major William Emory, among others, sighted the Casa Grande and went to investigate it. Emory called it the remains of a three-story mud house. He pronounced the relic to be sixty feet square with walls four feet thick. Ceiling timbers had been burned out of their seats in the walls to a depth of six inches. In fact Emory felt that the whole interior had been burned. As would become the fashion of future visitors, Emory and the others made a "long and careful search for household furniture, or other implements of Art." These early treasure seekers seemed not to have too much success, for they found only a corn grinder (metate) and a few marine shells which had been cut into various ornaments. While Emory inspected the ruin, a fellow traveler, Stanley, sketched it (figure 1). Dr. John Griffin, a surgeon for the detachment, called the Great House "Casa Montezuma". He probably talked with the local Native Americans who passed on the name they had heard mentioned by the Spanish. Griffin pronounced the structure to be an excellent house, built of cement and sand. Inside, it had a very fine finish. Although Emory did not mention anyone removing the remains of rafters from their wall seats, some were taken out because Griffin wrote that he had been told the butt ends had been cut with a stone ax. E.G. Squire incorporated Emory's account in his 1848 description of the region and provided a drawing (figure 2). [9]

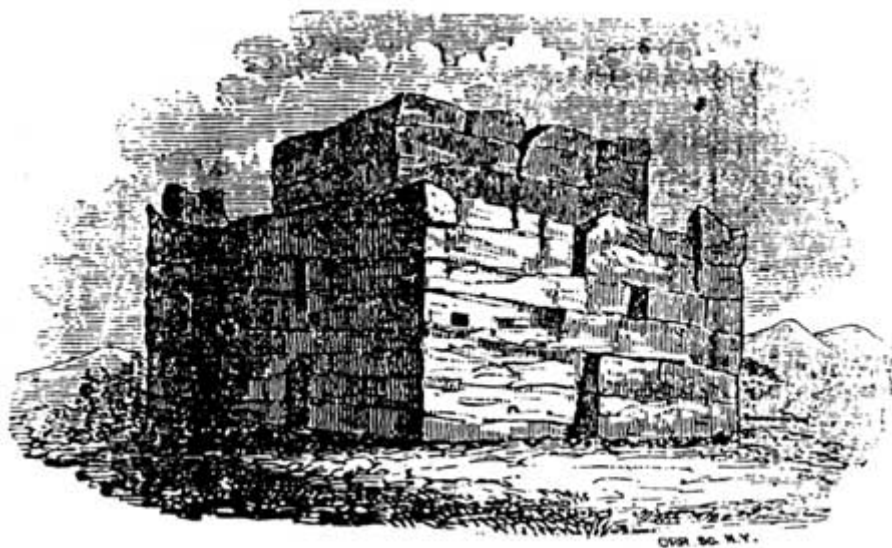
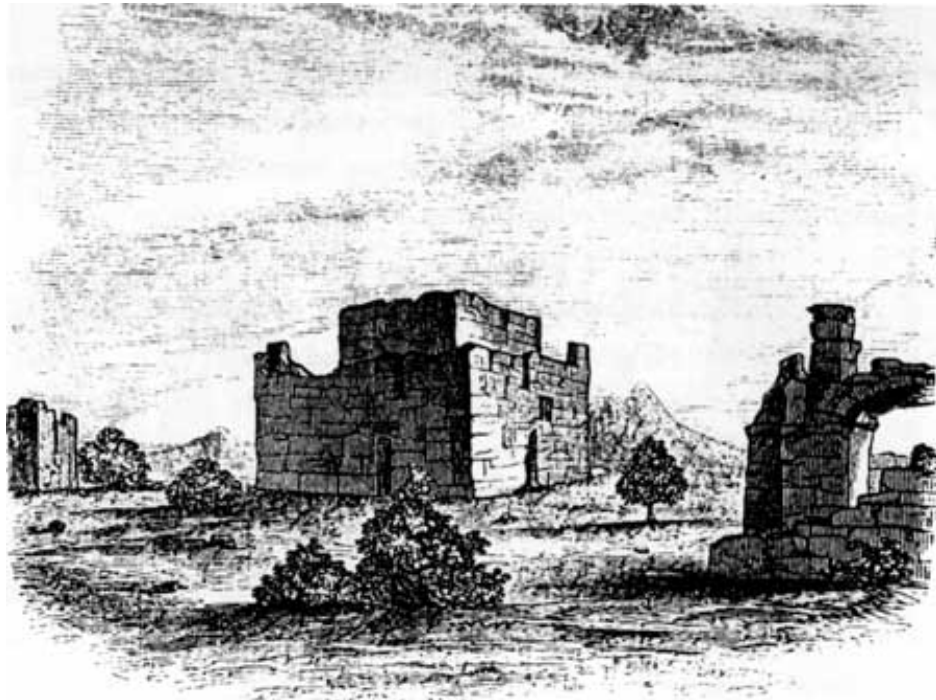


Figure 2: Drawing of the Casa Grande. E.G. Squire, "New Mexico and California," American Review, November 1848

Not all travelers were happy with the route through the Casa Grande region. If Brantz Mayer had had his way, the Great House would have been spared the destructive visits of graffiti makers and souvenir hunters. After his 1852 visit, Mayer hoped for the day when steam routes would create the situation whereby "travellers will not be compelled to pass either the desert or those more southern regions where the moldering ruins of Casas Grandes [sic] denote the ancient seat of Indian civilization." Despite his dread of the desert, Mayer did appreciate the Great House enough to include a drawing of it in his work (figure 3). [10]



RUINS OF A CASA GRANDE.

Figure 3: Sketch of the Casa Grande in 1853.

Brantz, Mayer, *Mexico, Aztec, Spanish and Republican*, Vol. 2, Hartford: S. Drake, 1853.

Probably the most learned man to describe and draw (figure 4) the Great House in the antebellum era came to the area to establish the new boundary between the United States and Mexico following the war between those two nations. Not only would John Bartlett offer the first interpretation for the use of the Casa Grande, but he suggested means by which it could be preserved. Bartlett speculated that the inner rooms must have been used to store corn and perhaps the whole building had been a granary. He noted that the base of the outside walls had crumbled and had been cut inward some twelve to fifteen inches. Since this destabilized the structure, he thought that a couple days spent in restoring the wall bases with mud and gravel would keep the building durable for centuries. [11]



Figure 4: 1852 Drawing of the Great House.

John R. Bartlett, *Personal Narrative of Explorations*, Vol. 2, NY.: D. Appleton & Co., 1854.

Bartlett was quite familiar with Casa Grande before he arrived there since he had read the accounts of Juan Mateo Manje and Pedro Font. While marking the international boundary along the Gila River on July 12, 1852, Bartlett found the Great House. He wrote that two or three miles before getting there he noticed irrigation canals and broken pottery. The surrounding countryside was covered with twelve-to twenty-foot high mesquite. On the site, he noted that there were three buildings. The Great House, with three stories and a dimension of fifty by forty feet, was the best preserved although its top had crumbled. Bartlett decided that there must have been a fourth story, otherwise he could not account for all the rubbish inside the structure. The thick walls consisted of large square blocks of mud which Bartlett thought were prepared by pressing earth into boxes that were about two feet high and four feet long. Exterior walls tapered inward toward the top. The southern front wall had fallen in places and had long fissures, but the other three sides were "quite perfect." On the outer surface, the walls had been given a rough plaster, but on the inside the surface had received a hard finish. Inside the rooms, he saw the charred ends of four-to five-inch diameter beams in the walls. [12]

Numerous ruins could be seen in the immediate area of the Casa Grande. Near the Great House to the southwest, a second ruin stood with a two-story central section. A third ruin was located just northeast of the Casa Grande, but it was in such poor condition that its original form could not be discerned. In fact Bartlett saw mounds of dirt in every direction, suggesting the remains of a large number of structures. Bartlett was the first to describe a semi-circular embankment with an eighty-to 100-yard circumference located just northwest of the Great House. He had found the ballcourt although he did not realize it at the time. Interspersed with the mounds were numerous pottery fragments. Bartlett collected some of these pottery pieces. [13]

In his narrative, Bartlett included the accounts of Casa Grande produced by Lt. Juan Mateo Mange and Padre Pedro Font. He wrote that in 1775 Font had thought the Aztecs had built the Great House some 500 years before that date. Bartlett professed not to understand how the Aztec story had originated since there was not one shred of evidence to support such a tale. He observed that even the Aztec language differed from that of tribes to the north. [14]

In 1853 the United States approached the Mexican government seeking to purchase land south of the Gila River for a southern transcontinental railroad. James Gadsden, the American negotiator, succeeded in reaching an agreement on December 30, 1853. It was approved in Washington in June 1854. At that time Casa Grande fell within American territory. Since the Apache had established pre-eminence in that area, few white men chose to travel in the vicinity of the Casa Grande in the latter 1850s and 1860s. J. Ross Browne and Charles Poston accompanied by a contingent of California Volunteers and guided by Cyrus Lennan, a local trader, did visit the ruins in January 1864. The route from the Pima headquarters at Sacaton along the Gila River proved difficult because of the numerous groves of dense mesquite. Once at the Great House, the party found the ruins in the same condition as previous viewers. Like Bartlett, Browne made a drawing (figure 5) and noted that the upper part of the structure had been washed and furrowed by rain, while the base had worn away to such depths that it threatened the whole building. Much of the group's time was spent in collecting souvenirs. The guide, Lennan, told Browne that on previous occasions he had dug at Casa Grande and had found a number of bone awls. Others, Lennan stated, had uncovered items of flint, bone, and stone. When the assemblage departed, they left "well laden with curiosities." Everyone had his pottery fragments as well as specimens of adobe and plaster. [15]

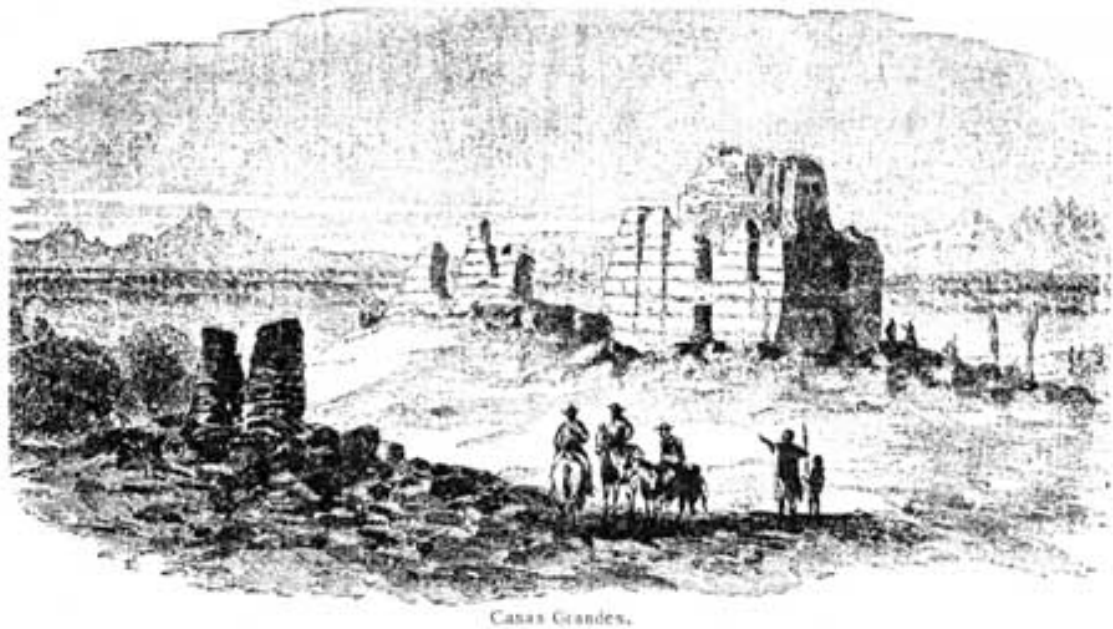


Figure 5: 1864 Drawing of the Great House.

J. Ross Browne, *Adventures in the Apache Country* Tucson: University of Arizona Press, 1974

All of the "curiosities" removed from the site evidently whetted Charles Poston for more. As Commissioner of Indian Affairs in Arizona, he wrote to his superior in Washington, D.C. that he and Browne had just visited a ruin that had been built by a "very superior civilization." Since remnants of stone and earthenware were strewn for miles around it, Poston thought,

if some excavations could be made about this old ruin it might lead to the discovery of relics throwing some light on this obscure subject.

A considerable examination might be made for an expenditure of five hundred dollars if done under supervision of the Indian Agent at the Pima Villages or some officer of the government stationed in the vicinity. [16]

Poston's recommendation was the first plan advanced for an archeological excavation, but nothing came of this proposal. He never wrote of returning to Casa Grande to "recover" more "curiosities."

By the late 1860s and early 1870s more people came to view the Great House ruins and non-Native American settlers began to farm and ranch along the Gila River. When Ralph Norris surveyed the interior township lines for Township 5 South, Range 8 East during the summer of 1869, he noted four Mexican families farming along the Gila within several miles of Casa Grande. It was possible that they used some of the old Hohokam canals to irrigate their fields. Obtaining water from the Gila adjacent to their fields would have proved difficult, for Bartlett reported in 1853 that the river bank north of Casa Grande was some fifteen feet above the water. John Devine erroneously reported later that, when he visited the ruins in the 1860s, the Great House had five complete stories and the floor joists were in place and perfect. Visitors for more than 160 years had never found the ruins in such condition. It certainly was not in that pristine form when Charles Clark rode to the ruins in 1873. To investigate the interior of the Great House, Clark crawled through a door opening which was nearly filled to the top with debris. Some Indians interrupted him as he was trying to remove one of the floor joist remains from a wall. He remained hidden in the ruins and watched as they took his food and the bridle from his horse before departing. Clark spent the night in the Casa Grande in fear of the Indians' return. When none had reappeared by the next day, he rode to "Decker's ranch" on the Gila River just north of the ruins. Clark's Indian experience did not stop him from returning the next year. This time he was accompanied by a

Professor Hodge from Ann Arbor [Ann Arbor?], Michigan. The two men crawled back into the ruin where they removed two charred stubs of floor joists from a wall. Just as Clark and the professor were preparing to dig in the center part of the Great House, a representative of the Indian agent at Sacaton arrived and told them that the Pima would not permit digging in the Casa Grande. As a result, they packed their equipment and left. Subsequent Indian agents at nearby Sacaton did not take as much interest in the ruins and artifact removal ultimately became a common practice. [17]

Scholastic interest in Casa Grande did not end with Professor Hodge of Michigan. Educational and scientific inquisitiveness about the ruins developed in the 1870s. To stimulate the curiosity of school children, a January 1877 issue of the *Juvenile Instructor* carried an article on the Great House. The first real scientific investigation of the ruins occurred in April 1879. Led by Henry Hanks, an assemblage of New Jersey geologists including Professor George Cook set out to explore and document Casa Grande. Hanks wrote his impressions of the countryside and the ruin. As they rode west from Florence, the party found the ground to be covered with broken pottery. Although the mesquite trees were low, they hid the Great House until the group was almost at the site. As he approached the Casa Grande, Hanks was disappointed. He found that his romanticized image of a stately building, that he had gained from published descriptions, did not hold true. Hanks wrote that one saw

only a huge dun colored, almost shapeless mass, looming up strangely from the desolate plain. There is nothing architectural about the structure. It is, at best, but a mud house; though, as he examines it more closely, it seems more and more wonderful, and the mind is filled with conjecture as to the uses to which this great building may have been put, and why it stands so lonely and isolated. [18]

Professor Cook took samples of the wall material from the Great House. Analysis of this soil showed the walls contained seventeen percent carbonate of lime. This amount of lime led to the speculation on how the prehistoric inhabitants had obtained it. Some thought that it could have come from sea shells from the Gulf of California, but this solution was ruled impossible since that much lime could not have been carried that distance. Others believed that the soil had a high degree of calcium, but most decided that the lime was burned with the building material. [19]

While at the ruins, Hanks, with the group of New Jersey scholars, took exact measurements of the Casa Grande. Its walls were 3.7 feet thick. The highest point was thirty-five feet although it was thought to have originally been four or five stories. The central series of rooms were still one story higher than the outer walls. Its length was 58.5 feet with a forty-three-foot width. A check of its alignment showed that the structure was almost, but not quite in line with the cardinal points. Some parts of the building's exterior were still smooth while other areas had cavities. Years of rain storms and natural sand blasts had taken a toll. Interior walls showed signs of a fire from long ago, but the rafter ends were preserved in the walls. When Hanks and the group removed some of these rafter ends, they could see that blunt instruments had been used to cut them. [20]

The New Jersey group conjectured about the uses made of the Great House. Some offered the idea that it had been a grain warehouse since the irrigation canals led them to believe that the original inhabitants had raised extensive amounts of crops. Further thought led to the conclusion that the small floor rafters would not hold the weight of much grain. One individual decided it served as a temple, but he changed his mind because the small, multiple rooms with a great number of doors and "port-holes" ruled against such a function. In the end, the party determined that all speculation was absurd because no clue remained of its use. Their only hope was that the building be preserved before vandals carried it off piece by piece. People had already dug in and around the structure. Hanks thought that the territorial legislature needed to pass a law soon to protect the Great House, but neither he nor any member of the group made an effort to communicate with the legislature. [21]

Less than six months after the New Jersey party departed, the *Phoenix Herald* reported that Indian Inspector Hammond had spent several days at Casa Grande making "careful and scientific examination" of the ruins. Hammond did not confine his activities to the Great House as his predecessors had done. In addition to measuring and describing the main building, he measured the quadrangle enclosure wall and the remains of other structures within that area. Outside of this area, which later became identified as Compound A, Hammond measured other ruins including an artificial platform which he found northeast of the Great House. This platform undoubtedly was one of two such platform mounds uncovered in an area later named Compound B. Hammond's examination included excavations that he made around the expanse of remains. He found no weapons or tools. Hammond recovered "immense quantities" of pottery and exposed a four-to six-inch layer of charcoal as well as grass from "thatched roofs." [22]

Greater opportunity for looting and vandalism occurred after the Southern Pacific Railroad completed a line through the area in the winter of 1879-80. The railroad honored the ruin by naming its station twenty miles to the west Casa Grande. Soon a stage line opened between Florence and the Casa Grande station. It ran within a few feet of the Great House. The stage driver would frequently stop to permit passengers to explore the grounds. This situation undoubtedly led many people to return to the ruins to dig among the remains. Railroad officials probably helped to encourage such activity after the *Arizona Daily Star* published a story that one Southern Pacific official intended to take some men and tools and investigate the ruins. [23]

It was not long before publications began to remark on the amount of artifacts being recovered at Casa Grande. Patrick Hamilton wrote in 1884 that "a number of stone axes, bone awls and other implements of the stone age have been excavated from the ruins." Another author stated that people who had dug in the ruins had found whole pottery of which some pieces were large ollas like those used by modern Indians. A Florence merchant even defaced the Great House by using it as an advertisement billboard. It was no wonder that concerns for the preservation of the Great House were raised. [24]

## Chapter Two Footnotes:

1. D. D. M., "Arizona Antiquities," *The American Architect and Building News* 19(June 26, 1886) 307; William Wallace Cook, "Relics of a Long Lost Race," *Illustrated American* 19(April 25, 1896) 559; Sir Newton, "The Story of Casa Grande," *Arizona Magazine* 1(March 1893) 1. No one has subsequently been able to locate the "Rod House."
2. Herbert Eugene Bolton, *Kino's Historical Memoir of Pimeria Alta: A Contemporary Account of the Beginnings of California, Sonora, and Arizona, by Father Eusebio Francisco Kino, S.J., Pioneer Missionary, Explorer, Cartographer, and Ranchman 1683-1711*, Vol I (Cleveland: The Arthur H. Clark Co., 1919) 128-129; Frank Pinkley, "Casa Grande National Monument," (1921) 1, Typescript in the National Park Service, Western Archeological and Conservation Center, Tucson, Arizona; Sir Newton, "The Story of Casa Grande," 2.
3. Alice Rollins Crane, "The Prehistoric Ruins of Casa Grande," *Overland Monthly* 36 (October 1900) 295-297; "Translation of [Juan Mateo] Manje's Discovery of the Casa Grande Ruins," November 17 and 18, 1697, Folder: CAGR — Area History, Box 2, Casa Grande National Monument, located at the National Park Service, Western Archeological and Conservation Center, Tucson, Arizona.
4. "Translation of [Juan Mateo] Manje's Discovery of the Casa Grande Ruins;" Bolton, *Kino's Historical Memoir of Pimeria Alta*, I-172; Casa Grande," *Weekly Arizona Miner* (Prescott, Arizona), June 8, 1877; John Russell Bartlett, *Personal Narrative of Explorations and Incidents in Texas, New Mexico, California, Sonora, and Chihuahua, Connected with the United States and Mexican Boundary Commission During the Years 1850, '51, '52, and '53*, Vol. 2, (N.Y.: D. Appleton & Co., 1854) 281; D. D. M., "Arizona Antiquities," 307.



5. Elliott Coues, *On the Trail of a Spanish Pioneer: The Diary and Itinerary of Francisco Garces in His Travels Through Sonora, Arizona, and California 1775-1776*, Vol 1, (N.Y.: Francis P. Harper, 1900) 92.
6. Coues, *On the Trail of a Spanish Pioneer*, I-93-96; Herbert Eugene Bolton, *Font's Complete Diary: A Chronicle of the Founding of San Francisco* (Berkeley: University of California Press, 1931) 34-37; Bartlett, *Personal Narrative of Explorations and Incidents*, II-279; D. D. M., "Arizona Antiquities," 307; Sir Newton, "The Story of Casa Grande," 2.
7. Eduard Muhlenpfordt, *Versuch einer Getreuen Schilderung der Republik Mejico Besonders in Beziehung auf Geographie, Ethnographie und Statistik*, Vol. 2, Hanover, Germany, 1844. Translated by Berle Clemensen.
8. Henry F. Dobins, ed., *Hepah, California! The Journal of Cave Johnson Couets* (Tucson: Arizona Pioneers Historical Society, 1961), 63-64.
9. W. H. Emory, *Notes of a Military Reconnaissance from Fort Leavenworth, in Missouri to San Diego, in California, including Parts of the Arkansas, Del Norte, and Gila Rivers* (N.Y.: H. Long & Brother, 1848) 81-82; John S. Griffin, *A Doctor Comes to California: The Diary of John S. Griffin, Assistant Surgeon with Kearny's Dragoons 1846-1847* (San Francisco: California Historical Society, 1943) 32; E.G. Squire, "New Mexico and California," *American Review* (November 1848) 510.
10. Brantz Mayer, *Mexico, Aztec, Spanish, and Republican*, Vol. 2, (Hartford: S. Drake, 1853) 396.
11. Bartlett, *Personal Narrative of Explorations and Incidents*, II: 273-274.
12. Bartlett, *Personal Narrative of Explorations and Incidents*, II: 271-275.
13. *Ibid.*, II: 275-276.
14. *Ibid.*, II: 279-284.
15. Hubert H. Bancroft, *History of Arizona and New Mexico* (San Francisco: The History Co., 1889) 482; J. Ross Browne, *Adventures in the Apache Country: A Tour Through Arizona and Sonora, 1864* (Tucson: University of Arizona Press, 1974) 114-118.
16. Charles D. Poston to William P. Dale, Commissioner of Indian Affairs, January 18, 1864, Microfilm 234, Letters Received by the Office of Indian Affairs, 1824-80, Roll 3, Arizona Superintendency 1863-69, Record Group 75, Records of the Bureau of Indian Affairs, National Archives and Record Service, Washington, D.C. (National Archives hereafter cited as NA.)
17. Ralph W. Norris, "Survey of the Subdivision Lines of Township 5 South, Range 8 East," July 27-August 10, 1869, Book 629, Bureau of Land Management Office, Phoenix, Arizona; Bartlett, *Personal Narrative of Explorations and Incidents*, 284; D. D. M., "Arizona Antiquities," 307; Charles M. Clark, "My First View of the Ruin of Las Casas Grande," MS-155, Notebook 1, Arizona Historical Society, Tucson, Arizona.
18. J. Z. Stewart, "Ancient Ruins in Arizona," *Juvenile Instructor* 12(January 15, 1877) 21-22; Henry Garber Hanks, "Casa Grande," *Californian* 2(August 1880) 104.
19. Hanks, "Casa Grande," 104-105.

20. Hanks, "Casa Grande," 104-106.

21. *Ibid.*, 105-106.

22. Casa Grande," *Phoenix Herald*, September 27, 1879.

23. *Arizona Daily Star* (Tucson), February 10, 1880.

24. Patrick Hamilton, *The Resources of Arizona, Its Minerals, Farming, Grazing and Timber Lands; Its History, Climate, Productions, Civil and Military Government, Pre-Historic Ruins, Early Missionaries, Indian Tribes, Pioneer Days, Etc., Etc.*, (San Francisco: A. L. Bancroft & Co., 1884) 349; D. D. M. "Arizona Antiquities," 308; *Phoenix Herald*, July 27, 1888.

## CHAPTER III: THE RESERVATION OF CASA GRANDE LAND AND ITS EARLY ADMINISTRATION

### A. The Establishment and Stabilization of Casa Grande Ruins

The beginning date of a movement to preserve Casa Grande ruins has never been established. Edna Pinkley pointed to 1865 as a possible date, because at that time Charles Poston, then territorial representative to the national legislature, supposedly brought Casa Grande to the attention of the United States Congress. The 1860s, however, were too early a period to identify with a ruins preservation movement. Sallie Van Valkenburgh chose 1877 as the year when "the first 'resolution' for preservation of the ruin may have been made." [1] As evidence she cited a December 13, 1877 proposal by a group accompanying Richard J. Hinton across Arizona to form an archeological society. Whether that resolve stimulated a preservation movement or not cannot be ascertained with certainty; however, Van Valkenburgh's 1877 date can most likely be considered as correct. It was in 1877 that the first photographs of the Great House were taken. These and the ones produced in the following year (figures 6-8) were placed on sale for home stereoscopic viewing and, therefore, provided the general public with the first tangible glimpse of the Great House. The photos, combined with published accounts of the ruins, seemed to have stimulated at least a local desire to preserve the last vestige of a vanished culture. It undoubtedly required a year or more before such a desire evolved into a movement. The first account of such activity appeared in the *Weekly Arizona Miner*, a newspaper in the territorial capital of Prescott. It carried a report in February 1879 that people wished to have an appropriation "to improve and reserve" the Casa Grande ruins. A group of New Jersey geologists, who visited the ruins in April 1879, concluded that the territorial government needed to act soon to protect it. The territorial legislature was not forthcoming with money or an act to preserve Casa Grande. It had still not acted by 1887 when H. S. Jacobs, a United States Geological Survey official, advised the Arizona people and legislature that Casa Grande had sufficient scientific and historic value that it should be protected from vandalism and natural decay. [2]



Figure 6: The Casa Grande Viewed from the Southeast Ca. 1878.  
Courtesy of the Arizona Department of Library, Archives and Public Records.



Figure 7: The Casa Grande Viewed from the North Ca. 1878.  
Courtesy of the Arizona Department of Library, Archives and Public Records.

The beginning of a national focus on Indians in the Southwest occurred in 1878 with a visit to the area by the pioneer anthropologist Lewis Henry Morgan. After visiting this section of the country, he decided that it offered the opportunity to prove his theory on man's social evolution. As a result, when the Archaeological Institute of America (MA) was founded the following year, he submitted a research proposal to it for such a study. Morgan's student, Adolf Bandelier, was hired to conduct the research. Bandelier spent five years in New Mexico and Arizona collecting data. In the course of his sojourn, he visited Casa Grande in May 1883. Bandelier wrote that the ruins at Casa Grande covered a nineteen-acre area and could be divided into two groups. The southern group included the Great House. A northern group contained such features as an artificial mound resting on an artificial platform and an elliptical tank. This tank served as a reservoir for both group areas, he thought. His "groups", came to be identified as Compounds A and B, while the "tank" ultimately proved to be the ballcourt. Bandelier produced two reports on his findings — one in 1884 and a final account in 1892. In the first study he felt

that the ruins at Casa Grande had served as residences, but, by 1892, he viewed the structures as places of retreat during attacks. He was led to the final conclusion because of the strength of the walls, commanding positions, and height. [3]

Within a year after Bandelier embarked on his Southwestern study, and probably as a direct result of his focus on the southwestern part of the country, Frank H. Cushing, a Massachusetts anthropologist, began his work among the Zuni and Hopi. Cushing's experience led Mary Hemenway to select him to lead the Hemenway Southwestern Archaeological Expedition which she financed for the years 1887-88. The effort of this group was directed toward excavations of Hohokam ruins in the Salt River Valley, but the party also explored along the Gila River and visited Casa Grande. Sylvester Baxter, the secretary-treasurer of the Hemenway Expedition, came to Arizona to visit the expedition in early 1888. He located the company at Casa Grande. On the evening of January 24, Cushing showed Baxter around the ruins. Baxter could see the effects of vandalism. Souvenir hunters, he wrote, had taken the few remaining timbers and undermined parts of the walls. During this visit Baxter became very attached to Casa Grande and became a champion in the cause for its preservation. He described the Great House in somewhat romantic terms. On the first night of his visit he wrote, "that night, in the full moonlight, the Casa Grande assumed a soft, poetic beauty, with its ruddy surface flooded with radiance that threw the shadows of its deep recesses into a rich mysterious obscurity ..." While the expedition members lay in their tent looking at the Great House in the moonlight, Cushing told them a Zuni folk tale about the "priests of the house." Baxter thought that "as we listened, the ancient walls before us seemed to be re peopled with the venerable old priests." [4]

When Baxter returned to Boston, he wrote an account of his Arizona visit for the *Boston Herald*. He also persuaded Mrs. Hemenway of the importance of preserving the Great House because it was "so precious on account of its being the only standing example of this important class of structure peculiar to the ancient town-dwellers of the Southwest, and its consequent inestimable value for archaeological study. . . ." [5]



Figure 8: The Great House viewed from the Southwest 1878.  
Courtesy of the Sharlot Hall Museum, Prescott, Arizona.

Mrs. Hemenway, Baxter, and some politically influential Bostonians at first sought to achieve their end of protecting Casa Grande by working through the executive branch of the federal government. They contacted Capt. John Bourke for aid. He wrote to the adjutant general of the United States Army on June 30, 1888, to state that some Boston friends requested that a measure be taken by the national government to preserve the "Casa Grande" prehistoric ruins from vandalism. These Boston friends

suggested that, since the ruins were on a school section which exempted it from being claimed, the Interior Department might create a reservation and place an individual in charge of it. Bourke's letter rapidly passed from the adjutant general to the secretary of war. The secretary, in turn, forwarded it to William Vilas, the secretary of the interior, on July 6. Vilas sent the letter to S. M. Stockslager, the commissioner of the General Land Office, for his opinion. Stockslager replied that, since Casa Grande was located on a section of land legally reserved for schools, the president could not set it aside or create a reservation of that tract to preserve a ruin. It would take an act of Congress to create a reservation. [6]

When the United States Congress convened for its session during the winter of 1888-89, the "Boston friends" changed their focus to that body. Mrs. Hemenway "set about making earnest efforts to secure from Congress measures for its [Casa Grande's] protection." Sylvester Baxter wrote that she was "ably seconded by Mr. Cushing, who spent several weeks in Washington for that purpose." They persuaded Senator George F. Hoar of Massachusetts to aid their cause. On February 4, 1889, he told the assembled U.S. Senate,

I present the petition of Oliver Ames, governor of Massachusetts, William E. Barrett, speaker of the house of representatives, Mrs. Mary Hemenway, who has been eminent as a benefactress to many institutions of education, William Claflin, Francis Parkman, Dr. Edward Everett Hale, Oliver Wendell Homes, John Fisk, and William T. Harris, and the petition is also supported by an autograph letter from John G. Whittier, calling the attention of Congress to the ancient and celebrated ruin of Casa Grande, an ancient temple of the prehistoric age, of the greatest ethnological and scientific interest, situated in Pinal County, near Florence, Ariz., upon section 16 of township 5 south, range 8 east, and otherwise describing the site.

The petitioners state that this ruin, which is one of the most interesting monuments of antiquity in the world, a temple of great beauty and architectural importance, which was a ruin when Columbus discovered America, is specially worthy of the care of the Government; that it is in danger of being destroyed by visitors and also by the letting in of water on the adjacent land for the purposes of irrigation. Mrs. Hemenway has already been at large expense for the preservation of this ruin, and the investigation of the traces of the prehistoric races in that neighborhood; and the desire of the petitioners is that the Government will take proper measures to have the ruin protected from injury by visitors or by land-owners in the neighborhood. They ask no outlay of money from the Government for the purpose; that will be assumed, and they are willing that all the scientific discovery there shall go to the benefit of the Smithsonian or other Government institution.

I desire that this petition may be referred to the Committee on Public Lands, and I ask their special consideration of it. [7]

Cushing also sought to gain support in the executive branch of government by sending a "Report to the Secretary of the Interior re Casa Grande" on February 13, 1889. In addition to urging the secretary's help in protecting Casa Grande, his report described the ruins and the excavations that he had made there. To Cushing, all the ruins were once used as temples. The Great House functioned, he thought, as only one of six divisions of an enormous temple which comprised the enclosure in which it was located. His excavations occurred in the debris of the central and south rooms of the Great House and into the sides of a large oval (the ballcourt). [8]

Although the Boston petitioners did not request preservation funds for Casa Grande, Senator Hoar succeeded in getting an appropriation in addition to approval for the president to declare a reservation. Attached to the March 2, 1889 Sundry Civil Appropriations Act (25 Stat. 961) was a rider on the United States Geological Survey (USGS) budget which stated:

Repair of the ruin of Casa Grande, Arizona: To enable the Secretary of the Interior to repair and protect the ruin of Casa Grande, situated in Pinal County, near Florence, Arizona, two thousand dollars; and the President is authorized to reserve from settlement and sale the land on which said ruin is situated and so much of the public land adjacent thereto as in his judgement may be necessary for the protection of said ruin and of the ancient city of which it is a part. [9]

A month later the Rev. Isaac T. Whittemore of Florence lunched with the Arizona Presbytery within the Great House walls. It had been a year since he had been there. In that short period he noted that vandals had taken their toll. As a result, on April 6, 1889, he wrote a letter to the secretary of the interior asking him to confer with the secretary of indian affairs and to send troops to protect Casa Grande from further vandalism. Whittemore told the secretary that "speedy" attention was needed to repairs for the Great House. He then suggested that bolts and rods should be placed in the structure to keep it from falling to pieces. In addition the base of the walls needed to be rebuilt in places and a roof constructed over it. [10]

Whittemore's letter evidently had some effect. On April 12, 1889, John Noble, the secretary of the interior, met with S. M. Stockslager, the commissioner of the General Land Office to discuss the Casa Grande issue. As a result of the meeting, the commissioner issued a statement on April 16 that the \$2,000 repair money would be available after July 1, 1889. Nothing was said about first placing the ruins on a reservation. Stockslager suggested that a special agent be sent to examine the ruin. As a result, he sent two letters on April 27. One letter, to Alexander L. Morrison of the Santa Fe division of the General Land Office, directed him to proceed to Casa Grande to make an inspection and report what he felt should be done to repair and protect it. The other communication was sent to Whittemore informing him that Morrison was coming. [11]

Morrison arrived in Florence, Arizona on May 7, 1889, and went with Whittemore to inspect the ruin on the following day. On May 15, he sent his report to Commissioner Stockslager. In it Morrison stated that he saw danger to the ruins from three sources: vandalism, the elements, and wall undermining. Whittemore's ideas on preservation evidently impressed Morrison because he recommended that the walls be underpinned with stone, a roof be constructed over the Great House to protect it from the elements, debris be removed from the entire building, and a fence be constructed to keep out intruders. When the report reached Washington, Morrison's recommendations were deemed to be too expensive. [12]

Despite the dismissal of Morrison's recommendations, the secretary of the interior recognized an urgent need for repairs to Casa Grande. Consequently, he contacted the director of the United States Geological Survey and asked him to take appropriate action to begin repairs without delay. Through contact with the Bureau of American Ethnology, the USGS director obtained the service of anthropologist Victor Mindeleff. On November 27, 1889, Mindeleff was asked to go to Casa Grande to view the ruins and suggest repairs. [13]

As Morrison had done, Mindeleff contacted Whittemore when he arrived in Florence and Whittemore accompanied him to Casa Grande. Again Whittemore probably provided an opinion on appropriate repairs, for, when Mindeleff submitted his report on July 1, 1890, it contained many recommendations similar to those offered by Morrison. Mindeleff stated that the main destruction to the ruins came from undermining of the walls, but visitors had also done much damage. He, therefore, advocated six measures to protect the ruins. These items included:

- 1.) Fence the ruins area;
- 2.) Provide a permanent on-site custodian;
- 3.) Clean the debris from the Great House;

- 4.) Underpin the Great House walls with brick;
- 5.) Remove several inches of material from the wall tops to provide a good bearing surface and then cap the walls with concrete;
- 6.) Reinforce the walls with tie-rods and beams, replace broken and missing lintels, and fill cavities above the lintels.

Although Mindeleff thought that points five and six would be sufficient for weather protection, he included a roof plan for the Great House. The roof plan was, no doubt, placed in the report to please Whittemore who, by now, had begun to describe the roof he desired as one of corrugated iron. [14]

In the meantime, almost seven months before Victor Mindeleff submitted his report, point two had been partly resolved. On December 3, 1889, John Noble, the secretary of the interior, wrote to Whittemore to say that he authorized him to act as an uncompensated custodian of Casa Grande unless Congress provided funds in the future. The offer did not require on-site residence.

If he agreed to accept this position, then Noble asked Whittemore to notify the director of the United States Geological Survey. Whittemore replied on December 11, 1889 that he viewed it as a privilege and honor to serve as custodian. He promised to "warn all intruders and relic hunters and spoliators, to keep 'hands off' the ruins. [15]

Despite the fact that it entailed more work to repair and protect the ruins than the discredited plan offered by Morrison, Victor Mindeleff's recommendations were approved. Mindeleff, however, did not remain with the Bureau of American Ethnology and his brother Cosmos replaced him on the Casa Grande project. Although it was recognized that not enough money had been appropriated to accomplish all of the approved plan, the USGS director decided to proceed with the work. On November 20, 1890, Cosmos Mindeleff received orders to go to Casa Grande and make as many repairs as possible within the appropriated funds. Still, the president made no move to establish a reservation. [16]

Cosmos Mindeleff arrived at Casa Grande in late December 1890. Before a bid announcement for a repair contract could be made, he had to make a detailed survey of the Great House as well as produce plans and sections of potential excavations. Although the building had weathered, Mindeleff thought that much damage had been caused by the "craze for relics" which possessed some individuals. He wrote that more damage had been done in the last twenty years by these "treasure hunters" than had been done in the previous 200 years. The south and east fronts had suffered more than the other sides from the weather. Mindeleff observed that the northeast and southeast corners had fallen. Portions of the south wall were weak and likely to fall. He thought that the greatest destruction of the walls occurred at ground level. It was at that location that ground water had risen by capillary action upward of a foot in the base of the walls and caused them to erode. Vandals on the other hand had removed all the lintels and every piece of visible wood except for a few flooring stumps imbedded in the upper portion of the walls. [17]

Having made his survey of the Great House, Mindeleff sought to attract bidders, but he had difficulty because of the small amount of money available to accomplish the tasks. He called for bids on four items which included: 1) removing the interior debris and that found in an area ten feet outward from the walls, 2) underpinning the walls with brick set to a depth of twelve inches below ground and faced with concrete, 3) restoring the lintels and filling the cavities above the openings, and 4) tying the south wall to the building by using three internal braces. He did not include a fence and he dismissed the idea of a roof on the belief that it would destroy the picturesqueness of the ruin. Finally, with the aid of Custodian Whittemore and C. A. Garlick of Phoenix, three bids were received. Theodore Louis Stouffer and Frederick Emerson White of Florence made the low bid of \$1,985 and received the contract on May 9,

1891, pending approval by the Secretary of the Interior. The contract was sent to the secretary through the director of the USGS. Secretary Noble signed it on June 20. The initial two months time limit on the contract was changed to four months. It expired on October 31, 1891. [18]

Since he had building experience, Mindeff got Custodian Whittemore to oversee the repair work (figures 9-12). For his effort he received the \$15 difference between the \$2,000 appropriated for repairs and the \$1,985 contract sum. Near the end of the contract, H. C. Rizer, the chief clerk of the Bureau of American Ethnology, arrived to make a final inspection. In his report submitted on November 24, 1891, Rizer found that the contractors had accomplished more than the contract specified. As a result, the two Florence men filed a claim on January 7, 1892 for \$600.42 more than they were paid under the contract. The government, however, disallowed the claim on January 28. [19]

Although repairs had been made to the Great House, Custodian Whittemore still had no authority because the president had yet to set the land aside as authorized by the March 2, 1889 act. With some prodding from the Bureau of American Ethnology, the Secretary of the Interior finally recommended that 480 acres in Sections 9 and 16 of Township 5 South, Range 8 East of the Gila and Salt River Meridian be reserved. Acting on that referral, President Benjamin Harrison proclaimed the 480-acre Casa Grande Reservation on June 22, 1892 (figure 13). As the first prehistoric and cultural site established by the American Government, the Great House was finally safe from sale or claim. [20]

## **B. The Era of Isaac T. Whittemore and H. B. Mayo**

From the time Whittemore accepted the Casa Grande custodianship in December 1889 until its establishment as a reservation on June 22, 1892, he served in name only, for there was no plot of ground for him to administer. Whether he made any efforts in that period to warn intruders not to vandalize the ruins, as he stated in his acceptance letter, remains unknown. Whittemore did have an enthusiastic interest in preserving the ruins and frequently visited the site. [21]

With the establishment of the reservation in June 1892, Whittemore had the responsibility to administer it. He reported to the commissioner of the General Land Office. In addition, he no longer performed any tasks for free. As soon as the land was reserved, the General Land Office commissioner requested that the Interior Department provide \$720 per year for the custodian's salary. That department, however, allowed only \$480. This sum would be the custodian's annual salary until Frank Pinkley accepted that position in December 1901. [22]

At first no government department or agency provided Custodian Whittemore with a list of duties. Since no government land had previously been set aside to preserve a cultural site, it was undoubtedly difficult to decide what duties a custodian should perform. It was possible that the General Land Office commissioner wrote to Whittemore for suggestions, but no record remains if such a letter were written. In November, however, Whittemore wrote to the Land Office commissioner and reported that his duties were to visit Casa Grande and report any spoliations or deteriorations. He stated that he had received no instructions on how frequently he needed to visit Casa Grande. Whittemore felt that one visit per month was sufficient considering his salary and the distance he had to travel from Florence to the ruins. It soon became evident that one visit per month or even one visit per week would never prevent vandalism when Whittemore reported that, since his last visitation, people had marked the walls with pencil or nails. [23]





Figure 9: The Great House Viewed from the South 1891  
This photograph shows the brick work before it was faced with concrete  
Courtesy of Casa Grande Ruins National Monument

In his November 1892 report to the General Land Office commissioner, Whittemore again mentioned his favorite subjects. He wrote that the Great House walls were sound, especially since they had been repaired in the past year. The walls of the upper story, however, needed to be protected by a roof. In addition, the area needed fencing. The heads of the various agencies and department, through which Whittemore's correspondence circulated, had similar reactions to his requests. At first, they either found a roof objectionable or they had no funds. The director of the USGS unsuccessfully sought funds from his agency for a fence. Whether by accident or on purpose, the General Land Office leadership even tried to pass off Casa Grande to another agency. On February 20, 1893, the assistant commissioner of the General Land Office reported that their records showed that Casa Grande had been placed under the control of the Bureau of American Ethnology of the Smithsonian Institution. Therefore, the assistant commissioner suggested that Whittemore make no more reports to his agency. Whittemore must have felt like an unwelcome stepchild. [24]

Despite rejections, Custodian Whittemore did not quit submitting requests. In fact, he broadened his appeal when he reported to the secretary of the interior in September 1893. Whittemore asked for \$7,000 or \$8,000 to fence forty acres, construct a corrugated iron roof over the Great House, and make excavations in all adjacent ruins. In his view "the necessity of roofing the Ruin is imperative" to prevent the upper wall surface from further erosion. Whittemore requested money for an excavation because he believed that artifacts found in the area were similar to those used in China. Consequently, he wished to have an investigation "in the interest of scientific research" to learn more about the builders' origin. Whittemore also informed the secretary of the interior that, after he found two men painting their names on the Great House walls in July, he had posted a sign which read "Property of the US Government, \$300 fine for further defacing this Ruin." By so doing, Whittemore exceeded his authority because no law existed until 1906 to fine vandals. [25]

Unfortunately, the 1893 depression resulted in reduced government spending. Under this circumstance, Whittemore waited until mid-1895 to renew his appropriation request. On this occasion, W. J. McGee, the acting director of the Bureau of Ethnology, supported Whittemore. He told the secretary of the interior that only a roof could protect this one-of-a-kind ruin. Consequently, McGee was sent to examine

the great house. In his November 1895 report, McGee concluded that the rate of destruction had advanced with "cumulative rapidity." He also recommended a roof for the ruin, but without success. [26]



Figure 10: The Casa Grande Viewed from the South Ca. 1902.  
This photograph shows the concrete facing on the brick.  
Courtesy of the Colorado Historical Society.



Figure 11: The Casa Grande Viewed from the East Southeast Ca. 1902.  
William Henry Jackson Photograph #14395.  
Courtesy of the Colorado Historical Society.

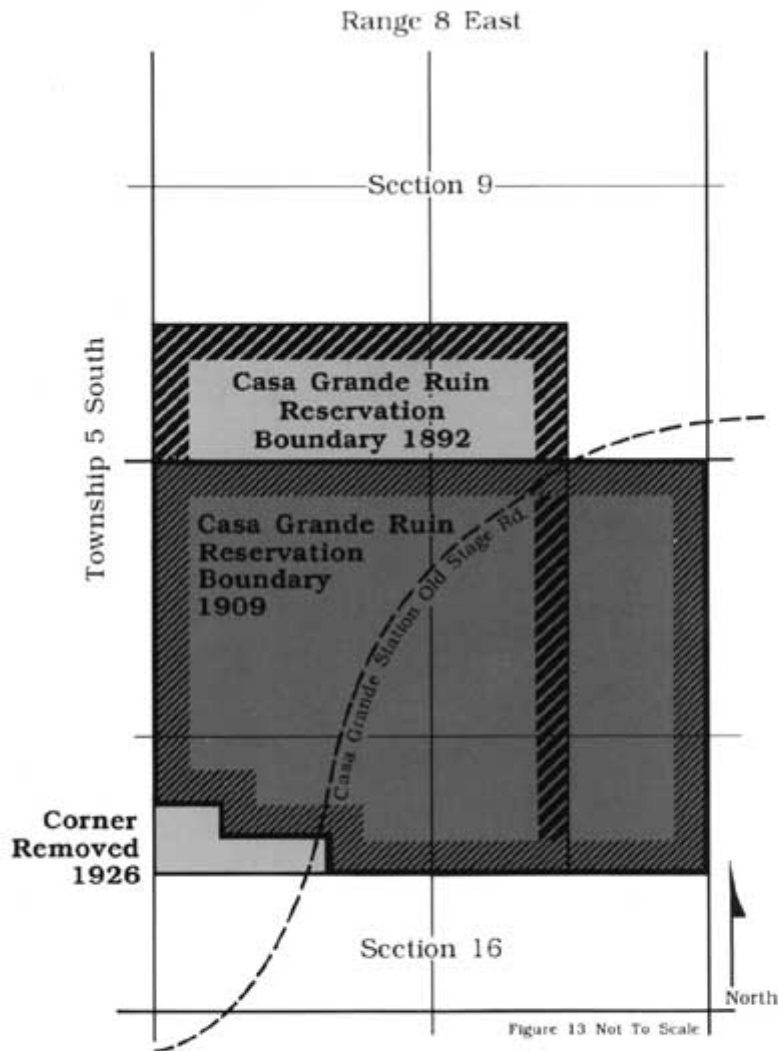


Figure 12: The Casa Grande Viewed from the Northwest Ca. 1902.  
William Henry Jackson Photograph #14397.  
Courtesy of the Colorado Historical Society.

As a final act of his custodianship, Whittemore wrote to Binger Hermann, the General Land Office commissioner, in January 1899 to remind him once more of the critical need for a roof over the ruins. Whittemore again failed in this effort. H. B. Mayo replaced Whittemore as custodian on October 2, 1899. He inherited Whittemore's concern for a roof. Consequently, Mayo contacted a "good" Los Angeles architect who recommended an asphaltum roof. The architect estimated that, whether an asphaltum or corrugated iron roof were used, the cost would be \$2,000. Surprisingly, in February 1900, the secretary of the interior requested a \$2,000 appropriation to roof the Great House. A number of Florence residents added their support for a roof by prevailing upon a local General Land Office agent to contact the General Land Office commissioner with their concerns. This local agent, S. J. Holsinger, described the ruins as "fast going to pieces." He urged the General Land Office commissioner to provide for a roof to protect the Great House. Congress, however, did not approve the funds. [27]

In his annual report for fiscal year 1900, Custodian Mayo stated that he had visited the ruins from three to six times per month and had thoroughly inspected the Great House at least twice per month. Mayo wrote that his other duties included preventing settlement and wood cutting on the reservation as well as guarding against the ruin's defacement. He, however, could not prevent vandalism without residing at Casa Grande. Even then he felt that security required a fence around the ruins. Mayo regretted the failure to obtain roof funds. He added that more iron rod braces needed to be placed in the ruins to better secure the walls. [28]

When Mayo filed his annual report for 1901, his uppermost thoughts were for a roof, but he added two other items to the request. He observed that some concrete patchwork was needed in crumbled or undermined portions of the Great House walls and a fence was required for better security. Mayo estimated the cost of these three improvements to be \$2,200. By the time the secretary of the interior requested an appropriation for that sum in January 1902, Mayo had vacated the Casa Grande custodianship. When Frank Pinkley, Mayo's successor, penned his first letter to the General Land Office commissioner in February 1902, he attempted to undo the work of the past twelve years. Pinkley stated that he did not recommend a roof for the Great House because it would mar the view of it and, besides, he did not believe the wall tops were wearing away. In addition, he saw no need for a fence. Since there was no forage within 100 yards of the Great House, he thought that range cattle would not stray into the area. Pinkley soon changed his mind. [29]



## Boundary Changes Casa Grande Ruins National Monument

United States Department Of The Interior / National Park Service  
DSC/JAN '92/303/25,000

Figure 13: Boundary Changes.

### C. Frank Pinkley's First Tenure

When Frank Pinkley arrived at Casa Grande in December 1901, he began the first of two lengthy residencies there. His appointment marked a short, renewed interest in Casa Grande by the General Land Office perhaps because the ruins now had a resident custodian. Pinkley was a mere youth of twenty at the time he accepted the custodianship of this first reserved cultural site. He was born on May 27, 1881, about four miles south of Chillicothe, Missouri. After high school in 1898, he worked in a Chillicothe jewelry store. In the fall of 1900 a doctor found that Pinkley had tuberculosis and ordered him to go to Arizona. He arrived in Phoenix in September and spent several months in a desert camp following which he and a cousin leased a small farm. [30]

Toward the end of 1901, Pinkley's uncle, the General Land Office commissioner for Arizona, offered his nephew the job as Custodian of Casa Grande. He accepted the offer. On December 14, 1901, Pinkley received his instructions from the commissioner of the General Land Office. These read:

You will immediately assume charge of the reservation and take the necessary steps to protect the said ruins and to prevent any settlement or encroachment on the said reservation. In order to do this most satisfactorily you are directed to live upon the reservation within the immediate neighborhood of said ruins. If no part of the ruins is habitable you are authorized to erect such building as you choose thereon without expense to the government.

Your daily presence on the reservation is required and you are not to absent yourself there from, unless after obtaining a regular leave of absence from this office.

Blanks are forwarded to you as well as envelopes, under separate cover. Upon the report blanks you will at the end of the month fill out the lines thereon, reporting the condition of the reservation and the number of days in each month, which you remained thereon, as well as any other information you may deem of interest to the Department. [31]

Although his salary of \$900 per year more than doubled that of the previous custodians, Pinkley could not afford to build a residence at Casa Grande at first. Instead, he lived in a tent just east of the enclosure which came to be known as Compound A. Within a short time, he constructed a frame with a cast-iron roof over the tent. The shade obtained from this arrangement reduced the summer heat inside of his dwelling. This living quarters served until 1906 when he built a frame-sided tent. He also dug a forty-five-foot-deep well. Soon, his parents moved to Arizona and, in March 1902, he received permission from the General Land Office commissioner for them to live at Casa Grande with him. His father Sam was an invalid. As a means to augment his annual salary, Pinkley opened a trading post at nearby Blackwater. His parents operated it for him. By 1905 he met Edna Townsley. Her father had brought his family to Arizona from Vermillion, South Dakota, when he accepted a teaching position on the nearby Gila River Reservation. Frank and Edna were married in 1906. [32]

From his beginning at Casa Grande, Pinkley displayed an innate organizational ability despite his youth. He had his vision of how to develop and promote the ruins. Although, in his first correspondence with the General Land Office commissioner on February 6, 1902, Pinkley discounted the need for a roof or fence, he gave a thorough account of the ruin as he found it as well as a description of the surrounding countryside. He included a short summary of the repairs he felt were needed for the Great House. Pinkley requested that the reservation boundary be surveyed and marked, and the entrance roads be posted to discourage curio seekers and native wood cutters. He asked that the \$300 fine for defacing the Great House be extended to cover anyone caught excavating or removing artifacts. Finally, Pinkley sought permission to excavate the surrounding mounds. He believed that excavation would not only further scientific knowledge, but it would also attract national interest and, therefore, promote visitation. [33]

After reading Pinkley's first report, the General Land Office personnel made two separate replies. One response involved the boundary survey, entrance posting, and fine extension. The agency leadership discounted the need for a boundary survey since the reservation had been established in accordance with government surveys. Posting the entrance roads was a good idea, the assistant commissioner believed, but no funds were available to do so. The agency, however, had no objection to Pinkley using his own money to erect entrance signs. No one in the General Land Office understood the reference to a \$300 fine for defacing the Great House, and the assistant commissioner asked Pinkley to explain. Pinkley did not know that Isaac Whittemore had posted this unauthorized warning. All he could reply was that, when he arrived at Casa Grande, a sign existed on the Great House; therefore, he concluded that some law authorized the fine. Since no legal authority existed for a fine, Pinkley was instructed to report any cases of theft of government personal property so the offender could be prosecuted under existing larceny laws. Since artifacts were not personal property, Binger Hermann, the General Land Office commissioner, asked the secretary of the interior to recommend to Congress that it authorize the secretary

to make a provision for the preservation and protection of the [Casa Grande] reservation against destruction or injury by defacing buildings or ruins, by excavation, by removal of curios, or any other wilful injury to the ruins.

Hermann suggested that a \$500 fine and/or imprisonment not to exceed twelve months be levied against those convicted of such activity. Whittemore's posting and Pinkley's inquiry aided the move which led to the 1906 Antiquities Act. That act established, for the first time, a legal basis to prosecute anyone excavating or removing artifacts from public property. [34]

The General Land Office commissioner's other correspondence with Pinkley involved ruins repairs. Although Pinkley had summarized repair needs in February 1902, the commissioner asked for exact requirements. Consequently, Pinkley got George Eaton, the mason for the 1891 repairs, to help him specify areas needing repair as well as the quantity of materials. They identified five doors and windows in the Great House with missing lintels. In addition three large cavities required brick and mortar fill. The walls of the ruins to the south and to the east of the Great House needed underpinning. In a letter to the commissioner, Pinkley listed the quantity of repair material and its estimated cost, including labor. He thought that \$880 would cover the repairs. The General Land Office commissioner felt that Pinkley had underestimated the cost and that it would be closer to \$1,000. As a result, Pinkley was asked in July 1902 to make another report of the repair needs. Pinkley provided the same quantity for materials. On this occasion, he raised the cost for material and labor to \$1,019.35. [35]

In the meantime, the secretary of the interior requested a \$2,000 appropriation for fiscal year 1903 for ruins protection. That sum was included in the Sundry Appropriation Act of June 28, 1902 (32 Stat. 454). Despite the fact that Pinkley had been sending repair estimates to the General Land Office, the commissioner wrote to the local General Land Office agent on September 9, 1902, with the request that he inspect Casa Grande. S. J. Holsinger, the local agent in the Phoenix office, arrived on October 22. After viewing the ruins, Holsinger decided that no improvement was needed as much as a roof over the Great House. He said that Pinkley concurred with him. Pinkley had changed his mind about the roof after the July and August rains had seemingly eroded more material from the Great House than he had expected. Holsinger secured the necessary data from which to design a roof. He decided that it could not take the form of Victor Mindeleff's 1890 design, which had all the support posts inside the ruin. [36]

While he was at Casa Grande, Holsinger looked at areas of the ruins that Pinkley had indicated required repair. He decided that no more brick or concrete should be used on the ruins as Pinkley had proposed, instead any restoration work should be done with as much original material as possible. He had Pinkley make a mixture from the debris and apply it to several cracks to see how it worked. Holsinger pronounced the effort a success. Holsinger also indicated a source for future repair material. He wrote that Pinkley had recently dug a forty-five-foot-deep well. At the seven-or eight-foot level, he had encountered a stratum of cemented gravel which was identical with the original construction material. That soil could be used for future repairs. As for the replacement of lintels, Holsinger thought that reservation mesquite would serve the purpose. [37]

By May 1903, Holsinger had designed a covering for the ruins. It had a galvanized, corrugated iron roof with a six-foot overhang. The framework was supported on 10-by-10-inch redwood posts set four feet in the ground. Anchor cables ran from the top of each corner to dead-men set twenty feet away. An advertisement for construction bids was made toward the end of May 1903. By June 8, Holsinger had received two bids from Phoenix, each for just under \$2,000. These were followed by a \$1,900 bid from W. J. Corbett of Tucson. Corbett was awarded the contract on June 22. Work was to be done by September 22. Corbett's men arrived on August 25, 1903 and immediately noticed a mistake. The Great House walls were two feet higher than stated in the specifications. Consequently, the 10-by-10-inch redwood posts could only be set two feet into the ground. The roof was completed on September 10, 1903, with one change order of an additional \$75 to paint it (figure 14). It must have presented a terrible

contrast with its surroundings because the roof was painted with one coat of red paint to protect the corrugated iron. [38]

With the roof completed, Pinkley turned his attention to an appropriation for excavations. He had asked for permission to excavate in his first report of February 1902. Without waiting for a reply, he wrote on March 1, 1902 that he had "found" four stone axes, a stone wedge, and two bowls. That statement proved to be a mistake for Pinkley. Binger Hermann, the General Land Office commissioner, believed that the prehistoric antiquities of the Southwest had to be protected from indiscriminate excavations made by untrained individuals. To permit such exploratory digging fell into the same category as tolerating the looting being done at other ancient sites. Hermann believed that only trained archeologists should conduct excavations. Consequently, he wrote to Pinkley that all excavations would be under the control and supervision of the Bureau of Ethnology. Pinkley accepted that pronouncement, and, when he requested a \$2-3,000 appropriation for fiscal year 1904 for excavations, he made it clear that he understood that the Bureau of Ethnology would be involved. With no money forthcoming for 1904, Pinkley again made excavation funds his only request for fiscal year 1905. On this occasion, in May 1905, Scott Smith came to confer with Pinkley and make a recommendation for an investigation. No records remain of this meeting, but Pinkley did get his excavation appropriation for fiscal year 1907. J. Walter Fewkes of the Bureau of Ethnology was appointed to conduct the work. He was instructed to inspect the ruins for needed repairs in addition to excavations. Fewkes had visited Casa Grande in April 1891 before Mindeleff had repaired the Great House, so he was no stranger to the area. When he arrived on October 24, 1906, he examined the remains and concluded that the Great House was in fair condition. Several doors and windows in that structure needed lintels and the roof badly required paint. Fewkes concluded that the Great House covering was no thing of beauty and ventured that it should have had a mission style architectural design. Moving from the Great House, Fewkes found that the ruin fragments to the south and to the east needed to have their foundations strengthened. As a result, Fewkes made minor repairs and painted the roof. [39]



Figure 14: The First Ruins Shelter Roof Constructed in 1903.  
This ca. 1925 photograph shows the anchor cables that provided stability.  
Courtesy of the Western Archeological and Conservation Center.

To develop an excavation plan, Fewkes systematically viewed the Casa Grande ruins. He determined that most of the ruins could be characterized as laid out in rectangular areas which were surrounded by walls. The remains inside the walls were rooms, courts, and plazas. Fewkes decided to designate each rectangular walled area as a compound. Having found six such compounds at Casa Grande, he named

them A, B, C, D, E, and F. Because the Great House was the most important building in the largest compound, he called its enclosure Compound A. Fewkes also identified another class of ruins which he termed clan house. These remnants consisted of single buildings without a surrounding wall. He found the remains of four such structures of which two were east and two west of Compound A. [40]

After completing his survey, Fewkes decided to expose prehistoric remains, and repair and preserve them. He felt that, since the ruins at Casa Grande resembled other unique prehistoric remains in the Gila Valley, these uncovered remnants would then "serve as a type with which to compare and to interpret" other similar mounds in the region. [41]

During the winter of 1906-07, Fewkes expended the \$3,000 appropriation for work in Compound A where he excavated and repaired the compound wall, buildings, and plazas. Approximately sixty percent of the area was exposed, which included forty-three rooms, and several courts and plazas (figure 15). He removed a great amount of debris from the compound. Wall protection included laying concrete at wall bases on an inclined clay plane to carry water from the newly exposed walls, and grading the compound surface so that water would be drained through a large ditch at the northeast corner. Fewkes also diverted the old stage road, which crossed the compound, to pass around its southern end. [42]

In the course of the 1906-07 excavations, Fewkes recovered some 1,000 artifacts which he shipped to the Smithsonian Institution. Custodian Pinkley objected because he thought it would be better to keep such implements and utensils at Casa Grande where they could be seen in their surroundings. He requested a \$2,000 appropriation to construct a museum in which to display Casa Grande artifacts. Richard Rathbun of the Smithsonian Institution answered Pinkley by citing the statute which read, "all collections, rocks, minerals, soils, fossils, and objects of natural history, archaeology, and ethnology" made by any federally funded group had to be deposited with the Smithsonian Institution. He did consent to leave some items at Casa Grande. No money for a museum, however, was forthcoming, so Pinkley displayed artifacts on home-made shelves in the north room of the Great House. [43]



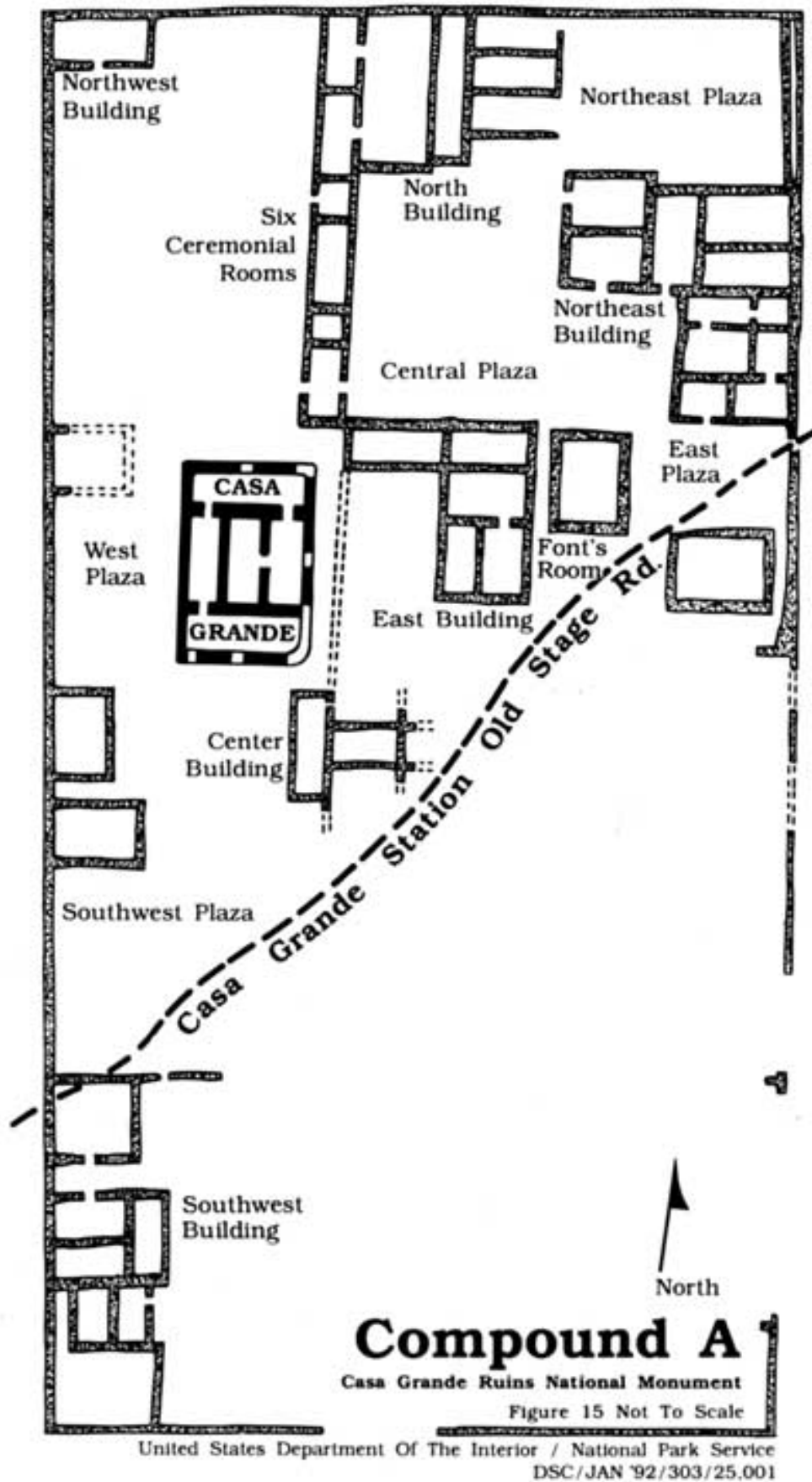
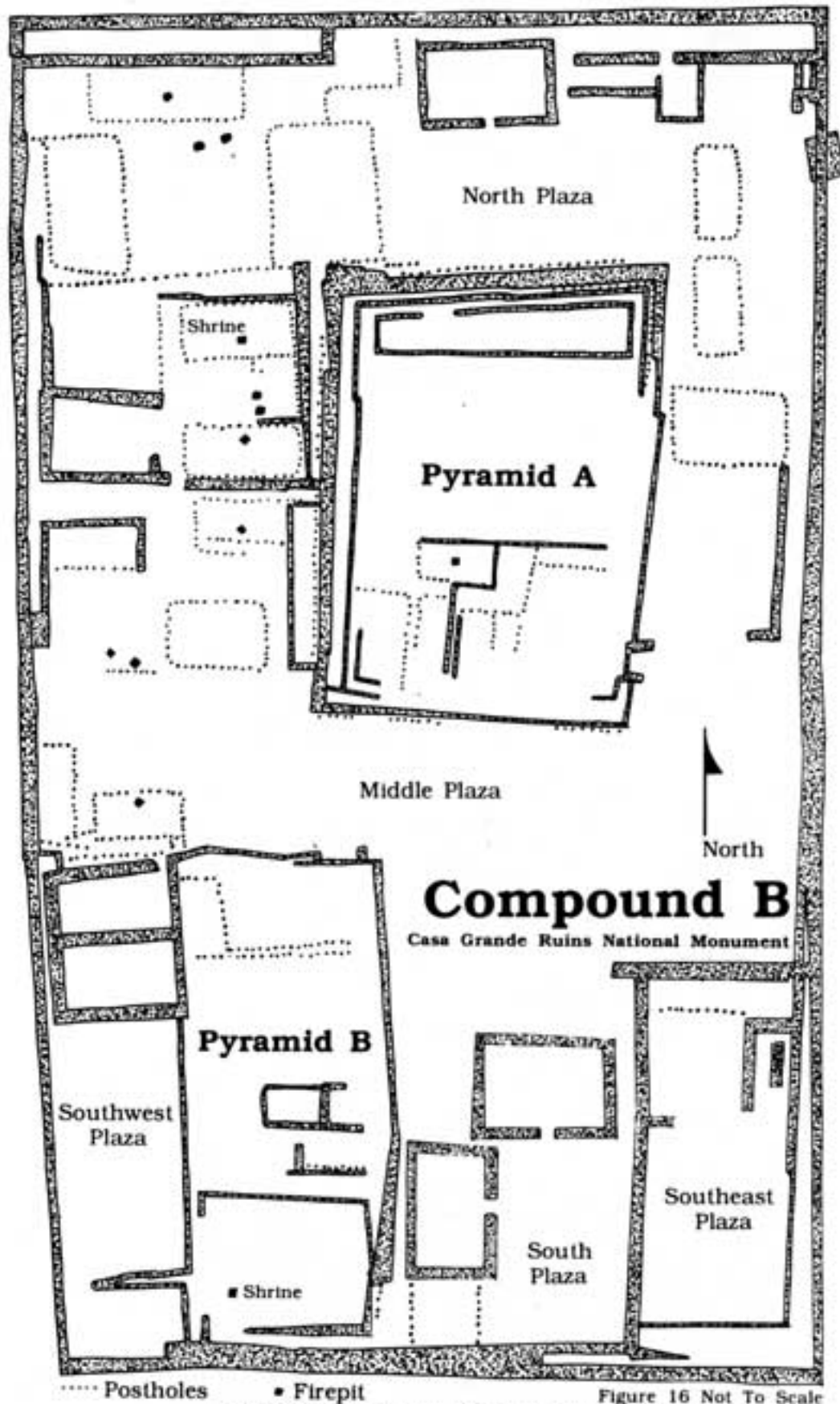


Figure 15: Compound A.



..... Postholes      • Firepit

Figure 16 Not To Scale  
 United States Department Of The Interior / National Park Service  
 DSC/JAN '92/303/25.002

Figure 16: Compound B.

An additional \$3,000 appropriation made it possible for Fewkes to return to Casa Grande during the winter of 1907-08. On this occasion he focused on Compound B where he did extensive excavations, including exposing the surrounding wall. At this site he found two large pyramids which had rooms on top of them (figures 16 and 17). He installed a drainage system by digging a ditch around the whole exterior Compound B wall. Fewkes also did some work at Compounds C and D and Clan House 1. He found that Compound C was covered with rows of houses while Compound D had a massive central building. Clan House 1 was a self-standing structure composed of eleven rooms around a plaza. [44]

Beginning with his annual report for fiscal year 1905, Pinkley sought to expand the area under his supervision. He asked that three parcels of land located three, five, and eight miles to the east of Casa Grande be withdrawn from settlement and placed in his charge to prevent excavations. Among these three properties were the Adamsville and the Escalante ruins. The secretary of the interior noted that two of the three tracts had been temporarily withdrawn for the San Carlos water storage project. Authorization to have the third plot (N-1/2 of Section 27, Township 4 South, Range 9 East) temporarily withdrawn from settlement and placed under Pinkley's control was granted on May 9, 1906. It is not known how long he administered this tract of land because no references are made to it in National Park Service records. He campaigned through fiscal year 1910 for the other two parcels of land, but without success. [45]

Having gained an additional 320 acres under his administration, Pinkley's ambition to spread his control to a much broader base surfaced. In his 1906 annual report, he suggested that all the ruins on forest reserve and Indian reservation land in Arizona be placed in his care. To acquire supervision of these sites would have given Pinkley a far-flung empire of thousands of acres. He admitted that "I could not, of course, give each particular group of ruins much care, but I could make a visit at least once a year to each group, post notices that they were under the care of the Department [of the Interior] and prevent in every way possible further depredations." Pinkley also assured the General Land Office commissioner that his duties at Casa Grande would not be neglected because his father, though an invalid, could act in his stead. No reply to this proposal exists, but the General Land Office commissioner, no doubt, told Pinkley to curb his desire because he never again proposed such a scheme during his first tenure at Casa Grande. [46]

In his 1906 annual report, which he wrote on July 16, 1906, Pinkley also asked to have some printed literature such as a free pamphlet to distribute to visitors. He continued to ask for such material in each of his annual reports until, almost seven years later, in May 1913, Pinkley's request was fulfilled. This thirty-one-page pamphlet thoroughly described the ruins and gave information about the early Spanish expeditions there. The pamphlet author also advised that, because of the extreme heat, visitors should not plan to view the ruins in the summer. [47]

By 1909, Pinkley began to submit only one page annual reports. They basically indicated that there had been no appropriations and no money spent at the ruins. His requests for a museum building and interpretive material went unanswered. In the 1910 annual report, Pinkley began to comment that the exposed ruins had begun to suffer the effects of erosion "from which there seems no practical method to protect the greater part of them." In the zeal to understand more about the inhabitants of Casa Grande, the excavated ruins had been left to the elements. [48]

In 1909 the first external pressure on the reservation occurred. A demand arose to decrease the reservation boundary by restoring 120 acres of Casa Grande land, located in Section 9, to the public domain (see figure 13). This action was viewed as necessary because, it was thought, the reservation occupied land required for an irrigation canal. Pinkley contacted J. Walter Fewkes to ask his opinion of the proposed withdrawal. He observed to Fewkes that, if the 120 acres were removed from the north side of the reservation, then a 120-acre tract along the east side should be added. Fewkes had no objection to removing the 120 acres in Section 9 because he did not think it contained any outstanding ruins. He also

agreed with Pinkley that the reservation acreage should not be reduced, but, instead, an exchange be made to acquire the 120 acres on the east side. This area, he felt, contained some important mounds. Consequently, when President William Howard Taft issued Proclamation No. 884 on December 10, 1909, the reservation boundary was not merely reduced by 120 acres on the north side. In exchange for the loss on the north side, the reservation was expanded to the east in Section 16. [49]

For fiscal year 1910, Pinkley decided that he needed a house to replace the semi-tent accommodation that he and his wife had inhabited since 1906. He asked for a \$2,500 appropriation to build a custodian's residence, but, as with his other requests for funds, he was turned down. Using \$600 of his own money, he constructed a one-story adobe house in the unexcavated southeast corner of Compound A (figure 18). Local Pima Indians made and laid the adobe while he did the carpentry work. [50]

By 1912 Pinkley's well began to cause a problem. The wooden curbing had rotted. He requested that the General Land Office provide \$75 to repair it, along with \$150 to purchase a small gasoline engine or windmill to lift water from the well for visitors' convenience. That agency chose to ignore Pinkley's request until July 1914 when he informed the commissioner that, if funds were not forthcoming to fix the well, he could not supply visitors with water. The General Land Office leadership replied that it had no money with which to repair the well. Perhaps this response caused Pinkley to decide to seek another vocation, for he soon determined to run for the state legislature. [51]

One other issue which Pinkley raised during the last four years of his first Casa Grande tenure was the need to repaint the roof and support members of the Great House cover. At first he estimated the cost for paint and labor to be \$75, but he later raised that figure to \$100. No funds were approved for this task. [52]

In November 1914 Pinkley won a seat in the state senate and, as a result, had to resign as Casa Grande custodian before taking office. Since the state legislature did not meet until later in 1915, Pinkley remained at the ruins into that year. His final annual report, written on September 1, 1915, consisted of five sentences. Basically, he noted that erosion was still occurring and, therefore, an appropriation was needed to repair and protect the ruins. [53]



Figure 17: Compound B Ca. 1925. One of the compound pyramids is visible.  
The stakes inside of the compound wall outline various rooms.  
Courtesy of the Western Archeological and Conservation Center.



Figure 18: Frank Pinkley's 1910 House, Ca. 1925. The 1921 room addition is visible at the left corner. The house was located within Compound A.  
Courtesy of the Western Archeological and Conservation Center.

#### **D. The James P. Bates Interlude**

Following Pinkley's departure, several candidates sought to become the new custodian at Casa Grande. Seventy-two-year-old James Polk Bates was selected. Bates had been born in Kentucky in 1843 and, during much of his life, he had worked first as a druggist and then as a lawyer. He came to Arizona in January 1907 and resided in Phoenix. Bates assumed the custodian position on December 1, 1915. According to his 1916 annual report, the situation at Casa Grande was even worse than Pinkley had indicated. He wrote that, when he arrived at the ruins, he found that both whites and Indians had been constantly removing mesquite for wood and fence posts. He stated that, for the most part, he had succeeded in ending this practice. Another irritation stemmed from the fact that ranchers permitted their cattle and horses to graze all over the reservation. At night the stock would rub against the ruins' walls and cause irreparable damage. These animals had also created paths over the mounds. Bates asked that a fence of five barbed wires be placed around the entire 480 acres. [54]

Soon after his arrival, Bates asked for funds to improve the well and to purchase an engine and pump. He received \$300, but he considered this sum to be insufficient. He wrote that the pine used for the well casing had rotted making the water impure and posed a danger to anyone attempting to repair the well. Bates wanted to abandon the old, weak-flowing well and drill a deeper one closer to the custodian's house. As a result, he asked for an additional \$200 for a well and an upright tank. With this greater water supply, Bates hoped to cultivate a small garden and raise some rapid-growth shade trees for the visitors' comfort. [55]

While Bates wished to provide for the visitors' comfort, he also wanted to keep them from driving randomly about the reservation. He noted that the main road, which entered the southwest corner of the Casa Grande land and exited to the northeast, had no lane to restrict individuals from leaving it. In addition Bates felt that gates should be put across other roads that entered the reservation. [56]

The condition of the Great House roof and the ruins in general did not escape Bates' attention. He recommended that a new, galvanized iron roof be constructed over the Great House because the old one had holes in it. Bates feared that water leaking through the holes would cause the wood frame to deteriorate. He wrote that the excavated ruin walls remained exposed to the elements and had begun to crumble and fall. In Bates' view, they needed a top coating of concrete to keep them from wearing away. [57]

As his final request in the 1916 report, Bates asked for a Ford or other car of that class. Such a vehicle would aid his travel to Florence for mail and supplies, he thought. [58]

The General Land Office commissioner saw the creation of the National Park Service (NPS) on August 25, 1916, as the means to sever ties with Casa Grande. Although the General Land Office chief clerk soon discovered that the Park Service organic act did not permit the transfer of Casa Grande to that bureau, the General Land Office commissioner was eager to distance his organization from that reservation. Until a transfer could be legally accomplished, the commissioner took steps to have the custodian report to the Interior Department. Starting in 1917, Bates sent his reports to the chief clerk of the Interior Department instead of to the General Land Office. [59]

Reporting directly to the Interior Department did not change the funding circumstances for Casa Grande. In fact fate seemed to deal harshly with James Bates. In late July 1917 a windstorm blew the roof from the custodian's house. He succeeded, in this instance, in getting the Interior Department to quickly approve a new roof. At the same time, however, he never got money for a new well, car, or a fence to prevent livestock from entering the reservation. In April 1917, Bates did remove some of the dirt and rotted casing that had fallen into the well, but the casing continued to collapse. By September he pronounced the well to be unsanitary from rotting wood, and decaying crickets and toads. As if that were not enough, the post office in Florence burned just after he had mailed his 1917 annual report. Consequently, he had to rewrite it. Finally, and worst of all, in early 1918 Bates was dismissed from the job after he was caught selling artifacts. This situation opened the door for the return of Frank Pinkley who had managed only one term as state senator. [60]

### Chapter Three Footnotes:

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4. David R. Wilcox and Charles Sternberg, *Additional Studies of the Architecture of the Casa Grande and Its Interpretation*, (Tucson: National Park Service, Western Archeological Center, Archaeological Series No. 146, March 1981) 6-8.
5. Van Valkenburgh, "The History of Casa Grande Ruins National Monument," 11; Wilcox and Sternberg, *Additional Studies of the Architecture of the Casa Grande and Its Interpretation*, 9.
6. Capt. John G. Bourke, 3rd Cavalry, to the Adjutant General, U.S. Army, June 30, 1888; Secretary of War to the Secretary of the Interior, July 6, 1888; William F. Vilas, Secretary of the Interior, to S. M.

Stockslager, Commissioner of the General Land Office, July 13, 1888; and S. M. Stockslager, Commissioner of the General Land Office, to William F. Vilas, Secretary of the Interior, July \_\_\_\_\_, 1888, Box 85, Casa Grande Reports (1880-1907), Entry 1, Letters Received by the Office of the Secretary of the Interior Relating to National Parks 1872-1907, Record Group 79, Records of the National Park Service, National Archives and Record Center, Washington, D.C.

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8. Wilcox and Sternberg, *Additional Studies of the Architecture of the Casa Grande and Its Interpretation*, 9-11.

9. Cosmos Mindeleff, "The Repair of Casa Grande Ruin, Arizona in 1891," *Fifteenth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution* (Washington, D.C.: Government Printing Office, 1897) 326.

10. Isaac T. Whittemore, *A Brick for the New Church at Florence, Arizona* (Auburn, N.Y.: Friends of the Mission, 1890) 17-18; *Arizona Weekly Enterprise* (Florence, Arizona), May 11, 1889; "New Old Lands," *Children's Church at Home and Abroad* 8(November 1890) 466.

11. Mindeleff, "The Repair of Casa Grande Ruin, Arizona in 1891," 326; *Arizona Weekly Enterprise*, May 11, 1889; Whittemore, *A Brick for the New Church*, 18; "New Old Lands," 466.

12. *Arizona Weekly Enterprise*, May 11, 1889; Mindeleff, "The Repair of Casa Grande Ruin, Arizona in 1891," 326-327; Whittemore, *A Brick For the New Church at Florence, Arizona*, 18; *Tempe News* (Tempe, Arizona), October 12, 1889; "New Old Lands," 467; "Casa Grande To Be Preserved," *American Antiquarian* 11(November 1889) 358; *Frank Leslie's Popular Monthly* 29(January 1890) 45-46.

13. Mindeleff, "Repairs of Casa Grande in 1891," 326-327.

14. Mindeleff, "Repairs of Casa Grande in 1891," 327; Whittemore, *A brick for the New Church at Florence, Arizona*, 19.

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16. Mindeleff, "Repairs of Casa Grande in 1891," 327.

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28. Casa Grande Annual Report for the Fiscal Year 1900 by H. B. Mayo to the General Land Office Commissioner, August 1900.

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35. Frank Pinkley to the General Land Office Commissioner, March 16, 1902; Binger Hermann, General Land Office Commissioner, to the Secretary of the Interior, March 27, 1902; Binger Hermann to Frank Pinkley, July 11, 1902; and Frank Pinkley to Binger Hermann, August 1, 1902, Box 85, Casa Grande Reports (1880-1907), Entry 1, Letters Received by the Office of the Secretary of the Interior Relating to National Parks 1872-1907, Record Group 79, Records of the National Park Service, NA.

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60. Casa Grande Annual Report for the Fiscal Year 1917; Rothman, *Preserving Different Pasts*, 109.

## CHAPTER IV: CASA GRANDE RUINS AS A NATIONAL MONUMENT

### A. The Transfer to the National Park Service

Despite the fact that the Casa Grande reservation technically remained under the General Land Office after the creation of the National Park Service in 1916, the latter bureau soon became more involved in its administration. This development was welcomed by the General Land Office leadership because it had never felt comfortable managing this prehistoric resource. Except for a brief period from 1902 to 1907, General Land Office commissioners had either tried to deny that the bureau managed the reservation (mid-1890s) or they chose to ignore it (1908-16). Consequently, in the latter part of 1916, the GLO chief clerk began the process by which Casa Grande would be designated a national monument, so that it could be transferred to the National Park Service. This procedure included having the custodian report directly to the secretary of the interior and not to the General Land Office starting in 1917. By the end of that year the secretary of the interior had given the National Park Service jurisdiction over the Casa Grande reservation, even though it legally still belonged to the General Land Office. Under that circumstance, the National Park Service Director, Stephen T. Mather, began a search for a competent custodian. [1]

On January 16, 1918, Mather contacted Frank Pinkley to determine if he would be interested in returning to his old job. To make the position more attractive, Mather wrote that Pinkley would be allowed to operate a concession to add to his income. The salary offer of \$900 was the same as he had received each year from 1901-15. Pinkley replied that he did not believe that a custodian should become involved with concession management. He felt that a custodian's efforts should be directed toward resource protection and creating a learning situation through visitor instruction and publicity. If he were to return to Casa Grande, Pinkley told Mather that he would need an automobile although he offered to pay for the gasoline as a means to discourage the vehicle's overuse. After considering the matter, Pinkley wrote to Mather on March 4 that he would accept the job. He announced that his custodianship would be built on the foundation of protection, development, and publicity. In a reply dated March 16, 1918, Mather authorized his appointment as custodian, although control of the Casa Grande reservation still officially came under the General Land Office. [2]

By the time that Pinkley arrived at Casa Grande on April 1, 1918, he had already begun to exercise his authority. Based upon his previous experience at Casa Grande, he began to implement an immediate course of action. Within days of his appointment, Pinkley's first activity was to contract for the erection of a thirty-five-foot-high galvanized-iron flag pole on the reservation. He also contacted Professor Byron Cummings of the University of Arizona Anthropology Department and the State Historian T. E. Farrish who agreed to write pamphlets on the archeology and history of Casa Grande when funds became available. Pinkley began to gather books for a library. He met with the chambers of commerce of the towns of Casa Grande and Tucson and received a pledge from those groups to build a restroom on the reservation. The head of the state news agency agreed to publish stories on the ruins. As for future activities, Pinkley told Mather that he needed road signs and general National Park Service literature for visitors. He hoped to approach the United States Geological Survey to do a topographic survey on one-foot contours for the entire reservation to aid future development. Finally, Pinkley requested that Mather

ask the Bureau of Ethnology to investigate a means to harden the ruins walls. He had previously thought of spraying the walls with silicate of soda, but evidently had changed his mind. [3]

Soon Pinkley had his enthusiasm dampened by the reluctance of the National Park Service Washington, D.C. office to champion the cause of his operational needs. Although he quickly received the general information literature on the National Park Service, Pinkley almost as quickly got a letter from Mather's assistant Horace Albright. He learned from this June 7 communication that neither the National Park Service nor the General Land Office intended to offer any present support. Albright attempted to attribute the lack of aid to the fact that, even if the National Park Service had any funds, it would not use any money for improvements on property legally controlled by the General Land Office. Albright observed that, if Casa Grande were to be designated a national monument, then it could be brought into the national park system. Undoubtedly hopeful of a brighter future, Pinkley readily agreed to a change in the ruin's status. [4]

## **B. The First Years as a National Monument**

On August 3, 1918, President Woodrow Wilson proclaimed Casa Grande to be a national monument. This change in status, with its inclusion in the national park system, did not produce the results that Pinkley had, no doubt, hoped. It did not bring him any substantial financial aid. He found that Casa Grande shared the same fate as all the other poorly funded national monuments. Consequently, his 1918 annual report reflected his discouragement. He wrote that "nothing" had been done at Casa Grande. There were no funds. Pinkley ended his account by stating that "this report is intended to arouse some interest in the Casa Grande with anyone who may read it." Horace Albright responded that it was a "good report." [5]

Pinkley's plea brought a \$500 budget for fiscal year 1919 and more work. Mather notified Pinkley on September 10, 1918, that he had placed him in charge of a second national monument. Two months previously, Mather had advised Pinkley that he might ask him to oversee Tumacacori National Monument. Having a second monument to administer, however, did not seemingly cause Pinkley any deeper distress. He worked tirelessly to operate both national monuments. Pinkley's wife worked as an unpaid aid who ran Casa Grande during his absences at Tumacacori. Pinkley proved to be such a successful administrator that Mather further increased his responsibilities in succeeding years. [6]

Even though Pinkley received a skimpy annual budget, he began to make some improvements at the new national monument. The old well was beyond improving, so, in September 1918, he began to dig a new one. He encountered water at forty feet. While digging the well, Pinkley began to think of improvements in general. He wrote to Mather that his immediate desire was the topographical survey of the monument showing one-foot contours. Pinkley also asked Mather to send Charles PUNCHARD, a National Park Service landscape engineer, to Casa Grande that winter so that a monument improvement plan could be developed. In the following month Pinkley hired a man to clear the brush from Compounds A and B. After that shrubbery had been cleared, Pinkley had his hired man remove the underbrush from an area between Compounds A and B and trim some mesquite trees so that a campground and picnic area could be provided for visitors. [7]

Although PUNCHARD came to Casa Grande in January 1919 to assess development needs, more money for improvements was not forthcoming. Stephen Mather, the National Park Service Director, paid little attention to the national monuments. His focus was directed toward national parks. He considered national monuments no more than "interesting accents" to national parks. Nearly all of Mather's energy was spent in improving access to existing national parks or acquiring additional national parks. Consequently, an overwhelming proportion of the National Park Service budget was spent on these natural scenic areas. National monuments received so little money that even maintaining the status quo was difficult. In 1921 the regular budget for all twenty-four national monuments for repair, protection,

and salaries came to only \$8,000. It was an insignificant amount when compared to the \$60,000 received by the Grand Canyon National Park or the triple figure budget of Yellowstone. Mather had his reasons for concentrating on the national parks. He wished to increase visitation and create a national constituency to support his new agency. The vast, scenic grandeur of national parks, he felt, provided the foundation on which to build a national following. To Mather, the smaller, mostly culturally oriented national monuments, though interesting, lacked glamour. Mather carried this separate and unequal approach to the two entities into administrative titles. The head of a national park was designated a superintendent, while the manager of a national monument was merely a custodian. [8]

Mather's disinterest in national monuments resulted in an increased workload and salary for Pinkley. By 1920 Pinkley was not just custodian for Casa Grande and Tumacacori, for in that year the Park Service leadership found it convenient to unload its responsibilities for a number of Southwestern monuments onto him. Pinkley accepted the new assignment which was for "review of administrative and other conditions in Southwestern Monuments." This fit in well with his ambitions that reached back as early as 1906. Perhaps he also thought that there was strength in numbers; that he could command more attention for budget purposes as representative of a number of monuments as opposed to two entities. The review of "other conditions" brought such duties as inspecting various monuments and even helping with repair work. Renovation work took him to Montezuma Castle National Monument in 1920. Pinkley even filed an annual report for Montezuma Castle in that year. Soon he was traveling to inspect Chaco Canyon, El Moro, Petrified Forest, and Pipe Spring. On occasion, this extra work was considered confidential. Pinkley also had contact with the custodian at Aztec and had suggested a custodian for Gran Quivira. For this new responsibility, his salary increased in 1920 to \$1,320. [9]

Pinkley performed his assignments with such efficiency that the National Park Service's leadership decided to officially recognize his work by establishing a field headquarters at Casa Grande from which national monuments in a four-state area of the Southwest would be managed. While he attended the annual National Park Service conference in Yellowstone National Park in October 1923, the announcement was made that Pinkley had been appointed as superintendent of the Southwestern National Monuments. He had twelve monuments to manage with a thirteenth created the following month. Pinkley also retained the custodianship of Casa Grande which he kept until July 1, 1931. With this increased workload, Arno Cammerer, the assistant director, recognized that Pinkley needed help, so he allotted Pinkley a \$300 budget for an individual who would work part time at Casa Grande while he traveled. Pinkley hired George L. Boundey because he had "previous experience" in mound excavation. By the start of fiscal year 1925 on July 1, 1924, Pinkley had created a full time position at Casa Grande for Boundey. [10]

### **C. The Development of Casa Grande Ruins National Monument**

The development of adequate facilities for employees and visitors was a constant struggle. Rarely were sufficient funds available to meet all of the needs. Even the creation of the Southwestern National Monuments field office did not bring much development money in the 1920s. Most of the construction funds came during the depression era of the 1930s. The last development period, in the early 1960s, evolved from the National Park Service MISSION 66 program.

After Pinkley had expended his \$500 appropriation for fiscal year 1919 on removing brush from Compounds A and B, creating a crude picnic and camping area, and digging a new well, funds evaporated for two years. In January 1919 Charles Punchard's visit to formulate a development plan brought no action. In his 1920 annual report Pinkley bemoaned the lack of money. People who hoped to camp at Casa Grande had no pleasant place to do so. Range cattle wandered over the monument without a fence to stop them. These roving livestock were more than a nuisance, they also damaged the ruins. [11]

The financial picture brightened for fiscal year 1922. Casa Grande received a \$2,000 appropriation of which \$1,200 was specified for a museum building. With the knowledge that funds for a museum would be provided, Pinkley had Punchard deliver building drawings by June 30, 1921. Construction did not occur as rapidly. The planned start for the structure in March 1922 was delayed because rain prevented the Pima laborers from making adobe. By April 3 the weather had cleared and work began on the five-room, fifty-by-twenty-two-foot museum. It had a concrete foundation and floor. The adobe walls were stuccoed on the outside and plastered on the interior. The final cost was \$1340.31. [12]

While waiting for the construction to begin on the museum, Pinkley used \$243.83 of the 1922 appropriation to improve his dwelling. He added a room and a screened porch to the quarters in the December 1921 and January 1922 period. [13]

Pinkley did not receive any money for a much needed storage facility. To house monument equipment, he had resorted to constructing makeshift buildings out of scrap lumber. These unsightly structures were located out of view of visitors. [14]

In mid-1924 external pressure was brought to bear on the monument once more. On this occasion the Casa Grande land stood in the path of an irrigation canal being constructed through the area. In the 1880s white settlers had come to the Florence region because of the seemingly abundant flow of water in the Gila River. These men had constructed a crude dam on that stream about twelve miles above Florence to divert water for irrigation. With time, as more land was irrigated, quarrels began over water rights. All the while, the Pima, who irrigated land farther downstream, obtained less and less water for their fields. As a result, the Pima made their own claim for water. These conflicting interests led the United States Government to authorize a large dam on the Gila River on May 18, 1916. Dam construction, however, could not begin until an agreement was reached on how to divide the water among the various users. A settlement was reached in April 1919 at a meeting held by the secretary of the interior in Los Angeles and, thus, preparation began to build the permanent diversion dam. For a time in 1919 Pinkley sought a share of the irrigation water by which to develop a park area with trees and shrubs for visitor comfort, but his application for water was disapproved. [15]

Funds for the dam included construction of adequate irrigation ditches to replace the crude ones in use. Water for use by the Pima on the Gila River Indian Reservation was to flow there in a ditch constructed by the United States Indian Service. The route to be followed by the Pima Lateral Canal, as the ditch came to be called, was determined in June 1924. The U.S. Indian Service planned to construct the canal across Casa Grande monument land. When asked, the Interior Department Solicitor stated that it would take an act of Congress to place it there. Despite that judgment, the Indian Service told Pinkley that no other location was feasible. Pinkley sent a telegram to the National Park Service director on November 24, 1924, to ask if agency policy should be to agree with or oppose the route. Acting Director Arno B. Cammerer replied that the Park Service could release sufficient land on the monument just inside the east and north boundaries on which to build the canal rather than have it cross the monument. On November 30, 1924, the Indian Service engineers came to Casa Grande to look at the east and north boundary area. Pinkley, who thought that route would take too much monument land, proposed that they locate the Pima Lateral Canal just outside the south and west boundaries. The Indian Service engineers told Pinkley that the south and west route would be feasible if the canal right-of-way could cut through the southwest corner of the monument. This situation would require giving up 7.5 acres of monument land. Pinkley wrote to National Park Service Director Mather to state that he had agreed to permit the canal to go through the southwest corner of the monument. Mather supported that decision. Consequently, that small corner of the monument was returned to the public domain by Public Law No. 342 on June 7, 1926 (see figure 13). No succeeding legislation gave that 7.5-acre tract to the Indian Service. It remains to this day as part of the public domain. [16]

The Pima Lateral Canal proved to be troublesome. The heavy amount of silt deposited in the canal had to be cleaned regularly. As a consequence, when the Indian Service removed the silt it would dump it on the edge of the monument land. By 1933 this silt had been piled along 4,570 feet of the south and 630 feet of the west boundaries up to thirty feet inside the monument. In April of that year, Hilding Palmer, the Casa Grande custodian, notified the Indian Affairs commissioner that the Indian Service could dump no more silt on the monument. It had destroyed trees, brush, and cactus. Some of this silt was removed when the boundary fence was installed in 1934, but the Indian Service kept piling silt along the west boundary. As a result, in 1939 that boundary fence had to be taken down and the dirt removed. The Indian Service then installed a new fence along that 630-foot section. [17]

Misfortune struck the monument on September 25, 1925, when a storm system stalled over the area and produced an excessive amount of rain. Flooding, as the result of the downpour, weakened the museum building's adobe walls and caused the structure to collapse. Pinkley and Boundey were able to remove the artifacts and interpretive material while the structure was still intact. Boundey and his family, who lived in one of the rooms, evacuated the museum without a loss of their personal effects as well. Within ten days the National Park Service Washington office allocated \$1,200 from an emergency fund to replace the museum. Pinkley reconstructed the building by using the old concrete foundation, and thus its cost was \$273.96 less than the original expenditure. By the end of January 1926, it had been rebuilt and the collection moved back into it. [18]

George Boundey and his family returned to their museum quarters since no other accommodation was available for monument employees. By 1927 Pinkley had developed a plan for future employee housing at Casa Grande. He desired a residential compound with the buildings fronting on a common patio center. This patio area, Pinkley thought, could be developed into a garden without affecting the outside desert. In the early part of 1928 he began a quest to develop this plan. When it appeared that money would be approved to construct a ranger's quarters after July 1, 1928, Pinkley contacted Thomas Vint, the chief landscape architect in the Park Service's San Francisco Field Headquarters, and told him that it "must be of adobe walls to fit into the surroundings ..." Construction began on the residence in November 1928 and it was completed by April of the following year (figure 19). [19]

Although Pinkley had his vision of monument development and had obtained funds for a ranger residence, Thomas Vint decided to visit Casa Grande to make sure that eventual construction was carried out with an orderly plan. In early December 1928, Mr. Vint arrived at Casa Grande to discuss future development with Pinkley. At the time, construction on the ranger's quarters had just begun. Vint liked the southwestern adobe architectural style embodied in the Casa Grande buildings. He, however, did not think much of the museum's internal arrangement. It was not laid out for the purpose that it served. The museum was also situated too close to the new ranger habitation. In Vint's view, building arrangements should be grouped separately on a functional basis. Although poorly designed to serve as a museum, he concluded that the building could be easily converted to a residence. Vint thought that its location, combined with the new ranger dwelling under construction, could form the first structures in Pinkley's desired residential compound (figure 20). A new combination administration/museum building, with adequate visitor parking, needed to be built as a separate unit to the north of the residential group. Pinkley agreed with Vint's development ideas. Vint also stressed the need for a utility group composed of a garage and a warehouse. [20]





Figure 19: Ca. 1931 Aerial View. The 1903 Great House roof is visible with the roof patch which was needed after the June 1930 windstorm. Pinkley's 1910 dwelling is visible above the Great House. The first building to the left is the 1929 ranger residence. Above the 1929 dwelling is the 1925 museum with the visitor parking lot above it.  
Courtesy of the Casa Grande Ruins National Monument

Although these development plans were discussed, a master plan was not begun until 1932. In the meantime, construction funds were appropriated on a piecemeal basis. Construction, however, took place on the basis of the development plan that Vint and Pinkley had envisioned for Casa Grande. For fiscal year 1930, Pinkley requested an appropriation for an administration/museum building, a sewer system, and a structure to house public comfort stations. Only the sewer system money was approved. It consisted of 430 feet of sewer line, a redwood septic tank, and a distribution gallery. Construction on this system began in January 1930 and was completed by June. The tank and distribution gallery were located to the northeast of the new ranger residence. [21]

The construction appropriation for fiscal year 1931 must have seemed to Pinkley as if his dream had finally come true. Funds were provided for five buildings and a new well. These structures included the administration/museum building, a comfort station, two employee quarters, and a tool and implement shed. Mr. Vint sent the drawings to Pinkley on May 4, 1931, and began to prepare an announcement for construction bids. He had originally designed the administration/museum building to be built as a square with an open center, but the appropriation was only sufficient to complete the front part of that square. The detached restroom building to the museum's rear gave the museum/administration structure an L-shaped appearance. Assistant Landscape Architect H. A. Kreinkamp arrived at the end of May to prepare to oversee the construction. He rearranged the residential locations slightly in order to retain as much of the mesquite and creosote bushes as possible. The bids were opened on June 15 and Albert Coplen of Mesa, Arizona, won the contract for all five buildings with a combined bid of \$19,432. The buildings had been designed in a modified Pueblo architectural style to complement the others on site. Dirt for the adobe brick came from the debris that Fewkes had removed from Compound A during his excavation and grading of that area in 1906-07. This earth had been dumped in an "unsightly" pile just outside of that compound. These structures were completed on January 5, 1932, including an adobe wall which partly enclosed them. One residence served as Pinkley's new quarters while the other building housed the new Casa Grande custodian. At the same time the old museum was converted into a residence. A well was dug in July 1931 to a depth of 186 feet. Water was encountered at 70 feet. Two, 525-gallon water storage tanks and a deep well pump were purchased to go with the new well. [22]

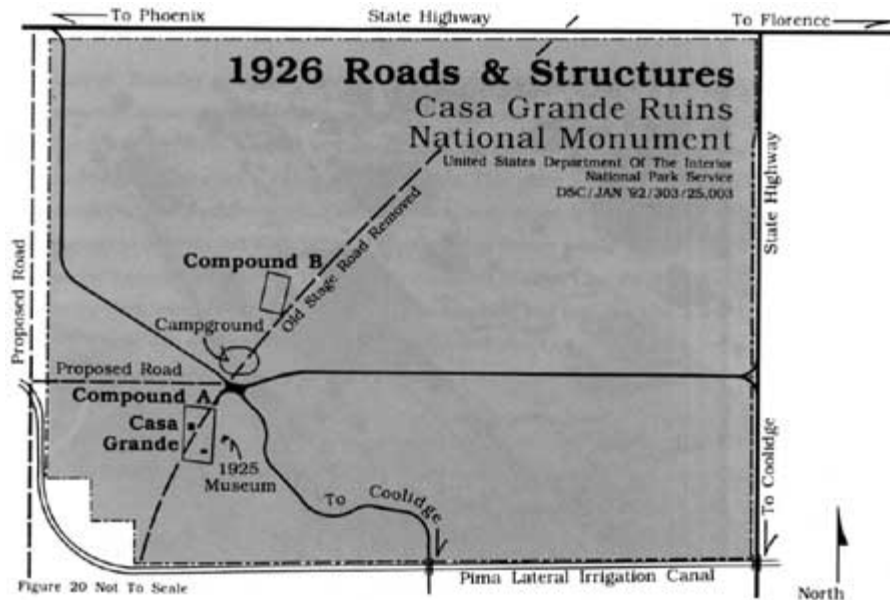


Figure 20: 1926 Roads and Structures.

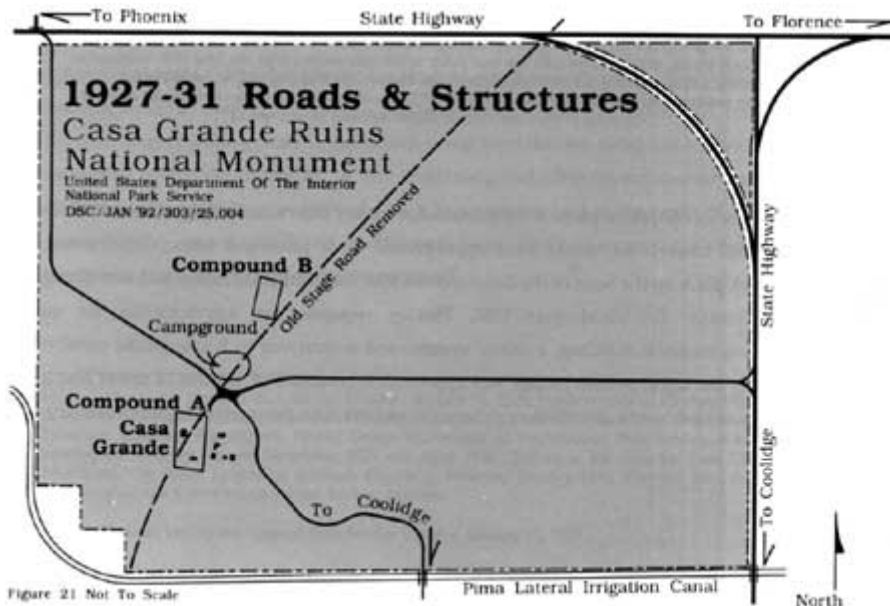


Figure 21: 1927-31 Roads and Structures.

Fiscal year 1932 brought an appropriation to grade and asphalt the surface of an entrance road, construct a visitor parking lot for the new museum building, improve the picnic grounds, build a fence on two sides of the monument, and purchase an electrical generating power plant. A debate occurred on the appropriate road to designate as the entrance road. The old stage road which ran diagonally across the monument land from northeast to southwest ceased to exist by late 1925. At that time Pinkley got Pinal County to construct almost two miles of new roads on the monument. These new roads permitted visitors to converge on the museum area from three entrances — one from the northwest corner, one from the south, and a third on the east center (figure 21). This situation allowed visitors too much unrestricted access to the monument. Only one entrance road was needed. Kreinkamp from the San Francisco Field Office favored the northwest as the entrance road. Pinkley, however, settled on the east entrance road. Soon thereafter, Pinkley stepped aside as Casa Grande custodian and chose Hilding Palmer to fill the position. Palmer wrote to F. A. Kittredge, the Park Service chief engineer, that he wanted the road constructed with an abrupt drop at the edges and a ditch deep enough to prevent cars from driving off the road. In this manner he hoped to end the practice of people driving their cars off the roads into the brush where they ate lunch, built fires, and, in general, destroyed the resources. Palmer

cautioned that digging deep ditches had to be done carefully since he did not want the natural vegetation destroyed. Road construction was completed in January 1932 with an entrance that contained a pair of ornamental wooden gates fixed to large, adobe covered concrete gateposts. An "artistic" copper sign was placed just outside the gates. The road led to a new forty-six-car parking lot on the north side of the museum. Ten tables, seven fireplaces, and two ramadas were made for the picnic ground which was located just north of the parking lot. At the same time the north and east boundaries of the monument were enclosed with a forty-five-inch-high woven wire fence hung on steel posts and topped with two strands of barbed wire. [23]

In addition to the fiscal year 1932 construction funds, Congress appropriated money to construct a new shelter roof over the Great House. By the mid-1920s it had become apparent that the old roof had deteriorated to the point that it needed replacement. In 1928 Frederick Law Olmsted, Jr., acting in an advisory capacity to the National Park Service, sketched a design for a new roof.

The thought at the time, however, was that a design competition should be held for the roof. Consequently, a number of individuals submitted roof plans, but no action was taken because construction funds were not forthcoming. The force of nature helped to speed the process when wind blew part of the old shelter roof off the structure in June 1930. Acting National Park Service chief engineer A. W. Burney selected a design with a concrete roof in November 1930. He thought it would last longer and require less maintenance. The chief engineer, F. A. Kittredge, seconded the concrete approach since he believed that it would add weight to hold the structure down. A major concern on the part of Kittredge, Olmsted, and others was not that the roof would be too heavy, but that a large, open roof would be susceptible to an uplift effect by the wind. In other words, it would be similar to an individual holding an umbrella in a windstorm. Kittredge estimated that the new shelter roof would cost \$42,500. [24]

Thomas Vint thought long and hard about the design of the new shelter roof. He wanted an arrangement that would let the ruin stand out. Vint noted that "if a shelter is placed over the ruin, it takes an architectural value that can't help but affect a view of the ruins." In March 1931, he advocated a flat roof on a steel frame because "it is as far a departure from the design and material of the ruin as can be obtained. The shelter should be a thing apart from the ruin, rather than blend with it." At the same time Frederick Law Olmsted, Jr. wrote to Horace Albright that he preferred a hip roof to a flat one. He seemed to worry less about blending or contrasting the roof design with the ruin than about the effect of the wind. As a result, he thought the roof should be secured with a guy wire arrangement much like the rope system used on a circus tent. [25]

Because of the expenditure to control forest fires in several large parks in the fall of 1931, Pinkley and others were led to believe that the fiscal year 1932 ruins shelter appropriation would be used to offset that cost. Consequently, Pinkley, Vint, and Kittredge could only hope for funds in the next year. To their surprise, the National Park Service Washington office telegraphed the San Francisco Field Office on April 28, 1932, that funds to build the shelter were available and to proceed with the design and specifications. Soon thereafter Horace Albright, the National Park Service Director, urged that the Olmsted plan be followed. Within a month Vint sent the final design to Pinkley. With some exceptions, he followed the design suggested by Frederick Law Olmsted, Jr. Vint omitted Olmsted's guy wire arrangement and made a change in the cantilever trusses that supported the eaves. Otherwise, the hipped roof supported by leaning posts followed Olmsted's proposal. Pinkley did not like the leaning posts, but Vint thought that they looked better architecturally and were more useful structurally since they allowed for shorter roof trusses. In addition leaning posts had a bracing value. The transite roof covering incorporated glass skylights. A copper-louvered ventilator was designed for the roof's ridge line to reduce upward wind pressure. Consequently, the roof could withstand a wind pressure of forty pounds per square foot vertical uplift which was equivalent to a 100-mile-per-hour hurricane. [26]

Construction bids for the ruin shelter were opened in mid-June 1932. Of the eleven firms that submitted bids, Allen Brothers of Los Angeles, California, a bridge construction company, placed the lowest bid at \$20,282. Allen Brothers sublet the excavation and footings to Clinton Campbell and the steel fabrication to the Virginia Bridge and Iron Company of Birmingham, Alabama. Campbell began work on September 19 to excavate for the footings. The old ruins shelter was removed and a temporary shelter constructed over the Great House to protect it during construction. When the new shelter was completed on December 12, 1932, it stood forty-six feet from the ground to the eaves. The highest point of the structure, the top of the monel metal ball used for a lightning rod, reached sixty-nine feet, three inches above the ground (figure 22). Upon completion, the shelter was painted a sage green to harmonize with the mountains and vegetation as well as provide a contrast with the ruin's walls. Its final cost was \$27,724.12, which included \$4,000 for engineering and design costs. [27]



Figure 22: The 1932 Ruin Shelter Roof  
Courtesy of the Western Archeological and Conservation Center

The shelter has received periodic maintenance which has meant repainting it for the most part. It was repainted for the first time in 1942 at a cost of \$513.10. Eight years later, in 1950, another coat of paint was applied. By that time, the cost had more than tripled at \$1,597. Small cracks were also noticed to have formed in the legs, but Superintendent A. T. Bicknell was told that these cracks had no effect on the structural soundness. In January 1955, a National Park Service engineer, George Smith, looked at the shelter and saw that the cracks were split welds. He estimated that rewelding would cost \$125. This maintenance work, including repainting the welds, was done in April by the Steel Engineering Company of Coolidge. The shelter was painted once more in 1959 along with some resealing and caulking of the roof. On this occasion, J. A. Bridges, the painting contractor, received \$2,590. His final coat of sage green-colored paint had a fish oil base. It evidently did not prove to be of good quality because the shelter required paint in only four years. On this occasion, in July 1963, the old paint was sandblasted from the structure. Two zinc chromate primer coats were applied under a vinyl finish coat. Rust-Proofing Incorporated of Phoenix received \$11,897 for the contract. In 1974, Mantikas Painting of San Pedro, California repainted the shelter for \$8,500. An engineering firm, Collins Engineers Incorporated of Chicago, inspected the ruin cover in 1982 and pronounced it to be in excellent condition. That firm recommended that it be repainted on a ten-year cycle. The shelter received its latest coat of paint between November 1989 and February 1990. The Karvas Painting Company of Yuma applied a Fuller O'Brian 6-99 Oak Bark colored paint for \$30,925.68. This coat of paint changed the shelter color from sage green to a light tan. [28]

Returning to more mundane construction following the erection of the new ruins shelter, fiscal year 1933 brought several improvements to the monument grounds. A new one-eighth-mile service road was built and coated with road oil. In the spring of 1933 one-half mile of walkways were laid to connect the administration/museum building to the residences and Compound A. This walkway system was constructed of broken stone which was rolled and then sprayed with an asphalt compound to bind it together. Sand was sprinkled over it and worked into the surface by traffic. [29]

In May 1933, Thomas Vint mailed copies of the first Casa Grande "Master Plan" to Pinkley. The National Park Service field office in San Francisco had been working on the plan since mid-1932. It basically followed the ideas to which Pinkley and Vint had previously agreed. The plan called for considerably more construction than had been done to that date. To complete the monument housing needs, the plan proposed three more residences and a dormitory. It called for adding to the museum to finish it to Vint's original design of a square with an open center. The small, temporary pumphouse needed to be replaced. A maintenance area with three buildings was planned for the space just south of the residential quarters. During review, either Vint or Pinkley decided the proposed utility facility was too close to the residential area and, by using a pencil, drew a new location for two maintenance buildings farther to the south of the living quarters. Picnic area development included removing one ramada, extending the other existing ramada, adding four new ramadas, as well as building more fireplaces and tables (figure 23). The plan proposed that approximately two miles of old road and some old trails be covered to remove any trace of them. At the same time it called for the development of an informal footpath to follow a route from the Clan House to Compound C to Compound B to Compound E to Compound D and back to the parking lot by way of the south service road. Pinkley approved this Master Plan on September 2, 1933. He then developed a six-year program to accomplish the plan. At the same time the San Francisco field office issued a new Master Plan each year through 1941. Each new plan reflected the changes from the previous year (figures 24). Pinkley accomplished only part of what he wanted. By 1941 the Master Plan added proposals to change the design of the museum addition (figure 25). The plan also specified the need for digging a new well, obtaining natural gas by piping it into the monument, constructing an eight-stall garage, burying the electric line, building a brick incinerator, moving the east boundary fence inward to allow the state to construct better drainage along Highway 87, revegetating the area after the fence was set back, and establishing three interpretive trails to view various ruins instead of one long trail. [30]

## **1. Depression Era Programs**

By fiscal year 1934 depression relief money began to be added to the Casa Grande budget, although by this point a large part of the construction program had taken place. Starting in September 1933, Public Works Administration (PWA) funds were used to replace the 3/4-inch water line with new 1-1/2-inch pipe, including hose valves, so that any building could be reached with a fifty-foot hose. The National Reemployment Service furnished local men to do the work. This same workforce installed a new hydrant at the picnic grounds. Two, 1,000 gallon water tanks were used to replace the two 525-gallon tanks installed in 1931. At the same time additional work was done on the picnic ground. More ramadas were added along with twenty new tables, seven fireplaces, and two swings and a teeter for children, while fifteen old tables were repainted. A Civil Works Administration (CWA) program provided men and money to bury the telephone line from the residential area to the monument boundary in December 1933. Civil Works Administration funds were used to purchase materials for the south and west boundary fences. Federal Emergency Relief Administration money paid the salary of six men in May 1934 to clear and grade that fence line in preparation for fence construction. The south fence was set back about thirty feet from the boundary to avoid silt dumped on the monument by the Indian Service from the Pima Lateral irrigation canal. Public Works Administration funds were also used to build one more residence. This final dwelling to be erected on the monument was begun in April 1934 and completed by July. At the same time the old quarters that Pinkley had built in Compound A in 1910 was repaired. It had stood empty from the time that Pinkley had vacated it in early 1932. [31]

Construction activity ceased for two years until 1936. In August of that year the Indian Service connected the monument to its power line. The line entered the monument from the south on poles until it reached an area several hundred feet south of the residential compound where, after leaving a transformer station, it connected to buildings by underground cable. By the end of 1936, the PWA supplied the money and manpower to construct a new sewer system. Work on that system began on December 19. It consisted of a new reinforced-concrete septic tank from which ran a three-inch concrete asbestos pipe for 1,600 feet southeast of the residential area. That pipe connected to a sixteen-nozzle sprinkler system which sprayed the effluent on the ground. The old cesspool was covered with concrete and became an overflow pit for the new system. [32]

In April 1937 Pinkley's old residence in Compound A was remodeled into an office for the Southwestern Monuments headquarters educational staff and quarters for two naturalists. When these men moved into the building in May 1937, they installed a homemade evaporative cooler. It was the first such cooling device to be used at the monument. The effectiveness of this "swamp cooler" resulted in a decision by Pinkley to install them in the other buildings. [33]

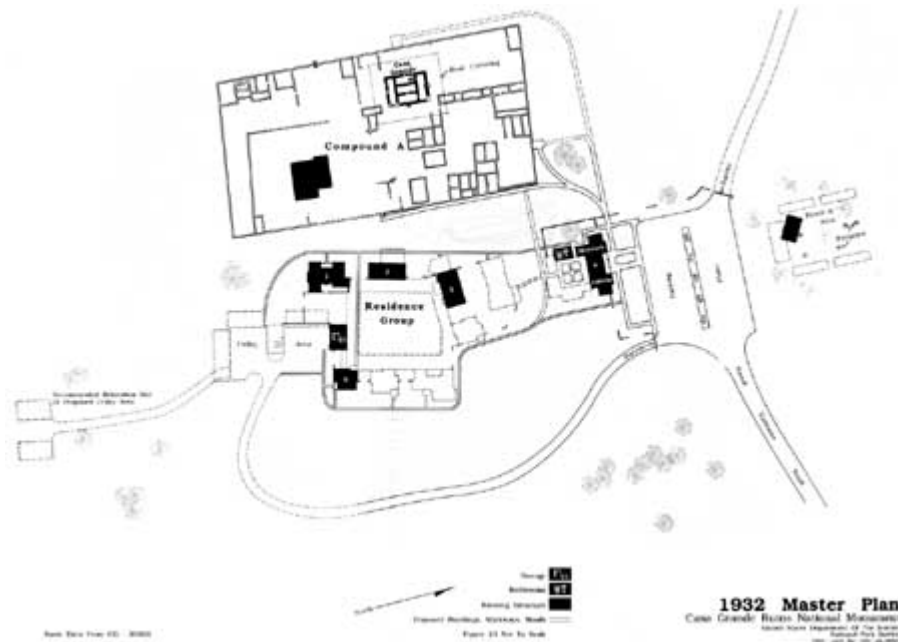


Figure 23: 1932 Master Plan map.  
(click on the above image for an enlargement in a new window)



Figure 24: 1935 Master Plan map.  
 (click on the above image for an enlargement in a new window)

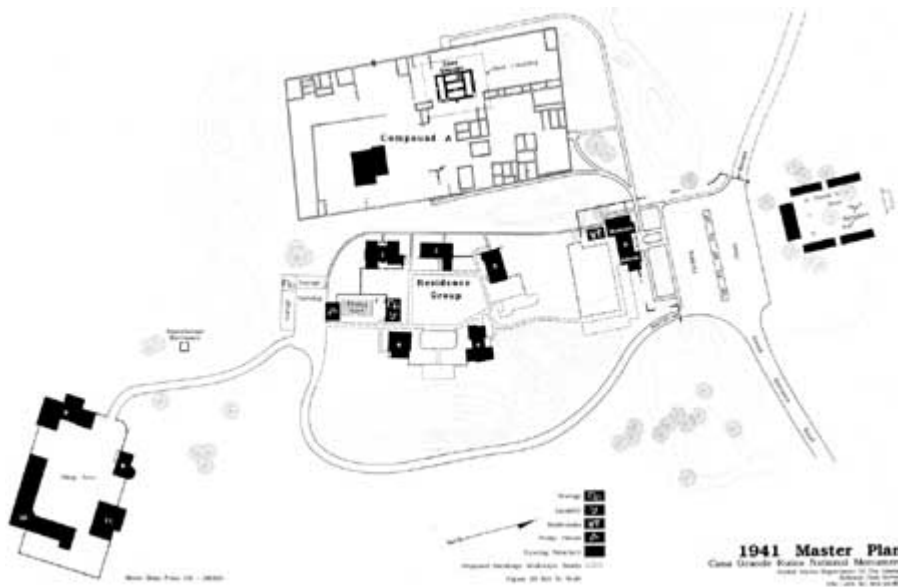


Figure 25: 1941 Master Plan map.

## 2. The Civilian Conservation Corps at Casa Grande

Although a great deal of construction had occurred at Casa Grande during the 1930s, by 1937 Pinkley still did not have a maintenance and storage facility. For this last large building project of the 1930s, Pinkley obtained the services of the Civilian Conservation Corps (CCC). On November 16, 1937, a carpenter crew of twenty-four men and a foreman arrived at Casa Grande from the Chiricahua National Monument Civilian Conservation Corps Camp CNM-2-A to establish a fifty-man spike camp. Between that date and December 4, they built a barracks, mess-hall, washroom, storeroom, and a recreational hall in an area just southeast of the current maintenance facilities. The carpenter crew then departed for the main camp and was replaced by another group of CCC men who gave the finishing touches to their camp and then began preparation to construct the maintenance facility in an area south of the residential section (figure 25). [34]

Not all of the Civilian Conservation Corps enrollees worked in construction. During the time the camp was located at Casa Grande, two to four men were assigned each month to guide visitors through the ruins. Another one to two men were used as mimeograph operators and sometimes as clerk-typists in the Southwestern Monuments headquarters.

Since the architectural style for the new maintenance buildings copied the existing modified Pueblo style, these projects took thousands of adobe bricks. On December 14, 1937, the CCC crew began to prepare an adobe-making area and six days later produced their first adobe. Foundation excavation began at the same time for the first structure — a shop which became known as building 11. The CCC devoted its sole attention to this building until they began excavation work for a foundation for a warehouse on February 24, 1938 (Building 9). By the end of June 1938 these two structures had reached the point that only interior work remained to be done. At that time attention shifted to the erection of an oil house (Building 8). From the time excavation work began on the foundation, the CCC concentrated on the oil house so that by November 1938 it was nearly completed. In September a wash rack was built on the south side of the oil house and a gas tank and pump were installed in front. As a minor project in November 1938, the men erected protective walls around the electric transformer. In December the men devoted their attention to buildings 9 and 11. As a consequence the shop, warehouse, and oil house were finished in early January 1939. In June the shop and oil house doors and windows were painted "apple green." [35]

Sporadic work on an equipment shed (Building 10) began in October 1938. With the completion of the other three maintenance buildings the following January, the shed occupied nearly all of the men's time with the result that it was completed in March 1939. As soon as it was finished, an addition was begun to the east which would make the building into an L-shaped structure. When completed in November 1939, the addition, or section B as it was called, contained three bays of which one was oversized. [36]

In March 1939, at the same time the extension was being made to the equipment shed, a wing was built onto the warehouse on its south side. Thus this structure also acquired an L-shaped configuration. The original section contained a watchman's office and quarters as well as a storage area, but the addition had only storage space. It was completed in August 1939. [37]

During May 1939 the CCC men constructed an adobe, modified Pueblo style checking station at the entrance to the monument. Pinkley had been told to begin to charge a 25 cents admission fee starting May 1939 to each individual entering the monument. As a result, the checking station was erected to provide a building from which monument personnel could collect the charge. This practice had two effects. It angered 38.9 percent of the people who attempted to enter the monument with the result that they refused to pay and left. With CCC help to collect the entrance fee, there was no problem, but, when the CCC left in February 1940, the situation changed. At that time, there was an insufficient number of employees to handle the entrance station and museum, as well as conduct guided tours. As a result, on February 23, 1940, permission was granted to end the entrance fee. Only a 25 cents charge was collected at the museum from those taking a guided tour. Consequently, the checking station was dismantled. [38]

Beginning at the end of October 1939, work started on a one-room addition to the south side of the shop building. It was designed for use as a blacksmith shop. Work proceeded quickly, and it was completed in January 1940. [39]

From mid-1938 until December 1939, the CCC men periodically occupied their time constructing 417 lineal feet of adobe wall around the maintenance compound. A gateway with posts was completed in the northeast corner of the wall in August 1938 and gates were hung soon thereafter. In sections, such as that between the oil house and the shop, the compound wall was tied into the back wall of the buildings. [40]



The Casa Grande Civilian Conservation Corps spike camp was abandoned in February 1940 and the men returned to the main Chiricahua camp. On March 8, 1943, a group from the United

States Army Corps of Engineers came to the monument and demolished the buildings. Salvageable material was hauled away in twenty-five trucks on March 10 and 11, 1943. [41]

### **3. After the Civilian Conservation Corps**

The early 1940s at Casa Grande saw only minor changes mostly because the Second World War severely reduced funding and visitation. In 1940 the tool and implement storage shed (Building 15) was no longer needed for that purpose, so it was converted into a laundry and storage area for monument employees. In that same year, the superintendent's residence received a 140-square-foot addition and a screened porch was added to the west side of the custodian's house in place of a brush ramada. On December 16, 1940, construction began on a small room attached to the administration building. It was designed for a private office for Hugh M. Miller, who became superintendent of the Southwestern Monuments in February with the death of Frank "Boss" Pinkley. In April 1941, ninety percent of the east fence was set back ten feet to provide a wider right-of-way for drainage along the state highway. A decision was then made to replace the entrance gates and sign. In November 1941 demolition began on Pinkley's old house located in Compound A. By March of the following year it had been removed. [42]

Only a few changes occurred at Casa Grande through the remainder of the 1940s and the 1950s. In October 1942 the headquarters of the Southwestern Monuments was transferred to the regional office in Santa Fe, New Mexico. Consequently, several of the residential buildings were vacant. When a prisoner-of-war camp opened near Florence late in 1942, two of the quarters (Buildings 1 and 4) at Casa Grande were rented to army personnel from that camp. One of the quarters (Building 1) was occupied until May 1946 when the POW camp closed. On November 6, 1948, greater recognition was given to the individuals responsible for the national monuments when the title of custodian was replaced by superintendent. The skyline over the residential area changed at the end of April 1953 when Superintendent A. T. Bicknell was given permission to install a television antenna that extended twenty feet above the roofs. In 1956 the former campground was converted to form part of the picnic area. No one used the campground anymore as visitors preferred motels to camping. At the same time the Park Service encouraged surrounding communities and the state highway department to develop facilities to attract picnickers, while the number of tables at Casa Grande were reduced from fifty to ten. [43]

Water continued to be a problem in the 1940s and early 1950s. Farmers surrounding the monument had begun to drill irrigation wells in such numbers that the water table started to drop rapidly. By February 1942 water was being drawn from the monument well at a depth of eighty-eight feet. In 1945 the water dropped to the 102-foot level which was below the end of the suction pipe. At that time, the local Indian Service personnel loaned the monument equipment by which the pipe could be lowered another twenty-three feet into the well. In early 1948 the water level in the well had fallen to 140 feet as farmers had begun to pump from a number of new irrigation wells. In June it dropped another ten feet. By August 1949 irrigation pumping operations could temporarily drop the water table an additional thirty to thirty-five feet. For a time in December 1950 the water table slipped below the bottom of the well (186 feet). Over the next four months it returned to the 163-foot level. It was obvious that either the well had to be dug deeper or, as it was hoped, the monument could be connected with the Coolidge water system. In December 1951 an announcement was made for bids to connect Casa Grande with the Arizona Water Company which also served the city of Coolidge. The job was completed none too soon on July 26, 1952. By June 1956 the area water table was reported to have dipped to 300 feet. [44]

At times the national monument could be a dangerous place to work or visit. In January 1951, while touring the ruins with his parents, a five-year-old boy was struck in the head by a stray bullet and killed. Several Coolidge youths caused the death when they randomly fired their rifles while walking along the

canal outside of the monument boundary. In late December 1955, more shots were fired onto the monument by boys who were shooting the rifles they had gotten for Christmas. No injuries occurred on this occasion. Another tragedy happened on November 30, 1974, when Seasonal Ranger Gregory Colin Wayt was struck and killed by a bullet fired from outside the monument. A visitor was hit in the left leg by another bullet. Once more a Coolidge boy was found to be responsible. [45]

#### **4. MISSION 66**

For more than a decade from America's entry into World War II in 1941 to the mid-1950s, the National Park Service spent very little money for new buildings or to repair existing structures. The growing number of visitors during that time greatly crowded the existing facilities. At the same time buildings slowly deteriorated. As a result, the National Park Service director, Conrad Wirth, developed a program to build better visitor facilities as well as repair some existing structures. Because he hoped to achieve his plan by 1966 to coincide with the National Park Service fiftieth anniversary, it became known as MISSION 66. National Park and Monument superintendents were asked to submit a prospectus in which their needs were presented.

At Casa Grande Ruins National Monument, Superintendent A. T. Bicknell wrote a MISSION 66 Prospectus and sent it to John M. Davis, the General Superintendent of the Southwestern Monuments, on July 14, 1955. Bicknell did not request any new development because he thought everything at the monument was adequate to meet employee and visitor needs. Davis did not agree with Bicknell's assessment. He thought that the long-proposed museum addition was necessary whereby the building would be enlarged to form a hollow square. The open center could be planted with native vegetation, Davis felt. When Hugh M. Miller, the Region Three director, received the Casa Grande prospectus, he made stronger comments. Miller wanted the museum/administration building removed and a new visitor center and parking area built closer to the entrance. He considered the employee housing to be an eyesore and wanted it, along with the picnic area, eliminated. Finally, Miller wanted the Great House roof replaced by a transparent air-conditioned cover over the entire ruin. [46]

Consequently, John Davis revised the prospectus to reflect some of Miller's comments. In this November 1955 version, Davis wrote that the employee housing would be removed and employees encouraged to live in Coolidge. The pumphouse would be torn down as well. Davis also added that despite the roof protection over the Great House, the upper area of that building had continued to crumble and the windward side suffered from blown sand. As a result, he requested that it be enclosed with steel reinforced plastic or glass. When it came to the museum/administration building Davis did not follow Miller's desire. Again Davis asked that the existing structure be expanded along with the parking area. Although there was some feeling in the Southwest regional office that the revised prospectus should follow Miller's comments exactly, the regional director approved it and sent it to Washington, D.C. for the National Park Service director's approval. Director Wirth reviewed the prospectus and approved it in January 1956 with two exceptions. He disapproved of a museum addition. Instead, he thought that the existing museum could be expanded by removing some of the administrative offices. Wirth felt that one of the employee residences should be kept for office space. [47]

In light of Wirth's statements, a revised version of the MISSION 66 Prospectus was circulated on April 19, 1956. It proved not to be the final product. Superintendent Bicknell was asked to change it one more time in May 1957. On this occasion, the decision to remove four of the five employee quarters was changed to retain two of the buildings. The prospectus received final approval on July 30, 1957. With that acceptance, the Master Plan, which had received some updating in 1952, was rewritten to conform with the MISSION 66 Prospectus. It was approved in 1961 and has not been revised since that date. [48]

Regional Director Miller's desire to have the so-called unsightly and ineffective roof over the Great House replaced with a complete covering resulted in exploring ways to have a more effective ruin

shelter. Consequently, the famous architect R. Buckminster Fuller was invited to Casa Grande to discuss the possibility of building a plastic dome over the Great House. After his March 1956 visit, Fuller concluded that he could design a geodesic dome for the ruin and promised to build a model. When Fuller completed his model, it was sent to Washington, D.C. for inspection. The Chief of Interpretation, Ronald Lee, reported that he and the Chief Archeologist John Corbett as well as Mr. Vint had looked at the model and concluded "that the dome did not appear particularly desirable at Casa Grande." Lee gave four reasons for this view: 1) the dome would require expensive air-conditioning; 2) it would have more effect on the ruin profile than the existing shelter; 3) wind-carried sand could sandblast the plastic parts; and 4) a dome would cost more than modifying the current structure. Fuller returned to Casa Grande and explained that holes in the dome's base and top would permit a natural air flow so that no air-conditioning would be necessary. In addition modern plastics could be made to withstand the sandblast effect. Despite this assurance, Regional Archeologist Dale King thought the cost would be too great. Although the provision for a new ruin covering remained in the MISSION 66 Prospectus when it was given final approval in 1957, no attempt was made to carry out such a scheme after that date. [49]

The MISSION 66 Prospectus served as an imperfect planning tool. Although some of its provisions were carried out, in general many sections were ignored and projects not considered in the prospectus were approved. Instead of removing the pumphouse, it was converted to a storage facility in 1960. Later, in 1989, Superintendent Donald Spencer had the interior remodeled so it could be used for the monument library. In 1963 the laundry and storage building was converted to a three-stall garage. Late in that same year construction began on the museum/administration building addition despite the fact that it had been disapproved in the MISSION 66 Prospectus. When it was completed in 1964, the restroom building to its rear had been incorporated into the structure and an L-shaped wing had been added to achieve the hollow-square building. Restrooms were relocated into the front part of the structure with entrances off the new, covered porch which ran the length of the building's north side. This expansion provided more than double the previous area for display space. Native plants were placed in the open hollow center. The size of the public parking lot was increased as well to allow for sixty-six cars. Two of the five employee residences (the former 1925 museum and the 1929 ranger's quarters) were removed in 1965-66 along with the adobe wall which enclosed the quarters. Instead of destroying the 1931 Southwestern Monument Superintendent's house (building 1), as intended in the Mission 66 Prospectus, this building was given a major rehabilitation in 1965 including adding a new room in place of the west porch. It ultimately came to serve as a seasonal dormitory. Between July 19 and August 25, 1965, a final MISSION 66 project resulted in the reconstruction of the water distribution system. An 8-inch asbestos cement water main was connected to the Arizona Water Company supply, and secondary lines were installed from it to the buildings, picnic area, and three separate bubbler-type irrigation systems. In addition four fire hydrants with hose houses and hose were connected to the system. [50]

## **5. Casa Grande Ruins in the Nuclear Age**

At the height of the cold war, as home owners were building bomb shelters in their basements, the National Park Service leadership decided to develop its own plan for an emergency response to a nuclear attack. On November 21, 1962, the Region Three director sent a memorandum to Aubrey Houston, the Casa Grande superintendent, in which he requested that a three-member Emergency Operations Committee be established to deal with civil defense emergencies, especially a nuclear attack. In the following year, Houston was asked to develop a handbook to be used for emergency operations as well as employee and visitor protection. The handbook author recognized that a nuclear attack on either Phoenix or Tucson could cause heavy fall-out at the Casa Grande Ruins. Since there were no fall-out shelters in the county, the civil defense plan was survival in place at least for some of the monument employees. All monument services would be reduced to protection by an emergency force of two individuals — the superintendent and a maintenance man. Visitors, the plan read, would be evacuated. It did not state to where they would be evacuated. Presumably, it would be to the monument entrance

where they would be told to seek their own protection. In the meantime, at the end of the emergency, Casa Grande Ruins employees were to go to the nearest post office and obtain an Emergency Registration Card (SF-45). After they had filled it out, they were instructed to send the form to the Civil Service Commission in Washington, D.C. Then they were to await a call for Civil Defense duty. No recognition was given to the fact that a nuclear attack would undoubtedly have disrupted postal service and have destroyed the Civil Service Commission office in Washington, D.C. [51]

## **6. After MISSION 66**

MISSION 66 proved to be the last major construction program to affect Casa Grande Ruins. Because of its small area, the Casa Grande Ruins National Monument superintendent has always had difficulties competing for funds. No relief was gained even after the 1971 reorganization when the monument was shifted from the Southwest Region to the Western Region. After 1966, maintenance for the existing facilities became the norm although some minor construction activity did take place. More tables were added to the picnic area in 1976. Energy saving measures took place in that year as well when the exposed glass in the visitor center was replaced by tinted safety glass to reflect the sunlight. Picnic area improvements again were made in 1977. A concrete slab was poured and a ramada built over it to accommodate more picnic tables. The water line was also extended to provide a tap near this new ramada. In February 1983 Casa Grande Ruins was annexed to the city of Coolidge. This meant that the monument fell under that city's fire, emergency medical, and law enforcement services. At the same time Coolidge began to collect the monument's garbage thus relieving monument personnel of the job of hauling it to a dump site. Because of this new relationship, the monument sewer system was tied into the Coolidge system on March 16, 1990. A sewage lift station was placed between the residential and maintenance areas. Superintendent Donald L. Spencer aided the interpretive program with the construction of a ramada-covered seating area in 1988 where visitors could sit in the shade to hear ranger talks. Two years later a steel platform was built so visitors could view the prehistoric ballcourt. [52]

From 1978-82, Superintendent Sam R. Henderson took part in the Youth Conservation Corps (YCC) program. Between two and four young people worked at the monument during the summer to help with stabilization and maintenance projects. Henderson dropped the program in 1983, but Superintendent Spencer reapplied for YCC aid in 1986. He has since employed an average of three YCC youths per summer who help with the preservation/stabilization of Compound A, maintain .46-mile of trail, repair and dean boundary fence, and repair and maintain picnic tables. [53]

In the latter half of the 1980s Superintendent Spencer began two cooperative ventures with the surrounding community. In 1986 when Ranger Richard Howard retired, he removed his art collection from the visitor center walls where it had hung. Faced with blank wall space, Spencer decided to hold an annual art fair for local artists. After discussing the idea with several area residents, he called a meeting on September 25, 1986 at which a Casa Grande Ruins Art Council was established. This council consisted of six members — two people from the national monument and four individuals from Coolidge. A decision was made that only Pinal County artists were eligible to compete for prizes at the fair. The winners could display their art in the visitor center for a year until the next art fair. The Coolidge Chamber of Commerce consented to join as sponsors. In 1990 the Pueblo de Los Suenos Art Association of Coolidge also joined as sponsors of this successful fair. Another successful venture occurred in 1989 when a cooperative agreement was concluded between the monument and the city of Coolidge to develop an interpretive rest stop in an area opposite the monument's northeast corner. When it was constructed in 1990, the monument superintendent supplied three wayside exhibits to display in the structure. [54]

## **7. Special Use Permits**

Starting in 1927 the National Park Service leadership began to approve special use permits for Casa Grande. These permits were granted to various organizations basically to install or maintain such things as roads, electric lines, and a canal on the edge of monument land.

In the latter part of the 1920s, the Arizona State Highway Department constructed an improved road between Tucson and Phoenix. This Highway 87 passed along the east boundary of the monument. The state asked to be granted a special use permit for an eighty-foot-wide right-of-way through the monument's northeast corner to allow a curve to be built in the road (see figure 21). Arno Cammerer, the acting National Park Service director, granted the state this special use permit. It was issued on a year-to-year basis beginning on January 1, 1927, with a provision for an automatic twenty-year renewal. At the time, however, the state did not construct a curve in the highway. It developed a T intersection with Highway 287 instead and allowed the permit to expire in 1947. In the 1930s the Arizona Highway Department asked to be allowed to build a roadside park on monument land at the outer side of the proposed curve, but the Park Service opposed such a park for safety reasons. The National Park Service leadership did not wish to lose control of that narrow strip of land because it offered a means to restrict commercial development. Failing to achieve its roadside park, the state asked that the boundary fence be set back ten feet in that area supposedly to make it easier to landscape the intersection. Superintendent Bicknell granted the request. The state highway department, however, stripped the vegetation from the ten-foot-wide area and opened a barrow pit. [55]

Since the Arizona Highway Department had received a special use permit from the National Park Service, the San Carlos Irrigation Project could not be denied when its project engineer made a request for a permit in 1929. As a counterpart to the Indian Service irrigation project, the San Carlos project brought water to white farmers. In January 1929, the San Carlos project engineer contacted Pinkley and told him that in order to bring water to the section of land just north of the monument, a lateral canal would have to be constructed through the northeast corner of the monument parallel to the state highway right-of-way. Pinkley had no objection since a surface examination of the area indicated to him that a canal in that location would not damage any ruins, but he felt that the Park Service had no authority to grant such a special use permit for the proposed ditch. A. E. Demaray, acting National Park Service associate director, confirmed Pinkley's view. He indicated that the Washington office would take Pinkley's suggestion and seek legislation for a special use right-of-way permit. Senate Bill 4085 was introduced on April 2, 1930 to grant a right-of-way not to exceed fifty feet on each side of the canal for the San Carlos project. It passed and became Public Law No. 350 on June 13, 1930. [56]

Probably the most unnecessary special use permit was granted to Mountain States Telephone and Telegraph Company on March 5, 1942. This five-year permit was given on December 31, 1941 for the installation of a pay telephone in the Casa Grande headquarters office. Mountain States removed the telephone in 1947 and the permit was cancelled. [57]

As mentioned earlier in this report, a special use permit was issued to the United States Army between November 1942 and May 1946 for the rental of quarters 1 and 4 to house army personnel attached to the Florence Internment Camp. [58]

A potential request for a special use permit for a farm road right-of-way along the monument's west boundary developed in March 1943. The men who farmed to the west of the monument thought that such a road would save them from having to go around the monument to reach their land. The Pinal County engineer decided to wait until the end of the war before building a road. The need for a road was periodically mentioned until late 1951, but nothing came of it. [59]

The subject of the construction of a highway curve across the northeast corner of the monument came up once more in 1960 when a state highway survey party conducted a survey at that location. Casa Grande Superintendent Aubrey Houston wrote to the state highway department to ask for plans and proposals.

The state engineer did not reply until August 25, 1961, and then he sent the plans to Emil Haury who headed the Arizona State Museum. Houston made another request to the highway department with the result that he received the plans. In the meantime Howard Shelp, the Arizona Highway Department right-of-way engineer, wrote to the Region Three director to request that the state receive a special use permit for the triangular piece of land in the monument's northeast corner along with a thirty-five-foot right-of-way on both the north and east boundaries. Regional Director Thomas Allen denied the state the thirty-five-foot right-of-way, but wrote that he would grant a renewable special use permit for the triangular piece of land. Dissatisfied with Allen's reply, William Willey, the Arizona state highway engineer, contacted Conrad Wirth, the National Park Service director, and insisted that the state needed the thirty-five-foot right-of-way for safety purposes. He assured Wirth that the state would only move the fence back thirty-five feet and not even disturb the natural growth. Wirth recalled the barrow pit incident in 1936 when the Park Service moved the northeast corner boundary fence back ten feet at the state's request. In the end a twenty-year special use permit (CAGR-1-62) was granted for the period January 1, 1962 to December 31, 1981 for the triangular piece of ground in the monument's northeast corner. In the summer of 1962 the state highway department constructed its curve through the corner, widened Highway 87, and included an island at the approach to the monument entrance. Workmen also set the east boundary fence back to accommodate the widened road. In October of that year the state constructed a new entrance into the monument. [60]

The state never used the entire triangular piece of ground in the monument's northeast corner. About one and a half years before the state highway special use permit expired, Casa Grande Superintendent Sam Henderson wrote to Howard Chapman, the Western Regional Director, to express his opinion that the Park Service should renew the state highway permit only as a right of-way for the road itself and not for the entire piece of land. Chapman agreed. Consequently, a three-year permit was negotiated in 1980 with only the roadway included in the right-of-way (CAGR-1-80). It was renewed for three years beginning January 1, 1984, but plans were already underway to eliminate the curve and return to the T intersection for safety purposes. The Arizona Department of Transportation completed the curve removal in December 1984. The area was fertilized and seeded. As a result, a new special use permit (ADOT F-005-1-702) was negotiated with the state for a short piece of land on the north side of the northeast corner for a right-turn lane. The permit expired in 1988 and is in the process of renewal. [61]

Two electrical lines run along the monument's eastern boundary. One is an overhead line owned by the Arizona Public Service and one is an underground line owned by the Electric District No. 2. The latter company is a publicly owned Rural Electric concern. On November 1, 1970, the Arizona Public Service received a twenty-year special use permit for an overhead transmission line within the Arizona Highway Department special use permit area. That company paid \$10 per year for the permit. When it expired on October 31, 1989, the permit was renewed for one year and then switched to a ten-year right-of-way grant in 1990 (WR-CAGR-90-1). The assessment of a yearly fee under this new policy took into account land appraisal and administrative costs. As a result, the Arizona Public Service annual payment rose to \$120. The Electric District No. 2 received a special use permit for an underground transmission line on November 1, 1970. Its permit expired on December 31, 1986, and was not immediately renewed. With the District's consent, Superintendent Spencer renewed the permit in 1989 for a five-year period starting on January 1, 1987. When it expired on December 31, 1991, the permit was not renewed because, under Title 36 CFR, the District does not need a special use permit since it was developed as a Rural Electrification Administration project. [62]

The final special use permit (WRO CAGR 5100 001) was granted to the city of Coolidge in 1983 for a nineteen-foot four-inch-by-eleven-foot two-inch area along the eastern boundary to erect and maintain a sign which read "Coolidge." A second renewal period ended December 31, 1991. A new permit is currently under review.

#### **Chapter Four Footnotes:**

1. Rothman, *Preserving Different Pasts*, 109; Van Valkenburgh, "The History of Casa Grande National Monument," 18.
2. Van Valkenburgh, "The History of Casa Grande Ruins National Monument," 17-18; Frank Pinkley to Stephen Mather, National Park Service Director, March 4, 1918, Box 1, Casa Grande National Monument, National Park Service, Western Archeological and Conservation Center, Tucson, Arizona.
3. Casa Grande Monthly Report for April 1918, Frank Pinkley to Stephen Mather, National Park Service Director, May 17, 1918, "Casa Grande National Monument Monthly Reports, 1918," in the Casa Grande Ruins National Monument Library.
4. Casa Grande Monthly Report for May 1918, Frank Pinkley to Stephen Mather, June 1, 1918, Casa Grande National Monument Monthly Reports, 1918" in the Casa Grande Ruins National Monument Library; Rothman, *Preserving Different Pasts*, 111; Van Valkenburgh, "The History of Casa Grande Ruins National Monument," 18.
5. Casa Grande Annual Report for Fiscal Year 1918, Frank Pinkley to Stephen Mather, September 7, 1918; Horace Albright to Frank Pinkley, September 18, 1918, Box 566, Casa Grande Reports, Annual, File No. 207-01.4, Pt 2, 1902-1927, Entry 7, Central Classified Files, 1907-49, Record Group 79, Records of the National Park Service, NA.
6. Casa Grande Monthly Reports for September and October 1918, Frank Pinkley to Stephen Mather, October 1 and November 1, 1918, Casa Grande National Monument Monthly Reports, 1918," in the Casa Grande Ruins National Monument Library; Van Valkenburgh, "The History of Casa Grande Ruins National Monument," 19.
7. Casa Grande Monthly Reports for November and December 1918, Frank Pinkley to Stephen Mather, December 2, 1918 and January 2, 1919, Casa Grande National Monument Monthly Reports 1918," in the Casa Grande Ruins National Monument Library.
8. Van Valkenburgh, "The History of Casa Grande Ruins National Monument," 20; "Report of the Director of the National Park Service to the Secretary of the Interior for the Fiscal Year Ended June 30, 1921 and the Travel Season 1921," (Washington, D.C.: Government Printing Office, 1921) 286; "Report of the Director of the National Park Service to the Secretary of the Interior for the Fiscal Year Ended June 30, 1923 and the Travel Season 1923," (Washington, D.C.: Government Printing Office, 1923) 80.
9. Frank Pinkley to Stephen Mather and Horace Albright. September 13, 1920, Box 566, Casa Grande Reports, Annual 1902-27, File No. 207-01.4, Entry 7, Central Classified File 1907-49, Record Group 79, Records of the National Park Service, NA; "Report of the Director of the National Park Service to the Secretary of the Interior for the Fiscal Year Ended June 30, 1921," 108; Arno B. Cammerer, Assistant Director of the National Park Service, October 31, 1921; Arno B. Cammerer to Frank Pinkley, December 11, 1923, Box 566, Casa Grande Reports, Annual 1902-27, File No. 303, Pt 1, National Monuments, Casa Grande Appropriations General From August 1, 1906 to March 19, 1927, Entry 7, Central Classified File 1907-49, Record Group 79, Records of the National Park Service, NA.
10. Southwestern Monuments Monthly Report, October 1923; Arno B. Cammerer, Assistant Director for the National Park Service, to Frank Pinkley, December 11, 1923, Box 566, Casa Grande Reports, Annual 1902-27, File No. 303, Pt 1, National Monuments, Casa Grande Appropriations General From August 1, 1906 to March 19, 1927, Entry 7, Central Classified File 1907-49, Record Group 49, Records of the National Park Service, NA; Southwestern Monuments Annual Reports for the Fiscal Years 1924 and 1925.

11. Casa Grande National Monument Annual Report for Fiscal Year 1920; Frank Pinkley, "Casa Grande National Monument," (1921) 18; Casa Grande Monthly Report for February 1921, "Casa Grande National Monument Monthly Reports 1921," in the Casa Grande Ruins National Monument Library; "Report of the Director of the National Park Service to the Secretary of the Interior for the Fiscal Year Ended June 30, 1921," 108.
12. Casa Grande Monthly Reports for January-June 1922, "Casa Grande National Monument Monthly Reports, 1922," in the Casa Grande Ruins National Monument Library; Casa Grande Annual Report for the Fiscal Year 1922.
13. Casa Grande Monthly Report for January 1922, Casa Grande National Monument Monthly Reports, 1922," in the Casa Grande Ruins National Monument Library.
14. Thomas C. Vint to the National Park Service Director, January 15, 1929, Folder 163, Report of Inspection Trip to the Southwestern Monuments with Supt. Pinkley — December 1928, Box 5, Records of the Southwestern Monuments, National Park Service, Western Archeological and Conservation Center, Tucson, Arizona.
15. Frank Pinkley to Stephen Mather, National Park Service Director, May 24, 1919; John R. T. Reeves, Superintendent of Irrigation, U.S. Indian Service, to Frank Pinkley, October 1, 1919; Frank Pinkley to Stephen Mather, October 9, 1919; Stephen Mather to the Secretary of the Interior, October 21, 1919; Arno B. Cammerer, Acting National Park Service Director, to Frank Pinkley, November 10, 1919; Arno B. Cammerer to Frank Pinkley, April 27, 1920, File No. 606, Pt 1, National Monuments Casa Grande Lands Irrigation Canal, Box 567, Publicity 1930-34 to Libraries 1931-32, Entry 7, Central Classified File 1907-49, Record Group 79, Records of the National Park Service, NA.
16. John H. Edwards, Department of the Interior Solicitor, to the Secretary of the Interior, June 27, 1924; Arno B. Cammerer, Acting National Park Service Director, to Frank Pinkley, July 29, 1924; Frank Pinkley telegram to Arno B. Cammerer, November 24, 1924; Arno B. Cammerer telegram to Frank Pinkley, November 24, 1924; Arno B. Cammerer telegram to Frank Pinkley, November 26, 1924; Frank Pinkley telegram to the National Park Service Director, November 30, 1924; Senate Report No. 1127, February 16, 1925 to accompany S 3826, 68 Cong., 2 Sess.; Senate Report No. 423, January 23, 1926 to accompany S 2703, 69 Cong., 1 Sess., File No. 606, Pt 1, National Monuments Casa Grande Lands Irrigation Canal, Box 567, Publicity 1930-34 to Libraries 1931-32, Entry 7, Central Classified File 1907-49, Record Group 79, Records of the National Park Service, NA; Casa Grande Monthly Report for December 1924, Frank Pinkley to Stephen Mather, National Park Service Director, December 31, 1924, Casa Grande National Monument Monthly Reports, 1924 & 1925," in Casa Grande Ruins National Monument Library; Van Valkenburgh, "The History of Casa Grande Ruins National Monument," 22-23.
17. Hilding F. Palmer to the Commissioner of Indian Affairs, April 13, 1933, File No. 606, Pt 1, National Monuments Casa Grande Lands Irrigation Canal, Box 567, Publicity 1930-34 to Libraries 1931-32, Entry 7, Central Classified File 1907-49, Record Group 79, Records of the National Park Service, NA; Southwestern Monuments Monthly Reports, August and October 1939.
18. Casa Grande Monthly Reports for September-December 1925, "Casa Grande National Monument Monthly Reports, 1925," in Casa Grande Ruins National Monument Library; Southwestern Monuments Monthly Report, January 1926; Frank Pinkley to Stephen Mather, March 10, 1926, Box 566, Casa Grande Reports, Annual 1902-27, File No. 303, Pt 1, National Monuments, Casa Grande Appropriations General From August 1, 1906 to March 19, 1927, Entry 7, Central Classified Files 1907-49, Record Group 79, Records of the National Park Service, NA; Van Valkenburgh, "Area History Casa Grande National Monument," 33.



19. Vint to the National Park Service Director, January 15, 1929; Frank Pinkley to Thomas Vint, June 1, 1928, Box 53, Casa Grande National Monument 1928, 1929, 1930, Entry 29, Records of the Field Office Headquarters in San Francisco, Classified File 1925-36, Record Group 79, Records of the National Park Service, NA; Southwestern Monuments Monthly Reports November 1928 and April 1929; "Report to Mr. Vint on Casa Grande National Monument," by Junior Landscape Architect Charles E. Peterson, January 1930, National Park Service, Western Archeological and Conservation Center, Tucson, Arizona.
20. Thomas Vint to the National Park Service Director, January 15, 1929.
21. Southwestern Monuments Monthly Reports, January and June 1930; "Report to Mr. Vint on Casa Grande National Monument," by Junior Landscape Architect Charles E. Peterson, January 1930.
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## **CHAPTER V: SO PRECIOUS AND VALUABLE A RESOURCE: RUINS PRESERVATION**

The protection and preservation of a precious and valuable resource was utmost in the mind of Sylvester Baxter when he sought to convince influential Bostonians to lend their support to have the Casa Grande ruins preserved for the future. It was through the efforts of these people that the first preservation and protection measures were taken in 1891. This early stabilization work, combined with future endeavors, has attempted to stop natural deterioration and repair damage. Although it has frequently proved to be a maze of dead ends, the preservation objective has remained a vital part of the monument management. The construction of shelter roofs over the Great House, combined with major stabilization efforts in 1906-08, 1924-28, 1955-56, and 1967, has slowed natural deterioration. Besides these endeavors, experimentation with chemical preservatives occurred in the 1930s, 1940s, 1970s, and 1980s in an attempt to harden the earthen remains against erosion. The ultimate, but not final, solution in this ongoing effort for stabilization has been the use of a commercial cement binder product called Daraweld-C to produce "Amended Mud" which is coated on the remains by using whisk brooms.

Because it was the most visible and spectacular part of the prehistoric remains, the first preservation efforts focused on the Great House. In 1891 a \$2,000 appropriation was used to underpin the walls with brick as well as fill the largest, lower wall holes. The surface of the brick in these holes was set back one inch from the face of the walls to allow the brick to be covered with a concrete plaster. Some lintels over doors and windows were replaced and the cavities above them were filled with brick. Three internal braces were used to support the south wall. In October 1902, S. J. Holsinger did not approve of the use of brick or concrete on the ruins. He felt that restoration work should be done with original material. If an ambitious program had been developed at that time to periodically repair the ruins with caliche, the walls probably would not have suffered as much. Even if such a plan had been developed, the frequent lack of preservation funds would have prevented its implementation. Holsinger's major accomplishment, however, was not the development of a policy to use natural material for repairs, but the design of a corrugated iron roof supported on redwood posts which was built over the Great House in 1903. [1]

In the period 1906-08 J. Walter Fewkes spent two winter seasons at Casa Grande. Part of his work involved exposing more than half of the room walls and the entire enclosure walls in Compounds A and B. This effort amounted to uncovering some 100 rooms. Fewkes did not replace the earth over the walls. The intent, in keeping the walls exposed, was to provide an additional attraction for visitors. Occasionally, decisions regarding interpretation made preservation more difficult. Fewkes recognized that the uncovered walls would be subject to deterioration, but, he thought, the greatest threat to the walls would come from moisture undercutting or sapping them. In Compound A, his solution to keep

water away from the base of the walls was to grade the surface and dig a series of drainage ditches to conduct water to the northeast corner of the compound. From that location the water was diverted to a depression 200 feet northeast of the compound. In addition Fewkes placed a layer of concrete along the base of the Compound A walls to prevent undermining. In Compound B, Fewkes dug a drainage ditch around the outside of the compound wall. [2]

Left uncovered, the compound and room walls soon began to erode from the action of rain and wind. Beginning with his annual report for fiscal year 1910, Pinkley noted the erosion, but he concluded that there was no practical way to protect the walls. Consequently, the walls were left to the effects of nature for the rest of Pinkley's first custodianship and that of James Bates, Pinkley's successor. Although he was unsuccessful, Bates did advocate putting a concrete cap on the exposed walls to keep them from crumbling. [3]

When Frank Pinkley returned as custodian in 1918, he began to give some thought to a means by which the exposed walls could be protected. He wrote to National Park Service Director Stephen Mather that he had considered spraying the walls with silicate of soda, but he did not do so. Instead, Pinkley asked Fewkes to send him suggestions for wall protection. Fewkes replied in May 1918, but that letter does not exist. One can only guess that he had not changed his views in the time since he had excavated the walls. When Pinkley sent Mather his idea of the causes of wall destruction in July 1918, he repeated Fewkes' earlier conclusion that water rising by capillary action caused sapping or erosion at the base of the wall. [4]

Despite his concerns, Pinkley received no preservation money until the 1925 fiscal year which began July 1, 1924. Preservation work continued until February 1928 with the initial goal to stop wall sapping. Following that work, a concrete cap was placed on the walls as a means to prevent crumbling of the soil. In the first two years, repair work concentrated on Compound A. George Boundey, who became Pinkley's full time assistant on July 1, 1924, was placed in charge of the work. With two Pima men to aid him, Boundey ran a trench along the inside and outside of the walls for some two feet below the floor line. Then the wall surface was covered with concrete for about two feet above and below the floor level. By the end of April 1925 the base of Compound A walls had been covered in that manner. Soon thereafter and continuing into 1926 the walls were given a concrete cap. Some of the exposed walls were given a concrete coating. During the winter of 1927-28, Martin L. Jackson, the Montezuma Castle custodian, supervised the stabilization work. More exposed walls in Compound A were given a concrete coating. Stucco was placed on the concrete coating that Mindeleff had used to cover the great house brickwork in 1891. Concrete plaster was used on two groups of rooms to the east of the Great House and on the multi-story remains to the southwest of that structure. Areas where the concrete wall cap had cracked or broken off were patched. [5]

When Thomas Vint visited Casa Grande toward the end of 1930, he and Pinkley discussed ruin preservation techniques. Pinkley decided that he did not like coating walls with concrete. He found it objectionable because it hid the walls. Consequently, Pinkley and Vint talked about the possibility of using some transparent waterproofing chemical to coat and harden the ruin walls. Toward the end of January 1931, Vint wrote to Pinkley to tell him that he had obtained a gallon of a product called Dehydratine which was manufactured by the A. C. Horn Company. Vint's action evidently caused Pinkley to decide that it was time to more actively seek a chemical preservative. Pinkley replied that he would test the product on the ruins. At the same time, Pinkley sought more information on the subject of waterproofing materials. He wrote to the Bureau of Standards in Washington, D.C. to request a copy of "A Preliminary Report of Exposure Tests on Colorless Waterproofing Materials" published in 1921. Pinkley evidently took one further step to obtain chemical preservatives. In early February 1931, a National Park Service article titled "Solution to Preserve old Masonry is sought" appeared in newspapers almost nationwide. This appeal brought letters from companies in such states as New York, Michigan, Ohio, California, and Arizona with offers to send test samples. [6]

The newspaper article resulted in a flood of chemical preservatives being sent to the monument. When tested on small wall areas, none gave satisfactory results. The Horn Company product Dehydratine #2 turned dark. A liquid "Ankerite", received from the Lucille Chemical Company of Glendale, California, was not quite colorless and it gave the test area a glossy appearance. After four months, it cracked. Product samples continued to arrive at Casa Grande from 1931 into 1934. This parade of products carried such names as Amoglaze, Inwood, Stucco Waterproofing Compound, Oronite Waterproofing, Hornstone Crystals, Forex, Unicrete, Permo #4, and PeneTex. Some companies sent representatives with samples to apply on test areas. In November 1932 an agent of the Air-Spray Company of Washington, D.C. applied two test applications of his material on eighteen small wall areas. By January 1933 the product had cracked and in March of that year it began to peel from the wall. [7]

L. E. Peterson of the Truscon Laboratories in California came on April 20, 1933, to apply his company's product "PeneTex." Since rain had made the walls wet, he had to delay his experiment. Consequently, he talked Custodian Hilding Palmer into letting him remove a small section of the concrete plaster so he could apply the chemical to a dry area beneath the concrete. To their surprise, the wall section under the concrete plaster had decomposed for varying depths. A wall segment that had never been plastered was in better shape than the concrete-covered walls. Peterson and Palmer decided to remove several more sections of wall plaster. They found that the caliche in these areas had also become a powdered mass which fell out when the concrete was removed. In addition these exposed sections contained much greater moisture, even to a considerable depth, than walls which had no concrete covering. The walls had absorbed ground moisture which was prevented from escaping by the concrete plaster. So, they concluded that no wall treatment would be successful until the absorption of ground moisture could be stopped. Peterson suggested that concrete mixed with Truscon Waterproofing Paste should be used as curtain walls to a depth of two to three feet below ground to stop the flow of a major portion of ground water. Once built it needed to be coated with PeneTex. Peterson also advocated that drain tile covered with gravel be placed below the curtain walls. [8]

Hopeful that curtain walls were the answer to ruins preservation, Custodian Palmer requested that a Park Service engineer read Peterson's report. Assistant Engineer J. B. Hamilton came to the monument and examined the ruins. He consented to a curtain wall, but he cautioned that the trench for such a wall should not be dug straight down. To do so could cause the ruin wall to become unstable. Hamilton also warned that the concrete in a curtain wall needed reinforcement and expansion joints. As a result, Palmer decided to discontinue the experiment of spraying the walls with waterproofing material until curtain walls could be built. He, no doubt, expected to wait for some time to install curtain walls because he had no money. [9]

Fortunately for Palmer, the federal depression era work programs came to his aid. The brief Civil Works Administration program gave Palmer his opportunity to have curtain walls built. On November 21, 1933, he applied to have CWA monies used at Casa Grande for ruins preservation. Between December 1933 and February 1934 CWA workmen laid 600 feet of curtain wall along the south and west walls of Compound A. In addition, by grading the inside of the compound, the northeast water drainage, as established by Fewkes in 1907, was changed to the northwest corner. [10]

At the same time as the Casa Grande curtain wall work, the Engineering Section of the National Park Service field office in San Francisco obtained some CWA money to use for experiments with caliche and adobe preservatives. That office made an arrangement with Stanford University for laboratory space in which to conduct the work. F. A. Kittredge contacted Southwestern Monuments Superintendent Pinkley and asked that he send 100 adobe brick made from Casa Grande soil so that the waterproofing experiments could begin. He proposed to first perform a physical and chemical analysis of the adobe soil so that a determination could be made if a potential preservative would cause a chemical reaction with the soil. Kittredge hoped to find a colorless waterproofing fluid that would not peel or crack. In addition he sought to design a concrete cap which would keep wall tops dry. [11]

Pinkley had Casa Grande Custodian Palmer send ninety-seven adobe brick to Kittredge. Palmer evidently had no objection to turning over the preservative testing to the San Francisco field office. At the same time, however, he wanted to make sure that the new Park Service laboratory received a sample of his favorite waterproofing chemical. Within days of sending the adobe to Kittredge, Palmer wrote to M. J. Cavalier of the Truscon Steel Company in Phoenix and asked that he send a sample of PeneTex to be tested. [12]

In addition to Palmer's help, Kittredge asked companies that produced chemical preservatives to send samples of their products to the engineering laboratory. By March 28, 1934, fifty-two different preservatives had been received. Of that number, forty-three had been tested by August 18, 1934. Kittredge felt that only one of the forty-three chemicals had proved worthwhile. That solution, named Por-Lox, came from the Truscon Laboratories. His assessment, however, proved premature. By early March 1935 Por-Lox failed an ultra-violet test. [13]

When all the commercial preservatives failed to pass National Park Service tests, the field office engineering staff set out to develop its own product. Frederick Martius began with celluloid solutions, but any mixture over one percent proved glossy, and glossy material would not penetrate. Soon, however, Martius produced a colorless chemical that did not gloss but penetrated and was not affected by ultra-violet rays. He called this vinyl resin in acetone and toluene solution NPSX. On March 20, 1935, field work began at Casa Grande with that chemical. He covered several test areas in the southwest corner of Compound A with two coats of two, three, three and one-half, and five percent NPSX solutions. NPSX worked for two years, but when it was examined in 1938, in the third year, it failed to repel water. In fact the NPSX-treated areas absorbed as much moisture as the untreated walls. These results were very disappointing because NPSX cost too much to apply every two years. Consequently, it was back to the 1931 starting point to find a means to preserve the ruin walls. [14]

In mid-1939, frustrated with watching the old cement plaster scale off the rapidly deteriorating ruin walls, the Casa Grande Custodian A. T. Bicknell decided to experiment with "bitudobe." At the time, the Civilian Conservation Corps work force used this product to cover the exterior of the adobe buildings being constructed at Casa Grande. On June 27 Bicknell had two small wall sections of the Clan House coated with bitudobe. After a month it seemed to be effective. As a result, the custodian sought official approval to put bitudobe on all standing ruin walls. The value of bitudobe was never determined, however, because no funds were available to purchase it. At that point Bicknell settled for stabilizing ruin floors by using a caliche base with a top dressing of bitumuls oil. The CCC workers employed on that project had all the floors covered by September. [15]

Although the 1930s tests failed, Casa Grande and Southwestern Monuments personnel could not give up on chemical preservatives. Charlie Steen seemed determined to find some liquid that would work. In the spring of 1940, he removed the concrete cap from the east half of the Clan House. Then he dug trenches beside and under those walls in which he placed a six-inch curtain of caliche waterproofed with emulsified asphalt. As the final step he sprayed the wall area with two coats of "Themec" which was an emulsified cement paint. In a month the Themec turned lavender and in a year it had cracked and peeled. [16]

Monitoring equipment was installed for the first time in the Great House during the summer of 1940. Brass rods were placed across the corners of the building in such a way as to show wall movement. Monel metal rivets were imbedded in the top of the center walls of this structure to measure wind erosion. [17]

In 1941 heavy rains damaged the ruins. Because no satisfactory stabilization method had been found, the damage was accepted as an act of nature and no action was taken to repair the walls. Charlie Steen, however, undertook to backfill Compound F as a means of saving the remaining walls from further



erosion. That compound had been excavated in 1930 and left exposed. Steen then applied for soil and moisture conservation work funds to backfill Compound E. The concrete cap at this site had failed and allowed serious wind and water erosion. He completed that job by March 1942. This compound was covered to a level of six inches above the walls by using the old excavated soil. Following the Compound E work, Steen backfilled the excavated area of Compound D. This site had been partly uncovered by Fewkes in the 1907-08 era. [18]

In 1943 Charlie Steen turned his attention to Compound A. In January and February he removed the concrete cap from the south and west walls and the old concrete plaster from about half of the walls. Steen replaced the old concrete work with a cement stabilized soil. Work was halted prematurely because the war had caused a labor shortage. [19]

Lack of money and a labor shortage prevented further preservation activity until after the Second World War. Although he had read about the earlier experiments with chemical preservatives and had done some testing himself, Charlie Steen still hoped to succeed where others had failed. He decided to perform more tests with water-repellent products. In these experiments to find an adequate preservative, Steen spent October and November 1946 at Casa Grande treating caliche walls and blocks with eight commercial products. He began with test areas on the Clan House walls, but switched to caliche blocks which he obtained from the nearby prehistoric Adamsville site. Of the eight water-repellent chemicals, Ethyl Silicate seemed the most promising. It, however, had no long-lasting effect. One product, Sodium Silicate, which had been suggested by Frank Pinkley in 1918, failed. Of the other substances, Diamond Seal resisted water for only several minutes. PeneTex, Hilding Palmer's favorite from the previous decade, separated with its oil being absorbed but not the wax portion. The kerosene-based wax substance, Dehydratine 2a, left a dark stain without soaking into the soil. Paraffin, a wax mixed with white gasoline, did penetrate two inches. Emulsified Asphalt did not work because of the high salt content in the caliche. Steen merely listed the last product, Synasol, without comment. [20]

Since the 1930s experiments with chemical preservatives had involved only surface applications, Steen decided to use other methods on the Adamsville caliche blocks. He tried to drill holes in the caliche, but frequently the blocks would break when the drill encountered a pebble. Absorption in holes, however, was hardly greater than with surface treatment. A capillary action test failed from lack of absorption. Steen tried to force liquid into the blocks under low pressure, but this attempt failed "miserably." Placing a block in a liquid in an effort to have complete saturation only caused the block to become soft and weak. Like his predecessors, Steen had to concede defeat. In any case, sealing the walls with a water-proofing agent could only promote greater damage to them if the capillary action of ground water could not be controlled. [21]

Considering that the greatest threat to the ruins walls came from ground water, which entered the walls through capillary action, the focus of preservation efforts changed in early 1947 to that problem. Steen proposed that a system of tiled drainage ditches be placed along the walls of Compounds A and B as well as the Clan House to divert ground water from them. He also advocated using caliche for repairs rather than concrete because concrete, especially when used as a cap, would trap water in the walls. [22]

Steen returned to Casa Grande on February 11, 1948 to begin stabilization work on Compound A. He dug a drainage trench around the walls of the north building in that enclosure and filled it with paper and pea-sized gravel in an attempt to stop ground water from entering those walls. All of the previous wall capping was removed and replaced with a two-inch-thick caliche cap. When it dried, it cracked, but Steen brushed a caliche grout over the cap with a straw broom. It successfully filled the cap cracks. Undercut walls were covered with a wire mesh and coated with caliche. A source of caliche on the monument caused Steen problems, but he finally obtained a "good" supply from the Arizona State Prison at Florence. [23]

In the next stabilization phase, Steen focused on Compound B. He, along with Gordon Vivian and Raymond Rixley, came to Casa Grande in February 1949 to begin that project. Rixley remained to oversee the work of replacing the concrete wall cap with caliche. On this occasion Randolph served as the caliche source. In early April, after recapping all but the west and half of the north compound walls, the work had to be abandoned for lack of money. Rixley remained for another week to install drain tile through some Compound A walls. Two months later, on June 29, Steen filed a proposal for the next fiscal year to complete the Compound B work and cap the walls of the Clan House. Despite the fact that, on July 23, 1949, a bad rainstorm damaged the Compound B walls that Rixley had not stabilized, no funds were available to repair ruins walls until 1955. [24]

In 1954 John Davis, the General Superintendent of the Southwestern Monuments, wrote to the Region Three director about an urgent need for money to stabilize the walls of Compound A and the unfinished part of Compound B. This reminder that no work had been done at Casa Grande for five years finally brought funds for stabilization in 1955. Roland Richert and Gordon Vivian worked between February 3 and March 8, 1955 on a major stabilization effort on Compound A. They had originally planned to cap and veneer the walls with caliche, but they were unable to make a suitable caliche, sand, and chat mixture that would work. Therefore, they fell back on the old concrete-stabilized soil solution. Before the veneer was applied, trenches were first dug along each wall to a depth of six to twelve inches to encounter Fewkes' 1906-07 concrete apron and Steen's 1948 gravel-filled trench. The walls were cleaned by raking away loose material, and then a new wire net was placed on them where needed to hold the cement-stabilized soil in place. The new veneer on the north building walls was sprayed with Daracone, a silicone water repellent, as an experiment. As a final measure the trenches were backfilled. Only forty percent of Compound A had been completed when Richert and his crew left on March 9. The greatest amount of work had been done on eighteen room walls. [25]

A heavy rain on August 2, 1955, seemingly did not affect the newly stabilized area of Compound A. Superintendent Bicknell thought the area sprayed with Daracone fared better. At the Great House, however, a 338-pound piece of caliche fell from the upper part of the south wall. Bicknell hoped to have that area patched. [26]

On February 29, 1956, Vivian and Richert returned to finish the stabilization work on Compound A. Working until April 3, they used the same procedures and techniques that they had used in the previous year. In addition they reinforced and patched the area from which the caliche had fallen from the Great House, and sprayed it with Daracone. That silicone substance was also sprayed on the walls of Font's Room as well as on the southwest building and the newly stabilized walls. At the staff's request the concrete steps were removed from the north entrance to the Great House and the doorway partly filled. In this manner the staff hoped to show visitors that the lower part of the Great House had been filled with earth in the prehistoric days and, thus, it was necessary to use a ladder to enter the building on the second floor. [27]

Funds to stabilize the walls of Compound B were approved for 1958. Consequently, Vivian and Richert returned between April 16 and May 19 to attend to those enclosure walls. On this occasion, Vivian and Richert decided that, since the thin, concrete wall veneer had never really worked, they would try to preserve these walls by enclosing them within new walls. These new walls would only cover the old ones, so that the new material would not have to bond with the old wall surface or be dependent on the prehistoric walls for support. To accomplish this task, they dug a twelve-to eighteen-inch-deep trench on each side of the compound walls to permit forms to be placed two inches away from the base of the walls. Vivian and Richert then filled the forms with a concrete-caliche mixture and tamped it to a height about two inches below the top of the prehistoric walls. The caliche came from a Coolidge Sand and Rock Company pit about five miles east of the monument. After the forms were removed, they sprayed the new walls with Daracone. The impression marks left by the forms were not removed from the new walls until 1972. [28]

Until 1967 little more stabilization work was accomplished at the monument. In December 1960, Richert inspected the previous work. He felt that the hand-mixed, concrete-stabilized soil used for a veneer on Compound A walls in 1955 was not holding up as well as that produced in a cement mixer the following year. Consequently, he thought that area should be replaced in 1962. Both Compound A and Compound B walls soon needed to be sprayed with another covering of Daracone. The asphalt floor in the Great House needed to be replaced. The last time it had been coated with bitumuls was 1939. When Park Service archeologist Albert Schroeder visited Casa Grande five weeks later, he echoed Steen's 1959 appraisal that the pyramids in Compound B and all of the Clan House needed to be backfilled. The Clan House, located about 300 yards southeast of the visitor center, had been excavated by Fewkes in 1907-08. Superintendent Houston thought that canal silt could be used for the fill. It seems that the Indian Service had been piling silt on the monument once more and had nearly covered the south fence. [29]

Gordon Vivian was supposed to backfill the Clan House in the fall of 1961, but he decided that he first wanted to experiment on part of a wall with an electro-chemical soil hardening technique. The process evidently proved a failure since no more correspondence was exchanged about the test. Consequently, Joel Shiner backfilled the Clan House at the end of March 1962 with earth obtained from the north side of a modern mound which was located just west of Compound B. By 1963, the backfill had eroded somewhat, so Vivian had more dirt placed on that site. [30]

Like many an archeologist before him, Gordon Vivian could not help but try one more chemical preservative experiment. On October 2 and 3, 1963, he sprayed thirty-four gallons of Texas Refining Company sand and adobe preservative on both sides of the largest east-west wall of Compound B. This epoxy solution darkened the wall and formed a glaze which continued to look wet although it had set up very hard. [31]

A major stabilization project focused on Compound A between March 6 and April 28, 1967 with some work done on Compound B. Martin Mayer performed maintenance work on all walls and buildings including the Great House. He either patched and/or replaced disintegrated soil cement caps and veneer on all walls and treated them with silicone. In the Great House, Mayer plastered the lintels over seven doorways, replastered loose and missing concrete stucco on the building's base, and repaired minor breaks and holes in walls. A new product, Daraweld-C, was mixed with the soil-cement to help new patches bond better. In Compound B Mayer sprayed silicone on the compound walls and stabilized rooms 3 and 4. [32]

In 1969 and 1970 Martin Mayer returned to Casa Grande to work on the Great House. During the winter of 1968-69 a five-pound wall section had fallen in the north room. In May 1969 Mayer inspected the room and repaired sections of the walls. The next year, during February, he stabilized an upper pair of holes in the east wall of the center room and an upper pair of holes in the west wall of the east room, as well as the cracks at the top of the walls. Mayer also reconstructed the doorway to the east room. [33]

W. E. Sudderth came to Casa Grande between May 16 and June 8, 1972 to continue the never-ending stabilization work. He patched cracks in the compound walls and a number of the rooms of Compound A. In addition Sudderth put a number of test finishes on walls to find the one that would be most in harmony with the Great House for uniformity of color and texture. He was instructed to apply the finish judged to be best to the walls of both Compounds A and B. He decided that a commercial product called Daraweld-C proved to be the most satisfactory. Daraweld-C was mixed with caliche and sand to produce an "Amended Mud" which was then applied to the ruins walls with whisk brooms. It was found that a coating of this brownish-colored substance allowed the capillary moisture in the walls to evaporate. The only disadvantage to Amended Mud was that it had to be applied every two years. Despite this fact, Amended Mud has been used ever since to coat the ruins walls. [34]

Although the walls of Compound B had been periodically stabilized, visitors had not been allowed to view this ruin since about 1945. A question of its interpretive potential arose in 1973. Duane Spears of the Arizona State University Anthropology Department received a contract to make test excavations at Compound B to determine the extent of original features and their condition. From this information, it was hoped that a decision could be made whether to further stabilize and interpret this compound or to backfill it. Spears found that many original features remained even though the ruin had been exposed since the Fewkes excavation in 1907-08. He determined, however, that the wall remains and other features had been badly eroded. Consequently, Spears recommended that the interpretive potential of Compound B did not warrant the cost of further excavation, stabilization, and maintenance. Further development of that ruin would only result in more damage from erosion. Spears advised that the compound should be backfilled as soon as possible. Temporary backfilling followed the conclusion of his tests with a second backfill in 1974. [35]

In late 1972 the structural stability of the Great House came into question. It was feared that entire wall sections could collapse and thus not only further destroy its prehistoric integrity, but also endanger visitors. A contract was given to James Kriegh and Hassan A. Sultan of the University of Arizona College of Engineering to study the Great House walls. Their study extended over approximately a year's time in 1973-74. They were to evaluate the stability of the Great House walls, and study and assess techniques to restore and maintain structural integrity. On July 14, 1973, just prior to their study, the interior of the Great House was closed to all visitors. It has never been reopened to the public. Kriegh and Sultan found that the walls of the Great House were unsafe since they were not tied together. They believed that an earthquake represented the greatest danger to the building. Consequently, the two engineers thought that the Great House needed both vertical and horizontal ties to improve its structural integrity. They recommended that pipes be placed in vertical holes drilled through the walls after which each pipe and hole would be filled with epoxy. The addition of horizontal pipes would make the building more rigid. Kriegh and Sultan were also asked to find or formulate a sealing chemical which could either be sprayed or painted on the walls. In testing twenty chemicals they found one to be superior to the others, but they suggested that experimentation be continued with four of the chemicals. As part of the trial, Kriegh and Sultan called for the installation of a moisture barrier which sloped away from the base of the walls as a means to stop capillary action. Otherwise, as in past experiments with waterproofing chemicals, water would be trapped in the walls. [36]

Kriegh and Sultan's stabilization recommendations for the Great House were ignored. Drilling holes in the Great House walls and filling them with pipes and epoxy was considered to be too drastic. Instead, a different plan was prepared which urged that the walls be stabilized by filling all the second-story beam holes, roof grooves, and erosion grooves with caliche. To follow this course of action meant covering over one-third of the culturally significant features on wall surfaces. In a meeting held at the monument on January 17, 1980, Howard Chapman, the Western Regional Director, decided not to follow this plan because it would destroy too many of the Great House features that were being preserved for the visitors' benefit. [37]

The chemical experimentation that Kriegh and Sultan suggested was also not done. Instead, a three-phase chemical research plan was developed by the Western Archeological Center. It was intended that the first two phases would involve the testing of chemical soil amendments to find one that would effectively protect badly eroded walls and the development of a durable overcoat mortar for soil cement walls which would give a more natural appearance. Twenty-eight test walls were constructed at Casa Grande from soil taken from the prehistoric Escalante Ruins. These walls were allowed to weather for nine months between March 1977 and January 1978 before they were treated with ten water-based chemicals. The effectiveness of these chemicals was monitored over a twelve-month period. They evidently were not found to provide protection. No overcoat mortar was tested. [38]

Phase three of the chemical testing on the experimental walls came about through a contract with the Arizona State University College of Engineering. Its purpose was to determine the effectiveness of electro-chemical treatment of earthen walls in terms of compressive strength, decreased capillary action, appearance, and weathering. The Arizona State engineers recommended the use of aluminum sulfate for an electro-chemical treatment. It increased the compressive strength and reduced capillary action. Thus, walls were subject to less weathering. This remedy also had less effect on wall color than other treatments. Again no action was taken to implement the study's recommendation. [39]

As part of the wall monitoring and stabilization program for the Great House, seven gauges were installed in the Great House walls in 1984. They are still in place. The purpose of these gauges has been to detect wall movement and changes in corner cracks. [40]

A plan surfaced in early 1986 to remove the old concrete plaster from the Compound A walls and merely cover the walls with Amended Mud. Believing that all of the preservation treatments over the years, with the possible exception of Amended Mud, might have weakened the prehistoric caliche walls, Dennis Fenn, of the Western Archeological Center, recommended that the concrete plaster not be removed. He thought that to do so might cause irreversible damage to the original material. As a result, a decision was made to continue to apply the Amended Mud coating every two years with annual applications as needed. [41]

Compound B was again considered for re-excavation and stabilization in early 1986. In a meeting at Casa Grande, it was decided not to follow that course of action. Instead, the entire compound was given another backfill covering. Since erosion washes some of the dirt away, it has to be replaced about every six years. In that same year, to lessen water damage at the compound, the older closed pipe drainage system was changed to an open slide one. [42]

Experiments to cover the prehistoric caliche walls with concrete and chemical preservatives failed to adequately preserve them. On some occasions, these measures damaged the walls resulting in the loss of prehistoric material. Probably the best preservation technique, as advocated in 1902 by S. J. Holsinger, would have been the use of caliche for repairs.

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## **CHAPTER VI: EDUCATING THE PUBLIC — PUBLICIZING AND INTERPRETING THE MONUMENT**

Success at Casa Grande required more than construction of buildings and protection of the ruins. The first non-resident custodians conceived of their job as ruins protection and not as one to develop, promote, or interpret the monument. Frank Pinkley, who arrived in 1901, had other ideas. To him, the purpose of establishing the reservation was not just to protect the prehistoric remains found there. Pinkley also sought to publicize the monument and educate the public about the ancient culture that had occupied the site. An enlightened population would then not only know about the prehistoric past, but could serve as a support group for Casa Grande and other archeological sites.

Pinkley devised a number of means to attract people to Casa Grande as well as methods to educate them. His first thoughts were to develop an attraction by uncovering the ruins. He promoted excavation both for the visual effect and to obtain artifacts that could be displayed. Opening ruins also provided a means to learn more about the ancient people, and, therefore, furnish material for the interpretive story. In 1918, by the beginning of his second custodianship, experience had taught Pinkley additional means to promote the monument. Publicity was one key to attract visitation. Toward that end, Pinkley obtained an agreement with the state news agency to circulate stories about the monument. He spoke to social and business groups in the state and contacted the Southern Pacific Railroad to get that company to promote

tourism to the monument. He worked with local women's clubs to obtain their help in publicizing the ruins. At his request, the National Park Service supplied copies of a general information pamphlet. He hoped to develop a mailing list from the names and addresses that people entered in his registration book, but lack of funds prevented Pinkley from producing either his mailing list or obtaining the assistance of Byron Cummings of the University of Arizona Anthropology Department and T. E. Farrish, the state historian, to produce additional pamphlets. In effect Pinkley took the same actions that Mather and Albright used to promote the national parks.

### **A. The Evolution of the National Park Service Interpretive Story**

Interpretation or the presentation of a factual story provided one means to educate the public. Pinkley sought to greet all visitors and provide them with as much interesting information about the ruins and the inhabitants as possible. Over the years, tours, whether conducted by Pinkley or monument rangers, usually lasted from forty-five minutes to an hour. Occasionally, in the earlier days when visitation was less, Pinkley would linger for as long as two hours to answer the questions of interested parties. The principal theme Pinkley and others presented to visitors over the years dwelled on the Hohokam occupation at Casa Grande.

Prior to the establishment of the Casa Grande Reservation in 1892, pioneering anthropologists provided the first interpretation of the prehistoric era. Partly from the early anthropologists' ideas, and partly from excavations and his own thoughts, Frank Pinkley established an interpretive story that remained the basis for explaining the prehistoric peoples from 1918 to the early 1960s. At the monument the mediums used to tell this story have been ranger talks, guided tours, self-guiding trails, museum displays, pamphlets, and books.

The first interpretation of the prehistoric Hohokam culture to be based on more than speculation developed in the 1880s. At that time two newly created archeological research societies (Archaeological Institute of America and the Smithsonian-affiliated Bureau of American Ethnology which was known as the Bureau of Ethnology after 1894) studied the Casa Grande and incorporated it as part of a larger debate about the prehistory of the Southwest. Consequently, two different interpretations about the use of the Great House developed. Adolf Bandelier, who worked for the Archaeological Institute of America, at first believed that the Casa Grande served as living quarters, but by 1892 he changed his mind and wrote that it was a fort. This view was later adopted by Frank Pinkley for his interpretation program even though his early explanations were influenced by J. Walter Fewkes of the Bureau of Ethnology who excavated at the Casa Grande reservation during the winters of 1906-07 and 1907-08. The Bureau of American Ethnology's position on Casa Grande came from F. H. Cushing who had led the Hemenway Expedition in the late 1880s. Cushing believed that the prehistoric culture that had occupied the Gila and Salt River valleys was a society composed of many classes and led by priests. He decided that the Great House had been occupied by the priest class and served as a temple. The lower rooms in the Casa Grande had been used to store tithed grain. After his excavations in 1906-07 Fewkes modified that viewpoint somewhat. At that time he wrote that the Gila Valley and its tributaries had been inhabited by an agricultural people who were ruled by a chief. These people built great houses which served as places of refuge, ceremony, and trade. In time, hostile migrants came from the east for pillage and drove the agriculturalists from their villages. Some of the inhabitants moved south to Mexico, others went north to the Verde Valley and Tonto areas, while a few people remained in the Gila River region and became the ancestors of the present day Pima and Papago. [1]

Pinkley accepted Fewkes' interpretation at first and placed an extract of it in a 1909 General Land Office publication. He noted that the structures with massive walls had served as temples, granaries for corn storage, and forts for protection against foes. The common people, he wrote, lived in rectangular-shaped dwellings whose upright log walls were covered with mud or clay. [2]

By 1918, when Pinkley returned to Casa Grande for his second custodianship, he had developed the basic National Park Service interpretive theme which would be presented to the monument visitors until 1964. Pinkley reasoned that the prehistoric people did not come from a long migration to the area. They could have come from as little as 150 miles away. He adopted the traditional hunter-gatherer story to explain the prehistoric people's early appearance in the area. In developing that story, Pinkley told visitors that these people did not settle along the Gila River at first, but sought a home in the mountainous areas of central Arizona. Since these higher elevations prevented agriculture, the people lived as hunters who followed game from one mountain range to another. Pinkley reasoned that hunting and gathering did not provide adequate food, so gradually these people left the nomadic life and settled in the flat valleys where they experimented with agriculture and irrigation. Pinkley saw an ever upward progression of their culture because the development of an agricultural society led these prehistoric people to produce enough food and to live in better houses. [3]

Pinkley wrote that the first valley settlements were close to the Gila River since the early irrigation ditches did not extend far. Archeological evidence showed Pinkley that early houses consisted of crude reed-and-brush-covered structures and also demonstrated that these people developed more complicated dwellings. The change in house design led Pinkley to decide that someone of the prehistoric group eventually put mud on the brush to keep out the wind and this experiment resulted in the discovery that mud made the house cooler in the summer and warmer in the winter. Consequently, Pinkley thought, the people tried to make the mud walls thicker, but mud applied to brush could not be made more than three to four inches wide without collapsing. Archeological evidence revealed to Pinkley that, about AD 700, a new development in wall construction occurred when three-inch or more diameter timbers were used as core rods to make mud walls up to ten inches thick. This development, Pinkley thought, resulted from experiments. [4]

Pinkley told visitors that the prehistoric inhabitants of Casa Grande originally lived in peace, but, in time, other Indians moved into the mountainous areas and became a source of trouble for the agricultural people by raiding their crops in poor hunting years. Other than a preconceived picture of native populations, Pinkley had no evidence for raids. He merely used ideas developed by Bandelier and supposedly confirmed by Fewkes' excavations that this prehistoric society lived in a fort. No one ever thought to explain the need for walled villages in any other terms than for a defense system. The walled fortress idea led naturally into the next conclusion that people would also want to see the approach of an enemy. That idea, of course, led Fewkes to the watch tower conclusion which was an easy way to explain the pyramidal mounds topped with houses that he uncovered in Compound B. This was followed by the great house concept as the ultimate watchtower. Pinkley decided that, through experiments, the prehistoric people discovered that walls could be made taller without pole supports by making them thicker. Consequently, the National Park Service story stated that at first a great house was three stories tall, but soon other buildings had a fourth story to make it possible to see an enemy at a greater distance. The wall construction techniques for these taller structures came from observations that the walls were laid by hand in two-foot courses without forms. Since the ground floors of the four-story buildings were filled with dirt, Pinkley could think of no other explanation than it was necessary to absorb wall strain. Believing that no one would waste space, Pinkley decided that, in addition to functioning as watch towers, these great houses served as living quarters. He also thought of the buildings as a final line of defense. How else to explain the small doorways other than to force an enemy to come through the entrance one at a time in a stooped angle. Pinkley would explain to visitors that, in this defenseless position, it was easier for the defenders to hit an attacker over the head. To add to the defense story, Pinkley decided that a parapet on the roof allowed defenders to stand or kneel behind it. [5]

Pinkley concluded that, at their most prosperous period, the prehistoric people probably numbered between 8,000 and 15,000 in both the Gila and Salt River valleys. The trash remains and irrigation canals told Pinkley that these people farmed extensively and raised cotton and corn. Archeological excavations unearthed implements which provided display items. Fewkes, Pinkley, and others found that

these city dwellers used stone, wood, and bone for tools and brought shells from the seashore for decorations and ceremonies. By making excavations of his own, Pinkley decided that the elliptically shaped depression between Compounds A and B was not a reservoir, as Fewkes thought, but an open air gathering place for ceremonies or games. Pinkley thought that it was used twice each year for ceremonies to pray for a good crop and to thank the gods for the harvest. [6]

Although Pinkley did not know when the Apache migrated to the southern Arizona area, he speculated that it was probably these people who joined the mountain inhabitants and gradually pushed the valley dwellers from their homes. The Apache, Pinkley thought, were not interested in agriculture and would have burned the villages. This view explained to him the reason for the burned rafters and roofing material found in excavated rooms. At a later date, Pinkley believed, the Pima and Papago came into the area, but they were not advanced enough to restore and use the villages. [7]

Pinkley added to his interpretation of the Casa Grande occupation after Harold Gladwin made several excavations in the monument during February and March 1927. Gladwin, an archeologist with the Southwest Museum in Los Angeles, cut through several rubbish mounds to examine the layers of trash placed there over time. In this manner he hoped to find the changes that had occurred in the prehistoric society. Gladwin could not trace the identity of these prehistoric people to any existing society. He was certain that the Pima culture had no similarity to the ancient Casa Grande occupants. Unable to provide an identity for this culture, Gladwin accepted the Pima name "Hohokam." Consequently, the term Hohokam came into common usage both in the interpretive program and among archeologists. [8]

Gladwin felt that too much emphasis had been placed on the use of compound walls and the Great House for defense. Since the Casa Grande museum building had been destroyed by a flood only two years before Gladwin arrived, he decided that the compound walls had served for flood protection. In addition, the Great House had been built for storage protection from floods which, he thought, explained the reason why the prehistoric people had filled the ground floor with earth. [9]

Pinkley did not accept Gladwin's flood idea. He continued to emphasize the defense interpretation. At the same time, Pinkley did adopt another of Gladwin's conclusions. After slicing through several rubbish mounds, Gladwin noted that the lower, thicker layers of trash contained pieces of traditional Hohokam pottery. He described this earthenware as red-on-buff. Previously, it had been called either "old red ware" or red-on-gray. The narrow top layer, however, included pieces of a different pottery. This polychrome pottery was similar to that manufactured by the Salado, a puebloan people who lived to the northeast of the Hohokam territory. As a result, Gladwin decided that, in the last period of Hohokam occupation, the Salado had migrated to the Gila Valley and lived peacefully with them. He believed that not only the change in pottery proved the theory, but the change in building style to multi-storied structures showed the pueblo influence. Additionally, Gladwin found a change in burial customs which only further confirmed his belief in a Salado migration. The traditional burial practice of the Hohokam had been cremation with the ashes placed in red or red-on-buff pottery. Gladwin, however, discovered skeletal remains which had not been cremated. These remains were only found with the Salado polychrome pottery. He concluded, therefore, that the Salado had influenced the Hohokam to change from cremation to inhumation. [10]



Red-On-Buff  
Hohokam  
12th Century, Pottery

Red-On-Buff Hohokam 12th Century, Pottery.

Within a year after Pinkley's death in 1940, a slight interpretive change was made. Visitors were told that the Hohokam had migrated to southern Arizona from northern Mexico. Monument personnel stated that the greatest range of Hohokam culture came about AD 1000 when it extended from the Flagstaff area to the Mexican border and from New Mexico to present-day Gila Bend. Over the next several hundred years, their territory shrank and people settled in compact villages surrounded by high walls for protection from an enemy. Park Service speculation now made the foe a Yuman group from the lower Gila and Colorado rivers instead of the Apache and mountain people because it was now known that the Apache had arrived in southern Arizona at a later date. Rangers repeated Gladwin's idea that, about AD 1300, the Salado, who dwelled on the upper reaches of the Salt River, were pushed into the desert by drought. They migrated to the Hohokam settlements where, as Gladwin thought his excavations showed, they influenced that culture as seen by the construction of multi-story buildings, the manufacture of polychrome pottery, and a new burial practice. National Park Service archeologists accepted Gladwin's theory because it made a good story to explain the appearance of the great house style architecture. No one thought to carry through with Pinkley's earlier idea that architectural change had come about through experiment. Visitors learned that shortly after 1400 the union ended and both the Hohokam and Salado abandoned the Gila River villages. Since most events are usually said to result from complex causes, the National Park Service story included other incidents to explain the end of the prehistoric culture. No longer were people told that the Hohokam and Salado departed their homes only because of attacks from hostile neighbors. Rangers provided a series of other factors which included the possibility that the soil had become waterlogged through years of irrigation, that silt had filled canals, and that, in all likelihood, a drought had occurred. Unlike Pinkley's idea, at least in part, the Hohokam were thought to have remained in the area to become the ancestors of the Pima. [11]

Only one variation in this interpretive story occurred during the 1950s. In 1952 Albert Schroeder claimed that the people who migrated to live with the Hohokam were not Salado, but the Sinagua who had resided to the north in the present-day Flagstaff area. Consequently, neither the name Salado nor Sinagua was used in reference to these people. They were termed people of pueblo origin. [12]

The entire interpretive story changed in 1964. When Charlie Steen excavated a small, previously undisturbed area in Compound A in 1963, he found evidence that Casa Grande had always been occupied by only the Hohokam. Steen wrote that, prior to that time, he had firmly believed in the "Salado-in-the-desert" idea. From the time of Gladwin's excavations in 1927, Compound A was considered the product of Salado construction because of its architectural style and the time in which it was built (soon after 1300). Under that circumstance, Steen should have found mostly pieces of Salado

polychrome pottery. Instead, the pot shards he located were either Hohokam Gila Plain or red-on-buff. The few pieces of polychrome that he found had to be obtained from trade. Subsequent excavation at Hohokam sites by such archeologists as David Doyel of the Arizona State Museum have shown that there was no migration of Salado or any other people to the Hohokam villages. Gladwin had come to the wrong conclusion. The development of multi-story caliche buildings resulted from a transition in Hohokam building techniques. As a result of this new evidence, the interpretation of the Hohokam civilization changed to that presented in the first chapter of this study. [13]

Another subject interpreted at Casa Grande involved the use of the Great House for astronomical purposes. Sometime during his first custodianship, Frank Pinkley noticed that there was a system of holes in the east wall of the Great House through which the rising sun aligned each year on the mornings of March 7 and October 7. By 1918, without any study or investigation, he explained to visitors that these holes were used twice each year as a solar calendar to date ceremonies. In 1920 Pinkley broadened his astronomical interpretation after he discovered holes in the Great House's north wall. He invented an elaborate initiation ceremony story, which involved "calling down the stars," to explain these holes. Pinkley told visitors that, to impress the tribal youth during initiation, priests would get them to peer through these northward facing holes at night. On the opposite side of the wall a priest would hold a bowl of water that reflected star light. In the dark that reflected light would appear as if the priest had called down the stars to earth. [14]

Although it was later discovered that the north wall "astronomical holes" had been drilled during the 1891 preservation work, studies of the east wall holes, beginning in 1969, supported their use for solar observations. Prior to that date Southwestern Monument and Casa Grande employees merely observed the sun's alignment in the spring and fall and wrote articles to publicize this solar phenomenon. No comparative studies were made with either contemporary societies or historic groups to learn of their astronomical practices. It was only assumed that the Great House holes were used as a solar calendar. Wishing to have the holes studied, the Southwestern Archeological Center contracted with John Molloy in 1969 to investigate the Great House holes. He identified fourteen holes that he felt were used to make lunar and solar observations. This development of astronomy at Casa Grande, Molloy thought, had come from Mesoamerican influence. In 1971 his report was accepted with reservations because he had merely described the holes and their lunar and solar orientation. Molloy did not list any importance for the holes or state any reason for their astronomical use. Another contract was issued to John Evans in 1978 for further study of the holes. He found that two holes on the east wall had a solar alignment with the spring and fall equinoxes while one hole on the west wall aligned with the setting sun at the summer solstice. Soon after Evans began his investigation, Renee Opperman conducted her own observations. She made a comparative study of rituals in relation to astronomical developments in both prehistoric and historic Native American cultures. On the basis of similar astronomical uses in both North and Mesoamerica, Opperman concluded that, because of the Great House orientation along with the equinox and solstice holes in its east and west walls, the inhabitants of Casa Grande depended upon the heavens "as a source of life or of signs that aided in sustaining life." [15]

## **B. Publicity, Visitation, and the Interpretive Medium**

Between 1889 and 1901, the first two Casa Grande custodians made no effort to attract visitors or to interpret the site. Making only infrequent inspections, these men considered ruins protection to be their only duty. The situation changed with the appointment of Frank Pinkley as custodian in 1901. Because he was stationed on site, he had the opportunity to do more than merely protect the ruins. Pinkley decided that attracting visitors and providing them with information ranked on an equal basis with protection and development. From the time of his first appointment at Casa Grande, he made an effort to treat visitors as if they were guests. No one viewed the ruins in Compound A and ultimately the museum without a personal guided tour. With experience, Pinkley developed several methods to attract and educate the public about the inhabitants of the Gila Valley and their environment.

From the first, Pinkley desired to learn more about the reservation's prehistoric inhabitants in order to inform visitors about these people. Soon after his arrival at Casa Grande, his investigations produced some artifacts. He displayed these items on wooden shelves in the north room of the Great House. Pinkley, however, did not think these few remains of a past civilization were sufficient to interest or attract a larger number of visitors. What he really desired was to have a large-scale excavation. Opening the ancient mounds would publicize the ruins as nothing else could and bring ever increasing numbers of people to view them. It would only be so much the better "if weapons and utensils could be found" along with information on the origins and customs of the long departed people. [16]

It undoubtedly delighted Pinkley when he learned that \$3,000 had been appropriated for the Bureau of Ethnology to conduct an archeological excavation at Casa Grande in fiscal year 1907. A like sum was added in the succeeding fiscal year. J. Walter Fewkes, the archeologist who supervised the excavations, opened 100 rooms of which most were in Compounds A and B. Since these rooms remained open for viewing, Fewkes with Pinkley's help turned Casa Grande into an exhibition ruin. This situation provided Pinkley with the opportunity to greatly expand his interpretive program. Now, not only could he lead groups of people through the rooms of Compound A and the Great House, he had other attractions to show them. For a self-guided tour, Pinkley constructed wooden steps in Compound B which permitted visitors to climb to the top of the pyramids and look into various rooms. He also built a bridge to connect the top of the west Compound B wall to a nearby refuse mound so that people could view ancient pits that had been used to mix the caliche building material. Pinkley placed information labels along the Compound B route and erected a large placard there which contained historical data. These measures worked for Pinkley, for, with each annual report, he commented on the ever increasing visitation. James Bates, Pinkley's successor, seemingly did not take as much interest in increasing visitation or interpretation. He may even have removed the steps and bridge that Pinkley had built at Compound B since they did not exist when Pinkley returned to Casa Grande in 1918. [17]

Pinkley's delight about the 1906-07 excavation turned to disappointment when Fewkes began to ship all of the artifacts that he had uncovered back to the Smithsonian. Pinkley felt that these articles of the ancient civilization should be left at the site of their excavation. To remove them to a faraway location robbed him of the opportunity to use them to attract visitors. After he protested their removal, some items were left for him to display. Pinkley had to be content, however, with building more shelves in the north room of the Great House to display the monument collection. In 1909, his request for a \$2,000 appropriation to build a museum in which to exhibit the artifacts went unanswered. [18]

When Pinkley returned to Casa Grande in 1918, one of his main concerns was to promote the ruins to attract even greater visitation. To provide an attraction, he wrote that "new ground needs to be opened to stimulate interest and publicity." In addition he began to place articles in newspapers, give lectures to area social groups and schools, distribute copies of a general information pamphlet that the Park Service had sent to him, and advertise with the railroad for tourists. In July 1918 Pinkley made a tracing of Compound A drawn on a scale of 1/8-inch to one-foot. He hung a copy of it in the Great House and referred to it during talks to visitors. [19]

To stimulate interest in the monument, Pinkley began to make test excavations in the elliptical depression north of Compound A beginning in November 1918. Pinkley hoped to learn its use, although Fewkes had speculated that it was a reservoir. He reported this excavation work to Stephen Mather, the National Park Service director. Mather did not tell Pinkley, as the General Land Office Commissioner had done in 1902, that archeological explorations had to be done by trained archeologists. Consequently, Pinkley made or authorized excavations over the next fifteen years without permission from any higher authority. By 1918, however, Pinkley was no stranger to archeology. He had learned excavation techniques from Fewkes when he helped him with the 1906-07 and 1907-08 work. For that time, Pinkley probably excavated as carefully as anyone. George Boundey, his assistant in the 1920s, however, operated more as a treasure hunter than as an archeologist when he opened areas of the ruins. [20]

During December 1918 Pinkley continued his test excavations on the elliptical depression. His findings provided him with more interpretive information. Digging various random pits, he located a caliche floor a little more than two and one-half feet below ground level. The floor measured eighty-one feet, eight inches by forty-six feet, three inches. On the east and west sides it sloped upward toward the edge. There was no sloping wall at the north and south ends. Instead, he found a two-foot-wide path at each of those ends which he thought probably served as entrances. In the center, Pinkley located a hard green stone imbedded in the caliche floor. It measured about ten by fourteen inches. Out of curiosity, Pinkley tested another elliptical area at a ruin east of Casa Grande. Although it was similar to the depression on the monument, he found no stone in the center. Pinkley concluded that the area had served as a place for "ceremony, games or festivals." Consequently, he used that interpretation when explaining the site to visitors although he put the greatest emphasis on ceremony. [21]

In early 1919 Pinkley reported his intent for further excavations. He told Mather that he hoped to open a trash mound on a foot-by-foot basis to see if, in the various layers, there was a difference in materials, pottery design, or workmanship. Pinkley again told Mather that "I like to keep a little new work under way all the time, for I find that it doubles the interest of visitors to see something in the act of being opened." At the same time Pinkley wrote that he hoped to spend \$300 in 1920 to make experiments with pits and trenches. The press of business, which often took him to other monuments at the request of the Washington office, and the doubling of visitation from 3,677 in 1919 to 7,720 in 1920, prevented him from making excavations for two years. [22]

In 1922 Pinkley finally received an appropriation to build a museum to house the artifacts and other interpretive materials. The adobe building that he constructed contained only one eighteen by-twenty-foot room for museum displays. It also served several other purposes including an administration office, a files and storage room, a library and map room, and a small restroom. When he returned to Casa Grande in 1918, Pinkley began to collect books on the prehistoric inhabitants of the area as well as on the history of Arizona. Any visitor who showed a great interest in Casa Grande would be allowed to use the museum library to further his knowledge. With the completion of the museum, Pinkley hoped to have any duplicate artifacts from the collection that Fewkes had sent to the Smithsonian returned to the monument. He did not succeed in his quest. He did, however, encourage local people to donate artifacts for display items. When a flood caused this 1922 museum building to collapse in 1925, Pinkley managed to rescue his artifacts and interpretive material. He again displayed them in the rebuilt structure which contained the same museum space as the previous building. [23]

Pinkley received what should have been good news in 1927, when he learned that the Arizona legislature had passed a law which required that fifty percent of all excavated artifacts had to be kept in the state. By this time, however, Pinkley did not mind having material removed to distant museums. He thought that such displays would serve as good publicity to attract people to see the artifact source at Casa Grande. Besides, Pinkley reasoned, he did not need case after case of duplicate items displayed in his museum. It was better to have a "working museum" with a compact collection that illustrated a cross section of life and the degree of culture. [24]

By December 1922 Pinkley returned to excavating at the monument. In addition to increasing his knowledge about the prehistoric inhabitants, he probably hoped to obtain more artifacts to put on display in his new museum. In February 1923 he completed the excavation of a room located about sixty feet northwest of the Great House. He found a fire pit, burned grass and reeds from the roof, wall plaster that had been decorated by using fingertips, several stone tools, and a small stone bowl. In addition Pinkley recovered almost a wheelbarrow full of pot fragments. After he had examined the room, it was backfilled to keep it from weathering. In May three burials were salvaged. [25]

In June 1923, Pinkley turned his attention to a one-acre area in which he had found artifacts in the past. Some twenty years previously, he had made a surface collection of about 200 arrowheads, several



hundred beads, fragments of human bone, and pieces of shell bracelets that had been burned. At the time, he thought that a small battle had occurred there. In his 1923 investigations, Pinkley found that the debris went down two feet. As a result, he put fifty wheelbarrow loads of the dirt through a screen. From that, he obtained enough beads to make thirteen strings, each one foot long. The beads came in two sizes of fourteen to sixteen to an inch and thirty-seven to forty-five to an inch. [26]

Although Pinkley stated in his 1924 annual report that no excavation work had been done during that fiscal year, George Boundey, who was now employed at the monument, had opened some areas. While Pinkley was working at Tumacacori, Boundey did trenching work to test for subsurface walls and rooms. Even though he located some of these features in January and March 1924, he excavated no rooms. Consequently, he did not locate any artifacts that could be added to the museum collection. [27]

Boundey began to excavate in earnest in October 1924 and continued into 1926. Aided by John Huffman, a temporary employee, Boundey opened several trash mounds. Pinkley decided that these rubbish heaps were among some of the older ones because only red-on-gray (later called red-on-buff by Gladwin) pot shards were found. In December 1924, when stabilization work began on the ruins' walls and the surfacing of room floors, Boundey used this opportunity to further his search for artifacts. Before he surfaced a room floor, he would completely "tear up" the area and examine beneath it. Travel on Southwestern Monument business kept Pinkley from witnessing most of Boundey's excavation work, but he felt that his assistant carefully opened the floors. In the course of this activity, Boundey found a number of burials and many artifacts.

He discovered shell jewelry, rock tools, bone awls, numerous pieces of pottery, and a copper bell which dated from the "sixth century of the Maya era in Yucatan." On January 24, 1925, Boundey located his most impressive find under the floor of a Compound A room. It comprised a spectacular cache of turquoise mosaic work in the form of birds and a turtle (figure 26). To attract attention, Huffman wrote a magazine article describing the find. Pinkley would occasionally take that collection with him as a publicity promotional when he addressed groups such as the Phoenix Chamber of Commerce. [28]

Harold Gladwin of the Southwest Museum of Los Angeles surprised and pleased Pinkley when he applied for a 1927 permit to excavate trash mounds at Casa Grande. He proposed to examine the discarded pottery found in each layer of a mound because he believed that pottery stratification was the key to archeology. The only effort to examine the contents of such refuse piles had been conducted by Boundey in late 1924. At that time he reported finding red-on-gray pot shards. Gladwin's discovery of polychrome pottery led to an interpretive modification as previously recounted. [29]



Figure 26: Turquoise Mosaics Found in 1925.  
Courtesy of the Western Archeological and Conservation Center.

Two minor excavations were carried out in the early 1930s. In December 1929, the Van Bergen expedition from the Los Angeles Museum obtained a permit to excavate at Compound F. Arthur Woodward directed that work along with a project at the Grewe site one mile to the east of the monument. Only part of Compound F was opened and remained that way until it was backfilled in 1940. The Los Angeles Museum did not publish the results of the excavation. In a make-work project between December 11, 1933 and February 15, 1934, Russell Hastings of the Gila Pueblo in Globe, Arizona supervised Civil Works Administration men who excavated in the southeast corner of the monument. In two operations he tested four rubbish mounds and opened more than fourteen rooms. He exposed three types of dwellings and an unroofed kitchen or work area. Hastings considered part of the excavated area to date from AD 900 while the other was between AD 1250 and 1350. In the process he found one cremation pit and twenty-two cremation burials. Hastings ended the work because he decided it would not add any new knowledge. He had the site backfilled. Hastings' report was very general and confusing, for he never pinpointed the excavated area and he never discussed artifacts, only dwelling remains. [30]

Only three minor excavations have been done at the monument since 1934 along with a proposal for additional work. In December 1962, Superintendent Aubrey Houston proposed to dig a twelve-foot-deep hole in the center room of the Great House. Both Gordon Vivian and Charlie Steen opposed it on the

basis that a hole that deep would be far below the foundation. The resulting refill could settle and cause the walls to shift. Any attempt to tamp the earth with a machine would cause too much vibration. In 1963 Charlie Steen did limited excavation in two areas of the southeast section of Compound A. The cultural material that he unearthed there prompted a great change in the interpretation presented to visitors. In 1973 Duane Spears of Arizona State University conducted tests in Compound B to determine the extent of original features remaining after the Fewkes excavation of 1907-08. He found that a number of these features remained and he recommended that they be covered with earth. In the final excavation, between May 30 and June 3, 1977, David Wilcox exposed four hearths and a burned floor area in Compound A. He also opened a pit house under the outer wall of Compound B. Wilcox's purpose in this exercise was to obtain samples for archeo-magnetic dating. He ultimately reported that this test on material from a hearth in the southeast corner of Compound A indicated a date of AD 1350 plus or minus 17. [31]

Pinkley sought to publicize the monument in many ways. One of the most unusual was an annual pageant. Because it proved to be so destructive to the ruins, Pinkley undoubtedly came to regret the day that he consented to that spectacle. The subject of a pageant first surfaced in May 1922 when the Women's Clubs of the towns of Florence and Casa Grande met at the monument to discuss ways to give the ruins more publicity. They decided that one means to get people to come to the monument from long distances would be to hold a pageant. [32]

The idea grew to the point that a number of prominent Arizonans established an Arizona Pageantry Association to promote education. James McClintock served as the president of the group. By November 1925 the pageantry association pledged to raise \$10,000 for the Casa Grande extravaganza. Garnet Holme, the National Park Service pageant director, was chosen to supervise the play. He came to the monument in November 1925 to "gather impressions" for the pageant which was scheduled to be held in November 1926. [33]

Compound B was chosen as the site for the pageant. A multi-story wooden building painted to resemble adobe was constructed on the compound. Only limited seating was provided on a mound to the west of Compound B. Most people attending the play sat on the ground. A cast of 300 persons was selected and a three-day production was chosen for November 5-7, 1926. In clouds of dust a total of 13,000 people arrived in thousands of cars. A great deal of natural vegetation was destroyed as people randomly parked their vehicles near Compound C. The pageant consisted of four dramas which had little connection to either the prehistory or history of the monument. Pinkley must have wanted to go into hiding by the end of the affair. The first episode told the "tragic" story of prehistoric Pueblo Indians who had been driven from their homes. This was followed by a Pima production of songs, dances, and rituals that ended when Coronado arrived. Angered at not finding gold, Coronado destroyed the Pima village. In the third part Padre Kino appeared on stage as the first European visitor to the abandoned ruins. He came to bring God and learning to the "superstitious" and "illiterate" savages. Finally, the actors performed "beautiful Spanish love songs and fandangos" to show the "gaiety and revelry" of Spanish life in the Tucson of old. In the midst of the celebration "kong-bearded, dour-faced men and worn, colorless women" moved onto the stage. These Mormon missionaries from Salt Lake City halted the festivities. In the finale, the cast members from all four dramas gathered to sing "Oh God, Our Help in Ages Past." [34]

The pageant proved so successful that the Arizona Pageantry Association voted to continue with the performance the following year. Pinkley made greater preparations for the second pageant which was held on November 4-6, 1927. He had the state police supervise parking. The compound area was treated to keep down the dust. A children's nursery was added. The 1927 pageant attracted 10,000 people. No pageant was held the following year as it was postponed to March 8-10, 1929. Attendance dropped to 7,000. When only 5,000 came to the fourth event, which was held March 28-30, 1930, the Association decided not to sponsor further pageants. Although the stage and multi-story building were dismantled,

the lumber was left in a pile next to the compound. It was not removed until December 1937 when the CCC cleaned the area. [35]

By the late 1920s, little publicity was necessary as at times visitors almost overwhelmed the monument staff. Prosperity and the increased use of automobiles brought a drastic rise in visitation during the 1920s. Between 1926 and 1927 the number of people who stopped at the monument rose from 16,542 to 28,274. Fortunately for Pinkley, he was able to increase the monument staff from two to three in March 1927. By the end of 1927 he hired a fourth person, but he had a hard time keeping the clerk-stenographer/ranger position filled. The low pay made it hard to attract a married man. Consequently, that position would be vacant for long periods. On busy days, visitors had to wait to enter the eighteen-by-twenty-foot museum. In 1929 visitation reached a pre-depression high of 37,244 individuals. At times during that winter, the crowds became too large to handle. Pinkley had set a maximum hourly capacity of seventy-five persons. The three staff members could take only three groups of twenty-five each through the museum and on a guided tour each hour. Some hours, however, more than 130 people would arrive, making it necessary to increase the tour group sizes to more than forty persons. Under that circumstance, visitors' appreciation and support for the monument as well as their learning experience greatly diminished. [36]

To provide a more pleasant atmosphere and relieve the museum overcrowding, Pinkley received an appropriation to construct a new administration/museum building in fiscal year 1932. The building, which included three offices, three exhibit rooms, and a preparation room, was completed on January 5, 1932. The largest of the three museum rooms contained displays interpreting the Hohokam culture. The second room held a poorly organized artifact collection in homemade cases and the third room contained an exhibit on the modern Pima, Maricopa, and Apache tribes. There was no space devoted to natural history. [37]

Frank Pinkley recognized that a new museum alone would not sustain public support. Well presented museum material went a long way toward selling the public on the monument as well as providing a better educational opportunity. Consequently, in 1931, he hired Robert "Bob" Rose, a park naturalist and geographer with museum experience, as his second employee in the Southwestern Monuments office. As part of his duties, Rose developed museum and other interpretive exhibits. One of his first jobs was to improve the Casa Grande museum displays. He rearranged the Hohokam culture room with eight new homemade exhibit cases. Frames were made for charts, maps, and photos which included the "Culture Map of Arizona," "Genealogical Tree of Southwestern Pottery," "Summary of Arizona Archaeology," a map of the "Prehistoric Canals in the Salt River Valley," and a photo of the Cretan Copper Coin with "Maze." Modern Indian baskets, including a partly completed Pima basket, were placed in the room that contained the exhibits on the present-day area Indians. Although Rose felt that more museum space needed to be devoted to natural history, about all that was added was a petrified wood display. To accompany the museum material, Rose planned to reconstruct two types of the earlier prehistoric Hohokam houses to show the architecture styles that preceded the Great House. He wanted to locate these two dwellings on such a site as to make it possible to include them in the ruins and museum guided tour. These prehistoric house types were never constructed. [38]

By December 1932, Rose complained that the museum had become overcrowded with the acquisition of more Hohokam material. Some of that material was stored in the preparation room where interested visitors were invited to see it, but this did not solve the space problem. As Rose saw it, only the construction of the proposed museum addition could answer the need for more room. Since funds to expand the museum were not forthcoming, the Casa Grande and Southwestern Monuments staffs had to make do with the existing space. In 1934 some new display cases were built and two models of Hohokam cremation burial customs introduced. In the following year, three more exhibit cases were installed, a tree ring chart was added, and a comparative pottery collection was displayed. By 1937 the area devoted to the museum suffered from the need to house a growing Southwestern Monuments' staff.

As a result, the museum area was reduced to two rooms with hastily arranged displays in new exhibit cases. Space was no longer available to present graphic and pictorial material. Somehow, a display case showing the Hohokam irrigation system in the Gila and Salt River valleys was accommodated in the cramped museum in 1940. An exhibit on local reptiles was added in 1942. [39]

An improvement in museum space resulted with the departure of the Southwestern Monuments staff for Santa Fe in October 1942. As soon as it had left, Custodian Bicknell and Charlie Steen rearranged the museum and office space. By early 1943, they had changed the main museum exhibit room into the lobby. Some display cases were left there while others were moved into the three vacated offices located to the west of the lobby. This increased space permitted the installation of ten additional exhibits. The former Southwestern Monuments' clerical office housed archeological exhibits. Pima and Papago materials were placed in the former assistant superintendent's space, and Pima, Papago, Apache, and natural history items were shown in the office previously occupied by the Southwestern Monuments superintendent. [40]

The 1943 museum arrangement with its "temporary" exhibits remained unchanged until 1953. At that time archeologist Donald Jewell reduced the museum space to the three former Southwestern Monument office areas. In these rooms, he arranged eight main exhibit cases and several other, small homemade ones. Jewell removed all of the natural history displays and placed archeological material in one room while the two other rooms contained ethnological exhibits. He used the basic cultural theme, which had been interpreted at the monument since 1918, except that he dropped the term Salado and substituted Pueblo in its place to identify those Indians thought to have migrated into the Hohokam territory. [41]

In 1955, Albert Schroeder wrote a museum prospectus which included a proposed museum addition. He called for three-dimensional exhibits for greater visual interpretation. In addition to the prehistoric and historic themes, Schroeder advocated the need to interpret the Gila Basin geology as well as have floral and faunal displays which explained the ardent peoples' environment. As part of an expanded museum plan, Schroeder called for an excavated pit house site. He revised the prospectus in 1956 by deleting the exhibits planned for the projected museum addition. This section was removed to make the prospectus conform with the National Park Service Director's decision to omit the museum enlargement from the Casa Grande MISSION 66 program. [42]

Despite the earlier judgment not to include a museum addition in the MISSION 66 program, an enlargement did take place to that structure in 1964. In March of that year, a National Park Service Western Museum Laboratory planning team traveled to Casa Grande to begin preliminary work on new exhibits for the expanded museum. Regional Archeologist Charlie Steen told the team not to include any reference to a Salado or Pueblo migration to the Gila River Valley because recent evidence showed that no migration occurred. Both cultural and natural exhibits were installed in the museum in 1966. Few changes have been made in them to the present. Native vegetation was planted and labeled in the open courtyard. [43]

Although visitation during the depression years of the 1930s did not decrease much, the Casa Grande staff dropped to three at the beginning of that decade. With the establishment of a CCC spike camp at the monument in 1937, three to four of these young men were used to guide visitors through the museum and Compound A. At the same time, the Casa Grande personnel decreased once more to a custodian and a ranger. To relieve the pressure caused by increasing visitation, a self-guiding desert trail was established in March 1938. It was the first real effort to interpret natural history. This nature trail led a visitor on a twenty-minute circular walk by way of the ball court and Compound B. By matching the descriptions in a pamphlet to numbered posts, an individual could obtain information about the monument's vegetation, birds, animals, and archeology. This self-guiding trail served visitors until about the end of 1945. [44]

Visitation again dropped during the Second World War as gasoline and tire rationing prevented extended travel. On several occasions, Japanese-American students from the "Relocation Center" at nearby Rivers, Arizona were brought to the monument. At the same time, guards from the German prisoner-of-war camp at Florence often visited Casa Grande as well. Visitors during these years were met by the first female rangers to serve at the monument. Sallie Brewer [Van Valkenburgh] was the first to report on February 16, 1943. She served until July 1944. Just shortly before she departed, Jessica Shearwood arrived and stayed until May 31, 1945. Polly Tovrea transferred from the Weather Bureau to replace Shearwood. She resigned on December 29, 1945, to join her husband who had returned from the war. [45]

Following the Second World War, a force of only three permanent personnel and one seasonal ranger served at Casa Grande to meet the onrush of visitors. Between 1946 and 1956 the number of people coming to the monument almost doubled from 27,994 to 52,400, and still the same number of monument employees tried to cope with that number of people and give guided tours through Compound A. By June 1945, Spanish-speaking tourists received greater recognition when the first Spanish language leaflet came into use. [46]

In the mid-1950s Superintendent Bicknell requested another staff person for interpretation. He noted that one more employee would not only be of aid during the busy season, but could provide relief during the summer when frequently only one person would be on duty for four days per week. That one person could not give tours and also answer questions in the visitor center. Above all, however, one more staff member was essential in the winter season. During the busy winter times people had to wait as long as thirty minutes for a guided tour. To provide an attraction for those who waited, Bicknell proposed to reopen Compound B and the ball court for self-guided tours with exhibits-in-place provided that these sites could be adequately stabilized. No means was found, of course, to stabilize the ruins. In 1957 Bicknell got two more employees, but neither of them filled the needed interpretive position. In January a maintenance man was added to the staff. He did no interpretation, but he did free interpretive personnel from janitorial duty. Then in the fall of that year, Bicknell got an administrative assistant. This person relieved the interpretive staff from paperwork and occasionally had ticket sales duty. [47]

By 1961 the crowding had become very serious. The staff could no longer handle the crush of visitors that appeared on many winter days. Many people would not wait for a half hour or more to join a guided tour. Since the museum displays were not lengthy or interesting enough to hold a visitor's attention for any period of time, Superintendent Houston requested new exhibits. He also placed a ranger in Compound A as an attendant to serve those visitors who could not wait for the next tour. The latter solution proved to be an unsatisfactory method to meet the public. Visitors who came to the compound at a time when the ranger attendant was busy with other people tended to wander unsupervised. [48]

In 1963, the year that visitation passed the 100,000 mark, the museum expansion was approved. By that time, the monument had two additional employees — a supervisory ranger and a part-time laborer. Even then the number of visitors permitted only thirty-minute tours in the winter. In 1966 visitors had the choice of a self-guided tour through Compound A or paying the usual 25 cent fee to be escorted by a ranger. Visitors were still allowed into the Great House only on guided tours. [49]

The routine of the mid-1960s continued into the 1990s with the interpretive program still prominently featured as an attraction. The enlarged visitor center displays have undergone few changes in that time. Work, however, has begun on new exhibits to mark the hundredth anniversary. In the 1970s the staff increased to fourteen with half of these individuals serving as seasonal rangers. Between November 20 and April 30, three monument employees conducted hourly guided tours, while two staff members performed the same task the remainder of the year. In July 1973 tours no longer included the Great House interior. During the 1980s the number of seasonal rangers was reduced from seven to five. By 1990 the monument had only eight employees of which two were seasonal. Consequently,

Superintendent Spencer developed a volunteer program. By 1990 fifteen volunteers relieved the monument's workload. Guided tours, during the heat of the year, have been reduced to accommodate only larger groups. The area open to the public has expanded to include viewing of the ball court from a raised platform. No longer are visitors charged 25 cents for a guided tour; instead, by the mid-1980s, they began to pay an entrance fee of \$1.00 per person with a maximum of \$3.00 per car. [50]

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3. Frank Pinkley, "Casa Grande National Monument," (no date, but thought to be part of the 1920 Annual Report) 2-3, in the Casa Grande Ruins National Monument Library.
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10. Gladwin, "Report on Excavations at Casa Grande National Monument, 1927," 20-22, 41; Charlie R. Steen, "Excavations in Compound A, Casa Grande National Monument, 1963," *Kiva* 31(December 1965) 80.
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35. Casa Grande Pageant 1926; Southwestern Monuments Monthly Reports, November 1927, April 1928, March 1929, January and March 1930, December 1937; Southwestern Monuments Annual Report for 1937.
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## **CHAPTER VII: THE ONLY BIT OF TYPICAL DESERT LAND**

In the latter half of the nineteenth century, human activity began to alter the Gila Valley landscape with an outcome that left Casa Grande Ruins National Monument as an island of natural desert growth in the midst of an agricultural community. Outside pressures from ranching followed by twentieth century farming and urban development have taken their toll on the monument flora and fauna and continue to threaten further degradation of the monument's natural vegetation and wildlife. Consequently, in the 1980s, the major issues of monument management have changed from ruins preservation to protection of the natural habitat.

### **A. The Natural Setting**

In the centuries following the Hohokam abandonment of Casa Grande, desert vegetation and grass recaptured the land. Travelers in the last half of the nineteenth century could never have envisioned the modern-day scene of this area. At that time nearly all who passed through the valley were impressed with the desert growth and in particular with the tall mesquite. Henry Hanks, who accompanied some New Jersey geologists in 1879, noted that the mesquite hid the Great House until it had been nearly reached. Even by that date, however, the human element had begun to make a change. [1]

In 1869, when Ralph Norris surveyed the subdivision lines in Township 5 South, he noted that Section 16 had a cover of mesquite, greasewood, and grass. Norris thought that much of the township had an appearance of having been cultivated and, as a result, contained a large supply of "grammon" grass. Grass frequently becomes the first invader of previously disturbed soil and thereby controls the disbursement of other vegetation. Periodically, along the banks of the Gila, Norris found that Mexican families had already settled and were cultivating fields using water diverted from that river. By the early 1870s, however, the abundant grass attracted ranchers. Charles Clark, who visited Casa Grande in 1873 recorded the existence of Decker's ranch buildings along the Gila just north of the ruins. Although suffering occasional setbacks from drought, cattle ranching prospered in the monument area for about fifty years. Livestock, wandering over open range, proved to be a destructive nuisance to the ruins. The early custodians requested funds to fence the prehistoric remains to keep cattle away from them. They reported that livestock had damaged the ruins both by rubbing against them and walking over the

mounds. Although the custodians only expressed a concern about ruins damage, the cattle also destroyed the natural vegetation. Cattle would be attracted to the shade provided by the taller ruins. As a result, the surrounding vegetation suffered from grazing and trampling. Frank Pinkley reported in 1902 that the range cattle had consumed all the forage within 100 yards of the Great House. Such intensive grazing on the monument not only destroyed the grass, but had an effect on other natural vegetation. The lack of grass allowed mesquite and creosote bush to spread and dominate the other vegetation. Consequently, some change would have begun to occur in the monument flora by the later part of the nineteenth century. Despite livestock damage to the natural vegetation, a 1912 description stated that the desert around Casa Grande "is rather well covered with trees, brush, shrubs, and in the spring a large variety of wild flowers. Among the trees, shrubs, and brush, are the mesquite, catclaw, creosote bush, salt bush sometimes called sage brush. Cactus is not very prominent immediately surrounding Casa Grande ...". Animal and bird life, however, were quite abundant. [2]

Although livestock grazing may have harmed the monument vegetation, the development of irrigated land and a population center on the monument's boundary led to even greater damage to the flora and fauna. The first sign that would lead to an even greater change in the monument's vegetation appeared in the 1880s. Farmers began to settle along the Gila River some twenty miles upstream from Casa Grande and, by building crude diversion dams, they obtained some of its water for irrigation. On their land they planted fruit trees, grapes, cereal grains, and alfalfa. In 1889 the Pinal County Board of Supervisors advocated that a permanent dam be built at the Buttes area, some fifteen miles east of Florence, to provide a water storage reservoir. The supervisors concluded that water from this source could be used to irrigate the whole Gila Valley. At the time that this promotional tract appeared, men had already begun to dream of constructing a permanent dam at that site. Irrigation water from a storage reservoir was not the only source of moisture. By the early part of the twentieth century, farmers realized that an immense amount of water lay at shallow depths under the whole Gila Valley. In 1916 in an effort to attract more farmers, the Pinal County Commissioner of Immigration wrote that many wells furnished a plentiful supply of irrigation water. [3]

Although the early farmers focused their irrigation efforts to the east of Florence, the arrival of more and more settlers, combined with the approval of the Coolidge Dam to store Gila River water, soon brought people to cultivate the land around Casa Grande. The approval of the San Carlos Irrigation District in 1924 led Frank Pinkley to write that "this irrigation district will surround our monument and the time may come when we will have the only bit of typical desert land in this part of the valley." [4]

In 1925, R. J. Jones, a Phoenix businessman, purchased eighty acres of land along a newly constructed line of the Southern Pacific Railroad and plotted it into a town site just southeast of the monument boundary. He named it after President Calvin Coolidge, who occupied the White House at the time. Many young married couples purchased property there. As a future omen, one of the first buildings constructed in the town was a cotton gin. When part of the boundary and subdivision lines of Township 5 South were resurveyed in 1928, the surveyor, Dupree Averill, noted that, in scattered areas throughout the township, land had just begun to be improved for irrigation. [5]

Once started, the development of irrigated land spread rapidly. In 1929, Edna Pinkley wrote that the desert around Casa Grande was disappearing quickly to be replaced by cotton, alfalfa, grapes, and lettuce. The following year, during a visit to the monument, Charles Peterson echoed Pinkley's earlier thoughts. He wrote that irrigation made possible by the Coolidge Dam would leave the monument acreage as an isolated area of desert flora among cultivated fields. It did not take long for Casa Grande to become a desert island. C. P. Russell observed in 1932 that agricultural development had affected the monument on all sides making it a bit of native desert preserved. Soon, spring winds carried soil from surrounding fields being prepared for cotton planting. These storms carried dust across the monument. [6]

Settlers continued to be attracted to Coolidge and its surrounding area after 1930. The period of greatest growth came between 1930 and 1945 as more and more irrigation took place. As it turned out, the storage reservoir behind Coolidge Dam could not supply sufficient water for an entire growing season. Consequently, the Indian Irrigation Service, San Carlos District, and farmers all drilled wells to obtain water when the reservoir ran dry. Pumping more and more water rapidly lowered the water table. This situation, in turn, caused farmers to drill their wells deeper. In a time of drought during 1947-48, the water shortage led to a sharp drop in the population growth rate. Rumors spread that the state legislature intended to control water use. Consequently, land speculators began to sink as many wells as possible before any regulation could take effect. When pumping began from these new wells in the spring of 1948, the water level in the monument well fell by ten feet. In the next year it had dropped an additional thirty to thirty-five feet. As usual, the state did nothing to regulate the water problem. Testimony at public hearings in June 1951 gave evidence that ground water was being removed thirty-seven times faster than it was being replaced. The state land commissioner stated that there were 539 wells functioning in the Gila and Santa Cruz River ground water basin. If that were not bad enough, he reported that he had received 395 new notices of intent to drill wells. It would take years and the abandonment of some land before any regulation was placed on the number of wells. [7]

## **B. The Effect of Neighboring Agriculture on the Monument**

Because of its small acreage, the monument land could never encompass a desert ecosystem. In the days before the development of modern agriculture, its desert vegetation blended with the surrounding area to provide an ecological niche for many birds and animals. Even the period of open-range cattle grazing did not seem to harm the wildlife. In 1924 George Boundey wrote that a faucet on the well pipe was allowed to drip water into a basin. The presence of water attracted all sorts of wildlife. He recounted that he had seen "ravens, hawks, mockingbirds, desert horned larks, hummingbirds, Sonora pigeons, ring necked pigeons, cactus wrens, yellow shafted flickers, thrashers, phainopeplas, cardinals, tanagers." Tracks near the basin indicated the presence of great horned owls, cottontails, jack and antelope jack rabbits, kangaroo rats and mice, fox, bobcats, and coyotes. He even saw a red racer snake and a gila monster drink the water. [8]

As a small piece of habitat, the monument was further hampered from serving any balanced natural function starting with the 1930s. Surrounding the monument with irrigated agricultural land destroyed the outside native vegetation and reduced the animals' natural habitat. To survive, smaller mammals were forced from the surrounding area onto the monument where overcrowding put pressure on the natural community. Enclosing the monument with a fence, as was done by 1934, prevented the free range of larger mammals. Thus somewhat protected, the smaller mammals multiplied. By the mid-1930s a serious rabbit overpopulation caused the destruction of young plants, especially mesquite. Without the benefit of natural checks and balances the monument vegetation cover suffered greatly. [9]

Starting in the 1930s destruction of the natural vegetation cover increased. This annihilation became especially noticeable with the death of the mesquite and diminished numbers of salt bush. In August 1936 monument personnel noticed that an infestation of bugs and worms had attacked mesquite trees. These insects were judged to be quite harmful. Without funds, however, the trees went untreated. Following circulated reports of this attack, two Park Service biologists came to Casa Grande in January 1937 to examine the mesquite. C. P. Russell and A. E. Borell concluded that soon no mesquite would exist on the monument. They judged that all of the existing mesquite were doomed because of their age combined with a mistletoe infestation and insect attacks. Russell and Borell also decided that the rapidly lowering water table could be responsible for the deterioration of the mesquite. Most important, however, there was a total lack of natural mesquite reproduction. An abnormally large rabbit population on the monument probably prevented new growth, but the lowered water table, they felt, could also be a cause. In the meantime, Russell and Borell thought that one of two courses of action could be used with the existing mesquite. Either the trees could be trimmed to keep them free of insects and other parasites

during their remaining life or nature could be allowed to take its course. In any case, the removal of affected tree parts would not promote growth or reproduction. The solution to develop new mesquite trees involved a transplant program combined with irrigation. [10]

Dr. E. P. Meinecke came to the monument in the fall of 1937 to give a second opinion on the mesquite problem. He observed that while most mesquite were in decline, a few were sound and bright. The mesquite, Meinecke decided, had been in decline for a number of years. He listed three potential causes for mesquite deterioration. Part of the cause came from an infestation of mistletoe which hung heavy from the tree branches. A lowered water table, as the result of pumping for agricultural irrigation, aided the decline. Another consideration ascribed the damage to a flat-head borer (*Chrysobothris octorola*). Meinecke wrote that more had to be learned about the damage caused by the borer before any decision could be made on its effect. He observed that the borer only lived in the bark of dead or injured trees, so it possibly did not contribute to the death of the mesquite. In his judgement, Meinecke concluded that the lowered water table had the greatest impact on the mesquite. Another problem was the lack of mesquite reproduction, which he felt was mainly due to an overpopulation of rabbits that had found a safe haven on the monument. Another consideration came from the fact that the lower branches had been pruned from many of the trees. (Men involved with several depression-era programs had trimmed mesquite both as make work and at the recommendation of Russell and Borell.) Meinecke stated that mesquite needed to have lower branches because it was the shade from these lower branches that permitted mesquite seedlings to develop. Consequently, he recommended that pruning cease. [11]

Further studies were not undertaken on the mesquite problem and the trees slowly died. Superintendent Bicknell reported in January 1953 that conditions remained the same for the mesquite since he had first reported on them in 1936. Nearly all of these trees had died by the 1960s. An article in a 1971 issue of the *Great Basin Naturalist* concluded that, although data were incomplete, the mesquite decline resulted primarily from a lowered water table and a mistletoe infestation. Age, insect infestation, and lack of reproduction were considered secondary factors. All the mesquite, except for some around the visitor center/housing areas that are watered, have died. The death of the mesquite caused a change in soil moisture retention with the result that salt bush have also begun to decline. This same phenomenon created a favorable environment for the creosote bush and this vegetation moved into areas once occupied by the salt bush. Consequently, "the only bit of typical desert land" that Frank Pinkley thought the monument would support, has not occurred. The monument land no longer contains an area of "typical" desert. Because of the agricultural development around the monument's boundary, it has become an area on which some desert plants grow. [12]

Aside from a lowered water table, neighboring agriculture has potentially had other effects upon the monument flora and fauna. Beginning in the 1950s, farmers began to spray herbicides and pesticides on their fields from airplanes. By the late 1950s, just before harvest, cotton fields received an aerial spraying of a defoliant [Agent Orange?] to make it easier to pick the cotton. With each of these spray applications, planes undoubtedly flew over the monument releasing some spray. On other occasions spray would have drifted onto the monument as it was applied to neighboring fields. Some effects of these sprays on the monument's plants and animals have been determined, but a comprehensive study has yet to be conducted. [13]

### **C. Monument Management of Natural Resources**

During the period when Casa Grande was a reservation, natural resources were not taken into consideration. For most of the years after 1918, when Casa Grande became a national monument under the Park Service administration, natural resource management was considered to be secondary to cultural resources. After all, managers reasoned, the monument was established to preserve its prehistoric ruins and not its desert life. Although there was some interest by the 1930s in interpreting

natural history, little was accomplished. Visitors who wished to learn about desert flora and fauna were directed to Saguaro and Organ Pipe National Monuments.

For good or bad, some consideration was given to wildlife by the early 1920s. George Boundey noted that water was allowed to drip into a basin for birds and animals. No concept of an ecosystem or balance of nature, however, applied at the time. Occasionally in the early 1920s, some birds and animals were thought to be a nuisance with the result that an effort was made to reduce their population. At the same time other birds and animals were protected. In 1924 Boundey wrote about protecting red and black racer snakes mostly because they lived off the bats that resided in the Great House. On one occasion Boundey tried to shoot a roadrunner that had attacked and killed two adult thrashers. Another time he did shoot a male roadrunner, but he regretted this action when he heard the mate's mourning calls. Pinkley was delighted when Great Western Horned owls returned each year to nest in the Great House because their presence provided an attraction for visitors. [14]

In the fall of 1932, soon after Pinkley hired Bob Rose as a park naturalist in his Southwestern Monument's office, Rose decided that he wanted to develop a more comprehensive education program for the Southwestern Monuments. At Casa Grande, he wanted to reduce the emphasis on cultural resources and provide a more balanced picture with natural resources. At the same time, Rose wanted to develop a scientific study program and reference collections on mammals, birds, reptiles, insects, and botanical material. Rose's desire was reflected in the 1934 Six-Year Program. The authors of that plan expressed the need for the development of a natural resources program through which visitors could receive information on desert growth. [15]

Despite grand desires, only a minor natural resource plan developed at Casa Grande during the 1930s. A bird banding program, which was conducted for several years, began in March 1935. This activity led to thoughts of banding or marking nocturnal animals, but no action was taken to start such a study. An annual wildlife census, based upon casual sightings, began in the late 1930s and lasted into the 1950s. Few larger mammals, such as coyotes, were seen, but each year an abundance of cottontails and jackrabbits were reported. [16]

In 1941 the National Park Service began a program to exclude exotic plants from park areas. Hugh M. Miller reported that although a survey had been made for exotics, the only such plants at Casa Grande were flowers and shrubs that existed in small plots in the residential area. The search for exotic plants evidently was not taken seriously because the very next year a new grass was reported to be growing in great abundance on the monument. Tentatively identified as Australian Bunch Grass, these plants produced seed in such large amounts that a prediction was made that it would soon cover great sections of the monument. [17]

An effort began in 1941 to artificially encourage the regeneration of the monument's diminished vegetative cover. A Soil and Moisture appropriation was used to develop a soil conservation program. By this scheme, a system of contour furrows and low dikes were located in strategic places to prevent moisture runoff. This project evidently had little effect to renew the vegetation, but, by 1952, it was judged to have been of aid in the prevention of soil erosion. [18]

Although Mexican Free-tail bats had inhabited the Great House for many years, in the 1940s they seemed to increase in numbers. A bat count on August 31, 1944, produced a figure of 5,330 bats flying from the Great House in a period of nineteen minutes. The bats were deemed to be a nuisance since their droppings stained the Great House walls and created an offensive odor. Bats also contributed to enlarged cracks in the Great House walls since they lived in these fissures. In addition the bats attracted red and black racer snakes which used them as a source of food. These snakes sometimes frightened visitors as they stalked their prey. On one occasion, a ranger, while guiding a women's group through the Great House interior, directed their attention to the beam holes in the upper part of a room at the moment a

black racer swung from a brace and pulled a bat from its hiding place. The startled women stood motionless until the snake began to devour the bat. Forgetting all interest in the ruins, the women rapidly departed the building. [19]

By mid-1946, Casa Grande's Acting Custodian, Peter Schuft, sought a means to end the bat problem. While he hoped to obtain some sonic device to drive the bats from the Great House, the head of the Chemical Products Company in Phoenix made a \$25 bid to exterminate them. John Davis, the acting associate regional director of Region Three, wanted more information on any elimination program. He thought that, because the bats were mostly beneficial, the Park Service director needed to make a decision before any action was taken. That fall, National Park Service Director Newton B. Drury consented to have the bats driven from the Great House by using sonic sound waves. Such an instrument evidently could not be found because the bats were not removed. [20]

Bats again became a subject for extermination in 1948. On this occasion the Regional Naturalist, Natt Dodge, told Casa Grande Custodian Bicknell that it was against the law to rid an area of wildlife. He quoted Chapter 1, Section 2.9 of the rules and regulations which stated:

The parks and monuments are sanctuaries for wildlife of every sort, and all hunting, or the killing, wounding, frightening, capturing or attempting to kill, wound, frighten, or capture at any time of any wild bird or animal, except dangerous animals when it is necessary to prevent them from destroying human lives or inflicting personal injury, is prohibited. [21]

Toward the end of 1948, the National Park Service Assistant Director countered Dodge's pronouncement by citing Section 4.655, Part 4, Subtitle A, Title 43 of the Code of Federal Regulation dated August 13, 1947. This regulation gave the National Park Service authority to control animals around historic and prehistoric structures. It stated that animals could be destroyed for the following reasons:

- 1.) habitually destructive to buildings or property
- 2.) if they were injured, crippled or decrepit animals
- 3.) rodents hazardous to human health and safety
- 4.) rodents doing injury to shade trees or other vegetation
- 5.) exotic and domestic animals that have reverted to a wild state. [22]

Although no National Park Service action was taken against the bats, their days were numbered at the monument. In 1952 Park Service Director Conrad Wirth decided that Title 43 of the Federal Regulation cited by the Assistant Director in 1948 did not give the National Park Service authority to destroy bats. Wirth's determination did not matter because, by that date, fewer bats resided in the Great House walls. Spraying the area cotton fields had so reduced the insect population that the bats had either begun to move to other regions or had died from the poisoned insects. By October 1956, bats no longer lived on the monument. Without bats, fewer red and black racer snakes were sighted. [23]

Birds as well as bats were affected by the insecticide sprayed on neighboring agricultural fields. By the early 1960s the number of cactus wrens living on the monument had been greatly reduced and owls no longer lived in the Great House. Crop spraying was given as the reason for this phenomenon. For years, sparrows had been discouraged from entering the Great House by the owls. With the death or departure of the owls, great numbers of sparrows took up residence in that building. In 1964 monument personnel sprinkled mothballs around the Great House in an effort to get rid of those birds, but this measure did



not succeed. It was thought that they should be trapped although no effort was made to do so. In 1968 Roy Reaves gathered the debris which he thought had been sloughed from the south room walls in the Great House by the sparrows. On the basis of that sample, he figured that these birds had knocked as much as 215 pounds of material from the wall. In the following year, he set out to control the sparrows by destroying their nests. This measure had some effect as fewer birds were seen in the structure and forty-five percent less debris was gathered. This effort to control the sparrows ended in 1970 when Reaves left the monument. In the present day the number of these birds roosting in the Great House or the protective roof does not seem to pose a problem. [24]

By 1980 the destruction of the monument's natural resources took on a greater concern. In that year, Casa Grande Superintendent Sam Henderson proposed to have an inventory made of the monument's flora and fauna along with a study of the effects of the dropping water table. Nothing came of his proposal. Then, in 1986, the newly arrived superintendent, Donald Spencer, placed a great emphasis on the monument's natural resource management. He made the formulation of "a long-range policy based on sound research for the preservation or restoration of the desert environment that would be appropriate and pertinent to the prehistoric scene" one of his management objectives. As a first step, he proposed to develop a Resource Basic Inventory (RBI) of the natural resources. With that information, Spencer felt that the effects of crop spraying and the dropping water table as well as other outside threats could be determined and action taken against them. Consequently, in 1986 he contracted as Phase I of the RBI to have the monument's vegetation inventoried. It was completed in 1988. An inventory has also been completed for birds, but a study on insects has not begun. Any attempt to return the monument to the only bit of typical desert land in the area will require enormous effort. At the same time some exotic plants like the Thistle Bush, which appeared on the monument in 1990, will need to be eradicated. [25]

In the future, outside pressure from agriculture will probably diminish, but less agricultural pressure will only be replaced by that from an urban community. Developer Sam Capon has proposed to construct a shopping mall, condominiums, single-family residences, and apartments across Highway 87 on the monument's east side. William Costello wishes to install a trailer park across from the monument's northeast corner. Another trailer park is proposed for part of the monument's south side. Finally, the Butterwick Enterprises of Denver, Colorado is seeking to build single-family dwellings on the monument's west side. Casa Grande's natural landscape will survive but only as an area containing desert plants.

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## **CHAPTER VIII: SOUTHWESTERN MONUMENTS — BOSS PINKLEY'S OUTFIT**

Toward the end of October 1923, Frank Pinkley received an appointment as superintendent of a new field office headquartered at Casa Grande from which he administered the Southwestern National Monuments in a four-state area. Stephen Mather, the National Park Service director, created the position with the

idea of unifying the monument work and passing the problems from the various monuments up to a local man who would be in touch with local conditions, thus relieving the already overcrowded Washington office of some work which could be better understood and more economically handled from a field headquarters. [1]

Mather's statement served as a polite way to declare that the Park Service Washington office had little interest in the monuments. The Washington office leadership chose Pinkley for the job because he had demonstrated a keen management ability. He had succeeded in operating the Casa Grande and Tumacacori monuments with little financial aid from the Park Service budget. At the same time, Pinkley had accomplished administrative assignments at other regional monuments. His acceptance of the Southwestern Monuments superintendency added to his workload since he retained his positions as custodian of Casa Grande and Tumacacori. He did not relinquish the Tumacacori job until April 1929 and Casa Grande in July 1931.



Frank Pinkley.

Of the original twelve monuments assigned to him, only two others besides Casa Grande had resident custodians. The remainder of the areas were overseen by local volunteers who received only twelve dollars per year for their work. Consequently, some of these men lacked Pinkley's enthusiasm, although others performed with distinction. Despite this circumstance, Pinkley set out to build a tightly run organization that operated on strictly held ideals and principals. Slowly, he converted the volunteer system into one of paid, permanent custodians. One of his first activities involved the publication of a monthly newsletter called the Southwestern Monuments Monthly Reports. By getting the men who oversaw the various monuments to contribute articles about their monthly activities, Pinkley sought to instill a feeling of common interest among them. His first monthly report appeared in October 1923 with notes from six of the twelve monuments in his care. Although in the first several years he had to remind some men to submit reports, Pinkley's monthly publication provided one means by which he built an esprit de corps. [82]

Pinkley directed the Southwestern Monuments as an administrative unit through which he coordinated the management of the many monuments. In the early days he received almost no financial support from the Park Service Washington office. Pinkley overcame hardship and disappointment in developing an organization which grew to twenty-seven monuments by the latter part of the 1930s. During the 1920s, he traveled from monument to monument in a Model T Ford while camping along the way. Pinkley

visited the monuments to encourage the custodians and to show them that he cared. He listened to their problems and noted each monument's needs. Pinkley then made a priority list for the allocation of the small budget that he received. After he received his annual funding, he would return to various monuments to lend a helping hand. He often aided a custodian to fence a monument, build a house, or accomplish preservation work. When a need called for it, he would buy building materials with his own money. [3]

Pinkley realized that an increasing visitation to the monuments could encourage the Washington office to give more funds, but in the 1920s that Park Service division usually ignored the monuments in favor of the national parks. Despite this situation, Pinkley labored to extend the publicity and education work that he had begun at Casa Grande to attract visitors to all of the Southwestern Monuments. He distributed a brochure which contained a description of each of the Southwestern Monuments and a map showing how to get to each one. Although he treated all of the monuments fairly, Pinkley's bias favored the historic and archeological monuments over the natural areas that he administered. In his opinion, the Southwestern Monuments offered the opportunity to educate people that there was more to the American Heritage than the usual selective Western European view. [4]

The only real aid that Pinkley received in the 1920s came from the Park Service's west coast field office for design and construction. Like the rest of the Park Service budget, however, design and construction money went mostly to national parks and not monuments. This situation was reflected in the fact that by the mid-1920s only three monuments in Pinkley's charge had museums. Consequently, the landscape architects and engineers, like Thomas Vint and Bert Burrell, mostly visited the Southwestern Monuments to offer advice and develop future plans. Construction programs that lacked funding rankled Pinkley, but he continued to meet with West Coast personnel and plan, as he told Burrell, "because I realize the importance of having your division well posted on the needs of my monuments should we begin to get enough money to really operate them." At the same time Vint offered "Pink," as he called him, advice on the design and grouping of buildings within the natural landscape. [5]

As the 1920s progressed, Pinkley began to develop a more systematic approach to his management. At first though, he combined Southwestern Monument functions with those of Casa Grande. Late in 1927, Pinkley hired George Rudy as a clerk-stenographer-ranger to perform office work and bookkeeping for both Casa Grande and the Southwestern Monuments. Rudy, however, was assigned as a Casa Grande staff member and, as a ranger, often led guided tours at that monument. Rudy brought order to Pinkley's bookkeeping when, in February 1928, he installed a standardized accounting system. [6]

By 1931 Pinkley's hard work began to pay dividends. Even before the New Deal depression programs began to provide large sums of money and manpower, expanded appropriations permitted Pinkley to press forward with his development program and to begin to build a support staff at the Southwestern Monument headquarters. The new Casa Grande administration/museum building, completed in January 1932, gave him more space to house his staff. His efforts won for him the admiration of those who worked for him and he became affectionately known as "the Boss."

Pinkley began to develop a staff in the Southwestern Monuments headquarters in 1931. In the late 1920s Pinkley had difficulty keeping the clerk-stenographer-ranger position filled because it paid such a low wage. In March 1931, the Boss received permission to retitle the job as chief clerk. It then became solely a Southwestern Monuments position. He promoted Martin O. Evenstad from Casa Grande ranger into that position. In June of that year Pinkley created an assistant park naturalist position and filled it with Robert H. Rose. Although titled a naturalist, Rose functioned to establish educational programs for the various monuments. Rose first approached his job by looking at individual monuments, but, by 1935, he developed a general educational plan as a guide for all the Southwestern Monuments. Rose also considered part of his work to involve "pioneering in museum installation with only a limited sum of money. . . . He began his museum work in early 1932 with the completion of the new building at Casa

Grande. Rose worked with Dr. C. P. Russell, a Park Service field naturalist, to develop the exhibits for that new museum. By September 1932, as part of his education duties, Rose started to collect books for a circulating library through which he hoped to add to the various monuments' interpretive plans. [7]

One issue which Pinkley contested with the Park Service Washington office was the conversion of monuments to national parks. By the late 1920s, most of the spectacular Western natural areas had been incorporated into the National Park Service. Consequently, Stephen Mather and Horace Albright sought national park expansion through the conversion of one-of-a-kind national monuments to national parks. Pinkley had put a great deal of effort into developing the Southwestern Monuments without much aid from the central office, so he did not appreciate having monuments under his care taken from him. He thought that the public would then view his remaining national monuments as picked-over property that was not worth visiting. Despite his protests, Carlsbad Cave National Monument, which he had administered since November 1923, became Carlsbad Cavern National Park on May 14, 1930. Although it was not immediately redesignated as a National Park, Petrified Forest National Monument, one of Pinkley's original monuments, was separated from the Southwest Monuments on July 1, 1932, and its custodian reported directly to the Washington office. [8]

Another administrative disagreement between Pinkley and the Washington leadership developed in 1930 over the establishment of a Division of Education in the central office. It especially galled Pinkley when that division spent most of its funds to create educational programs in the national parks. Pinkley, who had been stressing education for many years with little money to develop his own programs, thought of this activity as another means to deprive his monuments of educational funds. He disliked the rise of the professional groups in the central office, because he felt that he should have local control of the programs, not the distant Washington bureaucrats. Consequently, Pinkley began to build an "adobe wall" around his monuments and develop his own education programs. For that reason, his second employee solely attached to the Southwestern Monuments headquarters was Bob Rose, whose main duty was to develop educational programs. [9]

Pinkley was not content to have only one employee working with an educational program. Considering that the Boss wanted education to extend beyond his monument boundaries, there was just too much work for one person to handle. In 1933, the number of units in the Southwestern Monuments increased to twenty. Only six of these monuments had museum buildings. Except for Casa Grande, these existing museums needed to have better and more informative displays installed. At the same time development plans were required for the construction of museums at the other monuments. Rose, however, had no time to address the monument education problems because in March Pinkley sent him to the Park Service Field Educational Headquarters Laboratories in Berkeley, California to design dioramas which showed Southwestern Monuments scenes. As part of his outside education and publicity program, Pinkley intended to place those exhibits on display at the Century of Progress Exposition in Chicago. [10]

In fiscal year 1933, to broaden his programs, Pinkley wanted to hire more specialized personnel. He hoped to establish positions for botanists and zoologists as well as museum curators in order to serve the monuments' museum needs. At the same time, he hoped to create positions for specialized personnel who could develop and oversee general development plans. [11]

Although his wish for more personnel was not realized as much as he had hoped, Pinkley began to feel the effects of President Franklin D. Roosevelt's relief programs. These measures provided the Boss with funds and a welcomed construction program. It was this money that permitted Pinkley to expand his operation and retain his local control in the face of the Washington office centralizing trend. He accepted the additional work with only the assistance of Bob Rose, and his chief clerk (accountant), Hugh M. Miller, who had replaced Martin Evenstead in August 1933. Two Emergency Conservation Work (ECW) camps were established under the Boss' supervision. Popularly called the Civilian

Conservation Corps (CCC) until the name was officially changed in 1937, the ECW provided service jobs for unemployed, single young men. The two ECW camps were located at Bandelier National Monument (November 1933) and Chiricahua National Monument (June 1934). In addition Pinkley received aid from a temporary program, the Civil Works Administration, which provided unemployed men for any number of jobs on the Southwestern Monuments between December 1933 and April 1934. Pinkley also received money and/or laborers through the Public Works Administration (PWA), Federal Emergency Relief Administration (FERA), and emergency roads and trails appropriations. As if that additional work were not enough, Pinkley acquired six more national monuments that were officially transferred from the United States Forest Service to the Southwestern Monuments on August 10, 1934. [12]

Pinkley gained three new employees from July 1934 to July 1935. Walter G. Attwell, an engineer who had supervised part of the ruins shelter construction in 1932, served in the Southwestern Monuments headquarters during fiscal year 1935 to advise on development projects. Two junior park naturalists, Dale S. King (July 1934) and Louis R. Caywood (July 1935), joined the staff to help Bob Rose expand the education program. The archeology background of these two men provided an example of one problem faced by Pinkley. He wanted to hire archeologists but, because the National Park Service had no provision for archeologists as a result of its natural area orientation, Pinkley had to hire archeologists under the naturalist title. King spent several months in early 1935 at the Park Service Education Laboratories in Berkeley where he prepared exhibits for the California Pacific International Exposition in San Diego. Rose was also stationed at that field office while he designed displays for the Aztec National Monument museum. At the same time, Rose produced a General Educational Development Plan manuscript as a first step in a museum and education program for the Southwestern Monuments. Louis Caywood did public contact work for education and publicity purposes. [13]

Beginning in July 1936, Pinkley's headquarters staff began to grow. Consequently, the Boss split his workforce into two groups — the administrative staff and the branch of research and education. The administrative group consisted of six individuals when Pinkley received approval to create a clerk-stenographer position. He also was allocated two clerk jobs to be filled by CCC personnel. Hugh M. Milker moved from chief clerk to assistant superintendent, while James Luther was hired in September to fill the chief clerk void. Another clerk-stenographer position was authorized for fiscal year 1938. The research and education branch comprised two permanent personnel and a CCC student technician. Dale S. King received a promotion to park naturalist when he replaced Bob Rose who left on January 1, 1937. Charlie R. Steen, who had joined the Casa Grande staff in 1935, was shifted to the Southwestern Monuments as a junior park naturalist to replace Louis Caywood. Clarence Cole filled the CCC student technician position in that branch during the summer of 1936. The members of the research and education branch mimeographed a number of pamphlets, gave lectures at schools, CCC camps, and civic groups. They planned museum exhibits and installed these exhibits that had been produced in the Field Division of Education laboratories. Their work extended to the investigation of proposed new monuments as well as construction work at existing units. [14]

Probably the most important event of fiscal year 1937 was the establishment of the Indian CCC Mobil Unit for ruins stabilization. Created in June 1937 under the headquarters research and education branch, this group of twenty-five men and two foremen began the ruins stabilization program which has operated for many years. The unit performed urgently needed stabilization work on disintegrating ruins. Much of their time was spent at Chaco Canyon. [15]

As the Southwestern Monuments staff continued to expand in 1937, the stress of the job took its toll on Pinkley. A workaholic by nature, he had spent even more hours on the monuments' business after his wife died unexpectedly in 1929. The Boss suffered a heart attack in 1937 which kept him inactive for some time. Hugh M. Miller kept the operation going during Pinkley's absence. Two more clerk-stenographer positions were filled on the administration staff as Millard Singerman and Luis Gastelum



were hired in July and August 1937. Natt Dodge joined the branch of research and education in September. Gertrude Hill filled the CCC technician job as a ranger-historian during the summer of 1937 and worked to organize the library. A third branch was established at the headquarters on July 1, 1937 with the creation of a general mechanic position. Eugene Stonehocker served as the only individual in this Branch of Maintenance until the latter part of 1938 when J. L. "Teddy" Baehr joined him as a utility man. At first he worked in a small shed until the CCC completed a maintenance facility. Here he maintained the Southwestern Monuments equipment from all the monuments. Stonehocker repaired everything from cars to tractors, cement mixers, and pumps. [16]

In early 1938, to enlarge upon educational activities, Pinkley decided to create a publication capability. The Southwestern Monuments Association, as the Boss named it, was designed to parallel the type of work done by the Yosemite and Grand Canyon natural history associations. In July 1938, Pinkley received approval from the Secretary of the Interior to create the association. The headquarters staff in the branch of research and education supervised publications. [17]

By 1939 the Southwestern Monuments headquarters staff had grown to fifteen employees. Pinkley succeeded with building his "adobe wall". He had achieved an almost self-contained operation within the Park Service, but the number of personnel strained the office space of the Casa Grande administration/museum building. Pinkley renamed the branch of research and education to branch of historic sites/branch of research and information. Its programs were divided into seven sections:

- 1.) Research and Survey which dealt with bird banding, herbarium collections, and visitor reaction to museum exhibits.
- 2.) Archeological projects for oversight of the ruins stabilization program and artifact collections which were stored in a room in the Casa Grande maintenance equipment building.
- 3.) Interpretive Projects comprised slides and photographs for projection and display, public talks, movies, leaflets, booklets, assistance to monument staffs on their interpretive programs, and nature trail projects.
- 4.) Exhibit programs involved the installation of museum displays, writing exhibit prospectus, making labels, and building exhibit cases.
- 5.) Publicity covered photographs, maps, and signs.
- 6.) Loan Library included new purchases and loans to monuments as well as book repair which was done in the National Park Service Western Museum Laboratories. (The Western Museum Laboratories was the successor to the *Field Office Education Laboratories*.)
- 7.) Southwestern Monuments Association which covered publications. [18]

At the beginning of 1944) Pinkley finally had enough funds to bring all of the Southwestern Monuments custodians together for a conference at the headquarters. The meetings were set to open on February 14. After his men had assembled on that morning, Pinkley gave the opening address. When he returned to his seat, he had a heart attack. Before anyone could do anything, the Boss had died. [19]

Hugh M. Miller succeeded Pinkley as Superintendent of the Southwestern Monuments. He continued to administer the programs that Pinkley had developed. To somewhat relieve the crowding in the Casa Grande administration building, Miller had a private office added to the southwest corner of that structure. Charles A. Richey transferred from the Region Three office in Santa Fe to fill the assistant superintendent position. [20]

There were changes within the administration of some programs in 1941. With the end of the CCC, funding from that source for the ruins stabilization program halted. National Youth Administration (NYA) personnel and funds were used to continue that operation. Miller hoped to get a permanent appropriation for that program. The NYA boys were also used as clerical assistants at the Southwestern Monument headquarters and to help Stonehocker in the automobile repair shop. [21]

A new program was added in 1941. Soil and Moisture Conservation funds became available for the first time. Money from that source was used for contour furrowing, revegetation, and gully control work and plantings. Among other places, some contour furrowing was done at Casa Grande to conserve moisture and prevent erosion. [22]

After some special assignments in the Region Three and Washington, D.C. offices, Hugh M. Miller transferred to the regional office in Santa Fe. Charles Richey replaced Miller as Superintendent on July 1, 1942. The days of the Southwestern Monuments headquarters at Casa Grande were numbered. On October 19, 1942, the headquarters and personnel were transferred to the Region Three office in Santa Fe except for the maintenance people who remained at the shops and warehouse at Casa Grande until their program ended in 1948. [23]

Once in the regional office, Pinkley's organization changed somewhat. The administrative staff was combined with that of the region and the Superintendent became an Assistant Regional Director. The Southwestern Monuments remained at the regional office until the end of 1952. At that time, the headquarters was moved to Globe, Arizona, where it existed until it ceased operations at the end of 1957. The archeology and ruins stabilization functions remained at Globe as the Southwestern Archeology Center, but the other personnel were disbursed among various Park Service offices. The Southwestern Monuments joined the rest of the National Park Service. The adobe wall had crumbled. [24]

### **Chapter Eight Footnotes:**

1. Southwestern Monuments Annual Report for Fiscal Year 1924.
2. Southwestern Monuments Monthly Reports, October 1923.
3. Dodge, "The Reluctant Leader," 10.
4. Rothman, *Preserving Different Pasts*, 126-130.
5. Casa Grande Monthly Reports for January 1922; Frank Pinkley to Bert H. Burrell, Acting Chief Civil Engineer, July 7, 1927, File, Casa Grande National Monument 1927, Box 53, Records of the Field Headquarters in San Francisco, Entry 29, Classified File 1925-1936, Record Group 79, Records of the National Park Service, NA; Thomas C. Vint to the National Park Service Director, January 15, 1929.
6. Southwestern Monuments Monthly Report, October 1927, February 1928.
7. Southwestern Monuments Monthly Reports, March, June, November 1931, and September, November 1932; Southwestern Monuments Annual Report for Fiscal Year 1933.
8. Rothman, *Preserving Different Pasts*, 131-137; Southwest Monuments Annual Report for Fiscal Year 1933.
9. Rothman, *Preserving Different Pasts*, 173-176.

10. Southwestern Monuments Annual Reports for Fiscal Years 1933 and 1934.
11. Southwest Monuments Annual Report for Fiscal Year 1933.
12. Southwestern Monuments Annual Reports for Fiscal Years 1934 and 1935.
13. Southwestern Monuments Annual Report for Fiscal Year 1935.
14. Southwestern Monuments Annual Report for Fiscal Year 1937.
15. *Ibid.*
16. Southwestern Monuments Annual Reports for Fiscal Years 1937 and 1938.
17. Southwestern Monuments Annual Reports for Fiscal Years 1938 and 1939.
18. D. W. Egermayer, Casa Grande National Monument," (March 10,1939) 4; Southwestern Monuments Annual Reports for Fiscal Years 1939 and 1940.
19. Southwestern Monuments Monthly Report, February 1940; Dodge, "The Reluctant Leader," 10.
20. Southwestern Monuments Annual Report for Fiscal Year 1941.
21. Southwestern Monuments Annual Report for Fiscal Year 1941.
22. Southwestern Monuments Annual Report for Fiscal Year 1941.
23. Southwestern Monuments Annual Reports for Fiscal Years 1942 and 1943.
24. Southwestern Monuments Annual Reports for the Fiscal Year 1944.

## APPENDIX A: LIST OF CUSTODIANS/SUPERINTENDENTS

Rev. Isaac T. Whittemore	Custodian	1889-1899
H. B. Mayo	Custodian	1899-1901
Frank Pinkley	Custodian	1901-1915
James Bates	Custodian	1915-1918
Frank Pinkley	Custodian	1918-1931
Hilding Palmer	Custodian	1931-1935
A. T. Bicknell	Custodian/Superintendent*	
Aubrey F. (Sam) Houston	Superintendent	1960-1966
Charles B. Voll	Superintendent	1966-1967
Harry P. Linder	Superintendent	1967-1968
Richard T. Hart	Superintendent	1968-1974
Sam R. Henderson	Superintendent	1974-1985
Donald L. Spencer	Superintendent	1985-

\*On November 6, 1948 the National Park Service changed the custodian title to superintendent.

## APPENDIX B: EMPLOYEES: PAST AND PRESENT

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NAME	DUTY	ENTER	LEAVE
Abbey, Edward P.	Park Ranger (seasonal)	11/6/58	4/60
Abel, Leland	Archeologist GS-5	1/12/55	5/1/56
Alberts, Edwin C.	Relief Ranger	7/15/39	4/40
	Relief Ranger	8/1/40	10/1/40
Alejandro, Rita Felix	Student/Park Aid	1971	1972
	Park Aid	6/25/72	4/13/74
	Park Technician	4/14/74	1978
		12/30/79	6/13/81
Alexandrowicz, Susan	Park Technician	5/01/81	3/23/82
Allen, Nathan	Park Ranger (seasonal)	4/3/88	12/2/90
	Park Ranger	12/2/90	Current
Alvarez, R.	Machinist Aide	1/39	3/39
Anderson, Linda Lou	Park Ranger (general, seasonal)	9/10/67	12/20/67
Anderson, Lyle	WAE Park Ranger (seasonal)	9/28/57	6/60
Andresen, John M.	Park Ranger (seasonal)	5/7/78	12/26/82
	Taper	12/26/82	1/5/86
	Park Ranger	1/5/86	Current
Archer, David	YCC	6/8/87	7/31/87
		6/13/88	8/5/88
		6/5/89	7/28/89
Arnberger, Leslie	Park Ranger	4/12/48	11/19/50

Attwell, Walter G.	Associate Engineer	8/32	5/35
Baehr, J. L. "Teddy"	Utility Man	6/38	5/1/47
Bowman, Joyce A.	Park Ranger	7/1/90	8/14/90
Baldwin, Buster	CCC Guide	1/38	3/38
Barnes, Richard	Park Technician	9/11/77	5/11/78
		12/17/78	4/27/79
		11/8/79	5/10/80
Barnes, Terry	YACC	1985	
Barnett, Carrol D.	Maintenance	6/47	6/13/49
Barry, Patricia L.	Park Technician (seasonal)	12/8/85	4/22/86
Bates, James P.	Custodian	12/1/15	3/16/18
Bauer, Elizabeth C.	Park Technician	10/26/75	5/8/76
Beasley	Machinist Aide	9/39	10/39
Bennett, Chuck	VIP	12/30/89	05/18/91
	Park Ranger	5/19/91	Current
Berry, Kenneth	Interpretive	1968	
Bicknell, Albert T.	Custodian, special assignment	1/36	4/15/36
	Cust./Superintendent	12/20/36	10/1/60
Blake, Mabel	Emergency Stenographer	6/34	?
Borell, Aldrey	Associate Wildlife Technician	2/35	9/37
Boring, William	Utility Man	10/21/40	12/5/40
Boss, Richard C., Jr.	VIP	1989	1990
	Park Ranger	12/01/91	Current
Boundey, George L.	Park Ranger	1/24	1/1/27
	Asst. Custodian	1/1/27	3/31/27
Bowie, Cowie S.	Asst. Clerk-Stenographer	4/42	10/16/42
Boyce, Faye	NYA	10/23/41	1/42
Brady, Gustave	Pottery Cataloger	4/38	6/30/38
Braggs, James K.	Park Ranger (general)	2/25/70	6/13/70
Brashear	CCC Guide	5/39	12/16/39
Breo, Don M.	Caretaker	10/25/64	12/31/66
	Caretaker	6/4/67	6/1/68
Brewer, Jimmie	Guide	1/1/37	5/1/37
	Roving Ranger	5/1/37	10/1/37
	Custodian	2/10/43	3/26/44
Brewer, Sallie P.	Park Ranger	2/16/43	7/24/44
	Seasonal	1955,1956	
Britton, Nancy	Student Aid	1969	1969
Bronaugh, Eugene	NYA Mimeograph Operator	2/40	5/40
Brown, Ivan	YCC	6/11/90	8/3/90
Bryant	CCC Guide	9/24/39	12/19/39
Buchenburg, A. E.	Librarian-Historian	10/40	?
Budlong, Robert	Park Ranger/Archeologist	5/34	9/1/34
Burch	CCC Guide	9/24/39	12/16/39
Calindo, Leo	Maintenance	1968	1968
Calloway, Shannon	YCC	6/13/88	6/16/88
Campbell, Robert G.	Archeologist	5/29/56	6/2/57
Caperton, Thomas	Park Ranger (general, seasonal)	1/29/67	6/3/67

Carrington, Winston	Park Ranger (temporary)	1/25/37	2/37
Carter, Charles D.	Jr. Landscape Architect	8/38	3/39
Carter, Peggy	Park Ranger-Typist	10/21/90	Current
Cawker, Raymond	Park Technician (Hohokam Pima)	5/25/75	2/14/76
Caywood, Louis R.	Park Ranger	10/7/34	5/31/35
	Acting Custodian	5/31/35	7/15/35
	Jr. Park Naturalist	7/15/35	5/1/36
Chanow, Suzanne F.	Park Ranger (seasonal)	10/23/88	4/8/89
		10/15/89	4/21/90
Chape, Al	VIP	11/84	1985
Chape, Dorothy	VIP	11/84	1985
Chavez, Nalbert	Laborer (seasonal)	9/8/68	7/8/73
	Maintenance WG-5	7/8/73	4/6/80
	Maintenance WG-8	4/6/80	Current
Chrisman, Freedom A.	Park Ranger	12/14/40	9/41
	Acting Custodian	9/41	3/16/42
Clancy, James N.	Park Ranger	11/19/50	8/1/61
Clemmensen, Cheryl L.	Park Ranger/Park Technician	5/14/72	1975
Coay, Philip L.	WAE Seasonal	6/27/64	10/9/65
	Park Ranger (seasonal)	11/7/65	9/24/66
		10/8/66	9/23/67
		10/8/67	6/8/69
		6/23/69	4/23/72
		4/30/72	8/19/72
Cocks, John	CCC Guide	11/37	1/5/38
Colbert, Marsha E.	VIP-SPMA	2/17/88	5/88
Cole, Clarence R.	Student Technician (summer)	6/4/36	9/36
Cole, Maria	Park Ranger (seasonal)	12/9/90	3/31/91
Cole, Robert L.	ECW Clerk	11/34	4/36
Cook Hollis	Park Ranger (general, seasonal)	10/11/64	12/5/64
Cook, Jack	VIP	1986	1987
Cook, Thomas C.	Park Ranger (general, seasonal)	9/17/63	12/21/63
Cooke, Claire V.	Park Ranger	11/10/43	3/3/44
Cortez, Adolph	YCC	1981	
Coyle, Strimple	CCC Guide	12/37	5/39
Craig Paula J.	Summer Aid	6/1/70	9/4/70
Craig, Samuel, Sr.	Laborer	10/14/73	3/3/85
Creutz, Alan W.	Park Ranger	9/17/72	5/27/73
	Archeologist (general)	9/15/73	1974
		6/9/74	1974
Daniel, Gary	YCC	6/13/88	8/5/88
Daniels	CCC Guide	4/22/39	5/39
	Mimeograph Operator	9/39	10/39
Davidson, Frank D.	Park Technician (seasonal)	6/9/85	8/18/85
Davis, Daniel E.	Archeologist	2/3/48	6/17/50
DeCleene, Thomas P.	Park Technician	9/25/77	4/23/78
Derkes, Dana	Park Ranger (seasonal)	9/9/90	2/23/91
Diehl, John	Associate Engineer	5/35	7/36

Dobson, Juanita	NYA	10/23/41	4/23/42
Dodge, Natt N.	Jr. Naturalist	9/13/37	1/40
	Naturalist	1/40	?
Dominguez, Frank	Maintenance	1968	1968
Donham, Paul S.	Maintenance (temporary)	9/1/49	4/10/50
Duffield, Henry C.	Park Ranger	11/15/44	3/1/45
Dyson, Ralph	VIP	11/88	3/89
		11/89	3/90
Dyson, Ruth	VIP	11/88	3/89
		11/89	3/90
Ellis, Vincent	Asst. Clerk-Stenographer	4/42	10/15/42
Elmore, Francis H.	Park Ranger-Historian (temporary)	1/6/41	4/22/41
Elston, Darrel O.	Park Guide (Temporary)	3/24/68	12/1/68
	Park Aid (Temporary)	12/1/68	3/24/69
	Park Technician	3/24/69	9/16/70
	Park Technician (Career)	9/16/70	6/3/85
Eppes, Wayne	CCC Guide	3/38	4/22/38
Egermayer, Donald W.	Park Ranger	5/38	9/28/39
Erskine, J. Donald	Park Ranger	4/15/36	11/29/37
Espinosa, Irene	Pottery Cataloger	4/4/38	6/38
Espinoza, Benny	YCC	?	
Evenstad, Martin O.	Park Ranger/Chief Clerk	1/1/29	8/33
Ezell, Paul	Guide	10/25/40	12/8/40
Farmer, Russell	Park Ranger (temporary)	9/30/36	9/27/37
Felix, Edward	Laborer (seasonal)	4/24/88	3/11/89
Fish, Frank L.	Park Ranger	5/8/30	7/1/34
Flatray, John F.	Maintenance WG-5	9/15/85	7/21/90
Flores, Victor	CCC	3/38	?
Folks, Joe	SPMA-VIP	1986	1987
Foerster, Jeanne F.	Park Ranger (seasonal)	12/15/91	5/2/92
Foster, Weldon F.	Park Ranger	10/12/70	2/6/71
Fowler, Ralph	Park Ranger	1/9/46	4/1/46
Francisco, Ricki	SPMA (basket weaver)	1986	1987
French, Mary Jane	NYA Mimiograph Operator	7/40	10/4/70
Garcia, David	YCC	?	
Garcia, Fernando B.	Laborer (seasonal)	5/19/62	10/27/62
Garcia, Ricardo M.	YCC	1981	1981
	Laborer	4/4/82	1/28/83
Garcia, Tony	YCC	1981	
Gastellum, Luis	Clerk-Stenographer	8/35	4/36
	ECW Clerk	4/36	8/37
	Clerk-Stenographer	8/37	11/38
	Clerk	11/38	12/12/42
Gaylord, Lois	VIP	11/89	Current
Gilbert, Molina	YCC	6/13/88	8/5/88
Gill, Bettie	Clerk-Typist (seasonal)	12/30/68	3/2/75
	Clerk-Typist	3/2/75	8/10/80
	Administrative Technician (temporary)	8/10/80	5/3/81

	Administrative Technician	5/3/81	Current
Glidewell, Becky	SPMA	1986	1987
Glidewell, Gary H. "Hunter"	Park Ranger (seasonal)	2/1/87	5/23/87
		10/11/87	4/23/88
		10/30/88	4/15/89
		12/24/89	3/31/90
	Maintenance	11/4/90	12/28/91
Gloria, Luis	YCC	1979	
Golden, Joe	Assistant Clerk	8/40	10/15/42
Goodwin, Ira G.	CCC Clerk	9/37	1/39
	Assistant Clerk-Typist	1/39	10/40
Goodwin, T. R.	Maintenance	1/32	2/27/32
Gonzales, Juan	Maintenance	1968	
Gordan, G. H.	Assistant Engineer	10/34	5/35
Greely, Austin	YCC	1979	1979
Griggs, Theresa A.	Park Ranger-Seasonal	12/12/82	4/28/83
		10/16/83	4/24/84
		12/9/84	4/28/85
		9/7/85	4/26/86
Guillet, Meredith M.	Park Ranger	12/7/42	6/21/43
Guinn, Johnnie Jean	VIP	12/87	3/88
Hale, Marvin	CCC Guide	12/17/37	3/38
Hall, Laurel	Summer Aid	6/18/78	9/23/78
	Student Aid	10/15/78	6/2/79
Hall, Scott	CCC Guide	12/38	2/20/39
Hamilton, Jim B.	Assistant Engineer	10/32	6/36
Hand, Raymond	Maintenance	1968	
Hannah, David K.	Park Archeologist	3/4/62	10/25/65
Hardies, Roderick R.	Archeologist	6/21/50	8/19/50
Harkins, Cy	Park Ranger	6/39	7/39
Hart, Richard	Superintendent	12/1/68	8/19/74
Hastings, Russell	Archeologist	12/33	?
Havier, Rosaria	VIP - Basket Weaver	6/08/90	Current
Hayes, Alden C.	Archeologist	6/7/57	8/26/58
Heath, Chester	CCC Guide	3/39	5/39
Heaton, Leonard	Park Ranger	3/3/36	3/20/36
Heck, Edthe & Jack	VIP	12/88	3/89
		12/89	3/90
Henderson, Sam R.	Park Ranger (general, seasonal)	12/21/67	1968
	Park Ranger (MGT.ASST. PIMA)	4/14/74	10/3/74
	Superintendent	10/3/74	06/23/85
Henry, George	YCC	1986	1986
Higgins, Bill & Margaret	VIP	1986	1987
Hill, Gertrude F.	Student Technician (summer)	6/1/37	9/15/37
	Park Ranger-Historian (temporary)	6/38	8/31/38
Hillesheim, David F.	Park Ranger (general, seasonal)	10/5/69	2/24/70
Holt, James	CCC Guide	4/16/38	8/17/38
Holt, Bill & Lotus	VIP	1/92	Current



Hooper, Milton S.	WAE Seasonal	7/10/60	9/4/65
		9/26/65	9/10/66
	Park Ranger (general, seasonal)	9/25/66	9/9/67
		9/24/67	3/15/72
Horne, Frank	Acting Park Ranger	7/11/36	9/36
Houston, Aubrey F. "Sam"	Superintendent	10/16/60	12/31/65
Howard, Richard M.	Supervisory Park Ranger	10/4/70	12/30/85
	Archeologist		
Huffman, John	Guide (temporary)	1924	1925
Irwin, Arthur B.	Maintenance	10/62	2/9/80
Jackson, Susan J.	Park Technician	6/27/74	9/13/75
James, Richard B.	Laborer (archeological salvage work)	10/25/63	11/14/63
Jameson, Sidney J. S.	Archeologist	8/30/50	9/7/52
Jaso, Max	Machinist Aide	12/3/38	1/39
Jewell, Donald P.	Park Ranger (temporary)	9/9/52	10/16/52
	Archeologist	10/16/52	4/3/53
Johnson, Earl	Laborer	5/5/69	5/16/69
Johnson, Edwin E. Jr.	Laborer (archeological salvage work)	10/24/63	11/6/63
Johnson, J. B.	Archeologist	10/59	2/14/61
Johnson, Jolene K.	Park Ranger (seasonal)	6/3/90	3/9/91
Johnson, Kee	Maintenance	5/5/69	5/16/69
Johnson, Lafayette B.	Laborer (archeological salvage work)	10/25/63	11/6/63
Jones, David J.	Park Ranger	11/29/37	5/1/38
	Relief Ranger	12/1/38	4/1/39
Jordan, Janelle	Summer aid	6/5/69	9/6/69
Julian, Hurst R.	Park Ranger	7/1/31	?
Kayser, David W.	Park Ranger (general, seasonal)	2/25/68	9/7/68
Keller, Kent	VIP	5/28/91	Current
Kennet, Gordan	VIP	1986	1987
Kimbrell, James R.	Administrative Officer	9/19/59	8/31/80
King, Dale S.	Jr. Park Naturalist	7/9/34	6/18/37
	Asst. Park Naturalist	6/15/37	7/39
	Asst. Park Archeologist	7/39	3/40
	Archeologist	3/40	10/22/42
Kirk, Helen	NYA Mimeograph Operator	1/40	7/40
Kittredge, F.A.	Chief Engineer	12/33	4/36
Kline, Patsy	VIP	12/30/89	09/90
Knezevich, Eugene	Park Ranger-Historian/ Librarian	6/1/39	8/31/39
Knight, Aleta E.	Supervisory Park Ranger GS-7	5/6/90	1/25/92
Knight, Sarah	Park Technician	4/22/79	12/29/79
		5/4/80	4/5/81
		4/19/81	5/15/82
Kristo, Ted R.	Laborer (archeological salvage work)	10/27/63	11/8/63
Kurrash, Mimi	Park Technician	4/23/78	12/30/78
Landis, William E.	Park Ranger (seasonal)	4/26/86	4/23/87
		5/24/87	11/21/87
Landry, Russell	Clerk-Stenographer	4/38	10/38
Lang, Billie	VIP	12/91	Current

Lang, Julius	VIP	12/91	1/4/92
	Park Ranger (seasonal)	1/5/92	3/15/92
Latham	Machinist Aide	3/39	5/39
LaVergne, Jules	CCC Clerk	4/41	?
Lesso, Gloria J.	Park Aid	6/4/78	6/2/79
Lewis, Estle	Summer aid	6/17/79	9/23/79
	Student aid	9/23/79	4/19/80
	Park Technician (seasonal)	5/17/80	3/14/81
		5/17/81	4/1/82
		5/30/82	4/22/84
	Park Ranger-Trainer	5/16/84	6/24/84
	Park Ranger	6/24/84	7/5/87
		7/5/87	3/12/88
Lewis, Gil	YCC	1981	1981
Lewis, Glenn A.	Laborer (archeological salvage work)	10/23/63	11/6/63
Lewis, Lance	Student aid	6/6/66	9/10/66
Lewis, Madeline	Park Technician	1973	4/23/77
	SPMA Basket Weaver	1977	1984
Leyva, Alex	CCC Mimeograph Operator	11/39	1/1/40
Lilyblade, Karen	Park Ranger (seasonal)	5/24/87	11/21/87
	Park Ranger (seasonal)	1/13/91	4/16/91
Ligameri, Jimmie	VIP	12/87	3/88
Linder, Harry P.	Jr. Clerk-Typist	3/40	10/1/42
	Asst. Clerk-Typist	10/1/42	11/1/42
	Clerk	11/1/42	12/42
	Superintendent	2/67	?
Lister, Robert H.	Park Ranger (temporary)	1/25/40	4/25/40
Lopez, Severo S.	Maintenance	12/3/52	1/12/52
	Maintenance-Leadman	1/18/53	4/2/55
Luther, James	Chief Clerk	9/26/36	9/37
Mack, Rudolph	Maintenance	6/7/50	11/52
Madrid, Tony	YCC	1980	1980
Mangimeli, John A.	Park Ranger-Supervisor	8/17/86	12/16/89
Mahan, Russell	Relief Ranger	3/41	1/42
Manjarres, Angelina	Summer aid	5/28/72	7/30/72
Marietta, Mitchell A.	Laborer (archeological salvage work)	10/24/63	11/6/63
Marshall, Robert C.	Maintenance/Caretaker	6/2/55	10/24/64
Martinez, George	YCC	1981	
Martinez, T.	CCC	3/38	?
Masterson, Clyde R.	Laborer (archeological salvage work)	1/8/63	1/11/63
Mauzanedo, Arthur	YCC	?	
	Maintenance	1968	
Mayer, Martin	Archeologist	3/67	5/67
Mayo, H. B.	Custodian	1899	1901
McColm, Milton J.	Acting Superintendent	10/41	12/13/41
McDonald, Harry N.	Laborer (archeological salvage work)	1/8/63	1/14/63
McGee	CCC Guide	5/39	9/39
McGill, James	YCC	1986	1986

McGinnes, Raymond	YCC	1986	1986
McKamey, Verne A.	Park Technician	5/28/73	5/23/74
		7/7/74	5/24/75
		6/22/75	4/22/76
		5/23/76	11/28/76
McKee, Margaret	VIP	1/7/91	3/91
McNiel, Irving	Guide (temporary)	6/29/37	7/2/37
McPherson, James R.	Laborer (archeological salvage work)	1/8/63	1/11/63
Mellberg, Bruce	Park Ranger (seasonal)	2/14/88	4/9/88
Midvale, Frank J.	Park Ranger (seasonal)	9/16/62	9/15/63
		5/25/63	5/23/64
		9/27/64	5/27/66
		9/25/66	6/3/67
		9/17/67	5/18/68
Miller, David B.	Park Ranger (seasonal)	10/60	3/61
Miller, Hugh M.	Chief Clerk Acting Assistant Superintendent Asst. Superintendent  Superintendent	8/33	7/1/35
		7/1/35	7/1/36
		7/1/36	12/15/36
		4/37	3/6/40
		3/6/40	7/1/42
Mincy, Christine	YCC	6/5/89	7/28/89
		6/11/90	8/3/90
Mitchell, Govenor E.	Student aid	6/2/68	9/7/68
Monreal, Josephine	Mimeograph Operator	7/40	10/4/40
Monreal, Maria	Librarian Asst. Librarian	5/41	10/41
		10/41	3/2/42
Moore, Wells W.	Laborer (archeological salvage work)	1/8/63	1/14/63
Morales, Frank	CCC Guide	5/38	7/38
Moskwa, Edwin G.	Park Aid	6/18/78	8/19/78
Mungerro, Laurence	CCC Guide CCC Clerk CCC Jr. Clerk-Stenographer CCC Clerk	7/38	9/38
		9/38	10/39
		10/39	3/40
		3/40	10/40
Munson, Una & Bill	VIP	3/86	3/88
Murray, Dennis M.	Park Ranger (temporary)	11/28/49	3/19/50
Myers, Carl R.	Park Ranger (general, seasonal)	9/11/66	1/29/67
Natal, Thomas	YCC	1985	
Nelson, Don & Joy	VIP	1986	1987
Nelson, Steve R.	Park Technician	5/22/77	10/8/77
		12/18/77	4/10/78
		10/8/78	4/21/79
Newcomb, Frank & Mildred	VIP	1/92	Current
Nickel, Edward A.	Associate Structural Engineer	8/32	12/32
Nusbaum, Deric	Roving Ranger	6/36	9/36
Orem, Sam	Park Ranger (temporary)	9/8/49	10/11/49
Ortiz, Ray	YCC	1986	
Pace, Alpha Mae	NYA	3/3/42	4/30/42
Padilla, Wanda	Park Technician	12/16/79	1980

Palmer, Hilding F.	Custodian	7/1/31	5/31/35
Peck, Fred R.	Archeologist	4/22/53	1/11/55
Peters, Marsha	VIP	1/92	Current
Peterson, Alfred	Senior Laborer	11/29	2/30
	Guide	2/30	?
Peterson, Robert W.	Park Technician	11/13/83	4/8/84
Petrie, Robert	Clerk-Stenographer	10/38	1/39
	Asst. Clerk-Stenographer	1/39	10/39
Pinkley, Frank "Boss"	Custodian	12/12/01	11/30/15
		3/16/18	6/30/31
Pratt, George	YCC	1980	1980
Pulsipher, Fenton	Stenographer	3/41	?
Queen, Mary	YCC	1985	
	Park Ranger-Typist	4/23/89	9/30/89
Rapp, John	YCC	1985	
Ramirez, Albert	CCC Typist	6/6/39	7/39
	CCC Mimeograph Operator	10/39	11/39
Reaves, Kenneth J.	Park Aid	4/27/75	8/21/75
Reaves, Roy W. III	Archeologist GS-7	12/5/65	9/15/66
		6/9/67	9/17/67
		8/15/68	3/9/69
	Chief I & RM GS-7	3/9/69	5/31/70
Reber, Anne-Marie H.	Park Technician (seasonal)	12/14/80	5/11/81
		2/21/82	4/25/83
Reed, Eric	Roving Ranger	7/1/35	9/30/35
Reed, Harry	Relief Ranger	11/30/42	12/7/42
Reinhardt, Ina Mae	NYA Mimeograph Operator	1/40	3/40
Reisch, Roger	Seasonal	10/59	4/60
Richey, Charles A.	Asst. Superintendent	9/25/40	9/41
	Acting Superintendent	9/41	7/1/42
	Superintendent	7/1/42	?
Rieber, Howard	Asst. Clerk-Stenographer	10/39	9/41
Riedel, Angela Lynn	Park Technician (seasonal)	12/8/85	4/12/86
Ringenbach, Ray B.	CCC Jr. Clerk-Typist	9/39	3/40
	CCC Clerk	3/40	?
Robbins, Orlenda	Student aid	6/6/66	9/10/66
Roberts, James W.	Laborer WG-3 (part-time)	10/19/80	10/32/82
	Maintenance	10/31/82	6/1/85
	Laborer WG-2 (seasonal)	3/12/89	Current
Roche, Florence	NYA Mimeograph Operator	3/40	7/40
Rodgers, James	CCC Guide	11/37	6/1/39
Rodriguez, Michael	YCC	6/10/91	8/3/91
Rose, Robert H.	Asst. Park Naturalist	6/31	9/33
	Asst. Superintendent	9/33	7/1/35
	Asst. Park Naturalist	7/1/35	1/1/37
Rojas, George	YCC	1980	
Rudy, George	Park Ranger/Clerk-Stenographer	10/27	3/29
Ruiz, Randy L.	Park Technician	5/9/76	1/15/77

		1/30/77	7/2/77
Ryan, Kenneth	YCC	11/67	1967
	Park Technician (seasonal)	6/14/71	10/20/79
Sauceda, Yolanda	Administration	1968	
Savage, Teddy	CCC Guide	1/38	9/38
	CCC Machinist Aide	9/38	11/26/38
Schelert, Ann	VIP	5/19/91	7/22/91
Schmidt, Herman	Administrative Assistant	11/4/58	?
Scholz, Victor	CCC Guide	4/25/38	9/38
	CCC Mimeograph Operator	9/38	12/38
Schuft, Peter	Park Ranger (temporary)	11/1/41	10/20/42
		2/46	4/5/48
Schumacher, Paul J.	Archeologist	11/20/46	9/4/47
Schumacher, Tena R. Burton	YCC/Typist/Maintenance	10/80	7/81
	Park Aid/Typist	2/21/82	2/5/84
	Taper	2/5/84	3/1/84
	Clerk-Typist	3/1/84	8/19/84
		8/19/84	5/1/90
Seagoe, Francis	Guide (temporary)	?	3/1/27
	Park Ranger	3/1/27	?
Sense, Richard G.	Park Ranger (general, seasonal)	1960	1961
Shearwood, Jessica	Park Ranger	6/26/44	6/1/45
Sheffield, G.	CCC Guide	8/17/38	12/38
	CCC Mimeograph Operator	12/38	9/8/39
Sharp, Charlie C.	Relief Ranger	6/42	7/42
		2/8/46	?
Sharpe, William H.	ECW Clerk	9/36	9/37
	CCC Clerk	9/37	1/38
Shuler, Roland V.	Laborer (seasonal)	6/4/85	9/28/86
Singerman, Millard	Clerk-Stenographer	5/36	4/38
Slevin, John M.	Park Technician	10/23/77	4/22/78
Smiley, Dave	Relief Ranger	11/39	8/1/40
Smith, Burrell F.	Park Ranger (seasonal)	10/26/86	5/9/87
		12/13/87	3/12/88
Smith, Dorrie	VIP	1986	1987
Smith, John	CCC	3/21/38	?
Smith, Ray	Construction	12/16/40	?
Sorrels, Mary A.	Park Technician	1/2/77	1978
Soto, Irene	Student aid	6/5/67	9/9/67
Soule, Parke W.	Chief Clerk	11/37	8/43
Sowers	Park Ranger (temporary)	6/42	7/42
Spangle, Paul	Park Ranger (temporary)	3/20/50	6/50
Sparks, Johnnie	Asst. Clerk	9/42	10/12/42
	Jr. Clerk-Typist	10/12/42	11/24/42
Spencer, Brent	YCC	6/9/86	8/1/86
Spencer, Donald L.	Superintendent	10/27/85	Current
Sperling, Carol E.	Park Ranger (seasonal)	1986	1987
	Park Ranger	1/29/89	2/25/90

Stall, Calvin	Maintenance	1968	
Steen, Charlie	Park Ranger	8/1/35	5/1/36
	Jr. Park Naturalist	5/1/36	5/37
	Jr. Park Archeologist	5/37	3/40
	Archeologist	3/40	3/16/43
	Asst. Park Naturalist	3/16/43	10/18/43
Stonehocker, Francis	Mechanic	7/1/37	9/1/48
Strand, Irene	SPMA	1986	1987
Strand, Victor	VIP	1986	1987
Street, John W.	Summer aid	6/1/71	9/19/71
Studebaker, Judith C.	Park Ranger (general)	2/8/71	6/12/71
Studebaker, Stephen	Park Ranger (general)	9/6/70	10/3/70
		1/18/71	5/15/71
	Park Technician	10/3/71	5/13/72
Susag, Daniel	Laborer (seasonal)	4/26/87	1/30/88
Sutton, Betty	VIP	9/1/87	3/88
Telles, Carol F.	Park Ranger (seasonal)	1985	10/12/86
Thorne, Frank L.	Student aid	5/30/67	9/9/67
Thomas, C. E.	Guide/Stenographer	?	6/29
Thomas, Chester A.	Acting Asst. Superintendent	12/41	3/42
Thompson, Gene & Helen	VIP	12/90	Current
Tovrea J. H.	Asst. Engineer	?	4/35
	Chief Engineering Aide	4/35B	7/36
	Asst. Engineer	7/36	10/40
Tovrea, Polly	Park Ranger	6/30/45	1/9/46
Valcarce, Joseph P.	Park Ranger-Supervisor	8/6/51	12/25/68
Valder, Linda	Park Ranger (seasonal) / Archeologist	9/16/68	12/1/68
VanCleave, George	VIP	1/92	Current
VanValkenburg, Sallie	Park Ranger (seasonal)/ Archeologist	12/25/54	4/26/55
		1/7/56	?
Vasuez, Ray	YCC	1968	
Vaughn, David	YCC	6/9/86	8/1/86
Vaughn, Ricky	YCC	6/9/86	8/1/86
		6/8/87	7/31/87
Vicenti, Rolene	Park Technician	12/5/76	5/21/77
Villereal, Mitchell	Maintenance	1968	
Vivian, Gordan	Park Ranger	?	10/31/46
	Maintenance	2/49	?
Voll, Charles B.	Archeologist	10/10/58	11/59
	Superintendent	1/2/66	1/29/67
Walker, Ceceilia	YCC	6/11/91	8/3/91
Ward, Roy G.	Laborer WG-2	4/7/91	06/01/91
Warman, Paul & Ruth	VIP	1/92	Current
Wasserman, Robyn	Park Ranger (seasonal)	4/5/88	11/19/88
Wayt, Gregory	Park Ranger (Killed on Duty)	9/74	11/30/74
Weber, Don	Park Technician	10/12/79	1981
Wells, C. F.	Structural Engineer	?	2/34
White, Naomi	Administration	1968	

White, Stephen J.	Summer Aid	6/18/78	9/23/78
	Student Aid	10/21/78	5/19/79
Whitman, Leon R.	Laborer (archeological salvage work)	10/27/63	11/14/63
Whittemore, I. T.	Custodian (honorary)	12/3/1889	7/1/1892
	Custodian (official)	7/1/1892	9/1899
Wildermuth, Diane M.	Student Summer Trainee	6/16/65	9/20/65
Wilkerson	CCC Guide	5/13/39	9/14/39
Williams, Ann W.	Park Technician	10/10/76	6/17/77
Williams, Clayton G.	Laborer (archeological salvage work)	10/24/63	11/14/63
Williams, Linda K.	Student aid	6/4/68	7/9/68
Williams, Sidney B.	Maintenance	1968	
	Summer aid	6/5/69	8/29/69
Winters W. Jack	Custodian	9/16/35	12/15/36
Wolfe, Smoki	VIP	5/28/91	Current
Wood, Gerald L.	Park Ranger (seasonal)/ Archeologist	2/14/61	3/4/62
Woodridge, Jamie	Administration	1968	
Wyatt, Charles D.	Park Ranger	9/28/39	11/1/40
Yazzie, Willie	Laborer	5/5/69	5/16/69
Yucupisio, Margaret	YCC	6/8/87	7/20/87
Yucupisio, Tony	YCC	6/5/89	7/28/89
Zawlocki, Eleanor	VIP	1987	1987
Zell, Randy	Maintenance	1968	1968
Zell, Terry A.	Summer aid	6/5/69	9/15/69
		10/1/69	1/24/70

## APPENDIX C: 1892 EXECUTIVE ORDER

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### DEPARTMENT OF THE INTERIOR,

Washington,

June 20, 1892

Sir:

I have the honor to recommend that the SW 1/4 SW 1/4, SE 1/4 SW 1/4, SW 1/4 SE 1/4 section 9, NW 1/4, NW 1/4 NE 1/4, SW 1/4 NE 1/4, NW 1/4 SW 1/4, NE 1/4 SW 1/4 and NW 1/4 SE 1/4 section 16, all in township 5 south, range 8 east, Gila and Salt River Meridian, Arizona, containing 480 acres more or less, and including the Casa Grande Ruin, be reserved in accordance with the authority vested in you by the act of March 2, 1889 — 25 Stat., 961, for the protection of the ruin.

The Director of the Bureau of Ethnology requests that the reservation be made and the Acting Commissioner of the General Land Office knows of no objection to such action.

Very respectfully,

John W. Noble,  
Secretary.

The President.  
6144-'92

**THE SECRETARY OF THE INTERIOR**

June 21, 1892

Recommends the reservation of certain lands in Arizona for the protection of the Casa Grande ruin.

**(E.O. of June 22, 1892 — No. 28-A)**

**EXECUTIVE MANSION**

June 22, 1892

Let the lands described within be reserved for the protection of the Casa Grande ruin as recommended by the Secretary of the Interior.

Benj. Harrison

## **APPENDIX D: 1918 NATIONAL MONUMENT PROCLAMATION**

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**BY THE PRESIDENT OF THE UNITED STATES OF AMERICA**

**A PROCLAMATION**

[No. 1470 -- Aug. 3, 1918 -- 40 Stat., 1818]

WHEREAS, by authority of the Act of Congress approved March 8, 1889 (25 Stat., 961), there was set aside and reserved by Executive Order dated June 22, 1892, certain land in the State of Arizona on which is located the prehistoric ruin known as Casa Grande, the boundaries of which reservation were later amended by proclamation of December 10, 1909 (36 Stat., 2504); and

WHEREAS it is in the public interest that this reservation be made a national monument under authority of the Act of Congress entitled "An Act for the preservation of American antiquities," approved June 8, 1906 (34 Stat., 225), in order that better provision may be made for the protection, preservation and care of the ruins of the ancient buildings and other objects of prehistoric interest thereon;

NOW, THEREFORE, I Woodrow Wilson, President of the United States of America, by virtue of the power in me vested by section two of the aforesaid Act of Congress, do proclaim as the Casa Grande National Monument the land heretofore reserved and set aside as aforesaid, to-wit: the northwest



quarter, the northeast quarter, the north half of the southwest quarter, and the north half of the southeast quarter of section sixteen, township five south, range eight east, Gila and Salt River meridian, State of Arizona, the boundaries of said national monument being as shown on diagram annexed to said proclamation of December 10, 1909 (36 Stat., 2504), which diagram is made a part hereof.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, remove or destroy any feature of this national monument, or to locate or settle on any of the lands reserved by this proclamation.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have supervision, management and control of this monument, as provided in the Act of Congress entitled "An Act to establish a National Park Service, and for other purposes," approved August 25, 1916 (39 Stat., 535). IN TESTIMONY WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE in the District of Columbia This 3d day of August in the year of our Lord one thousand nine hundred and eighteen, and of the Independence of the United States of America the one hundred and forty-third.

Woodrow Wilson

## **APPENDIX E: CASA GRANDE RUINS NATIONAL MONUMENT VISITATION FIGURES**

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Visitation figures were first submitted to the General Land Office in 1916.

1916 —	1,909	1954 —	46,100
1917 —	2,437	1955 —	47,800
1918 —	3,150	1956 —	52,400
1919 —	3,677	1957 —	60,200
1920 —	7,720	1958 —	70,700
1921 —	6,296	1959 —	68,100
1922 —	5,068	1960 —	76,900
1923 —	6,787	1961 —	87,500
1924 —	9,583	1962 —	83,900
1925 —	13,587	1963 —	105,700
1926 —	16,542	1964 —	132,400
1927 —	28,818	1965 —	88,100
1928 —	28,274	1966 —	110,500
1929 —	37,244	1967 —	82,900
1930 —	36,656	1968 —	80,100
1931 —	27,675	1969 —	89,800
1932 —	21,895	1970 —	116,600
1933 —	21,771	1971 —	117,100

1934 —	26,776	1972 —	117,500
1935 —	27,345	1973 —	135,100
1936 —	27,744	1974 —	98,200
1937 —	33,661	1975 —	135,400
1938 —	33,761	1976 —	143,400
1939 —	25,109**	1977 —	125,300
1940 —	12,877	1978 —	137,700
1941 —	18,725	1979 —	114,600
1942 —	12,199	1980 —	111,300
1943 —	7,332	1981 —	104,900
1944 —	9,215	1982 —	107,300
1945 —	14,998	1983 —	121,300
1946 —	27,994	1984 —	135,800
1947 —	35,681	1985 —	144,400
1948 —	34,395	1986 —	163,000
1949 —	32,129	1987 —	182,000
1950 —	36,114	1988 —	168,900
1951 —	43,705	1989 —	166,100
1952 —	49,758	1990 —	177,200
1953 —	49,232	1991 —	176,900

\*\* This 1939 decrease in visitation represents the beginning of a 25 cent entrance fee.

## **APPENDIX F: CASA GRANDE RUINS NATIONAL MONUMENT NATIONAL PARK SERVICE BUILDINGS**

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Construction programs at Casa Grande were a sometimes thing. Development under the General Land Office administration was almost non-existent. That agency's only expenditure was to place a roof over the Great House in 1903. The General Land Office commissioner even told Frank Pinkley that he would have to build a residence at his own expense. Money to provide for employee and visitor facilities did not become available until after the National Park Service acquired the property in August 1918. Even then, construction funds were rarely available in the 1920s. Only two structures, a museum and a residence, were built in that decade. These buildings have since been removed. Most of the construction funds came during the depression era of the 1930s. The last development period, in the early 1960s, came from the National Park Service Mission 66 program (figure 28).

Construction at Casa Grande Ruins National Monument has, for the most part, been accomplished by following a plan developed by Thomas Vint and Frank Pinkley in 1928. Vint thought that buildings should be grouped together on a functional basis. Consequently, a picnic area with ramadas was developed in a separate location from the administration/museum building (visitor center). Employee residences were built in another area, and the maintenance facilities were developed in a third compound. Convenience dictated the location of utility structures such as the pumphouse and the wall around the electric transformer. The decision to erect a protective roof over the Great House followed a

ruins preservation plan. All of the buildings had the same Southwest architectural design of a modified Pueblo style. Except for the protective roof over the Great House, each grouping or compound of buildings will be considered as an entity when considering their historical significance for the purpose of nominating them to the National Register of Historic Places. Changes to the picnic area, administration/museum building, pumphouse now monument library, and the employee residence compound have resulted in alterations that detract from their historic appearance. As a result, only the maintenance grouping, and electric transformer enclosure have retained their historic integrity and will be nominated to the National Register. These structures were constructed by the Civilian Conservation Corps between 1938 and 1940. In addition the 1932 protective roof over the Great House will be nominated to that listing.

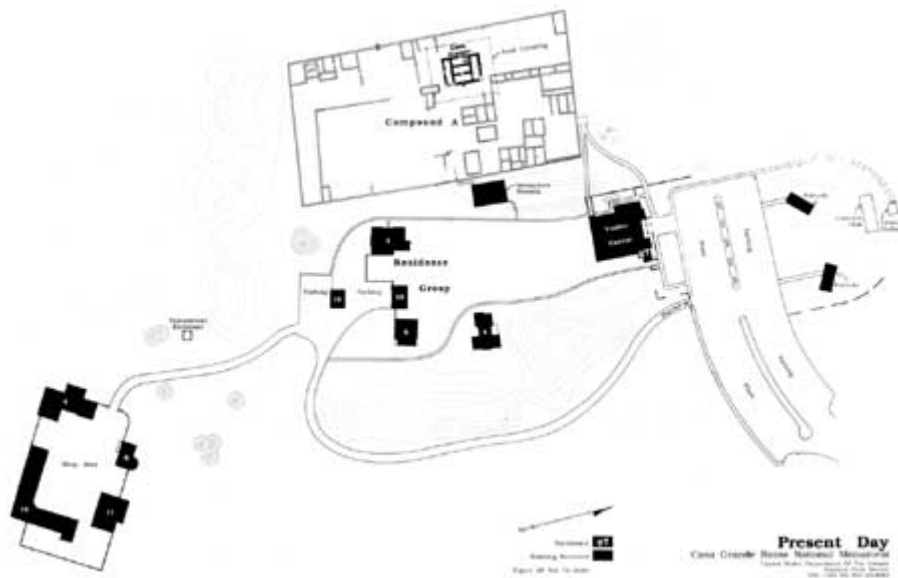


Figure 28: Present Day Park Map  
(click on the above image for an enlargement in a new window)

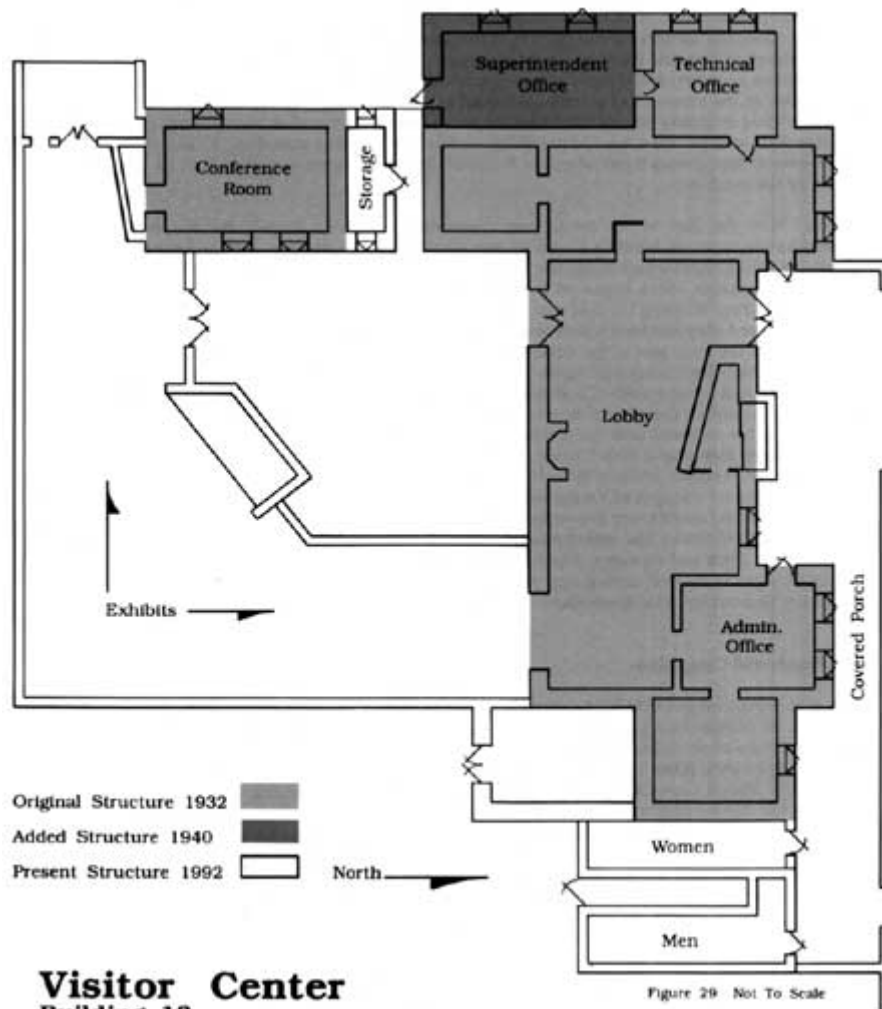
### **The Picnic Facility**

A picnic facility has been located on the site of the current picnic area since late 1918. Until 1956, the location also contained a campground. In both 1932 and 1933 the picnic area was expanded with ramadas, tables, and fireplaces (see figure 24). By 1956, because of a desire by regional personnel to discourage picnicking, the picnic site was drastically reduced in size. It remained in that reduced condition until the 1976-77 period. At that time, it was remodeled with new ramadas set over concrete slabs. Consequently, the current picnic site with its modern-day facilities has no historic integrity. [1]

### **The Administration/Museum Building (Visitor Center)**

The administration/museum building, now named the visitor center (Building 12), was completed on January 5, 1932 at a cost of \$9,166.20. Thomas Vint of the Park Service San Francisco Field Office had originally designed the structure to be built as a square with an open center, but the appropriation was only sufficient to complete the front part of the square. The building had a modified Pueblo architectural style. Built on a concrete foundation, its twenty-four-inch thick adobe walls had stucco on the exterior and lime plaster on the interior. Its flat roof was hidden behind a low parapet wall (figure 29). The major part of the building originally housed offices for the Southwestern Monuments headquarters personnel until October 1942 and for the Casa Grande Ruins National Monument custodian. In December 1940, the Southwestern Monuments Superintendent, Hugh M. Miller, had a private office built on the southwest corner of the structure. [2]

Almost from the day of its completion, monument personnel longed for the day when the administration/museum building would be expanded to the size that Mr. Vint had initially proposed. Finally, in 1963 Congress authorized the funds to increase the visitor center's size to a square building with an open center. Work began on the addition in late 1963. When it was completed in 1964, the restroom building (Building 13) to its rear had been incorporated into the structure for a conference room and an L-shaped wing had been added to achieve the hollow square building (figure 29). Restrooms were relocated into the front part of the structure with entrances off the new, covered porch which ran the length of the building's north side (figure 30). This expanded area, which provided more than double the exhibit space, had exterior walls of both adobe and concrete block covered with stucco. A pole ceiling was built into the lobby. The visitor center retained its modified Pueblo architecture. Cyclical painting maintenance has occurred with the exterior walls coated with a texturized paint in 1976, and 1986. A Dunn-Edwards Elastomeric Wall Coating in a new color termed "Casa Grande Ruins" was applied to the Visitor Center's exterior walls in 1991. Interior walls are painted every two years. In 1975 a one-inch urethane foam coat was applied on the visitor center roof. Maintenance called for painting it with a latex protective coat and reseal every five years with a new foam covering every twenty years. Problems have developed with the foam coat with the result that a plan has been developed to re-roof the building by removing the foam and replacing it with a built-up composition roof. Because this building has been greatly changed in the past twenty-nine years to the extent that it no longer retains its historic integrity, it will not be considered for nomination to the National Register of Historic Places. [3]



**Visitor Center  
Building 12**  
Casa Grande Ruins National Monument  
United States Department Of The Interior / National Park Service  
DSC/JAN 92/303/25.009



Figure 30: The Visitor Center

### **The Residential Compound**

This area, when completed in 1934, contained five buildings for employee housing as well as a storage structure. All of these buildings had a modified Pueblo architectural style. The first two buildings on the site comprised a museum building reconstructed in 1925 and a ranger residence built between November 1928 and April 1929. When Thomas Vint, the chief landscape architect of the Park Service's San Francisco Field Office, visited Casa Grande in December 1928, he advocated grouping buildings on a functional basis. He felt that the 1925 museum could be converted to a residence and, along with the nearby ranger quarters then in the process of construction, could form the first buildings of a residential compound. The original museum building became a residence in January 1932 with the completion of the new museum. This structure (Building 2) was demolished in July 1966. The 1929 ranger residence (Building 3) was removed in January-February 1965 together with much of the compound's partial adobe wall enclosure.

The three remaining residences and a garage were built in 1931 and 1934. Each of these buildings has been modified over the years. These modifications, combined with the removal of two of the compound quarters and the partial surrounding adobe wall, have changed the compound's historic appearance with a resultant loss of integrity. Consequently, the remaining buildings will not be nominated to the National Register of Historic Places. [4]

Building 1, an eight room residence, was erected in 1931 as living quarters for the Superintendent of the Southwestern Monuments (figure 31). Since 1975, it has been converted to a seasonal dormitory (figure 32). Built at a cost of \$5,328.01, it now contains an overall 2,097 square feet. The quarters has adobe walls set on a concrete foundation. The walls rise above the flat roof to form a parapet. They have stucco on the exterior with plaster on the inside. In 1939 a patio with surrounding adobe wall was added (see figure 31). The following year a screened porch was constructed to the center of the west side. A major rehabilitation occurred to the quarters in 1965. The 1939 patio with its surrounding wall was removed. Two windows and a door on the west were replaced in the same year along with the removal of the screened porch. Also in that year, a family room with a built-up roof was constructed in place of the porch. On the opposite side of the building, a sitting room was added (see figure 31). In 1970 a one-inch thick layer of urethane foam was put on the roof and covered with two coats of white, styro acrylic emulsion for a vapor seal and to protect the foam from sunlight. This foam roofing material proved unsatisfactory. In 1983 the foam was removed and the roof cleaned to its original deck. The new roof consisted of Red Rosen paper for a moisture barrier. It was covered with an all weather base felt called "Flintkote." Next, a three-quarter inch fesco insulation board set in asphalt was placed over the felt. It was followed by forty pound Flintkote set in asphalt. Two layers of asbestos fifteen pound finishing felt

came next. Ninety pound roofing was applied to the walls as flashing and the seams were sealed with number 204 plastic cement and fiberglass tape. New four by eight inch drains were installed. Finally, the roof received a covering of number 220 fibered aluminum. In 1990 the exterior walls were painted with Flexon 701. [5]

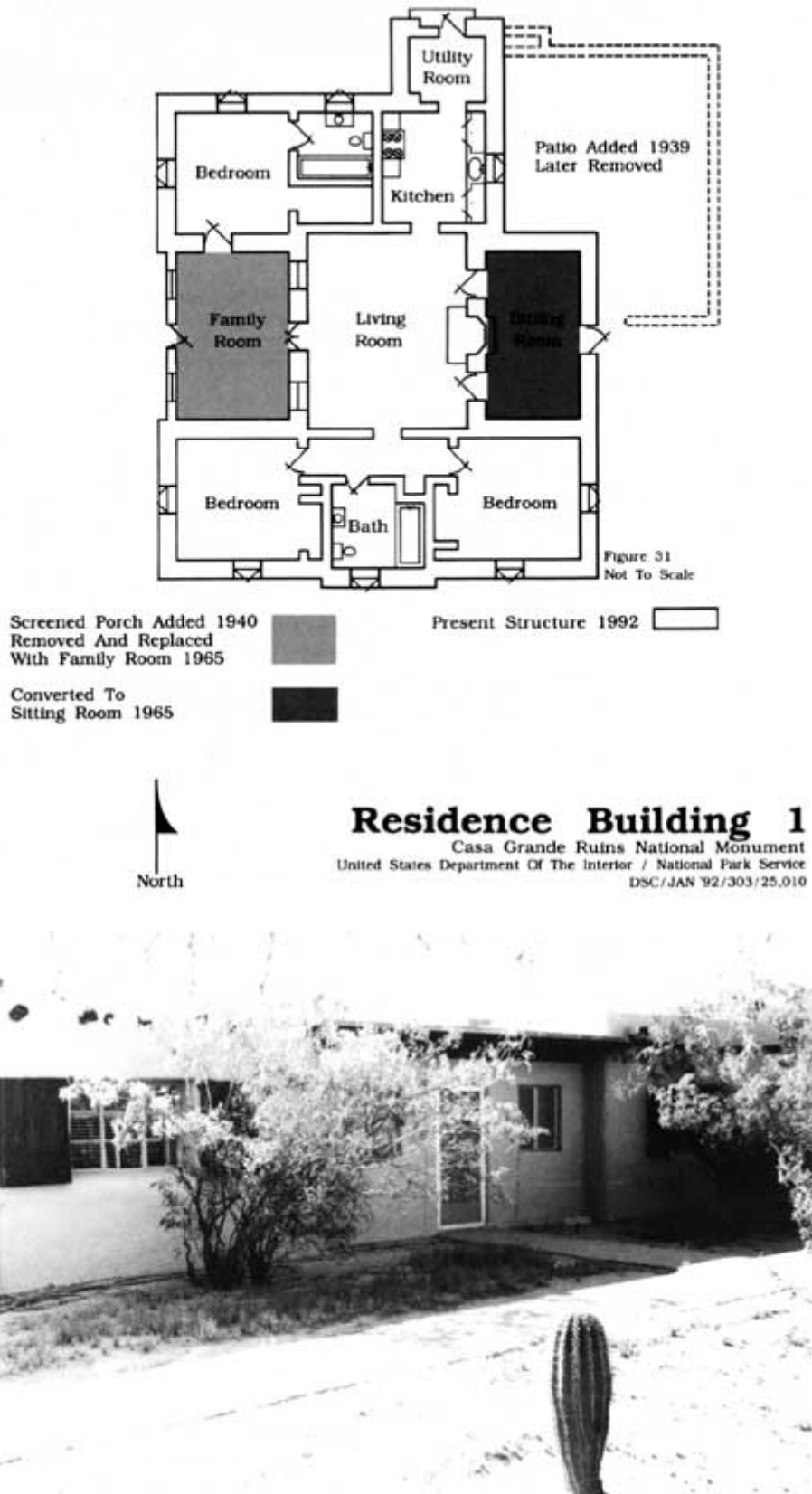
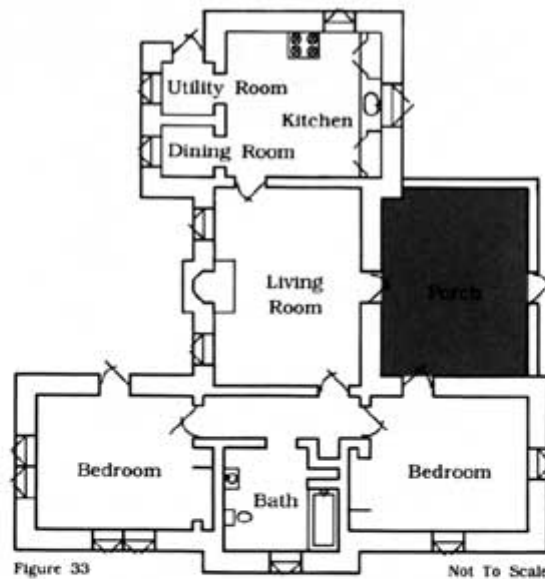


Figure 32: Building 1 — Former Southwestern Monuments Superintendent's Residence.

Completed in 1932, it has been modified in 1940 and 1965. The building now houses a seasonal dormitory.

Building 4, a six room quarters with an overall 1,620 square footage, was built in 1934 at a cost of \$4,949.25 (figure 33). Like the other structures, it has a modified Pueblo architectural style. The adobe walls are set on a concrete foundation and have a parapet rising above the flat roof. They are stuccoed on the exterior with plaster on the interior (figure 34). In February 1976, the front porch was removed and replaced by an enclosed room. Like building 1, a urethane foam roof was put on the structure in 1970. It was removed in 1983 and given the same treatment as described for building 1. In 1990 the exterior walls were painted with Flexon 701. [6]



Converted Into Room 1976  Present Structure 1992 



## Residence Building 4

Casa Grande Ruins National Monument  
United States Department Of The Interior / National Park Service  
DSC/JAN '92/303/25.011



Figure 34: Building 4 — Ranger Residence

Building 6, a four room residence with an overall 1,217 square footage, was constructed in 1931 for use by the Casa Grande custodian (figure 35). The quarters cost \$3,137.20. It has the same architectural style and type of construction as the other quarters (figure 36). Originally, this small residence had three rooms and a brush ramada on the west side for a porch. The brush ramada was thought to be a fire hazard, so it was removed with CCC labor in 1940 and replaced by a "service" porch. In early 1965 that porch was removed and replaced by an enclosed room. Thus the residence came to have four rooms. Its roof received the same treatment in 1970 and 1983 as the other quarters. In 1990 the kitchen was remodeled and the exterior walls were covered with Flexon 701. [7]

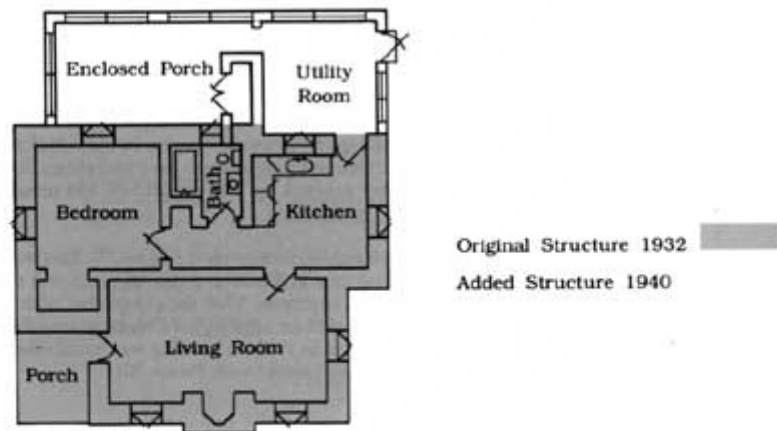


Figure 35 Not To Scale

**Residence Building 6**  
 Casa Grande Ruins National Monument  
 United States Department Of The Interior / National Park Service  
 DSC/JAN '92/303/25,012



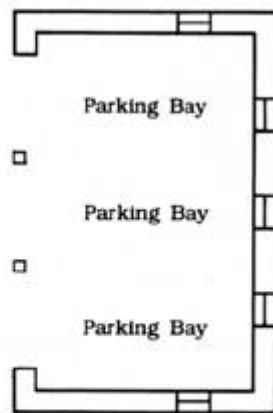




Figure 36: Building 6 — Ranger Residence  
(Possibly another photo of Building 4 as seen from the south. D. Winchester, Park Ranger.)

Building 15 was erected in 1931 for use as a tool and implement shed (figure 37). This modified Pueblo style structure has an overall 830 square feet and cost \$1,528.30 to build. Its walls and foundation are made of the same material as the other monument structures. With the completion of the maintenance compound by 1940, this building was no longer needed for storage. As a result, it was converted into a laundry and storage facility for the resident employees. In 1963 the building was transformed into a three-car garage (figure 38). In 1990 the exterior walls were painted with Flexon 701. [8]

Figure 37  
Not To Scale



### Three Car Garage Building 15

Casa Grande Ruins National Monument  
United States Department Of The Interior / National Park Service  
DSC/JAN '92/303/25.013

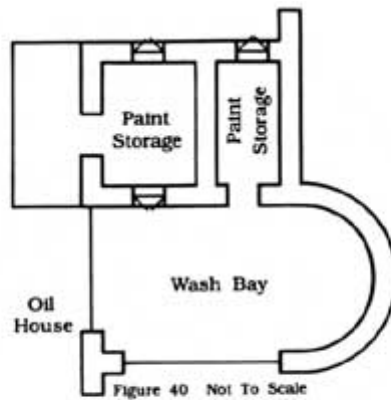


Figure 38: Building 15 — Originally a tool and implement shed when it was built in 1931. It became a laundry in 1940 and was modified to a three car garage in 1963.

### **The Maintenance Compound**

This walled area, located south of the employee quarters, contains four buildings which were constructed between December 1937 and January 1940 by the Civilian Conservation Corps (figure 39). As early as December 1928, Thomas Vint foresaw the need for a maintenance compound, but he mentioned only two buildings. By the mid-1930s Frank Pinkley desired a larger complex because he wanted to have a maintenance capability not just for Casa Grande Ruins National Monument, but for all the units that he administered in the Southwestern Monuments. Consequently, Pinkley arranged to have a CCC spike camp established at Casa Grande in November 1937 with enough manpower to construct the maintenance facility. This walled compound of maintenance buildings, built in a modified Pueblo style, has had few changes since its construction. As a result, it has historic integrity and will be nominated to the National Register of Historic Places.

Building 8 served as an oil house with a covered wash rack extension on its south side. As CCC project number 52, it was begun in June 1938 and completed in January 1939. Materials cost \$800.00. This rectangular building of 666 square feet has two divisions — a building and a covered wash rack (figure 40). The building portion has two storage areas for paint and oil. This single story building has adobe walls on a concrete foundation. Its walls were stuccoed over two- by two-inch wire mesh with "bitudobe" on the exterior and plaster over metal lath on the interior. The building has a reinforced concrete roof (originally covered with thirty pound mopped on felt), while the wash rack is covered with a corrugated iron roof supported by a wood frame which, on its outer side, rests on adobe covered piers (figure 41). The coping consisted of concrete block cast in place. Concrete slabs make up the floor. Double built-up pine doors with a herringbone pattern give access from the front, while a pine door permits entrance from the covered wash rack. These doors were faced with metal on the inside. The windows consisted of steel sash and frames. A semi-circular end wall is located on the structure's northeast corner. This end wall forms part of the surrounding compound wall. A concrete pad, on which a gas pump was placed, extends from the front of the building. A 575 gallon gas tank was buried beneath the pad in September 1938. By 1950, the gasoline tank was no longer used. In 1985 it was filled with water and in 1990 it was removed. In March 1976 the exterior walls were wet sandblasted and a texture coating of Flexon 701 applied. It matched the previous color. The structure was reroofed in 1988. In 1991 the exterior walls were power washed, coated with a primer, and painted with Dunn-Edwards wall coating. [9]



## Shop Area Building 8

Casa Grande Ruins National Monument  
 United States Department Of The Interior / National Park Service  
 DSC/JAN 92/303/20,015



Figure 41: Building 8 — Oil house with wash rack.

This structure now serves as a storage place for more flammable material.

Building 9, a combination warehouse, office, watchman's quarters, and bathroom, was built in two phases. The first phase began on February 24, 1938 and was completed in January 1939. A second part or south wing was started in March 1939 and finished in August 1939 (figure 42). Materials cost \$1,17924. This single story L-shaped building has adobe walls built on a concrete foundation. It has concrete slab floors. A parapet wall or coping of concrete block cast in place rises slightly above the roof. The walls were covered on the exterior with bitudobe over two-by-two inch wire mesh. Inside, the walls of the warehouse were plastered, while those of the office were plastered and painted. Interior walls in the watchman's quarters were plastered and calcimined and those of the bathroom were plastered and enameled. Three-ply paper layered on Celotex insulated board covered the wood frame roof. The original windows were wood frame with wood sash. Double pine doors with a herringbone pattern give entrance to the south section. Partly glazed double doors open into a storage area in the other part of the L-shape. The office and quarters portion had two doors on the front and one on the side. Between December 28, 1964 and February 25, 1965, the watchman's quarters, bathroom, and office areas were remodeled into an efficiency apartment. The wood frame windows were removed in this section and replaced with aluminum sash ones. In March 1976, the exterior walls were wet sandblasted and texture coated with Flexon 701. The building was reroofed in 1988. In 1991 the exterior walls were power washed, coated with a primer, and painted with Dunn-Edwards Elastomeric Wall Coating. [10]

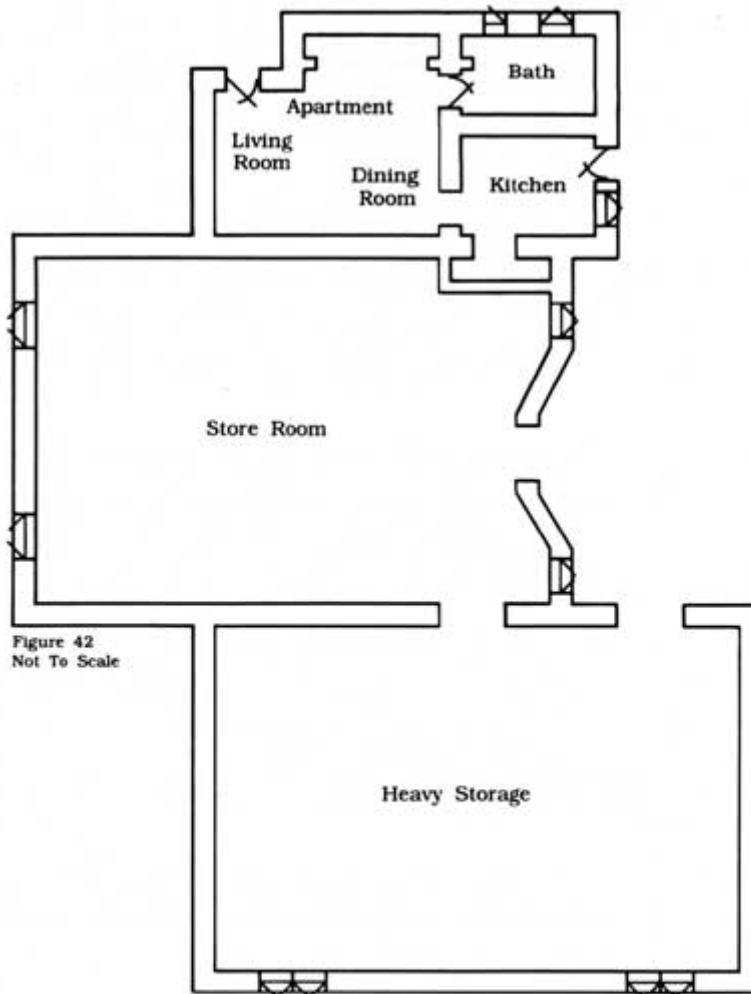
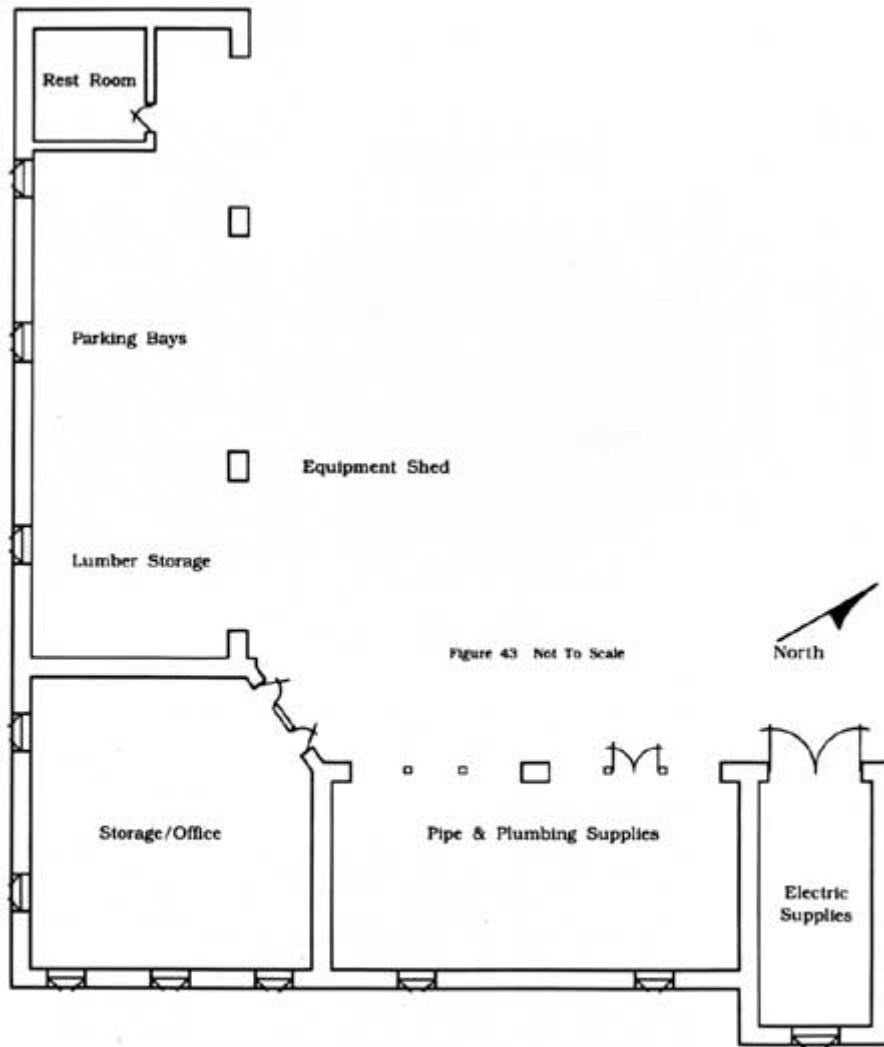


Figure 42  
Not To Scale

## Shop Area Building 9

Casa Grande Ruins National Monument  
United States Department Of The Interior / National Park Service  
DSC/JAN '92/303/25.016

Building 10, an equipment building, was built in two phases. Construction of the first part, three open bays, began in October 1938 and was completed in March 1939. Work on an addition, which gave the structure an L-shape, began in March 1939 and was finished in November of that same year (figure 43). The second area consisted of three bays and an artifact storage area in the southwest corner. This single story building has adobe walls built on a concrete foundation (figure 44). It has earth floors except in the artifact storage part (later office) where a concrete slab was laid. A parapet wall or coping of concrete block cast in place rises slightly above the roof. The walls were covered on the exterior with bitudobe over two-by-two inch wire mesh and plastered on the interior. A wood frame roof, carried on open web steel trusses, originally had a covering of three-ply paper layered on Celotex insulated board. The three open bays of the north/south section connect in the corner with what was once the artifact storage room that later became an office. Partly glazed double doors permit entrance to the corner room. Two glazed transoms are situated over those doors. Three bays also occupy the east/west section of the building. Two of these bays were originally open, but have subsequently been enclosed. The third bay, which is approximately three feet higher than the other portion of the building, has double oversized pine doors that contain a herringbone pattern. A restroom was built into the northwest corner in 1968. The structure's exterior was wet sandblasted in 1976 and texture coated with Flexon 701. It was reroofed in 1988. In 1991 the exterior walls were power washed, coated with a primer, and painted with Dunn-Edwards Elastomeric Wall Coating. [11]



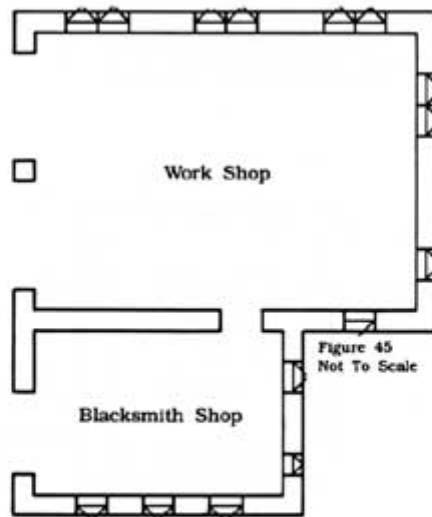
## Shop Area Building 10

Casa Grande Ruins National Monument  
 United States Department Of The Interior / National Park Service  
 DSC/JAN 92/303/25,017



Figure 44: Building 10 — An L-shaped equipment storage building.

Building 11, a single story shop and blacksmith shop, was the first and last building of the maintenance complex to be erected (figure 45). It, too, was constructed in two phases. As their first construction project at Casa Grande, the CCC workmen began to build the shop part of the building in December 1937 and completed it in January 1939. This section was built in the same manner as the other maintenance structures with adobe walls on a concrete foundation. A parapet wall of concrete block cast in place rises slightly above the roof. Again, the exterior walls were covered with bitudobe over two-by-two inch wire mesh and the interior walls were plastered. It has a concrete slab floor. The shop section contains two bays with sliding pine doors that each hold three windows of two over two glazing. Elsewhere in the building, the windows are wood casement. Beginning in October 1939 an addition was built on the shop's south side to house a blacksmith shop (figure 46). That segment was finished in January 1940. It was constructed in the same manner and using the same materials as the shop. The roof line of the blacksmith shop portion is approximately one foot lower than the shop roof. A sliding pine door permits access to the blacksmith shop from the west. This structure also had wet-sandblasting followed by a texture coating of Flexon 701 of its exterior walls in 1976. Like the other maintenance buildings, it was reroofed in 1988. In 1991 the exterior walls were power washed, coated with a primer, and painted with Dunn-Edwards Elastomeric Wall Coating. [12]



**Shop Area Building 11**  
Casa Grande Ruins National Monument  
United States Department Of The Interior / National Park Service  
DSC/JAN '92/303/25.018



Figure 46: Building 11 — Originally a shop and blacksmith shop which now houses a shop facility.

The maintenance area was enclosed with a six-foot high, 417 lineal foot adobe wall. It was covered with bitudobe over two by two inch wire mesh. This wall, which was topped with concrete coping, was constructed between mid-1938 and December 1939. A gateway with posts was completed in the northwest corner of the wall in August 1938. In some areas this compound wall formed the back wall of the buildings. [13]

### **Additional Civilian Conservation Corps Work**

Along with the maintenance compound, the CCC constructed an adobe pumphouse and adobe enclosure walls around the electrical transformer. Both were completed in the modified Pueblo architectural style. The transformer walls retain their original appearance and will be nominated to the National Register of Historic Places. In 1987 the exterior of the pumphouse was modified. This change in its historic appearance excludes it from consideration for placement in the National Register.

Building 16, a pumphouse located just south of the employee quarters, was begun by the CCC laborers in August 1939 and completed in December of that year (figure 47). This 440 square foot structure was built of adobe walls on a concrete foundation (figure 48). As with the other CCC constructed buildings, the exterior walls were covered with bitudobe over two-by-two inch wire mesh. Interior walls were plastered. A parapet wall rises slightly above the roof. The pumphouse had a poured concrete floor. Its windows were wood frame with wood sash. The entrance contained a wooden door which was removed in 1987 and enclosed. Double metal doors on the west were also removed in 1987. That area was partly enclosed and a single metal door put in the wall. At the same time the south window was removed and enclosed. When the monument was connected to the Coolidge water supply in 1952, this building was no longer used. According to the Mission 66 plan, the structure was slated to be removed. In 1960, however, the building was converted to a storage facility. It was remodeled in 1989 into the monument library. In 1976 the exterior walls were wet-sandblasted and given a texture coat of Flexon 701. In 1991 the exterior walls were power washed, coated with a primer, and painted with Dunn-Edwards Elastromeric Wall Coating. [14]



## **Library**

### **Building 16 / Pumphouse**

Casa Grande Ruins National Monument  
United States Department Of The Interior / National Park Service  
DSC/JAN '92/303/25.019A

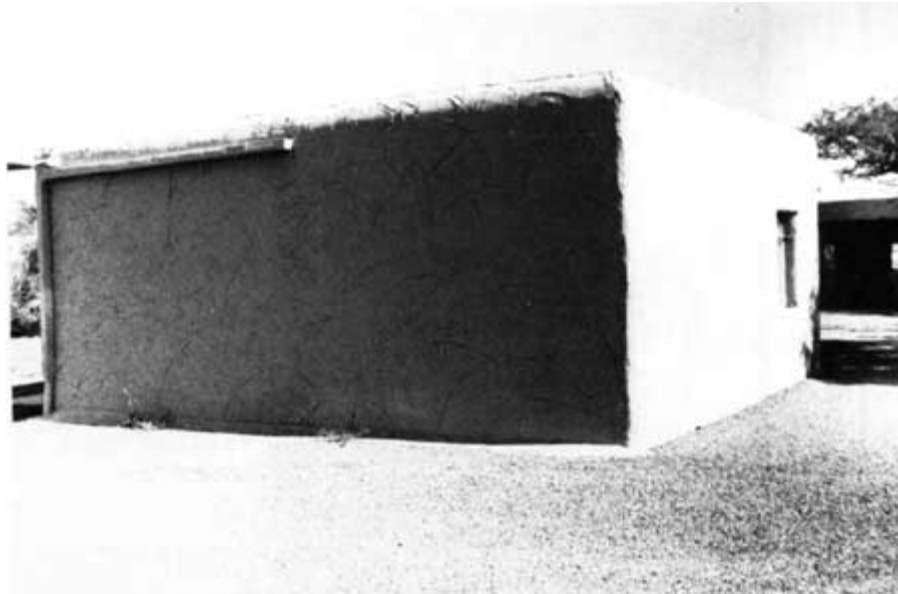
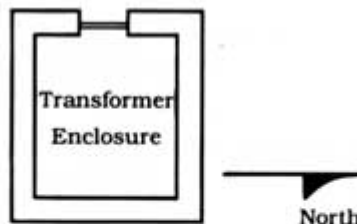


Figure 48: Building 16 — Monument Library.  
Originally constructed as a pump house in 1939. In 1960 it was converted to a storage facility.  
Remodeled into the monument library in 1989.

Adobe enclosure walls were built around the electrical transformer by the CCC workforce in November 1938 (figure 49). These nine foot, six inch high walls, located between the employee quarters and the maintenance facility, cover a 155 square foot area. They were covered with bitudobe over two-by-two-inch wire mesh and are capped with concrete coping. There are 12,500 volts coming into the transformer and 440 volts leaving it to the monument. [15]

Not To Scale



## Electrical Transformer

Casa Grande Ruins National Monument  
United States Department Of The Interior / National Park Service  
DSC/JAN '92/303/25,020

### Ruins Shelter Roof

Although this 1932 shelter roof has no unique engineering or architectural features because it was constructed by using common steel frame techniques of the day, it has historical importance. Even though it was not the first roof to cover the Great House, this roof represents early National Park Service preservation efforts. Consequently, this structure will be nominated to the National Register of Historic Places.

By the mid-1920s the original shelter roof had begun to deteriorate. Although Frederick Law Olmsted, Jr. designed a new roof in 1928, a design competition was soon held. It was not until 1932, however, that funds were appropriated to build the roof. Consequently, the Chief National Park Service landscape architect, Thomas Vint, became involved with the roof design. He wanted a distinctive roof, not one that would blend with the ruins. The National Park Service Director, Horace Albright, however, advocated that Olmsted's design be followed. Olmsted planned a structure with a hipped roof supported on leaning



posts that was secured with guy wires much like the ropes used on a circus tent. He designed the roof with these wires because he feared that the upward lift of the wind on such a structure could damage it and the ruins. [16]

On April 28, 1932 the National Park Service Washington office notified the San Francisco Field Office that funds were available to construct the ruins shelter. Soon thereafter, the design was finalized. For the most part, Vint followed Olmsted's plan with the exception that he omitted the guy wire arrangement and he made some changes in the cantilever trusses that supported the eaves. Otherwise, the hipped roof supported by leaning posts followed Olmsted's proposal. Allen Brothers, a bridge construction firm from Los Angeles, won the bid. That company sublet the excavation and footings to Clinton Campbell and the steel fabrication to the Virginia Bridge and Iron Company of Birmingham, Alabama. Campbell began work on September 19 to excavate for the footings. Soon thereafter, a railroad car of cement arrived along with 126 yards of gravel and sixty yards of sand. Campbell used that material to pour the footings. Each of the four, ten foot long footings was twelve feet square at the base and tapered to four foot, six inches at the top. The footings weighed seventy-eight tons each and had eight, one and one-half inch diameter bolts, twelve feet long imbedded in the concrete. The roof support columns were attached to these bolts. [17]

Before construction began on the new roof, the old 1903 shelter roof was removed and a temporary timber shelter erected over the Great House. The old roof was in such poor condition that it would not have protected the ruins from potential damage during construction. [18]



Figure 50: Ruin Shelter Roof.  
Constructed in 1932 to protect the Great House.

When the new ruins shelter was completed on December 12, 1932, it stood forty-six feet from the ground to the eaves. Four slanted columns of round, welded steel pipe with interior steel reinforcing supported the roof. A two-way steel truss system covered the entire bay of the hipped roof. The shelter roof had an overall dimension of ninety-eight feet north and south and eighty-two feet east to west. It had a slope of three inches in each foot. Its roof ridge was approximately fifty-eight feet, eleven inches above the ground. A copper louvered ventilator was designed for the roof ridge to reduce upward wind pressure. The highest point of the structure, the top of the monel metal ball used for a lightning rod, reached sixty-nine feet, three inches above the ground (figure 50). Its roof was covered with transite sheets of corrugated asbestos-cement material. Each sheet measured forty-two inches wide and six-feet, six-inches long and weighed ninety-six pounds. The sheets were fastened with bolts every twelve inches

along each purlin. In addition the roof incorporated four corrugated glass skylights which measured six-by sixteen-feet on the short roof side and six-by thirty-two-feet on the long side. Lightning protection came from an eight- inch monel metal ball atop a two-foot vertical section of Bakelite tubing insulation which was screwed to an eight-foot hollow steel tube fastened to the center of the ridge. A three-eighths-inch strand copper cable passed through the tube from the ball and followed the hip rafter to the southwest corner column. The cable ran through that column and the concrete footing to be grounded to a one yard square, twenty-two gauge copper plate buried fifteen feet below the surface in a bed of charcoal and rock salt. Each of the four columns were grounded in a similar manner. The roof drainage was accomplished by an eight-by ten-inch copper gutter forming the roof cornice. Two, six-inch copper downspouts connected with two six-inch wrought iron downspouts placed inside the two west columns. Water ran from there through two, eight-inch vitrified clay pipes in the ground to a low point sixty feet west of the compound. [19]

In the final construction report, the National Park Service structural engineer, Edward Nickel, who supervised much of the shelter's construction, described the care involved in the roof's design and construction. What he wrote described the modifications that Thomas Vint made to Olmsted's design. Vint's concern was that, although a roof would have an architectural value of its own, it should be designed to contrast with the Great House ruin and not blend with it. It should not detract from the ruin that it was intended to protect. Nickel stated that,

In designing the various structural members consideration was given to the architectural proportions so that the final appearance of the steel frame would be the best possible. For this reason angle sections were used in place of channels in the trusses, with the least dimension vertical, resulting in the desired appearance of lightness to contrast with the massive adobe walls.

Greater symmetry and architectural beauty was obtained in the steel frame and bracing, by using sections of similar overall size where possible. [20]

Upon completion, the shelter was painted a sage green to harmonize with the mountains and vegetation as well as provide a contrast with the ruin's walls. In subsequent years, little maintenance has been required for the shelter beyond periodic repainting. In 1955 some cracks, that had appeared in the support columns, were welded. The last coat of paint, applied in 1989-90, changed the shelter color from sage green to light tan. [21]

#### **Appendix F Footnotes:**

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1. Southwestern Monuments Monthly Reports, May 1932 and April 1934; Van Valkenburg, "Area History Casa Grande National Monument;" Casa Grande Superintendent's Annual Reports for 1976 and 1977.
2. Southwestern Monuments Monthly Report, January 1932, December 1940, January 1941; "The Six Year Program for the Casa Grande National Monument - 1934," 45-46; Master Plan, 1941.
3. Aubrey F. Houston to the National Park Service Director, January 15, 1964; Casa Grande Ruins National Monument maintenance records.
4. Southwestern Monuments Monthly Reports, November 1928 and April 1929.
5. information obtained from the monument maintenance records.
6. Ibid.

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