



Archaeological Monitoring of the *Acequia Madre de Valero* at the Proposed Civic Park, San Antonio, Bexar County, Texas

by

Andrea Thomas, Clinton M. M. McKenzie, and José E. Zapata

REDACTED

Texas Antiquities Permit No. 8141

Principal Investigator
Paul Shawn Marceaux

Prepared for:
City of San Antonio
Transportation & Capital Improvements
114 West Commerce Street, 6th Floor
San Antonio, Texas 78205



Prepared by:
Center for Archaeological Research
The University of Texas at San Antonio
One UTSA Circle
San Antonio, Texas 78249
Archaeological Report, No. 463

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Abstract:

From August through September 2017, the Center for Archaeological Research (CAR) at The University of Texas at San Antonio (UTSA) conducted archaeological monitoring of excavations at the previous site of the western wing of the Henry B. González Convention Center in San Antonio, Bexar County, Texas. The 3.03-hectare (7.5-acre) project area is the site of the proposed Civic Park and other new developments. Previous archaeological investigations completed by Raba Kistner Environmental in 2016, uncovered a 40-m (131.23-ft.) long segment of the *Acequia Madre de Valero* (41BX8). The City of San Antonio (COSA) contracted CAR to monitor any below ground excavations in the project area and to monitor mitigation work on the acequia. Because the property is owned by the COSA, compliance with the Antiquities Code of Texas was required. As such, the State Antiquities Code and Chapter 35 of the San Antonio Unified Development Code governed the excavations and required coordination with the COSA Office of Historic Preservation and the Texas Historical Commission (THC) Archaeology Division. CAR conducted the work under Texas Antiquities Commission Permit No. 8141. Dr. Paul Shawn Marceaux served as the Principal Investigator, and Andrea Thomas served as the Project Archaeologist, assisted by Antonia Figueroa.

Principal activities during the project included monitoring the mechanical excavation of an underground vault for storm drain connections and the mechanical exposure of and mitigation of the *Acequia Madre de Valero*. No cultural materials or features were revealed during the excavation of the vault. Historic artifacts were documented in the acequia fill, and a representative sample was collected to date when the acequia was last in use. The artifacts manufacture dates ranged from 1850 to 1920. Because the acequia (41BX8) was previously determined as eligible to the National Register of Historic Places, CAR recommends that future excavations in the property area be subject to archaeological monitoring and archaeological sites should be avoided and protected from construction impacts.

All associated records and diagnostic artifacts are curated at the CAR in accordance with Federal Regulations 36 CFR Part 79 and THC requirements for State Held-in-Trust collections.

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Table of Contents:

Abstract	iii
List of Figures	vii
List of Tables	ix
Acknowledgements	xi
Chapter 1: Introduction	1
Chapter 2: Project Area and Previous Archaeology	3
Environmental Setting	3
Culture History	3
Prehistoric Period (11,500 BP-AD 1600)	3
Proto-historic Period (AD 1528-1700)	4
The Colonial/Mission Period (AD 1700-1821)	4
The Mexican Period (AD 1821-1835)	5
The Republic of Texas to the Close of the Nineteenth Century (AD 1836-1900)	5
Previous Archaeology	5
Chapter 3: Field and Laboratory Methods	9
Field Methods	9
Laboratory/Curation Methods	9
Chapter 4: Results of the Fieldwork	11
Vault Excavation	11
<i>Acequia Madre de Valero</i> (41BX8) Preservation	11
Acequia Wall Relocation	14
Landscape Fabric and Pea Gravel	15
Steel Plate Placement	18
Recovered Artifacts	20
Chapter 5: Conclusions and Recommendations	23
References Cited	25
Appendix A: Previously Recorded Archaeological Sites within the Hemisfair Historic District	31

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List of Figures:

Figure 1-1. Location of project area and APEs.....	1
Figure 2-1. Previously recorded archaeological sites within the Hemisfair Historic District	6
Figure 4-1. Vault location and excavation, facing south.....	11
Figure 4-2. Location of project area and APEs on satellite imagery	12
Figure 4-3. Vault excavation, note concrete and rebar.....	13
Figure 4-4. Vault excavation at termination depth.....	13
Figure 4-5. First acequia wall stone uncovered (west wall), facing south.....	14
Figure 4-6. Acequia wall exposure (both east and west wall), excavation continuing southward	15
Figure 4-7. Sluice gate feature, facing north.....	16
Figure 4-8. Aerial photograph of the uncovered acequia segment in the project area, facing east (photo courtesy of Guido Brothers Construction Company).....	16
Figure 4-9. Exposed acequia in relation to the Convention Center and vault excavation, facing east (photo courtesy of Guido Brothers Construction Company).....	17
Figure 4-10. Black felt landscape fabric covering the acequia, facing south	17
Figure 4-11. Pea gravel covering mid-section, facing north.....	18
Figure 4-12. Guido Brother's crew measuring distance between outer wall steel plates on northern end, facing north	18
Figure 4-13. Northern end encased with gravel and three sides of plates, facing northwest.....	19
Figure 4-14. The 40-m (131.23-ft.) acequia segment covered, facing southeast.....	19
Figure 4-15. Allen P. Swearington Druggist bottle (left) and Long's California Preserves bottle (right)	21
Figure 4-16. Caper bottle found in acequia fill	21
Figure 4-17. Palissy Wear, Ironstone, and hand-painted ceramics (left to right).....	22
Figure 4-18. Clear Fork gouge unifacial tool recovered from the northwest portion of the project area.....	22

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List of Tables:

Table 2-1. Previously Recorded Archaeological Sites within the Vicinity of the Project Area* 7

Table 4-1. Artifacts Collected from within the Acequia 20

Table A-1. Previously Recorded Archaeological Sites within the Hemisfair Historic District 33

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Chapter 1: Introduction

From August 31 to September 19, 2017, the Center for Archaeological Research (CAR) at The University of Texas in San Antonio, in response to a request from the City of San Antonio (COSA), conducted archaeological monitoring for a single phase of the larger Hemisfair Civic Park/Convention Center project in San Antonio, Bexar County, Texas. The COSA Transportation & Capital Improvements Department (TCI) contracted CAR to monitor excavations for a vault connecting to storm drain lines and to monitor construction activities associated with mitigation and preservation of an approximately 40-m (131.23-ft.) intact segment of the *Acequia Madre de Valero* (41BX8). The project area is located on COSA property, and thus, is within the purview of the Antiquities Code of Texas that is enforced by the Texas Historical Commission (THC). CAR acquired Texas Antiquities Permit No. 8141 prior to commencement of archaeological monitoring. The CAR Director, Dr. Paul Shawn Marceaux, oversaw all tasks and served as Principal Investigator on the project. Andrea Thomas served as the Project Archaeologist.

The project area lies within Hemisfair Park, which is located in downtown San Antonio, and is bounded by South Alamo Street, East Nueva Street, Hemisfair Way, and East César Chávez Boulevard. Note that East Nueva Street was previously Goliad Street, and before that it was *Camino La Bahia* (Zapata et al. 2018). Water Street was also renamed to Hemisfair Way in 2016. The project area included approximately 7.5 acres (3.03 hectares) in the northwest quadrant of the Hemisfair Park (Figure 1-1). A previous phase of this expansion project began with the demolition of the west wing of the Henry B. González Convention Center in 2016 for the proposed Civic Park. The area was known to be in the path of the *Acequia Madre de Valero* (41BX8). This prompted the need for archaeological monitoring of any below ground disturbances in this area. The COSA contracted Raba Kistner Environmental Inc. (RKEI) to monitor gas line installation and, subsequently, to test the project area for remnants of the acequia (see Nichols et al. 2017).



Figure 1-1. Location of project area and APEs.

Hemisfair Park and all the historic homes within its parameters have undergone renovations throughout the last decades; however, within the last two years the COSA has focused on preparations for the City's tri-centennial celebrations in 2018. Upcoming festivities for San Antonio's 300th birthday prompted additional renovation projects at Hemisfair Park, particularly demolition of the Henry B. González Convention Center's west wing in 2016 for the creation of the proposed Civic Park. In January 2017, RKEI (Nichols et al. 2017) found intact segments of the east and west walls of the *Acequia Madre de Valero* during the demolition. RKEI recorded the location and elevations of the acequia walls. In conjunction with the COSA and the THC, RKEI designed a preservation protocol to mitigate future disturbances of the acequia during the creation of Civic Park (see Tomka et al. 2017).

The principal objective of the project was to monitor two areas of potential effect (APE): 1) mechanical excavations of an underground vault for storm drain connections and 2) the mechanical exposure of and mitigation of the *Acequia Madre de Valero* (see Figure 1-1). Diagnostic artifacts collected from

the acequia fill indicate that the acequia was no longer in use in the late nineteenth century. Because the acequia (41BX8) was previously determined to be eligible to the National Register of Historic Places (NRHP), CAR recommends that future excavations in the area be subject to archaeological monitoring and archaeological sites should be avoided and protected from construction impacts.

This report is organized into five chapters. Following this introductory chapter, Chapter 2 presents a brief discussion of the environmental setting and the culture history of the project area. This chapter also provides a brief synopsis of the *Acequia Madre de Valero*'s importance in San Antonio history and a summary of archaeological sites near the project area. Chapter 3 describes the field and laboratory methods used for this project, and Chapter 4 presents the project results. The final chapter provides a brief summary of the work conducted and CAR's recommendations for any future work in the project area. Appendix A provides additional details for the previously recorded archaeological sites discussed in Chapter 2.

Chapter 2: Project Area and Previous Archaeology

This chapter provides a brief discussion of the environmental setting and the culture history of the project area followed by a discussion of previous archaeological investigations near the project area. Part of the culture history section relies on Zapata et al. 2018. For more in-depth accounts of the culture history of San Antonio, see McKenzie et al. 2016 and Zapata et al. 2018.

Environmental Setting

San Antonio falls within the South-Central Texas geographic region and is adjacent to the Edwards Plateau to the north, the Gulf of Mexico coast to the southeast, and the Rio Grande Valley to the south. The project area has an elevation of 198.12 m (650 ft.) above mean sea level (Norwine 1995:138). The soils found in the project area are Houston Black clay (HtB) with 1 to 3 percent slopes (Natural Resources Conservation Service 2017). This soil type lies under layers of construction fill from continuous development projects on the project area. See McKenzie et al. (2016:7-9) for a discussion of the geology and hydrology of downtown San Antonio.

The city lies at the intersection of three unique ecological zones: the Edwards Plateau, the Oak Woods and Tallgrass Prairie, and the Tamaulipan Thornscrub ecosystems (National Park Service 2015). The project area is located within the Nuecian District Tamaulipan Biotic Province (TBP) as defined by Blair (1950; Judd 2002:40, 43). Blair (1950:Figure 1) describes this province as an area of semi-arid brushland just south of the Balcones fault line (Jahrsdoerfer and Leslie Jr. 1988:1). Live oak, grasses, mesquite, and a range of *Acacia* species that are prototypical of thorny brush communities dominate the flora (Blair 1950; Judd 2002:43). Nichols et al. (2017:10) also list various cacti and agave plants native to this region including lechuguilla, prickly pear, and sotol.

The fauna of the TBP are highly variable due to the confluence of different ecological and geological zones. Nichols et al. (2017:10) state that at least 95 bird and 29 mammal species inhabit the region, and Blair (1950) describes 57 species of reptiles and 21 species of amphibians (Presley 2003:37). Mammals native to the area include white-tailed deer (*Odocoileus virginianus*), cottontail rabbits (*Sylvilagus audubonii*), and a variety of rodents. The TBP is also the home of thirteen reptile species that do not occur outside the province (Presley 2003:Table 6). Most of the native plants and animals in the project area have been displaced due to urbanization.

The South-Central Texas region is humid subtropical with temperate winters and hot and humid summers. Mild winters last from the beginning of November until the beginning of March. Typically, San Antonio experiences 220 days of sunshine and an average of 83.56 cm (32.9 in.) of rain each year (U.S. Climate Data 2017). Mauldin, in a review of San Antonio rainfall totals over 138 years, concludes there is significant year-to-year variability in rainfall totals due to the city's geographical location (McKenzie et al. 2016:5-7).

Culture History

Prehistoric Period (11,500 BP-AD 1600)

The project area is situated at the intersection of two broad archaeological regions, Central and South Texas. The discussion of San Antonio's prehistory is based primarily on the chronologies developed by Collins (2004), Johnson and Goode (1994), and Black (1989) for Central Texas, with observations from Hester (2004) for South Texas. Because this project focuses on a historic feature, the prehistoric description of the project area is brief. The culture history discussion centers on the historic chronology of San Antonio with particular emphasis on the neighborhood history of the project area. Part of the discussion, from the Proto-historic to the close of the nineteenth century, is from McKenzie et al. 2016.

Four major periods define Central and South Texas: Paleoindian, Archaic, Late Prehistoric, and Historic. The Paleoindian Period (11,500-8800 BP) is divided into early and late sub-periods. Each sub-period is characterized by particular projectile point styles and subsistence patterns (Collins 2004). The period begins at the close of the Pleistocene with the earliest evidence of humans in the Central Texas region. The climate during this period was generally cooler and wetter than the present. Clovis and Folsom point types, bifacial Clear Fork tools, and finely flaked end scrapers characterize the early Paleo-Indian Period (Black 1989). Clovis is the earliest defined cultural assemblage and is, for the most part, consistent across the North American continent.

The Archaic Period (8800-1200 BP) is identified as a period of intensification of hunting and gathering and a move toward greater exploitation of local resources. Food processing technologies appear to have broadened as features, such as hearths, ovens, and middens, increase in frequency during this time (Black and McGraw 1985). Collins (2004) and Johnson and Goode (1994) divided the Archaic into Early, Middle,

and Late sub-periods. These sub-periods are distinguished by variances in climate conditions, resource availability, subsistence practices, and diagnostic projectile point styles (Collins 2004; Hester 2004).

In Central Texas, the Early Archaic dates from 8800-6000 BP (Collins 2004). Changing climate and the extinction of mega fauna appear to have initiated a behavioral change by hunter-gatherers. Because of the necessary economic shift away from big game hunting, local resources in Central Texas, such as deer, fish, and plant bulbs, were more intensively exploited. The Middle Archaic, 6000-4000 BP (Collins 2004), appears to have been a period of increasing population, based on the large number of sites documented from this time in Central Texas and adjacent regions (Story 1985; Weir 1976). The final interval, the Late Archaic, dates from 4000-1200 BP in Central Texas (Collins 2004). During this period, large cemeteries formed indicating an increasing population and the establishment of territories (Black and McGraw 1985).

The Late Prehistoric Period (1200-350 BP) in Central Texas marks a distinctive shift from the use of the atlatl and dart to the use of the bow and arrow (Black 1989; Collins 2004; Hester 2004). The Late Prehistoric is subdivided into early and late phases termed Austin and Toyah Phases, respectively (Prewitt 1981). The subsequent Toyah Phase spans 650-350 BP and includes the first occurrence of pottery in South Texas (Black 1989). Characteristic artifacts of this phase include Perdiz and Clifton arrow points (Black 1986). Material culture associated with the Late Prehistoric Period indicates increasing complexity in subsistence patterns and very large prehistoric populations (Black 1989; Collins 2004).

Proto-historic Period (AD 1528-1700)

Generally, the Proto-historic Period in Texas corresponds with the arrival of the shipwrecked survivors of the Pánfilo de Narváez Spanish expedition in 1528 along the Texas shoreline near Galveston, Texas. The leader of the survivors, Álvar Núñez Cabeza de Vaca, lived among the Native Americans of the Texas Coast and Central Texas for nearly seven years (Bannon 1972:xii-xiii). Additional early Spanish accounts of Texas come from the survivors of the Hernando de Soto expedition under Luis de Moscoso. The expedition entered Texas in 1541-1542 from the northeast and made it as far as the Brazos River near Waco, Texas, before returning to Arkansas and Louisiana (Clayton et al. 1993).

During this period, Coronado also entered Texas from the northwest in his search for the Seven Cities of Cibola (Bolton 1949:355-356; Chipman 1992:40). Neither expedition entered South Central Texas. The Proto-historic Period ends with the European settlements established at the close of

the seventeenth century along the Lower Rio Grande and Spanish colonization in 1685 in northeast Texas (Chipman and Joseph 2010; Weddle 1968). Archaeological evidence of Native American and European contact is scant (Thoms and Ahr 1995). Therefore, most of the history of the period comes from written European accounts.

The Colonial/Mission Period (AD 1700-1821)

This period began with the founding of Spanish missions in South and Central Texas. In San Antonio, the Spanish founded *Villa de Bexar*, the *Presidio San Antonio de Bexar*, and *Mission San Antonio de Valero* in 1718 followed two years later by *Mission San José y San Miguel de Aguayo* some 4 km (2.5 miles) south of *San Antonio de Valero*. Three additional missions were relocated to San Antonio from East Texas in 1731. In addition to the five missions, a colonial enterprise of Canary Islanders arrived in 1731, contributing to the permanent Spanish presence in Central Texas.

The management of water flow and access via acequias, or irrigation canals, was one of the monumental achievements of the Spanish that led to their success in colonizing the San Antonio area. One of the earliest of these irrigation canals was the *Acequia Madre de Valero* (41BX8). Constructed sometime between 1719 and 1724, the dam and headworks of the Valero Acequia system “were located at the first right-angle bend of the San Antonio River below the headwaters” and “watered the fields that supported the Mission San Antonio de Valero” (McKenzie 2017:19). The stone lining of this acequia, located and preserved in the project area, represents stabilization and maintenance improvements made to the acequia in the 1840s following the assumption of municipal management (Cox 1985:2; McKenzie 2017:18). However, by the turn of the twentieth century, the COSA began shutting down the acequia systems, and by 1903, the *Acequia Madre de Valero* was no longer shown on the Sanborn Fire Insurance Maps of the area. Fox (1985) dated the closure of this acequia from approximately 1896 to 1904.

Missions in San Antonio were on the decline by the close of the 1700s. Falling population totals and several epidemics, including small pox and measles, hastened this decline (Ewers 1973). Secularization of the missions began in 1793 and was effectively complete by 1824 when they ceased operation as separate political entities (Carlson 1994; Cox 1997, 2005). Contemporaneous with the decline of the mission system, the number of civilian settlements in Texas began to grow, resulting in increasing demands for military support and defense. By the close of the eighteenth century, tensions between Royalist Spain and its Texas colonies had culminated into rebellions against the Spanish Crown and cries for independence. In Texas, initial rebellions began in

1810, leading to the Royalist victory at the Battle of Medina in 1813. Rebellion at the national level was ultimately successful when Mexico became independent in 1821, essentially ending Spanish Colonial rule (Henderson 2009; McKenzie et al. 2016).

The Mexican Period (AD 1821-1835)

Texas and San Antonio, in particular, were underpopulated at the time of the Mexican Revolution. Low population was directly associated with the rebellion of 1813 and its aftermath. Spanish Loyalists punished rebels and their families resulting in a nearly 40 percent drop in San Antonio's population. Following the Mexican Revolution of 1821, Mexican authorities attempted to address the problem of low population by enacting laws and constitutional provisions in the early 1820s that encouraged new settlement from the United States (Cox 1997). In 1834, following Antonio Lopez de Santa Anna's usurpation and dismantling of the liberal constitution of 1824, Tejanos and Anglo-Texans who supported the constitution began to revolt. In response, Santa Anna dispatched troops under Martín Perfecto de Cos to deal with the insurrection in San Antonio, which he and his troops occupied in October of 1835. The Texans besieged Cos in San Antonio on December 5, 1835. Cos was defeated and forced to surrender on December 10. He subsequently withdrew his forces south towards Laredo (Corner 1890:119-120, 164; Cox 1997; Marley 2014; McKenzie et al. 2016). Santa Anna recaptured San Antonio on March 6, 1836, after an 18-day siege of the Alamo (Mission *San Antonio de Valero*). Following the victory, Santa Anna dispatched forces to crush the remaining resistance, but he was defeated at the battle of San Jacinto on April 21, 1836, ending Mexican rule of Texas (Cox 1997; Davis 2004).

The Republic of Texas to the Close of the Nineteenth Century (AD 1836-1900)

The Republic of Texas was established on March 1, 1836, although true independence began after the Battle of San Jacinto. Boundary disputes between Texas and Mexico continued until June 1843, when an armistice was reached (Cox 1997). The Republic offered inexpensive land to encourage immigrants from the United States and Europe (Meinig 1969). In 1845, the United States Congress and the Texas Republic agreed to annexation terms. Texas was admitted as the 28th state on December 29, 1845 (Neu 2013). Texas statehood led to war between the United States and Mexico in May 1846. The Treaty of Guadalupe-Hidalgo, signed in February 1848, ended the dispute and established the Rio Grande as the southern boundary between the United States and Mexico.

Following the war, Texas experienced rapid population growth. People came from the southern states and from Europe

with German, Czech, and Polish immigrants arriving in large numbers. By 1860, population totals exceeded 600,000, a significant increase from 142,000 in 1847 (Campbell 2003). Much of this growth was tied to the availability of farmland. Cotton, often supported by slave labor, was the dominant crop in East Texas. Roughly 30,000 black slaves were present in the state in 1847 (Campbell 1989; Cox 1997), and this number increased to over 180,000 by 1860 (Campbell 1989, 2003; Meinig 1969).

During the Civil War, Texas sided with the Confederacy and seceded from the United States in February 1861. The following month, Texas joined the Confederate States of America. Few major battles occurred within the state (Campbell 2003). Following the defeat of the Confederacy, Texas was readmitted to the United States in 1870.

In the early 1870s, the population surpassed 1,000,000, and by the turn of the century, the number had grown to over 3,000,000 (Meinig 1969). Relative to other southern states, Texas had suffered little damage during the Civil War, and it possessed cheap land. Farming in east Texas and cattle ranching in the south, west, and the plains/panhandle areas were the major economic activities during this period (Campbell 2003; Meinig 1969; Sonnichsen 1950). Railroads expanded into Texas, and by 1900, the state was crisscrossed by an extensive network of rail lines connecting Texas with the rest of the United States (Meinig 1969; Reed 1941). As a result, commercial development increased throughout the twentieth century.

Previous Archaeology

The project area is located within the Hemisfair Historic District (COSA Office of Historic Preservation 2018). The area, generally referred to as Hemisfair, has undergone major transformations that have required archaeological monitoring and/or testing. All of the resulting previously recorded 33 sites are historic and include 21 extant buildings and segments of the *Acequia Madre de Valero* (41BX8). This section summarizes the scope of several archaeological projects that resulted in recording the archaeological sites within this historic district (Figure 2-1 and Table 2-1; THC 2018). Additional site information, including specific location, description, and references, is provided in Appendix A.

The first archaeological project was prompted by the 1966 site development for the 1968 World's Fair. Hemisfair Park opened in 1968 as the official site of the World's Fair, and monies related to this event contributed to the construction of several notable buildings, including the Institute of Texan Cultures, the Tower of Americas, and the Henry B.

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Figure 2-1. Previously recorded archaeological sites within the Hemisfair Historic District.

Table 2-1. Previously Recorded Archaeological Sites within the Vicinity of the Project Area*

Site	Site Name	Type**
41BX8	Acequia Madre de Valero	Historic RTHL and HAER
41BX572	Wietzel House	Historic SAL
41BX573	Amaya House	Historic SAL
41BX574	OK Bar	Historic SAL
41BX575	Schultze Store	Historic RTHL and SAL
41BX576	Sweeney-Tynan House	Historic SAL
41BX577	Schultze House	Historic SAL
41BX578	Halff House	Historic RTHL and SAL
41BX579	Kusch House	Historic SAL
41BX580	Max Schultze House	Historic SAL
41BX581	Richter House	Historic SAL
41BX582	Tynan Dependency	Historic SAL
41BX583	Dugosh House	Historic SAL
41BX584	Beethoven Hall	Historic SAL
41BX585	Acosta-Halff House	Historic SAL
41BX586	Kampmann-Solomon Halff House	Historic SAL
41BX587	Eagar House	Historic SAL
41BX588	Hermann Carriage House	Historic SAL
41BX589	Smith House	Historic SAL
41BX590	Solis House	Replica was razed Dec 2014
41BX591	Pereida House	Historic RTHL and SAL
41BX592	Koehler House	Historic SAL
41BX593	Espinosa House	Historic SAL
41BX1296	Features 6, 17, 22, 23, and 25	Historic
41BX1297	Features 3, 4, 5, 9, 10, 13, 14, 19, and 20	Historic
41BX1298	Features 1, 2, 11, 15, 16, 18, and 24	Historic
41BX1299	Features 7 and 12	Historic
41BX1300	Features 8 and 21	Historic
41BX2026	Feature 6	Historic
41BX2068	Trash Midden	Historic
41BX2123	Feature 4	Historic
41BX2124	Feature 7	Historic
41BX2183	Unnamed Trash Midden	Historic

*See Appendix A for specific site location, description, and references.

**HAER: Historic American Engineering Record; RTHL: Recorded Texas Historic Landmark;

SAL: State Archaeological Landmark/State Antiquities Landmark

González Convention Center. As a result of site demolition, the top edge of a 15.2-m (50-ft.) segment of the acequia was exposed (Schuetz 1970:6). In an effort to fully expose and define the extent of this segment, Mardith Schuetz, curator of anthropology at the Witte Museum, directed the excavation in December 1966. Schuetz (1970) and her team of volunteers excavated a 28.9-m (95-ft.) segment of the acequia and recovered an assortment of nineteenth- and early twentieth-century artifacts. A segment of the *Acequia Madre de Valero* was uncovered, restored, and filled with water to portray one of San Antonio's historical features in the Spanish Pavilion at HemisFair (Fox 1985; Hemisfair Park Area Redevelopment Corporation 2017; Schuetz 1970:1-13).

During March and April 1983, in response to a request by the COSA, CAR (Cox and Fox 1983) conducted archival research and a pedestrian survey of extant historic properties within the proposed Hemisfair Plaza development. Twenty-four structures were studied and evaluated. Of these, 22 were assigned trinomial designations (Cox and Fox 1983:6-14). The Wietzel House, Amaya House, and OK Bar sites were clustered north of and within 60.9 m (200 ft.) of the Tower of the Americas. The other sites were all located within the southwest quadrant of the Hemisfair Park.

In 1997, the CAR conducted archaeological investigations ahead of infrastructure improvements related to the Henry B. González Convention Center Expansion (Tennis and Cox 1998:1-2). This was a three-part study that included archival research related to site ownership and land-use, machine excavation and monitoring of a portion of the sewer line right of way, and spot monitoring of additional trench excavations. The study area was in the northeast quadrant of the Hemisfair property, within which five archeological sites were recorded. One of the sites, 41BX1298, included remnants of an acequia.

In 2013, the Henry B. González Convention Center was once again slated for expansion. RKEI conducted archaeological investigations of the area between April 2013 and September 2014 (Murray et al. 2015). Although thirteen new sites were located and recorded, only one, a historic trash midden, was within the Hemisfair Historic District.

In 2014, Prewitt and Associates (Fields et al. 2015) conducted archaeological monitoring and testing in the Yanaguana Gardens project area. Of major concern to this project was the probable alignment of the *Acequia Madre de Valero* (41BX8), as it crossed the project's APE between Goliad Street and César Chávez Boulevard. Mechanical probing of the probable alignment successfully located the acequia in two locations. The course of the acequia was marked to avoid construction impacts. A historic trash pit was also uncovered and recorded (Fields et al. 2015:39). In January 2015, the CAR assumed responsibility for the Yanaguana Gardens archeological project, including monitoring of work around the Historic Homes and infrastructure improvements along the Internal Streets. This work continued through February 2017. As a result of this archaeological project, another segment of the *Acequia Madre de Valero* was exposed across Goliad Street, and two new sites were recorded (Zapata et al. 2018:1-4).

Between November 2016 and January 2017, RKEI conducted Ground Penetrating Radar (GPR) studies of the project area followed by the excavation of pre-selected backhoe trenches. This work was conducted in conjunction with the COSA's Convention Center Expansion project and the installation of new gas lines. RKEI produced a two-volume report on the work (Nichols et al. 2017; Tomka et al. 2017). These investigations documented the extant buried remnants of the *Acequia Madre de Valero*, both stone-lined portions, and potentially earlier earthen-lined portions. RKEI mapped in elevations of extant sections of the acequia and monitored the installation of geo-fabric and sand as clear visual markers for any subsequent investigations. RKEI also recommended avoidance and mitigation plans for the protection of the feature(s).

In June 2017, Pape-Dawson Engineers (Anderson and Sullivan 2017) conducted an archaeological survey of a four-acre area at the northwest quadrant of Hemisfair Park. Of nine excavated backhoe trenches, two were positive. Artifacts recovered consisted of late nineteenth- and early twentieth-century artifacts, including cut nails, wire nails, handmade- and machine-made brick, ironstone, stoneware, and assorted bottle glass. This was recorded as an archaeological site, which, based on archival research, may relate to a residence at 113 South Street.

Chapter 3: Field and Laboratory Methods

Field Methods

The Principal Investigator oversaw all tasks, and the Project Archaeologist conducted and led the fieldwork. Archaeologists corresponded with the contractors to ensure a monitor was always on site when needed. In the field, archaeologists used a standard daily monitoring form to document the day's activities, e.g. the entity performing the work, the location of the work, and the trench dimensions and depth. The monitoring archaeologist also created daily sketch maps in a field notebook.

The monitor photographed all stages of the acequia preservation process, documenting the project's progress. Archaeologists collected diagnostic artifacts, e.g. complete glass bottles, identifiable metal objects, and decorated ceramics, from the acequia's fill and the project area to identify the temporal range of the closing of the acequia and to sample the historic component in the project area. The Project Archaeologist transported all collected material, recorded with associated provenience information, to the CAR laboratory for processing, analysis, and curation pursuant to requirements in the permit. A lab-based Illustrator (GIS) supported the field monitor by downloading and managing GPS data in an ArcGIS project file, which served as the database for all maps.

Laboratory/Curation Methods

The analysis and organization of records, artifacts, and daily logs was ongoing during the project. 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, and some forms were placed in plastic page protectors to prevent accidental smearing. A CAR laboratory technician washed, air-dried, and stored all collected project artifacts in 4-mil zip-lock, archival-quality bags. All materials that required extra support were double-bagged, and acid-free labels were placed in all artifact bags.

Artifacts requiring a label, in accordance to the curation labeling standards, received a laser-printer generated label that contained provenience information and a corresponding lot number generated from the CAR cataloging system. For final curation, these artifacts were separated by class and stored in acid-free boxes labeled with standard tags. All field notes, forms, photographs, and drawings were placed in labeled archival folders. Digital photographs were printed on acid-free paper. All recovered artifacts and project-related materials, including the final report, were permanently stored at the CAR's repository facility.

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Chapter 4: Results of the Fieldwork

CAR archaeologists monitored the mechanical excavation of a storm sewer vault and the preservation work on the previously uncovered 40-m (131.23-ft.) segment of the *Acequia Madre de Valero* (41BX8; see Nichols et al. 2017). Vault excavations took place intermittently from September 1-12, 2017, and the acequia preservation work ran from August 31 through September 19, 2017.

Vault Excavation

The vault was excavated as a part of the new storm drainage system on the northern side of the historic Halff House (41BX578; Figures 4-1 and 4-2).

The vault required a 3.1-x-3.1 m (10-x-10 ft.) trench box with a termination depth of 4.6 m (15 ft.) below the surface. Approximately 1.5 m (5 ft.) below the surface, the construction crew uncovered a large concrete and rebar structure running east to west through the middle of the vault (Figure 4-3). This structure, filling over half of the vault box, appears

to be remnants of the west wing of the Henry B. González Convention Center and/or associated structures. The water table was exposed on the southern half of the excavation at approximately 3.7 m (12 ft.) below the surface, and sterile soil was throughout the trench at 3.1 m (10 ft.) below the surface (Figure 4-4). No cultural material or features were uncovered during the vault excavation.

Acequia Madre de Valero (41BX8) Preservation

As noted in Chapter 2, results from work on the *Acequia Madre de Valero* (Nichols et al. 2017) led Tomka et al. (2017) to present a mitigation and preservation plan for the uncovered 40-m (131.23-ft.) segment of the acequia. The plan consisted of the introduction of several inches of sand covered with landscape fabric on top of the feature. This buffer would be topped with perforated steel plating. The sluice gate and associated elements of the acequia would be



Figure 4-1. Vault location and excavation, facing south.



Figure 4-2. Location of project area and APEs on satellite imagery.



Figure 4-3. Vault excavation, note concrete and rebar.



Figure 4-4. Vault excavation at termination depth.

encased in steel plates, along the top and the sides. Trenches would be excavated along the outer perimeters to place the steel approximately 0.3 m (1 ft.) from the feature (Tomka et al. 2017:Appendix D).

The plan proposed by Tomka et al. (2017) was altered as the current project commenced. The northern 9.1-m (30-ft.) section of the acequia was encased with perforated metal plates on three sides. This was to mitigate the proposed tri-centennial celebration stage to be constructed over the feature. The southernmost 7.6-m (25-ft.) section of the acequia adjacent to the sluice gate was also encased in steel plates. In order to better withstand heavy rains, contractors substituted pea gravel for the sand.

CAR monitored three stages of the acequia preservation consisting of: 1) mechanical trenching to relocate and expose the east and west walls, and mechanical excavation of trenches on the outside perimeters of the walls at the northernmost 9.1-m (30-ft.) and southernmost 7.6-m (24.93-ft.) segments of the acequia; 2) placement of landscape fabric and pea gravel over the top of the entire feature, and 3) installation of perforated steel plates in the perimeter trenches, placement of pea gravel in the trenches, and installation of perforated steel plates across the top of the 40-m (131.23-ft.) feature.

Acequia Wall Relocation

Excavations to uncover the acequia walls commenced at the feature's northernmost point, the location of a proposed amphitheater, and progressed towards the south stopping approximately 1.5 m (5 ft.) south of the sluice gate feature. Once the top of the walls were exposed, a maximum of 50 cm (19.69 in.) of sediment were removed. The goal was to locate the walls, not to expose the vertical extent of the wall. Because Nichols et al. (2017) covered the walls with a layer of sand followed by construction fill, the relocation was expected to be relatively straightforward. As work progressed, it became apparent that large sections of the feature did not include the sand layer. As the excavator bucket made contact with hard surfaces, CAR archaeologists determined if they were part of the acequia wall or construction fill, i.e., rock or concrete.

The first acequia wall stone, from the west wall, was uncovered approximately 1.5 m (5 ft.) below the grade (Figure 4-5). As excavation continued to the south, the acequia walls were located closer to the current surface (Figure 4-6). The Project Archaeologist, in consultation with the City Archaeologist, determined which stones were associated with the acequia construction and should remain in place.



Figure 4-5. First acequia wall stone uncovered (west wall), facing south.



Figure 4-6. Acequia wall exposure (both east and west wall), excavation continuing southward.

The excavator uncovered the sluice gate feature at the southern end of this segment of the *Acequia Madre de Valero* (Figure 4-7). The notched terminal stones were located 1 m (3.28 ft.) apart. The west wall stone measured 85 cm (33.46 in.) in length (north to south) and 87 cm (34.25 in.) in width (east to west), while the east wall stone measured 50 cm (19.69 in.) in length (north to south) and 55 cm (21.65 in.) in width (east to west). Tomka et al. (2017:48-49) measured a channel width of 2.6 m (8.53 ft.) at the sluice gate, as well as the presence of two notched, flat, rectangular stones in the bottom of the ditch. Because the intent of the acequia mitigation was to expose the top of the walls, CAR did not attempt to locate the flat stones.

Tomka et al. (2017:42) noted the segment of the *Acequia Madre de Valero* in the project area did not continue south past the sluice gate feature. CAR archaeologists monitored an additional 1.5 m (5 ft.) of trench south of the sluice gate to confirm this finding, and no acequia walls were observed in this area.

After the construction crew fully exposed the acequia walls, a ditch witch was used to excavate 0.6-m (2-ft.) wide, 1.2-m (4-ft.) deep, and 9.1-m (30-ft.) long trenches on the outside perimeters of the walls at the northernmost and southernmost

ends (each 7.6-m; 24.93 ft.) of the feature. This was completed in preparation of the placement of the perforated steel plates.

The acequia measured approximately 2.4 m (8 ft.) across from east to west with 0.61-m (2-ft.) wide walls. The acequia is set over a dark gray/brown clay layer. Historic cultural material (i.e. trash fill at the time of the acequia's closure) was noted within the acequia walls (e.g. medicinal glass bottles, earthenware sherds, faunal bone, metal, etc.). CAR archaeologists collected a sample of complete glass vessels, diagnostic ceramics sherds, and metal objects to assess the temporal range of the fill deposit. The artifacts are discussed later in the chapter. Figure 4-8 depicts the fully exposed stretch of the acequia. Figure 4-9 shows the acequia in relation to the vault excavation and the Convention Center.

Landscape Fabric and Pea Gravel

From September 11-13, 2017, a CAR archaeologist monitored the construction crew's installation of landscape fabric and pea gravel over the acequia. The entire feature was covered with fabric followed by pea gravel to a depth of 10 cm (3.94 in.) over the highest points of the walls (Figures 4-10 and 4-11). Pea gravel was poured over the points of highest points first. The remainder of the walls were subsequently covered.



Figure 4-7. Sluice gate feature, facing north.

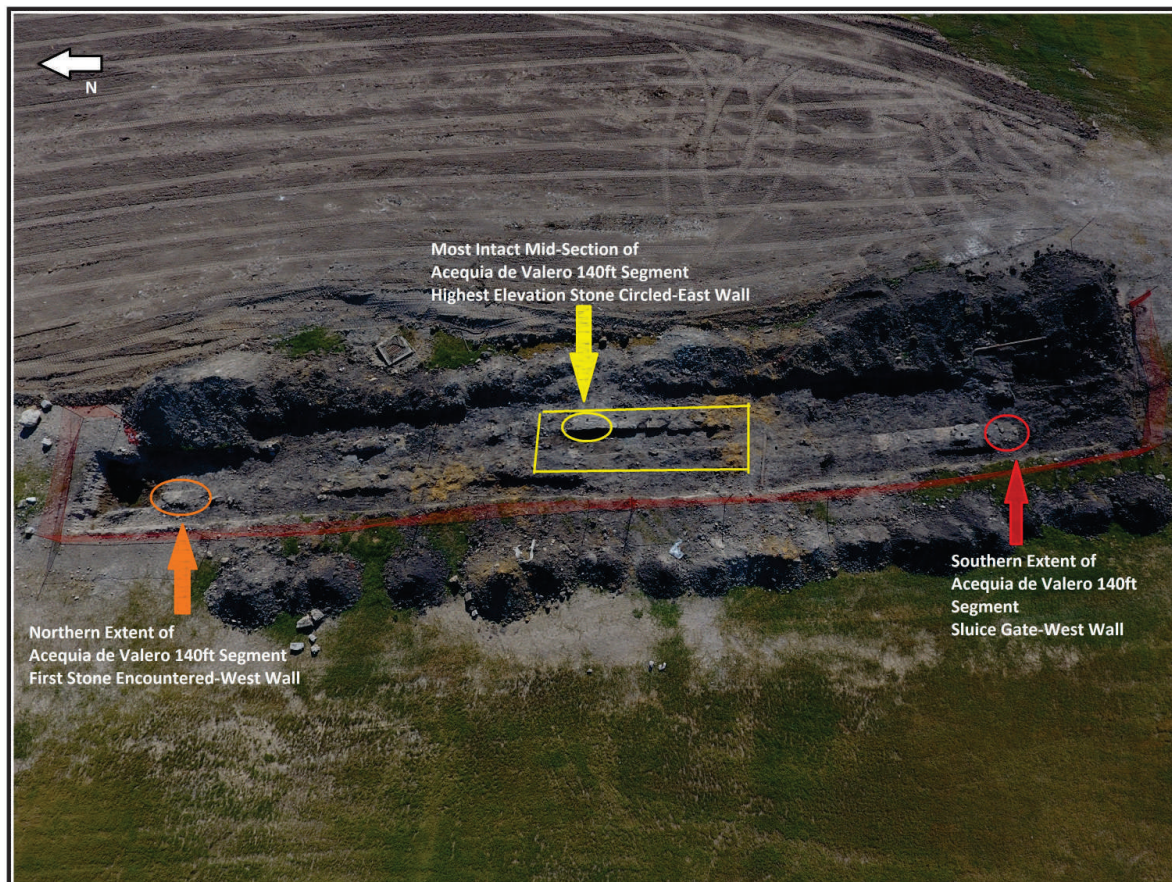


Figure 4-8. Aerial photograph of the uncovered acequia segment in the project area, facing east (photo courtesy of Guido Brothers Construction Company).

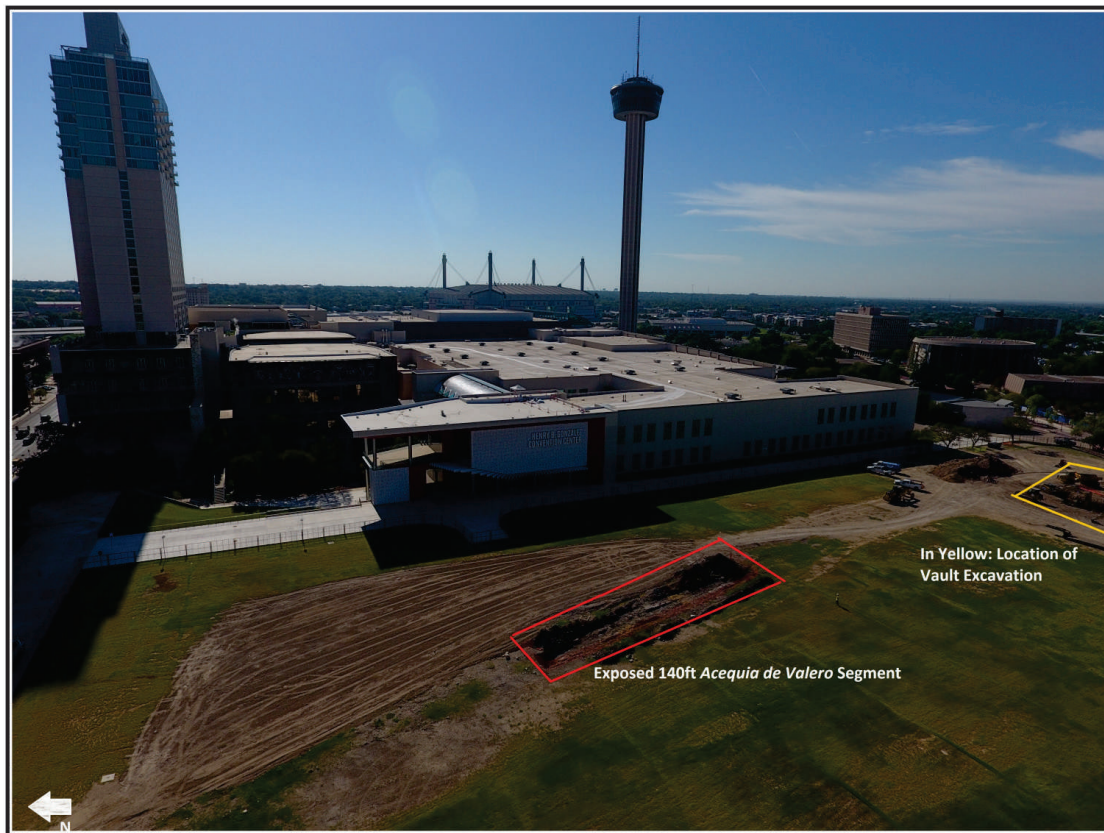


Figure 4-9. Exposed acequia in relation to the Convention Center and vault excavation, facing east (photo courtesy of Guido Brothers Construction Company).



Figure 4-10. Black felt landscape fabric covering the acequia, facing south.

Steel Plate Placement

The last step in the preservation protocol was the placement of perforated steel plates in the trenches at the northern and southern extent of the acequia and across the top of the entire length (40 m; 131.23 ft.) of the feature. The crew installed the 3.1-x-3.7 m (10-x-12 ft.) steel plates along the outer walls in

the northern and southern ends of the feature maintaining a 3.1-m (10-ft.) distance across the acequia and carefully controlling elevations (Figure 4-12). Once the outer wall plates were set, the crew filled the trenches with gravel, leveled out the top layer of gravel, and placed the steel plates along the top (Figure 4-13). Thirty-two plates were used to cover the top of the 40-m (131.23-ft.) long acequia segment (Figure 4-14).



Figure 4-11. Pea gravel covering mid-section, facing north.



Figure 4-12. Guido Brother's crew measuring distance between outer wall steel plates on northern end, facing north.



Figure 4-13. Northern end encased with gravel and three sides of plates, facing northwest.



Figure 4-14. The 40-m (131.23-ft.) acequia segment covered, facing southeast.

Recovered Artifacts

To determine the temporal range of the *Acequia Madre de Valero* at the end of its use, diagnostic artifacts (n=22) were collected from the fill within its walls (Table 4-1).

A date range of 1880-1920 can be inferred from three of the eleven recovered glass bottles (Figures 4-15 and 4-16). A complete, clear bottle embossed with “Allen L. Swearingen Druggist. SAN ANTONIO, TEX.” dates to 1901-1902 (Fox et al. 1997:52), a complete clear bottle embossed with “Long’s CALIFORNIA PRESERVES” dates from 1896-1930 (Heilen and Gray 2010:95), and an emerald green caper bottle embossed with “619” dates from 1880-1920 (Lindsey 2017). Recovered ceramics diagnostic of the middle of the nineteenth century to the early years of the twentieth century

include a fragment of Palissy Ware Polychrome (Knapstein 2017), a foot ring from a Burgess and Campbell plate (Barber 1904), and a fragment of hand-painted whiteware (Potter and Fox 2006; Figure 4-17).

Faunal bone (224 gm; 7.9 oz.) was also recovered from the acequia fill, and a Clear Fork unifacial tool was collected from the surface in the northwestern portion of the project area. This area, previously the location of the western wing of the Henry B. González Convention Center, has been heavily disturbed. The tool was not associated with the acequia fill and was out of its original context (Figure 4-18). Clear Fork tools have been associated with sites dating from the Paleoindian Period to the Middle Archaic Period (Turner and Hester 1985). No other prehistoric artifacts were noted in the project area.

Table 4-1. Artifacts Collected from within the Acequia

Type	Ceramics	Glass	Metal	Toys
Hand Painted	2			
Spongeware	1			
Palissy Ware	1			
Stoneware	1			
Ironstone	2			
Porcelain	1			
Medicinal		6		
Food/Drink		4		
Perfume		1		
Stopper		1		
Mule Shoe			1	
Porcelain Doll Head				1
Total	8	12	1	1



Figure 4-15. Allen P. Swearington Druggist bottle (left) and Long's California Preserves bottle (right).



Figure 4-16. Caper bottle found in acequia fill.



Figure 4-17. Palissy Wear, Ironstone, and hand-painted ceramics (left to right).



Figure 4-18. Clear Fork gouge unifacial tool recovered from the northwest portion of the project area.

Chapter 5: Conclusions and Recommendations

The CAR, under contract with the COSA, monitored all below ground excavations conducted from August 31 to September 19, 2017, at the proposed Civic Park in downtown San Antonio, Bexar County, Texas. A 40-m (131.23-ft.) segment of the *Acequia Madre de Valero* (41BX8) was previously exposed in the project area (Nichols et al. 2017). Because the property is owned by the COSA, compliance with the Antiquities Code of Texas was required. The work was conducted under Texas Antiquities Permit No. 8141, and it consisted of archaeological monitoring of mechanical excavations for an underground vault and the exposure of and mitigation efforts on the acequia.

No features were observed during the vault excavations. Diagnostic artifacts were collected from within the acequia to determine when it was filled. The artifacts, manufactured from the late nineteenth century to the early twentieth century, suggest that this segment of the acequia was no longer in use as an irrigation ditch after 1880. Because the acequia (41BX8) was previously determined as eligible to the National Register of Historic Places, CAR recommends that future excavations in the property area, specifically in the area near the acequia, be subject to archaeological monitoring and archaeological sites should be avoided and protected from construction impacts.

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Appendix A:
Previously Recorded Archaeological
Sites within the Hemisfair Historic District

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Table A-1. Previously Recorded Archaeological Sites within the Hemisfair Historic District

Site	Site Name	Type*	Location	Description	Source
41BX8	<i>Acequia Madre de Valero</i>	Historic RTHL and HAER	S-SW alignment along west end of park, between Market St. and César Chávez Blvd.	HemisFair Pre-construction: 1966 excavation of a partially visible section of an early 18th-century irrigation channel, located south of Goliad St. and west of Water St. Additional segments of the acequia have been identified within the northwest and southwest quadrants of Hemisfair.	Schuetz 1970; see also Fields et al. 2015; Fox 1985; Nichols et al. 2017; Tomka et al. 2017; Zapata et al. 2018
41BX572	Wietzel House	Historic SAL	Relocated to 319 Goliad St. in 2002	Hemisfair Plaza Development: Cottage-type house, caliche block construction and stuccoed; constructed sometime after 1855 for Rochius Wozgsey.	Cox and Fox 1983; see also Dase 2013
41BX573	Amaya House	Historic SAL	Relocated to 423 Goliad St. in 2002, then two blocks east in 2017 (next to the Women's Pavilion)	Hemisfair Plaza Development: Cottage-type house, caliche block construction and stuccoed; constructed ca.1855-1873.	Cox and Fox 1983; see also Dase 2013; Fields et al. 2015
41BX574	OK Bar	Historic SAL	Relocated to 508 S. Alamo St. in 2002	Hemisfair Plaza Development: Victorian style construction of red brick; constructed ca.1901.	Cox and Fox 1983; see also Dase 2013
41BX575	Schultze Store	Historic RTHL and SAL	Bldg. 300 Hemisfair Park	Hemisfair Plaza Development: Store and warehouse constructed of limestone with iron columns, produced by Alamo Iron Works; constructed 1891.	Cox and Fox 1983; see also Dase 2013
41BX576	Sweeney-Tynan House	Historic SAL	Bldg. 301 Hemisfair Park	Hemisfair Plaza Development: Settlement-salt box house; constructed ca. 1860.	Cox and Fox 1983; see also Dase 2013
41BX577	Schultze House	Historic SAL	Bldg. 307 Hemisfair Park	Hemisfair Plaza Development: Reconstruction of the original Herman Schultze House; constructed ca.1967.	Cox and Fox 1983; see also Dase 2013
41BX578	Halff House	Historic RTHL and SAL	139 Goliad St., Bldg. 308 Hemisfair Park	Hemisfair Plaza Development: Two-story Richardsonian Romanesque house designed by Alfred Giles; constructed 1893.	Cox and Fox 1983; see also Dase 2013
41BX579	Kusch House	Historic SAL	301 Goliad St., Bldg. 336 Hemisfair Park	Hemisfair Plaza Development: Gothic revival caliche block house; constructed 1885.	Cox and Fox 1983; see also Dase 2013
41BX580	Max Schultze House	Historic SAL	331 Goliad St., Bldg. 514 Hemisfair Park	Hemisfair Plaza Development: Gothic revival house with Victorian porch; constructed ca.1893.	Cox and Fox 1983; see also Dase 2013
41BX581	Richter House	Historic SAL	401 Goliad St., Bldg. 530 Hemisfair Park	Hemisfair Plaza Development: Settlement-salt box house; constructed ca.1859-1868.	Cox and Fox 1983; see also Dase 2013

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Table A-1. Previously Recorded Archaeological Sites within the Hemisfair Historic District, continued...

Site	Site Name	Type*	Location	Description	Source
41BX582	Tynan Dependency	Historic SAL	405 Goliad St., Bldg. 531 Hemisfair Park	Hemisfair Plaza Development: Located at rear of Richter House; may have served as a kitchen; constructed ca.1857.	Cox and Fox 1983; see also Dase 2013
41BX583	Dugosh House	Historic SAL	414 Matagorda, Bldg. 522 Hemisfair Park	Hemisfair Plaza Development: Small settlement-salt box house; constructed ca.1859-68.	Cox and Fox 1983; see also Dase 2013
41BX584	Beethoven Hall	Historic SAL	418 S. Alamo St., Bldg. 225 Hemisfair Park	Hemisfair Plaza Development: Original building was constructed in 1895, but it burned down in 1913 and was immediately rebuilt; façade was altered when South Alamo Street was widened in 1929.	Cox and Fox 1983; see also Dase 2013
41BX585	Acosta-Halff House	Historic SAL	138 Goliad St., Bldg. 234 Hemisfair Park	Hemisfair Plaza Development: Victorian, two-story brick house; constructed ca.1892.	Cox and Fox 1983; see also Dase 2013
41BX586	Kampmann-Solomon Halff House	Historic SAL	142 Goliad St., Bldg. 235 Hemisfair Park	Hemisfair Plaza Development: Victorian, two-story house; constructed after 1877.	Cox and Fox 1983; see also Dase 2013
41BX587	Eagar House	Historic SAL	434 S. Alamo St., Bldg. 217 Hemisfair Park	Hemisfair Plaza Development: Settlement style house; constructed by J. H. Kampmann in 1869.	Cox and Fox 1983; see also Dase 2013
41BX588	Hermann Carriage House	Historic SAL	Bldg. 220 Hemisfair Park	Hemisfair Plaza Development: Victorian wooden carriage house; constructed ca. 1917.	Cox and Fox 1983; see also Dase 2013
41BX589	Smith House	Historic SAL	503 Water St., Bldg. 251 Hemisfair Park	Hemisfair Plaza Development: House constructed of caliche block (sillar), ca.1857.	Cox and Fox 1983; see also Dase 2013
41BX590	Solis House	Replica was razed Dec 2014	Relocated to Water St., in front of the Smith House ca.1966 Bldg. 252 Hemisfair Park	Hemisfair Plaza Development: While attempting to relocate the house in December 2014, the house was found to be constructed of cement block, not caliche block- obviously a replica constructed ca.1966. House was demolished.	Cox and Fox 1983; see also Dase 2013; Fields et al. 2015
41BX591	Pereida House	Historic RTHL and SAL	502 South Alamo St., Bldg. 204 Hemisfair Park	Hemisfair Plaza Development: Victorian-Italian house is very unique to this area, "rammed earth" construction, by Wahlenberger and Bechman in 1883.	Cox and Fox 1983; see also Dase 2013; Zapata et al. 2018
41BX592	Koehler House	Historic SAL	527 Water St., Bldg. 246 Hemisfair Park	Hemisfair Plaza Development: Victorian house constructed of brick; constructed 1890.	Cox and Fox 1983; see also Dase 2013; Zapata et al. 2018
41BX593	Espinosa House	Historic SAL	533 Water St., Bldg. 247 Hemisfair Park	Hemisfair Plaza Development: Victorian house constructed of brick; constructed ca. 1883.	Cox and Fox 1983; see also Dase 2013; Zapata et al. 2018

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Table A-1. Previously Recorded Archaeological Sites within the Hemisfair Historic District, continued....

Site	Site Name	Type*	Location	Description	Source
41BX1296	Features (F) 6, 17, 22, 23, and 25	Historic	New City Block 688	Convention Center Expansion I: F 6, F 17, and F 22 were limestone foundations; F 23 and F 25 were trash deposits.	Tennis and Cox 1998; see also Johnson and Cox 1995
41BX1297	Features 3, 4, 5, 9, 10, 13, 14, 19, and 20	Historic	New City Block 692	Convention Center Expansion I: F 3 was a brick manhole; F 4, F 9, F 10, F 19, and F 20 were limestone foundations; F 5 was a well; F 13 was a brick-lined privy, and F 14 was a trash pit.	Tennis and Cox 1998; see also Johnson and Cox 1995
41BX1298	Features 1, 2, 11, 15, 16, 18, and 24	Historic	New City Block 171	Convention Center Expansion I: F 1 was a brick-lined privy; F 2 was artifact scatter; F 11 and F 16 were acequia remnants; F 15 was limestone foundation; F 18 was a wood-lined privy, and F 24 was a well.	Tennis and Cox 1998; see also Johnson and Cox 1995
41BX1299	Features 7 and 12	Historic	New City Block 905	Convention Center Expansion I: F 7 was artifact scatter, and F 12 was a limestone rubble foundation.	Tennis and Cox 1998; see also Johnson and Cox 1995
41BX1300	Features 8 and 21	Historic	316 South St.	Convention Center Expansion I: F 8 was a limestone foundation, and F 21 was a trash deposit.	Tennis and Cox 1998; see also Johnson and Cox 1995
41BX2026	Feature 6	Historic	Site is 200 m (656.17 ft.) SW of the Commerce St. and IH 37 intersection	Convention Center Expansion II: historic trash midden feature was discovered within the parcel boundaries of 426 North Ave.	Murray et al. 2015
41BX2068	Trash Midden	Historic	Off of the NE corner of S. Alamo St. and César Chávez Blvd.	Yanaguana Construction Monitoring: Trash pit with numerous examples of household trash, such as faunal bone, glass bottles, white ware, stoneware ginger beer bottles, and cut nails.	Fields et al. 2015
41BX2123	Feature 4	Historic	525 Water St. (Hemisfair Way)	Internal Streets: F 4 was a partially exposed, 19th-century house foundation composed of large limestone blocks, possibly built for the Zizik Family after 1866.	Zapata et al. 2018
41BX2124	Feature 7	Historic	505 Water St. (Hemisfair Way)	Internal Streets: F 7 was a partially exposed, 19th-century house foundation consisting of large limestone blocks, possibly built for the Gimbel Family.	Zapata et al. 2018
41BX2183	Unnamed Trash Midden	Historic	Located approx. 51 m (168 ft.) east of S. Alamo St., within Hemisfair Park	NWC Hotel Feasibility: household artifacts observed in two positive backhoe trenches with artifacts dating to the 19th to 20th centuries; may be associated with residential occupancy at 113 South St.	Anderson and Sullivan 2017

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