# Archaeological Monitoring of Improvements to U.S. Highway 90 Underpasses, San Antonio, Bexar County, Texas

*by* Sarah Wigley



Texas Antiquities Permit No. 8762

# REDACTED

Principal Investigator Cynthia Munoz

Prepared for: City of San Antonio 1901 S. Alamo San Antonio, Texas 78204



Prepared by:
Center for Archaeological Research
The University of Texas at San Antonio
One UTSA Circle
San Antonio, Texas 78249-1644
Technical Report, No. 94

© CAR November 2021

# Archaeological Monitoring of Improvements to U.S. Highway 90 Underpasses, San Antonio, Bexar County, Texas

*by* Sarah Wigley

Texas Antiquities Permit No. 8762

# **REDACTED**

Principal Investigator Cynthia Munoz



Prepared for:
City of San Antonio
1901 S. Alamo
San Antonio, Texas 78204

Prepared by:
Center for Archaeological Research
The University of Texas at San Antonio
One UTSA Circle
San Antonio, Texas 78249
Technical Report, No. 94

# **Abstract:**

From April to May 2021, the Center for Archaeological Research (CAR) at the University of Texas at San Antonio (UTSA) conducted archaeological monitoring in response to a request from City of San Antonio (COSA) for the U.S. Highway 90 Underpasses Improvements Project. The project area consisted of three Highway 90 underpasses located in south-central San Antonio in Bexar County, Texas, at the Mission Road and Steves Avenue intersection, Roosevelt Avenue, and South Presa Street. At the municipal level, the property falls under COSA's Unified Development Code (UDC) (Article 6 35-630 to 35-634). The project also required review by the Texas Historical Commission (THC) under the Antiquities Code of Texas. The CAR obtained Texas Antiquities Permit Number 8762 prior to the commencement of fieldwork. Cindy Munoz served as the Principal Investigator, and Sarah Wigley and Lynn Kim served as the Project Archaeologists.

CAR staff monitored excavations associated with the installation of sidewalks, landscaping, and art installations. The South Presa Street location was excluded from monitoring after background review indicated significant prior disturbance. The two areas monitored at Mission Road and Steves Avenue and Roosevelt Avenue totaled 0.4 ha (1 acre). Excavations reached 15-30 centimeters below the surface (cmbs; 6-12 in.) and were restricted to a layer of yellow gravel fill. No intact cultural deposits or intact features were encountered. The CAR does not recommend any further work. All records generated during the course of this project will be permanently curated at the CAR in accordance with THC guidelines.



This page intentionally left blank.

# **Table of Contents:**

Abstract	ii
List of Figures	vi
List of Tables	
Acknowledgements	X
Chapter 1: Introduction	1
Project Area	2
Project Results	2
Report Organization	3
Chapter 2: Project Area Background	5
Environment	5
Culture History	
Prehistoric Texas	
Historic Texas	
Project Area	9
Previous Archaeology	11
Chapter 3: Methodology	13
Pre-Field Methods	13
Field Methods	13
Laboratory and Curation Methods	13
Chapter 4: Results	15
Mission Road and Steves Avenue Underpass	15
Roosevelt Avenue	16
Summary	16
Chapter 5: Conclusions and Recommendations	17
References Cited	19



This page intentionally left blank.

# **List of Figures:**

Figure 1-1. Project area within Bexar County	]
Figure 1-2. Project area on Esri aerial imagery	
Figure 2-1. Project area soils	
Figure 2-2. Previously recorded sites within 1 km of the project area REDACTED IMAGE	
Figure 4-1. Sidewalk excavations at Mission Road and Steves Avenue	
Figure 4-2. Excavation at Roosevelt Avenue underpass	



This page intentionally left blank.

# **List of Tables:**



This page intentionally left blank.

# **Acknowledgements:**

Thank you to Matthew DeGraffenreid and Leonard Kemp of the CAR for their work in the field. Thank you to Jose Zapata, who conducted archival research on the project area prior to the beginning of fieldwork. Thank you to Cindy Munoz, CAR Assistant Director, and Dr. Raymond Mauldin, CAR Director, who offered guidance and assistance throughout the project. Thank you to Dr. Jessica Nowlin, who processed the GIS data and edited this report. Thank you to Peggy Wall, who produced the maps. Cindy Munoz, Lead Curator, and Mikaela Razo, Laboratory Supervisor, oversaw the processing of records for curation. Thank you to Dr. Paul Shawn Marceaux, former CAR Director, for carrying out early planning as well as answering questions after his departure.

Thank you to Theresa Larson, Environmental Coordinator of COSA Public Works Department, and Kay Hindes, Former City Archaeologist of COSA Office of Historic Preservation (OHP), as well as Matthew Elverson, City Archaeologist of COSA-OHP, for their work coordinating this project. Thank you to S&B General Contractors LLC, including Orlando Salazar of S&B contractors, Jesse Lang of Stellar Contractors, Abraham Gonzalez of DPR McHam, and Omar of DPR McHam for their assistance in coordinating construction monitoring.



This page intentionally left blank.

# **Chapter 1: Introduction**

Beginning April 20, 2021, through May 21, 2021, the Center for Archaeological Research (CAR), in response to a request from City of San Antonio (COSA), conducted archaeological monitoring at two locations for the U.S. Highway 90 Underpasses Improvements Project. The two locations consisted of the U.S. 90 underpass at the intersection of Steves Avenue and Mission Road and the U.S. 90 underpass at Roosevelt Avenue. A third underpass at South Presa Road and U.S. 90 was included in the development of the scope of work, but monitoring was not recommended after background

review due to evidence of severe disturbance by previous construction. COSA Office of Historic Preservation (OHP) and the Texas Historical Commission (THC) concurred with this recommendation.

The project areas are located within Texas Department of Transportation right-of-way (TxDOT ROW) and COSA property in south-central Bexar County (Figure 1-1). The Steves Avenue and Mission Road location lies within the Mission Parkway National Register District, and the Roosevelt

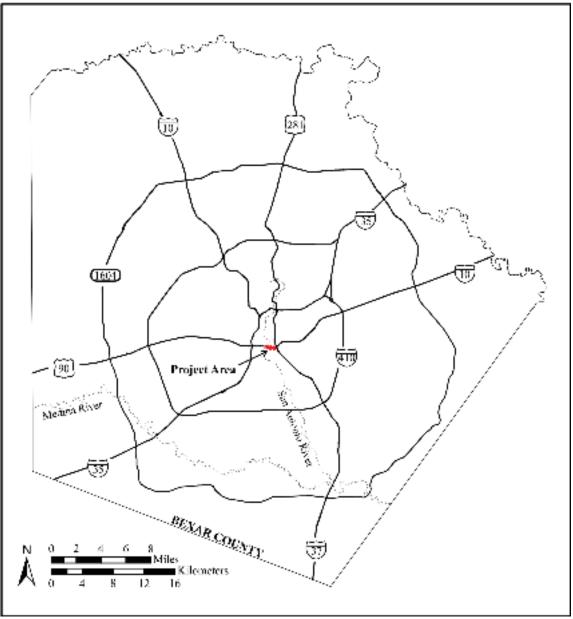


Figure 1-1. Project area within Bexar County.

Avenue underpass is located within 500 m (1,640 ft.) of the district's eastern boundary along Mission Road (THC 2021). The district contains a number of contributing cultural resources that document "a continuum of land use and cultural change from prehistory to the present" (Clark et al. 1975:8). At the municipal level, the property falls under COSA's Unified Development Code (UDC) (Article 6 35-630 to 35-634). The project also requires review by the THC under the Antiquities Code of Texas. The CAR obtained Texas Antiquities Permit Number 8762 prior to the commencement of fieldwork. Cindy Munoz served as the Principal Investigator, and Sarah Wigley and Lynn Kim served as the Project Archaeologists.

# **Project Area**

Archaeological monitoring was conducted at two U.S. 90 underpasses, the first located at the U.S. 90 underpass at the Mission Road and Steves Avenue intersection and the second at Roosevelt Avenue and U.S. 90 underpass (Figure 1-2). The underpass at the Steves Avenue and

Mission Road intersection is located within the Mission Historic District, 308 m (1,010 ft.) north of Mission Concepción. The Roosevelt Avenue underpass is located 428 m (1,404 ft.) to the east of the Steves Avenue/Mission Road underpass. The two underpass project areas each consisted of 0.2 ha (0.5 acres), for a total area monitored of 0.4 ha (1 acre). The area has potential to contain a variety of cultural resources that could potentially be impacted by construction activities, including deposits associated with the Spanish Colonial period, the Concepción acequia (41BX1887), deposits associated with the Battle of Concepción, and prehistoric deposits.

# **Project Results**

The CAR conducted archaeological monitoring of grading for sidewalk installation, landscaping art features, and other improvements. In both areas the majority of the underpass was graded to allow for improvement installation. Impacts of excavations were shallow (15-30 cm below suface [cmbs]; 6-12 in.) and confined to yellow

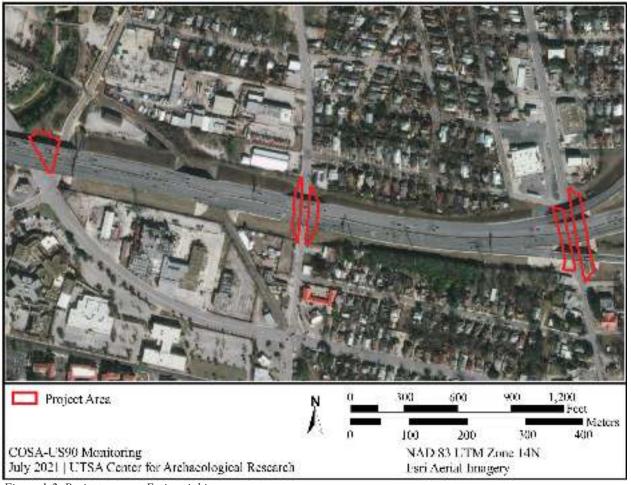


Figure 1-2. Project area on Esri aerial imagery.

gravel fill. Modern trash, including plastic, modern container glass, and cans, was common on the surface and in the fill. No intact cultural deposits or features were encountered. No further work is recommended. If future impacts to the area are planned that have impacts below 30 cmbs (12 in.), the depth investigated here, advance testing may provide information on whether any deeper, intact cultural deposits are present in the area that would warrant further monitoring. The results of this investigation indicate no intact deposits above 30 cmbs (12 in.) are present.

# **Report Organization**

This report includes five chapters, including this introduction. Chapter 2 provides a discussion of the project area background, including a review of the project area environment, culture history, and previous archaeology conducted in the area. Chapter 3 discusses the field and laboratory methods employed during the course of the project. Chapter 4 provides a discussion of the results of the investigations. Chapter 5 includes a project summary as well as the CAR's recommendations.



This page intentionally left blank.

# **Chapter 2: Project Area Background**

This chapter provides a broad overview of the natural environment and culture history of the project area. The chapter concludes with a brief discussion of previously archaeological investigations in the area. This discussion is included to provide context for the findings of this investigation.

#### **Environment**

The city of San Antonio is positioned where the southernmost Great Plains meet the Gulf Coast, demarcated by the Balcones Escarpment (Petersen 2001). The Balcones Escarpment is the result of a series of faults found between the Edwards Plateau and the Gulf of Mexico (Eckhardt 2021). It is also near a significant climate boundary, partitioning a humidsubtropical zone to the east from a semi-arid zone to the west (Petersen 2001). The city's location near these significant geological and climactic boundaries results in a varied resource base, which attracted settlers to the region (de la Teja 2001). The area contains a number of reliable freshwater sources, many of which, including the San Antonio River, are fed by freshwater artesian springs created by the fault zone, as well as the Edwards Aquifer, located south of the Edwards Plateau (Eckhardt 2021; Peterson 2001). Northern Bexar County is located within the borders of the Balconian biotic province, which is described as an intermediate ecological area between the eastern forest and the western desert, while south and southeastern Bexar County is within the Tamaulipan biotic province, which has semi-arid climate and is dominated by thorny brush (Blair 1950).

The project area is located in south-central San Antonio in Bexar County, Texas. It is located 50 m (164 ft.) east of the San Antonio River at 197 m (645 ft.) above sea level. The project area consists of two U.S. 90 underpasses, the first at the Steves Avenue and Mission Road intersection and the second at Roosevelt Avenue. The area near the Steves Avenue and Mission Road intersection includes primarily commercial development, bounded by Steves Avenue to the southwest, Mission Road to the east, and an undeveloped area adjacent to the San Antonio River to the north. The Roosevelt Avenue underpass area is a mix of residential and commercial development, and the project area includes the ROW to the immediate east and west of Roosevelt Avenue below the underpass.

The Steves Avenue and Mission Road underpass is located primarily within Sunev clay loam soils (VcB; Figure 2-1). These soils are found on stream terraces of one to three percent slopes. They are well drained and reach depths of

more than 203 cm (80 in.) and are considered "farmlands of statewide importance" (NRCS 2021). The portion of the project area immediately adjacent to the San Antonio River falls within Frio silty clay soils (Fr), which occur within floodplains (NRCS 2021). The Roosevelt Avenue underpass is located within Lewisville silty clay soils (LvB). These soils are also located on stream terraces of one to three percent slopes. They are well drained and reach depths of more than 203 cm (80 in.) and are considered prime farmland (NRCS 2021). The Steves Avenue and Mission Road underpass is located in a Clay Loam ecological site, which is dominated by tallgrasses (Schizachyrium scoparium), numerous forbs, and scattered live oak (Quercus fusiformis) mottes. Without periodic brushfires or other management, woody species dominate the site (NRCS 2021). The Roosevelt Avenue underpass is located within a Southern Clay Loam ecological site. This site is a true tallgrass prairie, dominated by little bluestem (Schizachyrium scoparium; NRCS 2021).

The San Antonio River is located almost immediately west of the Steves Avenue and Mission Road underpass. The river has been channelized in the immediate area; the original channel included a significant bend and swung more southeast towards Mission Road (Meissner et al. 2007:Figure 1-4). The permanent source of fresh water offered by the San Antonio River is one of the most significant natural resources in the San Antonio area, attracting prehistoric (Donecker 2021; Eckhardt 2021) as well as historic (de la Teja 2001; Donecker 2021; Eckhardt 2021) settlement to the area. The river has continued to hold cultural and economic significance to the city in the modern age (Donecker 2021; Eckhardt 2021). The San Antonio River rises in a cluster of springs located near Broadway and Hildebrand Avenue on property owned by the Sisters of Charity of the Incarnate Word (Donecker 2021; Eckhardt 2021) and flows 290 km (180 miles [mi.]) southeast to the Guadalupe River. The flow of the springs that feed the river was severely diminished beginning in the late nineteenth century by drilling of wells into the Edwards Aquifer, and today much of the flow comes from treatment plant discharge and increase in runoff due to urbanization of the areas surrounding the river (Eckhardt 2021). Flooding of the San Antonio River, sometimes massively destructive and deadly, has been a consistent issue throughout the city's history, and as a result channelization and other significant modifications of the river have been carried out, altering the river's natural path and environment (Eckhardt 2021). The river served as focal point for early settlement, particularly mission locations.

An early description of the path along the river through the mission fields describes a well-maintained path hugging the

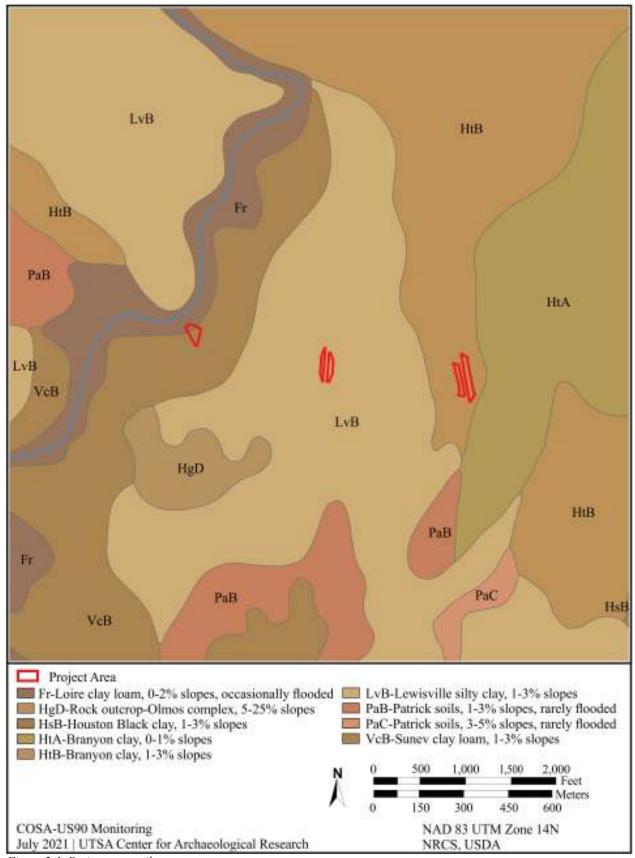


Figure 2-1. Project area soils.

San Antonio River through an area thickly wooded, with species including mesquite, pecan, and oak. The area is described as rich in both flora and fauna, with a significant bird population in particular. The fields on either side of the wooded trail are described as crisscrossed by ditches (acequias) that contain abundant water as well as fish and eel (de la Teja 2001). A historic map (Rullman 1912), depicting the project area as it was in 1837, placed the project area along roads and paths that passed through fields belonging to Mission Concepción. Some of these roads and paths align with the trajectory of Mission and Roosevelt Roads. Historically, the project area environment was likely very similar to conditions described above.

# **Culture History**

The area around the project area includes significant prehistoric and historic sites. A general review is provided for these periods.

#### **Prehistoric Texas**

The prehistoric record in Texas is generally divided into the Paleoindian, Archaic, and Late Prehistoric periods. Many of the prehistoric sites in Bexar County are associated with the deposits surrounding the San Antonio River (THC 2021). Bexar County's archaeological record has been included in reviews of both Central (Collins 2004) and South (Hester 1980) Texas as the county is near the cultural area boundary between the two as commonly drawn by archaeologists. The following summary generally follows a Central Texas chronology.

The Paleoindian period in Central Texas spans 13,000-9000 BP. In-depth reviews of this time period are available (see Bousman et al. 2004). Groups inhabiting the area during this period are generally characterized as highly mobile (Bousman et al. 2004). Temporally diagnostic artifacts from the period include Folsom and Clovis points, among others (see Turner et al. 2011). Faunal remains from Paleoindian components on sites such as Lubbock Lake (41LU1) and Wilson-Leonard (41WM235) suggest a broad subsistence base (Bousman et al. 2004). Within Bexar County, multiple sites have Paleoindian components. These include the St. Mary's Hall site (41BX229; Hester 2020) and the Richard Beene site (41BX831; Bousman et al. 2004; McGraw and Hindes 1987, Thoms and Clabaugh 2011).

The Archaic period in Central Texas ranges from 9000-1200 BP. The period is characterized by several technological developments, including an increased diversity of material culture and the use of heated rock technology (Carpenter and Hartnett 2011; Collins 2004; Johnson and Goode 1994; Thoms and Clabaugh 2011). The period is often subdivided

into Early, Middle and Late Archaic periods (see Collins 2004; Hester 2004). Temporally diagnostic artifacts from the Early Archaic period (9000-6800 BP) include Angostura, Early Split Stem, and Martindale-Uvalde dart points, among others (Collins 2004). The Middle Archaic spans 6800-4200 BP. Temporally diagnostic artifacts from this period include Calf Creek, Bell-Andice, Nolan, and Travis points, among others (Collins 2004; Turner et al. 2011). The Late Archaic spans 4200-1200 BP. Temporally diagnostic artifacts from the Late Archaic include a wide variety of types, with Pedernales, Ensor, and Frio points being common (Collins 2004). Many Archaic Period components have been recorded in Bexar County, including 41BX1 (Olmos Dam; Lukowski 1988; Orchard and Campbell 1954), 41BX17 (Munoz et al. 2011; Schuetz 1966; Wigley 2018), 41BX323 (Figueroa and Dowling 2007; Katz and Fox 1979; Houk et al. 1999; Meskill and Frederic 1995; Meskill et al. 2000; Miller and Barile 2001; Miller et al. 1999), and 41BX1396 (Barile et al. 2002; Carpenter et al. 2008; Katz and Fox 1979).

The Late Prehistoric period begins at 1200 BP and terminates around 350 BP (see Carpenter 2017; Kenmotsu and Boyd 2012). The time period is divided into two intervals, Austin (1200-750 BP) and Toyah (750-350 BP). The period is characterized by a shift to bow and arrow technology, evidenced by arrow points such as Scallorn and Perdiz (Collins 2004). The Toyah style interval of this period also includes the adoption of ceramic technology (Collins 2004). There is evidence that burned rock middens increased in use (Black et al. 1997; Mauldin et al. 2003). Bison remains are common on Late Prehistoric sites (Mauldin et al. 2012) though they may have been more intensively exploited toward the end of the period (Lohse et al. 2014). Sites with significant Late Prehistoric components in Bexar County include 41BX256 (Osburn et al. 2007; Padilla and Nickels 2010; Padilla and Trierweiler 2012; Scurlock et al. 1976) and site 41BX323 (Figueroa and Dowling 2007; Houk and Miller 2001; Houk et al. 1999; Katz and Fox 1979; Meskill and Frederic 1995; Meskill et al. 2000; Miller and Barile 2001; Miller et al. 1999), discussed previously, which also includes a Late Prehistoric component.

# **Historic Texas**

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 the spread of disease brought to the continent by European settlement 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 (41BX6), 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 (41BX3) was founded by the College of Nuestra Senora 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 (41BX12), San Juan (41BX5), and Espada (41BX4) were founded by the Franciscan college at Queretaro and moved from East Texas in 1731 due to escalating conflict with France in that 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. The Concepción, or Pajalache, acequia (41BX1887) is traditionally considered the oldest of the mission acequia systems, although its exact construction date has never been determined (Cox 2005; Ivey 2018). Missions San Juan Capistrano and Mission Espada are the southernmost of the San Antonio missions. Construction of more permanent buildings and improvements to existing structures at the missions continued gradually until the 1790s, when secularization began; 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 of mission inhabitants; summaries of work conducted in the San Antonio mission environs are provided by Scurlock and colleagues (1976), Ivey (2018), and Ivey and Fox (1999). Construction of the missions' acequia systems began early in their history due to their significance to the success of the settlements.

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 Valero 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).

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, following considerable conflict in the area. 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, and at Concepción into the 1840s stone from the mission buildings was being sold for use in large institutional projects (Ivey 2018).

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). An early engagement, the Battle of Concepción, occurred in the vicinity of the project area (Meissner et al. 2007). 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's 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).

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 2021).

The arrival of the railroad 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 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 2021). 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 2021).

# **Project Area**

While none are located within the boundaries of the project area, four archaeological sites within the vicinity include prehistoric components ranging from the Middle Archaic to the Late Prehistoric, indicating a settlement history of the area extending thousands of years. Mission Road, Roosevelt Avenue, and South Presa Street have been in use for more than 100 years, sometimes under different names. While their courses have been altered (Cox 1994), examination of historic maps (BCDR 1913; Rullman 1912) suggests that within the project area, their location and relationship to each other has seen little change. During the Spanish colonial period, the area was part of the *labores*, or farms, under the control of Mission Concepción (Rullman 1912). Mission Concepción was founded south of the project area in 1731, but Mission Concepción is known to have been located in the vicinity of two earlier, failed mission sites, suggesting potential for earlier Spanish colonial activity in the area (Ivey 2018). The Concepción acequia ran between the Mission Road and Steves Avenue underpass and

Roosevelt Avenue underpass, roughly north-south (COSA-OHP 2021; Figure 2-2). The intersection of Mission Road and Steves Avenue has been hypothesized to be the location of Mission Concepción's mill, constructed around 1780. The mill was constructed north of the mission, due to the unsuitable gradient of the river closer to the compound (Iruegas et al.

2009; Meissner et al. 2007). A mill is depicted just south of the intersection on historic maps, although on the map its ownership is not specified (Iruegas 2009; Rullman 1912). The project area has also been hypothesized to the location of the 1835 Battle of Concepción, specifically as an area defended by two Texan rebel companies (Meissner et al. 2007). The

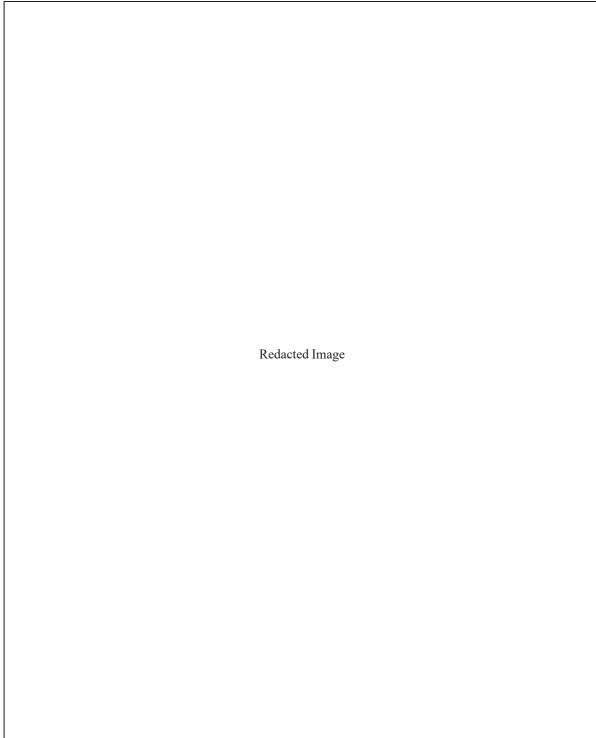


Figure 2-2. Previously recorded sites within 1 km of the project area.

fields owned by Mission Concepción began to be redistributed in 1794 (Ivey 2018), and the area maintained its agricultural character for many years (Iruegas 2009; Meissner et al. 2007). A 1913 plat map shows some residential development in the Roosevelt Avenue area, but the Mission Road area remains undeveloped, and Steves Avenue does not yet exist. A 1939 Tobin aerial shows residential and commercial development near Roosevelt Avenue, while Mission Road still appears largely agricultural, with a few informal roads and scattered buildings. A planned path for Steves Avenue appears on a 1954 plat map (BCDR 1954). This map also shows some commercial development near Mission Road at this point, and both residential and commercial development near Roosevelt Avenue. The 1954 map also shows the new alignment of the San Antonio River. U.S. 90 was constructed in the area between 1963 and 1966, according to historic aerials.

# **Previous Archaeology**

Numerous archaeological projects have taken place in the vicinity of the project area, many of which are associated with Mission Concepción (41BX12). The project area is included in the 1974 Mission Parkway survey conducted by the THC (Scurlock et al. 1976), the 1998 testing and monitoring project conducted by the CAR (Meissner et al. 2007), GTI's 2007 survey and testing project (Iruegas et al. 2009), and PBS&J's 2010 survey (Hanson 2011), although none of these projects included below surface impacts to the specific areas investigated during this project.

Seven archaeological sites are located within 1 km (0.6 mi.) of the project area (Figure 2-2, Table 2-1). These sites include prehistoric, Spanish colonial, and late historic sites, many of which are associated with the San Antonio River (THC 2021). Additionally, a National Register property, the L.T. Wright House, is located just north of the Roosevelt Avenue underpass. The underpass at the Mission Road and Steves Avenue intersection is located within the Mission Parkway National Register District, and three of the nearby sites discussed in this section (Mission Concepción, the Yturri-Edmunds house and mill, and the Concepción *acequia*) are considered contributing resources to the district (Clark et al. 1975).

Site 41BX12, Mission Concepción, is located approximately 300 m (984 ft.) south of the project area. The project area is located within Mission Concepción 's *labores*. Mission Concepción is a Spanish colonial mission. It has been designated as a State Antiquities Landmark (SAL; THC 2021), is listed on the National Register of Historic Places (NRHP; THC 2021), and it is part of the Mission Historic District (Clark et al. 1975), the San Antonio Missions National Historic Park (NPS 2021),

and the San Antonio Missions UNESCO World Heritage Site (UNESCO 2021). The site has been the subject of numerous previous archaeological projects, beginning in the 1930s (Ivey and Fox 1999). Kemp (2020) provides a discussion of previous excavations at the site in his report on the CAR's recent work at the mission. Much of the work has been associated with the installation of utilities and infrastructure. Previous archival work, as discussed in the Culture History section, has suggested that the Mission Road and Steves Avenue intersection may be the site of Spanish colonial mill associated with the mission, but this has never been confirmed archaeologically (Hanson 2011; Iruegas et al. 2009).

The Yturri-Edmunds house and mill (41BX278) was originally recorded during the Mission Parkway Survey (Scurlock et al. 1976). The site is roughly 465 m (1,526 ft.) north of the project area. At the time it was recorded, the mill was thought to date to 1824, as that was the date Manuel Yturri Castillo received a grant for the land (Scurlock et al. 1976). However, later investigations conducted by GMI suggest the mill was already present and dates to the Spanish Colonial Period, with a likely construction date of 1807 (Iruegas et al. 2009). The site was recommended as eligible for the NRHP and a part of the Mission Historic district.

Site 41BX1665 is a Late Prehistoric site recorded in 2006 in Roosevelt Park by Abasolo Archaeological Consultants (THC 2021). The site is located approximately 580 m (1,903 ft.) north of the project area. Chipped stone and fire-cracked rock were recovered from the surface and to a depth of 1.5 m (5 ft.) in backhoe trenches, and the site was considered potentially associated with the mission period. Site 41BX1665 was designated as a SAL in 2007 (THC 2021). The site has also been recommended as eligible for the NRHP (THC 2021). Further testing conducted in 2009 (Ahr and DeFreece Emery 2010) expanded the site boundaries and found it contained potentially intact and stratified deposits dating to the Late Prehistoric and/or Early Historic periods. The site was revisited during a monitoring project conducted by Raba-Kistner in 2019, which found the site disturbed in the areas monitored (Whitaker 2021).

Site 41BX1887 is the Concepción *acequia* (Hanson 2011). The acequia had been documented in previous investigations associated with the mission (Ivey and Fox 1999; Tennis et al. 2001) but had not been formally assigned a trinomial. The portion recorded as 41BX1887 is located about 645 m (2,116 ft.) north of the project area and was documented in 2011 by PBS&J during the course of the Mission Road Realignment Project (Hanson 2011). It was recorded as a deep, wide earthen ditch feature containing significant dumping of late nineteenth- to early twentieth-century artifacts. Archival

Trinomial	Name	Time Period	Site Description
41BX12	Mission Concepción	Spanish colonial	Spanish colonial mission
41BX278	Yturri-Edmunds house and mill	Early nineteenth century	Historic house and mill
41BX1665		Late Prehistoric	Occupation
41BX1887	Concepción acequia	Spanish colonial	Irrigation ditch
41BX2136		Middle/Late Archaic	Occupation
41BX2179		Transitional Archaic	Lithic scatter/occupation
41BX2357	CPS Ballpark FS01	Prehistoric/historic	Burned rock scatter, engineered structure

Table 2-1. Previously recorded sites within 1 km of the project area

evidence suggests the path of the *acequia* may have crossed approximately 100 m (328 ft.) east of the Steves Ave and Mission Road underpass (COSA-OHP 2021; see Figure 2-2).

Site 41BX2136 is a Middle/Late Archaic site recorded during the Mission Grove project by Abasolo Archaeological Consultants (THC 2021). The site is located about 840 m (2,756 ft.) south of the project area. Fire-cracked rock, debitage, and a burned dart point were recorded in cultural deposits reaching from 60 cmbs (24 in.) to more than 2 m (7 ft.) below the surface. Further investigation was recommended.

Site 41BX2179 is a Transitional Archaic site about 465 m (1,526 ft.) north of the project area along the San Antonio River. It was recorded during the course of the Lone Star Brewery District project by Pape-Dawson Engineers (THC 2021). Deposits, including chipped stone, FCR, burned

clay, charcoal, and various historic materials, extended to a depth of 115 cmbs (45 in.) in backhoe trenches. No further work was recommended.

Site 41BX2357 is a site containing both prehistoric and historic materials recorded during the course of the CPS Energy Ballpark project by Raba Kistner in 2020 (THC 2021). The site included a burned rock scatter and the remains of a wooden post extending from 20-91 cmbs (8-36 in.). The site was recommended as ineligible for the NRHP or designation as a SAL within the project area.

The L.T. Wright house, located at 342 Wilkins Avenue, was listed as a National Register property in 1983 (THC 2021). It is located immediately north of the Roosevelt Ave project area. The house dates to 1917 and is considered one of the finest examples of Prairie-style architecture in the state (Watson and Breisch 1983).

# **Chapter 3: Methodology**

This chapter discusses the field and laboratory methods employed by the CAR during the completion of this project. This discussion includes background research, details of excavations, methods of field documentation, and processing of records.

# **Pre-Field Methods**

Prior to the commencement of fieldwork, CAR staff performed a limited archival and literature review in order to identify potentially significant cultural resources in the project area that could be impacted by construction activities. Areas of concern identified included deposits associated with Mission Concepción, including the Concepción acequia and the potential Spanish Colonial Concepción mill, and deposits associated with the Battle of Concepción. Potential for prehistoric deposits was considered high as well, considering the number of prehistoric sites in the area associated with the San Antonio River, some of which are considered eligible for the NRHP (THC 2021).

Additionally, background review and consultation between former CAR Director Paul Shawn Marceaux and COSA-OHP determined the easternmost project area, the U.S. 90 underpass at South Presa Street, had been severely impacted by previous construction and did not require monitoring. This recommendation was included in the Scope of Work and approved by the THC and COSA-OHP.

# **Field Methods**

CAR staff monitored all belowground impacts associated with the underpass improvements, consisting exclusively of grading fill to 15-30 cmbs (6-12 in.). Monitors maintained a standard form, consisting of a daily log of activities. All activities observed were documented in this log and supported by digital data, including Trimble GPS observations and photographs, where appropriate. Monitors maintained a photographic log, downloaded and archived digital photographic data.

# **Laboratory and Curation Methods**

Throughout the project, the analysis and organization of records and daily logs was ongoing. All records generated during the project were prepared in accordance with Federal Regulations 36 CFR Part 79 and THC requirements for State Held-in-Trust collections. Field forms were printed on acid-free paper and completed with pencil. No artifacts were collected during the course of this investigation.

All field notes, forms, photographs, and drawings were placed in labeled archival folders. Digital photographs were printed on acid-free paper, labeled and placed in archival-quality page protectors to prevent accidental smearing due to moisture. All project-related materials, including the final report, are permanently stored at the CAR's curation facility.

This page intentionally left blank.	

Chapter 3: Methodology

# **Chapter 4: Results**

The CAR began monitoring at the Mission Road and Steves Avenue U.S. 90 underpass on April 20, 2021. Work at the Roosevelt Road U.S. 90 underpass began on April 26, 2021. The CAR staff monitored grading for sidewalks, landscaping, and art installations at the underpasses. As discussed in the previous chapter, no monitoring occurred at the South Presa Street underpass, as background review had previously found this area had been severely impacted by previous construction.

# Mission Road and Steves Avenue Underpass

Monitoring at the Mission Road and Steves Avenue underpass began April 20, 2021, and it was completed May 12, 2021. Sidewalk grading at the Mission Road and Steves Avenue intersection underpass reached depths ranging from 15-30 cmbs (6-12 in.; Figure 4-1). Grading took place within yellow gravel fill deposits near the surface, though some



Figure 4-1. Sidewalk excavations at Mission Road and Steves Avenue.

shallow areas of dark clay deposits were uncovered in deeper areas of excavation near the center of the project area. Initial grading in the area was conducted without notifying the CAR, but when examined after the fact, these excavations were confined to gravel fill. Large amounts of modern trash, including plastic wrappers, soda cans, batteries, and machinemade bottle glass, were uncovered. A single, degraded red Seco brick found loose in the soil was documented. A loose section of streetcar rail was also documented laying on the surface, but its origins are unclear.

# **Roosevelt Avenue**

Monitoring at the Roosevelt Avenue underpass began April 26, 2021, and was completed May 21, 2021. Grading at the Roosevelt Avenue underpass reached depths ranging from 15-30 cmbs (Figure 4-2; 6-12 in.). Grading took place mostly within yellow gravel fill deposits near the

surface, though some shallow areas of dark clay deposits were uncovered in deeper areas of excavation. Grading at the northern and southern edges of the project area outside the underpass shallowly impacted some clay areas, but no cultural material was observed, with the exception of modern trash. Modern trash, such as plastic wrappers, soda cans, and bottles, was scattered on the surface underneath the underpass and in the surrounding areas, as well as within the gravel fill.

# **Summary**

Grading for the U.S. Highway 90 Underpasses Improvements Project took place within fill deposits and did not reveal any cultural materials or features. Overall, the underpass areas appear highly disturbed with little potential for intact deposits, particularly at the depths of impact that occurred during this investigation.



Figure 4-2. Excavation at Roosevelt Avenue underpass.

# **Chapter 5: Conclusions and Recommendations**

Beginning in April of 2021 through May 2021, the CAR conducted archaeological monitoring for the U.S. Highway 90 Underpasses Improvement Project at two locations. The first location was the U.S. 90 underpass crossing the intersection of Steves Avenue and Mission Road, and the second location was a U.S. 90 underpass crossing Roosevelt Avenue. Impacts to these areas included grading for sidewalks, landscaping, and art installations. Cultural resources of concern included the potential for prehistoric and Spanish colonial deposits as well as deposits associated with the Battle of Concepción. These concerns were identified primarily by earlier archival research as no archaeology had taken place previously within the project area.

Monitoring took place primarily within fill deposits, and no evidence of intact cultural deposits was encountered. Impacts to the project area were shallow at a maximum of 30 cmbs (12 in). While archival research indicates potential for culturally significant deposits in these areas, archaeological monitoring documented significant disturbance at the underpasses, and no culturally significant material. If future below-surface impacts are planned within the current project area, preliminary survey or testing would document the depth of fill and extent of the disturbance as well as the depth and location of any intact, potentially significant deposits if they exist. No further work is recommended for impacts less than 30 cmbs (12 in).

This page intentionally left blank.	

Chapter 5: Conclusions and Recommendations

# **References Cited:**

#### Ahr, S.W., and S.N. DeFreece Emery

2010 Archeological and Historic Resources Survey of Two Alternative Playground Locations at Roosevelt Park in San Antonio Bexar County, Texas. URS Miscellaneous Reports of Investigations. URS Corporation, Austin, Texas.

#### Barile, Kerri S., Brett A. Houk, and Kevin A. Miller

2002 A Cultural Resource Survey of the San Antonio Water System's Customer Distribution Line Project, City of San Antonio, Bexar County, Texas. SWCA Cultural Resource Report No. 02-304.

#### Bexar County Deed Records (BCDR)

1913 Plats showing several subdivisions between Roosevelt Ave. and S. Presa Street South of S.P.R.R. railroad track and San Antonio River. April 28, 1913. Case B, Drawer 3, Map 396.

1954 A1-69. Mar 17, 1954. New City Block Red Tax Maps A-1 through A-69.

#### Black, S.L., L.W. Ellis, D.G. Creel, and G.T. Goode

1997 Hot Rock Cooking on the Greater Edwards Plateau: Four Burned Rock Midden Sites in West Central Texas. Studies in Archeology 22. Texas Archeological Research Laboratory, The University of Texas at Austin. Archeology Studies Program, Report 2. Texas Department of Transportation Environmental Affairs Department, Austin.

#### Blair, W.F.

1950 Biotic Provinces of Texas. Texas Journal of Science 1(2):93-116.

#### Bousman, C.B., B.W. Baker, and A.C. Kerr

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

#### Carpenter, S.M.

2017 The Toyah Complex of South and Central Texas: Long-range Mobility and the Emergence of Dual Economies. *Plains Anthropologist* 62(242):133-156.

#### Carpenter, S., Cody, M.C. and Miller, K.

2008 Interim report-Results of Archaeological Survey for the Brackenridge Park Renovation Project, City of San Antonio, Bexar County, Texas. SWCA Interim Report 2008.

# Carpenter, S., and C. Hartnett

2011 Archaic Macroeconomic Spheres: A Case Study from Fort Hood, Central Texas. *Bulletin of the Texas Archaeological Society* 82:223-251.

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

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

## City of San Antonio (COSA) Office of Historic Preservation (OHP)

2021 Acequia Maps. Electronic resource, https://www.sanantonio.gov/historic/Archaeology/AcequiaMaps, accessed July 8, 2021.

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

1975 Mission Parkway. National Register of Historic Places Nomination Form. National Park Service.

#### 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.

#### Cox, I.W.

- 1994 Archival Research for the Yturri-Edmunds Annex (Camp Roosevelt Tourist Camp) San Antonio, Bexar County, Texas. Archaeological Survey Report, No. 229. 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.
- 2001 "A Fine Country with Broad Plains-the Most Beautiful in New Spain": Colonial Views of Land and Nature. In *On the Border: An Environmental History of San Antonio*, edited by C. Miller, pp. 41-56. University of Pittsburgh Press, Pennsylvania.

#### Donecker, F.

2021 San Antonio River. Handbook of Texas, Texas State Historical Association. Electronic document, https://www.tshaonline.org/handbook/entries/san-antonio-river, accessed July 8, 2021.

#### Eckhardt, G.

2021 The Edwards Aquifer Website. Electronic document, https://www.edwardsaquifer.net/, accessed May 4, 2021.

# Figueroa, A.L., and J.J. Dowling

2007 Additional Phase II Testing at 41BX323 in Brackenridge Park, San Antonio, Texas. Archaeological Report, No. 377. 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.

## 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.

- 2011 Intensive Archaeological Survey "Mission Trails" Enhancement Project, Package IV, Mission Road Realignment Bexar County, Texas. Document No. 110001. PBS&J, San Antonio, Texas.
- 2016 Archaeological Investigations for the Main Plaza Redevelopment Project, San Antonio, Bexar County, Texas. Atkins, Austin.

#### Hester, T.R.

- 1980 11,000 Years of South Texas Prehistory. In Digging into South Texas Prehistory, pp. 131-164. Corona Publishing San Antonio.
- 2004 The Prehistory of South Texas. In *The Prehistory of Texas*, edited by T.K. Perttula, pp. 127-155. Texas A&M University Press, College Station.

2020 St. Mary's Hall Site. Handbook of Texas Online, Texas State Historical Association. Electronic Resource, https://www.tshaonline.org/handbook/entries/st-marys-hall-site, accessed October 23, 2020.

#### 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.

#### Historic Aerials

1963 Historic Aerials. Electronic resource, https://www.historicaerials.com/viewer, accessed July 5, 2021.

1966 Historic Aerials. Electronic resource, https://www.historicaerials.com/viewer, accessed July 5, 2021.

#### Houk, B., and K.A. Miller

2001 The Brackenridge Park Rehabilitation Project Archaeological Survey, San Antonio, Bexar County, Texas. SWCA Cultural Resource Report No. 00-331.

## Houk, B.A., K.A. Miller, R.K. Meadows, and C.W. Ringstaff

1999 Archaeological Investigations at 41BX323, Brackenridge Park, San Antonio, Bexar County, Texas. SWCA Cultural Resource Report No. 99-67.

## Iruegas, S.A., M.T. Iruegas, D. Hill, and V. Moore

2009 San Antonio Mission Trails Statewide Transportation Enhancement Project Volume III Construction Package IV: An Intensive Archaeological Survey and National Register Testing at Historic Yturri-Edmunds Mill, Roosevelt Park, and Eagleland Neighborhood, Bexar County, Texas. GTI Environmental Inc., Houston, Texas.

#### 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.

#### Johnson, L., and G.T. Goode

1994 A New Try at Dating and Characterizing Holocene Climates, as Well as Archeological Periods, on the Eastern Edwards Plateau. *Bulletin of the Texas Archeological Society* 65: 1-51.

# Katz, S.R., and Fox, A.A.

1979 Archaeological and Historical Assessment of Brackenridge Park, City of San Antonio, Texas. Archaeological Survey Report, No. 33. Center for Archaeological Research, The University of Texas at San Antonio.

#### Kemp, L.

2020 Archaeological Monitoring and Sampling of Excavations at Mission Concepción (41BX12), San Antonio, Bexar County, Texas. Archaeological Report, No. 474. 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.

#### 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.

#### Kenmotsu, N.A., and D.K. Boyd

2012 The Toyah Phase in Texas: An Introduction and Retrospective. In *The Toyah Phase of Central Texas, Late Prehistoric Economic and Social Processes*, edited by N.A. Kenmotsu and D.K. Boyd, pp. 1-18. Texas A&M University Press, College Station.

#### Lohse, J.C., D.B. Madsen, B.J. Culleton, and D. J. Kennett

2014 Isotope Paleoecology of Episodic Mid-to-late Holocene Bison Population Expansions in the Southern Plains, U.S.A. *Quaternary Science Reviews* 102:14-26.

#### Lukowski, P.D.

1988 Archaeological Investigations at 41BX1, Bexar County, Texas. Archaeological Report, No. 135. Center for Archaeological Research, The University of Texas at San Antonio.

#### Mauldin, R.P., D.L. Nickels, and C.J. Broehm

2003 Archaeological Testing to Determine the National Register Eligibility Status of 18 Prehistoric Sites on Camp Bowie, Brown County, Texas. Archaeological Survey Report, No. 334. Center for Archaeological Research, The University of Texas at San Antonio.

# Mauldin, R., J. Thompson, and L. Kemp

2012 Reconsidering the Role of Bison in the Terminal Late Prehistoric (Toyah) Period in Texas. In *The Toyah Phase of Central Texas: Late Prehistoric Economic and Social Processes*, edited by N.A. Kenmotsu, pp. 90-110. Texas A&M University Press, College Station.

#### McGraw, A.J., and K. Hindes

1987 Chipped Stone and Adobe: A Cultural Resources Assessment of the Proposed Applewhite Reservoir, Bexar County, Texas. Archaeological Report, No. 163. 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.

## Meissner, B.A., I.W. Cox, J.D. Weston, and B.K. Moses

2007 San Antonio Mission Trails Statewide Transportation Enhancement Project Volume II: Construction Packages 2 and 3: Archaeological Testing and Monitoring Construction of the Mission Trails Hike and Bike Trails, City of San Antonio, Bexar County, Texas. Archaeological Report, No. 374. Center for Archaeological Research, The University of Texas at San Antonio.

# Meskill, F., and Frederic, C.

1995 Archeological Testing at the Witte Museum Science Facility Construction Site: An Archeological and Geoarcheological Study on the East Bank of the San Antonio River. Technical Series Report No. 48. Texas Archeological Research Laboratory.

# Meskill, F., L. Shaw, and S. Black

2000 Excavations at 41BX323, the Witte Museum Parcel, Archaic Period Occupations on the Banks of the San Antonio River, Bexar County, Texas. Technical Series Report No. 50. Texas Archeological Research Laboratory.

#### Miller, K.A., and K.S. Barile

2001 Archaeological Investigations at the Brackenridge Driving Range, City of San Antonio, Bexar County, Texas. SWCA Cultural Resource Report 01-250.

# Miller, K.A., S. Carpenter, L.C. Nordt, C. Howell, and C. Ringstaff

1999 Archaeological Testing of 41BX323 and Portions of the Historic Second Waterworks Canal, Brackenridge Park, San Antonio, Bexar County, Texas. SWCA Cultural Resources Report No. 98-62.

## Munoz, C.M., R.P. Mauldin, J.L. Thompson, and S.C. Caran

2011 Archeological Significance Testing at 41BX17/271, the Granberg Site: A Multi-Component Site along the Salado Creek in Bexar County, Texas. Archaeological Survey Report, No. 393. Center for Archaeological Research, The University of Texas at San Antonio.

#### National Park Service (NPS)

2021 Learn About the Park. Electronic document, https://www.nps.gov/saan/learn/index.htm, accessed May 4, 2021.

#### Natural Resources Conservation Service (NRCS)

2021 Web Soil Survey. United States Department of Agriculture. Electronic document, https://websoilsurvey.sc.egov.usda. gov/App/HomePage.htm, accessed May 4, 2021.

#### Orchard, C.D., and T.N. Campbell

1954 Evidence of Early Man from the Vicinity of San Antonio, Texas. The Texas Journal of Science 4:454-465.

#### Osburn, T.L., C.D. Frederick, and C.G. Ward

2007 Phase II Archaeological Investigations at Sites 41BX254, 41BX256, 41BX1628, and 41BX1621 within the Historical Mission Reach Project Area, San Antonio, Texas. Miscellaneous Reports of Investigations No. 373. Prepared for United States Army Corps of Engineers, Fort Worth District, by Geo-Marine Inc., Plano, Texas.

#### Padilla, A.E., and D.L. Nickels

2010 Archaeological Data Recovery on Three sites along the San Antonio River, Bexar County, Texas. Project No. 011-038. Ecological Communications Corporation, Austin, Texas.

# Padilla, A.E., and W.N. Trierweiler

2012 Investigation of a Middle Archaic Domestic Structure: Further Archeological Excavations at 41BX256. Texas Antiquities Permit 5023. AmaTerra Environmental, Inc., Austin, Texas.

#### 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.

#### Rullman, J.D.

1912 Historic Map of Old San Antonio de Bexar in 1837. Map on file, Center for Archaeological Research, The University of Texas at San Antonio.

#### Schuetz, M.K.

1966 The Granberg Site: An Archaic Indian Habitation in Bexar County, Texas. Witte Museum Studies, No. 1. San Antonio, Texas.

# 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.

# Tennis, C.T., I.W. Cox, J.J. Durst, D.D. Edmondson, B.A. Meissner, and S.A. Tomka

2001 Archaeological Investigations at Four San Antonio Missions: Mission Trails Underground Conversion Project. Archaeological Survey Report, No. 297. Center for Archaeological Research, The University of Texas at San Antonio.

## Texas Historical Commission (THC)

2021 Texas Archeological Sites Atlas. Texas Historical Commission. Electronic document, https://atlas.thc.state.tx.us/, accessed May 4, 2021.

# Thoms, A.V., and P.A. Clabaugh

2011 The Archaic Period at the Richard Beene Site: Six Thousand Years of Hunter-Gatherer Family Cookery in South-Central North America. *Bulletin of the Texas Archaeological Society* 82:77-117.

#### Turner, E.S., T.R. Hester, and R.L. McReynolds

2011 Stone Artifacts of Texas Indians. Taylor Trade Publishing, Lanham, Maryland.

# United Nations Educational, Scientific and Cultural Organization (UNESCO)

2021 San Antonio Missions. Electronic document, https://www.nps.gov/saan/learn/index.htm, accessed May 4, 2021.

#### Watson, M., and K. Breisch

1983 Wright, L.T., House National Register of Historic Places Inventory Nomination Form. National Park Service.

#### Whitaker, J.M.

2021 Cultural Resources Investigations for the Utility Repair in Roosevelt Park Project, San Antonio, Bexar County, Texas. Cultural Resources Report No. 20-025. Raba Kistner, San Antonio, Texas.

# Wigley, S.

2018 Hunter-Gatherer Mobility at the Granberg Site (41BX17), Bexar County, Texas. Master's thesis, The University of Texas at San Antonio.

#### Wooster, R.A.

2021 Civil War. Handbook of Texas Online. Texas State Historical Association. Electronic document, https://tshaonline.org/handbook/online/articles/qdc02, accessed May 4, 2021.