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Archaeological Monitoring Of AT&T Buried Cable Installation Along Hickman Street, North Flores Street, and Krempkau, San Antonio, Bexar County, Texas

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Texas Antiquities Committee Permit Number: 8051

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Management Summary:

In June 2017, AT&T (**CLIENT**) contracted **Raba Kistner Environmental, Inc.** (**RKEI**) to conduct archaeological monitoring of construction activities associated with the installation of new fiber optic lines along Hickman Street, Flores Street, and Kempkau. Archaeological monitoring of the proposed project was requested by the City of San Antonio's Office of Historic Preservation (COSA-OHP) due to the projected alignment of the *Azalán Acequia* and proximity to San Pedro Springs Park. The project is located in central San Antonio, Bexar County, Texas and occured on lands owned or controlled by the City of San Antonio, a political subdivision of the State of Texas. As such, the proposed undertaking is subject to review under the Antiquities Code of Texas (ACT). All work was performed in compliance with the ACT under Texas Antiquities Committee Permit Number 8051.

The project is located within a residential development and consisted of the monitoring of 11 locations: five located along Hickman Street, five located along the east side of North Flores Street, and one located along Kempkau. The undertaking involved the excavation of 10 bore pits and one trench. Size of the excavations varied from 1.5 to 10 feet in length and 1.5 feet in width. Depths of the excavations ranged from 2 to 4.25 feet. For archaeological purposes, the direct Area of Potential Effect (APE) for the project were the locations where the components were excavated.

During the investigations, a majority of the APE showed evidence of disturbance. Disturbances included the installation of existing utilities, sidewalk and driveway construction, road construction and maintenance, and tree planting. No prehistoric or historic cultural materials were observed, nor were any remnants of the *Azalán Acequia* identified.

Based on archaeological monitoring, **RKEI** does not recommend any further archaeological investigations within the areas monitored. However, should additional work occur near the alignment of Azalán Acequia or within the vicinity of San Pedro Springs Park, further archaeological work may be required. All field records and photographs produced during field investigations were curated at the Center for Archaeological Research at the University of Texas at San Antonio.

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Introduction

Raba Kistner Environmental, Inc. (**RKEI**) was contracted by AT&T Corporation (**CLIENT**) to conduct archaeological monitoring of the excavation of bore pits associated with the installation of new fiber optic lines along Hickman Street, North Flores Street, and Krempkau in San Antonio, Bexar County, Texas (**Figure 1**). The project is located on lands owned or controlled by the City of San Antonio, a political subdivision of the State of Texas. As such, the proposed undertaking is subject to review under the Antiquities Code of Texas (ACT) and the Historic Preservation and Design Section of the City of San Antonio's Unified Development Code (Article VI 35-360 to 35-364).

Archaeological monitoring of the proposed project was requested by the City of San Antonio's Office of Historic Preservation (COSA-OHP) due to the projected alignment of the *Alazan Acequia* (41BX620) and the proximity to San Pedro Springs Park (41BX19). The purpose of the investigations were to identify, if possible, the alignment of the *acequia* or other archaeological deposits that maybe located within the project area. Work was conducted on June 21–23 and 28, 2017 by Project Archaeologist Kristi Boreza and July 6, 17, and 18, 2017 by Project Archaeologists Mark Luzmoor. Kristi Miller Nichols served as the Principal Investigator. All work was performed in compliance with the ACT under Texas Antiquities Committee Permit Number 8051.

Project Description and the Area of Potential Effects

The proposed undertaking is situated within a residential setting central San Antonio along three streets bounded by W. Ashby Place along the northern edge, Blanco Road along the western edge, Fredericksburg Road along the southwestern edge, and North Flores Street along the eastern edge. The proposed impacts occurred along Hickman Street, North Flores Street, and Krempkau. The impacts included the excavation of 10 bore pits and the opening of a trench to replace an existing buried utility. For archaeological purposes the Areas of Potential Effect (APE) are the locations where the bore pits and trench are excavated (**Figure 2**). Sizes of the 10 bore pits varied, ranging in size from 1.5 to 3 feet in length by 1.5 feet in width, while the trench measured 10 feet in length by 1.5 feet wide. The direct APE is 0.0013 acres; the combined total of each component. Depths of each component varied, measuring approximately 2 to 4.25 feet.

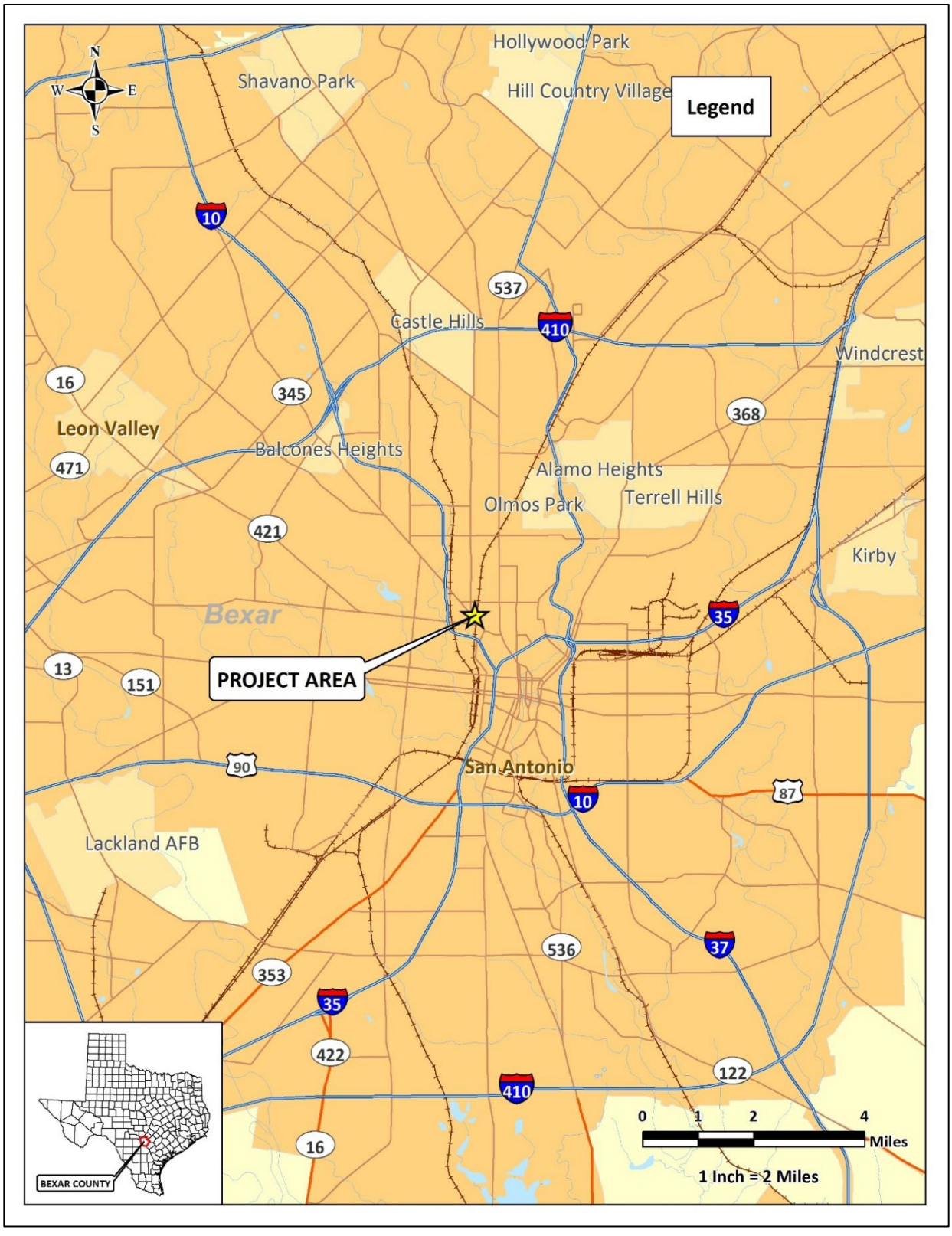

Figure 1. Project location map.

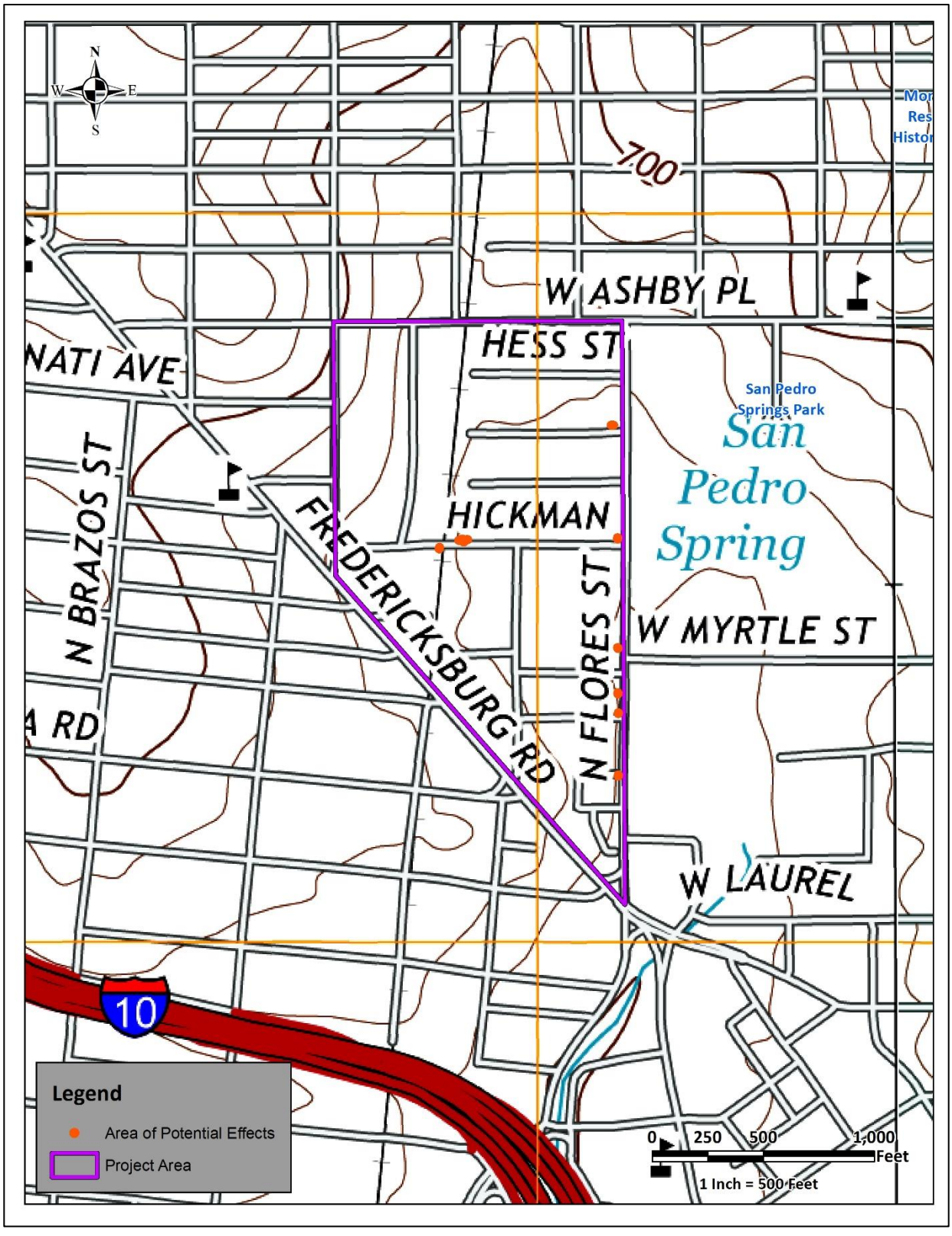

Figure 2. The APE on the San Antonio West, Texas (2998-244) USGS 7.5-minute topographic quadrangle map.

Environmental Setting

Project Area Setting

The project area is located in the south-central Texas geographic region within the Blackland Prairie eco-region. The Blackland Prairie is an area of low topographic relief and poor drainage, prone to frequent flooding (Collins 2004). The Blackland Prairie physiographic region is characterized by gently undulating topography and is generally defined as grasslands punctuated by riparian bands along creeks, rivers, and other drainages. Creation of the Blackland Prairies occurred during the late Tertiary, with the erosions of soils on the Edwards Plateau. These soils were deposited by eolian and colluvial processes across an existing, eroded parent material of the Gulf Coastal Plain, creating a mix of deep Tertiary and Quaternary calcareous clay soils (Black 1989).

Geology

The underlying geology of the project area is composed entirely of the Cretaceous-age Pecan Gap Chalk (Kpg) formation. Pecan Gap Chalk reaches depths ranging from 100 to 400 feet, becoming thinner as it continues westward. The formation is composed of chalk and chalky marl that becomes calcareous as it thins (Barnes 1983).

Soils

The soils of the project area are predominately composed of Austin silty clay with a small pocket of Branyon clay (HtB) along the southeast corner (**Figure 3**). Austin Series soils are characterized as well drained, moderately deep soils that extend to a depth of 144 centimeters (cm) below surface (bs). These soils are encountered on erosional uplands that are nearly level to sloping and are derived from residuum of weathered chalk (Natural Resource Conservation Services [NRCS] 2017).

Branyon Series soils are characterized as very deep, moderately well-drained soils that are slowly permeable with slopes ranging from 1 to 3 percent. These types of soils are formed in calcareous clayey alluvium derived from mudstone of Pleistocene age deposits. Branyon soils are nearly level to very gently sloping soils typically encountered on stream terraces within river valleys and reaching depths up to 203 (cmbs) (NRCS 2017).

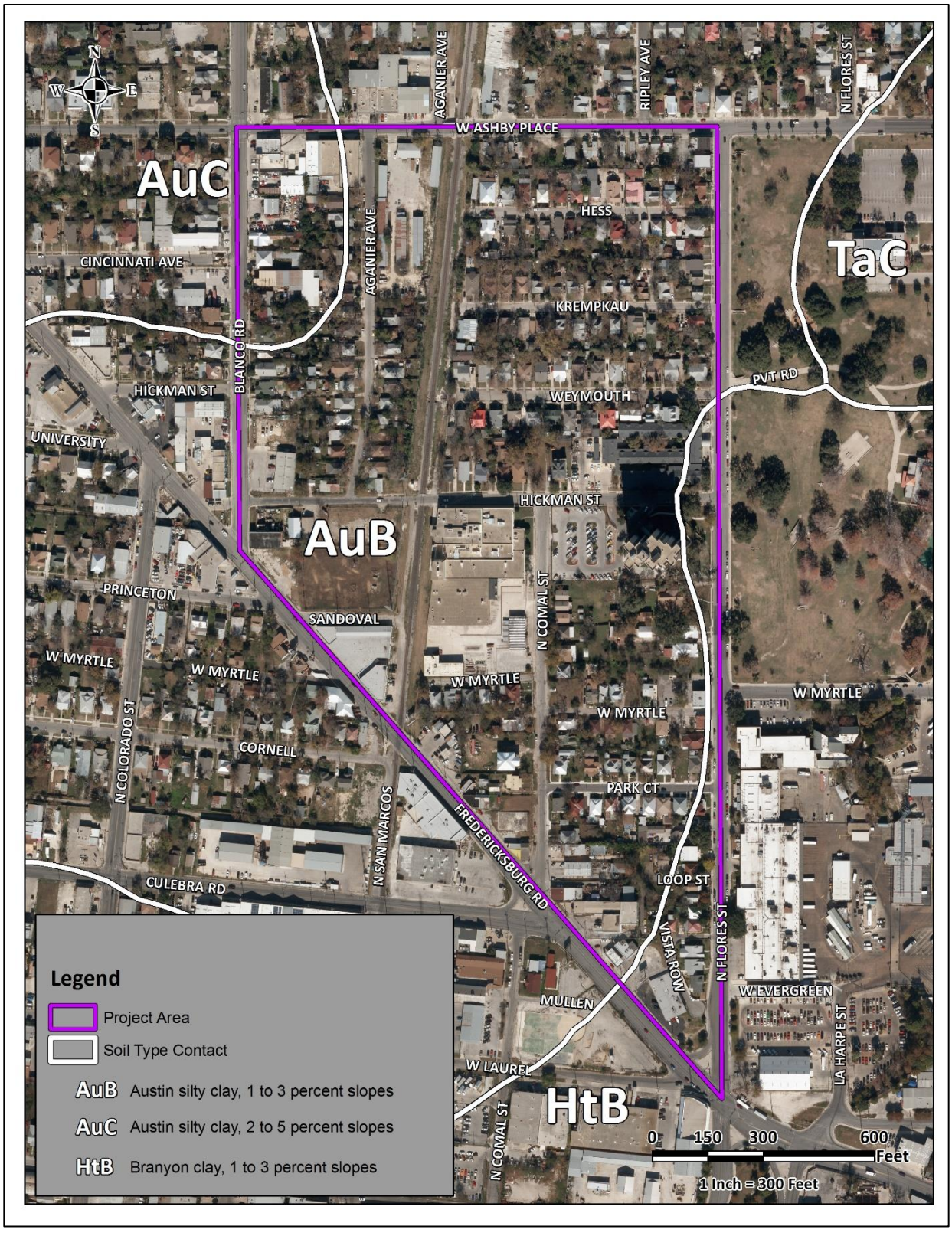

Figure 3. Soils encountered within the project area and vicinity.

Culture Chronology and Previous Archaeology

The project area is located at the cusp of Central Texas and South Texas archaeological regions (Turner and Hester 1999). Based on extensive research conducted by Black (1989), Collins (2004), Hester (2004), Johnson et al. (1962), Prewitt (1981, 1985), Sorrow et al. (1967), Suhm (1957, 1960), Suhm et al. (1954), and Weir (1976), Central Texas has a well-established chronological sequence beginning 12,000 years ago. The sequence for South Texas is less defined, though the project area likely shares many of the attributes identified for central Texas. The chronological sequence of central Texas is divided in to four cultural periods: Paleoindian (11,500–8,800 B.P.), Archaic (8,000–1,200 B.P.), Late Prehistoric (1,200–400 B.P.), and Historic (400 B.P. to present).

Although the South Texas Plains archaeological region is generally considered a distinct archaeological entity, much of what is known of the area is in part derived from comparisons and extrapolation with adjacent areas that been the subjected to more intensive investigation, particularly the Central Texas archaeological region. Similar to the cultural chronology provided by the Central Texas region, the South Texas chronology follows the same fourfold divisions. The chronology for South Texas is similar. Following Hester's (2004) chronology, the four prehistoric cultural periods in South Texas include the Paleoindian (11,200–8,000 B.P), Archaic (8,000–1,200 B.P.), Late Prehistoric (1,200–400 B.P.), and Protohistoric (400–300 B.P).

These divisions are not absolute, but represent contrived temporal categories based on perceived cultural expressions reflected in lithic technology, subsistence practices, mortuary behavior, and other sorts of material remains. These material expressions further reflect boarder patterns in the environment and human behavior.

The most commonly recorded sites in South Texas are open occupation sites. In some cases, meaningful excavation of these sites has proven to be a challenge to archaeologists (Hester 2004). This vexing situation stems from the exclusively horizontal patterning of many open occupation sites in the region. These sites tend to exist as laterally extensive occupation and use areas where temporally separated components occur on a single surface without overlapping (Hester 2004). Other open occupation sites, especially in upland settings, occur on stable ancient surfaces with very shallow or deflated cultural deposits that are sometimes impossible to conclusively attribute to a particular time period. Comparatively few deeply stratified occupation sites have been excavated in South Texas. Black (1989) posits that this is the result of both settlement patterning and depositional context. Common site types in South Texas include lithic procurement and reduction sites, rock shelters, artifact caches, and burials. By contrast, the Central Texas archaeological region is one of the most intensively studied in Texas (Black 1989). More sites have been recorded and excavated in Central Texas than any other region. Aside from procurement and reduction sites, burned rock middens, located on hilltops or upland settings are the most characteristic prehistoric site type in Central Texas. However, site types also include buried terrace occupation sites, sites in rock shelters, and burials.

Paleoindian

The Paleoindian Period was commonly characterized throughout Texas by nomadic big-game hunters who heavily relied on megafauna of the Pleistocene (e.g., mammoth, mastodon, bison, camel, and horse) for subsistence (*sensu* Willey 1966). However, a more accurate description of this period is presented by Bousman et al. (1990: 22): "…this period may have seen use by small, mobile bands of nonspecialized hunters and gathers occasionally utilizing megafauna perhaps only as the opportunity arose." Thus, according to Bousman et al. (1990), Paleoindians used a wider variety of resources than previously thought. Evidence of this broader resource subsistence is based on the works of Johnson (1977), Collins (1998: 155–156), and Collins and Brown (2000). Johnson (1977) reviewed reports on numerous Paleoindian sites that indicated a range of small and medium fauna were harvested in addition to big game. Investigations at the Wilson-Leonard site (41WM235), the Gault site (41BL323), and Lubbock Lake (41LU1) provide evidence of small and medium faunal remains (i.e., turtle, rabbit, squirrel, snakes, gopher, and deer) associated with megafaunal remains (i.e., bison and mammoth) (Collins 1998: 155–156). Clovis and Folsom points are the primary diagnostic artifacts associated with this period (Turner and Hester 1999; Collins 2004).

Archaic Period

The Archaic Period spans nearly 7,000 years of prehistory. The primary cultural marker of this time period is the burned rock midden (Collins 2004: 119). These piles of burned limestone, sandstone, and other lithic debris represent the remains of multiple ovens that were used, reused, and discarded over time. Their appearance signifies a shift from a big-game hunting subsistence strategy to a less mobile, generalized subsistence strategy. Projectile point technology also changed; lanceolate-shaped points gave way to dart points that were stemmed and barbed (Black 1989). During the Archaic Period the climate changed from wet and mild conditions seen in the Paleoindian Period, to warmer and drier conditions. Researchers believe that the changes in climate influenced prehistoric subsistence strategies (Story 1985: 38–39; Weir 1976).

The Archaic period is typically divided into three sub-periods: early, middle and late. The Early Archaic Period is still relatively obscure in the archaeological record. The majority of Early Archaic sites are distributed around the Edwards Plateau along the eastern and southern margins, suggesting concentrations near reliable water sources with a variety of food resources. These sites are generally described as small with highly diverse tool assemblages. Cultural material associated with Early Archaic sites are points (specifically Angostura, Early Split Stem, and Martindale-Uvalde) (Collins 2004), Clear Fork and Guadalupe bifaces, manos, hammerstones, burins, metates, circular scrapers, and various biface styles (Osburn et al. 2007), suggesting specialized tool usage. Also, burials have been found associated with this period, although very few (Prewitt 1981; Story 1985).

During the Middle Archaic, the climate became very warm and dry. The number and size of burned rock middens from this period increases dramatically, leading many archaeologists to posit not only a population increase but also an intensification in the types of food processing typically done in earth ovens. Types of projectile points that frequently occur on Middle Archaic sites are Bulverde, Langtry, and Kinney dart points (Hall et al. 1986). Other materials found among Middle Archaic assemblages are an

increase of wooden and bone implements, plant processing implements, and the intensive use of large burned rock features. Burials during this period become more frequent than in the previous period.

During the Late Archaic, climatic conditions once again became more mesic. Cultural traditions observed in the Middle Archaic carry over in to the Late Archaic. There is an intensification of the Middle Archaic traditions. Trade is observed during this period with the exchanging of material from different localities. Coastal materials, such as shells used as ornaments, have been reported to have been exchanged in for both finished tools and raw material (Story 1985). Rock ovens and hearths were continuously used as a means to prepare food, and bison once again became available. Ritualized mortuary practice became more common during the Late Archaic, with interments becoming quite elaborate in terms of associated burial furniture. Large cemeteries established along drainages suggested the importance of the location, and perhaps territorial ties by groups to these localities (Story 1985). Location of these cemeteries "are believed to be the result of the same cultural group using a place on the landscape to reaffirm their rights of descent and control/access to critical resources" (Osburn et al. 2007: 15; see Taylor et al. 1995: 627–631 and Taylor 1998).

Late Prehistoric

Of the prehistoric periods, the Late Prehistoric Period is the best defined, marked by the adoption of the bow and arrow and the production of small arrow points (Hester 1981: 122). The emergence of agriculture and ceramics, also occurred in the Late Prehistoric. While incipient agricultural and ceramic use is evident in South Texas, most researchers believe that these technologies diffused into South Texas from other regions (Bousman et al. 1990). Late Prehistoric hunter-gathers exploited a wide range of animal and plant resources. Food processing techniques relied heavily on manos and metates, and earth ovens for cooking. Diagnostic artifacts of this time period include Scallorn, Edwards and Perdiz arrow points. Sites tend to be more closely clustered to creeks, rather than dispersed along other landforms, suggesting intensifying nucleation around reliable natural resources.

Protohistoric Period

The Protohistoric Period (ca. A.D. 1528–1700) is ushered in by the arrival of the Spanish explorer Cabeza de Vaca in 1528 into south and southeast Texas. Hester (2004) generally considers the period prior to 1700 as Protohistoric. Archaeological sites dated to this sub-period contain a mix of European (e.g., metal and glass arrow points, trade beads, and wheel-made or glazed ceramics) and traditional Native American artifacts (e.g., manufactured stone tools). The effect the Spanish presence in Mexico had on Indians in Texas prior to about 1700 is not well-understood. What is known is that the initial arrival of Spanish missionaries and explorers spread severe disease that killed, displaced, and fragmented a huge percentage of the population. As colonization spread from Mexico, some of the Native American groups moved northward to avoid the Spanish. Many others formed extensive confederacies to protect each other, resist against the Spanish settlers, and maintain access to Central Texas bison hunting territories (Tomka, Personal Communication 2017). At the same time, invading Indian groups from the north put pressure on Native American groups in North Texas (Nickels et al. 1997). Historians believe that these pressures led to intense territorial disputes, further destabilizing Native American populations.

Historic Period

The beginnings of San Antonio came about with the establishment of Mission San Antonio de Valero in 1718. Fray Antonio de San Buenaventura y Olivares briefly visited the site several years prior, and petitioned to set up a mission at the headwaters of the San Antonio River to act as a waypoint in the journey to East Texas. The Marques de Valero, Viceroy of New Spain, granted Olivares' request (de la Teja 1995). Mission Valero occupied at least two locations before it settled into its current spot. The final location was in use by 1724.

Five days after Mission Valero was founded, Presidio de Bexar was established. The presidio was to house the Spanish soldiers who had come along with the expedition to found the Mission. Typically, the families that followed the soldiers lived just outside the presidio.

Two years later, in 1720, Mission San José y San Miguel de Aguayo was established on the opposite bank of the San Antonio River, and to the south of Mission Valero and Presidio San Antonio de Bexar. This mission was established to help serve native groups that did not want to reside at Mission Valero because they were not on friendly terms with groups already living there. The original location of Mission San José was along the east bank of the San Antonio River, approximately three leagues from Mission Valero. The mission was then moved to the opposite bank sometime between 1724 and 1729, and relocated to its present site during the 1740s due to an epidemic (Scurlock et al. 1976:222).

In 1722, just two years after Mission San José was founded, Mission San Francisco Xavier de Nàjera was established. The mission was to serve a group of 50 Ervipiami families that came from the Brazos River area (Schuetz 1968:11). Mission San Francisco Xavier de Nàjera was located on or near the present site of Mission Concepción. The mission was unsuccessful due to a lack of funding. An attempt was made to make the mission a sub-mission of Valero, but this failed as well (Habig 1968:78-81). Its doors closed in 1726 (Schuetz 1968:11). Ivey (1984:13) argued that the closure of the mission was due to the natives' lack of interest in entering mission life.

Within the next few years, three other missions were established within the San Antonio area. The remaining three missions were established in San Antonio within weeks of each other in 1731. These three missions, Mission Nuestra Señora de la Purisima Concepción, Mission San Juan de Capistrano, and Mission San Francisco de la Espada, were originally missions established in east Texas. When each failed along the eastern border, they were moved to San Antonio.

In addition to the five missions, the civilian community outside of the mission and presidio, Villa San Fernando de Bexar was established by the Canary Islanders. Prior to the establishment of Villa San Fernando, Villa de Bexar had been settled by 30 presidial soldiers, seven of whom were married and brought their families. Archival research indicates that upon arrival, the Canary Islanders immediately took over the land surrounding the garrison. This land was used as pasture and was originally property of Mission Valero. There had been a lack of cleared agricultural land at the time, leading Captain Juan Antonio Pérez de Almazán to allow the Canary Islanders use of the property (de la Teja 1995). The initial plan was for additional Canary Island settlers to be sent to San Antonio after the first group was

established. Due to high costs to the Spanish Crown, no more groups were brought to Texas. The Canary Islanders launched a formal complaint against Mission Valero. In 1731, the Canary Islanders established their own villa, named San Fernando de Bexar, with their own church. The arrival of the *Isleños* resulted in the first clearly defined civilian settlement in San Antonio.

With the establishment of the San Antonio Missions, the Spanish constructed a system of *acequias* (irrigation ditches) utilizing local springs and the San Antonio River to supply water for the agricultural fields of the missions, personal use, and house hold purposes (Cox 2005; Porter 2009). The first *acequias* were simple, soil-lined, gravity-flow canals whose depressions can still be seen today in certain areas around central San Antonio (Cox et al. 1999). This system allowed the Spanish to sustain the large population of the Native Americans, settlers, and soldiers that occupied the area.

Alazán Acequia

In 1874 engineers began construction on the *Alazán Acequia*, which extends from the Upper Labor Acequia near its beginning at San Pedro Springs, and travels north-northwest for a distance of 0.75 mile before momentarily redirecting west then south for the majority of its span. In total, the *Alazán Acequia* spanned approximately 4 miles and was completed by 1875. It was soon evident, however, that the *acequia* was not structurally sufficient for its purpose, failing to follow the traditional methods of utilizing contour lines to direct water flow (Cox 2005). In an attempt to salvage the project, the *acequia* was deepened in November of 1876 and lined with a smooth concrete finish to promote water flow. The result was a 10-foot-deep ditch that extended 2 feet into natural bedrock (Cox 2005). Unfortunately, the Alazán Acequia was still considered to be a structural failure and a “waste of public funds” (Cox 2005:71). The Alazán Acequia was closed and filled in by 1900 (Cox 2005).

Previous Archaeology and Known Historic Resources

A review of the Texas Historical Commission's (THC) Texas Archeological Sites Atlas an online database, revealed that the APEs have not been previously surveyed for cultural resources surveys, nor have any previously recorded archaeological sites been documented within the APE (**Figure 4**). Examination of a ½ kilometer (km) radius of the project area identified two National Register Districts, 10 archaeological projects, and two previously recorded archaeological sites.

Two National Register Districts are located within ½-km of the project area. Monte Vista Residential Historic District is located approximately 0.45 km east of the project area and was listed in 1998 (**see Figure 4**). The neighborhood is considered to have national significance as the architecture within the area is unique to the late nineteenth and early twentieth centuries. Development in the neighborhood began in 1882 (THC 2017).

Approximately 0.01 km to the east of the project area, is San Pedro Springs Park. San Pedro Springs Park was nominated to the National Register in 1979 (**see Figure 4**). San Pedro Springs Park is the second oldest park in the United States and is known for significant prehistoric and historic cultural remains within San Antonio, Texas. The location was first visited in 1709 during the Espinosa-Olivares-Aguirre Expedition. The lands were designated for public use in 1729, and have been actively used over the next centuries. Prior to Spanish occupation, the site was used by the Native American groups who frequented the area. An Early Archaic site was encountered within the park (Mauldin et al. 2015). The park exhibits Spanish Colonial features, as well as nineteenth- to mid-twentieth century structures that play an important role in the history of San Antonio (THC 2017).

Ten archaeological projects have been conducted, within San Pedro Springs Park. In 1966, San Pedro Springs Park was first investigated and recorded as an archaeological site (41BX19) by Mardith Schuetz (Mauldin et al. 2015). The investigations where then followed by the first excavations in 1977 by Anne Fox of the Center for Archaeological Research at the University of Texas at San Antonio (UTSA-CAR) (Mauldin et al. 2015). During these excavations, the *Alazán Acequia* was documented and recorded as site 41BX620. Further investigation were conducted in 1991 by a privately owned firm; however no other information in regards to this project is available (THC 2017). In 1996, San Pedro Springs Park was revisited UTSA-CAR. During this visit UTSA-CAR excavated backhoe trenches and shovel tests. Through the use of these excavation techniques as well as historic maps the *Alazán Acequia* was relocated in (Mauldin et al. 2015).

In 1998, UTSA-CAR excavated shovel tests and test units at San Pedro Springs Park. Subsurface testing revealed that grading operations which previously occurred with in the park had damaged intact deposits (Mauldin et al. 2015). Again in 1998, UTSA-CAR revisited the park and conducted pedestrian survey, shovel testing, and backhoe trenching. Backhoe trenching results during this visit indicate that the Spanish Colonial dam and *acequia* thought to be located within the surveyed APE had been destroyed by construction activities in the early twentieth century (Houk 1999).

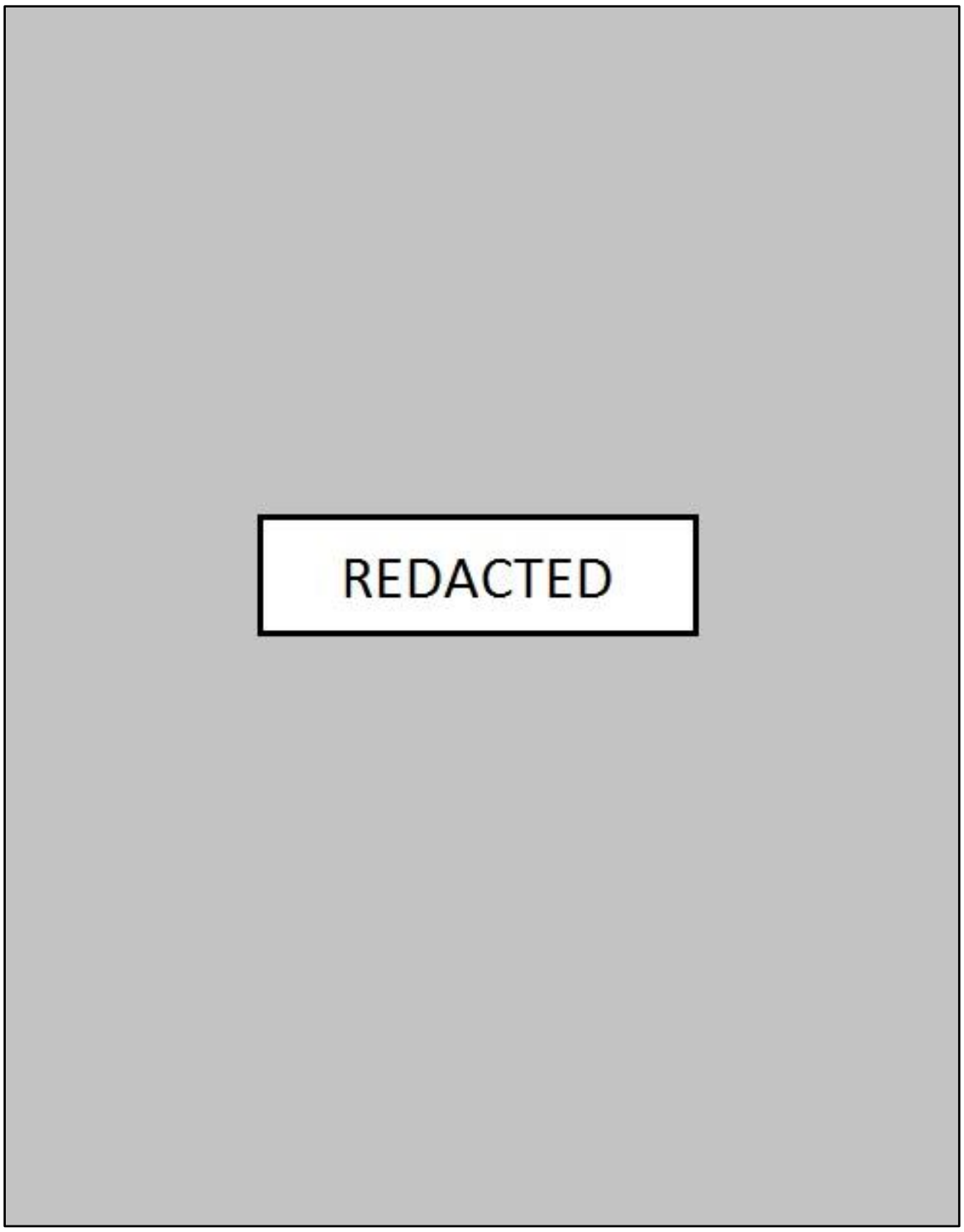

Figure 4. Archaeological investigations within ½-kilometer of the APE.

In 2002, Zapata and Meissner from UTSA-CAR conducted archaeological monitoring of construction activities associated with the installation of a sprinkler system and playground facilities in close proximity to San Pedro Springs Park. In addition to archaeological monitoring, shovel testing was also performed (Mauldin et al. 2015). In 2004, Uecker from UTSA-CAR monitored the excavation of pits being dug for the placement of trees on North Flores and West Ashby Streets. No cultural materials or features were identified at this time (Mauldin et al. 2015). In 2011, UTSA-CAR monitored construction activities occurring within close proximity to San Pedro Springs Park; however no other information in regards to this project is available (THC 2017).

In the winter of 2013 and early 2014, UTSA-CAR conducted shovel tests, backhoe trenches, test units, and auger holes within the park grounds (Mauldin 2015). Both prehistoric and historic deposits were identified during the investigations. The subsurface testing suggested that deposits within the project area were heavily disturbed (Mauldin et al. 2015).

Site 41BX19 (also known as San Pedro Springs Park) is a multicomponent archaeological site, with evidence of occupation ranging from the Archaic Period to the Historic Period. The site is listed as a State Antiquities Landmark (SAL) and is listed on the National Register of Historic Places (NRHP). Site 41BX620 is a historic-age stone lined irrigation ditch known as the Alazán *Acequia*. The acequia runs through the project area and is immediately adjacent to APEs located along Hickman and Krempkau Streets (**see Figure 4**). The *acequia* is considered eligible as a SAL and is also considered eligible for listing on the NRHP.

Archaeological Monitoring Results

In June and July of 2017, **RKEI** monitored the construction activities associated with the installation of AT&T buried cable lines within a residential setting in San Antonio, Bexar County Texas, bounded by W. Ashby Place to the north, Blanco Road to the west, Fredericksburg Road to the southwest, and North Flores Street to the east. The APEs within the project area are situated along Hickman Street, North Flores Street, and Krempkau (**Figure 5**). Disturbances within the project area consisted of residential development that include, walkways, drive ways, sidewalks, retaining walls, utility installation, road construction, and vegetation and tree planting. The most common disturbances observed at the locations of the APEs include areas covered in concrete. Due to the conditions at each APE, surface visibility at these locations varied from 0 to 30 percent.

Construction activities were comprised of the excavation of 10 Bore Pits (BP 1–10) and one trench. The bore pits were excavated to facilitate the directional drilling of paths for new buried cable lines while a trench was excavated to replace an existing utility line. Locations of the bore pits and trench varied, a majority were excavated in areas covered in concrete while some including the trench were excavated in areas that were disturbed from road construction and existing utility corridors.

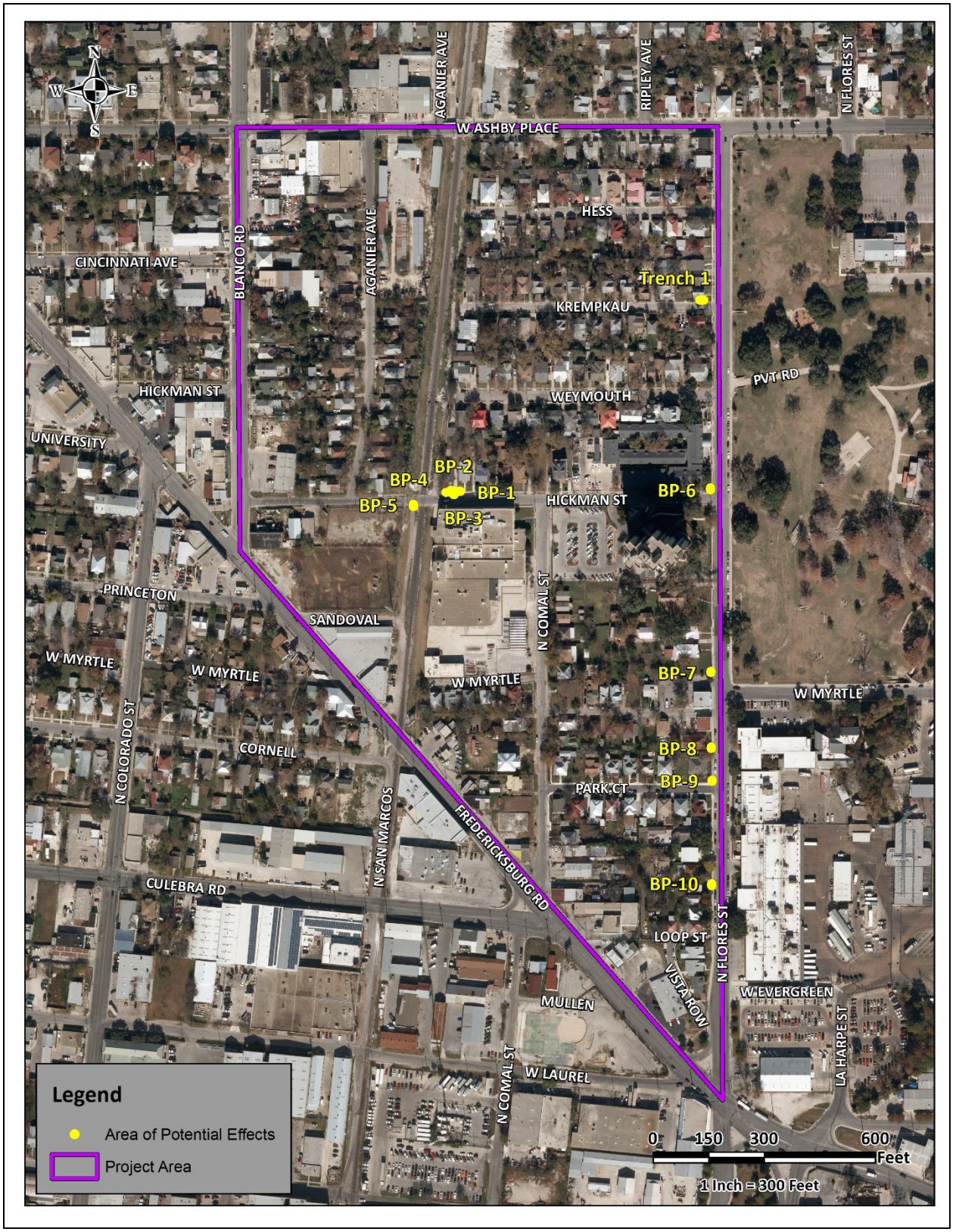

Figure 5. Location of bore pits and trench within the project area.

Hickman Street

Five bore pits (BP 1–5) were excavated along Hickman Street and varied in size, ranging from 1.5 to 3 feet in length, 1.5 feet in width, and 2 to 4.5 feet in depth. BPs 1–4 were excavated on the north side of the street in front of residences 151 and 157 North Hickman near the project route of the *Alazán Acequia*. Bore pits 1 and 4 were excavated within the side walk, BP 2 was excavated within the street near the curb in front of the driveway of the residence at 157 North Hickman, and BP 4 was excavated within the open area on the north side of sidewalk, between the driveway and walkway of the residence at 157 North Hickman Street (**see Figure 5**). No evidence of the *Alazán Acequia* was observed within the areas of the BPs 1–4. BP 5 was excavated on the south side of Hickman Street, at the southeast corner of North San Marcos and North Hickman Streets (**see Figure 5**).

BP 1 and BP 4 measured 3-x-1.5 feet and reached a depth of 4.25 feet. The upper 3 inches of the BPs consisted of concrete. Soil beneath the concrete consisted of a dark grayish brown (10YR 4/2) silty loam that extended to a depth of 3 feet below surface (bs). The remaining 1.25 feet of soils consisted of a dark brown (10YR 3/3) clay loam. Both strata contained approximately 30 percent gravels. No cultural materials were observed within the two BPs.

BP 2 measures approximately 1.5-x-1.5 feet and was excavated to a depth of 2 feet bs. The upper 4 inches consisted of asphalt and was underlain by a dark grayish brown (10YR 4/2) silty loam intermixed with 30 percent gravels to a depth of 2 feet. No cultural materials were observed within BP 2.

BP 3 measures 1.5-x-1.5 feet, and was excavated to a depth of 3.5 feet bs. The upper 3 feet of BP 3 consisted of a dark grayish brown (10YR 4/2) silty loam. The silty loam was underlain by a dark brown (10YR 3/3) clay loam. Both strata were intermixed with 30 percent gravels. No cultural materials were observed within BP 3.

BP 5 measured 3-x-1.5 feet and was excavated to a depth of 3 feet. Soil encountered within BP 5 consisted of a dark grayish brown (10YR 4/2) silty loam intermixed with approximately 30 percent gravels. No cultural materials were observed within BP 5.

North Flores Street

Five bore pits (BP 6–10) were excavated along the east side of North Flores Street (**see Figure 5**). The bore pits were located within the side walk in the vicinity of telephone poles. BP 6 was located on the north side of the intersection of Hickman and North Flores Street. BP 7 was located 100 feet north from its intersection of Myrtle Street. BP 8 was located between the intersections of Myrtle Street and Park Court to North Flores Street. BP 9 was excavated on the north side of Park Court where it intersects North Flores Street. BP 10 was excavated on the south side of where Loop first intersects with North Flores Street (**see Figure 5**).

BPs 6–10 measured approximately 3-x-1.5 feet and reached a depth of 2.5 feet bs (**Figure 6**). The concrete was 4 inches thick and was underlain by heavily disturbed soils. Directly below the concrete, a layer of white (10YR 8/1) caliche and gravels and pockets of a brownish yellow (10YR 6/8) coarse sand road base was observed. The caliche and road base extended to a depth of 10 inches bs and was

underlain by a dark grayish brown (10YR 4/2) silty loam. No cultural materials were encountered within BP 6-10.

Figure 6. Overview of BP 8, typical of what was seen in BPs 6–10.

Krempkau

In addition to the excavation of the bore pits, a trench was excavated to replace damaged utility lines along Krempkau. The trench was excavated between a chain link fence and retaining wall (Figure 8). The trench measured approximately 10 feet in length and 1.5 feet in width and reached a depth of 3.5 feet bs. During the excavation of the trench, soils encountered appeared heavily disturbed and consisted of very dark grayish brown (10YR 3/2) sandy loam, intermixed with gravels that extended to a depth of 1 foot below the surface. The remaining 2.5 feet of soils encountered consisted of sand which covered previously installed utility lines (Figure 9). No cultural materials were observed within the trench.

Figure 7. Excavation of trench along Kempkau.

Figure 8. View soils from trench along Kempkau.

Summary and Recommendations

The archaeological monitoring for construction activities for the installation of new AT&T fiber optic lines was conducted in June and July 2017. Monitoring was conducted at 10 locations along Hickman and North Flores Streets. Ten bore pits and one trench were excavated within the APE. The size of each component excavated varied in size and depth. Sizes of the excavated bore pits ranged from 3 to 1.5 feet in length by 1.5 feet in width, with depths reaching 2 to 4.25 feet below surface. The trench measures 10 feet in length by 1.5 feet in width and reached a depth of 3.5 feet below surface.

Disturbances observed within the APE include the installation of existing utilities, sidewalk and driveway construction, road construction and maintenance, and vegetation and tree planting. During the monitoring, soils and soil profiles were examined for the presence of cultural materials and any indication of the presence of the *Azalán Acequia*. Soils encountered within the bore pits (BPs 1–5) excavated along Hickman Street were composed of a dark grayish brown (10YR 4/2) silty loam in the upper 3 feet, underlain by a dark brown (10YR 3/3) clay loam. These two horizons were intermixed with approximately 30 percent gravels. Soils within bore pits (BP 5–10) along North Flores Street were heavily disturbed consisting white (10YR 8/1) caliche and gravels with pockets of a brownish yellow (10YR 6/8) coarse sand road base underlain by a dark grayish brown (10YR 4/2) silty loam. Soils within the trench were also heavily disturbed consisting of a very dark grayish brown (10YR 3/2) sandy loam underlain by 2.5 feet of sand. No cultural materials were encountered within the bore pits and trench excavated.

Based on archaeological monitoring, investigations revealed that the majority of the APEs have been disturbed. During the monitoring of the excavation of the bore pits and trench, no cultural materials were encountered, nor were any remnants of the *Azalán Acequia* observed. With the lack of any intact cultural materials or features, **RKEI** does not recommend any further archaeological investigations within the areas monitored. However, should additional work be conducted in areas near the *Azalán Acequia* or the within the vicinity of San Pedro Springs Park, further archaeological work may be required.

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