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Cultural Resources Investigations for the Schertz Colonies Drainage Improvement Project, Schertz, Guadalupe County, Texas

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CULTURAL RESOURCES INVESTIGATIONS FOR THE SCHERTZ COLONIES DRAINAGE IMPROVEMENT PROJECT, SCHERTZ, GUADALUPE COUNTY, TEXAS

FINAL REPORT (Redacted)

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Texas Antiquities Committee Permit Number 8403

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MANAGEMENT SUMMARY

Raba Kistner Environmental, Inc. (**RKEI**), was contracted by Lockwood, Andrews and Newnam, Inc. (CLIENT), on behalf of the City of Schertz, to perform cultural resources investigations for the Schertz Colonies Drainage Improvement Project in southeastern Schertz, Guadalupe County, Texas. The proposed undertaking involves the improvement of 330 feet of an existing drainage ditch located in north-central Schertz in western Guadalupe County, Texas. All work was conducted in accordance with the Archeological Survey Standards for Texas as set forth by the Council of Texas Archeologists (CTA) and the Texas Historical Commission (THC) under Texas Antiquities Committee Permit Number 8403.

The cultural resources field investigations for the Schertz Colonias Drainage Project was conducted on May 2, 2018. The investigations included a background review, a pedestrian survey augmented by shovel testing, and backhoe trenching. The background review revealed that no previous archaeological surveys had been conducted and no archaeological sites have been recorded within the Area of Potential Effect (APE). A review of online historical aerial photographs depicted that sometime between 1966 and 1973 the drainage channel had been constructed and the area had been scraped.

During the pedestrian survey, disturbances associated with utility installation were observed. These underground utilities within the lot eventually impacted portions of the APE. Utility disturbances observed within the lot consisted of an AT&T vault, two gas lines, and a sewer line. The AT&T vault and a gas line were located near the sidewalk. These utilities were parallel to Schertz Parkway, intersecting the northeastern portion of the APE. The sewer line and a 2-foot diameter gas line were perpendicular to Schertz Parkway, intersecting the southwestern end of the APE.

As part of the pedestrian survey, **RKEI** excavated three shovel tests within the 0.25 acre APE. Two of the three shovel tests were excavated to a depth of 1.97 feet (60 cm), while one was terminated at a depth of 1.57 feet (48 cm) due to the presence of a large root. The soils within the shovel tests exhibited a mottled appearance, indicating disturbance. Soils were compact in the upper 0.98 feet (30 cm) and became less compact at deeper elevations. No prehistoric or historic cultural materials were encountered within the shovel tests.

In addition to the shovel testing, **RKEI** excavated two backhoe trenches within the APE. Backhoe trenches were excavated to a maximum depth of 6 feet (183 cm). Within the upper 2.5 feet (75 cm), soils exhibited a mottled appearance, indicating disturbance, while the lower 3.5 feet appeared to be intact. The disturbance observed in the upper 2.5 feet (75 cm) is likely associated with the construction of the channel and scraping activities that had occurred on the property between 1966 and 1973. Within BHT01, modern trash consisting of an unidentified piece of metal, a blue plastic cap for a 5 gallon water jug, and a piece of patinated clear glass were encountered. No prehistoric or historic cultural materials were observed within the spoils or trench walls.

Based on the investigations, **RKEI** has made a good faith effort in identifying cultural resources within the APE. As a result, **RKEI** does not recommend any further archaeological investigations within the APE. However, should changes be made to the project APE, further work may be required.

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CHAPTER 1. INTRODUCTION

Raba Kistner Environmental, Inc. (**RKEI**), was contracted by Lockwood, Andrews and Newnam, Inc. (CLIENT), on behalf of the City of Schertz, to perform cultural resources investigations for the Schertz Colonies Drainage Improvement Project in southeastern Schertz, Guadalupe County, Texas (**Figure 1-1**). The proposed undertaking involves the improvement of 330 feet of an existing drainage ditch located in north-central Schertz in western Guadalupe County, Texas. The proposed project is located on lands owned by the City of Schertz, a political subdivision of the State of Texas. As such, the project falls under the under the jurisdiction of the Antiquities Code of Texas (ACT; Texas Natural Resource Code, Title 9, Chapter 191).

Investigations consisted of a background review and an intensive pedestrian survey coupled with shovel testing and backhoe trenching. The cultural resources investigations were conducted on behalf of the CLIENT to satisfy the requirements of the ACT. The purpose of the investigations were to identify any surface-exposed or buried cultural deposits within the 0.25-acre project area and assess their significance and eligibility for inclusion in the National Register of Historic Places (NHRP) and for formal designation as State Antiquities Landmarks (SAL). All work was conducted in accordance with the Archeological Survey Standards for Texas as set forth by the Council of Texas Archeologists (CTA) and the Texas Historical Commission (THC) under Texas Antiquities Committee Permit Number 8403.

The cultural resources investigations were conducted over the course of one day. Both the pedestrian survey augmented by shovel testing and backhoe trenching were conducted on May 2, 2018. Steve A. Tomka served as the Principal Investigator for the project and fieldwork was conducted by Staff Archaeologist Chris Matthews who was assisted by archaeologist Jason Whitaker.

This report summarizes the results of the field investigations, and provides recommendations regarding the proposed project. Following this introductory presentation and the description of the project area, Chapters 2 and 3 provide background on the setting, as well as the culture history and previous archaeological investigations that have taken place in the vicinity of the project area. Chapter 4 outlines the field and laboratory methods employed during the project and Chapter 5 summarizes the results of the field investigations. Chapter 6 provides a brief summary of the investigations and provides recommendations regarding the planned project.

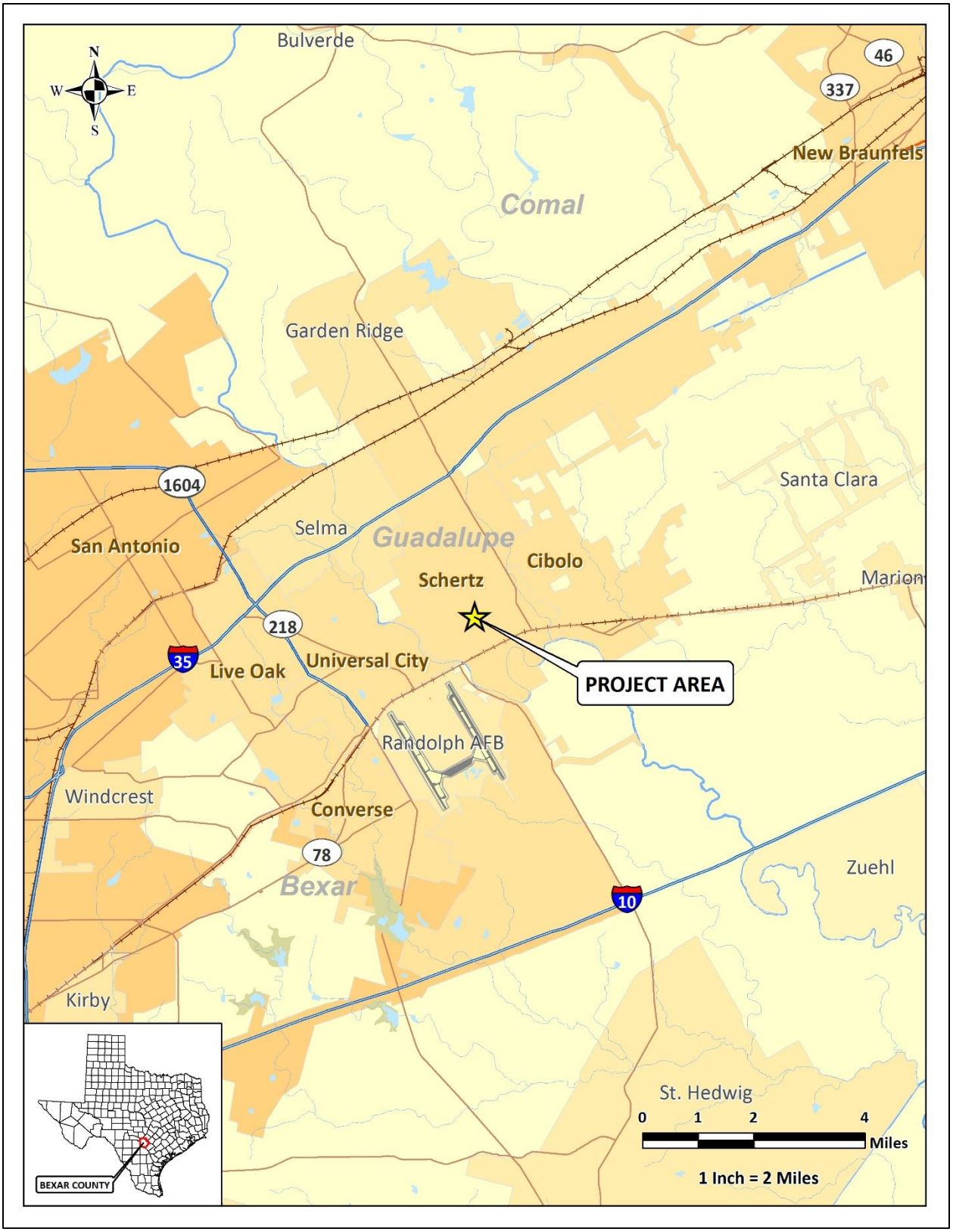

Figure 1-1. Project location map.

Area of Potential Effects

The project area is located within a mostly undeveloped lot on the southwest side of Schertz Parkway, directly across Buffalo Drive in Schertz, Texas. The lot measures approximately 1 acre in size and is surrounded by residential neighborhoods to the northwest and southwest, Schertz Park and Recreation and Schertz Fire Department to the northeast, and Samuel Clemens High School to the southeast. The proposed undertaking will involve the improvement of 330 feet of a drainage channel that was created between 1966 and 1973. For archaeological purposes, the Area for Potential Effect (APE) is approximately 0.25 acres, comprised of the banks of the ditch channel (**Figure 1-2**). Depths of impacts of the improvements are currently unknown.

A review of online historical aerial photographs of the area reveal that the APE and surrounding area was used for agricultural purposes up until 1966. Between 1966 and 1973, the area surrounding the APE began to be developed. In 1966, the vicinity of Samuel Clemens High School was shown as under construction, by 1973, the baseball field, main building, associated driveways, and parking lots were completed. In addition to the completion of the high school, the neighborhood to the northwest and southwest of the APE and drainage channel were constructed. By 1986, the area northeast of the APE was developed. In the 1995 aerial photograph, the entire area surrounding the APE was developed.

Impacts associated with the APE are shown to have occurred from between 1966 and 1986. In 1973, the lot in which the APE is located in had been impacted by the construction of the drainage. The online aerial photograph shows that the area to the southeast had been scraped to use as a staging ground. In 1986, a driveway was created within the lot, surrounding a fenced-off utility box. Currently, the APE is within a vacant lot that contains the utility box and driveway that were constructed in 1986.

Figure 1-2. Map of the Area of Potential Effect.

CHAPTER 2. ENVIRONMENTAL SETTING

Environmental Setting

The project area is located within the Blackland Prairie ecoregion. The Blackland Prairie is an area of low topographic relief and poor drainage, prone to frequent flooding (Collins 1995). The Blackland Prairie ecoregion is characterized by gently undulating topography and is generally defined as grasslands punctuated by riparian bands along creeks, rivers, and other drainages (Griffith et al. 2007). 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 project area is underlain by a single geological unit: Terrace deposits (Qt). The deposits consist of late Quaternary sands, silts, clays and gravels that comprise terraces inset to upper Cretaceous clays and mudstones of the Navarro Group and Marlbrook Marl (Knb) (Bureau of Economic Geology 1983). Gravel percentages within the terrace deposits vary with higher terraces containing more gravels than the lower terraces, which are typically capped with clayey silts and sands that are 6.5 to 13 feet (2 to 4 meters [m]) thick. The terrace deposits are locally indurated with calcium carbonate, which illustrates their great antiquity.

Soils

Examination of the Natural Resources Conservation Service (NRCS) Web Soil Survey, reveals two types of soils within the APE: Sunev loam 1 to 3 percent slope (SvB) and Barbarosa silty clay 0 to 1 percent slope (BaA) (**Figure 2-1**). Sunev soils comprise a majority of the project area and area characterized as cropland soils that are well drained and very deep, reaching depths up to 6 feet (183 centimeters [cm]) below surface. These soils area derived from loamy alluvium and are typically encountered on nearly level to moderately steep foot slopes of valleys and ridges or stream terraces. Barbarosa soils are well drained, deep soils, reaching depths up to 6 feet (183 cm) below surface. These types of soils are

typically encountered on level to gently sloping uplands and are derived from clayey sediments (NRCS 2018).

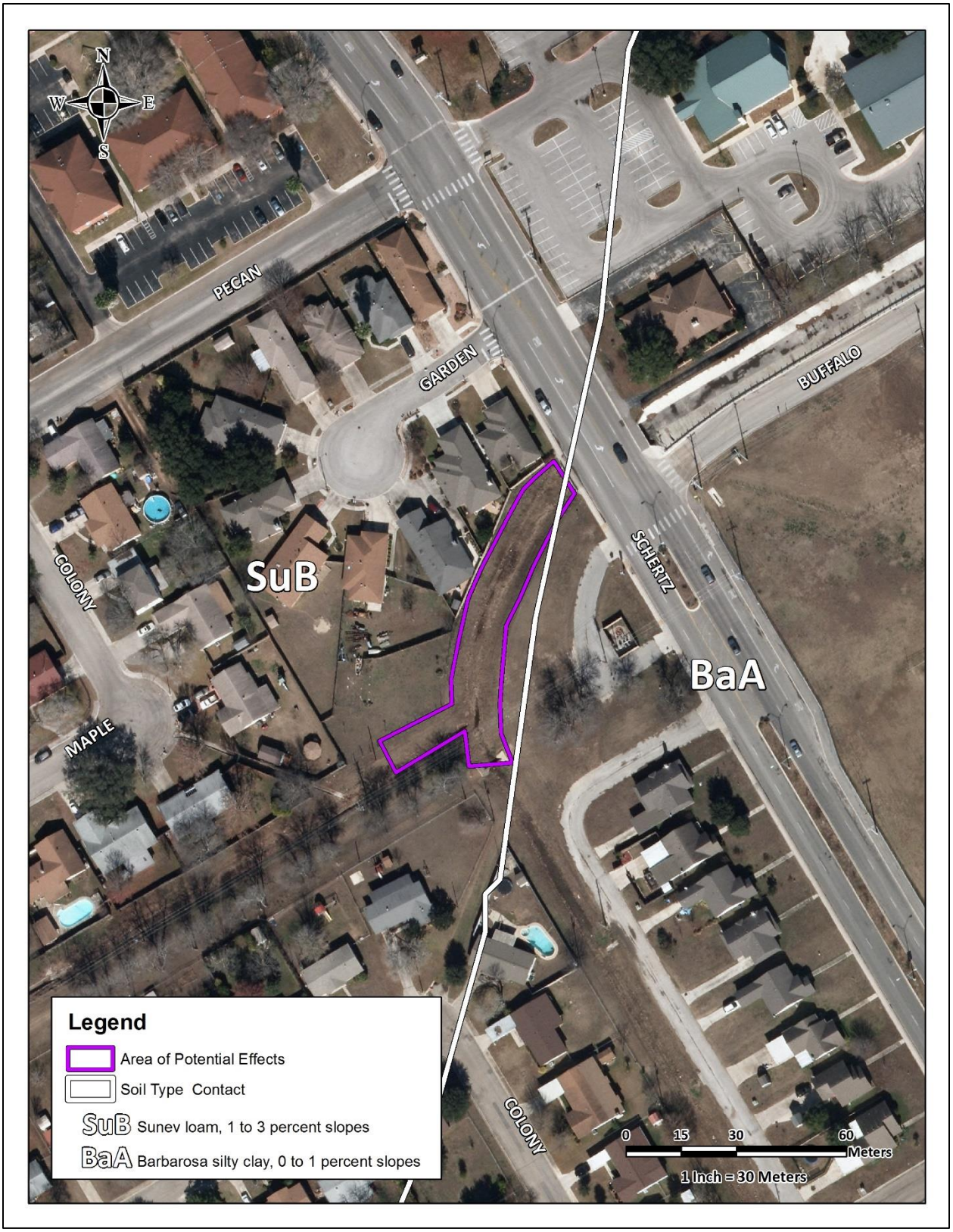

Figure 2-1. Soils within the Area of Potential Effect.

CHAPTER 3. CULTURAL CHRONOLOGY AND PREVIOUS ARCHAEOLOGY

The cultural history of South-Central Texas spans approximately 11,500 years. Archaeologists have divided the occupation of the region into four principal periods and several sub-periods: Paleoindian, Archaic, Late Prehistoric, and Historic. The periods are characterized by changes in climatic conditions, distinct vegetation types and structure, and concomitant adaptive changes by human populations in hunting and gathering technologies and strategies, general material culture, and at the tail end of the cultural sequence, the arrival of non-indigenous populations. Collins (1995, 2004) and Prewitt (1981) produced the standard summaries of the culture chronologies of Central Texas accepted by many of the regional archaeologists. Below is a brief summary of the cultural sequence that has been reconstructed by archaeologists for the south-central part of the State.

Paleoindian Period

The oldest cultural materials found in the region date to the Paleoindian period. The period spans roughly from 11,500–8800 B.P. (Collins 1995, 2004). The Aubrey site in Denton County has one of the earliest occupations, with radiocarbon assays dating to between 11,542 ± 11 B.P. and 11,590 ± 93 B.P. (Bousman et al. 2004:48). Paleoclimatic proxy measures suggest that a cooler climate with increased precipitation was predominant during the Late Pleistocene (Mauldin and Nickels 2001), the later portion of the period.

Initial reconstructions of Paleoindian adaptations typically viewed these hunter-gatherers as traversing extreme distances in pursuit of now extinct mega-fauna such as mammoth and mastodon. While these Paleoindian populations did exploit the Late Pleistocene mega-fauna when it was accessible, a number of faunal assemblages from an increasingly larger number of sites indicate that the Paleoindian diet was more varied and consisted of a wide range of resources, including small game and plants. The Lewisville (Winkler 1982) and the Aubrey sites (Ferring 2001) produced faunal assemblages that represented a wide range of taxa, including large, medium, and small species. Information on the consumption of plant resources during the Paleoindian period is lacking. Bousman et al. (2004) reported that the late Paleoindian component at the Wilson-Leonard site reflected the exploitation of riparian, forest, and grassland species. Analysis of Paleoindian skeletal remains indicates that the diets of the Paleoindian

populations may have been similar to Archaic period hunter-gatherer populations (Bousman et al. 2004; Powell and Steele 1994).

The early portion of the Paleoindian period was characterized by the appearance of Clovis and Folsom fluted projectile points that were used for hunting mega-fauna. Typical projectile points produced at sites with occupations dating to the later portion of the Paleoindian period included the Plainview, Dalton, Angostura, Golandrina, Meserve, and Scottsbluff types. Meltzer and Bever (1995) have identified 406 Clovis sites in Texas. One of the earliest, 41RB1, yielded radiocarbon assays that put the maximum age for the Paleoindian component at 11,415 ± 125 B.P. (Bousman et al. 2004:47).

Sites in Bexar County that contain Paleoindian components include St. Mary's Hall (Hester 1978, 1990), Pavo Real (Collins et al. 2003), the Richard Beene site (Thoms et al. 1996; Thoms and Mandel 2006) and 41BX1396 (Tomka 2012). St. Mary's Hall, 41BX229, was first encountered in 1972 during the construction of a house just outside the school's property. The Pavo Real site, 41BX52, is located along Leon Creek in northwest Bexar County. The site was first documented in 1970 and has been investigated several times over the past 40 years (Collins et al. 2003). The Richard Beene site, 41BX831, is located along the Medina River in southern Bexar County (Thoms et al. 1996). Site 41BX1396 is located in Brackenridge Park in San Antonio, Texas, and was encountered during installations for lighting in 2010. Dating of organic samples indicated that occupation at the site occurred as early as 10,490–10,230 B.P.

Archaic Period

The Archaic period dates between ca. 8800 to 1200 B.P. It is divided into three sub-periods: Early, Middle, and Late. During the Archaic, mobility strategies may have shifted to more frequent short distance movements that allowed the exploitation of seasonal resource patches. The intermittent presence of bison in parts of Texas, combined with changes in climatic conditions and the primary productivity of the plant resources may have contributed to shifts in subsistence strategies and associated technological repertoire. When bison were not present in the region, hunting strategies focused on medium to small game along with continued foraging for plant resources. When bison were available, hunter-gatherers targeted the larger-bodied prey on a regular basis.

Early Archaic

Collins (1995, 2004) suggests that the Early Archaic spans from 8800 to 6000 B.P. Projectile point styles characteristic of the Early Archaic include Angostura, Early Split Stem, Martindale, and Uvalde (Collins 1995, 2004). The Early Archaic climate was drier than the Paleoindian period and witnessed a return to grasslands (Bousman 1998). Mega-fauna of the Paleoindian period could not survive the new climate and ecosystems, therefore eventually dying out. Early Archaic exploitation of medium to small fauna intensified.

The Wilson-Leonard excavation produced a wealth of cultural materials representative of a lengthy period in regional prehistory. The projectile point assemblages from the site indicate that the lanceolate Paleoindian point forms, such as Angostura, continue from the Paleoindian into the Early Archaic. However, these forms are replaced by corner- and basally-notched and shouldered forms (Early Triangular, Andice, Bell), and these quickly become the dominant points tipping the atlatl-thrown darts. In addition, the uses of small to medium hearths similar to the previous period were noted too. The appearance of earth ovens suggests a shift in subsistence strategies. The earth ovens encountered at the Wilson-Leonard site were used to cook wild hyacinth along with aquatic and terrestrial resources (Collins et al. 1998). Analyses of Early Archaic human remains encountered in Kerr County (Bement 1991) reveal diets low in carbohydrates in comparison to the Early Archaic populations found in the Lower Pecos region.

Within Bexar County, the excavations at 41BX1396 revealed an Early Archaic component that was radiocarbon dated using charcoal to cal. B.P. 8390 to 8180 (Tomka 2012).

Middle Archaic

The Middle Archaic sub-period spans from 6000 to 4000 B.P. (Collins 1995, 20004; Weir 1976). Archaeological data indicates that populations may have increased during this time. Climate was gradually drying leading to the onset of a long drought period. Changes to the demographics and cultural characteristics were likely in response to the warmer and increasingly arid conditions. Projectile point styles included in this sub-period include Bell, Andice, Calf Creek, Taylor, Nolan, and Travis.

Subsistence during the Middle Archaic includes an increased reliance on nuts and other products of riverine environments (Black 1989). The upsurge of burned rock middens during the Middle Archaic represented the increased focus on the use of plant resources (Black 1989; Johnson and Goode 1994). Little is known about burial practices during the Middle Archaic, however an excavation of an Uvalde County sinkhole (41UV4) contained 25–50 individuals (Johnson and Goode 1994:28).

Late Archaic

The Late Archaic spans from 4000 to 1200 B.P. (Collins 1995, 2004). It is represented by the Bulverde, Pedernales, Kinney, Lange, Marshall, Williams, Marcos, Montell, Castroville, Ensor, Frio, Fairland, and Darl projectile points. The early part of the Late Archaic exhibited fluctuations in the temperature and rainfall. There appears to have been an increase in population at this time (Nickels et al. 1998).

While some researchers believe that the use of burned rock middens decreased during the Late Archaic, recent research has challenged this notion (Black and Creel 1997; Mauldin et al. 2003). Johnson and Goode (1994) discuss the role of burned rock middens in relation to acorn processing.

Burials related to the Late Archaic in Central and South Texas suggests the region saw an increase in population. This increase may have prompted the establishment of territorial boundaries which resulted in boundary disputes (Story 1985). Human remains dating to this sub-period have been encountered near the Edwards Plateau.

Late Prehistoric Period

The Late Prehistoric period begins ca. 1200 B.P. (Collins 1995, 2004), and appears to continue until the Protohistoric period (ca. A.D. 1700). A series of traits characterize the shift from the Archaic to the Late Prehistoric period. The main technological changes were the adoption of the bow and arrow and the introduction of pottery. The period is divided into two phases: The Austin phase and the Toyah phase.
At the beginning of this period, environmental conditions were warmer and dryer. However, moister conditions appear after 1000 B.P. (Mauldin and Nickels 2001). Plant and faunal remains at Late Prehistoric sites indicate that subsistence practices are similar to that of the Late Archaic. Projectile points associated with the Austin phase include the Scallorn and Edwards types. The Toyah phase is characterized by the prominence of the Perdiz point (Collins 1995, 2004).

Most researchers concur that the early portion of the Late Prehistoric period saw a decrease in population density (Black 1989:32). Radiocarbon dates from some sites have indicated that the middens were utilized during the Late Prehistoric. Some archaeologists feel the peak of midden use was after A.D. 1 and into the Late Prehistoric (Black and Creel 1997:273). Radiocarbon dates from Camp Bowie middens provide evidence that supports Black and Creel's arguments that burned rock middens were a primarily Late Prehistoric occurrence (Mauldin et al. 2003).

Beginning rather abruptly at about 650 B.P., a shift in technology occurred. This shift is characterized by the introduction of blade technology, the first ceramics in Central Texas (bone-tempered plainwares), the appearance of Perdiz arrow points, and alternately beveled bifaces (Black 1989:32; Huebner 1991:346). Prewitt (1981) suggests this technology originated in north-central Texas. Patterson (1988), however, notes that the Perdiz point was first seen in southeast Texas by about 1350 B.P., and was introduced to west Texas some 600 to 700 years later.

Early ceramics in Central Texas (ca. A.D. 1250 to 1300) are associated with the Toyah phase of the Late Prehistoric and are referred to as Leon Plain ware. The Leon Plain ceramic types are undecorated, bone-tempered bowls, jars, and ollas with oxidized, burnished and floated exterior surfaces (Ricklis 1995). There is notable variation within the type (Black 1986; Johnson 1994; Kalter et al. 2005). This variation can be attributed to differences in manufacturing techniques and cultural affiliation. Analysis of residues on ceramic sherds suggests that vessels were used to process bison bone grease/fat, mesquite bean/bison bone grease and deer/bison bone grease (Quigg et al. 1993).

The return of bison to South and Central Texas during the Late Prehistoric resulted from a drier climate in the plains located to the north of Texas and increased grasses in the Cross-Timbers and Post Oak Savannah in north-central Texas (Huebner 1991). The increased grasses in the two biotas formed the "bison corridor" along the eastern edge of the Edwards Plateau and into the South Texas Plain (Huebner 1991:354–355). Rock shelter sites, such as Scorpion Cave in Medina County (Highley et al. 1978) and Classen Rock Shelter in northern Bexar County (Fox and Fox 1967), have indicated a shift in settlement strategies (Skinner 1981). Burials encountered that dated to this period often reveal evidence of conflict (Black 1989:32).

Protohistoric and Historic Period

The Protohistoric (ca. A.D. 1528–1700) is ushered by the venture into south and southeast Texas by Spanish explorer Cabeza de Vaca in 1528. Hester (2004) generally considers the period prior to 1700 as Protohistoric in the San Antonio area. Archeological sites dated to this substage contain a mix of both 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 diseases that killed, displaced, and fragmented a huge percentage of the population. As colonization spread from Mexico, many of the Coahuiltecan groups moved northward to avoid the Spanish. At the same time, invading Indian groups from the north put pressure on Native American groups in North Texas (Nickels et al. 1998). Historians believe that these pressures led to intense territorial disputes, further destabilizing Native American populations.

Guadalupe County

In 1806 José de la Baume receive the first land grant for the Capote Hills in the Guadalupe County area. After Mexico won its independence from Spain, de la Baume had to confirm the claim with the new Mexican government. The title was confirmed in 1832. Between 1827 and 1835, fourteen additional land grants were issued by the government to families of DeWitt's colony. Due to Indian raids and the Runaway Scrape, early settlers retreated to Gonzalez and were unable to establish communities in the area. After the Texas Revolution, those that had left returned to the area. Other settlers arrived, including Texas veterans who were given property in return for their service (Smyrl 2018a).

Early communities of Guadalupe County began at river crossings and were comprised of churches, mills, and schools which served the scattered populations. In 1838 Walnut Springs was established by a group of former Texas Rangers. Due to the presence and security of the troops in the area, additional settlers began coming to Walnut Springs. In 1839, the community of Walnut Springs changed the name to Seguin, in honor of Juan Seguin. In the mid-1840s, by efforts of Prince Carl of Solms-Braunfels at New Braunfels, German immigrants began settling in the northern and western parts of the county (Smyrl 2018a).

The major occupation of residents in Guadalupe County, outside of Seguin, was farming and stock raising. In 1847, with the introduction of the first stage line in the county from New Braunfels and Gonzales, several residents went in to shipping. Prior to the Civil War, Guadalupe was doing well economically; however, due to the hardships of war, Guadalupe County experienced an economic decline. Relief came to the county in the mid-1870s from the construction of the Galveston, Harrisburg and San Antonio Railway, allowing the residents to reach a larger market for their goods. With the introduction of the railroad, several towns were established along the rail line. One of the towns established at the time was Schertz, which was named after Sebastian Schertz who owned a grocery store along the line in 1875 (Smyrl 2018a, 2018b).

Previous Archaeological Investigations and Cultural Resources

RKEI conducted a desktop review to determine if any previously conducted archaeological investigations or any cultural resources have been documented within the APE. The desktop review revealed that no archaeological investigations have been conducted and no cultural resources have been recorded within the APE (**Figure 3-1**). In addition to examining the APE, a 0.62-mile (1-kilometer [km]) radius surrounding the APE was also looked at. Examination of the 0.62-mile (1-km) radius of the APE identified four previously conducted archaeological investigation and one Official Texas Historical Marker (OTHM) (Texas Historical Commission [THC] 2018). The previously conducted investigations are located approximately 0.32 miles (518 m) north of the APE (**see Figure 3-1**) and were conducted in advance of installation of water related infrastructure.

The earliest of the surveys was conducted in 1998, on behalf of the Texas Water Development Board (TWDB). The project was a linear survey that extended for 4.61 miles (7.4 km), most likely in association with the installation of a waterline. Another survey was conducted in 2001, on behalf of the Federal Emergency Management Agency. The survey measured approximately 2.06 miles (3.31 km). No further information about the project is offered on the Texas Archaeological Sites Atlas (Atlas). The remaining two surveys were conducted in 2011 by SWCA Environmental Consultants. One survey was conducted on behalf of the TWDB and the other was conducted on behalf of San Antonio Water System. The surveys were conducted for drainage purposes and the installation of a waterline and pump station (THC 2018). No archaeological sites were documented during the four projects.

The OTHM (Number 4597) identified is located approximately 0.17 miles (274 m) southeast of the APE (**see Figure 3-1**) in front of the City of Schertz Visitor Center. The marker was dedicated in 1994 and

commemorates the first settlers of Schertz. In the 1840s, settlers came to the area from New Braunfels in search of good farm land. At the time the area, was known as Cibolo Pit and Cutoff; however, in 1882, with the establishment of the post office, the name Schertz was given in honor of Sebastian Schertz, an early settler of the area (THC 2018).

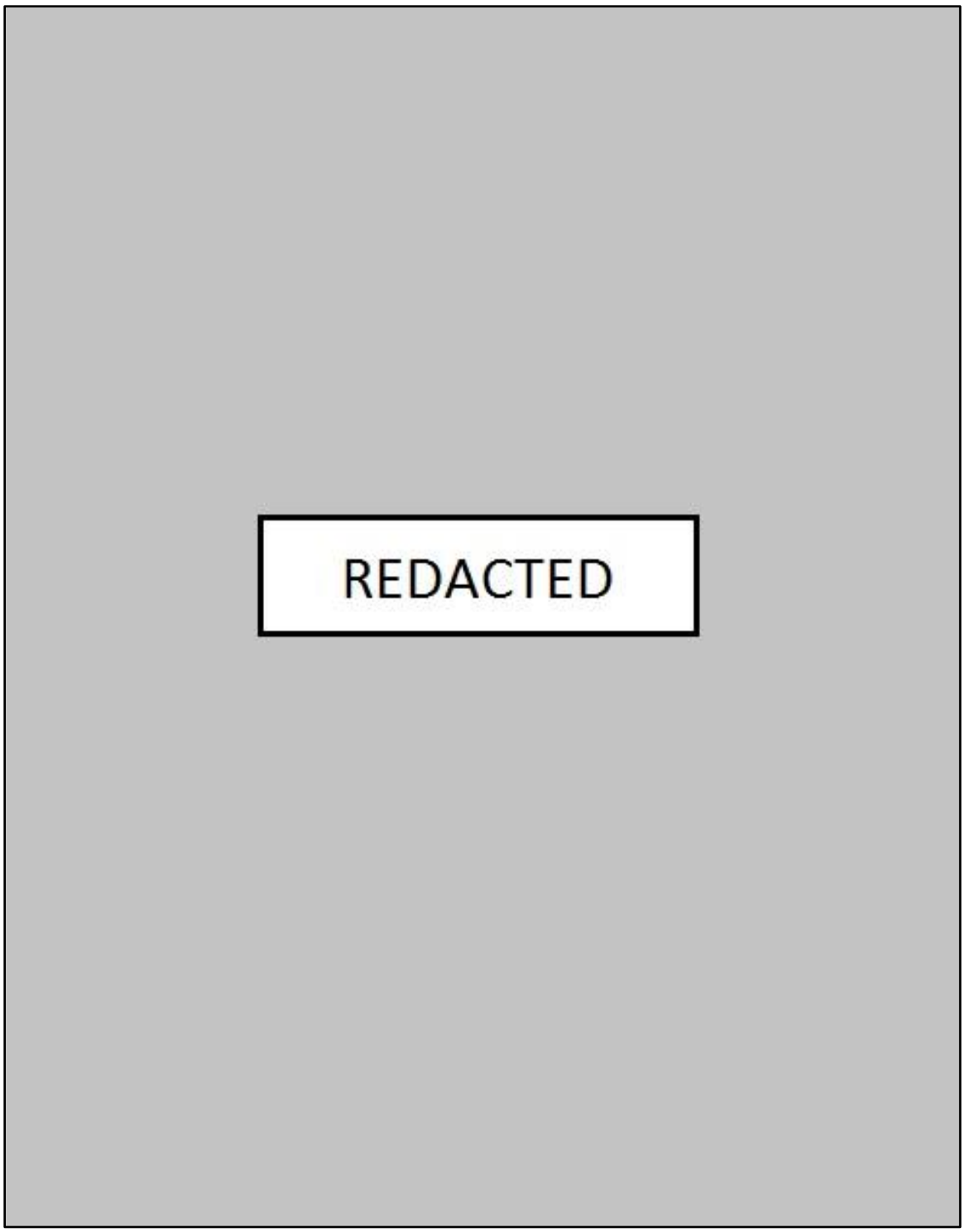

Figure 3-1. Previous archaeological investigations and recorded cultural resources.

CHAPTER 4. METHODS OF INVESTIGATION

RKEI utilized a combination of visual inspection of the ground surface augmented by shovel testing and the excavation of backhoe trenches in selected locations within the APE. Shovel testing was employed to assess surface and shallowly buried archaeological deposits, while backhoe trenching was employed to assess deeply buried archaeological deposits that may be impacted by the channel improvements. All work complied with the THC and the CTA survey standards for Texas for the overall project area.

Field Methods

The archaeological survey consisted of a 100 percent pedestrian survey of the entire project APE. The survey involved visual inspection of the ground surface and included the examination of cut bank exposures along the drainage within the APE. Archaeologists surveyed the APE along the sides of the channel.

All shovel tests were approximately 11.8 inches (30 cm) in diameter and, unless prevented by obstacles or buried features, extended to a depth of 1.97 feet (60 cm) below surface (cmbs). Each shovel test was excavated in 10-cm intervals. All soil from each level was screened through ¼-inch hardware cloth. A shovel test form was completed for each excavated shovel test. Data collected from the shovel test included the final excavation depth, a tally of all materials observed from each 4 inch (10-cm) level, and a brief soil description (texture, consistency, Munsell color, inclusions). The location was recorded using a Garmin, hand-held, GPS unit. Shovel test locations were sketched onto a current aerial photograph of the APE as a backup to the GPS information. Any additional observation considered pertinent was included as comments on the standard shovel test excavation form.

In addition to the excavation of shovel tests, **RKEI** excavated two backhoe trenches within the APE. The backhoe trenches were located in areas where depths of impact would exceed the depths of shovel tests and in areas deemed to potentially contain intact soils. Backhoe trenches measured 15 feet (4.5 m) in length and were excavated to a maximum depth of 6 feet (1.83 m). Spoils from the backhoe trench were examined to assess the presence or absence of cultural material. During the excavation of the trenches, mechanical excavation was temporally stopped at a depth of 4.5 feet (1.4 m) so an archaeologist could safely get in to examine the profiles and document what was observed within the

trenches. During the inspection of the trenches, the walls were scraped down to better identify strata changes, features, and artifacts. Once the trench was documented, excavations continued to a terminated depth of 6 feet (183 cm) to assess the potential for deeply buried cultural deposits.

Excavation of the trenches were conducted by an experienced backhoe operator and monitored by an experienced archaeologist. Excavations were performed in accordance with Occupational Safety and Health Administration (29 CFR Part 1926) and the Texas Trench Safety Act (H. B. 1569). After each trench was examined and documented, the backhoe operator backfilled and compacted the area, returning it, as much as possible, to its original state.

Laboratory Methods

All project-related documentation produced during the survey was prepared in accordance with federal regulation 36 CFR Part 79, and THC requirements for State Held-in-Trust collections. Field notes, field forms, photographs, and field drawings were placed into labeled archival folders and converted into electronic files. Digital photographs were printed on acid-free paper, labeled with archivally appropriate materials, and were placed in archival-quality plastic sleeves when needed. All field forms were completed with pencil. Ink-jet produced maps and illustrations were placed in archival quality plastic page protectors to prevent against accidental smearing due to moisture. A copy of the report and all digital materials were saved onto a CD and stored with field notes and documents. One artifact was collected during the survey. The artifact was washed and photographed; however, as the artifact was deemed as possessing little scientific value, it was discarded pursuant to Chapter 26.27(g)(2) of the ACT.

CHAPTER 5. RESULTS OF INVESTIGATIONS

In May of 2018, **RKEI** conducted an intensive cultural resources survey of a proposed 0.25-acre project area for a drainage improvement project located in southeastern Schertz, Texas. The investigation consisted of a pedestrian survey augmented by shovel testing and backhoe trenching within the boundaries of the APE. As a result, three shovel tests and two backhoe trenches were excavated (**Figure 5-1**). During the course of the investigation, no prehistoric or historic cultural materials were observed on the surface or encountered within the excavated shovel tests and backhoe trenches.

The APE is situated within an open lot on the southwest side of Schertz Parkway, surrounded by residential and commercial development. The majority of the lot is undeveloped except for drainage, a driveway, and an above ground electric box. Vegetation across the APE consisted of shorts grasses along the southeastern side of the drainage and tall grasses along the northwestern side of the drainage. Due to the vegetation, ground surface visibility was 0 to 30 percent (**Figures 5-2 and 5-3**). Stones were exposed in the southern portion of the APE adjacent to the ditch; however these are most likely due to past construction activities (**Figure 5-4**).

During the pedestrian survey, disturbances associated with utility installations were observed. These underground utilities within the lot have impacted portions of the APE. Utility disturbances observed within the lot consisted of an AT&T vault, two gas lines, and a sewer line. The AT&T vault and a gas line were located near the sidewalk (**Figure 5-5**). These utilities were parallel to Schertz Parkway and intersected the northeastern portion of APE. The sewer line and a 2-foot diameter gas line were perpendicular to Schertz Parkway and intersected the southwestern end of the APE. The sewer line was located at a depth below the drainage channel; however the gas line runs through the channel and is supported by concrete brace (**Figure 5-6**).

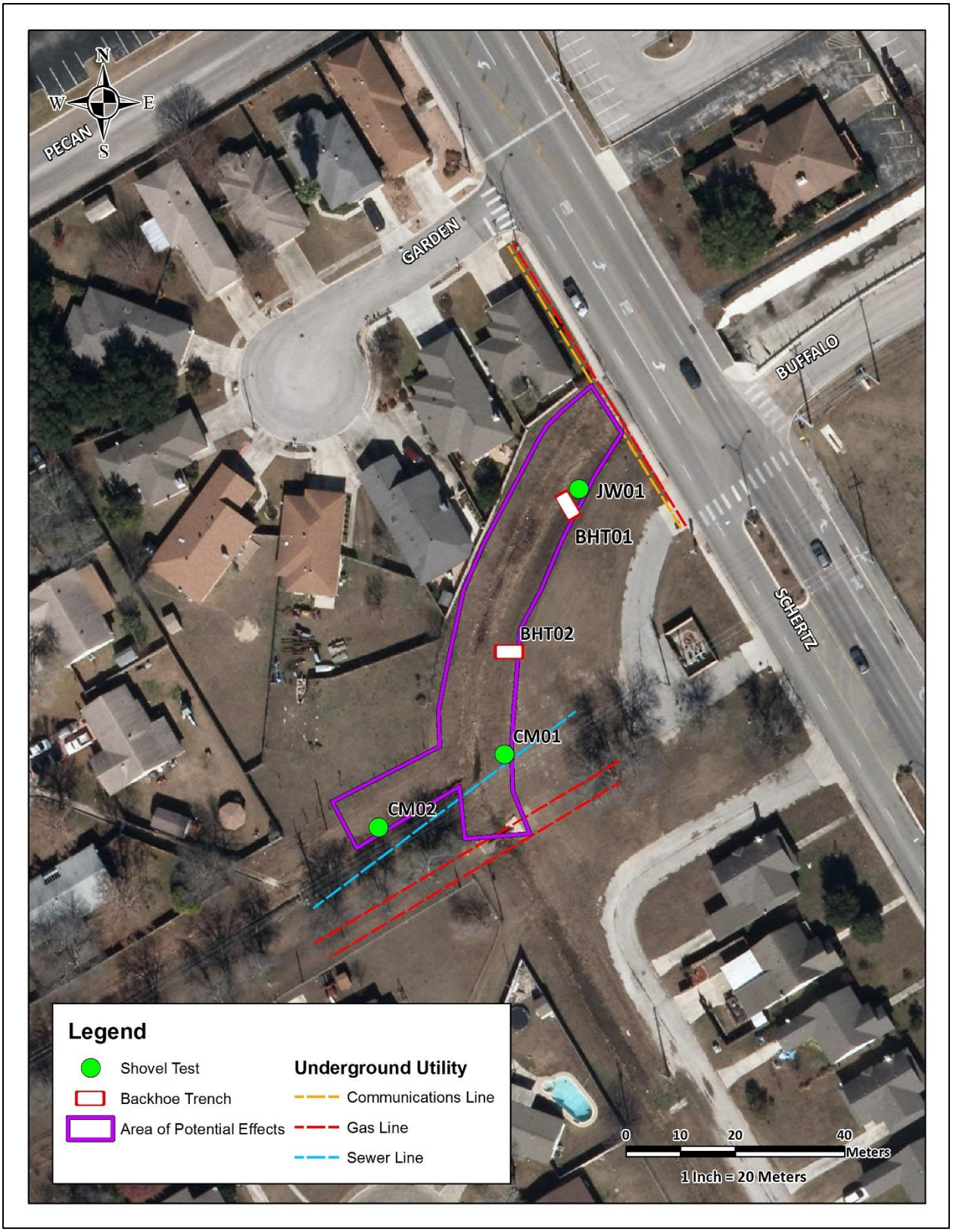

Figure 5-1. Results of the investigations.

Figure 5-2. Overview of vegetation within the Area of Potential Effect; facing southwest.

Figure 5-3. Overview of vegetation within the Area of Potential Effect; facing west.

Figure 5-4. Limestone exposed along the southwestern edge of the drainage channel; facing northeast.

Figure 5-5. Utilities along Schertz Parkway, within the northeast corner of the Area of Potential Effects; facing southeast.

Figure 5-6. View of 2-foot-wide gas line crossing through the southwestern end of the Area of Potential Effect; facing southwest.

Shovel Tests

In addition to the pedestrian survey, **RKEI** excavated three shovel tests within the APE. The shovel tests were located along the southeastern and west sides of the drainage channel, where the APE splits (**see Figure 5-1**). Shovel tests were placed in areas where no utilities were located, at an intervals less than 328 feet (100 m) due to the size of the APE. Of the three shovel tests excavated, two were excavated to a depth of 1.97 feet (60 cm). One was excavated to a depth of 1.57 feet (48 cm) due to a large root. Soils encountered during shovel testing were mixed and mottled in appearance, indicating disturbance. Soils were very hard to compact at in the upper 0.98 feet (30 cm) and became less compact as excavation continued. The average shovel test exhibited a profile comprised of a dark yellowish brown (10YR 3/4) silty clay loam mottled with a very dark grayish brown (10YR 3/2) silty clay intermixed with 10 percent gravels underlain by a dark yellowish brown (10YR 4/4) silty clay loam mottled with a dark grayish brown (10YR 3/2) silty clay intermixed with 10 percent gravels, underlain by a dark yellowish brown (10YR 3/4) silty clay loam mottled with a very dark grayish brown (10YR 3/2) silty clay intermixed with 10 percent gravels (**Figure 5-7 and Table 5-1**). All shovel tests were negative for prehistoric and historic cultural materials.

Figure 5-7. Shovel test CM01 at 60 cm below surface; facing west.

Table 5-1. Shovel Test Log

Shovel Test No.	County	Depth (cm)	Munsell	Soil Color	Soil Texture	Inclusions	Mottling	Positive/ Negative	Reason for Termination/ Comments
CM01	Guadalupe	0-20	10YR 3/4	dark yellowish brown	silty clay loam	10% gravels	10YR 3/2 silty clay-over 10%	Negative	Depth
		20-40	10YR 4/4	dark yellowish brown	silty clay loam	10% gravels	10YR 3/2 silty clay-over 10%	Negative	
		40-60	10YR 3/4	dark yellowish brown	silty clay loam	10% gravels	10YR 3/2 silty clay-ove 25%	Negative	
CM02	Guadalupe	0-20	10YR 3/4	dark yellowish brown	silty clay loam	10% gravels	10YR 3/4 silty clay-less than 10%	Negative	Impassible root at 48cmbs
		20-40	10YR 4/4	dark yellowish brown	silty clay loam	10% gravels	10YR 3/4 silty clay-less than 10%	Negative	
		40-60	10YR 3/4	dark yellowish brown	silty clay loam	10% gravels	10YR 3/4 silty clay-less than 10%	Negative	

Table 5-1 (continued)									
Shovel Test No.	**County**	**Depth (cm)**	**Munsell**	**Soil Color**	**Soil Texture**	**Inclusions**	**Mottling**	**Positive/ Negative**	**Reason for Termination/ Comments**
JW02	Guadalupe	0-20	10YR 4/3	brown	silty clay loam	5% gravels	10YR 4/4 silty clay	Negative	Depth
		20-40	10YR 3/3	dark brown	silty clay loam	5% gravels	7.5YR silty clay	Negative	
		40-60	10YR4/3	brown	silty clay loam	5% gravels	N/A	Negative	

Backhoe Trenching

In addition to the pederstian survey and shovel testing for the proposed Schertz Colonies Drainage Improvement Project, **RKEI** excavated two backhoe trenches (BHTs). The two BHTs were placed in the northeastern portion of the APE, on the southeastern side of drainage channel. The trenches were oriented perpendicular to the drainage channel (**see Figure 5-1**). Only two trenches were excavated due to the presence of utilities located near the south end of the drainage channel. Both BHTs (BHT01 and BHT02) were excavated to a maximum depth of 6 feet (1.83 cm) below the surface. No prehistoric or historic cultural materials nor features were observed during the excavation of the two trenches.

BHT01

During the excavation of BHT01, six distinct Zones were observed in the profile (**Figure 5-8**). Zone I ranged in thickness from 11 to 17 inches (28 to 44 cm) and was composed of a very dark grayish brown (10YR 3/2) silty loam clay mottled with a dark yellowish brown (10YR 4/3) silty clay loam. Inclusions within Zone I consisted rootlets, pea-sized gravels, and snail shell fragments. Within Zone I, a pocket measuring 1.2 to 11.8 inches (3 to 30 cm) in thickness, of a dark yellowish brown (10YR 4/6) silty clay loam mottled with a yellowish brown (10YR 5/6) silty clay loam was observed (**see Figure 5-8**). The pocket was documented as Zone II. Directly beneath Zone I was Zone III, a brown (10YR 4/3) silty clay loam that reached a depth of 2.29 to 2.72 feet (70 to 83 cm) below surface. Inclusions observed within Zone III consisted of rootlets and small gravels. Underlying Zone III was Zone IV, a brown (10YR 4/3) silty clay loam mottled with a very dark grayish brown (10YR 3/2) silty clay loam. Zone IV reached a depth of 3.44 feet (83 to 105 cm) below surface and contained few gravels. Beneath Zone IV was Zone V, a very dark grayish brown (10YR 3/2) silty clay. Zone V reached a depth of 4.3 feet (132 cm) below surface and was void of any inclusions. The last zone observed within BHT01 was Zone VI. Zone VI consisted of a dark yellowish brown (10YR 4/6) silty clay that reached a depth of 6 feet (183 cm). Within Zone VI, calcium carbonate inclusions were observed (**Figure 5-9**).

Figure 5-8. Northeastern profile of BHT01 at a depth of 4.5 feet (137 cm); facing northeast.

Figure 5-9. Northeast profile of BHT01 at a depth of 6 feet (183 cm); facing northeast.

Excavation of BHT01 revealed that the upper 17 inches (44 cm) had been disturbed and was evident by the presence of a pocket of a dark yellowish brown (10YR 4/6) silty clay loam mottled with a yellowish brown (10YR 5/6) silty clay loam. Within in the upper 17 inches (44 cm) modern trash was present. Modern trash consisted of an unidentified piece of metal, a blue plastic cap for a 5 gallon water jug, and a piece of patinated clear glass (**Figure 5-10**).

Figure 5-10. Modern trash encountered in the upper 17 inches (44 cm) of BHT01.

BHT02

Excavation of BHT02 revealed six distinct Zones that extend from the surface to a depth of 6 feet (183 cm) below surface (**Figures 5-11 and 5-12**). Zone I is a dark yellowish brown (10YR 4/4) silty clay loam that measures 2.8 inches to 7.5 inches (7 to 19 cm). Inclusions observed within Zone I consist of small snail shell fragments, rootlets, and pea gravels. Zone I is underlain by Zone II, a very dark grayish brow (10YR 3/2) silty clay loam mottled with a brown (10YR 4/3) silty clay loam. Zone II reached a depth from 10.62 to 13.78 inches (27 to 35 cm) and contained inclusions comprised of small gravels and rootlets.

Beneath Zone II was Zone III, a brown (10YR 4/3) silty clay loam mottled with a very dark brown (10YR 2/2) silty

Figure 5-11. North profile of BHT02 at a depth of 4.5 feet (137 cm); facing north.

Figure 5-12. South profile of BHT02 at a depth of 6 feet (183 cm); facing south.

clay loam. Zone III reached a depth of 2.4 feet (75 cm) below surface and contained inclusions of rootlets. Zone III was underlain by Zone IV, a very dark grayish brown (10YR 3/2) silty clay. Inclusions observed in Zone IV reached a depth of 3.44 to 3.77 feet (105 to 115 cm) below surface and contained inclusions of very fine rootlets. Following Zone IV was Zone V, a brown (10YR 4/3) silty clay that reached a depth of 4.98 feet (152 cm). Inclusions observed in Zone IV consisted of small nodules of calcium carbonate. The final zone observed in BHT02 was Zone VI, a dark yellowish brown (10YR 4/6) silty clay. Zone VI reached a depth of 6 feet (183 cm) and contained inclusions of calcium carbonate nodules.

During the excavation of BHT02, no cultural materials were observed within the spoils or profile walls of the trench. Soils in the upper 2.5 feet (75 cm) were mottling with other soils, suggesting some disturbance had occurred. A review of online historical aerial photographs reveal that between 1966 and 1973 modifications were made to the project area, consisting of the creation of the channel and scraping of portions of the lot. Based on previous activities and utilities within the lot, it is presumed that these factors are attributed to the mottling observed in the upper 2.4 feet (75 cm) of BHT02.

CHAPTER 6. SUMMARY AND RECOMMENDATIONS

The cultural resources field investigations for the Schertz Colonies Drainage Project was conducted on May 2, 2018. The investigations included a background review, a pedestrian survey augmented by shovel testing, and backhoe trenching. The background review revealed that no previous archaeological surveys had been conducted and no archaeological sites have been recorded within the APE. A review of online historical aerial photographs depicted that between 1966 and 1973 the drainage channel had been constructed and the area had been scraped.

During the pedestrian survey, disturbances associated with utility installation was observed. These underground utilities within the lot impacted portions of the APE. Utility disturbances observed consisted of an AT&T vault, two gas lines, and a sewer line. The AT&T vault and a gas line were located near the sidewalk (**see Figure 5-5**). These utilities were parallel to Schertz Parkway and intersected the northeastern portion of the APE. The sewer line and a 2-foot diameter gas line were perpendicular to Schertz Parkway, intersecting the southwestern end of the APE.

As part of the pedestrian survey, **RKEI** excavated three shovel tests within the 0.25 acre APE. Two of the three shovel tests were excavated to a depth of 1.97 feet (60 cm), while one was terminated at a depth of 1.57 feet (48 cm) due to the presence of a large root. The soils within the shovel test appeared mixed and mottled, indicating disturbance. Soils were compact at in the upper 0.98 feet (30 cm) and became less compact as excavation continued. No prehistoric or historic cultural materials were encountered within the shovel tests.

In addition to the pedestrian survey and shovel testing, **RKEI** excavated two backhoe trenches. Backhoe trenches were excavated to a maximum depth of 6 feet (183 cm). Within the upper 2.5 feet (75 cm) soils were mixed with a mottled appearance, indicating disturbance, while the lower 3.5 feet appeared to be intact. The disturbance observed in the upper 2.5 feet (75 cm) is likely associated with the construction of the channel and scraping activities that had occurred on the property sometime between 1966 and 1973. Within BHT01, modern trash comprised of an unidentified piece of metal, a blue plastic cap for a 5 gallon water jug, and a piece of patinated clear glass were encountered. No prehistoric or historic cultural materials were observed within the spoils or trench walls.

Based on the investigations, **RKEI** has made a good faith effort in identifying cultural resources within the APE. As a result, **RKEI** does not recommend any further archaeological investigations within the APE. However, should changes be made to the project APE, further work may be required.

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