# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>v</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>ENVIRONMENTAL SETTING</td>
<td>1</td>
</tr>
<tr>
<td>RESULTS OF FILE SEARCH</td>
<td>4</td>
</tr>
<tr>
<td>METHODS OF FIELD INVESTIGATION AND WORK ACCOMPLISHED</td>
<td>5</td>
</tr>
<tr>
<td>SURVEY RESULTS</td>
<td>5</td>
</tr>
<tr>
<td>RECOMMENDATIONS</td>
<td>12</td>
</tr>
<tr>
<td>REFERENCES CITED</td>
<td>13</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

1. Project location map ........................................................................................................ 2
2. Photographs of the project area .......................................................................................... 3
3. Aerial photograph of the project area showing shovel test locations and location of 41BX2189 ........................................................................................................ 6
4. One of the three brick and concrete manholes at 41BX2189 ........................................... 8
5. Square concrete reservoir tank at 41BX2189 ..................................................................... 9
6. Square concrete foundation slab at 41BX2189 ................................................................... 9
ABSTRACT

On October 11 and November 5, 2018, personnel with Prewitt and Associates, Inc., conducted an intensive archeological survey of 8.5 acres of land associated with a new roadway to be built along the west edge of John James Park and immediately east of Fort Sam Houston in the City of San Antonio, Texas. The new roadway corridor is generally 88–100 ft wide; it starts at Rittiman Road and extends 3,840 ft to the south and east. It is west of Interstate Highway 35, and Salado Creek is 240–575 m to the east along the east edge of John James Park. The field investigation did not identify any new Native American or historic archeological sites, but it did revisit and re-record one previously recorded historic site (41BX2189) in the project corridor. A previously recorded Native American site (41BX2188) could not be relocated. The survey determined that the project corridor has been impacted by multiple disturbances that include erosion and construction activities probably associated with development on Fort Sam Houston to the west. The Fort Sam Houston ISD New Roadway Project will not adversely affect any prehistoric or historic sites considered eligible for listing in the National Register of Historic Places under Criterion D or designation as State Antiquities Landmarks, and Prewitt and Associates, Inc., recommends that the project does not warrant additional archeological investigations.
INTRODUCTION

On October 11 and November 5, 2018, a two-person team from Prewitt and Associates, Inc., conducted an intensive archeological survey of a 3,840-ft-long corridor for a proposed new roadway to be built along the west edge of John James Park, south of Rittiman Road, in the City of San Antonio, Texas (Figure 1). The corridor abuts the east edge of Fort Sam Houston, and Salado Creek, which bounds the east edge of the park, is 240–575 m from the corridor. With a typical right-of-way width of 88–100 ft, the horizontal area of potential effects is 8.5 acres. The vertical area of potential effects will be less than 3 ft in most places. The road will consist of two 12-ft travel lanes bordered by flush curbs and a 5-ft sidewalk on one side. All work done during the survey complies with the requirements of the Antiquities Code of Texas (Texas Natural Resource Code of 1977, Title 9, Chapter 191, VTC 6145-9) and the City of San Antonio’s Historic Preservation and Design Section of the Unified Development Code (Article 6 35-360-634).

ENVIRONMENTAL SETTING

The project area is near the edge of the Balcones Escarpment in central Bexar County along the boundary between the Blackland Prairie to the southeast and the Edwards Plateau to the northwest (Arbingast et al. 1973:6; Griffith et al. 2004; McMahan et al. 1984:Figure 1). This portion of the Blackland Prairie is characterized by rolling to nearly level tall-grass plains underlain by soft interbedded marls, chalks, limestones, and shales. The scarp along the edge of the Edwards Plateau is a rugged dissected landscape of limestone hills and canyons created by extensive stream downcutting and headward erosion. According to the Geologic Atlas of Texas (Bureau of Economic Geology 1983), the project area is mapped as Quaternary terrace deposits, with a younger, lower terrace close to the creek and an older terrace west of that. Soils are mapped as Houston Black gravelly clay in the north part of the project area and Venus clay loam in the south part (Taylor et al. 1991). The former is a clayey upland soil, and the latter is a loamy soil developed on terraces and alluvial fans.

Presently, much of the the survey corridor and the west side of John James Park support a dense ligustrum forest with some huisache, hackberry, and elm trees along the forest edges. Ligustrum is an invasive species to Texas. The thick stands in the park crowd out native forbs and grasses making for a relatively open understory (Figure 2a). Because there is little understory vegetation, the sediments appear prone to erosion, and several gullies approximately 10–20 cm deep were noted across the northern segment of the survey corridor. These gullies extend east off of the slightly higher surface associated with the Fort Sam Houston housing development. Gravels are readily apparent in these gullies, which provided good exposures for surface inspection. The central section of the survey corridor, which runs east-west, supports mowed grass (Figure 2b). Ligustrum forest continues along the southern half of the corridor with similar characteristics to the northern section.
Figure 1. Project location map.
Figure 2. Photographs of the project area. (a) Ligustrum forest at the north end of the survey corridor; (b) grassy central east-west section of the project corridor.
RESULTS OF FILE SEARCH

Review of the Texas Historical Commission's Archeological Sites Atlas in October 2018 revealed at least six previous archeological investigations and nine documented archeological sites within 1 km of the project area, including two sites within the project corridor (41BX2188 and 41BX2189). The Atlas depicts all of John James Park and adjacent Fort Sam Houston as having been included in a 1978 survey sponsored by the U.S. Army Corps of Engineers; it does not have an abstract for a report on this survey, but it likely refers to a reconnaissance survey performed by the Center for Archaeological Research (CAR) of the University of Texas at San Antonio (Gerstle et al. 1978). Also in the late 1970s, CAR personnel surveyed John James Park and performed test excavations at a site found during the survey, 41BX305 (Fruska et al. 1977; Katz 1977). In 2016, CAR personnel did a survey for a trail that followed Salado Creek south from Rittiman Road (Figueroa 2016). Also in 2016, Horizon Environmental Services, Inc., performed a survey for replacement of a wastewater line that followed Salado Creek, with its north end being north of Rittiman Road within the bounds of 41BX294, the Salado Battlefield and Archeological Site National Register District (Owens 2016). In 2017, AmaTerra Environmental, Inc., performed a survey that apparently included the southern east-west segment of the proposed roadway project area; the Atlas does not contain an abstract or report for this survey, but forms for sites recorded indicate the work was done in connection with improvements at adjacent Fort Sam Houston.

The nine recorded sites are 41BX294, 41BX305, 41BX389, 41BX422, 41BX880, 41BX2058, 41BX2187, 41BX2188, and 41BX2189. Site 41BX294 was recorded in the 1970s by CAR personnel as the multicomponent Salado Battlefield and Native American archeological site. It is along Salado Creek, north of Rittiman Road, 400 m northeast of the north end of the current project corridor. Site 41BX305 is ca. 200 m east of the current project area on the west side of Salado Creek; it was first recorded and then tested in 1977 and was found to be an Archaic site shallowly buried in a Salado Creek terrace. Site 41BX389 is 600 m south of the south end of the proposed road route. It also was recorded in 1977 and is a scatter of lithic debris, core tools, and burned rocks, along with a single cut nail, on Fort Sam Houston. Site 41BX422 is 240 m southeast of the southeast end of the current project area; it is a scatter of lithic debris and a scraper tool found on Fort Sam Houston. Site 41BX880, 700 m west of the south end of the proposed road route on Fort Sam Houston, is a disturbed scatter of lithic debris, burned rocks, and historic artifacts recorded in 1982. Site 41BX2058 was recorded in 2014 as a mixture of burned prehistoric and historic debris in secondary context; it is 470 m southeast of the project area, along Salado Creek. Site 41BX2187, 800 m southwest of the project area on Fort Sam Houston, was recorded in 2017 as a scatter of lithic debris and burned rocks on a terrace above Salado Creek. Site 41BX2188 is within the southern east-west segment of the current project area. It is a scatter of lithic debris and burned rocks recorded in 2017. Site 41BX2189, also recorded in 2017, is just east of 41BX2188 and also partially within the proposed roadway corridor. It consists of a slab foundation, brick and concrete manholes, a metal pipe, concrete culvert pipes, and another concrete slab that appears to be a covered reservoir.
In addition to review of the Archeological Sites Atlas, the potential for historic archeological sites was assessed using maps obtained from the Texas Department of Transportation's Texas Historic Overlay and historic aerial photographs. The maps and aerials reviewed (1903 and 1953 USGS maps; 1927 and 1943 U.S. Army Corps of Engineers maps; 1904 and 1911 soils maps; and 1953, 1963, and 1966 aerials) indicate that a large cluster of buildings occupied much of the area between the current project area and Salado Creek by 1927, with a single building within the central part of the southern east-west segment on both the 1927 and 1943 maps. The 1943 and 1953 maps and the 1953, 1963, and 1966 aerials all depict a cluster of buildings just north of there, outside the proposed roadway project area. Desktop review of primary and secondary sources indicates that these buildings and related improvements were in the east part of a remount depot, Dodd Field, or a prisoner of war camp associated with Fort Sam Houston (see below).

METHODS OF FIELD INVESTIGATION AND WORK ACCOMPLISHED

The archeological survey consisted of 100 percent pedestrian coverage of the 8.5-acre project area by two archeologists. The team walked the entire length of the project area on transects spaced approximately 10 m apart within the 88–100-ft-wide corridor. The corridor center line was staked, and transects were on either side of this line. All surface exposures along these transects were examined for evidence of prehistoric and historic artifacts and features. Because much of the ground surface was obscured by leaf litter or thick grass, shovel testing was employed in settings, such as higher terrace edges, that might have a greater potential for buried archeological deposits.

A total of 18 shovel tests were excavated (Figure 3), exceeding the requirements of the Texas Historical Commission’s minimum survey standards. The tests were 30 cm in diameter and 15–43 cm deep, depending on the sediments and the depth of gravel zones encountered. All sediments removed were screened through 1/4-inch-mesh hardware cloth or carefully sorted with a trowel. A Shovel Test Record form was used to record brief sediment descriptions and notes about artifact recovery (or lack thereof) for each test. All shovel test locations were recorded with a handheld GPS unit. Photographs of the project corridor, disturbances to the corridor, and representative shovel test locations were taken, and a log of those photos was kept. The project archeologists also made notes on survey activities, observations, and findings. All methods used comply with applicable standards defined or referenced in 13 TAC 26.20 and Texas Historical Commission policy.

SURVEY RESULTS

Survey with surface inspection and shovel testing did not reveal any new Native American sites within the corridor of the Fort Sam Houston ISD New Roadway project, even though prehistoric sites are known within the immediate area. It is clear based on previous work at nearby 41BX305, a large but shallow Archaic period campsite within John James Park, that the main focus of prehistoric occupation was directed toward Salado Creek to the east (Katz 1977:11–12). Ancillary sites
Figure 3. Aerial photograph of the project area showing shovel test locations and location of 41BX2189.
marked by small lithic scatters of unknown age, such as 41BX389 and 41BX2188, do appear on the older terraces away from the creek. The present project corridor crosses older terrace edges mainly at its northern and southern ends as it follows a wide shallow intermittent drainage north to south. The 1943 USGS quadrangle shows the intermittent drainage cutting south and then east to Salado Creek in the project area. Previously recorded site 41BX2188 in the southern east-west segment of the project area is near this drainage. Shovel testing in its plotted location failed to locate the site, although a single tested cobble was noted in a surface exposure of poorly sorted stream-worn gravels. The inability to re-locate 41BX2188 probably can be ascribed to its sparse nature, erosion, and poor ground surface visibility. In any case, the current survey results support the original recorder’s assessment that the site is ineligible for listing in the National Register of Historic Places.

No new historic sites were recorded within the project corridor, but one previously recorded site (41BX2189) was visited and re-recorded, and two short sections of old roads were noted (see Figure 3). The first road, which is some 50 m long, is in the north part of the corridor, crossing it west-east, and is built up approximately 0.5 m from the surrounding ground surface. This roadbed matches a road location on the 1927 U.S. Army Corps of Engineers map that extended east from Fort Sam Houston’s Dodd Field to army buildings along Salado Creek. The section of road was likely built up to cross the intermittent drainage noted above. The second road segment, which is about 30 m long, is near the south end of the project corridor and crosses it northwest-southeast. The road is marked by gravel-filled bulldozer push piles and downed trees along its length suggesting that it is a disturbance associated with construction of Robert Cole High School, built by 1963, just to the west, as it extends from that property’s fence line. The road ends on the east at a swampy area with standing water, suggesting that it intersected the intermittent drainage. Neither road section has the capacity to provide important information, and they were not recorded as sites.

Site 41BX2189 is in the central part of the southern east-west segment of the proposed roadway corridor. Most of the site is just north of the project corridor; no shovel tests were excavated there, but surface features were photographed and documented by GPS. One shovel test within the project corridor did yield several pieces of clear and green bottle glass fragments and a number of pieces of charred wood. Previous shovel testing at the site in 2017 also noted the presence of glass and wire nails, but their association with the site was considered questionable. Features at this historic site consist of three partially aboveground, conical manholes made of brick and concrete, a ca. 40-m stretch of exposed 8-inch metal pipe supported on concrete footers, a ca. 8x8-ft concrete reservoir tank with square access hole in the center top, three sections of concrete culvert lying side by side, and a probable concrete foundation slab (Figures 4–6). The 12x12-ft concrete foundation is the only feature within the project corridor. All other features are 11–29 m outside the north edge. The concrete reservoir tank is central to the cluster of features outside the roadway corridor. One manhole is 7 m east of there, and the others are 4 and 16 m north of it. It appears the metal pipe originally connected to the west side of the reservoir tank, but now its east end is 4 m from the tank. It runs aboveground 40 m
west of there, beyond which it continues to the west below the surface for an unknown distance paralleling the project corridor. The concrete foundation inside the project corridor is 26 m southwest of the reservoir tank. These features all appear to relate to water supply or wastewater infrastructure dating to the first half of the twentieth century. The current survey results support the original recorder’s assessment that the site is ineligible for listing in the National Register of Historic Places.

Site 41BX2189 is situated in the eastern part of land the army owned since 1886. That August, Caroline Kampmann conveyed 310 acres—bounded by east-west roads (Dashiell on the south and Rittiman on the north), the Austin Highway (now Wurzbach Parkway) on the west, and Salado Creek on the east—to the United States for $4,640 (Bexar County 1886; Fort Sam Houston 2016:48). The army initially developed the land with a small arms range, rifle range, and an observation tower for field training (Fort Sam Houston 2018).

Subsequent to successful aircraft experiments in the early 1910s, an airdrome\(^1\) subsumed the target range. In 1913, army leadership pushed to establish an aviation field at Fort Sam Houston (Freeman 1994:89). The original plan called for

---

\(^1\) An airdrome, a location from which aircraft flight operations take place for the movement of cargo, passengers, or neither, may be a general aviation airfield, a large commercial airport, or a military airbase, but is not necessarily an airport that satisfies specialized certification criteria or regulatory requirements.
Figure 5. Square concrete reservoir tank at 41BX2189.

Figure 6. Square concrete foundation slab at 41BX2189.
administration and school buildings, an 80-man barracks, quarters for student pilots, 10
hangars, a machine shop, garage shed, and stable (Freeman 1994:89). Construction in
1915 included conversion of the pack-train stable into a garage and residential quarters
into a machine shop (Fort Sam Houston 2018). The completed field had an administration
building, two five-plane metal hangars, an elevated water tank, and residential buildings
that included a barracks building, a commanding officer’s quarters, and two 12-man
bachelor officers quarters (Fort Sam Houston 2018; Freeman 2018). In March 1915,
Benjamin Foulois arrived to oversee development of the airdrome. In late November
1915, First Aero Squadron officers flew their six aircraft from Fort Sill, Oklahoma, to the
airdrome. Townsend Foster Dodd arrived that December and became post commander.
In March 1916, Dodd and Foulois flew the first mission to Mexico when the squadron
deployed in support of the Punitive Expedition against Pancho Villa (Freeman 1994:89;
Freeman 2018). In November 1916, the Third Aero Squadron activated at the airdrome,
but leadership considered it too small and removed the following April to the new Kelly
Field, just southwest of San Antonio (Freeman 2018).

The short-lived aviation mission of the airdrome briefly overlapped a
remount service assignment that lasted almost a decade. The Remount Service
derived from the Civil War-era Union Army practice of providing equine, as
opposed to the Confederate custom of troops supplying their own mounts. In 1908,
the Quartermaster Corps activated the Remount Service with purchasing boards
in two states east of the Mississippi River and five states in the west, including
one in San Angelo, Texas (Livingston and Roberts 2003:267). In response to the
Mexican Revolution and attendant border wars, the 1916 National Defense Act
expanded the Remount Service. As a result, in June 1916, the Fort Sam Houston
Remount Station #1 was established east of the airdrome—along Salado Creek
between Rittiman and Dashiell Roads—to support cavalry troops at the base
(Clay 2010:68; Fort Sam Houston 2018). That month, the remount depot had 1,800
horses of the 55,000 it would eventually process (Fort Sam Houston 2018; The San
Antonio Express 1916:2). When Mildred Dashiell conveyed 30.55 acres on the east
side of Salado Creek to the army for $5,000 in June 1919, the remount station was
directly connected to the Missouri-Kansas-Texas Railway, east of the creek (Bexar
County 1919; Fort Sam Houston 2016:48). The station, which included a saddle and
horseshoe school, operated until May 1925. The facility included stables, corrals,
paddocks, a veterinary hospital, sheds, blacksmith shops, and barracks (Fort Sam
Houston 2018). According to a 1927 map, a north-south road that extended from
Dashiell Road almost to Rittiman Road was just west of the site. Numerous buildings
associated with the remount post were between this road and Salado Creek. A
railroad track that extended northeasterly from Fort Sam Houston, then turned
due east and paralleled the south side of Dashiell Road, terminated just west of
the site. Three large buildings were positioned between the south side of Dashiell
Road and the railroad track.

In June 1925, the airdrome was restored as a landing field. In May 1928,
the field was formally named to honor Dodd, by then colonel and commander of
Virginia’s Langley Field, who died in a 1919 aircraft accident (Clay 2010:68). From
about 1926 to 1931, Dodd Field was home to the Third and Twelfth Observation
Squadrons, in support of the Second Division, and headquarters for the latter squadron from 1930 to 1931. The Dodd Field hangars were transformed into shops when the squadrons replaced smaller older aircraft with larger modern biplanes. For several years, summer training occurred at the field for several observation squadrons and groups (Clay 2010:68). In 1931, when Frank Dorwin Lackland was commanding officer of Dodd Field, he moved the aircraft to Brooks Field, southeast of San Antonio (Fort Sam Houston 2016:8).

From the early 1930s to the early 1940s, various groups used the airdrome. The Second Division Air Service trained their reserve component at Dodd Field and used a portion as a polo field (Fort Sam Houston 2018). The Coast Guard briefly used Dodd Field and Kelly Field and trained bombardiers there. In 1937, the Eighth Corps Area deemed the airdrome an emergency field. That year, the Second Division used Dodd Field as a model camp for recruit training. Some buildings were demolished, and at least one 1917 hangar was moved to Wilson Street. In December 1939, improvements included a mess, kitchen, and lavatories and wood floors for tents. Fort Bliss troops, en route to maneuvers in Louisiana, occasionally camped at Dodd Field. On the heels of 1940 selective service draft, the model camp became a reception center for new recruits who were examined, issued uniforms, and provided rudimentary training before the men were assigned to an army unit. The center could accommodate 1,000 men in mobilization buildings that the Emergency Construction Program authorized. In 1942 and 1943, new construction included tarpaper-covered wood-frame temporary buildings, including a theatre of operations (Fort Sam Houston 2018). By this time, Dodd Field could house 2,200 troops in temporary buildings and another 4,800 to 6,400 troops in pyramidal tents. The bachelor officers quarters were converted to barracks and the hangars to mess halls (Fort Sam Houston 2018; Freeman 2018). Plans to expand the Dodd Field runways were considered more than once, but never came to fruition (Fort Sam Houston 2018). From September through November 1942, the 63rd Troop Carrier Group based C-47 Skytrain transport aircraft at Dodd Army Airfield (Rickard 2018). According to a 1943 map, the only remnant of the north-south road near the site was a long driveway that led to a single large building. An east-west telephone line extended along Dashiell Road at this time.

Dodd Field was home to both short-term and longer-term alien detention facilities. In April 1942, an enemy alien detention opened with 107 enemy aliens. The 20-acre station had two compounds connected by a passageway all surrounded by two 10-ft-high barbed-wire fences with eight elevated guard towers along the perimeter. The captives resided in Victory Huts, 16-ft-square walled tents on wood foundations. By the end of 1942, when the station was closed, the population never rose above 150 detainees (Texas Historical Commission 2018). A more-permanent prisoner of war camp at Dodd Field lasted from October 1943 to June 1946. The camp could house 1,000 captives, but occupancy swelled to 3,500 by war’s end (Freeman 2018).

After World War II, Dodd Field continued to evolve. At war’s end, the War Department Processing Center added 600 tents, southeast of the tent complex and north of the temporary buildings, with a capacity of 3,600 to 4,800 more troops.
Within a year, more than 500,000 soldiers were processed out of the army from Dodd Field and Fort Sam Houston, including Audie L. Murphy (Fort Sam Houston 2018). Next, the army converted most of the Dodd Field mobilization barracks and other buildings into four-apartment non-commissioned officer’s units, and, in 1946, built a theatre, infirmary, warehouse, and post exchange (Fort Sam Houston 2018). In 1948, the Dashieill tract was sold as excess (Fort Sam Houston 2016:48). In 1949, the army developed 500 houses on the northern 135 acres of Dodd Field (Fort Sam Houston 2018). In 1950, Dashiell Road was renamed Winans Road (Fort Sam Houston 2016:48). Aerial photographs and topographic maps from 1955, 1959, 1963, 1966, and 1973, show the presence of remnant resources from earlier development in the vicinity of 41BX2189 (Nationwide Environmental Title Research 1955, 1959, 1963, 1966, 1973).

In summary, 41BX2189 could be associated with one of many army uses during the first half of the twentieth century—target range, airdrome, remount station, detention center, and more.

RECOMMENDATIONS

Survey of the corridor for the Fort Sam Houston ISD New Roadway Project identified no new archeological sites and was successful in re-locating only one of the two previously recorded sites. Two old road segments also were noted; one appears to be associated with modern construction activities, while the other appears on a 1927 map. These road segments were not recorded as sites. The re-located previously recorded site, 41BX2189, is a concentration of features related to water supply or wastewater infrastructure associated with use by the army during the first half of the twentieth century; most of the site is outside the project corridor. It is considered ineligible for listing in the National Register of Historic Places and designation as a State Antiquities Landmark because it lacks the capacity to contribute important archeological information. Although the site remains in its original location and retains some of its original materials, its integrity is otherwise compromised. The setting has been altered with heavy vegetative growth and the absence of the larger complex the site supported. Some original materials are missing, such that the site’s intended design is no longer apparent and workmanship has been similarly compromised. With the site’s function no longer evident, integrity of feeling and associative qualities are irreversibly undermined.

The previously recorded site that could not be re-located, 41BX2188, is a sparse lithic scatter that was considered ineligible when first recorded; the results of this survey support that assessment. Hence, the Fort Sam Houston ISD New Roadway Project will not adversely affect any prehistoric or historic sites considered eligible for listing in the National Register of Historic Places under Criterion D or designation as State Antiquities Landmarks. Prewitt and Associates, Inc., recommends that the project does not warrant additional archeological investigations.
REFERENCES CITED

Arbingast, Stanley A., Lorren G. Kennamer, Robert H. Ryan, Alice Lo, David L. Karney, Charles P. Zlatkovich, Michael E. Bonine, and Roberta G. Steele

Bexar County
1919 Deed Record, 566:94. Bexar County Clerk, San Antonio.

Bureau of Economic Geology

Clay, Steven E.

Figueroa, Antonia L.

Fort Sam Houston
2016 *Surrounded by History: Fort Sam Houston*. By the author, San Antonio.

Freeman, Martha Doty

Freeman, Paul

Frkuska, Elizabeth Cantu, Augustine J. Frkuska, Fred Valdez Jr., and Thomas R. Hester

Gerstle, Andrea, Thomas C. Kelly, and Cristi Assad


Katz, Susanna R.
Livingston, Phil, and Ed Roberts
2003 War Horse: Mounting the Cavalry with America’s Finest Horses. Bright Sky Press, Houston.

McMahan, Craig A., Roy G. Frye, and Kirby L. Brown
1984 The Vegetation Types of Texas, including Cropland. Map and accompanying illustrated synopsis. Wildlife Division, Texas Parks and Wildlife Department, Austin.

Nationwide Environmental Title Research

Owens, Jeffrey D.
2016 Intensive Cultural Resources Survey of the Proposed San Antonio Water System E-19 Wastewater Project, Segment 1, San Antonio, Bexar County, Texas. HJN 160062.01 AR. Horizon Environmental Services, Inc., Austin.

Rickard, John

San Antonio Express, The

Taylor, F. B., R. B. Hailey, and D. L. Richmond
1991 Soil Survey of Bexar County, Texas. United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Experiment Station.

Texas Historical Commission