

Archaeological Monitoring Associated with the South Texas Heritage Center at the Witte Museum,



San Antonio, Bexar County, Texas

by

Bruce K. Moses *and* Kristi M. Ulrich

Texas Antiquities Committee Permit Number 5817



Prepared for:
The Witte Museum.
3801 Broadway
San Antonio, Texas 78209



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Technical Report, No. 29

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Principal Investigator

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Abstract:

The Center for Archaeological Research (CAR) at the University of Texas at San Antonio (UTSA) was contracted by the Witte Museum to conduct archaeological monitoring on their grounds in association with a proposed 4700 square foot addition to the Pioneer Hall. Following the proposed improvements, Pioneer Hall will be renamed the South Texas Heritage Center. This project entailed the monitoring of four mechanically excavated trenches as well as ten drilled pier shafts. The project area is within the environs of the *Acequia Madre* (41BX8) and several prehistoric sites have been identified nearby. During the course of the project, no Spanish Colonial or prehistoric deposits were encountered, and no remnants of the *Acequia Madre* (41BX8) were noted. Trenches were photo-documented and mapped prior to being backfilled.

No cultural artifacts were collected during the project. All project related documents are curated at the CAR facility. CAR recommends that the proposed construction associated with Phase 1 of the Witte Museum Expansion Project proceed as planned.

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Field crew members who helped during the excavation of backhoe trenches were Nathan DiVito, Cyndi Dickey, and Jason Perez. Rick Young graciously assisted with graphics. The authors would also like to thank Dr. Steve Tomka, Director of the Center for Archaeological Research and Principal Investigator for this project, for his guidance during the fieldwork as well as during the preparation of this report.

Chapter 1: Introduction

In 2010, the Center for Archaeological Research of the University of Texas at San Antonio was contracted by the Witte Museum to conduct archaeological monitoring associated with the planned expansion of the existing Pioneer Hall, located immediately north of the Witte Museum in San Antonio, Bexar County, Texas (Figure 1-1). The project is taking place on City owned land, thus it falls under the jurisdiction of the Antiquities Code of Texas with oversight by the Texas Historical Commission (THC). Because the area is located in both a historically and prehistorically sensitive portion of the City, it also falls under the oversight of the San Antonio Office of Historic Preservation (COSAHP) as laid out in the City of San Antonio’s Unified Development Code, Chapter 35. As a result, CAR consulted with both agencies during this project. Monitoring was conducted under Texas Antiquities Committee Permit Number 5817.

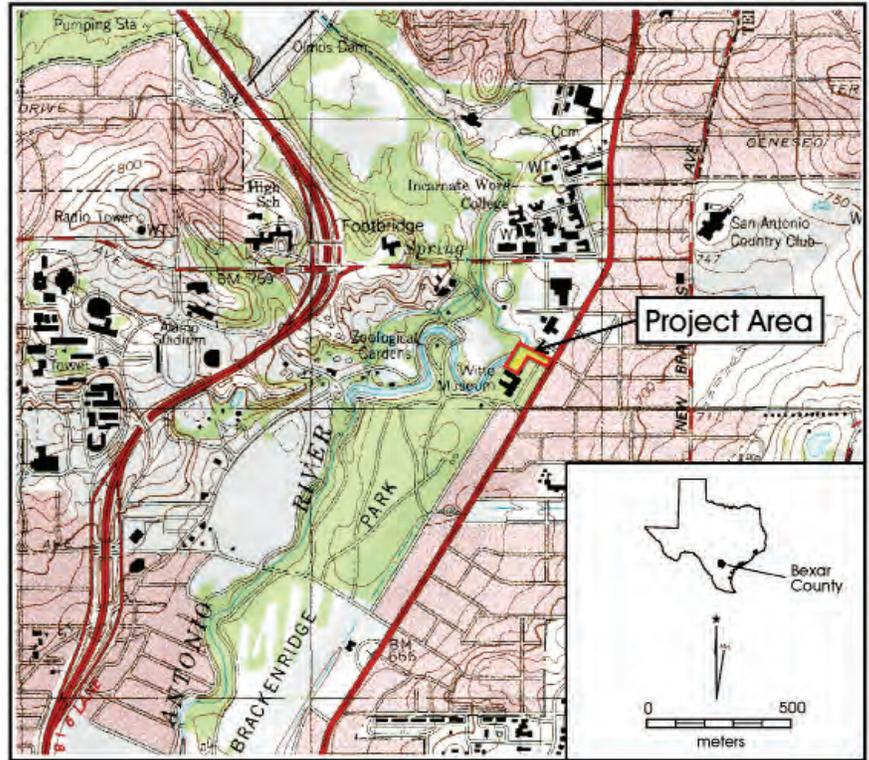


Figure 1-1. The project area depicted on the San Antonio East 7.5 minute series USGS quadrangle map.

Area of Potential Effect

Pioneer Hall, hereafter referred to as the South Texas Heritage Center, is located at 3801 Broadway in San Antonio, Texas, on the grounds of the Witte Museum. The project area is located on the east bank of the San Antonio River, just north of the intersection of Tuleta Drive and Broadway. The Area of Potential Effect (APE) wraps around the west and north side of the South Texas Heritage Center and extends to the western ROW of Broadway (Figure 1-2). Prior to the beginning of this project, the APE consisted of a paved staff parking lot west of the South Texas Heritage Center, a lawn and asphalt driveway immediately north of the building, and the Witte Museum’s main parking lot and lawn to the east.



Figure 1-2. Aerial photograph showing the Project Area and APE in the vicinity of the new South Texas Heritage Center.

phase of improvements to the Witte Museum grounds. The South Texas Heritage Center will eventually be connected to the Witte Museum by a breezeway. An additional structure slated to house the new changing exhibits gallery and ballroom (approximately 11,200 square feet), will be built immediately north of the South Texas Heritage Center.

Approximately 960 m² are included within the current APE. Of this total, approximately 580 m² are incorporated in the building expansion area between the South Texas Heritage Center and the San Antonio River. The remaining 380 m² will include the excavation of new water and storm sewer lines.

Scope of Work

Prior to beginning fieldwork, a comprehensive background review was completed for the Witte Museum (Ulrich and Pfeiffer 2009). The purpose of the literature review was to determine the use-history of the project area and the potential for encountering significant cultural deposits. In addition, an examination of the archaeological sites within the vicinity of the project area was conducted using previous archaeological reports and the Texas Historical Commission's Texas Archeological Sites Atlas. Historic maps, deed records and other documents were also utilized to highlight the history of the Brackenridge Park area. Additional information was gathered to determine the history and precise route of the *Acequia Madre*, which once crossed through the current APE (Ulrich and Pfeiffer 2009).

Based on the results of the archival research, as well as on the findings of the recently completed *Acequia Madre* Relocation Project (Ulrich 2011), CAR recommended monitoring of all construction activities within the APE expected to have subsurface impacts. Construction activities that will impact the APE are:

- Pier drillings in the rear of the South Texas Heritage Center associated with the new building addition.

- Utility installation along the north side of the South Texas Heritage Center that will tie into existing utility mains near Broadway.

During the initial coordination with the Texas Historical Commission, Mark Denton suggested that backhoe trenching may be advisable even prior to the inception of the pier drillings, given the proximity of known archaeological sites to the APE and the possibility that deeply buried archeological deposits may be present within the terrace (Figure 1-3). Therefore, the final Scope of Work submitted to the THC included backhoe trenching in addition to the construction monitoring of the subsurface impacts listed above.



Figure 1-3. *BHT 3 (foreground) and BHT 2 (upper center) excavated behind Pioneer Hall. BHT 1 was to be located near the lower right of the photo (see green line).*

In addition to the excavation of the backhoe trenches, CAR monitored a sampling of the pier borings in the footprint of the new building addition. Of the thirty bore holes dug, CAR staff monitored ten and screened one bucket of dirt for every five feet of material excavated. A CAR staff member also was on hand to monitor the excavation of a water and fire line, as well as a storm sewer line which was later excavated parallel to the water lines. All cultural materials were to be documented and photographed to determine eligibility for the National Registry of Historic Places (NRHP) and as a State Archeological Landmark (SAL).

Chapter 2: Field Methods

Congruent with the Scope of Work, the CAR activities consisted of backhoe trenching, the monitoring of pier drillings and the monitoring of trenching operations associated with the installation of water lines and storm sewer lines. Each of these tasks is described in greater detail below.

Backhoe Trenching

Up to three backhoe trenches were proposed to be excavated within the footprint of the extension that measures approximately 21-x-23 meters (70-x-75 feet). Therefore, CAR laid out three backhoe trenches on the asphalt parking lot at the rear of the South Texas Heritage Center near the planned boring locations for piers (Figure 2-1). However, while three backhoe trenches were proposed in the Scope of Work, once they were laid out on the ground, a representative of Guido Brothers Construction pointed out that a water line appeared to run through the area marked for Backhoe Trench 1 (BHT 1). Thus, in order to reduce the risk of damage to the line, BHT 1 was abandoned and only BHT 2 and BHT 3 were excavated.

The backhoe trenches were placed at intervals along the area so as not to disrupt the stability of the planned building piers (Figure 2-2).

All trenches excavated during the project were approximately 1 meter (3.3 feet) in width, 1.5 meters (4.95 feet) in depth, and 3 meters (9.9 feet) in length. Both walls of each trench were examined for the presence of cultural materials and/or features. Representative portions of one wall of each trench were selected and profiled, noting all artifacts and/or features present in the wall. The location of each trench was recorded

using a Trimble Geo XT GPS. Project area photographs were taken on a daily basis to record the status of on-going work. Modern artifacts and building materials observed within the upper zone of construction fill were noted, but not collected.

Pier Drilling

A total of thirty piers were scheduled to be drilled into the substrate. Pier diameters were 1 foot and reached a depth exceeding 11 meters (36 feet) below surface (see Figure 2-1). Geotechnical borings on the proposed site of the building addition showed that modern fill material

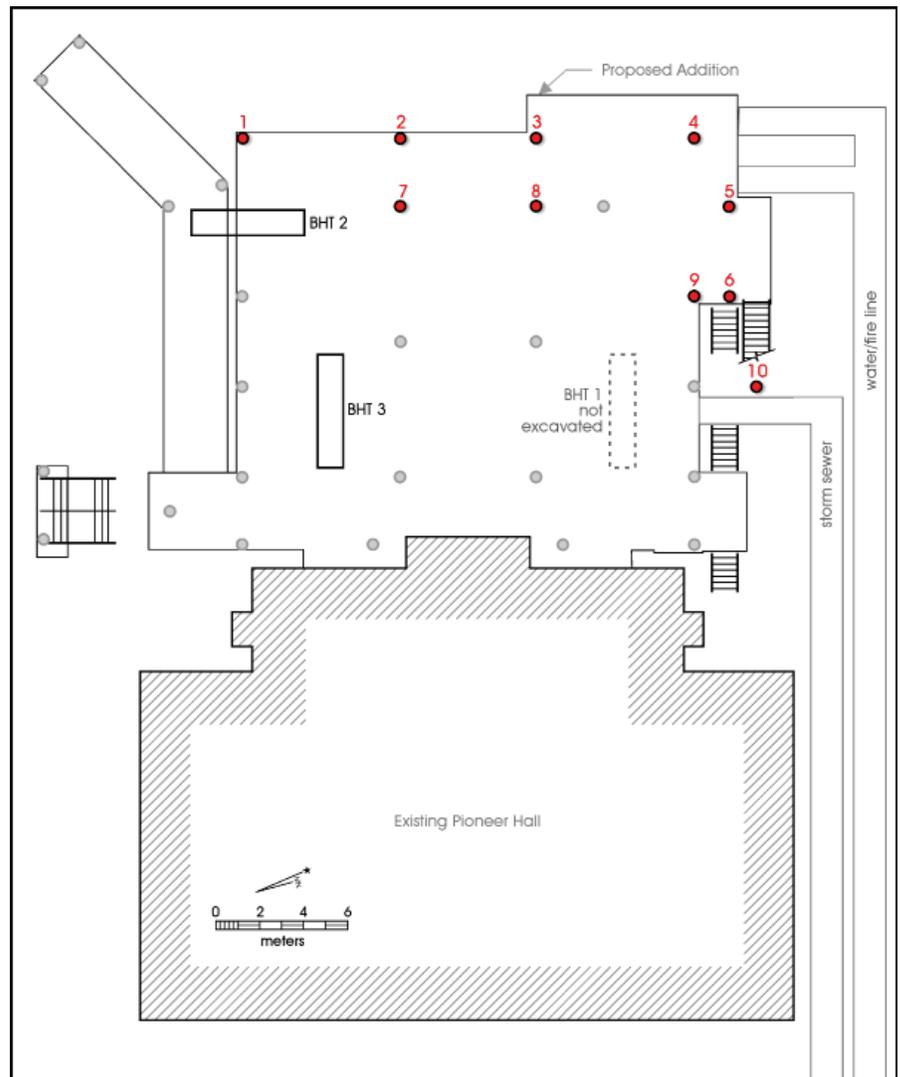


Figure 2-1. BHT 3 (foreground) and BHT 2 (upper center) excavated behind Pioneer Hall.

ranged from 0.6-1.6 meters (2-6 feet) in thickness. Ground water was encountered between 2.7-3.9 meters (9-13 feet) below the surface (PSI 2010). In two of the four cores (B-1 and B-2) located along the north wall of the proposed extension, the fill did not extend below 1.2 meters (4 feet). In the other two cores (B-3 and B-4), located along the south wall of the proposed addition, the fill ranged from 2.1-2.7 meters (7-9 feet) below surface (PSI 2010).

Of the thirty piers drilled within the proposed building addition footprint, ten were monitored for archaeological materials (see Figure 2-2). Pier borings utilized a mechanical auger and the CAR personnel were instructed to screen one bucket of material for every five feet of depth reached by the augers. Screening occurred to a depth of 15 feet (4.57 m) below the modern surface. Visual monitoring of the sediments continued below that depth but no additional screening occurred with these materials.

Utility Trenching

In addition to the piers, two utility lines were installed immediately north of the proposed South Texas Heritage Center. The parallel lines were oriented east-west and served to relocate an existing water line and storm sewer. The water line was tied into an existing water main paralleling the western ROW of Broadway. The storm sewer line terminated just east of the existing Witte Museum parking lot where it will eventually be tied into a new storm sewer line during future development at the Witte Museum.

The water line trench was approximately 1 meter (3.3 feet) wide and 1.5 meters (4.95 feet) deep, and approximately 100 meters (328 feet) long. The storm sewer line, excavated parallel to and immediately south of the water line, was also approximately 1 meter (3.3 feet) wide, but extended to a depth of 2.5 meters (8.2 feet). Backdirt was carefully examined for the presence of cultural materials, however screening was not conducted. A profile was drawn when previously undisturbed sediments were noted in a trench. Both trenches were photo-documented.

Chapter 3: Results of Investigations

Backhoe Trenching

Backhoe Trench 3

Backhoe Trench 3 was located closest to the South Texas Heritage Center and in line with the walkway and door leading into the building. It was orientated east-west and was approximately 3.5 meters in length (see Figure 2-2). In BHT 3, the asphalt layer (see Figure 3-2 Zone 1) varied in thickness between 6 to 10 cm and sat atop a yellowish-tan caliche base (Figure 3-1).

The caliche base was very thin averaging approximately 4 cm across the trench (Figure 3-2, Zone 2). Beneath the yellowish-tan caliche base was a slightly grayish matrix. This matrix appeared very similar in both texture and limestone inclusions to the caliche layer above, though it was grayish in color (Figure 3-2, Zone 3). This gray caliche zone was approximately 4 to 6 cm in thickness. Located just below this grayish caliche layer was a reddish-brown soil (Figure 3-2, Zone 4) containing angular limestone fragments. These upper four layers of soil were each fairly thin, amounting to only approximately 20 cm, but were uniformly scattered across the trench. All layers represent the fill that had been introduced to level the surface area during site preparation prior to the pouring of asphalt for the parking lot. Cultural material was not noted in these layers.

Another fill layer was present beneath the thin layers of fill, although this layer was much thicker than the prior excavated fill (Figure 3-2, Zone 5). This layer consisted of



Figure 3-1. Section of south wall of BHT 3. Note fill layers extending to approximately 60 cmbs.

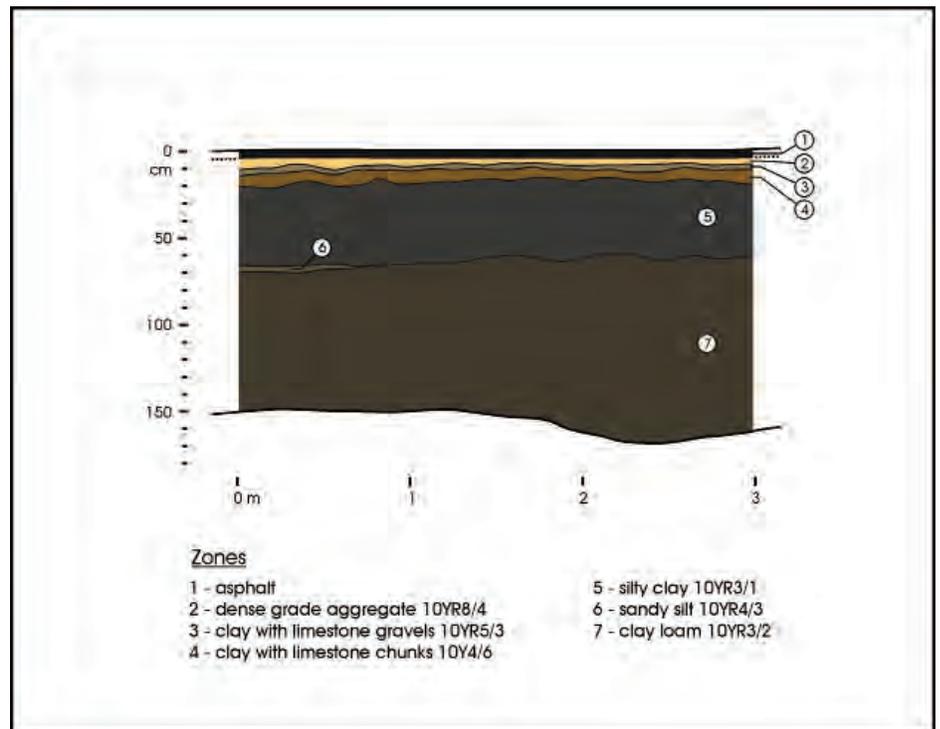


Figure 3-2. Profile of the south wall of Backhoe Trench 3.

dark-brown, silty clay with limestone nodules and pebbles. The layer measured approximately 40 cm in thickness.

A few artifacts were noted in the backdirt during excavation throughout this level. Artifacts consisted mainly of rusted nails. During the profiling of the trench, a few nails were noted in the wall at the base of this soil layer (Figure 3-2, Zone 5). A small intrusion of brown sandy silt was noted in the western portion of the profile immediately under the limestone layer, but it did not continue across the length of the trench (Figure 3-2, Zone 6). Beneath this layer, the trench profile consisted of dark-brown clay loam (Figure 3-2, Zone 7). No cultural material was noted in this portion of the trench.

Once the excavation of the trench reached 150 cm below surface, the walls of BHT 3 were carefully examined, photographed and profiled. At the conclusion of this documentation, the depth of the trench was extended to 2.8 meters (9 feet) below the surface. No crew member entered the trench, and any examination of the walls occurred from the ground surface. The backdirt derived from the trench was carefully examined in search of artifacts.

It appeared that the dark brown clay loam that began below the limestone-rich fill layer continued to the base of the trench. The

last few buckets of soil removed from the base of the trench consisted of sticky, black clay, perhaps indicative of basal clay and nearness to the water table. A sample of the clay derived from these deep backhoe buckets was collected and returned to the CAR laboratory for closer examination. No cultural material was noted in the walls or the backdirt removed from below 150 cmbs. The examination of the clay block returned to the laboratory revealed small specks of charcoal within the matrix. The largest charcoal speck noted in the sample was less than 5 mm. Mark Denton, of the Texas Historical Commission, and Kay Hinds of the City of San Antonio Office of Historic Preservation also observed specks of charcoal in the profile of the backhoe trench during a site visit.

Backhoe Trench 2

Backhoe Trench 2 (BHT 2), located to the southwest of BHT 3, was the second of the two excavated trenches. This trench was oriented north-south and was 3.5 meters in length. It was excavated to a terminal depth of approximately two meters below surface (mbs). The soils encountered in BHT 2 were similar to those noted in BHT 3, but did show some variations (Figure 3-3). The asphalt layer in BHT 2 ranged from about 10 cm to 15 cm in thickness. Just below the asphalt, there were three thin layers of caliche. Each caliche layer was slightly different in color. Each layer is approximately 4 to

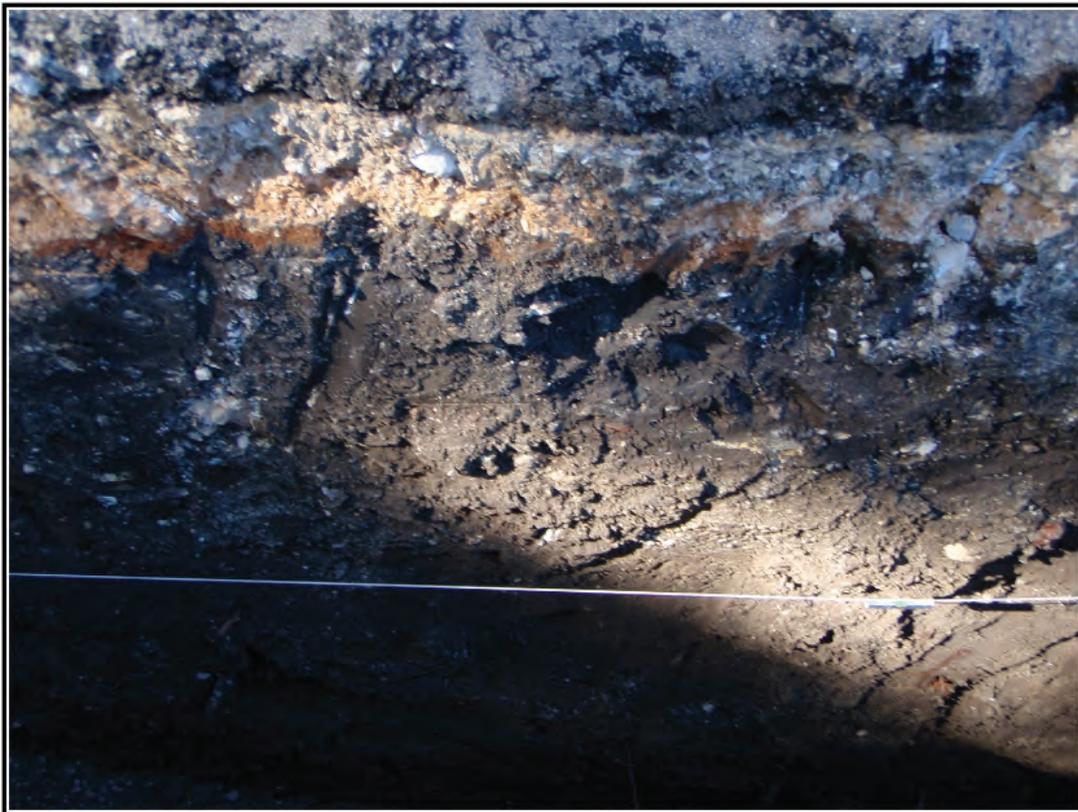


Figure 3-3. Section of west wall of Backhoe Trench 2.

6 cm in thickness. In the northern portion of the west wall profile, just below the last layer of caliche, a thin lens of red sand was noted. The lens of sand was approximately 2 to 4 cm in thickness.

A layer of black clay was observed beneath the sand as well as in the northern portion of the trench. This black clay had very few inclusions. This layer of black clay was localized to an area approximately 70 cm from the southern edge of the trench. Dark-brown clay containing lime flecks surrounded the black clay. In the northern portion of the trench at the base of this black clay level, a clump of rusted nails was noted in the wall. Examination of the backdirt from this level of the trench, identified fragments of red tile, clear and brown glass, and rusted nails. In the northern portion of the trench, a pocket of grayish-yellow, silty clay was also observed. Below this, and down to the base of the trench, the matrix consisted of a dark brown clay loam. This clay loam was the same soil observed in the majority of the BHT 3 profile. As there seemed to be little change after this soil was encountered in BHT 3, the excavation of BHT 2 stopped upon encountering this clay zone. After the excavation of BHT 2, the trench was photographed and profiled. Backdirt from both trenches was left next to their respective trenches so that Guido Brothers Construction could conduct the proper backfilling at a later date. Each trench was covered with plywood prior to the CAR archaeologists leaving the site.

Backhoe Trenching Summary

Backhoe trenching behind the South Texas Heritage Center was limited to two trenches to minimize potential impacts to large trees and buried utilities in or near the footprint of the proposed expansion. Due to these limitations, only two backhoe trenches were excavated within the proposed footprint (BHTs 2 and 3). The stratigraphy of the two trenches revealed approximately 60-70 cm of fill consisting of parking lot base and limestone fill that were likely introduced prior to the construction of Pioneer Hall. The artifacts encountered within this limestone fill were related to the early twentieth century. It is likely that these items date to the 1930s based upon the history of the construction of the Witte Museum and Pioneer Hall.

The soil below the modern fill was comprised of clay loam and while artifacts were not noted in it, a small speck of charcoal was noted in a piece of clay from BHT 3. The THC and COSAOHP personnel noted additional charcoal in the profile of at least one of the trenches during a subsequent site visit. It is possible that the flecks of charcoal indicate that the original pre-Witte Museum and Pioneer Hall surface is still at a lower level than the bottom of the excavated

trenches. The water table was not encountered during the excavation, although a change in the moisture content of the soil may indicate that the base of the trench was in close proximity to the water table.

Pier Drilling

Of the thirty piers drilled into the substrate and reaching a depth exceeding 11 meters (36-feet) below surface, ten were monitored and screened for archaeological materials (see Figure 2-1). Pier borings were mechanically augered and CAR personnel screened one bucket of material for every five feet of depth reached by the augers (Figure 3-4). Visual monitoring continued below a depth of 15 feet (4.57 m). Excavations were done in five foot increments. These increments have been arbitrarily assigned for the purposes of the discussion below as Zone 1 (0-5 feet), Zone 2 (5-10 feet), and Zone 3 (10-15 feet).



Figure 3-4. CAR staff screen excavated materials from pier borings in the footprint of the new extension.

The boring of **Pier 1** started before CAR personnel arrived on site. Several buckets of dirt were randomly chosen from the backdirt pile for screening. Red brick fragments were present in the initial two buckets, and a single brick fragment was noted in the third. This brick fragment came out of a depth of 10-15 feet below surface (Zone 3). It is believed that the brick from Zone 3 could have been displaced, having fallen down from one of the upper levels. No other cultural materials were observed during the boring for Pier 1.

Pier 2 was located north of Pier 1 (see Figure 2-1) and included modern fill materials including red and yellow brick fragments down to 10 feet. Zone 3 (10-15 ft) consisted of a sticky, dark-brown clay and included few organic materials.

A few flecks of charcoal were noted in the screen but none were observed during visual monitoring below this zone.

The upper zone (0-5 ft) of **Pier 3** also contained modern fill materials of asphalt and brick, as well as at least one fragment of burned limestone. Zone 2 (5-10 ft) was relatively free of modern debris but did contain some small pebbles and snails. Zone 3 went below the water table; at this point the clay content of the soils increased as the soil color turned grayish green.

Pier 4, located in the northwest corner of the new building addition, also encountered modern fill in the upper zone that included brick fragments, nails, and clear bottle glass. Zone 2 of the pier boring contained low amounts of limestone, possibly from modern fill, as well as a few snails. Limestone fragments again increased in Zone 3, but additional cultural materials were not encountered.

Pier 5 was smaller than most of the other borings with a diameter of only 18 inches (46 cm). The upper zone contained modern fill materials although also noted in the matrix were several pieces of purpled glass pre-dating 1915. The upper portion of Zone 2 (5-10 ft) contained some sandy soils before changing to brownish silty clay. A few charcoal flecks were noted in the screened material from Zone 2. Zone 3 shifted to a greenish-gray clay which originated below the water table. No additional cultural materials were noted in or below Zone 3.

A mix of clear glass, burned rocks, brick fragments, and charcoal were observed in the modern fill layers of Zone 1 in **Pier 6**. Zone 2 produced a dark brown clay with little modern fill and some charcoal. The third zone (10-15 ft) began with a dark brown clay and some gravels, then transitioned into a greenish-gray clay near the bottom of the zone.

The boring of **Pier 7** initially encountered a zone of reddish clay which transitioned into a thick layer of disturbed soils containing numerous small limestone gravels. Zone 2 (5-10 ft) was composed of dark brown silty clay with no apparent inclusions. Zone 3 lacked any cultural materials.

Located east of Pier 3 (Figure 2-1), the upper zone of **Pier 8** (0-5 ft) consisted of a brown loamy-clay with some gray clay and limestone gravel inclusions. Zone 2 was devoid of cultural materials, but continued to contain small limestone fragments. At the bottom of Zone 3 (at 13-15 ft) was noted a transition into a very dark-brown clay containing some limestone inclusions.

Immediately south of Pier 6, the boring for **Pier 9** was excavated through an upper zone of modern fill. Below Zone 1, soils transitioned to silty clay which lacked cultural materials. Zone 3 (10-15 ft) consisted of a dark brown clay with limestone gravel inclusions. This matrix transitioned into a greenish-gray clay near the bottom of Zone 3.

Pier 10 was the final boring monitored and was composed of a modern fill with limestone inclusions in the upper 5-feet. Zone 2 consisted of a light to medium brown clay and included some snail shells and small gravels. Zone 3 lacked any cultural materials and transitioned into a greenish-gray clay which seemed to originate below the water table.

Pier Boring Summary

The ten borings sampled by CAR personnel represent a cross-section of the western and northern portions of the proposed expansion of the Pioneer Hall (Figure 2-1). A thick layer of modern fill was observed in all borings, although its composition varied across the site. This deposit appears to represent the same modern fill materials reported by Ulrich (2011) across much of the northern sections of the Witte Museum property. These materials were thought to have originated in the mid-1930s, soon after, or at the time of, construction of the Pioneer Museum.

Utility Trenching

Fire and Water Line

The excavation of a new fire and water line was monitored immediately to the north and east of the South Texas Heritage Center. It was expected that the new line would cross the area of the *Acequia Madre* at approximately the center or eastern side of the existing Witte Museum parking lot. Unfortunately, because the trench for the new water line was only excavated to a depth of approximately 1 meter, no evidence of the *Acequia Madre* was observed.

Instead, the western two-thirds of the trench was excavated entirely through fill material. The trench was expected to be excavated all the way through the fill material based on the findings of the previous testing project (Ulrich 2011; see also Figure 3-5). The upper portion of fill encountered directly below the parking-lot pavement consisted of dense grade aggregate (DGA) resting on top of a thick, yellowish layer of silty loam with yellow brick fragments and modern fill material present throughout. Below this, a layer of dark brown fill was encountered which was composed of a silty loam with modern debris integrated throughout. The lowest portions of the trench included more of the yellowish brick-



Figure 3-5. South wall profile of the fire/water line trench showing successive layers of modern fill materials.

fill materials, as well as a lighter brown, silty clay fill with limestone inclusions.

East of the existing parking lot, a thin layer of natural sediments was encountered at the bottom of the waterline trench. The layer consisted of dark brown silty clay loam with almost no inclusions. This natural soil was carefully examined for the presence of cultural materials, but none were noted.

Storm Sewer Line

Several days after the installation of the fire and water line, a new storm sewer line was excavated parallel to, and immediately to the south of, the water line trench. Because this trench was to extend more than a meter below the water line trench, it was hoped that it might reveal considerably more about the makeup of the natural soils, and also expose the *Acequia Madre*.

Excavation of the storm sewer line began just east of the existing Witte Museum parking lot and continued westerly

toward the north side of the South Texas Heritage Center. Regrettably, archaeological monitoring was exceedingly difficult to conduct from the present surface. Because of the depth of the trench (2.20 mbs), CAR monitors could not enter the trench without proper wall bracings in place. Once the trench was properly braced (Figure 3-6), the CAR monitor entered the trench to attempt to access the soils and to make profile drawings. Unfortunately, the placement of the wall bracings obstructed more than 85% of the profile which made the archaeological assessment of the trench exceedingly difficult.



Figure 3-6. Storm Sewer Trench showing the expansion plates obstructing a clear view of the wall profile.

One feature, a stack of limestone cobbles, was encountered and documented (Feature 1) in the north wall of the storm sewer trench (Figure 3-7). It was relatively narrow (<40 cm) and reached a depth of about 1.45 m below the ground surface.

Since this feature was not observed in the south wall profile or in the profiles of the water line trench immediately to the north, it is believed that it represents some kind of stone pier, and was perhaps associated with the second Alligator Garden location (Figure 3-8).



Figure 3-7. Feature 1 in north wall of Storm Sewer Trench in the vicinity of the second Alligator Garden.

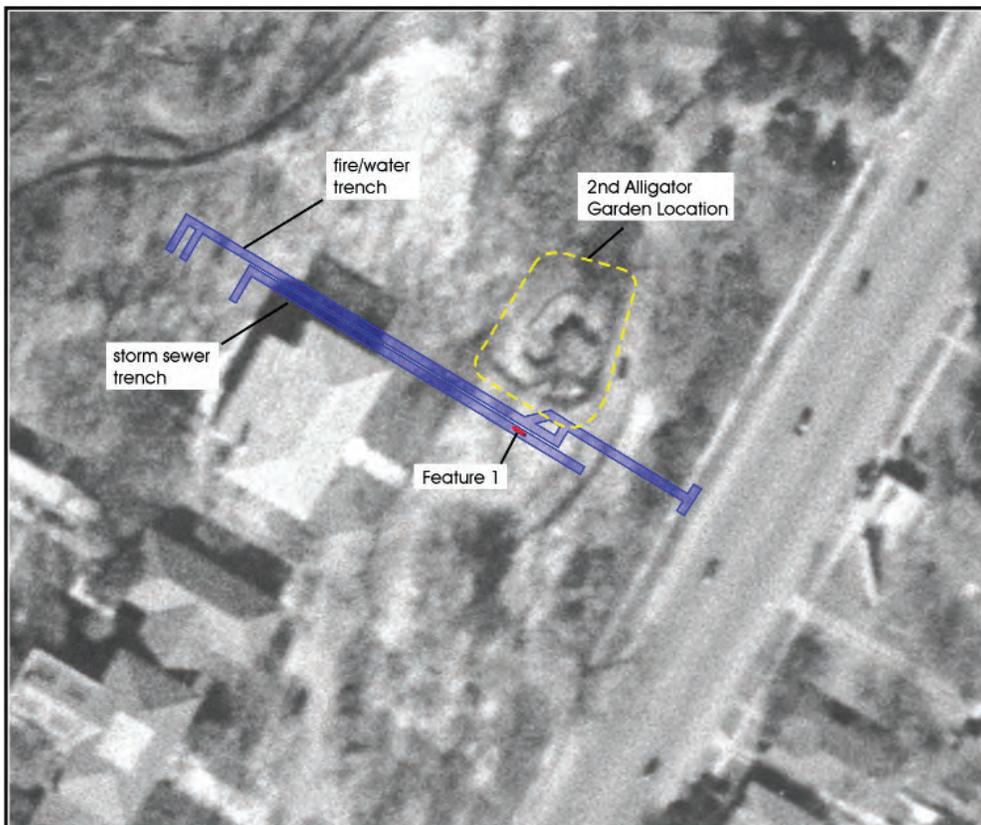


Figure 3-8. 1939 aerial view of the project area showing the backhoe trench locations, second location of the Alligator Garden, and Feature 1 in the north wall of the Storm Sewer Trench.

Chapter 4: Conclusions and Recommendations

At the recommendation of the THC, two backhoe trenches were excavated within the footprint of the proposed expansion of Pioneer Hall. In addition, ten pier borings within the footprint and two parallel utility trenches to the north and east of the building, were monitored for cultural remains. Archaeological monitoring was deemed necessary due to the rich archaeological background of Brackenridge Park (Ulrich and Pfeiffer 2009) and in light of recent findings related to the headwaters of the *Acequia Madre*, or Alamo Ditch (Ulrich 2011). A thick fill material, thought to have been mechanically deposited across the area in the mid- to late-1930s, was found to cover the current APE. Corresponding roughly to the time

of construction of Pioneer Hall, the fill varied across the site in both thickness and content.

A single feature, a small stacked stone footer, thought to be possibly related to the second Alligator Garden location, was observed in the north wall of the relatively deep (2.2 mbs) storm sewer trench. No other culturally significant artifacts or features were observed during the course of this project. Therefore, the CAR recommends that the renovation and expansion of the South Texas Heritage Center be permitted to continue as planned. No adverse affect on significant cultural deposits or features is anticipated in this area.

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