Archaeological Monitoring and Testing Associated with the Restoration at Mission Francisco de la Espada (41BX4), San Antonio, Bexar County, Texas

by
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and
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Principal Investigator
Paul Shawn Marceaux

Texas Antiquities Permit No. 6928

Prepared for:
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San Antonio, Texas 78217

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Center for Archaeological Research
The University of Texas at San Antonio
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San Antonio, Texas 78249
Archaeological Report, No. 448

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Abstract:

In the summer and fall of 2014 and spring of 2015, the Center for Archaeological Research (CAR) at The University of Texas at San Antonio (UTSA) conducted monitoring and testing at Mission San Francisco de la Espada. Archaeological investigations were conducted in the parking lot north of the chapel (Area 1) and west of the Priests' Quarters/Convento (Area 2). Two other areas were investigated directly in front of the church (Area 3) and north of the parking lot in the mission plaza (Area 4). Archaeological work was associated with the installation of 39 bollards and improvements in the parking lot. Additional work included replacing plumbing utilities west of the Priests' Quarters/Convento and a minimal amount of work performed north of the parking lot in the mission plaza.

In the parking lot area, Spanish Colonial period materials were recovered, and the highest density of artifacts was in the southern portion of the parking lot. Subsequent scraping of the parking lot revealed Feature 1, associated with the Spanish Colonial period. During work west of the Priests' Quarters/Convento, six features were encountered. Features 2 and 3 may define an exterior room. Feature 6 appears to be the remnants of a Spanish Colonial midden. Further work was not recommended for the current project, but Areas 1 and 2 should be investigated further if future work is conducted. The archaeological work was performed under Texas Antiquities Permit No. 6928, with Dr. Paul Shawn Marceaux serving as the Principal Investigator and Antonia L. Figueroa functioning as the Project Archaeologist.

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Chapter 1: Introduction

In the summer and fall of 2014 and spring of 2015, the Center for Archaeological Research (CAR) at The University of Texas at San Antonio (UTSA) was contracted by Pugh Constructors, Inc. to conduct archaeological investigations at Mission San Francisco de la Espada (41BX4) in San Antonio, Bexar County, Texas (Figure 1-1). Pugh Constructors (the client) conducted the work in association with Ford, Powell and Carson Architects and Planners, Inc. for the Archdiocese of San Antonio. The archaeological work conducted by CAR included monitoring of trench excavations and the excavation of shovel tests, auger holes, and one test unit. The archaeological work was performed under Texas Antiquities Permit No. 6928, with Dr. Paul Shawn Marceaux serving as Principal Investigator and Antonia Figueroa functioning as the Project Archaeologist.

This report discusses the results from the archaeological investigations. The remainder of this chapter presents the Area of Potential Effect (APE) and impacts to the area. Chapter 2 presents the project area background that includes an environmental assessment, a history of the mission, and previous archaeology at the mission compound. An overview of field and laboratory methods is presented in Chapter 3. Chapter 4 is a discussion of the results of archaeological investigations, and Chapter 5 provides a summary and recommendations.

Area of Potential Effect (APE)

Mission San Francisco de la Espada (41BX4), the southernmost of the five San Antonio missions, is a State Antiquities Landmark (SAL) and is listed on the National Register of Historic Places (NRHP). Mission Espada, along with the other San Antonio missions, was recently inscribed as a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site. Federal (National Parks Service), state (Texas Historical Commission),

Figure 1-1. The location of Mission Francisco de la Espada on the Southton 7.5-minute series USGS quadrangle map.

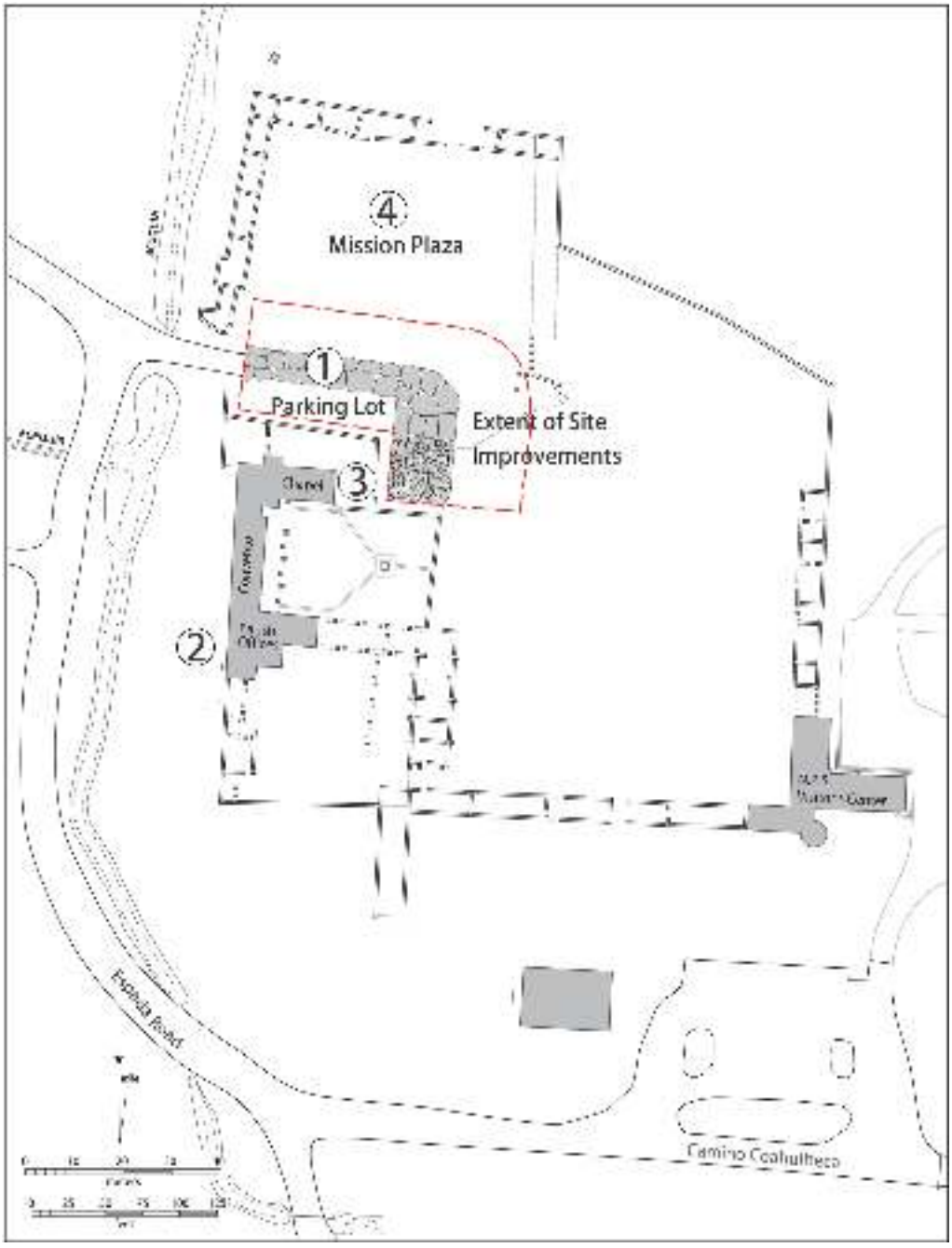

Figure 1-2. Four areas included in the Area of Potential Effect: 1) the parking lot, 2) Priests' Quarters/Convento, 3) church, and 4) mission plaza.

and city (Office of Historic Preservation) agencies, as well as the Archdiocese of San Antonio, are all involved in overseeing Mission Espada's designation as an SAL. Furthermore, the site's NRHP status requires professional archeological investigations prior to ground disturbing activities. The Area of Potential Effect (APE) consisted of four areas. Area 1 was the parking lot located just to the north and east of the church, and Area 2 was west of the Priests' Quarters/Convento. Area 3 was immediately in front of the church, while Area 4 was within the mission plaza (Figure 1-2).

Parking Lot (Area 1)

Area 1 of the APE is the parking lot located north and east of the church. Figure 1-3 shows the parking lot before and after the improvements. The parking lot measures roughly 65-x-41 m (213-x-135 ft.) in maximum dimensions. Impacts to this area included the removal of 15.24 cm (6 in.) of deposits, consisting primarily of gravel, and the replacement of that gravel with new top soil. The new soil has a soil/limestone aggregate base, with grass sod. The base was lightly

compressed prior to the placement of the grass sod. Paving stones and concrete pavers were installed on top of a section of the subgrade. In addition to the repaving of the parking lot, 39 wooden bollards were installed to define the parking area. The CAR conducted archaeological work in this area including monitoring and shovel testing (see Chapter 3).

Priests' Quarters/Convento (Area 2), Church (Area 3), and Mission Plaza (Area 4)

Area 2 of the APE is to the west of the Priests' Quarters/Convento, and it is the location for the replacement of a water valve and the right-of-way (ROW) of a sewer lateral. Activities in this area consisted of removing old water and sewage utilities and replacing them. Initially, only a water valve box was to be replaced, but it was soon discovered the entire plumbing utilities needed replacement including the installation of a sump pump. Archaeological investigations in this area consisted of monitoring, shovel testing, and test unit excavations. Area 3 in the APE was directly in front of the church entrance. Monitoring was conducted in this area for the removal of fill under brick pavers to waterproof the surface. Area 4 is north of the parking lot and is within the mission plaza. The only work in this area consisted of a single shallow trench for drainage purposes.

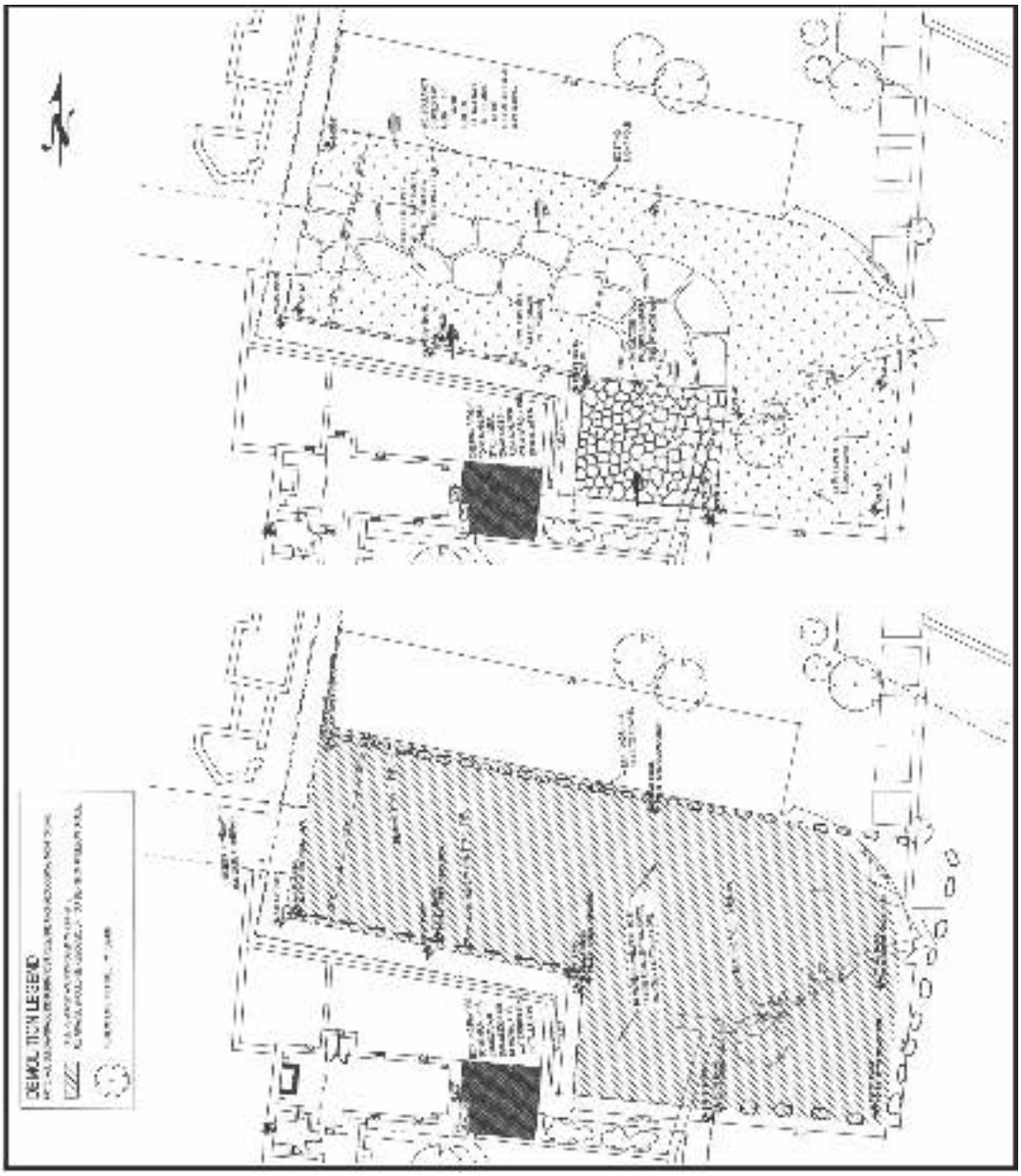

Figure 1-3. Parking lot schematics before (bottom) and after (top) improvements.

Chapter 2: Historical Background and Previous Archaeology

This chapter presents background of the project area that focuses on the physical environment along with a history of the mission and previous archaeological investigations. The environmental setting is a brief summary of the project location's physiographic region, climate, soils, and vegetation. A brief history of Mission Espada, including the establishment of the mission and its secularization, follows the environmental setting. The chapter concludes with the previous archaeological investigations at the mission, specifically work conducted in the parking lot and west of the Priests' Quarters/Convento.

Environmental Setting

Mission San Francisco de la Espada is located roughly 14.5 km (9 miles) from downtown San Antonio, at the end of Espada Road. It is just outside the southern boundary of the city and is depicted on the Southton quadrangle map in Figure 1-1. The mission compound is situated at an elevation of approximately 530-520 m (1,706-1,739 ft.) above mean sea level (amsl). According to the National Weather Service (NWS 2014a), with records starting in 1885, the average temperature for San Antonio has ranged from 67.9º F in the 1880s to 70º F in the 2000s. Average precipitation for San Antonio has varied, and records (beginning in 1871) indicate the average was 57.89 cm (22.79 in.) in 1871 and 100 cm (39.40 in.) in 2013 (NWS 2014b).

Bexar County is located at the juncture of three major physiographic regions: the Edwards Plateau in the north and northwest parts of the county; the Blackland Prairie in the east-central; and the Gulf Coastal Plain in the south (Presley 2003). The project is located within the Gulf Coastal Plain that is associated with the Tamaulipan Biotic Province. Biotic provinces consider floral and faunal associations, physiography, and soil type, as well as climate (Presley 2003). Soil associated with the APE are listed as Loire (Fr) clay loam with 0-2 percent slopes that are associated with flood plains (Natural Resources Conservation Service [NRCS] 2014). However, the APE has seen modifications in the form of grading and other disturbances associated with the current parking lot and utility installations.

The ecological setting for the mission includes three plant communities (NRCS 2014): tallgrass savannah, midgrass savannah, and dense woodland. These ecological communities are determined by the percentage of grasses, shrubs and vines, and forbs present. The tallgrass savannah community is described as a hardwood savannah with 20 percent tree and shrub canopy cover (NRCS 2014). During the Spanish Colonial period, the area is said to have been heavily wooded, and its current state is due to human induced fire. There are a variety of grasses in this ecological community that make up 75 percent of the ecological setting. The grasses that dominate the setting are big bluestem (*Andropogon gerardii*), switchgrass (*Panicum virgatum*), little bluestem (*Schizachyrium scoparium*), Indiangrass (*Sorghastrum nutans*), and eastern gamagrass (*Tripsacum dactyloides*). Twenty percent of the tallgrass savannah consists of shrubs, vines, and trees, while the remaining five percent consist of forb species (NRCS 2014). Texan great ragweed (*Ambrosia trifida*), tickclover (*Desmdium*), and wildbean (*Strophostyles*) are examples of forbs that inhabit this plant community (NRCS 2014).

The midgrass savannah ecological setting is a result of improper grazing and lack of brush control in a tallgrass savannah setting (NRCS 2014). Canopy ranges between 30 and 50 percent. Sixty percent of this setting is made up of grasses, such as big bluestem (*Andropogon gerardii*) and broomsedge bluestem (*Andropogon virginicus*). Shrubs and vines are 30 percent of the community, while forbs are only 10 percent (NRCS 2014).

The dense woodland community is a result of native shrubs taking over a savannah setting (NRCS 2014). Plant canopy in this community is over 50 percent and consists mostly of hardwoods, such as pecan and oak species. Eighty percent of this community consists of shrubs, vines, and trees. Examples of forbs (10 percent) in the community are western ragweed (*Ambrosia psilostachya*) and blood ragweed (*Ambrosia trifida*). Grasses comprise 10 percent of the dense woodland community, including bristlegrass (*Setaria*) and flatsedge (*Cyperus*; NRCS 2014).

Brief History of Mission San Francisco de la Espada

This short summary of Mission Espada is taken from several secondary sources. These include Cargill et al. (2004), Habig (1968), Ivey et al. (1990), and Smith (1980). The reader is encouraged to consult these, as well as primary sources listed in those documents, for more detail.

The first establishment of Mission San Francisco de la Espada in 1690 occurred during the fifth expedition by the governor of the Province of Coahuila, Alonso de Leon. The mission was located about 11 km (7 miles) west of the Neches River on San Pedro Creek in modern-day Houston County (Habig 1968:192). The mission was abandoned in 1693, and it was reestablished in 1716 as *Nuestro Padre San Francisco de los Tejas* in Cherokee County (Habig 1968:195). The mission later failed in 1719 when the French invaded East Texas. In 1721, the mission was again reestablished in East Texas. The mission was relocated in 1731 on the west side of the San Antonio River in Bexar County and renamed San Francisco de la Espada (Habig 1968:202-204).

Structures associated with the 1731 establishment of the mission included a small village with *jacales* (thatched-roofed huts). Fr. Ortiz reported Native American quarters along the northwestern margin of the compound in 1745 (Ivey et al. 1990:201) in the form of *jacales*. In 1756, the mission was enclosed by a stone wall, probably a defensive effort to ward off Native American raids, and stone houses were also present (Habig 1968). By 1762, reports describe the Native American houses as being constructed of stone and mortar and forming three rows around the square (Habig 1968:213). Antonio de Tellos designed and partially constructed the church, though it was never completed. The sacristy became the functioning chapel, a role it continues to play (Cargill et al. 2004; Ivey et al. 1990).

Secularization of the San Antonio missions began in 1794, and by 1824 Mission San Francisco de la Espada and the remaining missions were fully secularized. Populations at the missions decreased, and private individuals assumed ownership of the structures (Almaraz 1982). In 1824, the structures were in poor condition, and soon Mission Espada joined other missions as a source of stone for use in construction. In 1868, Fr. Francis Bouchu bought the property where the church and convento stand (Ivey et al. 1990:313; Smith 1980). Fr. Bouchu, often using his own funds, was primarily responsible for the rebirth of the mission. With his death in 1907, the mission again fell into disrepair (Cargill et al. 2004; Smith 1980). Around 1916, the archdiocese gave responsibility of the missions to William Hume at which time the chapel was reconstructed (Thurber et al. 1993). Mission San Francisco de la Espada became part of the San Antonio Mission National Historical Park system in 1983, and it is administered by the NPS (Cruz 1983).

Previous Archaeology at Mission Espada

Several archaeological projects have been conducted at Mission Espada, and a brief review is provided below. For further or more detailed information, the reader should consult the original reports and references.

Harvey Smith Sr. conducted the earliest documented work on the mission in the early 1930s in preparation for restoration efforts. While details on this original excavation are vague, his son, Harvey Smith Jr. published some of his father's records and provided some context in two short publications in 1980 (Smith 1980a, 1980b). Smith Sr. appears to have excavated at least one trench on the southern portion of the current APE, along the wall separating the parking area from the church and cemetery. Smith's drawings suggest a set of isolated foundations may be present cutting across the southeastern edge of the parking area, heading northeast, and connecting to the Native American quarters. These sets of foundations were interpreted as a gate (Figure 2-1). The features represented by dotted lines in Figure 2-1 are walls found by Smith (1980a). One was encountered in the current archaeological investigations and is discussed in Chapter 4.

In the 1970s, two archaeological investigations occurred at Mission Espada. The first, conducted in 1976 (Fox and Hester 1976), was limited and designed to determine construction methods associated with wall footings and to determine a construction date for the bastion. The following year Killen and Scurlock (1977) excavated four kilns located to the northeast of the mission compound. Because of time constraints, only one of the four kilns was completely excavated, and the adjacent areas were not investigated. Artifacts recovered from the interior of these features were Spanish Colonial and post-Spanish Colonial in age, and the excavators suggested the features were Spanish Colonial limekilns (Killen and Scurlock 1977).

The 1980s saw several projects at Mission Espada. In 1981, CAR conducted limited archaeological investigations north of the chapel, referred to as Area A, and in an area to the east outside of the compound wall, referred to as Area B (Fox 1981). While Area B produced little material of interest, Fox's excavations in Area A are of special concern. All three units (1, 2, and 5) fall within or near the parking area that contains the current primary APE (Fox 1981:2). Figure 2-2, compiled from Fox (1981:Figures 1 and 2), shows the north wall profile of Unit 2, a 2.5-x-1.3 m (8.2-x-4.27 ft.) unit, excavated. Reference to the insert in Figure 2-2 shows the location of Unit 2, to the south of the parking area, as well as the location of Unit 1, a similarly sized excavation that appears to fall on the northern edge of the parking area. Unit 5, a 127-x-127 cm (50-x-50 in.) excavation, is visible in the northeastern corner of Area A, though it is not labeled on the figure.

Unit 1 was placed "10 feet north of the cemetery wall" as a point that was designed to intersect one of the Spanish Colonial walls indicated by Smith (Fox 1981:4). The initial

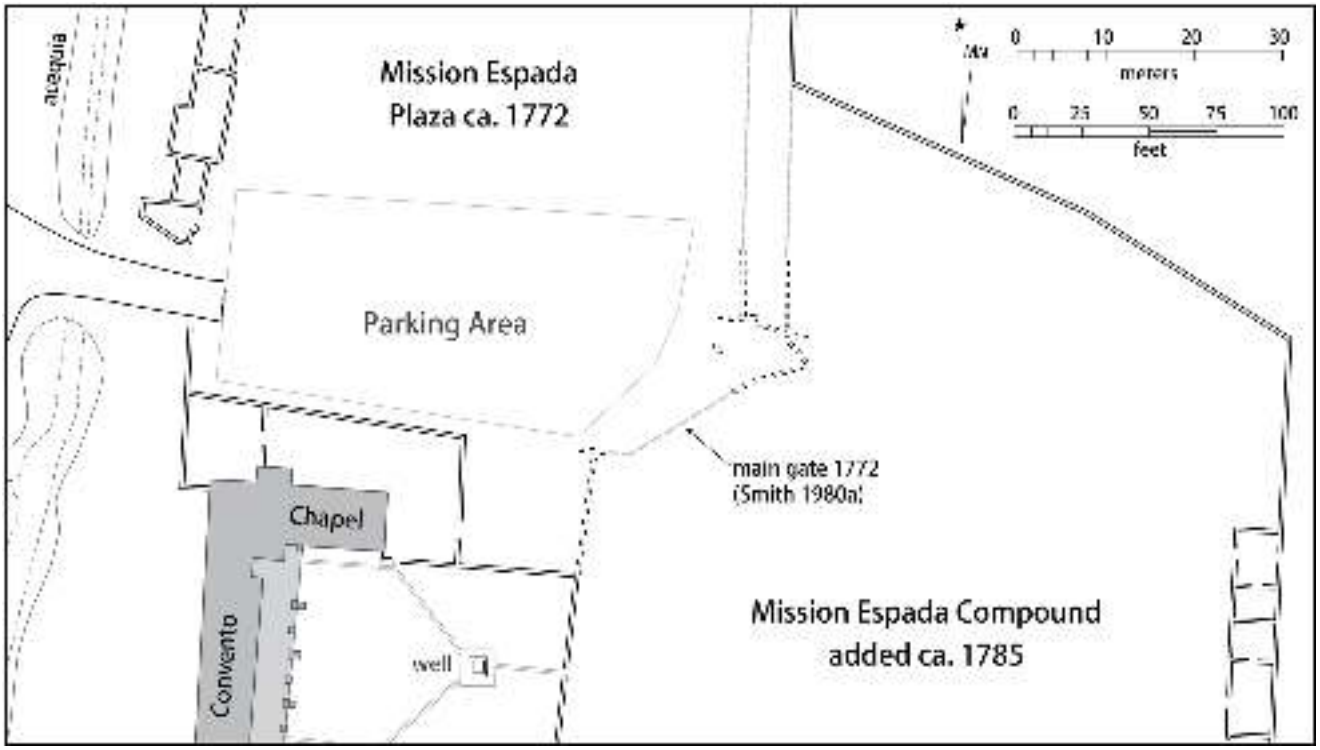

Figure 2-1. Map showing walls encountered by Smith (1980a) and the probable location of the 1772 main gate.

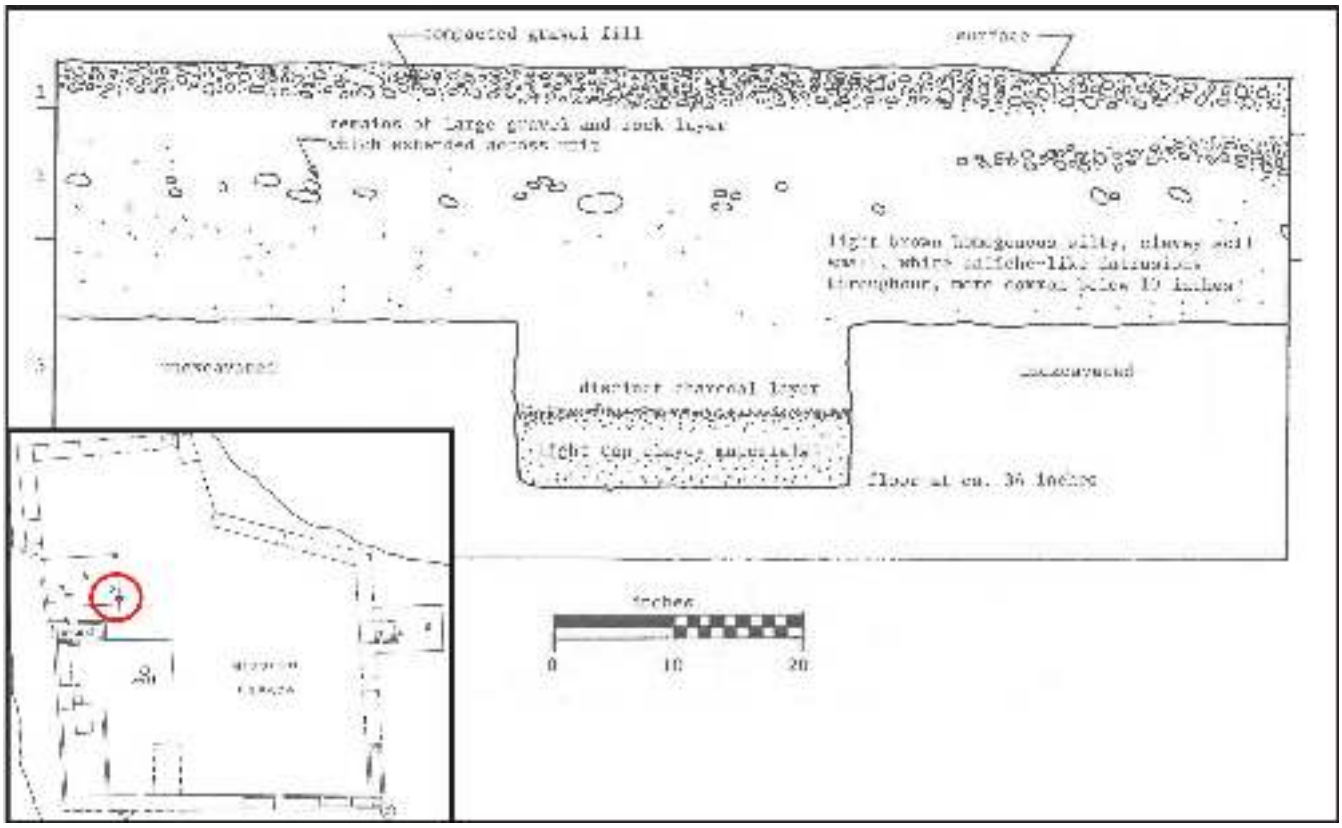

Figure 2-2. Plan view of Unit 2, Area A, from Fox (1981:Figure 2), with inset (Fox 1981:Figure 1) showing location, red circle, within the mission.

25.4 cm (10 in.) of material was disturbed. This disturbed layer overlaid a 5.1-cm (2-in.) layer of Spanish Colonial material that rested on a sterile soil. Fox continued to excavate a portion of Unit 1 to a depth of 48.3 cm (19 in.), with no additional recovery and no indication of a Spanish Colonial wall. A modern pipe was present in the northeastern portion of this unit (Fox 1981:4). Unit 2, shown in profile in Figure 2-2, initially exposed roughly 7.6 cm (3 in.) of gravel associated with a driveway. Under the gravel was a 7.6-cm (3-in.) layer of a sandy soil that was tan in color. This layer was disturbed. The second layer "contained similar tan, sandy soil with gravel embedded, but in addition contained small chunks of adobe" (Fox 1981:4). Nineteenth-century artifacts along with fragments of animal bone were also recovered. This excavation level was terminated at 38 cm below the surface (cmbs; 15 in.). The third level contained a low density of artifacts, scattered caliche, scattered charcoal, and mottled soil suggesting some type of disturbance. One portion of the trench was excavated to a depth of 86.4 cm (34 in.), though no cultural material was uncovered. However, a thin layer of charcoal, shown in the figure, was present (Fox 1981:4-5). Finally, Unit 5, excavated in the far north corner of Area A, produced 17.8 cm (7 in.) of gravel, covering a "thin" layer of cultural material resting on sterile soil (Fox 1981:4). Fox's excavations suggest that in 1981 the upper surface consisted of gravel and disturbed soil, though a thin layer of cultural material probably dating to the 1700s lay within a few inches below that disturbance.

In 1983, Fox (1999) conducted archaeological monitoring of coring activities and limited test excavation within the vicinity of the convento as well as in the mission compound. A test trench, excavated along the west perimeter wall of the compound and south of the chapel, located the bottom of the wall at about 1.2 m (3.9 ft.) below the surface, with the footer continuing down to 1.6 m (5.2 ft.) below the surface. Fox (1999) noted that various stages of wall collapse and rebuilding had occurred in this area (Cargill et al. 2004). Excavations recovered eighteenth- and nineteenth-century materials. The NPS excavated two rooms to the north and west of the bastion in the early 1980s (Escobedo 1984). Escobedo's investigation included extensive archival research.

In the 1990s, multiple projects occurred. These included excavations by Meskill (1992) in the southeastern section of the compound and extensive shovel testing in the new plaza area by Gross (1997). In April 1998, Meissner (1998) monitored the excavation of a trench along the outside of the west wall and along the south end of the Priests' Quarters and parish office. This trench, excavated in order to install an electrical conduit, appears to be very close to Area 2 of the current project APE. Portions of the conduit are shown in Meissner (1998:5) to be above ground, and the conduit visible in Figure 2-3 may be the conduit she references. Monitoring of this trench produced a small collection of diagnostic artifacts, bone, and evidence of Spanish Colonial features that were within the compound wall (Meissner 1998:5-10), not close to the location for the water valve box in Area 2 of the current project APE.

In 1998 and in 1999, several projects were conducted at the mission. Two of these are reported by Zapata et al. in 2000. The first project consisted of excavations for the installation of electrical lines and an excavation in the southwest corner of the Priests' Quarters, essentially in the same area monitored by Meissner (1998). The second project involved investigations along the southern wall of the Priests' Quarters/Covento. This work included the excavation of 14 units in advance of a wall stabilization project. These excavations recovered a variety of Spanish Colonial and post-Spanish Colonial artifacts (Zapata et al. 2000). In 1999, Tennis (2001) conducted shovel testing and monitoring of a utility trench outside the west wall of the mission, to the west of the current APE. The shovel testing and monitoring revealed that the area had been heavily disturbed by previous construction (Tennis 2001:216).

During the process of grading the driveway from Espada Road into the parking lot inside the mission compound north of the chapel in 1998 (Cargill et al. 2004), a Spanish Colonial period foundation was exposed. This area is immediately to the west of Area 1 of the current project APE (Figure 2-3). This construction activity was completed without the presence of the archaeologists. The impacts to the area included the removal of asphalt paving and approximately 20.3-30.5 cm (8-12 in.) of grading. The Spanish Colonial foundation was encountered near the southern edge of the opening of the mission wall at the northwest gate. In this area, 16 test units were excavated along with a 0.30-x-1 m (1-x-3.28 ft.) unit (Cargill et al. 2004). Depths of the Spanish Colonial wall varied among test units. After grading of the area, parts of the wall were encountered at 10 cm below the surface (cmbs; 3.9 in.) and as deep as 20-30 cmbs (7.9-11.8 in.) in some units. Along with the Spanish Colonial foundation and flagstone paving, over 5,000 artifacts were recovered. Artifacts represented periods from Spanish Colonial to the twentieth century. It appeared that the Spanish Colonial foundation had been disturbed multiple times from post insertions, road grading, and utilities in this area.

In 2005, CAR performed archaeological monitoring of mechanical trenching and hand excavations for the installation of a new exterior lighting system (Dowling 2006). Excavations took place near the current APE, around the perimeters of the parking lot, and near the gate. Though cultural material was encountered, it was concluded that previous construction had impacted the area.

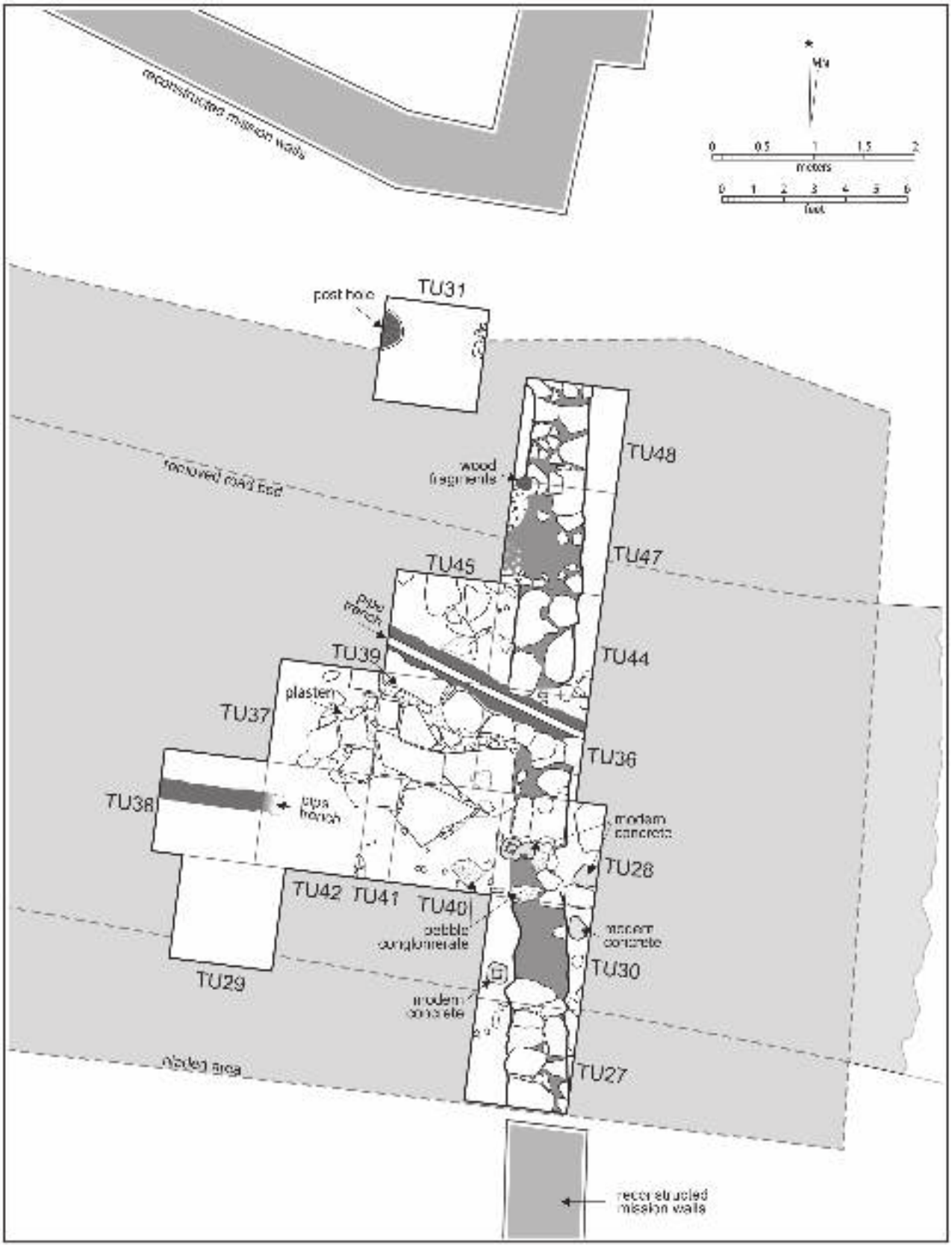

Figure 2-3. Plan map of Spanish Colonial foundation found in 1998 (Cargill et al. 2004:Figure 5-10) excavations just outside of the APE.

Chapter 3: Field and Laboratory Methodology

This section outlines field methodology that CAR, in consultation with regulatory agencies, developed to locate deposits and provide an initial assessment of their integrity if they are within the construction impact area. Field methods employed consisted of monitoring trenches and auger boring, as well as excavating auger holes, shovel tests, and one test unit. Cultural material recovered from these investigations were processed at the CAR laboratory and the methodology employed conclude this chapter.

Field Methods

The removal and installation of several plumbing utilities was completed by a plumbing contractor employed by Pugh Constructors. Excavations were monitored by CAR staff, and soil removed from excavations was inspected for cultural material.

Monitoring was conducted for the excavation of 39 bollards that were installed around the perimeter of the primary APE (Figure 3-1). Bollard holes were approximately 18 cm (7 in.) in diameter and excavated in 10-cm (3.9-in.) increments by a gas powered mechanical auger. All soil from each level was screened through ¼-inch hardware cloth. Bollard holes were dug to a depth of 70 cmbs (27.6 in.). All encountered artifacts were recovered with appropriate provenience for laboratory processing, analysis, and curation. A form was completed for every hole. Data collected from each bollard excavation included the final excavation depth, a tally of all materials recovered from each 10-cm (3.9-in.) level, and a brief soil description (texture, consistency, Munsell color, and inclusions).

Based on the assessment of the bollard data and previous excavations, 16 tests were excavated in the APE. Nine auger holes were dug with a mechanical auger (Figure 3-1) by personnel with Pugh Constructors. Auger holes were approximately 18 cm (7 in.) in diameter. Excavations were terminated at 20 cmbs (7.9 in.) and were dug in 10-cm (3.9-in.) levels. The depth and location of these tests was based on the depth of gravel in the APE, the depth of the Spanish Colonial foundation and surface encountered in 1998 by Cargill et al. (2004), Fox (1981), and Smith (1980a, 1980b), and the depth of impact associated with the construction. CAR staff screened excavations and collected all artifacts and sediment samples from each test by level. A form for every excavation was also completed. Data collected from each test included the final excavation depth, a tally of all materials recovered from each 10-cm (3.9-in.) level, and a brief soil description (texture, consistency, Munsell color, and inclusions).

Figure 3-1. Gas powered auger used to excavate bollard and auger holes.

In addition to the auger holes, seven shovel tests were excavated in the parking lot. The purpose of the shovel tests was to sample the entire area, with a concentration near the possible wall area. Twenty shovel tests were excavated in association with the sewer lateral line. All shovel tests were 30 cm (11.8 in.) in diameter and extended to a depth of 30 cmbs (11.8 in.). They were excavated in 10-cm (3.9 in.) increments, and all soil from each level was screened through ¼-inch hardware cloth. A soil sample was collected from each level. A shovel test form was completed for every excavated shovel test. Data collected from each shovel test included the final excavation depth, a tally of all materials recovered from each 10-cm (3.9-in.) level, and a brief soil description (texture, consistency, Munsell color, and inclusions). The location of every excavation was recorded with Trimble Geo XT GPS units. Shovel test locations were sketched onto aerial photographs as a backup to GPS provenience information. Any additional observations considered pertinent were included as comments on the standard shovel test excavation form. Test Unit 1 was excavated in 10-cm (3.9-in.) increments, and all matrix was sifted through ¼-inch hardware cloth. CAR staff screened excavations and collected all artifacts and sediment samples from each test by level. All encountered artifacts were recovered with appropriate provenience for laboratory processing, analysis, and curation.

Subsequent to auger and shovel testing, monitoring of grading activities in the parking lot was conducted. CAR staff observed the grading of the parking lot, and 15.24 cm (6 in.) of the existing parking lot surface was removed. Mechanical trenching also occurred in relation to the sewer lateral lines. Standardized monitoring forms were completed each day of monitoring.

All encountered artifacts were recovered with appropriate provenience for laboratory processing, analysis, and curation. The location of every auger and shovel test was recorded with Trimble Geo XT GPS units. Shovel test locations were sketched onto mission maps as a backup. Additional observations considered pertinent were included as comments on a standard excavation form.

Artifact and Project Records Curation

All artifacts recovered during the project and all project related documentation will be curated at the CAR's curation facility. In consultation with the Texas Historical Commission (THC), subsequent to proper analyses and/or quantification, artifacts possessing little scientific value will be discarded pursuant to Chapter 26.27(g)(2) of the Antiquities Code of Texas. Artifact classes to be discarded specific to this project may include, but are not limited to, burned rock, snail shell, unidentifiable metal, soil samples, and recent (post-1950) materials. In all instances, however, discarded materials will be documented, and their counts included in the final report and curation documentation.

Chapter 4: Results of Archaeological Investigations

During archaeological investigations, four separate areas (Areas 1-4) of the APE were monitored and tested at Mission San Francisco de la Espada (41BX4). In this chapter, the results of the archaeological investigations are presented. Area 1 is the parking lot where bollard excavations, auger testing, shovel testing, and grading took place. Area 2 (west of the Priests' Quarters/Convento) investigations by CAR included trenching, shovel testing, and test units. Area 3 was in front of the church, and no excavations were conducted. Only brick pavers were removed. In Area 4, a small trench was excavated.

Parking Lot (Area 1)

Archaeological investigations in the parking lot included the excavations for bollards around the perimeter. Both shovel tests (ST) and auger excavations were conducted in the parking lot. The last phase of the parking lot construction included grading, which was monitored by CAR staff. Excavations resulted in the recovery of Spanish Colonial cultural materials and the documentation of a wall (Feature 1) associated with a 1772 gate in the southwest portion of the parking lot.

Bollard Excavations

On June 24 and June 30, 2014, the excavation for and installation of 39 bollards around the perimeter of the parking lot were conducted (Figure 4-1). Although only 39 bollards were installed, 41 postholes were excavated. The two extra excavations were a result of a shift in the layout of the bollards. Excavations commenced on the north side of the parking lot starting with bollards 1-21 and 39. Soils from this part of the parking lot consisted of clay loam to silty loam that

Figure 4-1. Bollards, auger tests, and shovel tests in Area 1 of the APE.

ranged in color from a dark grayish brown (10YR 4/2) to a dark brown (10YR 3/3). Cultural material recovered from the bollard excavations is presented in Table 4-1. As indicated in Table 4-1, 16 bollard holes were positive for cultural material on the northern portion of the parking lot. Material in this area consisted of bone (64 g), brick (n=1), ceramics (n=12), debitage (n=1), glass (n=13), a gunflint (n=1), and metal (n=3). Ceramics from this area of the APE consisted of undecorated English wares (n=8), Spanish Colonial wares (lead-glazed n=1; tin-glazed, n=1; and unglazed, n=1), and Native American Goliad wares (n=1). Density of artifacts for this area was 201 artifacts per cubic meter (m^3).

In the eastern portion of the APE, bollards 22-32 were excavated. Eleven excavations were positive for cultural material. Bollards 31 and 32 were moved only 20-30 cm

Table 4-1. Positive Auger Holes from Bollard Excavations

Auger Hole	Level	Artifacts
Northern Bollards		
1	3, 4, 6, and 7	bone (0.9 g), ceramic (n=3), debitage (n=1), glass (n=3), metal (n=2)
3	4	ceramic (n=1), gunflint (n=1)
4	6	glass (n=1)
5	3	bone (1.3 g), ceramic (n=2)
6	4	glass (n=1)
7	1, 2, 3, and 4	bone (31.1 g), glass (n=1)
8	2	glass (n=1)
9	4	brick (n=1)
10	2 and 6	bone (13.8 g)
12	2 and 3	bone (1.9 g), glass (n=2)
15	2 and 3	bone (10.4 g), ceramic (n=4)
18	2	glass (n=1)
19	6	glass (n=1)
20	1, 2, and 5	bone (2.6 g), glass (n=2), metal (n=1)
21	1 and 2	bone (2 g), ceramic (n=1)
39	5	ceramic (n=1)
Eastern Bollards		
24	2, 3, 6, and 7	bone (8.2 g), ceramic (n=1), debitage (n=1)
25	4 and 6	bone (0.7 g)
26	1, 2, 3, 4, and 6	bone (45.9 g)
27	3	metal (n=1)
28	2, 3, and 4	bone (15.2 g), ceramic (n=4)
29	2 and 5	bone (15.8 g)
30	2 and 3	bone (8 g), glass (n=1)
31	3, 4, and 6	bone (43.7 g), ceramic (n=2)
31A	1, 2, 3, 4 ,and 7	bone (21.1 g), ceramic (n=1), glass (n=2)
32	1, 3, 4, 5, 6, and 7	bone (33.9 g), metal (n=1)
32A	1 and 3	bone (5.6 g), glass (n=1)
Southern Bollards		
33	1, 4, 5, and 6	bone (41.6 g), ceramic (n=3), charcoal (n=1), debitage (n=1), glass (n=3)
34	1, 2, 3, 4, 5, and 6	bone (71.1 g), brick (n=1), ceramic (n=2), shell (n=1)
35	1, 3, 4, 6, and 7	bone (16.4 g), ceramic (n=2), glass (n=1)
37	1 and 6	ceramic (n=1), glass (n=1)
38	5	metal (n=1)

(7.9-11.8 in.) and reinstalled. Two additional post holes were excavated (31A and 32A). Soil from the excavations was screened, and cultural material was collected. Soils in this area of the APE ranged from a grayish brown sandy loam (10YR 5/2) to a dark grayish brown sandy silt (10YR 4/2). Cultural material recovered from this portion of the APE included bone (198.1 g), ceramics (n=8), debitage (n=1), glass (n=4), and metal (n=2; see Table 4-1). Ceramic types in this area of the APE included Spanish Colonial lead-glazed (n=1) and tin-glazed (n=4), as well as Native American Goliad ware (n=3). The density of artifacts for this area was 859 artifacts per m^3, higher than that of the northern portion.

The southern portion of the APE was defined by bollards 32-38. Five of the bollard excavations in this area were positive for cultural material. As seen in Table 4-1, artifacts from this area included bone (129.1 g), brick (n=1), ceramics (n=8), charcoal (n=1), debitage (n=1), glass (n=5), metal (n=1), and shell (n=1). Ceramics from this area consisted mostly of Native American Goliad ware (n=7) and one undecorated white earthenware sherd. Though few excavations were conducted on the southern portion of the APE, the density of artifacts was the highest in this area with 1,033 artifacts per m^3.

Table 4-2 presents the horizontal distribution of artifacts from bollard excavations across the APE. Bone made up most of the material (80 percent) encountered in the bollard excavations. The next most frequent artifact encountered was glass (n=24), which was primarily clear container glass. Ceramics found in excavations consisted of Native American Goliad ware (n=11), Spanish Colonial wares (n=8), and English wares (n=7). The recovered Spanish Colonial wares included lead-glazed (n=2), tin-glazed (n=5) and unglazed types (n=1), while the English wares were undecorated.

Auger and Shovel Testing

On July 11, 2014, auger (n=9) and shovel testing (n=7) were conducted in the parking lot (APE). As noted in the methods section, auger holes were excavated to a depth of 20 cmbs (7.9 in.), and shovel tests were dug to 30 cmbs (11.8 in.). Excavations for auger holes were distributed throughout the parking lot. Soil from the auger tests contained heavy gravel mixed with a light brownish gray silty sand (Figure 4-2). Four of the nine auger tests were positive for cultural material. Artifacts from auger tests (Table 4-3) included bone (2.4 g), glass (n=9), and metal (n=1). The cultural material appears to be associated with gravel that was placed for the parking lot.

Seven shovel tests were concentrated in the southwestern portion of the parking lot. The parking area contained compact sediments, and it was necessary to use a pick ax (Figure 4-3). Levels 1 (0-10 cm; 0-3.9 in.) and 2 (10-20 cm; 3.9-7.9 in.) of the shovel tests consisted of heavy gravel, similar to that of the auger test excavations. Level 3 (20-30 cm; 7.9-11.8 in.) was a dark grayish brown (10YR 4/2) clay loam. Three of the seven shovel tests were positive for cultural material (Table 4-3). Material from the shovel tests include bone (9.6 g), glass (n=1), and shell (n=1).

Grading of the Parking Lot and Feature 1

Grading of the parking lot was conducted from October 4-17, 2014. This effort required the removal of up to 15.24 cm (6 in.) of deposits, consisting primarily of gravel, and the replacement of that gravel with new top soil. During the grading on October 4, 2014, Feature 1, a stone alignment, was encountered and exposed (Figure 4-4). The stone alignment was located in the southeast portion of the parking lot just below the gravel layer, less than 20 cmbs (7.9 in.).

Figure 4-5 shows the alignment after flagstones were placed adjacent to the feature. It runs roughly southwest-to-northeast and is 12 m (39.4 ft.) in length (Figure 4-4) and 1.5 m (4.9 ft.) in width. However, at the northern end, the feature is 3 m (9.8 ft.) in width. The wall is in the same location as the one found by Smith (1980a; see Figure 4-6). The treatment of Feature 1, the Spanish Colonial wall, was determined in consultation with the THC, NPS, and Pugh Constructors. The

Table 4-2. Cultural Material by Level from Bollard Excavations

Level (cmbs)	Bone (g)	Brick	Charcoal	Lithics	English Ceramic	Glass	Metal	Shell	Native Ceramic	Spanish Ceramic	Total
1 (0-10)	66 g	0	1	0	1	3	1	0	3	0	**31**
2 (10-20)	73.3 g	0	0	1	0	4	1	0	1	0	**58**
3 (20-30)	74 g	0	0	0	4	5	3	1	2	2	**76**
4 (30-40)	70.5 g	1	0	1	0	5	0	0	2	5	**63**
5 (40-50)	36.9 g	0	0	0	1	3	1	0	0	0	**22**
6 (50-60)	63.3 g	1	0	1	0	4	0	0	3	1	**54**
7 (60-70)	7.2 g	0	0	1	1	0	0	0	0	0	**11**
Total	**393 g**	**2**	**1**	**4**	**7**	**24**	**6**	**1**	**11**	**8**	**315**

Figure 4-2. Gravel encountered in auger tests.

Table 4-3. Cultural Material Recovered from Auger and Shovel Tests

Auger or ST/Level	Bone	Glass	Metal	Shell
Auger 3				
2 (10-20 cm)	1.8 g	0	0	0
Auger 5				
1 (0-10 cm)	0	2	0	0
2 (10-20 cm)	0.6 g	6	0	0
Auger 6				
2 (10-20 cm)	0	1	0	0
Auger 8				
2 (10-20 cm)	0	0	1	0
ST 1				
1 (0-10 cm)	2.4 g	0	0	1
ST 4				
2 (10-20 cm)	5.5 g	0	0	0
ST 5				
2 (10-20 cm)	1.7 g	0	0	0
3 (20-30 cm)	0	1	0	0
Total	**12 g**	**10**	**1**	**1**

Figure 4-3. Excavation of Shovel Test 7 in parking lot.

Figure 4-4. Feature 1 encountered during grading of parking lot (facing south).

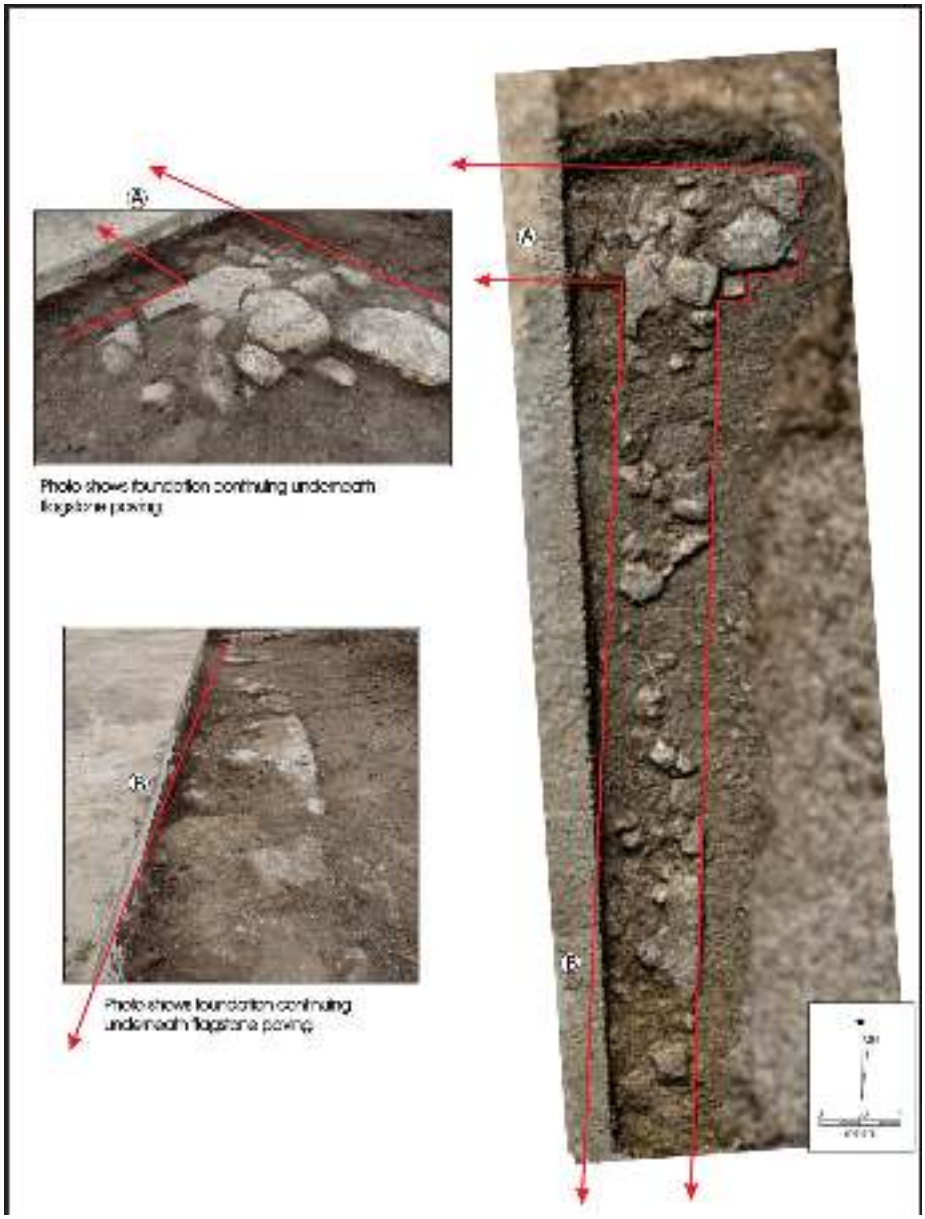

Figure 4-5. Feature 1 after placement of flagstones in adjacent areas.

wall was covered with protective landscape cloth, topped with 5-7.6 cm (2-3 in.) of sand, geogrid, soil/limestone base, and sod. Large irregular stones were placed to demarcate the wall (Figure 4-7).

During grading of the parking lot, a concentration of faunal material along with Goliad wares were found southwest of positive auger hole 3 and south of positive post holes 18-21 and 39 (see Figure 4-1). The depth of these materials was approximately 20 cmbs (7.9 in.) and included faunal material, such as bovine (436.79 g), *odocoileus virginianus* (6.96 g), and artiodactyla (2.99 g). Two pieces of Goliad ware were also found in this concentration.

Priests' Quarters/Convento (Area 2)

The second area of archaeological investigation was for a water valve box and the ROW of a proposed sewer lateral to the west of the Priests' Quarters/Convento. Features 2 through 6 were encountered during a combination of trenching, shovel tests, and the excavation of a test unit in this area.

Water Valve and Clean-outs

On June 12, 2014, CAR monitored the excavation and installation of a water valve box. Figure 4-8 shows the water valve box west of the Priests' Quarters/Convento. During

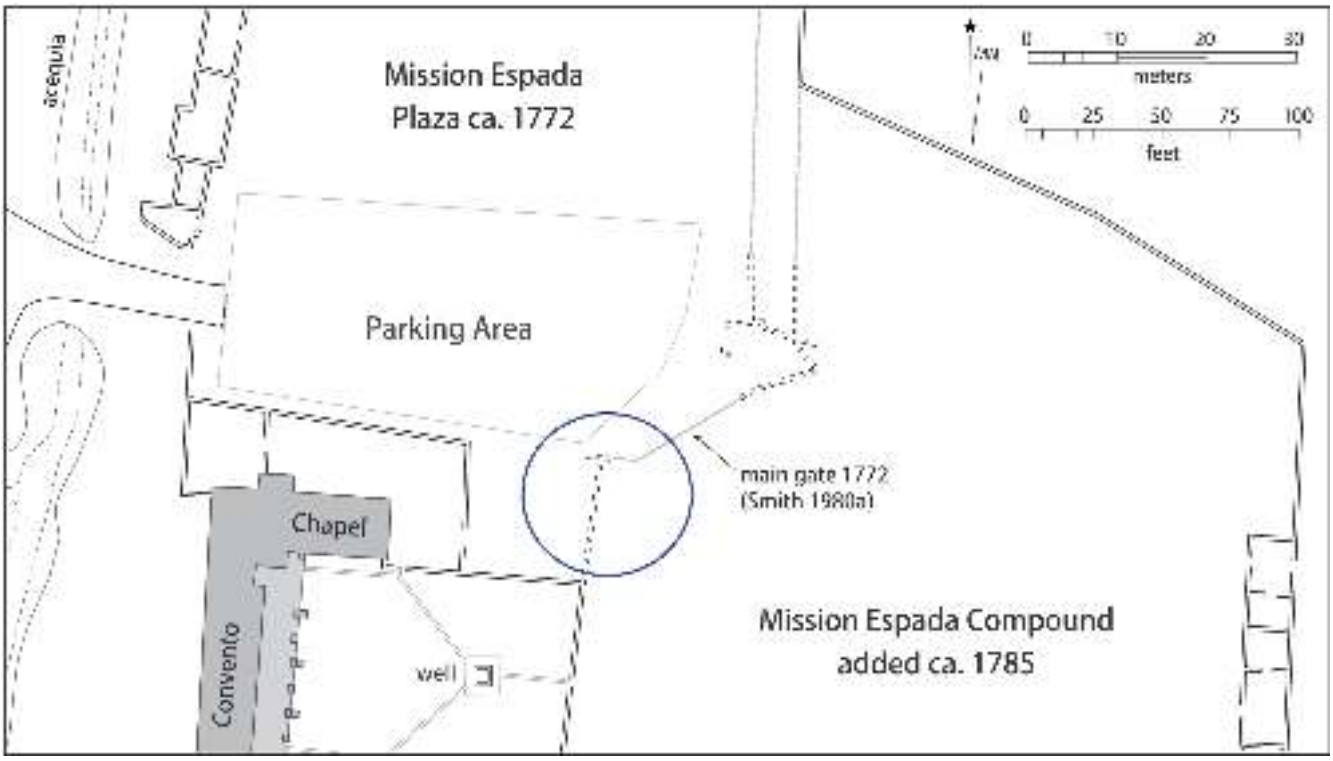

Figure 4-6. Feature 1 in the same location of Spanish Colonial wall (circled in blue) encountered by Smith (1980a).

Figure 4-7. Treatment of Feature 1 area (facing southwest).

Figure 4-8. Water valve box prior to excavation and replacement.

the removal of the water valve box, hand excavations with a shovel were conducted by a contracted plumber associated with Pugh Constructors.

After the removal of the water valve box, a larger area was excavated to locate the couplet to the water pipe for the installation of a new box. Initially, the excavation measured 0.61-x-0.91 m (2-x-3 ft.) wide, but it was further extended to 2.4-x-0.91 m (8-x-3 ft.). Figure 4-9 illustrates the excavation conducted for the water valve replacement. The depth of the excavation was 45-50 cm (17.7-19.7 in.). Soil from the excavation was visually inspected, but only a few brick fragments and sandstone were observed. No features or significant cultural material were encountered during the excavations. The area had been disturbed by the installation of existing utility lines.

On November 7, 10, and 11, 2014, additional excavations were conducted to search for a blockage in the pipes. Five areas were excavated along the west wall of the Priests' Quarters/Convento to locate the blockage (Figure 4-10). These areas had been previously disturbed due to the original placement of the sewer lines. A mixture of modern material and a few historic and Spanish Colonial artifacts (glass and unglazed ceramics) were observed but not collected.

Sewer Lateral

Archaeological work for the proposed sewer lateral included monitoring trench excavations, shovel testing, and unit excavations (Figure 4-11). The CAR excavated 19 shovel tests from February 27 through March 10, 2015. The excavation area was marked, and shovel tests were excavated approximately every 5 m (16.4 ft.). Table 4-4 lists the cultural material recovered from shovel testing. Based on field observations, the majority of these artifacts were isolates and/or were in disturbed contexts. A sewer line runs parallel to the mission, and STs 6, 7, 10, 11, and 12 encountered the line at 35-40 cmbs (13.8-15.7 in.). The contractor stated that the work planned for this area was the removal and replacement of the existing line and that the excavation would be no deeper than the present impact.

One area of interest was located by STs 3, 3B, and 13, immediately west of a fiber optic and electrical lines. In this area, there appeared to be an intact deposit of cultural material encountered at 35-50 cmbs (13.8-19.7 in.). The deposits included ceramics, charcoal, faunal material (both large and medium size mammals), and plaster/lime mortar. Based on an encountered ceramic type, San Augustin Blue on White (circa 1700-1775), and a fragment of yellow-green glaze, which

Figure 4-9. Excavation for the water valve box replacement.

Figure 4-10. Excavations associated with sewage blockage.

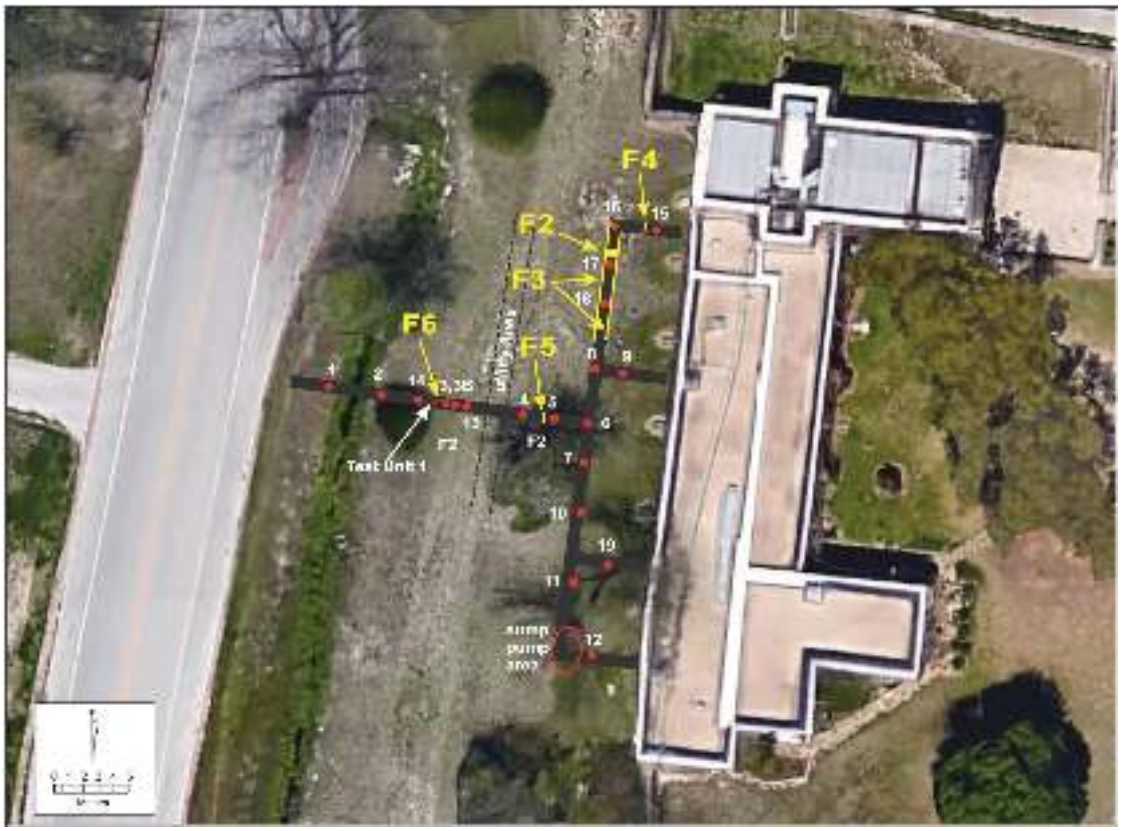

Figure 4-11. Map of trenches, shovel tests, and test units associated with the sewer lateral.

Table 4-4. Artifacts Recovered from Sewer Lateral Shovel Tests

ST/Level	Ceramics	Construction Materials	Faunal	Glass	Lithics	Metal	Organics	Personal	Total
ST 1									
1				1		1	1		**3**
4							1		**1**
5							1		**1**
ST 2									
1				2			2		**4**
2				2					**2**
3							1		**1**
4	1			1			2		**4**
ST 3									
1				3				1	**4**
3				1		1	1		**3**
4							1		**1**
ST 3B									
1				3			1		**4**
3			1	2					**3**
4	9		1	1		1			**12**
ST 4									
1	3			6		1			**10**

Table 4-4. Artifacts Recovered from Sewer Lateral Shovel Tests, continued...

ST/Level	Ceramics	Construction Materials	Faunal	Glass	Lithics	Metal	Organics	Personal	Total
2	2	1		15		17	1	1	**37**
3	2	2		5					**9**
4	1	2					2		**5**
ST 5									
1	4			5					**9**
2				3	1	1	1		**6**
3				1			1		**2**
4		1					1		**2**
ST 6									
1	2			5					**7**
3							1		**1**
4	1			1					**2**
ST 7									
1		3							**3**
2		2		3					**5**
3				1			1		**2**
4	3	1		2					**6**
ST 8									
1		1							**1**
ST 9									
1		1				1	1		**3**
2				7		1			**8**
3	1			2					**3**
4	1	4		12		1			**18**
5		1		1		1			**3**
ST 10									
1		2		1					**3**
2	4	1					1		**6**
3				2					**2**
4				1	1		1		**3**
ST 11									
1				1					**1**
2	2			4		1	1		**8**
3		1		2		2	1		**6**
4				1					**1**
5	1						1		**2**
ST 12									
2				2		1	1		**4**
3				2		1	1		**4**
4	2					1	1		**4**
ST 13									
1		2							**2**
2		1		2	1				**4**

Table 4-4. Artifacts Recovered from Sewer Lateral Shovel Tests, continued....

ST/Level	Ceramics	Construction Materials	Faunal	Glass	Lithics	Metal	Organics	Personal	Total
3				1			1		**2**
4							1		**1**
5		1					1		**2**
ST 14									
2							1		**1**
3	1			1			1		**3**
4							1		**1**
5	1						1		**2**
ST 15									
2				1		2	1		**4**
3				1			1		**2**
4	1			1		2	1		**5**
5						2	1		**3**
ST 16									
1		1				2			**3**
2	1	2		1		1			**5**
3		5							**5**
4		2							**2**
ST 17									
2				2					**2**
3							1		**1**
4		2							**2**
ST 18									
1	2	3		3					**8**
2	1	1		2					**4**
3							1		**1**
4				1			1		**2**
5					1				**1**
ST 19									
1		1		1					**2**
2		1		1		1			**3**
3		2		2		3			**7**
4	1						1		**2**
5		1							**1**
Grand Total	**47**	**48**	**2**	**123**	**4**	**45**	**43**	**2**	**314**

is contemporaneous, the deposit is tentatively dated to the eighteenth century. Test Unit 1, discussed later in this section, was placed in the area, and Feature 6 was recorded.

Mechanical Trenching

CAR archaeologists L. Kemp and A. McBride monitored the excavation of trenches for the Espada Sewer Lateral on March 11-13 and 16, 2015. All trenches were marked by the Guarantee Plumbing and Air Conditioning crew prior to excavation. Figures 4-12 through 4-14 show the marked excavation areas. No excavation was permitted or performed outside of the marked trenches. Based on the shovel testing, CAR recommended that the excavation depth not exceed 40 cmbs (15.7 in.) along the north-to-south trench or further than the existing sewer line and no more than 30 cmbs (11.8 in.) on the trench running east-to-west. Based on field notes, four east-to-west trenches coming from the building were excavated first, followed by the main north-to-south trench. During the trenching, four features were encountered. It appears that Features 2, 3, and 4, located in the southwest part of the north-to-south line, define a room feature. Feature 5 consisted of a cobble wall without any associated artifacts.

Figure 4-12. The east-to-west main line for sewer lateral.

Figure 4-13. Marked areas, north by the sacristy.

Figure 4-14. Areas excavated for electrical lines for the sump pump.

Material was found in the back dirt of trenching that included ceramics (n=12), faunal material (498.3 g), glass (n=35), and metal (n=5). The ceramics consisted of Spanish Colonial types (Valero red ware, n=1) as well as European types.

Feature 2

In the main north-to-south trench, a limestone wall or foundation, Feature 2, was uncovered 3-4 m (9.8-13.1 ft.) south of the beginning of the trench and previously excavated STs 16 and 17 (Figure 4-15). The center of the feature was recorded using a Trimble GPS unit. Unfortunately, a course of two large, cut limestone blocks were removed from the feature. Another course of limestone lay underneath this course. The discovery of this feature prompted a cessation of work in this area pending further investigation. Both THC and NPS, as well as other parties including Pugh Constructors and Ford, Powell and Carson Architects, were notified of the discovery. The wall feature and the northern portion of the trench was cleaned and documented with photographs, profiles, and plan view drawings. In addition, the feature and trenches were documented with a total data station on March 12. The feature, minus the removed stones, measured 0.80 m (2.6 ft.) north-to-south and 1.2 m (3.9 ft.) east-to-west at a depth of 55 cmbs (21.7 in.). The feature is constructed of limestone block and cobbles with a lime-based mortar. The wall is delineated on either side by a charcoal flecked brown (10YR 4/3) silty clay loam. The wall runs east-to-west, and the area north and south of it was probed for subsurface floor or walls. No subsurface features were noted. During the cleanup of the wall, bone, ceramics, charcoal, glass, and, shell were documented, as well as a brass/copper-based object found in situ immediately adjacent to the northwest portion of the wall.

Feature 3

As the walls were cleaned, it became apparent that there was a continuous line of light gray/white (10YR 7/2, 10YR 8/1) plaster floor (Feature 3) 7.5 m (24.6 ft.) in length on both the east and west walls (Figure 4-16). The soil color change was noted during the shovel testing; however, it was thought to be remnants of modern reconstruction. Feature 3 is truncated by a trench on the east wall. On the west, the plaster floor appears to have a pit-like structure, approximately 20 cm (7.9 in.) in length, at 7 m (23 ft.) south of the northern edge of the trench with the floor continuing for 1 m (3.28 ft.) before its truncation by modern construction (Figure 4-17). Features 3 and 4 were treated as separate features, though they may be related.

Feature 4

Two flagstones (Feature 4) were found 40 cmbs (15.7 in.) beneath a nonfunctional gas line, and a line of plaster was observed in the north wall of the eastern most portion of the trench (Figure 4-18). This trench was probed starting at the flagstone east and west, indicating subsurface stone 20 cm (7.9 in.) east and 1 m (3.28 ft.) west of the flagstone at 10-15 cm (3.9-5.9 in.) below the trench depth.

Figure 4-15. Feature 2 showing wall mortar, in situ artifact, and delineation.

Figure 4-16. West wall profile prior to cleaning, showing plaster floor, Feature 3 (facing northwest).

Figure 4-17. View of west wall and the termination of Feature 3, plaster floor; note pit-like feature and limestone cobbles on the trench floor.

Figure 4-18. View of trench coming from the sacristy showing in situ flagstone, Feature 4, underneath the gas line and probed area of subsurface floor or wall.

Feature 5

During the excavation of the east-to-west trench, a cobblestone feature (Feature 5) was found 40 cmbs (15.7 in.; Figure 4-19). It measured 1 m (3.28 ft.) in length and contained approximately eight cobbles ranging from 10 cm (3.9 in.) to 10-x-20 cm (3-9-x-7.9 in.) in size. Its location was documented with a Trimble GPS unit. The feature was located between STs 4 and 5, approximately 2.5 m (8.2 ft.) east of a utility line constructed in 1999. The feature was photographed, and a wall profile was drawn. The soils above the feature were a dark yellowish brown (10YR3/4) silty clay loam. The trench opening was 30 cm (11.8 in.) in width, which impeded further investigation. It is possible that it may be the spoil pile from the utility construction; however, this comment is solely speculation. Mechanical excavations were allowed to proceed east of the feature terminating prior to the *acequia*.

Acequia Excavations

In early February 2015, the THC, NPS, CAR, and Ford, Powell and Carson held a meeting on site regarding excavating the *acequia*. On March 15, the connection to the San Antonio Water System (SAWS) main sewer line was excavated. THC and NPS agreed to the excavations, and as proposed by Ford, Powell and Carson, a trench was excavated 30 cm (12 in.) below the grade running down the *acequia* wall, through the *acequia* bottom excavated to 45 cm (18 in.), and continuing up the *acequia* wall on the street side at 30 cm (12 in.; Figure 4-20). The 7.6-cm (3-in.) line was constructed and put in the trench with gravel placed over the bottom section of the pipe. Following this excavation, the CAR placed webbed plastic netting and sand over the flagstones, wall, and cobblestone features to indicate their presence should any future construction take place in this area(Figure 4-21). On March 16, CAR staff monitored the trenches containing features as they were backfilled with sand and excavated soil.

Test Unit 1 and Feature 6

Based on the discovery of Spanish Colonial artifacts with limestone cobbles and plaster in STs 3, 3B, and 13, the CAR suggested a plan to examine whether the deposits were an intact remnant of a midden or possibly the remains of an architectural feature, such as a wall. The CAR contacted the THC with this plan and received approval from the Archaeology Program Coordinator, Mark Denton, in an email dated March 3, 2015. A test unit measuring 100-x-50 cm (39.3-x-19.7 ft.) and approximately 40 cmbs (15.7 in.) or 60 cm below the datum (23.6 in.) was excavated on March 5, 2015. This unit was placed east of ST 3 and west of ST 14. Level 1 (0-10 cm; 0-3.9 in.) contained ceramics, chipped stone, construction material, faunal material, glass, and metal. Ceramics included European wares in Level 2 (n=3) and Level 3 (n=6; Table 4-5).

Artifacts recovered from Level 4 included ceramics, debitage, faunal remains (215 g), glass fragments, and mortar. Ceramics from this level included Spanish Colonial undecorated tin-glazed (n=3) and unglazed ware (n=2). One piece of European earthenware was also recovered. This level was marked by a change in soil color and an increase of

Figure 4-19. View of cobblestone, Feature 5.

Figure 4-20. View of excavated trench crossing the acequia.

Figure 4-21. Backfilling with sand of wall feature; note plastic webbing.

Table 4-5. Artifacts Recovered from Test Unit 1

Levels	Ceramics	Construction	Glass	Lithics	Metal	Organics	Personal	Samples	Total
1	2	7	13	2	1	3			28
2		1				2		1	4
3			4			2		1	7
4	6	1	4	2	4	1			18
5	8	6		2	1	3	1	1	23
Total	**16**	**15**	**21**	**6**	**6**	**11**	**1**	**3**	**79**

decomposed plaster, mortar, and charcoal fragments. In the western portion of the unit, an intact tin can was recovered. Due to the abrupt transition from the upper levels to Level 4, CAR staff excavated an additional level within the eastern portion of Test Unit 1 and expanded the unit 50 cm (19.7 in.) to the east incorporating the previous shovel tests. Feature 6 was contained in Level 5, and one large ceramic tile with a green glaze and plaster/mortar was found in situ (Figure 4-22). Other artifacts include a bead, ceramics, a metal tack or rivet, and a large quantity of faunal material (814.6 g) including large, medium, and small faunal remains, in addition to fish remains. Ceramics from this feature, included Spanish Colonial tin-glazed (n=1), undecorated European earthenware (n=6), and one Native American Goliad sherd.

The excavation of the eastern half of this unit provided a larger profile wall to view the distinct transition from the disturbed upper levels to a relatively intact level. Prior to the backfilling of the unit on March 6, 2015, 45 kg (100 lbs.) of sand were placed over Level 5 to protect it and serve as a visual reference for any excavation that may occur in the future.

Sump Pump Excavations

Other excavations associated with the sewer lateral included the excavation for a new sump pump, as well as two trenches and three hand-excavated holes for the electrical lines associated with the sump pump. The new sump pump was placed in the same location as the old sump pump; therefore, the area was disturbed. The trenches and three hand-excavated holes did not exceed 40 cm (15.7 in.) in depth, as required. No cultural material was observed in the trenches. The three hand-excavated holes were 30 cm (11.8 n.) in diameter. At 30 cmbs (11.8 in.), one sherd of decal ware and a hand-painted sherd were collected from the hand-excavations.

Church (Area 3) and Mission Plaza (Area 4)

Two additional areas that were included in archaeological monitoring were in front of the church (Area 3) and in the mission plaza (Area 4), north of the parking lot. Heavy rains in early November of 2014 caused large amounts of water to collect in the parking lot as seen in Figure 4-23. To drain water off the parking lot area, a small trench 30.5-cm (12-in.) wide and 20.3-cm (8-in.) deep was excavated by hand and monitored by CAR staff (Figure 4-24). Two ceramic sherds were encountered and noted, but they were not collected.

On November 19, 2014, fill from underneath the pavers in front of the church was removed to waterproof the area (Figure 4-25). A CAR staff member monitored the activity. No features or cultural material were encountered during this time.

Figure 4-22. Feature 6 in Test Unit 1.

Figure 4-23. Water collected in the parking lot after heavy rains.

Figure 4-24. Trench excavated for drainage of rainwater collected in parking lot area.

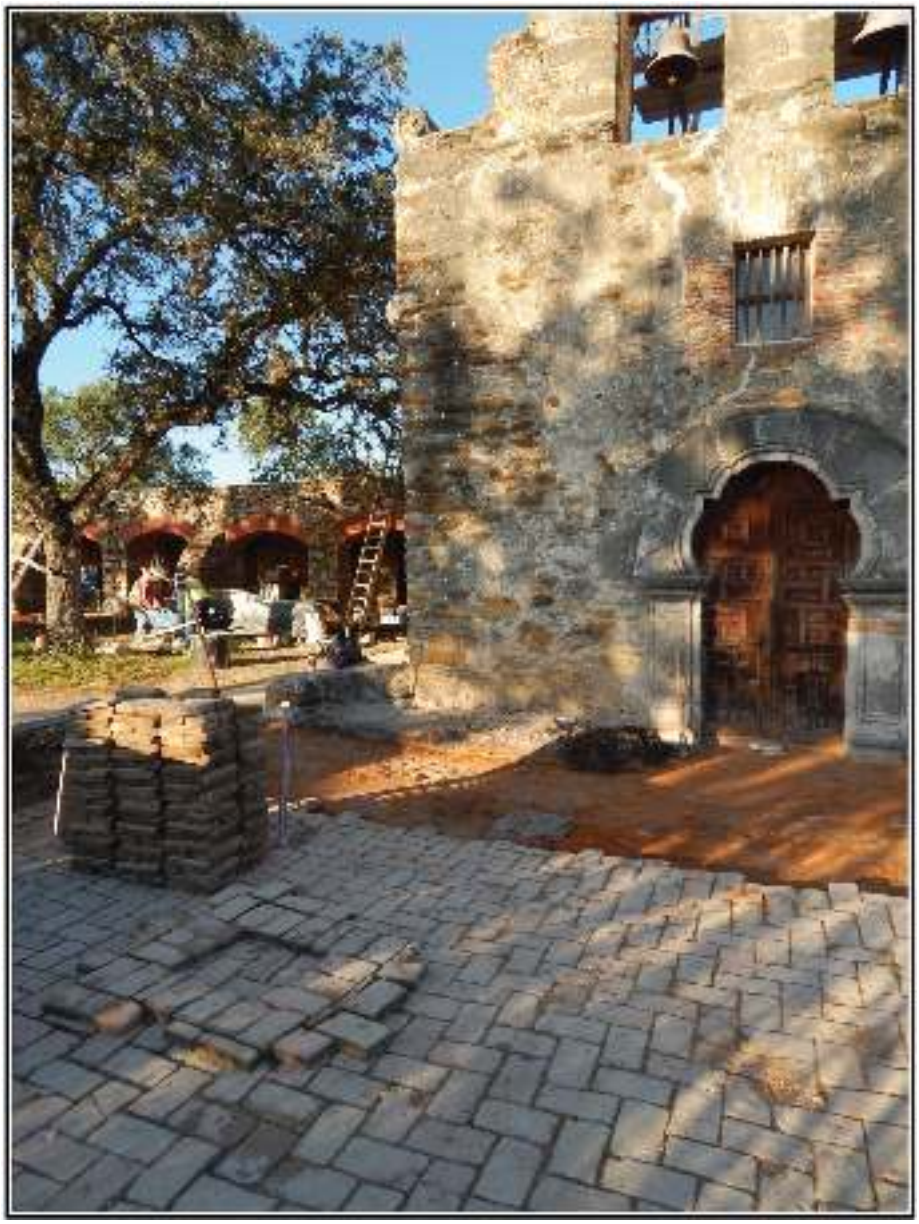

Figure 4-25. The removal of fill underneath pavers in front of the church.

Chapter 5: Summary and Recommendations

During the summer and fall 2014 and spring of 2015, the CAR conducted archaeological monitoring and testing at Mission San Francisco de la Espada. There were four areas of focus for these investigations. In Area 1, Feature 1 was found and was interpreted as the remnants of a Spanish Colonial wall associated with an early mission gate (Smith 1980a). Investigations in Area 2 resulted in the documentation of five features that appear to be intact Spanish Colonial deposits and architectural features. Areas 3 and 4 have been given little archaeological attention in the past, and current investigations revealed little material culture in these areas.

Archaeological work in Area 1 consisted of monitoring the excavation of 39 bollards. Nine auger holes and seven shovel tests were also excavated within the parking lot. Spanish Colonial material that consisted of ceramics, faunal material, lithics, and glass were recovered during the bollard excavations and the highest densities were located in the southern portion of the parking lot perimeter. Archaeological investigations by Gross (1997) noted higher frequencies of Spanish Colonial period material in this area east of the eastern gate, as well. Gross (1997:10) postulated that deposits in this area reflect a pre-1780 dump outside the east gate of the original compound. Cultural material was present in all levels of the bollard excavations, unlike those placed in the parking lot, which yielded little material. However, excavations in the parking lot proper were shallow in depth (20-30 cmbs; 7.9-11.8 in.), while bollard excavations were dug to 70 cmbs (27.6 in.).

During the grading of the parking lot, Feature 1 was discovered at a shallow depth of 20 cmbs (7.9 in.). The placement and construction of Feature 1 suggests it was the same 1772 gate that was recorded by Smith (1980a). The only mention in the 1772 inventory was the *puerta principal* (main gate). This gate is said to have contained two cannons and "a wedge-shaped extension to the east" (Ivey et al. 1990:296). It is suggested that this gate was removed after the west wall gate was opened, after 1785 (Cargill et al. 2004:105). Feature 1 was left undisturbed and preserved in place. Further work was not recommended for Area 1. However, if future impacts occur in Area 1, archaeological investigations are warranted particularly north and east of the bollards as cultural material appeared to be intact and present to a depth of 70 cmbs (27.6 in.).

Archaeological investigations in Area 2 included shovel testing, trenching, and the excavation of a single test unit. According to investigations in this area, features and the majority of cultural remains were noted between 40-70 cmbs (15.7-27.6 in.). Trenching and the test unit resulted in the recordation of five features. Features 2 through 5 were found during mechanical trenching. According to Ivey et al. (1990:295), the original pueblo at Mission Espada consisted of natives and soldiers living in *jacales* in two streets around a plaza to the west of and adjacent to the convent and church. Features 2 and 3 appear to define a room. Archival maps lacked evidence of buildings in the area, but the features do align with the western outer wall of the church (Figure 5-1).

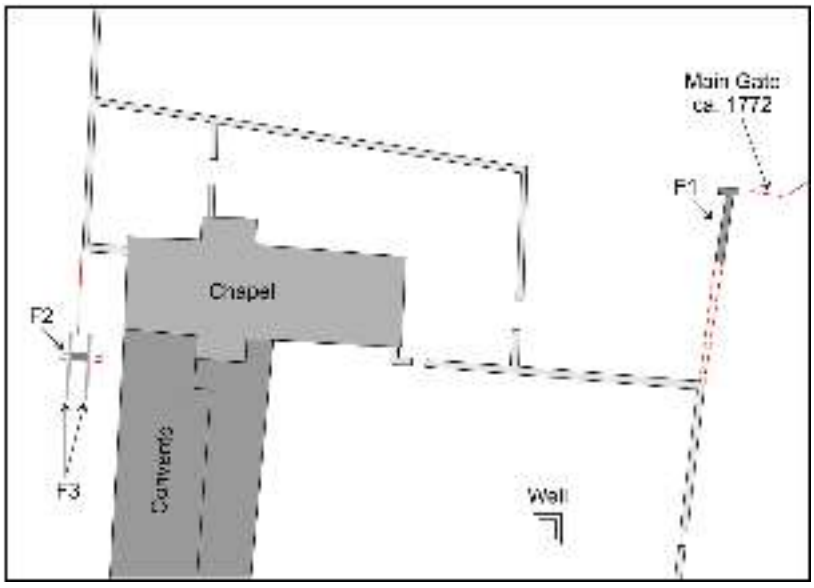

Figure 5-1. Architectural features documented in current investigations displayed in relation to buildings and the 1772 gate.

Because of proximity of the *acequia* to the convento, it is not difficult to suggest rooms present in the area. According to Ivey et al. (1990), a 1772 inventory of the mission suggests auxiliary buildings that "could have been anywhere in or adjunct to the mission" (Ivey et al. 1990:293). Some of these buildings have been described as having flagstone floors, such as those encountered in Feature 4 of these investigations.

Feature 5 consisted of a cobble wall with no artifacts in association. Similar cobble surfaces have been encountered by Smith (Ivey et al. 1990) and interpreted as the blacksmith shop. Feature 6 was found during shovel testing and further investigated in excavation of Test Unit 1. Feature 6 was defined as an intact midden and is the only feature with associated artifacts. This feature was interpreted as a Spanish Colonial period midden and is significant as it may aid in determining the use of rooms that CAR suggests are present along the west side of the convento.

No material was recovered in Area 3, in front of church entrance. However, this area is of archaeological concern for future projects, as the cemetery is noted nearby. The only work that was conducted in the Area 4 consisted of a small trench that produced two pieces of European ceramics. CAR recommends archaeological investigations if future work is conducted in this area as well, since little archaeological work has been performed in these areas. Further investigation is not required for the current project; however, CAR does recommend archaeological investigations if future work is conducted anywhere near these areas. This is particularly important in Areas 1 and 2 where CAR documented features.

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