

Archaeological Monitoring for the World Heritage Sidewalk Improvements Project, San Antonio, Bexar County, Texas



by
Antonia L. Figueroa and Sarah Wigley

Texas Antiquities Permit No. 8240

REDACTED

Principal Investigator
Leonard Kemp

Original Principal Investigator
Paul Shawn Marceaux

Prepared for:
City of San Antonio
1901 South Alamo Street
San Antonio, Texas 78204



Prepared by:
Center for Archaeological Research
The University of Texas at San Antonio
One UTSA Circle
San Antonio, Texas 78249
Archaeological Report, No. 490

**Archaeological Monitoring for the
World Heritage Sidewalk Improvements Project,
San Antonio, Bexar County, Texas**

by
Antonia L. Figueroa and Sarah Wigley

Texas Antiquities Permit No. 8240

REDACTED

Principal Investigator
Leonard Kemp

Original Principal Investigator
Paul Shawn Marceaux



Prepared for:
City of San Antonio
1901 South Alamo Street
San Antonio, Texas 78204

Prepared by:
Center for Archaeological Research
The University of Texas at San Antonio
One UTSA Circle
San Antonio, Texas 78249
Archaeological Report, No. 490

Abstract:

The University of Texas at San Antonio (UTSA) Center for Archaeological Research (CAR) conducted archaeological monitoring for the World Heritage Sidewalk Improvements Project in San Antonio, Bexar County, Texas, in response to a request from the City of San Antonio (COSA). Archaeological monitoring began December 4, 2017, and was completed December 16, 2020. The project area encompassed three mission locations that included Mission San José y San Miguel de Aguayo (41BX3; Padre Drive), Mission San Juan de Capistrano (41BX5; Graf Road), and Mission San Francisco de la Espada (41BX4; Camino Coahuilteca/Espada Road), and all located in southern Bexar County. The three missions are part of a United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage site, which encompasses the five San Antonio Missions. The missions are also part of the National Park Service (NPS) San Antonio Missions National Historical Park. Additionally, the missions are listed in the National Register of Historic Places (NRHP) and designated as State Antiquities Landmarks (SALs). Improvements that were monitored by CAR included excavations for 1.1 km (0.7 mi.) of sidewalk installations connected to existing COSA park trails and excavations for the installation of two pedestrian bridges crossing the San Juan Acequia (41BX268) and the Espada Acequia (41BX269). The project area spanned 0.16 ha (0.4 acre) in total, including 0.04 ha (0.09 acre) in the area of Mission San José, 0.04 ha (0.1 acre) in the area of Mission San Juan, and 0.08 ha (0.2 acre) in the area of Mission Espada. However, with the exception of the pedestrian bridge crossing the San Juan Acequia, the 0.04 ha (0.1 acres) near Mission San Juan were not monitored because the CAR was not notified of those excavations until after the fact, although the area was examined after the CAR was made aware of the work. All excavations took place within COSA property.

The project fell under COSA's Unified Development Code (UDC) (Article 6 35-630 to 35-634) and required review by the Texas Historical Commission (THC) under the Antiquities Code of Texas. The archaeological work was performed under Texas Antiquities Permit No. 8240. Dr. Paul Shawn Marceaux served as Principal Investigator until November of 2019, when Leonard Kemp assumed that role after Dr. Marceaux's departure from the CAR. Antonia Figueroa served as the Project Archaeologist until September of 2019, when Sarah Wigley assumed that role after Figueroa's departure from the CAR.

During monitoring, no other material was collected at the Mission San José (41BX3) or Mission San Juan (41BX5) locations. However, Feature 1 was encountered at the Camino Coahuilteca/Espada Road location near Mission Espada (41BX4). The cultural material dated to the nineteenth century and was included as part of 41BX4. No new archaeological sites were documented during the archaeological monitoring. CAR recommended no further work during the course of the project. However, any future subsurface work should be monitored by archaeologists due to the significance of the mission sites. Artifacts that were collected and records generated during this project were prepared for curation according to THC guidelines and are permanently curated at the CAR at UTSA.

This page intentionally left blank.

Table of Contents:

Abstract:	iii
List of Figures	vii
List of Tables	ix
Acknowledgements	xi
Chapter 1: Introduction	1
Project Area	3
Chapter 2: Project Overview	11
Environmental Setting	11
Culture History	12
Previous Archaeology	14
Padre Road	14
Graf Road	14
Camino Coahuilteca/Espada Road	17
Chapter 3: Field and Laboratory Methods	19
Field Methods	19
Laboratory Methods	19
Chapter 4: Results of Archaeological Investigations	21
Padre Drive	21
Graf Road	21
Camino Coahuilteca/Espada Road	23
Chapter 5: Summary and Recommendations	33
References Cited	35

This page intentionally left blank.

List of Figures:

Figure 1-1. The project areas depicted on an aerial map	1
Figure 1-2. The project areas depicted on a topographic map	2
Figure 1-3. Project areas location within Bexar County.....	3
Figure 1-4. The Padre Drive project area illustrated on an aerial map	4
Figure 1-5. The Padre Drive project area illustrated on a topographic map.....	5
Figure 1-6. The Graf Road project area, near Mission San Juan, illustrated on an aerial map	6
Figure 1-7. The Graf Road project area, near Mission San Juan, illustrated on a topographic map	7
Figure 1-8. The Camino Coahuilteca/Espada Road project area illustrated on an aerial map	8
Figure 1-9. The Camino Coahuilteca/Espada Road project area illustrated on a topographic map	9
Figure 2-1. Map of previously recorded sites within 0.5 km of the Padre Drive project area.....	16
Figure 2-2. Map of previously recorded sites within 0.5 km of the Camino Coahuilteca/Espada Road and Graf Road project areas	17
Figure 4-1. Beginning of excavations on Padre Drive (facing west).....	21
Figure 4-2. Excavation on west side of Padre Drive	22
Figure 4-3. Existing trails and portal to Mission San José (facing west)	22
Figure 4-4. Graf Road sidewalk section as observed by CAR archaeologist	23
Figure 4-5. Location of excavations for pedestrian bridge crossing the San Juan Acequia	24
Figure 4-6. Northern footing trench profile; note loose limestone blocks near the surface.....	25
Figure 4-7. Flooded footing trench for pedestrian bridge crossing the San Juan Acequia. The layered appearance in the lighter portion of the soil profile is an artifact of the trench being repeatedly flooded and pumped during excavation. The profile did not exhibit this layering during the initial excavation	25
Figure 4-8. Beginning of excavations on Camino Coahuilteca (facing south).....	26
Figure 4-9. Excavations on Camino Coahuilteca for sidewalk installment, with existing sidewalks to the north.....	26
Figure 4-10. Acequia lateral culvert that runs under Camino Coahuilteca to the San Antonio River	27
Figure 4-11. Location of Feature 1 and excavations for pedestrian bridge in Camino Coahuilteca/Espada Road project area.....	28
Figure 4-12. Feature 1. Field sketch on the left, photograph on the right	29
Figure 4-13. Excavations on the west side of Espada Road	30
Figure 4-14. Graded area across from the entrance to Mission Espada.....	30
Figure 4-15. Trench excavation for pedestrian bridge crossing the Espada Acequia	31

This page intentionally left blank.

List of Tables:

Table 2-1. Environmental Attributes for the Project Areas (NRCS 2020)..... 11

Table 2-2. Archaeological Sites within 0.5 km of the Project Areas 15

Table 4-1. Cultural Material Recovered from Feature 1 29

This page intentionally left blank.

Acknowledgements:

The project would not have been completed without the efforts of the diligent CAR staff who aided with the project, thanks to Lindy Martinez and Jason Perez. Thanks to Kay Hindes, the former City Archaeologist, for her input on project logistics. The project would not be possible without the permit for archaeological investigations provided by Mark Denton with the Texas Historical Commission (THC). Thank you to Theresa Larson, COSA Environmental Services Coordinator with the Public Works department, who coordinated this effort. Alamo City Construction served as the subcontractor during the course of work conducted 2017-2018, and E-Z Bel served as the contractor during the course of the 2020 work. Thanks to Dr. Paul Shawn Marceaux, who served as the Principal Investigator until November of 2019, when Leonard Kemp took over that role. Thank you to Dr. Raymond Mauldin, CAR Director, who oversaw the project and offered guidance throughout. The project records and artifacts were processed at the CAR under the direction of Lead Curator, Lab Director, and CAR Assistant Director Cindy Munoz. Dr. Jessica Nowlin, CAR Research Data Analyst, and Peggy Wall of CAR provided maps for the report. Thank you to Dr. Nowlin who also helped with editing, as did CAR editor Dr. Kelly Harris.

This page intentionally left blank.

Chapter 1: Introduction

Starting in December of 2017 and extending through December 2020, the Center for Archaeological Research (CAR) at The University of Texas at San Antonio (UTSA) on behalf of the City of San Antonio (COSA) conducted archaeological monitoring for the World Heritage Sidewalk Improvements Project, San Antonio, Bexar County, Texas

(Figures 1-1 and 1-2). The archaeological monitoring was conducted for sidewalk and pedestrian bridge installations within the environs of three mission locations that included and Mission San José y San Miguel de Aguayo (41BX3; Padre Drive), Mission San Juan de Capistrano (41BX5; Graf Road), and Mission San Francisco de la Espada (41BX4;

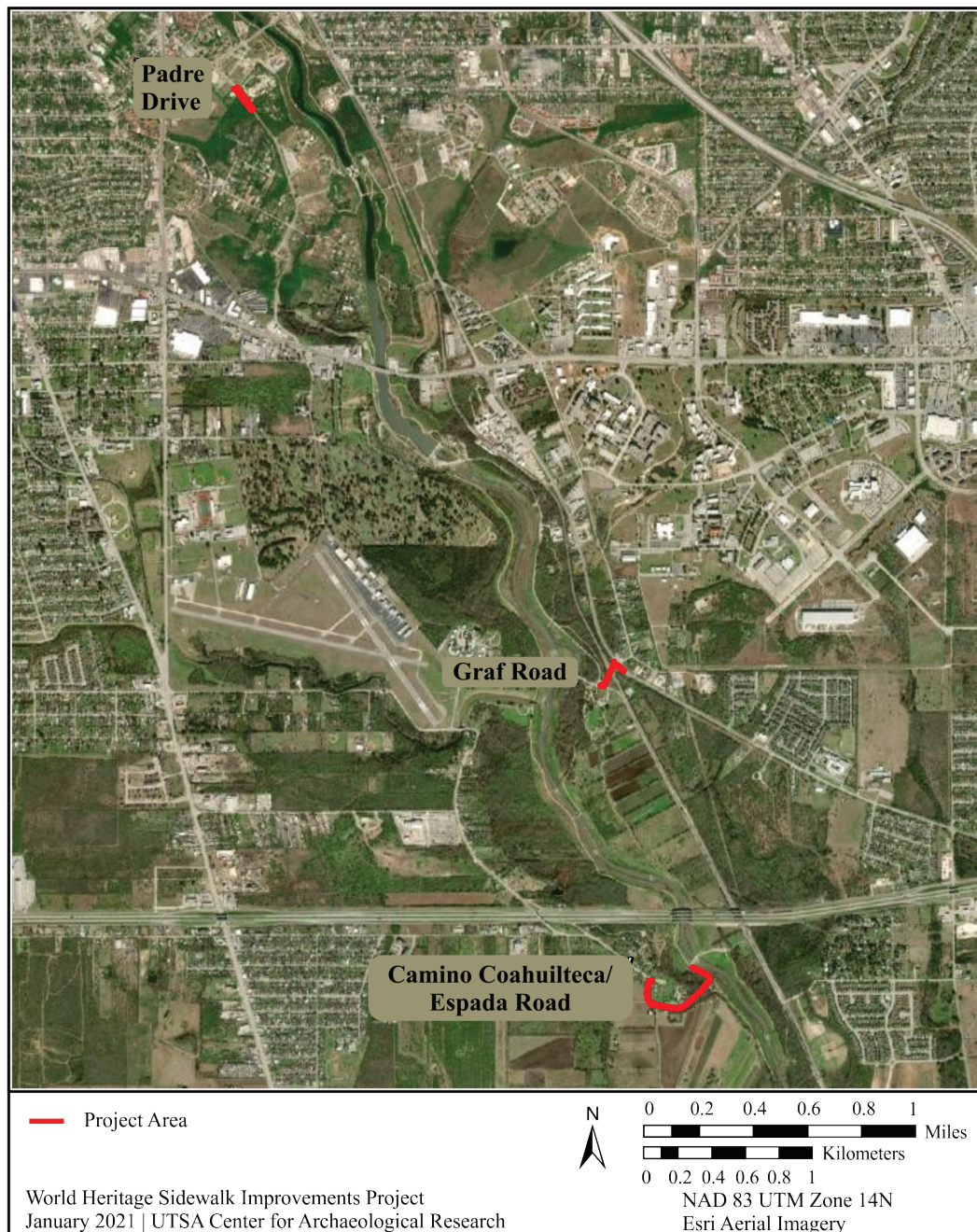


Figure 1-1. The project areas depicted on an aerial map.

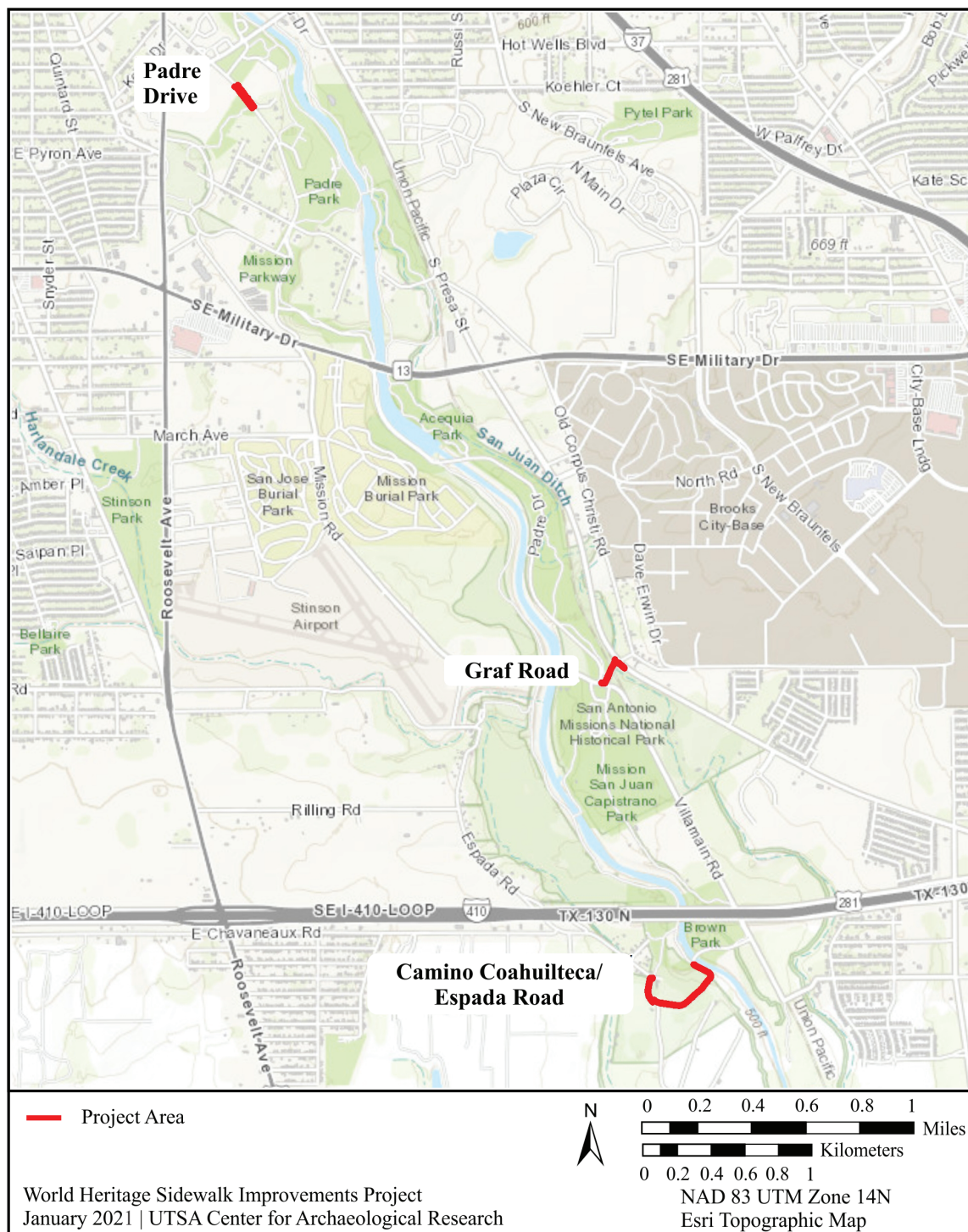


Figure 1-2. The project areas depicted on a topographic map.

Camino Coahuilteca/Espada Road). The three missions are part of a United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage site encompassing the five San Antonio missions (UNESCO 2020). The missions are also part of the National Park Service (NPS) San Antonio Missions National Historical Park. Moreover, the missions are listed in the National Register of Historic Places (NRHP)

and as State Antiquities Landmarks (SALs). The missions are located in southern Bexar County along the San Antonio River (Figure 1-3).

The project fell under COSA's Unified Development Code (UDC) (Article 6 35-630 to 35-634) as well as the Texas Antiquities Code, and the archaeological work was performed

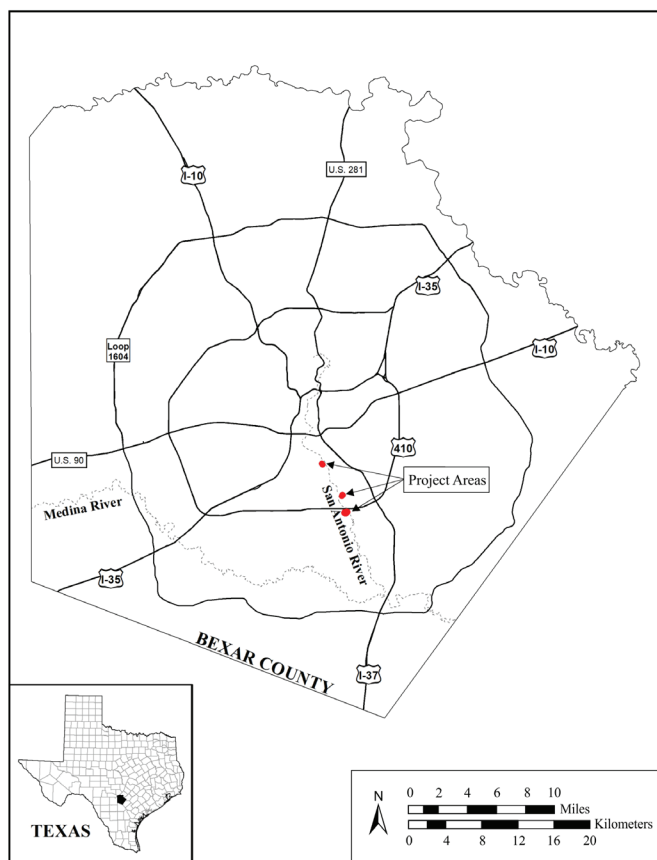


Figure 1-3. Project areas location within Bexar County.

under Texas Antiquities Permit No. 8240. Dr. Paul Shawn Marceaux served as Principal Investigator until November of 2019, when Leonard Kemp took over that role. Antonia Figueroa served as the Project Archaeologist until September of 2019, when Sarah Wigley took over that role.

Project Area

The project area monitored by CAR during the project consists of three locations within the mission parks. The project area consisted of the COSA right of way (ROW) where the sidewalks were installed, totaling about 1.1 km (0.7 mi.) in length. The excavated areas monitored by CAR were approximately 1.2 m (4 ft.) in width and varied from 11 to 15 cm (4-6 in.) in depth on average. Additionally, pedestrian bridges were installed at two locations, crossing the San Juan Acequia (41BX268) near Graf Road and crossing the Espada Acequia (41BX269) near the Mission Espada entrance. Excavations for the footings of these bridges reached 1.5 m (5 ft.) in depth and were approximately 1.5 m by 2.4 m (5 ft. by 8 ft.).

The first project area is located near Mission San José y San Miguel de Aguayo (41BX3) along either side of a 164 m (538 ft.) section of Padre Drive (Figures 1-4 and 1-5). In total, 291

m (955 ft.) of sidewalk excavation was monitored in this project area. The project area (ROW) begins just southwest of Mission Park and the Charro Association property. This project area encompasses the ROW on both sides of Padre Drive and is bounded by NPS property to the southwest. The sidewalk terminates at the Mission San José trail portal that leads southwest to the Mission San José compound.

The second project area is the Graf Road location that incorporates into existing sidewalk trails just north of Mission Parkway Park and Mission San Juan (41BX5) (Figures 1-6 and 1-7). This project area sidewalk system spans an approximately 250 m (820 ft.) section of Graf Road, from Ashley Road to South Presa Road. The section crosses a section of railroad tracks and the San Juan Acequia, and it included excavation for a pedestrian bridge across the *acequia*.

The third project area was associated with Mission San Francisco de la Espada (41BX4). This project area includes the east and west ROW along a 690 m (2,264 ft.) section of Camino Coahuilteca and Espada Road (Figures 1-8 and 1-9). It starts along Camino Coahuilteca (west of the San Antonio River) and connects with the previously installed sidewalk associated Mission Trails system. A pedestrian bridge was

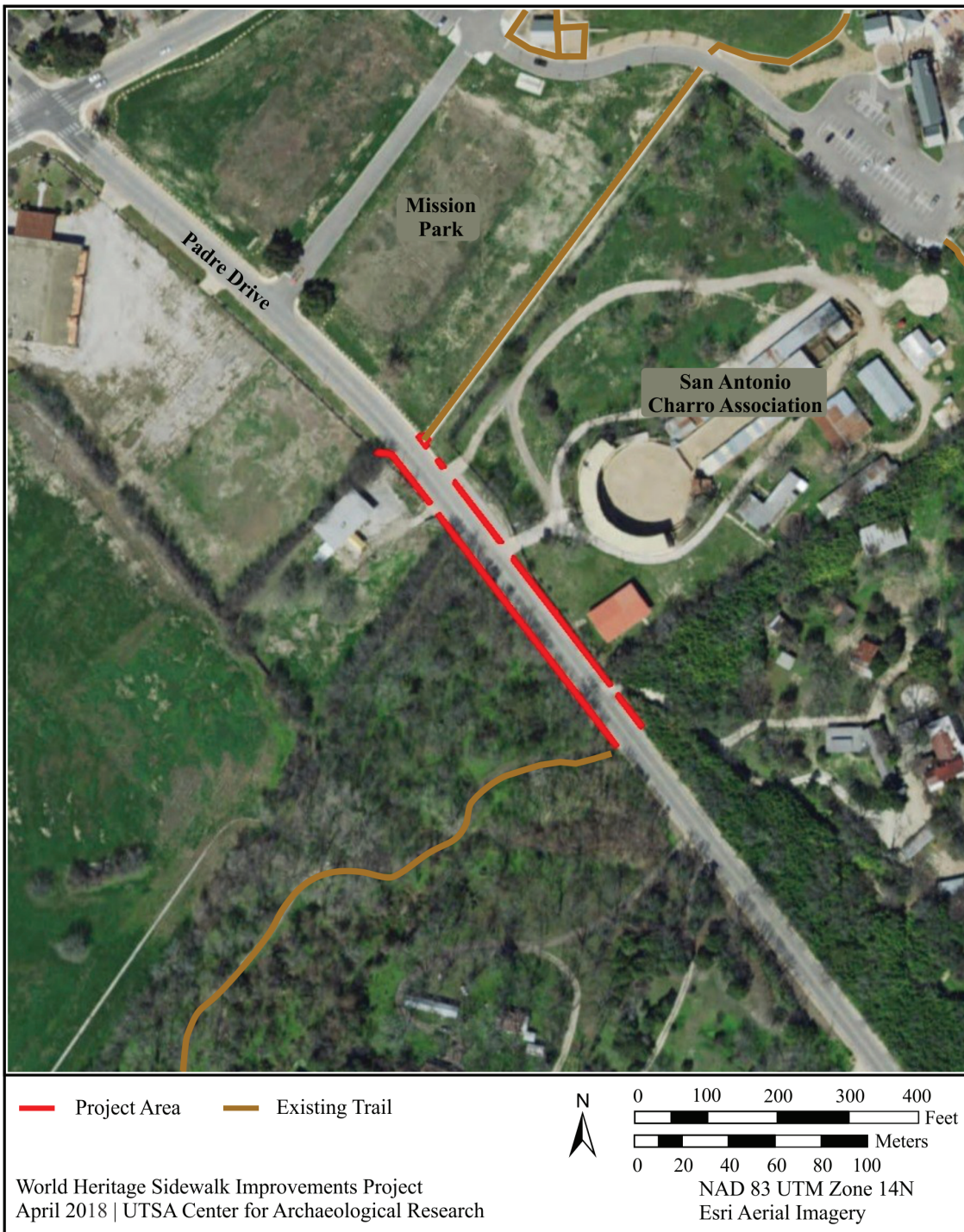


Figure 1-4. The Padre Drive project area illustrated on an aerial map.

installed crossing the Espada Acequia near the mission entrance. The project area terminates along the west side of Espada Road just west of the mission compound.

During the course of monitoring Feature 1, a small nineteenth-century trash deposit, was encountered at the Camino Coahuilteca/Espada Road location near Mission San

Francisco de la Espada parking lot and recorded as part of 41BX4. This site is already listed on the NRHP and designated as a SAL, as well as being part of a UNESCO World Heritage site. No other features or intact cultural deposits were recorded during the course of monitoring. The deeper excavations for pedestrian bridges at the San Juan (41BX268) and Espada (41BX269) acequias showed evidence of disturbance by the

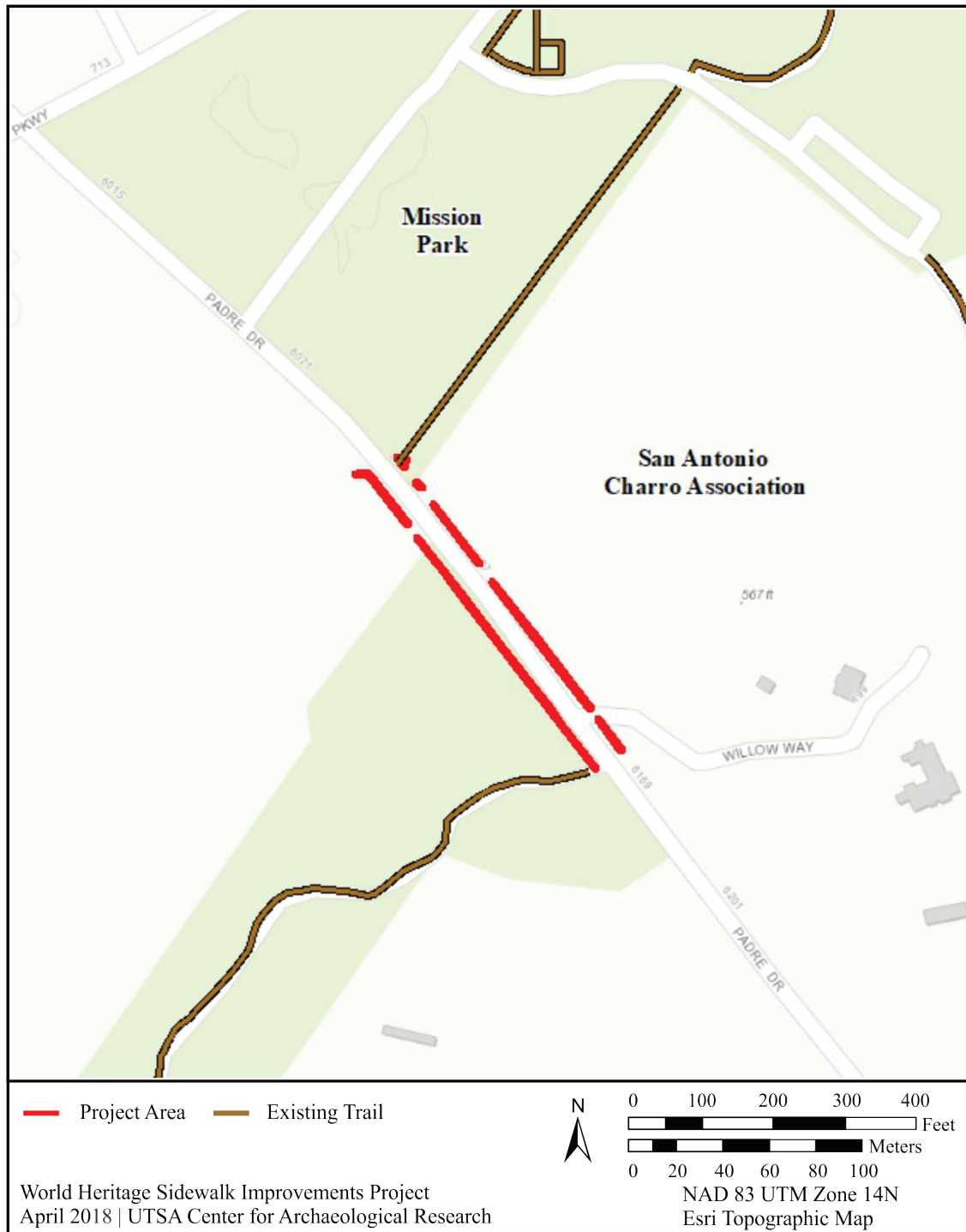


Figure 1-5. The Padre Drive project area illustrated on a topographic map.

previous installation of culverts in the immediate area. Loose limestone blocks in the vicinity of the San Juan Acequia suggested that the *acequia* structure was damaged when the culvert was installed.

This report provides a description of the work that was monitored by the CAR. The first chapter has presented a

general introduction to the project and a description of the project area. Chapter 2 provides a brief background to the project that includes the environmental and archaeological setting. The field and laboratory methods used for the project are outlined in Chapter 3, and the results of monitoring activities are summarized in Chapter 4. Chapter 5 provides a summary of the work and recommendations.



Figure 1-6. The Graf Road project area, near Mission San Juan, illustrated on an aerial map.

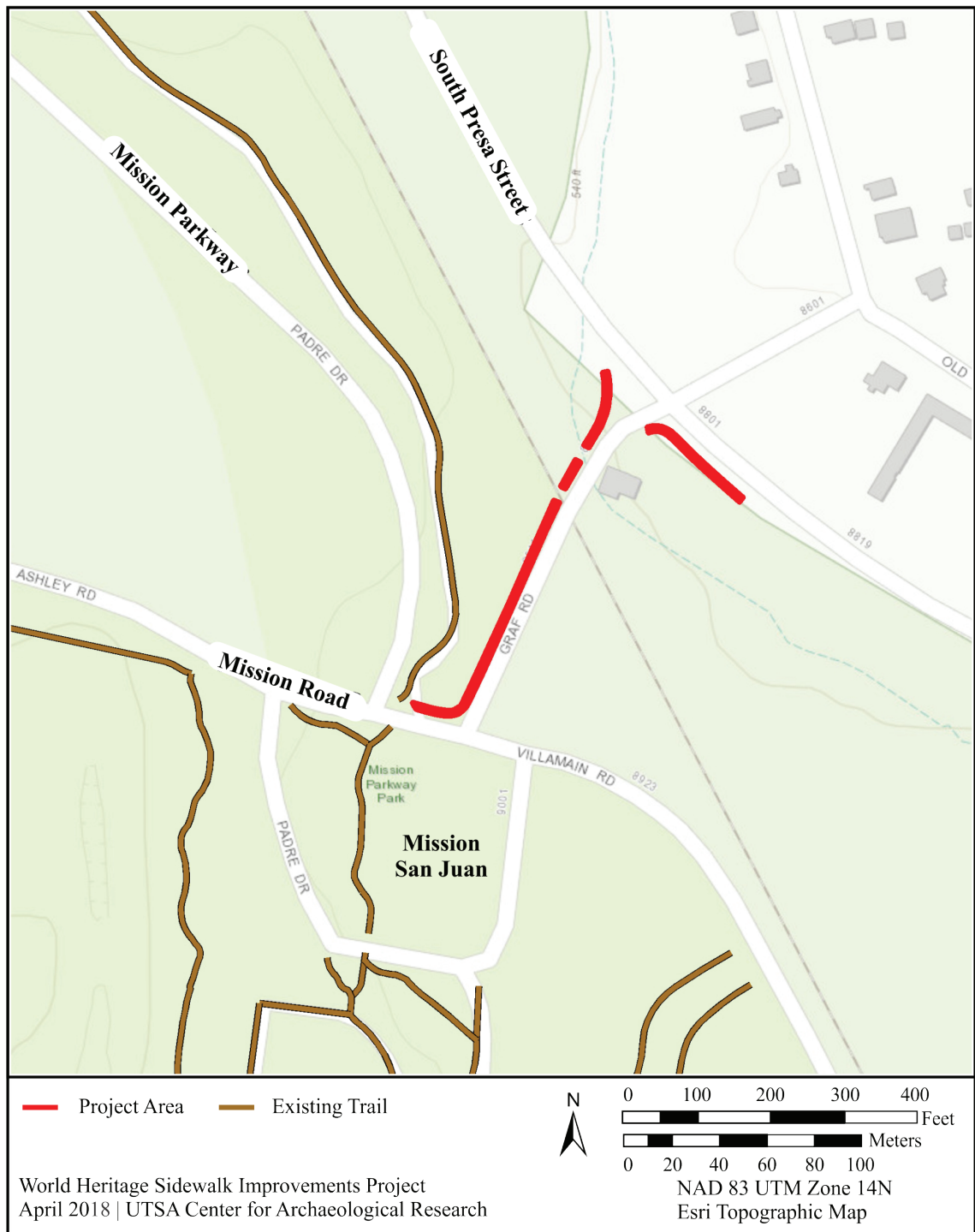


Figure 1-7. The Graf Road project area, near Mission San Juan, illustrated on a topographic map.



Figure 1-8. The Camino Coahuilteca/Espada Road project area illustrated on an aerial map.

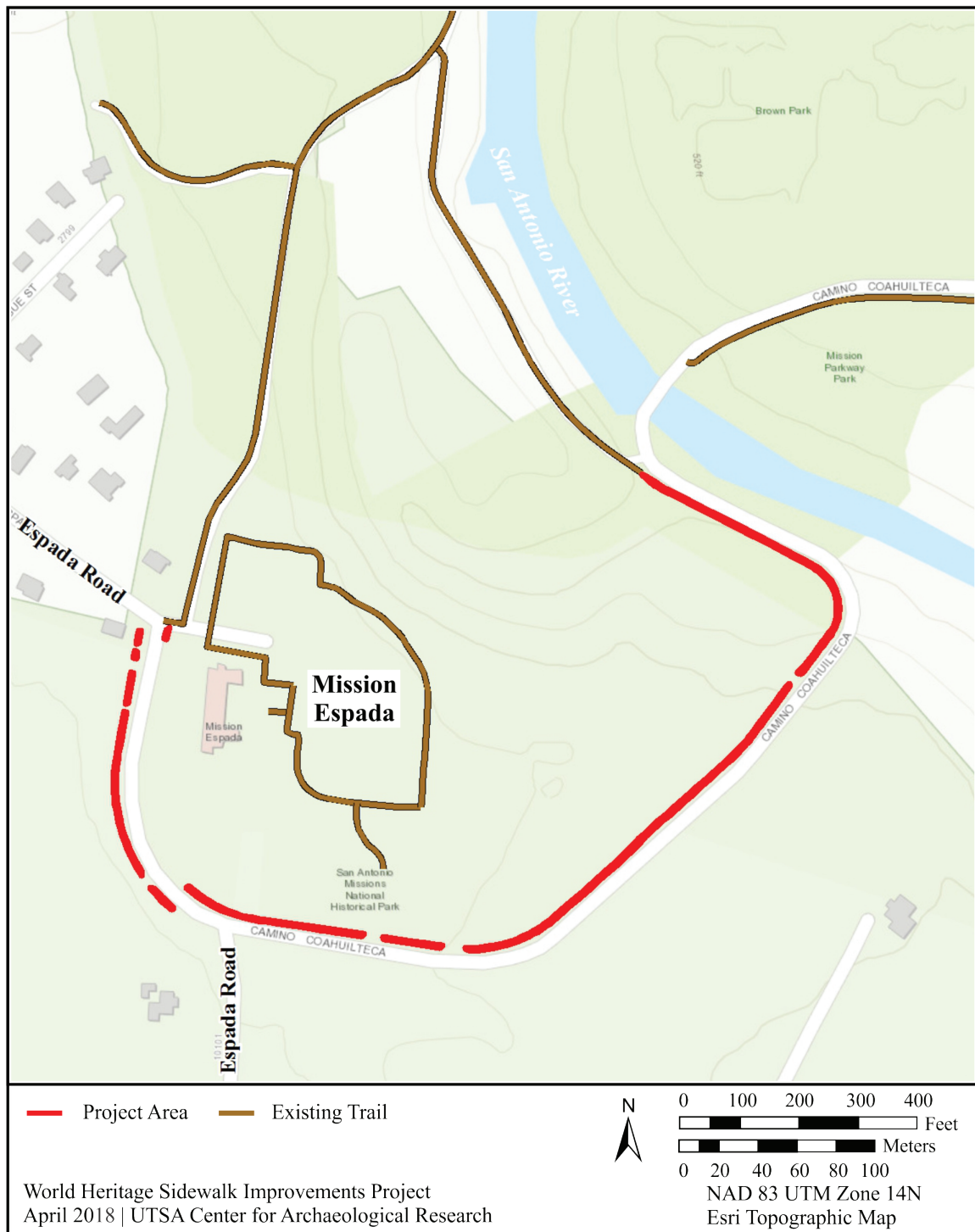


Figure 1-9. The Camino Coahuilteca/Espada Road project area illustrated on a topographic map.

This page intentionally left blank.

Chapter 2: Project Overview

This chapter presents a brief description of the project area's physical environment, including soils, climate, and vegetation. It provides a brief description of previous archaeological investigations conducted within 0.5 km (0.3 mi.) of the project area.

Environmental Setting

This section provides an overview of the San Antonio physical environment with a focus on each project area. Table 2-1 presents the elevations, soil type, and vegetation of the localized areas surrounding the project area. The nearest body of water to all three project areas is the San Antonio River (see Table 2-1). This channelized portion of the river is part of the famous San Antonio River Walk.

The Padre Drive project area is located in Sunev clay loam soils at an elevation of 171-174 m (561-571 ft.) above mean sea level (amsl). The project area is 300 m (984 ft.) from the San Antonio River. Natural vegetation in the area includes tall and midgrass savannahs and woodland/shortgrass communities. Sunev clay loam soils are formed on stream terraces. They are well drained and reach depths of more than 203 cm (80 in.). In addition to the tallgrass, midgrass, and woodland species discussed previously, shortgrasses that can be found include buffalograss (*Bouteloua dactyloides*), Carolina crabgrass (*Digitaria cognate*), and curleymesquite (*Hilaria belangeri*) (Natura Resources Conservation Service [NRCS] 2020).

The Graf Road project area is located on Atco loam soils at an elevation of 162-171 m (532-561 ft.) asml. The project area is

280 m (918 ft.) from the San Antonio River. Atco loam soils are found on erosion remnants on stream terraces. They are well drained and reach depths of more than 203 cm (80 in.) (NRCS 2020).

The Camino Coahuilteca/Espada Road project area is located in Frio clay loam soils at an elevation of 150-168 m (492-551 ft.) amsl. The project area is 20 m (66 ft.) from the San Antonio River. The vegetation community is similar to that at the Graf Road project area. Natural vegetation in the area includes tall and midgrass savannahs and dense woodlands, although the environment of all three project areas has been impacted by cultivation and development of the surrounding areas. Frio clay loam soils are found on floodplains. They are well drained and reach depths of more than 203 cm (80 in.) (NRCS 2020). Tallgrass savannahs are historically dominated by big bluestem (*Andropogon gerardii*), Indiangrass (*Sorghastrum nutans*), switchgrass (*Panicum virgatum*), and little bluestem (*Schizachyrium scoparium*), while midgrass savannahs include sideoats grama (*Bouteloua curtipendula*), Virginia wildrye (*Elymus virginicus*), and Florida paspalum (*Paspalum floridanum*). Tree species include live oak (*Quercus* spp.) and hackberry (*Celtis* spp.) (NRCS 2020).

All three project areas are located in southern San Antonio along the San Antonio River. The San Antonio region is described as a moderate, subtropical, humid climate with generally cool winters and hot summers (Norwine 2007; Taylor 1991). The average high temperature reported for San Antonio in 2017 was 21° C (70 °F), and the average low was 7.5° C (45 °F) (U.S. Climate Data [USCD] 2018). Reported precipitation for San Antonio was 6.9 cm (2.7 in.), 2.7 cm (1.1 in.) higher than the normal (USCD 2018). San Antonio

Table 2-1. Environmental Attributes for the Project Areas (NRCS 2020)

Project Area	Elevation m (amsl)	Soils	Distance to SA River	Vegetation Communities
Padre Drive	171 to 174	Sunev clay loam	300 m (984 ft.)	Tallgrass Savannah, Midgrass Savannah, Woodland/Shortgrass Community
Graf Road	162 to 171	Atco loam	280 m (919 ft.)	Tallgrass Savannah, Midgrass Savannah, Dense Woodland
Camino Coahuilteca/Espada Road	150 to 168	Frio clay loam	20 m (66 ft.)	Tallgrass Savannah, Midgrass Savannah, Dense Woodland

is positioned where the southernmost Great Plains meets the Gulf Coast, demarcated by the Balcones Escarpment. The area contains a number of reliable freshwater sources, including the San Antonio River, freshwater springs, and the Edwards Aquifer (Petersen 2001). San Antonio is located near the borders of the Balconian biotic province, which is intermediate between eastern forest and western desert, and the Tamaulipan biotic province, which is dominated by thorny brush (Blair 1950).

Culture History

Though San Antonio's culture history includes a significant prehistoric component (see Collins 2004 for a review of the prehistoric culture history of the region), this background will focus on the historic period as no prehistoric sites were documented on the project. In Central Texas, the historic period began with the first documented appearance of Europeans in AD 1528. Although early interactions between Europeans and Native People in the area were infrequent, the lifeways of the indigenous populations were still significantly impacted by disease as well as the arrival of Native American groups from other regions of North America fleeing European incursions (Foster 1998; Kenmotsu and Arnn 2012).

In 1519, following the Alonso Álvarez de Pineda voyage, Spain laid claim to the area that would become Texas but made little attempt to establish settlement (Chipman and Joseph 2010). Motivated by concerns about the French colonization in Louisiana in the early 1700s and encroachment into Texas in 1685 by Robert Cavalier, Sieur de la Salle's expedition, the Spanish government endeavored to strengthen its hold on Texas, which previously was sparsely populated by Europeans (Cruz 1988). Missions established in East Texas in the early 1700s were intended to secure Spain's hold on the area. Additionally, a Spanish expedition intended to initiate contact with the indigenous population and prevent them from establishing trade relationships with the French reached San Pedro Springs in present-day San Antonio on April 13, 1709 (Cruz 1988).

The primary institutions Spain employed to secure its colonies were the missions, intended to assimilate the indigenous population through religious conversion, the presidio, which played a military defensive role, and the establishment of chartered town settlements (Cox 1997; de la Teja 1995). The mission and the presidio were intended to be transitory institutions, whose land and possessions would ultimately be distributed among successfully converted indigenous families (de la Teja 1995). The Spanish Colonial *acequia* system in San Antonio was established to serve as a source of water and irrigation for the inhabitants of these institutions. San

Antonio is one of the few large cities of Spanish origin that still contains traces of its original *acequia* system, spanning more than 80 km (50 mi.; Cox 2005).

Mission San Antonio de Valero, the first Spanish settlement established in what would become San Antonio, was founded on May 1, 1718, on the west bank of the San Antonio River south of San Pedro Springs (Habig 1968:38). The Presidio de Bexar and the Villa de Bexar were established four days later. Initially, these settlements were located near San Pedro Springs, possibly within modern-day San Pedro Park (Meissner 2000), although firm archaeological evidence of these early settlements is lacking. The mission was moved to the east bank of the San Antonio River about a year later, and it was moved a third time to its final location following storm damage in 1724 (Habig 1968:44). The villa and presidio were relocated in 1722 (Habig 1968:38). Archaeological material associated with this second location of the presidio, including a Spanish Colonial sheet midden, have been documented at site 41BX2088 (McKenzie et al. 2016).

Four more missions were founded to the south along the San Antonio River between 1720 and 1731 (de la Teja 1995). Mission San José was founded by the College of Nuestra Señora de Guadalupe at Zacatecas in 1720 near or at the future location of Mission Concepción. It was moved to its present location sometime in 1721, possibly due to conflict with Mission Valero. Missions Concepción, San Juan, and Espada were founded by the Franciscan college at Queretaro moved from East Texas in 1731 due to escalating conflict with France in the area. Mission Concepción was founded in the vicinity of two previously abandoned mission sites and likely used some of the existing infrastructure from those previous attempts at colonization, including partially constructed *acequia* systems. Mission San Juan Capistrano and Mission Espada are the southernmost of the San Antonio missions. Construction at these two missions progressed slowly, and many of the early buildings were temporary *jacal* structures (Ivey 2018). Overall, construction of more permanent buildings and improvements to existing structures at the missions continued gradually until the 1790s; a detailed structural history of the San Antonio missions is provided by Ivey (2018). Archaeological work at the missions over the years has documented construction history and lifeways; summaries of work conducted in the San Antonio mission environs are provided by Scurlock and colleagues (1976), Ivey and Fox (1999), and Ivey (2018). Construction of the missions' *acequia* systems began early in their history due to their significance to the success of the settlements. Portions of the San Juan Dam (41BX266) are still present, and the Espada Dam (41BX280) and Espada Aqueduct (41BX281), where the *acequia* crosses Piedras Creek, are still functioning.

Although an early, unofficial town settlement associated with the presidio began to develop with the arrival of presidio soldiers and their families, this settlement lacked legal status (de la Teja 1991). The arrival of a group of immigrants from the Canary Islands in 1731 marked the establishment of the Villa de San Fernando (de la Teja 1995; Poyo 1991). The villa was granted water rights to the San Pedro Creek (de la Teja 1995). The early years of the settlement were marked with conflict between the villa, the missions, and the earlier settlers, particularly over land and irrigation (de la Teja 1991, 1995; Poyo 1991). An *acequia* for the new settlement was in operation by 1735 (Cox 2005:35).

The Zacatecan college took over administration of all the San Antonio missions in 1772. Secularization of the Missions began in 1793 (Cox 1997; de la Teja 1995; Ivey 2018). The mission compound subsequently served primarily a military function in the city, and it was, significantly, the site of the Battle of the Alamo in 1836. The other missions were not fully secularized until 1824, when their churches and furnishings were inventoried and surrendered (Habig 1968).

A failed uprising for independence from Spain in 1812 depleted San Antonio's population and negatively affected the city's development for decades (Cox 1997). Mexico gained independence from Spain in 1821, and Texas became part of the state of Coahuila. Texas revolted against Mexico in 1835. Mexican General Martín Perfecto de Cos fortified the old Mission Valero against the Texans, including diverting a branch of the *acequia* to flow outside the Mission compound (Cox 1997). The Texans defeated General Cos, but they were defeated themselves by Santa Anna after 13-day siege in 1836 at what became known as the Battle of the Alamo (Cox 1997). A number of sites downtown include features associated with this military activity, including a trench feature associated with General Cos' occupation of Main Plaza at 41BX1752 (Hanson 2016) and a Mexican fortification trench associated with the Siege of Bexar at 41BX2170 (Kemp et al. 2019). However, in the fall of 1836, Santa Anna was ultimately defeated, and Texas became a Republic (Cox 1997).

After partial secularization in 1794, the secular properties of the lower missions (Missions San José, Concepción, San Juan, and Espada), including houses, *acequias*, and fields, became the property of the Native American inhabitants of the missions. Mission Concepción became a *visita*, or subordinate church, of Mission San José after 1794, and Mission Espada became a *visita* of Mission San Juan. There was significant decline in the number of inhabitants at Mission San José and Mission Concepción after 1794. Buildings fell into disrepair, and Mission Concepción was abandoned by 1813, after the area saw considerable conflict. Both Mission San Juan and Mission Espada remained inhabited. The number of Hispanic occupants at Missions San Juan and Espada increased

as Native Americans abandoned the settlements, and the military remained until the 1830s. After secularization, mission buildings saw significant decay (Ivey 2018).

During the century that followed Texas's break with Mexico, San Antonio saw considerable growth despite the impact of numerous conflicts. In December of 1837, San Antonio was incorporated as one of the early acts of the newly established Republic of Texas. A number of epidemics impacted the city's population during the early to mid-1800s, spread in part by pollution of the city's *acequia* system. The City attempted to combat the issue by establishing standards of cleanliness, but the issue remained ongoing (Cox 2005). After a turbulent period in which Texas saw conflict with both Mexico, which did not accept the new Republic's independence, and local Native American groups, Texas became part of the United States in 1846.

In the 1840s, a number of French and German immigrants began to settle in San Antonio and the surrounding area. By the 1850s, recent European settlers outnumbered the Mexican and Anglo populations in the city (Cox 1997). Texas seceded from the United States, joined the Confederacy in 1861, and primarily served a supply role during the Civil War. Five years later, Texas surrendered to the Union and rejoined the United States (Wooster 2020).

From 1859-1885, Benedictine and later Jesuit monks attempted to establish a residence at Mission San José. However, the buildings were in disrepair, and the dome and vault of the church collapsed in 1874 during a service. The attempt was ultimately abandoned. At Mission Espada, the mission compound remained inhabited, but the mission buildings slowly degraded until they were mostly in ruins. The church itself was restored in 1887. At Mission San Juan, the mission compound also remained inhabited, but the mission buildings saw similar degradation. The construction of Berg's Mill in 1879 revived the area, and a small, thriving community was established (Ivey 2018).

The arrival of the railroad to the in 1877 resulted in significant growth in San Antonio (Cox 1997). The late 1800s saw infrastructure and economic development throughout the city, including water, electric, and gas utilities (Heusinger 1951). The City attempted to update the *acequia* system with the construction of new ditches, including the construction of the Alazán ditch in 1875. The adoption of the new water works system in 1878 transformed the *acequia* system into, primarily, a drainage system, and water flow was reduced in the 1890s due to the increased drilling of wells. As a result of these infrastructural changes in the city, as well as ongoing cleanliness issues, the urban *acequias* were closed by 1913 (Cox 2005).

The San Juan and Espada *acequias* were the only ditches that remained in operation, maintained by private ditch companies for farming (Cox 2005). The Espada Aqueduct was purchased by the San Antonio Conservation society in 1937 for preservation. Those still using the Espada and San Juan *acequias* for irrigation won a legal challenge to an attempt to destroy the systems during channelization of the San Antonio River in the 1950s. New dams were installed in order to maintain the water flow due to the changes to the river. In 1966, the *acequia* system was designated as a National Historic Civil Engineering Landmark. The San Juan Acequia was in operation intermittently from 1958-1988 due to issues with water flow and dam functionality. NPS restored the dam and water flow in 1988 as part of its development of a Spanish Colonial demonstration farm at the mission (Cox 2005).

The missions were restored in the 1930s as part of a Works Progress Administration (WPA) project, and restoration work continued through the 1970s (Ivey 2018; Scurlock et al. 1976). The lower missions became the San Antonio Mission National Historical Park in 1978 (NPS 2020). In 2015, all five missions were recognized as a UNESCO World Heritage site. The missions are considered an example of interchange between two cultures, and they retain significant integrity and authenticity in their setting and construction. The remnants of the *acequia* system are considered elements contributing to the site's significance (UNESCO 2020).

Previous Archaeology

This section discusses the archaeological sites within 0.5 km (0.3 mi.) of the three project areas. Information on the previous archaeological investigations was gathered from a search of the THC Texas Site Atlas and available reports. In total, there are 30 archaeological sites within 0.5 km (0.3 mi.) of the project area. Table 2-2 provides a summary of these sites.

Padre Road

The Padre Road project area has eight previously recorded sites within 0.5 km (0.3 mi.) (Figure 2-1). Four of those sites (41BX1917, 41BX1918, 41BX1919, and 41BX1920) were recorded during archaeological investigations by CAR at Mission County Park in 2011 (Divito and Oksanen 2012).

The four sites recorded by the CAR were identified as multicomponent. Site 41BX1920 is listed on the NRHP and as a SAL. Site 41BX1920 has evidence of a prehistoric occupation in the form of possible wattle and daub construction. The site is also associated with the San José Acequia (41BX267), which dates to the Spanish Colonial period (Divito and Oksanen 2012).

The San José Acequia (41BX267) has also been the subject of multiple investigations (Cox 1988; Fox and Cox 1991). It consists of a Spanish Colonial irrigation channel. The site was assigned a trinomial during the course of the Mission Parkway Project (Scurlock et al. 1976).

The Hot Wells Bath House site (41BX237) was recorded in 1974 as part of the Mission Parkway Project (Scurlock et al. 1976). The Hot Wells Hotel and Resort was in business during the late 1800s and hosted an array of historic personalities. CAR performed archaeological work at this site in 1980s and 1990s (Fox and Cox 1990; Fox and Highley 1985). In 2016, the site was investigated by CAR as part of the development of Hot Wells County Park (Smith and Marceaux 2016). During the CAR investigations in 2016, a previously unknown prehistoric site, 41BX2128, was also recorded (Smith and Marceaux 2016). Further work was not recommended on the site.

Mission San José (41BX3) is slightly outside the 0.5 km (0.3 mi.) radius at approximately 515 m (1,690 ft.) from the project area. However, due to the site's significance and impact on the settlement and development in the area from the colonial period onwards, it will be briefly discussed here. The site was first excavated under the direction of John W. Shaw, the bishop of the San Antonio diocese. The largest excavations to date at that time took place in the 1930s under the direction Harvey P. Smith, Sr. during the WPA restoration of the missions. Additional investigation took place in 1968 under the direction of Mardith Schuetz in advance of sprinkler system installation. Investigations continued in the 1960s through the 1990s, related to primarily to repairs and improvements (Scurlock et al. 1976; Tomka et al. 1999).

Site 41BX1774 was recorded during the course of survey conducted by SWCA in 2008 (THC 2020). The site is an early twentieth century residence. The structure burned down, and little to none of the site remains intact.

Graf Road

The Graf Road project area near Mission San Juan has 14 previously recorded sites within 0.5 km (0.3 mi.), including one site (41BX1782) that is within 0.5 km (0.3 mi.) of both this project area and Camino Coahuilteca/Espada Road (Table 2-2, Figure 2-2). Eight of the sites (41BX244, 41BX245, 41BX246, 41BX247, 41BX253, 41BX258, 41BX259, and 41BX265) are historic structures and were identified and recorded during the Mission Parkway project (Scurlock et al. 1976). One site, 41BX248, also recorded during the Mission Parkway Project, includes both prehistoric and Spanish Colonial components.

Two sites (41BX2267 and 41BX2268) are historic artifact scatters identified during the course of a survey conducted by

Table 2-2. Archaeological Sites within 0.5 km of the Project Areas

Project Area	Trinomials	Time Period	Site Type
Padre Drive	41BX237	historic	Hot Wells Bath House
Padre Drive	41BX267	Spanish Colonial	San Jose <i>Acequia</i>
Padre Drive	41BX1774	historic	residence
Padre Drive	41BX1917	prehistoric/historic	artifact scatter
Padre Drive	41BX1918	prehistoric/historic	artifact scatter
Padre Drive	41BX1919	prehistoric/historic	artifact scatter
Padre Drive	41BX1920	prehistoric/Spanish Colonial	occupation/ <i>acequia</i>
Padre Drive	41BX2128	prehistoric	artifact scatter
Graf Road	41BX5	Spanish Colonial	Mission San Juan
Graf Road	41BX244	historic	residence
Graf Road	41BX245	historic	Kuntz Store
Graf Road	41BX246	historic	stone mill
Graf Road	41BX247	historic	Bazan Store and House
Graf Road	41BX248	prehistoric/Spanish Colonial	Lithic scatter
Graf Road	41BX253	historic	residence
Graf Road	41BX258	historic	Zuniga House
Graf Road	41BX259	historic	house
Graf Road	41BX265	historic	house
Graf Road	41BX268	Spanish Colonial	San Juan <i>Acequia</i>
Graf Road	41BX2267	historic	artifact scatter
Graf Road	41BX2268	historic	artifact scatter
Graf Road/Camino Coahuilteca/Espada Road	41BX1782	Spanish Colonial	Lower San Juan Ditch/ <i>Acequia en Medio</i>
Camino Coahuilteca/Espada Road	41BX4	Spanish Colonial	Mission Espada
Camino Coahuilteca/Espada Road	41BX269	Spanish Colonial	Espada <i>Acequia</i>
Camino Coahuilteca/Espada Road	41BX340	prehistoric/historic	artifact scatter
Camino Coahuilteca/Espada Road	41BX341	prehistoric/historic	artifact scatter
Camino Coahuilteca/Espada Road	41BX706	prehistoric	artifact scatter
Camino Coahuilteca/Espada Road	41BX1781	prehistoric/historic	campsite/residence
Camino Coahuilteca/Espada Road	41BX1783	historic	artifact scatter
Camino Coahuilteca/Espada Road	41BX1784	historic	Lewis Orchard and Egg Farm



Redacted Image

Figure 2-1. Map of previously recorded sites within 0.5 km of the Padre Drive project area.

SWCA in 2018 (THC 2021). Site 41BX2267 dates to the late nineteenth to early twentieth century, and 41BX2268 dates to the early twentieth century. Both sites are associated with modern road medians and noted as disturbed.

Mission San Juan (41BX5) was first excavated as part of a WPA project in 1933 by Harvey P. Smith, Sr. (Scurlock et al.

1976). However, the first formal archaeological excavations were conducted in the 1960s, and many of the rooms of the mission were investigated by Schuetz (1968, 1969). There were several other investigations at the site conducted by THC (Schuetz 1980; Scurlock et al. 1976). CAR conducted over 20 archaeological investigations at the site though the years (Cordova et al. 2005; Escobedo 1985; Fox 1993, 1999;

Redacted Image

Figure 2-2. Map of previously recorded sites within 0.5 km of the Camino Coahuilteca/Espada Road and Graf Road project areas.

Gross 1998). Recent work conducted by CAR has included the underpinning of the church (Nichols et al. 2014) and work associated with the Mission Reach Project (Kemp and Mauldin 2021). Additionally, the project area directly intersects with the San Juan Acequia (41BX268). While only a few short sections are recorded in the Texas Site Atlas (THC 2020), north and south of the project area, the full length of

the extant ditch is depicted on the topographic map where it crosses the project area. The San Juan Acequia (41BX268) is a Spanish Colonial irrigation ditch constructed in the 1730s (Cox 2005). The trinomial was recorded during the course of the Mission Parkway Project (Scurlock et al. 1976). An additional portion of the *acequia*, the Lower San Juan Ditch, was recorded as 41BX1782 (THC 2020). Previous archival

investigations note it is likely the course of the ditch has shifted over its history (Ivey and Fox 1999; Scurlock et al. 1976). The extant ditch has been revisited during the course of numerous archaeological projects (THC 2020).

Camino Coahuilteca/Espada Road

The Camino Coahuilteca/Espada Road project area has nine previously recorded sites within 0.5 km (0.3 mi.) (Table 2-2, Figure 2-2), including one site (41BX1782) located within 0.5 km (0.3 mi.) of both this project area and the Graf Road project area. Mission Espada (41BX4) was established in 1721, along with the other four mission locations in San Antonio, two of which (Mission San Juan and Mission San José) are also located in proximity to the project area. In the 1930s, Harvey Smith, Sr. conducted some of the first excavations at the mission in association with the WPA restoration program (Smith 1980). The first archaeological excavations at the site occurred in early 1970s (Fox and Hester 1976). Recent work at the mission was performed by the CAR in 2015 (Figueroa and Kemp 2016). This work was associated with improvements to the church parking lot and utility installation.

In 2008, sites 41BX1781, 41BX1782, 41BX1783, and 41BX1784 were recorded by Prewitt and Associates during the course of a survey (THC 2020). Site 41BX1781 was recorded as a historic artifact scatter with a buried prehistoric component (THC 2020). Site 41BX1782 has been discussed previously. Site 41BX1783 is a historic artifact scatter (THC 2020). Site 41BX1784 is the remains of an orchard and egg farm dating to the 1950s, destroyed by river channelization (THC 2020). Site 41BX706, a prehistoric site, was recorded in 1986 by the State Department of Highways and Public Transportation and reportedly heavily disturbed by the construction of Loop 410. Site 41BX340 was recorded by CAR in 1975, and 41BX341 was recorded in 1980 (THC 2020). Revisits of both sites occurred in 2012 during the Mission Reach Project (Kemp and Mauldin 2021). Both sites contain evidence of historic and prehistoric components.

The Espada Acequia (41BX269) intersects the project area. The site was first formally recorded and given a trinomial in 1975 by Jake Ivey. The southern branches of the Spanish Colonial irrigation ditch have been recently surveyed by CAR (Mauldin et al. 2018) and by SWCA consultants in 2016 (Padilla et al. 2017) for COSA and the REDUS corporation.

Chapter 3: Field and Laboratory Methods

This chapter discusses the field and laboratory methods employed by the CAR during the completion of this project. This includes discussion of excavations monitored, collection policy, field documentation, and final curation.

Field Methods

CAR staff monitored all below-ground disturbances associated with the sidewalk installations for the World Heritage Sidewalk Improvements Project. The fieldwork occurred intermittently from December 2017 to December 2020. Alamo City Construction, the subcontractor, conducted excavations in 2017-2018. Excavations that occurred in 2020 were conducted by E-Z Bel. The excavated areas for the sidewalks monitored by CAR were 1.2 m (4 ft.) in width and varied from 11-15 cm (4-6 in.) in depth in most areas. Additionally, the CAR monitored excavations for the footings of two pedestrian bridges. These excavations measured 1.8-2.1 m (6-7 ft.) in length and 1.2-1.5 m. (4-5 ft.) in width, and they reached depths of 1.5 m (5 ft.) below the surface. CAR staff did not enter any trenches deeper than 5 ft. in compliance with OSHA standards, instead recording these deeper deposits from the surface. Additionally, CAR staff did not enter actively flooding trenches due to safety concerns.

The monitor used standard forms to maintain a daily log of activities. All activities observed were documented in this log and supported by digital data, including GPS observations and photographs, where appropriate. CAR staff also maintained a photographic log.

If intact archaeological features were noted during monitoring, the COSA City Archaeologist in the Office of Historic Preservation was notified immediately. Features were documented using standard feature forms, measured drawings, and photographs. At the discretion of the monitor, diagnostic artifacts were collected. All collected material, recorded with associated provenience information, was transported to the CAR laboratory for processing and analysis. Feature locations were recorded using a GPS unit and plotted on aerial and topographic maps.

Laboratory Methods

All cultural materials and records obtained and/or generated during the project were prepared in accordance with federal regulation 36 CFR part 79 and THC requirements for State Held-in-Trust collections. Artifacts processed in the CAR laboratory were washed, air-dried, and stored in 4-mm, zip-locking, archival-quality bags. Acid-free labels were placed in all artifact bags. Each laser-printed label contains provenience information and a corresponding lot number. Throughout the project, the analysis and organization of records and daily logs was ongoing. Field forms were printed on acid-free paper and completed with pencil. All field notes, forms, photographs, and drawings were placed in labeled archival folders. Digital photographs were printed on acid-free paper and placed in archival-quality page protectors. All project related materials, including the final report, will be permanently stored at the CAR curation facility under accession 2353.

This page intentionally left blank.

Chapter 4: Results of Archaeological Investigations

CAR staff began monitoring at the Padre Drive project area near Mission San José occurred in January and February 2018. Monitoring for project excavations at the Camino Coahuilteca/Espada Road project area near Mission Espada began on December 4, 2017, and work in this area continued into January 2018. After a long hiatus, monitoring began at the Graf Road project area near Mission San Juan in November 2020 and was completed in December of 2020, along with some additional work near Mission Espada. During the monitoring conducted by CAR, cultural material was observed, recorded, and collected within the Camino Coahuilteca/Espada Road project area near the Mission Espada parking lot. The archaeological material was recorded as Feature 1 and incorporated as part of 41BX4. No other significant cultural material was observed during the course of this project.

Padre Drive

CAR staff performed monitoring at the Padre Drive portion of the project from January 30, 2018, to February 5, 2018. Contractors began excavating along the eastern ROW of Padre Drive on January 30, 2018, just west of the Charro Association arena (Figure 4-1). On February 5, 2018, the

monitoring for excavations located on the southwest ROW of Padre Drive began (Figure 4-2). On February 6, 2018, excavations were completed for this project area. Excavations terminated at the existing trails and portal to Mission San José (Figure 4-3). No cultural material was observed or collected during monitoring of this section.

Graf Road

CAR was not notified when excavation of the sidewalks at Graf Road began in November 2020, and the excavations were not monitored. A CAR archaeologist visited the site when CAR became aware that work was ongoing. However, all areas had already been graded and prepped for sidewalk, and in some areas, sidewalk had already been installed, severely limiting visibility (Figure 4-4). No cultural material or cultural features were observed at the time of the visit. Discussions with the contractor indicated that the excavations did not reach depths of more than 15 cmbs (6 in.). The CAR reported the incident to COSA and the THC.

Excavations for the footings of the pedestrian bridge crossing the San Juan Acequia near the intersection of Graf Road and Presa Street occurred in December 2020. The footing

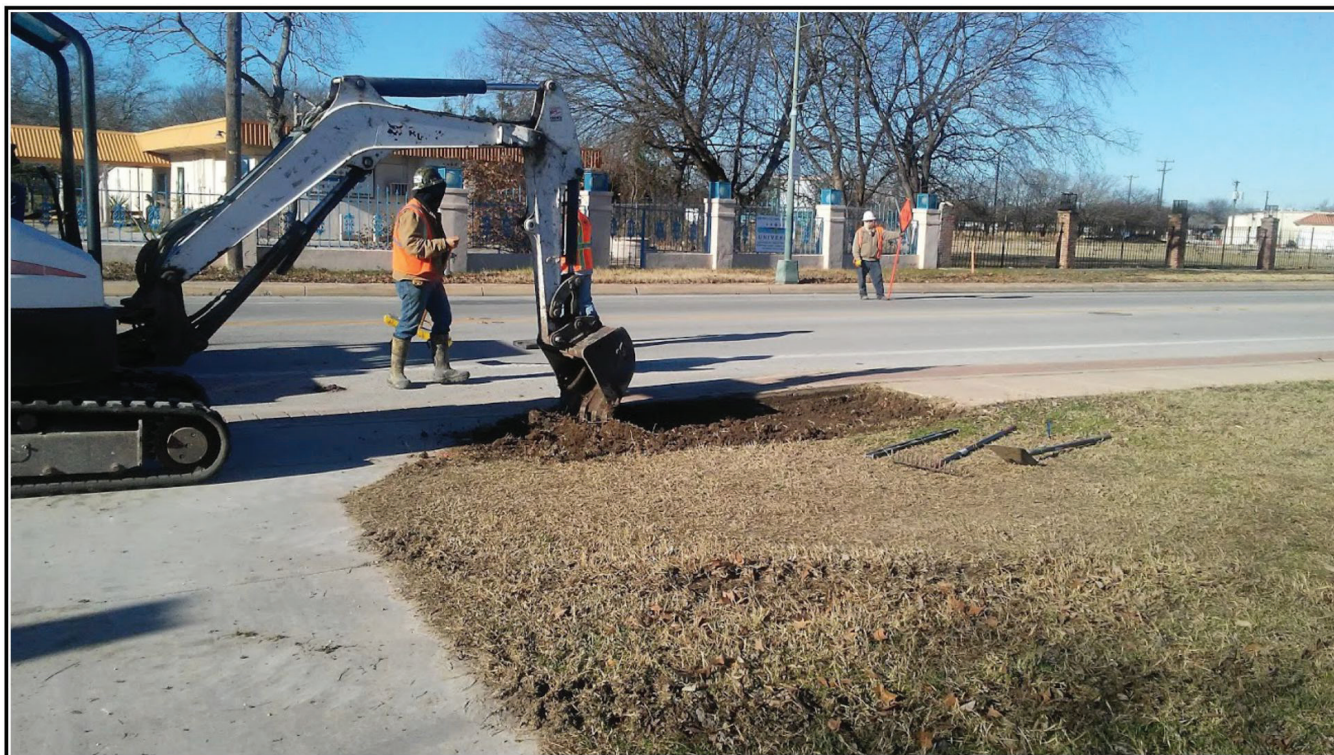


Figure 4-1. Beginning of excavations on Padre Drive (facing west).



Figure 4-2. Excavation on west side of Padre Drive.



Figure 4-3. Existing trails and portal to Mission San José (facing west).



Figure 4-4. Graf Road sidewalk section as observed by CAR archaeologist.

trenches were located north and south of the *acequia* (Figure 4-5), and they measured 1.8 m by 2.4 m (6 ft. by 8 ft.) and reached depths of 1.5 m (5 ft.). In the northern footing trench, modern trash, such as crown caps, plastic, pavement, and brown glass, was observed in the backdirt. A number of large, displaced limestone blocks were also present, suggesting that the installation of the culvert carrying the *acequia* below the road may have impacted the original *acequia* structure (Figure 4-6). Visibility was impacted due to water seeping in from the *acequia* at the southwest corner, slowly flooding the trench.

Loose limestone blocks were also encountered in the southern trench. The body of the *acequia* culvert was encountered at about 45 cm (18 in.) in this trench. The position of this trench over the culvert suggests that most of the soils encountered are disturbed by culvert construction. The culvert had numerous holes, allowing the trench to become quickly flooded (Figure 4-7). The culvert construction resembles the cobble and cement seen at the missions, suggesting that it may have

been constructed around the time the missions were restored in the 1930s. The flooding severely limited visibility in the trench, but silty caliche soils and limestone gravels were encountered from 1.2-1.5 m (4-5 ft.) below the surface. No cultural material was encountered within this trench.

Camino Coahuilteca/Espada Road

CAR began monitoring excavations along the ROW along Camino Coahuilteca and Espada Road. December 4, 2017, for this area, and monitoring ended on December 16, 2020. The contractors began excavations where an existing sidewalk associated with a trail system extends west to the San Antonio River (Figures 4-8 and 4-9). The depth of excavations was 15 cm below the surface (cmbs) (6 in.) on average, and excavations were 1.2 m (4 ft.) wide. Disturbances in the area consisted of a dead irrigation line and a concrete embankment associated with an *acequia* lateral that runs southeast of the mission (Figure 4-10).



Figure 4-5. Location of excavations for pedestrian bridge crossing the San Juan Acequia.



Figure 4-6. Northern footing trench profile; note loose limestone blocks near the surface.



Figure 4-7. Flooded footing trench for pedestrian bridge crossing the San Juan Acequia. The layered appearance in the lighter portion of the soil profile is an artifact of the trench being repeatedly flooded and pumped during excavation. The profile did not exhibit this layering during the initial excavation.



Figure 4-8. Beginning of excavations on Camino Coahuilteca (facing south).



Figure 4-9. Excavations on Camino Coahuilteca for sidewalk installment, with existing sidewalks to the north.

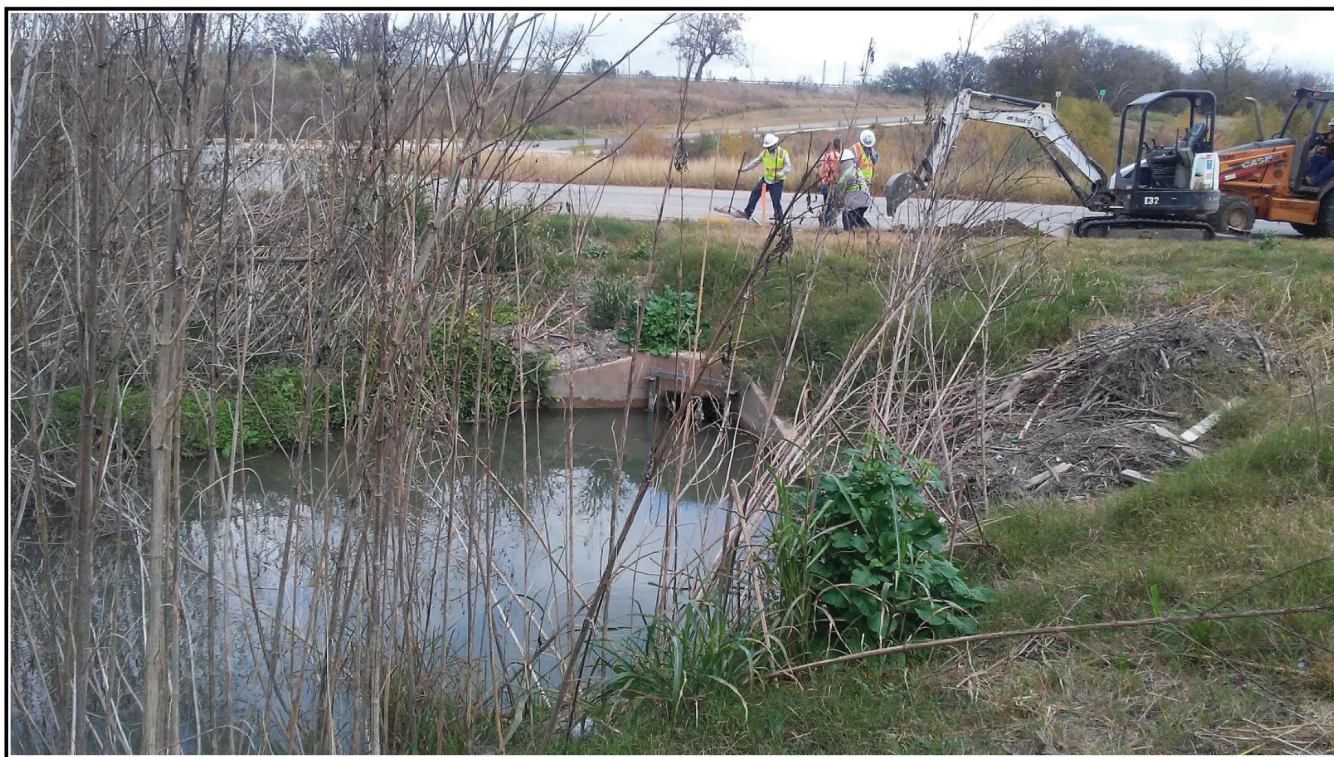


Figure 4-10. Acequia lateral culvert that runs under Camino Coahuilteca to the San Antonio River.

On December 14, 2017, Feature 1 was observed where the gate crosses Camino Coahuilteca east of the Mission Espada parking lot entrance (Figure 4-11). The feature was identified during excavations (Figure 4-12). The feature The materials were seen in the north wall of the excavation from 30-42 cmbs (12-17 in.). Materials consisted of clear soda bottle glass fragments (n=3), three white earthenware ceramics, and metal (Table 4-1). All was collected with the exception of the metal. The feature was 46 cm (18 in.) wide on the north side of the excavation profile. Two of ceramic sherds are decorated—one is hand painted, and the other ceramic sherd is edgeware. Edgeware types date from 1780 into the 1850s (THC 2006). Hand painted wares date post-1830 (THC 2006). The third ceramic observed and collected was an undecorated white earthenware plate base sherd. The predominance of white earthenwares indicates that the feature is post-Civil War (THC 2006), suggesting that it is related to the later occupation of the Mission Espada area. The feature was more than likely disturbed during the installation of the gate. The feature was documented, and further work was not recommended. Excavations continued as planned. A revisit form was completed for the THC Site Atlas, and the feature was included as part of 41BX4. Excavations and monitoring for this project area terminated south of private property

and the *acequia* crossing, opposite the ROW of the Mission Espada compound on January 2, 2018 (Figure 4-13).

A small area directly across from and outside of the Espada Road entrance to Mission Espada was graded for sidewalk installation in November of 2020 (Figure 4-14). Numerous utilities were encountered on both sides of the street, indicating that the area was disturbed. A small amount of clear container glass and very large mammal bone was observed in the backdirt, but nothing was collected.

In December of 2020, CAR staff monitored excavations for a pedestrian bridge crossing the Espada Acequia (41BX269) across from the Espada Road entrance to Mission Espada. The trenches were located north and south of the *acequia* and measured 2.1 m by 1.2 m (7 ft. by 4 ft.), reaching depths of 1.5 m (5 ft.). Soils in both trenches were loamy brown silty clay (Figure 4-15), very soft with a large quantity of roots. Lighter, more compact soils were present from 1.2-1.5 m (4-5 ft.). A few loose limestone cobbles were present, as well as a single piece of clear container glass, which was not collected. The area was likely disturbed by installation of the culvert carrying the *acequia* below Espada Road.



Redacted Image

Figure 4-11. Location of Feature 1 and excavations for pedestrian bridge in Camino Coahuilteca/Espada Road project area.

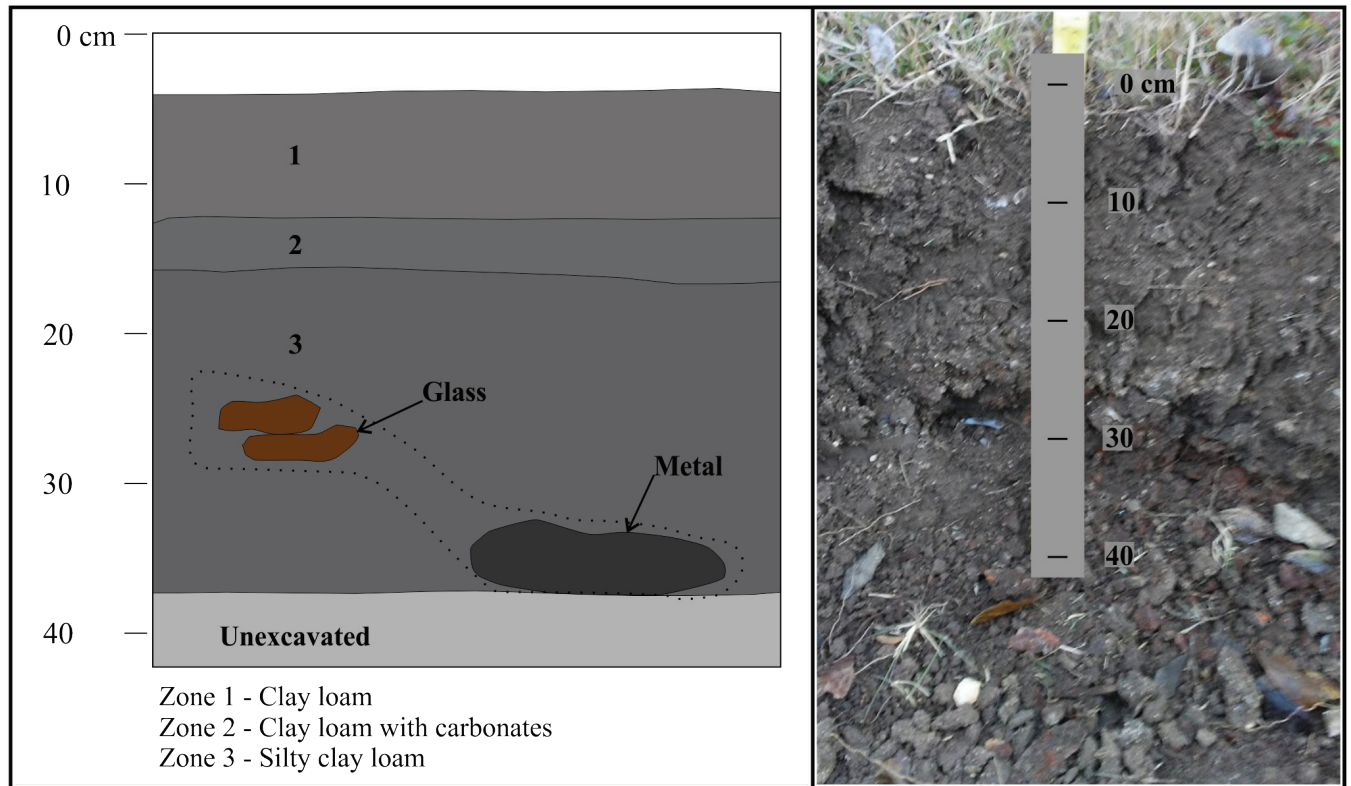


Figure 4-12. Feature 1. Field sketch on the left, photograph on the right.

Table 4-1. Cultural Material Recovered from Feature 1

Feature	Depth (cmbs)	Superclass	Class	Description	Count
1	42	Glass	Container/Vessel	Clear, 2 body, 1 embossed base “-LA. 2 COMPAN-”	3
1	42	Ceramics	European Earthenware	Blue edgeware rim	1
1	42	Ceramics	European Earthenware	Blue hand painted, body	1
1	42	Ceramics	European Earthenware	Undecorated plate, footring	1



Figure 4-13. Excavations on the west side of Espada Road.



Figure 4-14. Graded area across from the entrance to Mission Espada.



Figure 4-15. Trench excavation for pedestrian bridge crossing the Espada Acequia.

This page intentionally left blank.

Chapter 5: Summary and Recommendations

From December of 2017 to December of 2020, CAR staff performed archaeological monitoring for the World Heritage Sidewalk Improvements Project. Approximately 1.1 km (0.7 mi.) of grading for sidewalk installation was monitored at locations in the vicinity of three of the San Antonio Missions: Mission San José (41BX3) (Padre Drive), Mission San Juan (41BX5) (Graf Road), and Mission Espada (41BX4) (Camino Coahuilteca/Espada Road). The three missions are part of a UNESCO World Heritage site and the NPS San Antonio Missions National Historical Park, as well as being listed as part of the NRHP and designated as SALs.

Excavations for sidewalks averaged 1.2 m (4 ft.) in width and 11-15 cm (4-6 in.) in depth. Additionally, excavations for the footings of two pedestrian bridges were monitored, one crossing the San Juan Acequia (41BX268) and the other Espada Acequia (41BX269). These excavations were 1.2-1.8 m (4-6 ft.) by 1.8-2.1 m (6-7 ft.) and reached 1.5 m (5 ft.) below the surface.

Cultural material observed during the course of monitoring was sparse and frequently disturbed. The material observed that included diagnostic characteristics was historic to modern in nature. A historic feature, Feature 1, was recorded along the Camino Coahuilteca east of the southern Mission

Espada parking lot. It contained glass, metal, and decorated white earthenware dating to the late nineteenth century. This feature was recorded as part of 41BX4 (Mission Espada).

Loose limestone at the pedestrian bridge excavations at the San Juan Acequia suggests the stone lining of the ditch was disturbed by installation of the culvert. Similar stone was not observed during excavation for a pedestrian bridge crossing the Espada Acequia, which was likewise disturbed by a cement culvert near the bridge location.

Few intact cultural deposits were encountered during the course of monitoring, with the exception of Feature 1. Most excavations conducted during the project were shallow. Excavations for pedestrian bridges reached depths of 1.5 m (5 ft.), but both were in the vicinity of previously installed culverts dating to the 1930s at the earliest. However, any intact deposits within the boundaries of the three missions investigated here (Mission San José, Mission San Juan, and Mission Espada) are potentially highly significant, and previous investigations have documented the presence of such deposits in other areas. Therefore, any construction with below-surface impacts within the boundaries of these sites should be monitored.

This page intentionally left blank.

References Cited:

Blair, W.F.

1950 The Biotic Provinces of Texas. *Texas Journal of Science* 1(2):93-117.

Chipman, D.E., and H.D. Joseph

2010 *Spanish Texas, 1519-1821*. Rev. ed. University of Texas Press, Austin.

Collins, M.B.

2004 Archeology in Central Texas. In *The Prehistory of Texas*, edited by T.K. Perttula, pp. 205-265. Texas A&M University Press, College Station.

Cordova, K.J., A.L. Figueroa, K.M. Ulrich, and J.M. Hunziker

2005 *Archeological Testing Associated with the Stabilization of the Convento at Mission San Juan Capistrano (41BX5) San Antonio, Bexar County, Texas*. Archaeological Report, No. 358. Center for Archaeological Research, The University of Texas, San Antonio.

Cox, I.W.

1988 *Archaeological Monitoring of the San José Acequia (41BX267), Wastewater Facilities Improvements Program, San Antonio, Texas*. Archaeological Survey Report, No. 175. Center for Archaeological Research, The University of Texas at San Antonio.

1997 The Growth of San Antonio. In *Archaeology at the Alamodome: Investigations of a San Antonio Neighborhood in Transition. Volume 1, Historical, Architectural, and Oral History Research*, edited by A.A. Fox, M. Renner, and R.J. Hard, pp. 8-44. Archaeological Survey Report, No. 236. Center for Archaeological Research, The University of Texas at San Antonio.

2005 *The Spanish Acequias of San Antonio*. Maverick Publishing Company, San Antonio.

Cruz, G.R.

1988 *Let There Be Towns: Spanish Municipal Origins in the American Southwest, 1610-1810*. Texas A&M University Press, College Station.

de la Teja, J.F.

1991 Forgotten Founders: The Military Settlers of Eighteenth Century San Antonio de Bexar. In *Tejano Origins in Eighteenth-Century San Antonio*, edited by G.E. Poyo and G.M. Hinajosa, pp. 27-41. University of Texas Press, Austin.

1995 *San Antonio de Bexar: A Community on New Spain's Northern Frontier*. University of New Mexico Press, Albuquerque.

Divito, N., and E. Oksanen

2012 *Intensive Pedestrian Survey of Mission County Park in San Antonio, Bexar County, Texas*. Archaeological Report, No. 421. Center for Archaeological Research, The University of Texas at San Antonio

Escobedo, J.T.

1985 The Post-Colonial House: An Excavation Report. Mission San Juan. Manuscript on file, Center for Archaeological Research, The University of Texas at San Antonio.

Figueroa, A.L., and L. Kemp

2016 *Archaeological Monitoring and Testing Associated with the Restoration at Mission Francisco de la Espada (41BX4), San Antonio, Bexar County, Texas*. Archaeological Report, No. 448. Center for Archaeological Research, The University of Texas at San Antonio.

Foster, W.C.

1998 *The La Salle Expedition to Texas: The Journal of Henri Joutel 1664-1687*. Texas State Historical Association, Austin.

Fox, A.A.

1993 *Archaeological Testing and Monitoring in Connection with a Drainage Project at Mission San Juan Capistrano, San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 217. Center for Archaeological Research, The University of Texas at San Antonio.

1999 *Monitoring of Core Drilling and Testing at Missions San Juan Capistrano and San Francisco de la Espada San Antonio, Bexar County, Texas*. Center for Archaeological Research, The University of Texas at San Antonio.

Fox, A.A., and I.W. Cox

1990 *Archaeological Monitoring in Connection with the San Antonio Wastewater Facilities Improvements Program, San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 194. Center for Archaeological Research, The University of Texas at San Antonio.

1991 *Testing of the San José Mission Acequia, San Antonio Missions National Historical Park, Bexar County, Texas*. Archaeological Survey Report, No. 207. Center for Archaeological Research, The University of Texas at San Antonio.

Fox, A.A., and T.R. Hester

1976 *Archaeological Test Excavations at Mission San Francisco de la Espada*. Archaeological Survey Report, No. 22. Center for Archaeological Research, The University of Texas at San Antonio.

Fox, A.A., and C.L. Highley

1985 *History and Archaeology of the Hot Wells Hotel Site, 41BX237*. Archaeological Survey Report, No. 152. Center for Archaeological Research, The University of Texas at San Antonio.

Gross, K.J.

1998 *Archaeological Testing and Monitoring for a Proposed Drainage Channel at Mission San Juan Capistrano, San Antonio, Texas*. Archaeological Survey Report, No. 283. Center for Archaeological Research, The University of Texas at San Antonio.

Habig, M.A.

1968 *The Alamo Chain of Missions: A History of San Antonio's Five Old Missions*. Franciscan Herald Press, Publishers of Franciscan Literature, Chicago.

Hanson, C.

2016 *Archaeological Investigations for the Main Plaza Redevelopment Project, San Antonio, Bexar County, Texas*. Atkins, Austin.

Heusinger, E.W.

1951 *A Chronology of Events in San Antonio: Being a Concise History of the City Year by Year, from the Beginning of its Establishment to the End of the First Half of the Twentieth Century*. Standard Printing, San Antonio.

Ivey, J.E.

2018 *Of Various Magnificence: The Architectural History of the San Antonio Missions in the Colonial Period and the Nineteenth Century*. Center for Cultural Sustainability, The University of Texas at San Antonio.

Ivey, J.E., and A.A. Fox

1999 *Archaeological Investigations at Mission Concepción and Mission Parkway*. Archaeological Survey Report, No. 114. Center for Archaeological Research, The University of Texas at San Antonio.

Kemp, L., J.E. Zapata, C.M.M. McKenzie, M. Pfeiffer, and R. Curilla

2019 *Archaeological Monitoring of the Downtown Street Reconstruction Project at North Main Avenue and Soledad Street and the State Antiquities Landmark Testing of 41BX2164 and 41BX2170, San Antonio, Bexar County, Texas*. Archaeological Report, No. 462. Center for Archaeological Research, The University of Texas at San Antonio.

Kemp, L., and R. Mauldin

2021 *Archaeology along the San Antonio River: The Mission Reach Project, Bexar County, Texas. Vol II: Monitoring and Survey Results*. Manuscript on file, Center for Archaeological Research, The University of Texas at San Antonio.

Kenmotsu, N.A., and J.W. Arnn

2012 The Toyah Phase and the Ethnohistoric Record: A Case for Population Aggregation. In *The Toyah Phase of Central Texas: Late Prehistoric Economic and Social Processes*, edited by N.A. Kenmotsu and D.K. Boyd, pp. 19-43. Texas A&M University Press, College Station.

Mauldin, R., A.L. Figueroa, L. Kemp, C.M. McKenzie, and S. Wigley

2018 *An Archaeological Survey and Resource Assessment of 1,445 Acres in Southern Bexar County, Texas*. Archaeological Report, No. 455. Center for Archaeological Research, The University of Texas at San Antonio.

McKenzie, C.M., L. Martinez, and R. Mauldin

2016 *Archaeological Monitoring and Test Excavations at the 1722 Presidio San Antonio de Bexar (Plaza de Armas Buildings)*. Archaeological Report, No. 445. Center for Archaeological Research, The University of Texas at San Antonio.

Meissner, B.A.

2000 *An Archaeological Assessment of San Pedro Park (41BX19), San Antonio, Texas*. Archaeological Survey Report, No. 269. Center for Archaeological Research, The University of Texas at San Antonio.

National Park Service (NPS)

2020 Learn About the Park. Electronic document, <https://www.nps.gov/saan/learn/index.htm>, accessed December 18, 2020.

Natural Resources Conservation Service (NRCS)

2020 Web Soil Survey. Electronic document, <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, accessed April 16, 2018.

Nichols, K.M., C.M. Munoz, L.K. Wack, L.B. Love, S.A. Tomka, M.P. Luzmoor, and R.P. Mauldin

2014 *Archaeological Investigations Associated with Mission San Juan (41BX5) Church Underpinning, San Antonio, Bexar County, Texas*. Archaeological Report, No. 429. Center for Archaeological Research, The University of Texas at San Antonio.

Norwine, J., R. Harriss, J. Yu, C. Tecbaldi, and R. Binhman

2007 The Problematic Climate of South Texas 1900-2100. In *The Changing Climate of South Texas 1900-2100: Problems and Prospects, Impacts and Implications*, edited by J. Norwine and K. Johns, pp. 15-56. Crest-Ressaca and Texas A&M University-Kingsville.

Padilla, A.E., K.M. Atwood, and R. Ward

2017 *Cultural Resources Investigations for the Espada Trail Portion of the Howard Peak Greenway Project in South San Antonio, Bexar County, Texas*. SWCA Cultural Resources Report No. 16-562. SWCA, San Antonio.

Petersen, J.F.

2001 San Antonio: An Environmental Crossroads on the Texas Spring Line. In *On the Border: An Environmental History of San Antonio*, edited by C. Miller, pp.17-41. University of Pittsburgh Press, Pennsylvania.

Poyo, G.E.

1991 The Canary Island Immigrants of San Antonio: From Ethnic Exclusivity to Community in Eighteenth-Century Bexar. In *Tejano Origins in Eighteenth-Century San Antonio*, edited by G.E. Poyo and G.M. Hinajosa, pp. 41-61. University of Texas Press, Austin.

Schuetz, M.K.

1968 *The History and Archeology of Mission San Juan Capistrano, San Antonio, Texas, Vol. I*. State Building Commission Archeological Program Report 10. Austin.

1969 *The History and Archeology of Mission San Juan Capistrano, San Antonio Texas, Vol. II*. State Building Commission Archeological Program Report 11. Austin.

1980 The History and Archeology of the Mission San Juan Capistrano, San Antonio, Texas Excavation of the Convento. Manuscript on file, Center for Archaeological Research, The University of Texas at San Antonio.

References Cited

Scurlock, D., A. Benavides, Jr., D. Isham, and J. Clark, Jr.

1976 *An Archeological and Historical Survey of the Proposed Mission Parkway, San Antonio, Texas*. Archeological Survey Report No. 17. Texas Historical Commission, Office of the State Archeologist, Austin.

Smith, H.P., Jr.

1980 Espada Mission, Research and Restoration. *La Tierra* 7(2):3-18.

Smith, S., and P.S. Marceaux

2016 *An Intensive Pedestrian Archaeological Survey of Hot Wells County Park, San Antonio, Bexar County, Texas*. Archaeological Report, No. 450. Center for Archaeological Research, The University of Texas at San Antonio.

Taylor, F.B., R.B. Hailey, and D.L. Richmond

1991 *Soil Survey of Bexar County, Texas*. Soil Conservation Service. United States Department of Agriculture, Washington, D.C.

Texas Historical Commission (THC)

2006 *The Steward's Illustrated Key to Historic Ceramics*. Austin

2020 Texas Sites Atlas. Electronic document, <https://atlas.thc.state.tx.us/>, accessed December 18, 2020.

Tomka, S.A., A.A. Fox, and B.A. Meissner

1999 *Mission San José Repointing and Underpinning Project, San Antonio, Texas*. Archaeological Survey Report, No. 294. Center for Archaeological Research, The University of Texas at San Antonio.

United Nations Educational, Scientific and Cultural Organization (UNESCO)

2020 San Antonio Missions. Electronic document, <https://www.nps.gov/saan/learn/index.htm>, accessed December 18, 2020.

U.S. Climate Data (USCD)

2018 Climate San Antonio-Texas. Electronic document, <https://www.usclimatedata.com/>, accessed April 17, 2018.

Wooster, R.A.

2020 Civil War. Handbook of Texas Online. Texas State Historical Association. Electronic document, <https://tshaonline.org/handbook/online/articles/qdc02>, accessed December 18, 2020.