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Cultural Resources Investigations for the Proposed Espada Road Widening Project City of San Antonio Bexar County, Texas

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CULTURAL RESOURCES INVESTIGATIONS FOR THE PROPOSED ESPADA ROAD WIDENING PROJECT CITY OF SAN ANTONIO, BEXAR COUNTY, TEXAS

TEXAS ANTIQUITIES PERMIT NO. 6751

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Abstract

Between February 2014 and October 2015, Atkins North America, Inc. (Atkins), conducted cultural resources investigations for the City of San Antonio's (COSA's) proposed Espada Road Widening Project. The project area extends from Southeast Interstate Loop 410 to approximately 137 meters (450 feet) west of the intersection of East Ashley Road and Espada Road, a distance of approximately 1.6 kilometers (1.0 mile), comprising 7.99 acres (3.2 hectares). The project area was subjected to an intensive pedestrian survey, which was supplemented by mechanical trenching. In total, 27 shovel tests and 9 backhoe trenches were placed in locations across the Area of Potential Effects (APE), with particular emphasis on areas potentially containing remnants of distribution laterals extending from the Espada Acequia. Although the locations of a few of the acequia laterals were visible from the surface, most have been backfilled and affected by modern disturbances. Mechanical trenching was employed in an attempt to catch the acequia laterals in cross-section, but no such features were observed. No new archaeological resources were identified during the survey.

An archival review hypothesized the presence of three acequia laterals extending into the parcel immediately south of Rilling Road. Because the property currently houses a construction yard and no excavation was possible, the parcel could not be examined at the time of the surveys. Therefore, Atkins recommends that any construction within that section of the APE be monitored by a qualified archaeologist. Atkins also recommends monitoring the property at the northern end of Espada Road, where an outfall will be located. Due to the APE's proximity to existing archaeological site 41BX260 at that location, excavation within that portion of the APE should be monitored as well.

No cultural resources were located that appear to be eligible or have an unknown eligibility for listing in the National Register of Historic Places (NRHP) or for designation as a State Antiquities Landmark (SAL). With the exception of the properties listed above, which will require monitoring, it is the opinion of the Principal Investigator that no additional investigations are necessary in association with the proposed project. Atkins recommends cultural resources clearance. If evidence of presently undiscovered cultural remains is encountered during the construction of the proposed project, it is recommended that the discovery be evaluated by a qualified archaeologist who can provide recommendations on how to proceed in accordance with federal and state regulations. Project photographs and documentation will be curated at the Center for Archaeological Research at the University of Texas at San Antonio. With permission from the Texas Historical Commission (THC), non-site historic/modern material collected during the project will be photographed, documented, and discarded.

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Management Summary

Atkins was contracted by the City of San Antonio (COSA) to conduct cultural resources investigations for COSA's proposed Espada Road Widening Project. The project area extends from Southeast Interstate Loop 410 (Loop 410) to approximately 137 meters (450 feet) west of the intersection of East Ashley Road and Espada Road, a distance of approximately 1.6 kilometers (1.0 mile), comprising 7.99 acres (3.2 hectares). In compliance with the Antiquities Code of Texas, a Texas Antiquities Permit was obtained from the Texas Historical Commission (THC), and the work was conducted under Permit No. 6751. The project will also require acquisition of a Section 404 permit with preconstruction notification to the United States Army Corps of Engineers (USACE), Fort Worth District, thus necessitating compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

Prior to the initiation of archaeological fieldwork, a background review was performed by Melanie Nichols for the purpose of locating any previously recorded cultural resources present within the project review. Additionally, a historic-age non-archaeological resources survey was conducted by Atkins historian Brandy Harris, which was used to supplement the archaeological review and provide guidance prior to the cultural resources fieldwork.

Principal Investigator (PI) Nesta Anderson initiated archaeological investigations in the spring of 2014, which were overseen by Project Archaeologist (PA) Melanie Nichols. Based on the availability of right of entry, the intensive pedestrian survey was performed in two site visits: on February 14, 2014, and from March 6 to 7, 2014. The work was performed by PA Melanie Nichols and field technician Elizabeth Sefton over a combined period of six person-days. Between April 2 and 3, 2014, five backhoe trenches were excavated in areas identified by the survey; these occupied four person-days. Following the granting of access to other land parcels, intensive pedestrian survey and backhoe trenching was resumed by the new PI, Mike Smith, and field technician Michele Masiongale from October 1 to 2, 2015, for a total of four person-days in the field. For both trenching efforts, the mechanical excavations were accomplished with personnel and equipment provided by Jerdon Enterprise, L.P.

Michael Smith authored the report, with contributions to the background review and historic context by Melanie Nichols, Brandy Harris, and Kelley Russell. Report formatting was performed by Jenifer Sullivan and Bob Bryant, report figures were drafted by Ryan Fennell, and Maggie McClain provided quality control. Project Manager Juliana Morelli coordinated with COSA to communicate project details and field questions.

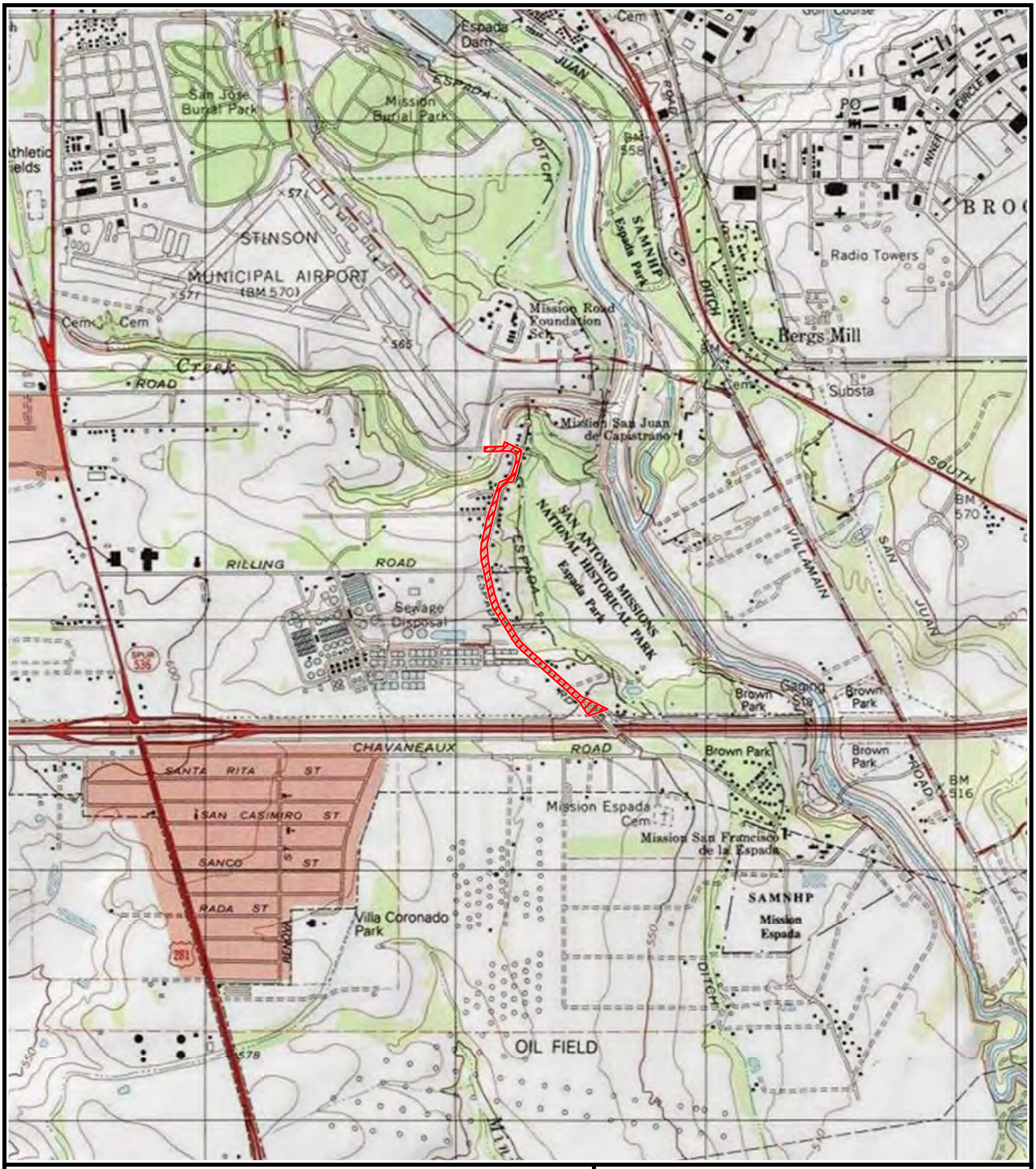
I. INTRODUCTION

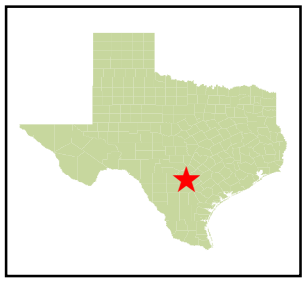
Atkins North America, Inc. (Atkins), was contracted by the City of San Antonio (COSA) to conduct cultural resources investigations for COSA's proposed Espada Road Widening Project. The project area lies immediately north of Southeast Interstate Loop 410 (Loop 410) in southern San Antonio, Bexar County, Texas. The investigations comprised a program of intensive pedestrian survey and mechanical trenching, which took place in spring 2014 and fall 2015.

In compliance with the Antiquities Code of Texas, work was conducted under Texas Antiquities Permit No. 6751, issued by the Texas Historical Commission (THC). The project is located partially within the boundaries of Mission Parkway Historic District and Espada Aqueduct and Acequia Historic District, both of which are listed in the National Register of Historic Places (NRHP). The project will also require acquisition of a Section 404 permit with preconstruction notification to the United States Army Corps of Engineers (USACE), Fort Worth District. These conditions necessitate compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

This project was originally planned as part of the Mission Trails Enhancement Project, which was a joint effort of COSA, Bexar County, the San Antonio River Authority (SARA), the San Antonio Water System (SAWS), the National Park Service (NPS), and the Texas Department of Transportation (TxDOT), and was under the Federal Highway Administration's (FHWA) approval authority. After the delegation of federal review for National Environmental Policy Act (NEPA) documents from FHWA to TxDOT and in subsequent conversations between COSA and TxDOT, it was determined that there is no longer a federal nexus for the COSA 2012 Bond Program Espada Road Project that would require TxDOT review. However, because a portion of the locally funded project will tie into TxDOT right-of-way (ROW) at Loop 410, TxDOT will require coordination only for the portion of the project within TxDOT ROW. Coordination for work within TxDOT ROW at Loop 410 has been coordinated separately from this document through COSA Transportation & Capital Improvements (TCI) and the Office of Historic Preservation (OHP).

The section of Espada Road to be widened extends from Loop 410 to approximately 137 meters (m) (450 feet [ft]) west of the intersection of East Ashley Road and Espada Road, a distance of approximately 1.6 km (1.0 mi), comprising 7.99 acres (ac) (3.2 hectares [ha]) (Figure 1). This area is defined as the Area of Potential Effects (APE). The proposed project will include roadway reconstruction and widening, addition of bike lanes, and drainage improvements. Roadway improvements would include widening the existing two-lane facility to between 3.7-m-wide and 4.6-m-wide (12 ft to 15 ft) lanes with stamped concrete/pavers as enhancement ribbons. Bike/walk lanes (2.7-m-wide [9 ft]) will be constructed from Loop 410 north to the intersection with Rilling Road, then transitioning into 4.6-m-wide (15 ft) multi-use lanes for a maximum project width of 22.3 m (75 ft). Drainage improvements will include upgrades to an existing culvert and new





Project Location

0 250 500
Meters

0 1,000 2,000
Feet

Figure 1
Project Location Map

Southton Quadrangle
Bexar County, Texas

Prepared By: 19910	Scale: 1" = 2,000'
Job No.: 100029139	Date: 8 Dec 2015

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construction of an outfall along East Ashley Road, as well as associated piping and grading. The project will require approximately 3 ac (1.2 ha) of new ROW and is scheduled for construction in 2016.

The following investigations were designed to: (1) locate and record all archaeological resources present within the project area; (2) preliminarily assess their eligibility status for listing in the NRHP and for designation as State Antiquities Landmarks (SALs); and (3) provide site-specific recommendations for all NRHP- or SAL-eligible sites, and for sites with an unknown eligibility status.

II. NATURAL SETTING

PROJECT SETTING

The project area is located immediately north of Loop 410 in central southern San Antonio, Bexar County, Texas. The local landscape consists of gently sloping upland terrain located between 0.35 km (0.2 mi) and 0.6 km (0.37 mi) west of the San Antonio River. Once primarily used for agricultural purposes, the area is being increasingly urbanized. Numerous small homes with graded yards, manicured lawns, and built driveways are located in the northern portion of the APE and along its southern margin. A large industrial yard occupies the central section of the APE west of Espada Road. The areas of previous farmland that have been relatively undisturbed are now overgrown with weeds, mesquite, and other scrub brush.

GEOLOGY AND SOILS

The project area's underlying geology is mapped as Pleistocene-age fluviatile terrace deposits (BEG 1974). These are characterized as comprising gravel (predominantly limestone and chert), sand, silt, and clay.

The majority of the soil within the APE is mapped as belonging to the Patrick series, which represents upland soils occurring on Pleistocene-age terraces (U.S. Department of Agriculture, Soil Conservation Service [USDA, SCS] 1991:25–26). The typical profile shows an A horizon of 25.4 cm (10 in) of clay over a 30.5-cm-thick (12-cm) Bw horizon of clay; both contain rounded limestone and chert pebbles. These overlie a thick (roughly 250 cm [98 in]) stratum of very gravelly loamy sand, which includes calcium carbonate concretions (20 percent) and limestone and chert gravels (60 percent). Due to their age and the shallow nature of their upper horizons, these soils are unlikely to yield deeply buried cultural resources.

Lewisville soils are present in a small portion of the proposed APE near its southern margin (USDA, SCS 1991:25). This upland series of silty clay formed in ancient loamy and clayey calcareous sediments and also typically has a low chance of containing buried archaeological sites. The Frio series occupies the wide San Antonio River floodplain to the east of the project area, as well as a small section of the APE at its northern terminus along Ashley Road (USDA, SCS 1991:16). These formed in limy alluvial sediments and are located on nearly level floodplains of the San Antonio River. This soil type does have the potential for harboring buried cultural resources.

FLORA

The project area is situated near the border of the Blackland Prairies and South Texas Plains vegetational regions, as delineated by Hatch et al. (1990). Originally, little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii* var. *gerardii*), and indiangrass (*Sorghastrum nutans*) dominated the tall grasses of the Blackland Prairies (Hatch et al. 1990:12). These grasses also formed

the open grassland and savannah of the South Texas Plains' brushy chaparral grasslands. Along streams and other natural water sources, oak, pecan, and ash trees were common (Hatch et al.1990: 13). Although now surrounded by urban development, the project area would have most closely resembled the Mesquite-Live Oak-Bluewood Parks vegetation type (McMahan et al. 1984:14).

FAUNA

The project area lies near the junction of the Balconian and Tamaulipan biotic provinces, as described by Blair (1950). The vertebrate fauna of these provinces is represented by a mixture of species from the Austroriparian, Tamaulipan, Chihuahuan, Kansan, Balconian, and Texan biotic provinces. Although the project area is currently located within the limits of the City of San Antonio, at an earlier time it most likely would have consisted of upland woodland habitat. Characteristic faunal species likely to occur in this area may have included white-tailed deer (*Odocoileus virginianus*), Virginia opossum (*Didelphus virginiana*), ringtail (*Bassariscus astutus*), common raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and bird species such as the Carolina chickadee (*Poecile carolensis*), northern cardinal (*Cardinalis cardinalis*), scrub jay (*Aphelocoma coerulescens*), great horned owl (*Bubo virignianus pallescens*), and mourning dove (*Zenaida macroura*). Common reptile species may have included the green anole (*Anolis carolinensis*) and ground skink (*Scincella lateralis*).

III. CULTURAL SETTING

The project area is situated at the northern edge of the South Texas Plains Archeological Region (northern edge of the Balcones Escarpment) and at the southern edge of the Central Texas Archeological Region (Mercado-Allinger et al. 1996). The cultural developments in these regions are classified as Paleoindian, Archaic, Late Prehistoric, and Historic periods. The following prehistoric chronology is based on those of Hall et al. (1986) and Black (1989).

PALEOINDIAN PERIOD

In this region, the Paleoindian dates from about 11,000 to 6500 B.C. Social organization during this period probably consisted of highly mobile bands of hunter-gatherers operating within large territories. Subsistence data reflect a very wide-spectrum diet (Hall et al. 1986; Hester 1983). Although elsewhere in North America, the hunters of this period are known for hunting large herbivores—including extinct Pleistocene species such as the mammoth, mastodon, camel, and bison—the evidence for this is scarce in South Texas, and it was probably augmented by the utilization of wild plants and smaller animals. However, during investigations at Falcon Reservoir, an artifact was found in association with mammoth remains at the Evans site (Mercado-Allinger 1996).

Paleoindian sites are typically small campsites or kill sites on stream terraces (Mercado-Allinger 1996). A few Paleoindian sites have been excavated in South Texas, although sites from this period are particularly lacking. This is due in large part to the extent to which the landscape has been modified since the early Holocene, with alluvial systems burying sites and eroding many others (Black 1989). Most Paleoindian sites recorded are those that are currently exposed on the surface (Hall et al. 1982). The archaeological record indicates a marked diversification in subsistence patterns toward the end of the Paleolithic period that gave way to a complex chronological period known as the Archaic period.

ARCHAIC PERIOD

During the transition from Paleoindian to the Early Archaic, native inhabitants began hunting a variety of small animals, including deer and rabbit, as well as gathering edible roots, nuts, and fruits (Black 1989). Site types include campsites, lookout sites, quarry sites, and rock shelters. The Archaic period is divided into three sub-periods: Early Archaic (8000 to 6000 B.C.), Middle Archaic (6000 to 2500 B.C.), and Late Archaic (2500 B.C. to A.D. 800). As Early Archaic groups continued many of the lifeways of the preceding Paleoindian period, the early part of this period is sometimes referred to as Transitional Archaic.

The Early Archaic is poorly known in its earliest phases (Turner et al. 2011). The Early Archaic is characterized by small game hunting and geophyte gathering and the use of large rock middens for cooking. Middle Archaic sites are more varied in their settings, population density, and subsistence

strategies than those of the Early Archaic. They have been found in uplands, lowlands, and along inland tributaries. An apparent increase in population density is marked by a change in subsistence strategies, which is evident in the development of groundstone artifacts such as manos, matates, and tubular pipes. During this time, burned rock middens became a specialized site type (Black 1989). The subsistence strategy altered from small mammal hunting in the shrublands and prairies to hunting bison, which could support larger populations. The variety of projectile points that were distributed over large areas has prompted Prewitt (1981) to suggest that these peoples were organized in ranging bands that were able to cover and roam broad territories.

By the beginning of the Late Archaic period, a proliferation of projectile point types again occurred and the frequency of burned-rock middens appears to have decreased. Prewitt has suggested that proliferation of projectile points during the earliest phase of this subperiod may represent a return to the Early Archaic pattern of small, dispersed bands with wide-ranging territorial areas. The latter part of this period appears to be marked by an emphasis on the utilization of a wide variety of food resources, perhaps indicative of population or climatic stress at this time. Projectile points diagnostic of the early part of the Late Archaic include Bulverde and Pedernales types. Later in the period, Ensor, Frio, and Marcos point types became prominent. Cemeteries, especially associated with rockshelters, also become common in Central Texas during the Late Archaic.

LATE PREHISTORIC PERIOD

The Late Prehistoric period (A.D. 800–1600) is much shorter in duration than the Archaic period, and is divided into two phases based upon radiocarbon dates and changes in arrow types and subsistence pursuits. The Austin Phase dates to between A.D. 800 and 1300 and is manifested by Scallorn points and burned rock middens. During the Toyah Phase (A.D. 1250–1650), there are indications of major population movements, changes in settlement patterns, and perhaps lower population densities (Black 1989; Kenmotsu et al. 2012). The Late Prehistoric period also is marked by the introduction of several technological advances, most notably the bow and arrow and, later, pottery. The bow and arrow quickly replaced the throwing stick or atlatl as the standard weapon, and small, thin arrow points became a key indicator among the material remains of the period. Sometime after the adoption of the bow and arrow, plainware ceramics were introduced into the area. This development probably came from agricultural groups to the east or northeast. Possible indications exist of major population movements, changes in settlement patterns, and perhaps, lower population densities during the Late Prehistoric period (Black 1989).

HISTORIC PERIOD

The Historic period within this region is a rich one, beginning with Spanish exploration in the seventeenth century. For an extensive accounting of the region's historic background and context, the reader is referred to Harris and Russell's (2015) historic resources reconnaissance/intensive survey report for this same project. That summary has a full discussion of the development of the

mission system; thus, only specific elements related to the current project will be provided within this report. Given the presence of numerous possible acequia laterals within the APE, this section will focus on the city's acequia system.

Acequia System

Irrigated agriculture began shortly after the Spanish initially settled the area in 1718. The system of irrigation ditches, known as *acequias*, was in part constructed by Native American converts living on mission grounds. The system of ditches diverted water from the San Antonio River and San Pedro Creek to agricultural fields and homes, and continued to serve as the city's water system for almost 200 years after its initial construction (Baker et al. 1974; Eckhardt 2011). Elements of the original systems are still in use today. The most significant example in San Antonio, the Espada Acequia, is located just east and north of the current project's APE. Originally constructed sometime between 1731 and 1745 to serve residents in the vicinity of Mission Espada (Baker 1986:211; Heintzleman 1975), the ditch was finally bypassed by a flood control system in the 1950s. Nevertheless, efforts were made to preserve the flow in the historic system, which continues to flow today (Guerra 1987).

The first part of an acequia system constructed would have been a diversion dam or similar device, which would contain the water and then funnel it into the channel. The main ditch, or *acequia madre*, would have extended from this structure (Cox 2005:4). This main canal was intersected by distribution canals—or acequia laterals—with sluice gates at points where water was needed to irrigate specific fields (Cox 2005:5). These distribution canals were frequently placed along property boundaries, as early land grants included not only property, but also the right to irrigate it. When the water from the canal reached the fields, furrows distributed it through the agricultural plots.

In construction, the acequias could be lined with stones or unlined, possibly bolstered by wooden retaining walls (Cox 2005:75). As an example, sections of the acequia madre were found to be stone-lined and roughly 6 ft in width and 5 ft deep (Scheuze 1970:5). In contrast, the acequia laterals extending from the acequia to distribute water to the fields were likely not as formally engineered. For those related to the Espada Acequia within the APE, the construction method, type, and average dimensions are unknown. Cross-sectioning of these ditches would be necessary to provide such information.

Within the area of the Espada Road Widening Project, the landscape is characterized by linear land tracts bounded on the east by the Espada Acequia. Though no longer in use for agriculture, the long lots enabled historic residents to access water from the acequia for use in crop cultivation. Lateral ditches used to bring water to properties typically followed the boundary line of the lots (Cox 2005). Survey and historic aerial photograph research conducted during the project's associated historical investigation have led to the speculation of the existence of acequia laterals along these property lines (Harris and Russell 2015).

IV. METHODS

BACKGROUND REVIEW

Atkins archaeologists conducted a cultural resources background review of the area within a 1-km (0.6 mi) radius of the APE. This review utilized the THC's Texas Archeological Sites Atlas (Atlas) and Texas Historic Sites Atlas database files to identify previously recorded cultural resource sites, NRHP-listed properties, NRHP districts, cemeteries (including historic Texas cemeteries), Official Texas Historical Markers (including Recorded Texas Historic Landmarks [RTHLs]), SALs, as well as any other potential cultural resources such as National Historic Landmarks (NHLs), National Monuments, National Memorials, National Historic Sites, and National Historical Parks (Appendices A and B). Prior to the commencement of fieldwork, additional sources were examined, such as historic aerial photographs and maps (Foster et al. 2006), as well as any available records at the Texas Archeological Research Laboratory (TARL) at The University of Texas in Austin. Analysis of historic aerials available appeared to show acequia and acequia lateral remnants, suggesting these features could be verified in the field.

FIELDWORK

Surface Feature Identification

Prior to the initiation of the field effort, Atkins overlaid historic aerials with current aerial imagery. Archaeologists identified these features on the overlay to later verify their locations in the field. If verified, the feature locations were photo documented and marked by a submeter Global Positioning System (GPS) receiver. For areas where acequia remnants were hypothesized on the historic aerial overlays but no visible evidence was observed in the field, archaeologists photographed the area and noted any existing disturbances.

Intensive Pedestrian Survey

Atkins archaeologists conducted an intensive pedestrian archaeological survey to determine the nature, extent, and, if possible, significance of any cultural resources located within the APE. The survey followed Texas minimum archaeological survey standards for such projects, as set forth by the THC and the Council of Texas Archeologists (CTA). Due to the narrow width of the APE, shovel tests were placed along a single transect within the APE on each side of the road. The archaeological field crew visually inspected the ground surface and judgmentally employed shovel testing to probe for subsurface cultural materials.

Shovel tests were excavated in 10-centimeter (cm) (4-inch [in]) arbitrary levels to a depth of 80 cm (31.5 in) or to pre-Holocene deposits, whichever was encountered first. The soil matrix was screened through ¼-inch mesh, unless dominated by clay; clay soils were hand sorted and visually inspected for the presence of cultural materials. Atkins plotted each shovel test location using GPS, and

recorded each test on appropriate project field forms. Shovel testing frequency depended on the nature of the disturbances, soils, topography, or proximity of previously recorded cultural resources. Areas determined in the field to be sufficiently deflated, disturbed, and/or contaminated as to not require shovel testing were documented. While the project scope called for the collection of only diagnostic artifacts, some non-diagnostic materials were returned to the Atkins laboratory during the 2014 investigations (Appendix C). As these were determined to come from a disturbed context and were not recorded as part of an archaeological site, in consultation with the COSA OHP and with the permission of the THC (Appendix D), Atkins will photograph, document, and then discard these materials.

Backhoe Trenching

Mechanical excavations were conducted during the 2014 investigations in areas that were suspected to have Holocene-age alluvial soils, which could harbor buried cultural materials. During the 2015 trenching program, trenches were excavated in an attempt to identify remnants of acequia laterals. This effort targeted areas where map and archival research suggested the presence of acequia laterals, which may have be infilled over time. These trenches were placed perpendicular to the mapped courses of the channels to identify any remaining constructed edges.

Generally, the trenches were placed approximately 30 to 100 m (98.4 to 328.1 feet) apart, with tighter intervals when necessary. Trench placement took into consideration the location of buried utilities, the location of any impacted areas, and the preservation potential for archaeological sites. Backhoe trenches were excavated to a depth sufficient to determine the presence/absence of buried cultural materials and allow the complete recording of all features and geomorphic information within the depths of project impacts. Generally, trenches were to be excavated to a maximum of 1.5 m deep (5 ft), 8 m in length (26.2 ft), and 1 m wide (3.3 ft). All trenching was monitored by an experienced archaeologist while excavations were underway. For each trench, stratigraphic soils descriptions were recorded and photo-documented by an experienced archaeologist.

All work was performed in accordance with Occupational Safety and Health Administration (OSHA) (29 CFR Part 1926) guidelines and the Texas Trench Safety legislation (Section 756.021 through 756.023 of the Texas Health and Safety Code). All trenches were backfilled and leveled upon completion of excavation and recording.

V. RESULTS

BACKGROUND REVIEW

Previous Investigations

Numerous cultural resources studies and environmental assessments have been performed within 1 km (0.6 mi) of the proposed Espada Road Widening Project. Large areas have been covered by Scurlock et al. (1976), NPS (1981), and during a block survey in 1983 (Texas Antiquities Permit No. 317; no further information available on the Atlas). Other projects within the vicinity of the APE are associated with the greater San Antonio River Channel Improvement Project (McWilliams and Boyd 2009; Peter et al. 2006), including the testing and mitigation of archaeological sites 41BX254 and 41BX256 (Osburn et al. 2007; Padilla and Nickels 2010; Padilla and Trierweiler 2012). Nearby surveys have also been associated with the Historical Mission Reach Project Area (Osburn et al. 2007) and SAWS pipeline replacement projects (Green 2008).

Previously Recorded Archaeological Sites

The proposed project is located in a rural area adjacent to and within the Mission Parkway Historic District. This NRHP-listed district includes 84 archaeological sites ranging in date from prehistory through the early twentieth century, and includes the missions, mission fields, and acequia segments. Some of these sites do not have trinomials; this is primarily because although these sites or features are known to have been located in the area, they have not been definitively located archaeologically (e.g., Grothaus Mill site, Training Area for Teddy Roosevelt's "Rough Riders," First Site of Mission San Jose). These sites were assigned "MP" numbers in the NRHP nomination.

Atkins archaeologists reviewed the maps and files at TARL and consulted the THC Atlas to identify previously recorded sites and historic properties within the project alignment. All sites located within 1 km (0.6 mi) of the proposed project are depicted in Appendix A and listed in Table 1. This review revealed that, with the exception of 41BX1796, all previously identified sites within 1 km (0.6 mi) of the proposed project are located within the Mission Parkway Historic District. No previously recorded sites are present within the current APE.

Table 1. Previously Recorded Sites Within 1 Kilometer (0.6 Mile) of APE

Site Number	Mission Parkway Number	Site Name	Designation	Within Existing APE
41BX4	56	Mission San Francisco de la Espada	NRHP, SAL*	No
41BX5	55	Mission San Juan Capistrano	NRHP, SAL*	No
41BX242	7	Mission Road Foundation, Old James House		No
41BX243	8	Grothaus House		No
41BX244	9	3 houses on Lamm Property		No
41BX245	10	(Louis) Kuntz Store		No
41BX246	11	Berg's Mill		No
41BX247	12	Bazan Store and House		No
41BX248	13	Aboriginal Site south of Tuckers		No
41BX249	14	Aboriginal Site above Espada Aqueduct		No
41BX250	15	Huron House		No
41BX251	16	Graf Site		No
41BX252	17	Jacales Site		No
41BX253	18	Ashley House		No
41BX254	19	Olivas Site #1	Determined eligible by THC in 2011	No
41BX255	20	Olivas Site #2		No
41BX256	21	Barajas Site	Determined eligible by THC in 2011	No
41BX260	25	Teresa Bustillo Rivas House		No
41BX265	33	Berg Brothers' Mill		No
41BX269	70	Espada Acequia		No
41BX281	31	Espada Aqueduct	NRHP, NHL,** RTHL	No
41BX340				No
41BX341				No
41BX706				No
41BX1626				No
41BX1780		Hierholzer/Rankin Farmstead and Dairy		No
41BX1782		Lower San Juan Acequia		No
41BX1784		Lewis Orchard and Egg Farm		No

Site Number	Mission Parkway Number	Site Name	Designation	Within Existing APE
41BX1785		Ringelstein Farmstead (and Prehistoric Artifact Scatter)		No
41BX1796			Determined eligible by THC in 2011	No
	37	Site of White Horse Tavern		No
	41	Site of Bergs Mill Railroad Depot and Platforms		No
	57	Site of Gutierrez Homestead		No
	58	Gutierrez House on Espada Road		No
	60	Sabino Olivas House		No
	61	Former School House – Espada House		No
	62	Prehistoric Indian Site		No
	79	Geissler House		No
	81	Granato House		No
	83	Ernesto Olivas House		No

*SAL = State Antiquities Landmark
**NHL = National Historic Landmark

Due to the high number of recorded sites within 1 km (0.6 mi) of the project and the nature of the proposed improvements, the traditional method of discussing all recorded sites within 1 km (0.6 mi) has been abandoned in favor of discussing the recorded sites within a smaller vicinity of the project (Appendix B). Within roughly 150 m (500 ft) of the existing APE, there are eight recorded sites (41BX260, 41BX281, MP57, MP58, MP60, MP61, MP81, and MP83).

The closest previously recorded site is 41BX260, a contributing resource of the Mission Parkway Historic District. This site is located approximately 15 m (50 ft) west of the APE. According to the NRHP nomination, the site consists of an adobe house dating to 1857. MP61 is also located west of Espada Road within 20 m (65 ft) of the APE. This site was the location of a one-room schoolhouse in the early twentieth century. MP83 is the third site located on the west side of Espada Road; it was the location of the Ernesto Olivas house, which is no longer standing. A non–historic-age house is now located on the property.

Four (MP57, MP58, MP60, and MP81) of the five sites located on the east side of Espada Road are also associated with structures. MP 57 was a two-room adobe house that was the homestead of Santiago Gutierrez; however, the structure is no longer standing. MP 58 reportedly dates to the mid–nineteenth century and was made of adobe, but it has since been substantially altered (Harris and Russell 2015). The third structure, MP60, was constructed in 1909 by the Sabino Olivas family, but is

no longer standing. MP81, located east of the Espada Aqueduct, is associated with Louis Granato and his family and may date to the early twentieth century. Historians have not been able to confirm whether this structure is still located on the property due to access issues.

Site 41BX281 (Espada Aqueduct and Acequia) generally runs parallel to the APE on the east side of Espada Road. The northern portion of the Espada Aqueduct lies approximately 30.5 m (100 ft) east and north of the APE within the Espada Acequia Park. This proximity indicates a high probability for the presence of buried historic cultural deposits associated with the aqueduct, including additional features of the acequia system within the project vicinity.

FIELDWORK

2014 Investigations

In 2014, then-PI Nesta Anderson initiated archaeological fieldwork for the Espada Road Widening Project under Texas Antiquities Permit No. 6751. PA Melanie Nichols and field technician Elizabeth Sefton performed the field investigations in three phases between March and April. These included a 100 percent intensive pedestrian survey of all accessible properties, followed by backhoe trenching in selected areas (Figure 2).

During the survey, particular focus was placed on identifying any remaining traces of acequia laterals, whose presence was hypothesized by the prior archival study of historic maps and aerial photographs (Harris and Russell 2015). The majority of the hypothesized laterals noted on maps and aerial photographs have since been backfilled to the surrounding ground level and were no longer visible, with many now covered by residential expansion (Figure 3). Only two possible laterals could be clearly traced by their surface manifestations. Hypothesized Acequia Lateral A appears to have been adapted for use as a storm drainage east of Espada Road (Figure 4), and its original dimensions are undeterminable. Hypothesized Acequia Lateral B was noticeable only as a shallow linear depression paralleling a modern fence line west of Espada Road (Figure 5).

Figure 2: Cultural Resources Investigations (not for public disclosure)

Figure 2: Cultural Resources Investigations (not for public disclosure)

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Figure 2: Cultural Resources Investigations (not for public disclosure)

Figure 2: Cultural Resources Investigations (not for public disclosure)

Figure 2: Cultural Resources Investigations (not for public disclosure)

Figure 3. Residential structures and driveway in the mapped vicinity of Hypothesized Acequia Lateral I, facing west.

Figure 4. Hypothesized Acequia Lateral A, facing east.

Figure 5. Overview of remnant of Hypothesized Acequia Lateral B, facing west.

During the visual inspection of the ground surface, the archaeologists placed judgmental shovel tests to determine the depths of soils and the presence of cultural resources (see Figure 2). Between the two survey trips, a total of 25 shovel tests (LS1-LS13, MN1-MN12) was excavated (Table 2). These were excavated to an average depth of between 30 and 40 cm (11.8 and 15.7 in), with the majority terminating in clayey subsoil.

During the course of shovel testing, the archaeologists encountered a wide surface scatter of domestic debris on the western side of Espada Road at the southern terminus of the current APE. This comprised mostly glass shards, with a few ceramic sherds and metal fragments also present. Shovel tests were placed across the area to determine the horizontal and vertical extent of the materials and the integrity of the deposits. Materials were encountered to a maximum depth of 30 cm below surface (cmbs) (11.8 in) (Appendix C).

Table 2. 2014 Shovel Test Results

Field Test	Depth (cm)	Contents
LS1	0-30	—
LS1	0-30	—
LS1	0-30	—
LS1	0-30	—
LS1	0-30	—
LS3	0-20	—
	20-30	1 Glass (clear)
	30-50	—
LS4	0-30	—
LS5	0-10	—
	10-20	2 Ceramics (whiteware)
	20-30	—
	30-40	—
LS6	0-30	—
LS7	0-20	—
LS8	0-30	—
LS9	0-25	—
	20-30	1 Glass (clear)
	30-50	—
LS10	0-30	—
	10-20	2 Ceramics (whiteware)
	20-30	—
	30-40	—
MN2	0-30	—
MN3	0-10	—
	10-20	1 Chain (iron), 1 Ceramic (pearlware), 1 Glass (clear)
	20-30	1 Glass (clear)
	30-50	—
MN4	0-30	—
MN5	0-30	—
MN6	0-30	1 Glass (modern beer), 3 Concrete fragments
MN7	0-20	—
	20-40	—
MN8	0-20	—
	20-40	—
MN9	0-30	—
	30-40	—
MS10	0	—
MN11	0-20	—
	20-30	—
MN12	0-10	3 Glass (2 clear, 1 aqua), 2 Metal
	10-40	—

In April, the archaeologists returned to the area and placed five mechanical trenches across the perceived extent of the surface scatter to detect the presence of any possibly related buried cultural features (see Figure 2, Table 3). These spanned a distance of approximately 145 m (475 ft). All trenches proved shallow, with subsoils typically encountered at around 30 cmbs (11.8 in) (Figures 6–10). Ten fragments of glass, plastic, and ceramics were noted within Trench 3, and 11 additional glass and ceramic fragments were recovered from the overburden removed from Trenches 3 and 4 (Appendix C). Trench 5 was found to contain two intrusive previously excavated trenches, which house SAWS lines (see Figure 10). No intact archaeological deposits or features were observed in any of the trenches.

Table 3. 2014 Backhoe Trench Results

Backhoe Trench	Depth (cm)	Soil Color	Soil Texture	Contents/Inclusions
1	0-35	10YR 3/2 Very dark grayish brown	Clay	None
	35-55	10YR 4/3 Dark brown	Clay	Common calcium carbonate
	55-80+	10YR 4/6 Dark yellowish brown	Clay	Common calcium carbonate
2	0-20	10YR 3/3 Dark brown	Clay loam	None
	20-40	10YR 4/3 Dark brown	Clay	Common calcium carbonate
	40-60+	10YR 4/6 Dark yellowish brown	Clay	Common calcium carbonate
3	0-30	10YR 3/3 Dark brown	Clay loam	2 Plastic, 7 Glass (clear)
	30-45	10YR 4/3 Dark brown	Clay	1 Ceramic (stoneware,), Common calcium carbonate
	45-70+	10YR 4/6 Dark yellowish brown	Clay	None
4	0-30	10YR 4/2 Dark grayish brown	Clay	Common calcium carbonate
	30-65+	10YR 5/3 Brown	Clay	Common calcium carbonate
5		Disturbed		2 Utility trenches

Figure 6. Profile of Trench 1, facing southwest.

Figure 7. Profile of Trench 2, facing southwest.

Figure 8. Profile of Trench 3, facing north.

Figure 9. Profile of Trench 4, facing south.

Figure 10. Profile of Trench 5, facing west. Note two intrusive utility trenches.

Because it was suspected that the scatter extended to an inaccessible property to the north, it was not recorded as an archaeological site at that time. Additional investigations were then suspended. In recent consultation with the original PA and the City Archaeologist of COSA's OHP, Atkins now believes the scatter to be disturbed, possibly secondarily deposited, and lacking in either chronological or stratigraphy integrity. For this reason, the artifact concentration was not considered a cultural resources site and a TARL site record form was not filed. The Atkins laboratory has since initiated coordination with COSA's OHP and the THC to discard the collected artifacts, none of which proved to be temporally diagnostic.

2015 Investigations

On October 1–2, 2015, Atkins archaeologists returned to investigate the properties that were not accessible at the time of the 2014 field efforts. All of these properties were located within the APE west of Espada Road. The project was resumed under a new PI, Michael Smith, who performed the fieldwork with assistance from field technician Michele Masiongale. The entirety of these properties was subjected to visual inspection, and shovel testing and backhoe trenching were conducted to supplement the pedestrian efforts. Four backhoe trenches were excavated across the various parcels south of Rilling Road and outside of the Mission Parkway NR district (see Figure 2; Table 4). Where possible, these targeted the acequia laterals previously hypothesized by the archival work, as well as other locations that were accessible and relatively undisturbed. To the north of Rilling Road, the APE has been heavily disturbed by domestic construction, and backhoe trenches were not excavated.

Where necessary, shovel tests were placed in areas inaccessible to heavy machinery. No cultural features were encountered.

Table 4. 2015 Backhoe Trench Results

Backhoe Trench	Depth (cm)	Soil Color	Soil Texture
MS1	0-25	10YR 3/2 Very dark grayish brown	Clay
	25-48	10YR 5/4 Yellowish brown	Clay
	48-70+	10YR 7/2 Light gray	Sandy loam
MS2	0-75	10YR 5/3 Brown	Sandy loam, clay
	75-98	10YR 5/3 Brown	Silty loam
	98-182+	10YR 3/2 Very dark grayish brown	Clay
MS3	0-18	10YR 5/3 Brown	Clay loam
	18-30	10YR6/6 Brownish yellow	Sand
	30-70	10YR 3/1 Very dark grayish brown	Clay
	70-100	10YR 3/1 Very dark grayish brown	Clay
	100-130	10YR 6/3 Pale brown	Clay
	130-170+	10YR 4/3 Dark brown	Clay
MS4	0-20	10YR 6/4 Light yellowish brown	Silty loam
	20-38	10YR 8/1 White	Sand
	38-65	10YR 7/6 Yellow	Sand

Trench MS1 was excavated at the southernmost end of the APE (see Figure 2). Measuring 6 x 1 m (19.7 x 3.3 ft), the trench was relatively shallow, terminating in subsoil with 60 percent gravels at a depth of approximately 70 cm (27.6 in) (Figure 11; see Table 4). No cultural features or artifacts were encountered.

Figure 11. Overview of Trench MS1, facing north.

Trench MS2 was excavated near the southeastern corner of a larger parcel near the southern end of the APE (see Figure 2). This was placed near the property boundary in the vicinity of a perceived dip in the terrain, possibly indicating the presence of an acequia lateral. This trench measured 8 x 1 m (26.2 x 3.3 ft) and was excavated to a maximum depth of 1.8 m (5.9 ft) (Figure 12; see Table 4). Sterile subsoil was encountered at 98 cm (38.5 cm), with no evidence of cultural features or artifacts.

Figure 12. Profile of Trench MS2, facing east.

Trench MS3 was placed to straddle an original property boundary, running due west–east, which archival research associated with Hypothesized Acequia Lateral A (see Figure 2). This location lies roughly 5 m (16.4 ft) west of an existing concrete ditch, which may or may not occupy part of the original channel (Figure 13). While the channel continues due east across Espada Road (see Figure 4) on the side of Trench MS 3, the concrete ditch curves to the northwest, to parallel the road. The trench was 6 x 1 m (19.7 ft and 3.3 ft) in dimension and excavated to a maximum depth of 1.7 m (5.6 ft) (Figure 14; see Table 4). Soils were found to be disturbed to a depth of approximately 70 cm (27.6 in), likely from construction of the nearby concrete drainage. Sterile, undisturbed clays were encountered at over 70 cm (27.6 in), with high concentrations of calcium carbonate beginning around 100 cmbs (39.4 in). Trench MS3 was also negative for archaeological materials, and no intact cultural features were observed.

Figure 13. Concrete channel near Hypothesized Acequia Lateral A west of Espada Road, facing north.

Figure 14. Overview of Trench MS3, facing northeast.

Trench MS4 was excavated at the northern margin of the same property as Trench MS3 (see Figure 2). This was placed perpendicular to the identified path of Hypothesized Acequia Lateral B. This trench was 6 x 1 m (19.7 x 3.3 ft) and extended to a maximum depth of 160 cm (63 in) (see Table 4). The soils appeared to be disturbed to a depth of 65 cm (25.6 in), after which a dense layer of apparently natural gravels was encountered to a depth of 98 cm (38.6 in) (Figure 15). An uninterrupted sandy subsoil extended to the maximum depth of the trench. No cultural materials or features were observed.

Figure 15. Overview of Trench MS4, facing northeast.

Due to existing fences and vegetation, backhoe access to the area in the vicinity of Hypothesized Acequia Lateral H was not possible. Instead, archaeologists placed a shovel test (ST MS1) in the location (see Figure 2; Table 5). Soils were found to be highly disturbed by the nearby modern occupation, and no artifacts were encountered. A single shovel test (ST MS2) was excavated between trenches MS2 and MS3 in order to test the soils (see Figure 2 and Table 5). Subsoil was reached just below subsurface. This shovel test proved negative for cultural materials as well.

Table 5. 2015 Shovel Test Results

Field Test	Depth (cm)	Results	Soil Color	Soil Texture	Termination
MS1	0-30	—	10YR 3/2 Very dark grayish brown	Clay loam	
	30-40	—	10YR 4/3 Dark brown	Clay	Subsoil
MS2	0-20	—	10YR 3/2 Very dark grayish brown	Silty loam	Disturbed
	20-30	—	10YR 4/3 Dark brown	Clay	Subsoil

A large industrial yard is located directly west of Espada Road from Hypothetical Acequia Laterals C, D, and E (see Figure 2). While this area was not accessible for survey due to the storage on location of large concrete blocks, the disturbance appears to be mainly surficial. If so, this would allow for the possibility that intact acequia channel remnants may have survived. For this reason, monitoring is recommended during the course of any work within this section of the APE. Hypothesized Acequia Laterals I, J, and K appear to extend westward into modern driveways and yards associated with nearby houses. These areas have been greatly disturbed by domestic construction and development. As a result, no excavations were conducted within these areas.

The APE's northern margin lies along the north side of Ashley Road, at the entrance of the Espada Acequia Park. Trenching was not possible during the time of the survey. However, it is recommended that any construction in this area be monitored due to the proximity of the acequia channel and the presence of mapped alluvial soils (Figure 16).

Figure 16. Overview of the APE near the Espada Acequia Park, facing northwest.

VI. CONCLUSIONS AND RECOMMENDATIONS

Between February 2014 and October 2015, Atkins conducted cultural resources investigations for COSA's proposed Espada Road Widening Project. The project area, totally approximately 7.99 ac (3.2 ha) along Espada Road, was subjected to an intensive pedestrian survey, which was supplemented by mechanical trenching. In total, 27 shovel tests and 9 backhoe trenches were placed in locations across the APE, with particular emphasis on areas potentially containing remnants of distribution laterals extending from the Espada Acequia. Although the locations of a few of the acequia laterals were visible from the surface, most have been backfilled and affected by modern disturbances. Mechanical trenching was employed in an attempt to catch the acequia laterals in cross-section, but no such features were observed. No new archaeological resources were identified during the survey.

An archival review hypothesized the presence of three acequia laterals extending into the parcel immediately south of Rilling Road. Because the property currently houses a construction yard and no excavation was possible, the parcel could not be examined at the time of the surveys. Therefore, Atkins recommends that any construction within that section of the APE be monitored by a qualified archaeologist. Atkins also recommends the monitoring of the property at the northern end of Espada Road, where an outfall will be located. Additionally, due to the APE's proximity to existing site 41BX260, it is recommended that excavation within that portion of the APE be monitored as well.

No cultural resources were located that appear to be eligible or have an unknown eligibility for listing in the NRHP or for designation as an SAL. With the exception of the properties listed above, which will require monitoring, it is Atkins' opinion that no additional investigations are necessary in association with the proposed project. Atkins recommends cultural resources clearance for these areas. If evidence of presently undiscovered cultural remains is encountered during the construction of the proposed project, it is recommended that the discovery be evaluated by a qualified archaeologist who can provide recommendations on how to proceed in accordance with federal and state regulations. Project photographs and documentation will be curated at the Center for Archaeological Research at the University of Texas at San Antonio. With permission from COSA's OHP and the THC, non-site historic/modern materials collected during this project will be photographed, documented, and discarded.

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Appendix A

Archaeological Sites Within 1 Kilometer of the Project Area (not for public disclosure)

Appendix B

Archaeological Project Area
(not for public disclosure)

Appendix C

Artifact Catalog

Appendix C: Artifact Catalog

Temp Site No.	Field Spec. No.	Trench #	ST	Level	Depth (cmbs or cmbd)	Elev	Excavator	Date Excavated	Category	Subcategory	Count	Weight (g)
	1			Surface			M. Nichols	2/14/2014	Glass	Colorless, architectural	2	0.98
	11		LS 11	1	0-10		MN	3/7/2014	Glass	Historic	1	2.18
	6		LS 2	3	20-30		L. Sefton	2/14/2014	Glass	amber, body	1	0.35
	5		LS 2	2	10-20		L. Sefton	2/14/2014	Glass	Colorless	1	0.73
	4		LS 2	1	0-10		L. Sefton	2/14/2014	Glass	Colorless	1	0.33
	7		LS 3	3	20-30		L. Sefton	2/14/2014	Glass	Colorless, body, architectural?	1	0.38
	10		LS 5	2	10-20		L. Sefton	2/14/2014	Ceramic	whiteware, ironstone, rim	2	1.9
	2		MN 1	2	10-20		M. Nichols	2/14/2014	Glass	olive, kick-up	1	12.01
	2		MN 1	2	10-20		M. Nichols	2/14/2014	Metal		1	0.8
	3		MN 1	3	20-30		M. Nichols	2/14/2014	Glass	Colorless	1	0.83
	12		MN 12	1	0-10		MN	3/7/2014	Glass		3	1.44
	12		MN 13	1	0-10		MN	3/7/2014	Metal		2	1.43
	9		MN 3	3	20-30		M. Nichols	2/14/2014	Glass	Colorless	1	0.69
	8		MN 3	2	10-20		M. Nichols	2/14/2014	Glass	Colorless	1	0.53
	8		MN 3	2	10-20		M. Nichols	2/14/2014	Ceramic	Creamware	1	1.65
	8		MN 3	2	10-20		M. Nichols	2/14/2014	Metal	Chain	1	95.62
MN1	15	3		Backdirt			L. Sefton	4/2/2014	Glass	dark olive, neck, tooled	1	4.8
MN1	15	3		Backdirt			L. Sefton	4/2/2014	Glass	milk glass, embossed, concentric circles	1	1.61
MN1	15	3		Backdirt			L. Sefton	4/2/2014	Glass	colorless	3	3.12
MN1	13	3		2	10-20		L. Sefton	4/2/2014	Plastic		2	0.61
MN1	13	3		2	10-20		L. Sefton	4/2/2014	Glass	body	7	18.3
MN1	14	3		4	30-40		L. Sefton	4/2/2014	Ceramic	body, Albany slip stoneware	1	2.01
MN1	16	4		Backdirt			L. Sefton	4/3/2014	Glass	body/architectural?	2	2.48
MN1	16	4		Backdirt			L. Sefton	4/3/2014	Ceramic	whiteware, ironstone, rim, body	3	3.74
MN1	16	4		Backdirt			L. Sefton	4/3/2014	Ceramic	Porcelain, doll foot	1	1.08

Appendix D

Artifact Discard Letter

ATKINS

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December 7, 2015

Mark Denton
Texas Historical Commission
Division of Archeology
P.O. Box 12276
Austin, TX 78711-2276

Atkins Project No. 100029139/100030016

Re: Espada Road Widening Project, San Antonio, Bexar County, Texas; **Texas Antiquities Permit 6751**

Dear Mr. Denton:

During the course of this intensive survey, historic artifacts were collected from the surface, shovel tests, and backhoe trenches. In consultation with the City of San Antonio's City Archaeologist, it was decided that this was a disturbed context and not an archaeological site. Atkins collected glass (n=1, 0.98 g) from the surface, and the following materials from shovel tests: glass (n=12, 19.47 g), metal (n=4, 97.85 g), and historic ceramics (n=3, 3.55 g). In addition, during the trench monitoring, historic ceramics (n=3, 6.83 g), glass (n=14, 30.31 g), and plastic (n=2, 0.61g) were recovered.

We seek concurrence with our recommendation that the materials were collected from a disturbed context and not from an archaeological site, do not possess any intrinsic scientific value, and do not warrant curation. With permission from the Texas Historical Commission, these materials will be documented, photographed, and discarded.

Thank you for your consideration of this request. Please feel free to contact me if you have any questions or need additional information.

Sincerely,

Maggie McClain

Maggie McClain
Cultural Resources Laboratory Manager
Maggie.McClain@AtkinsGlobal.com
Direct line: (512) 342-3285

CC: Kay Hindes
Michael Smith

CONCUR
by
for Mark Wolfe
Executive Director, THC
Date 12/16/15
Track#