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ENVIRONMENTAL CONSULTANTS

INTENSIVE ARCHEOLOGICAL RESOURCES SURVEY OF THE HIGHLAND ESTATES DEVELOPMENT BEXAR COUNTY, TEXAS

Prepared for

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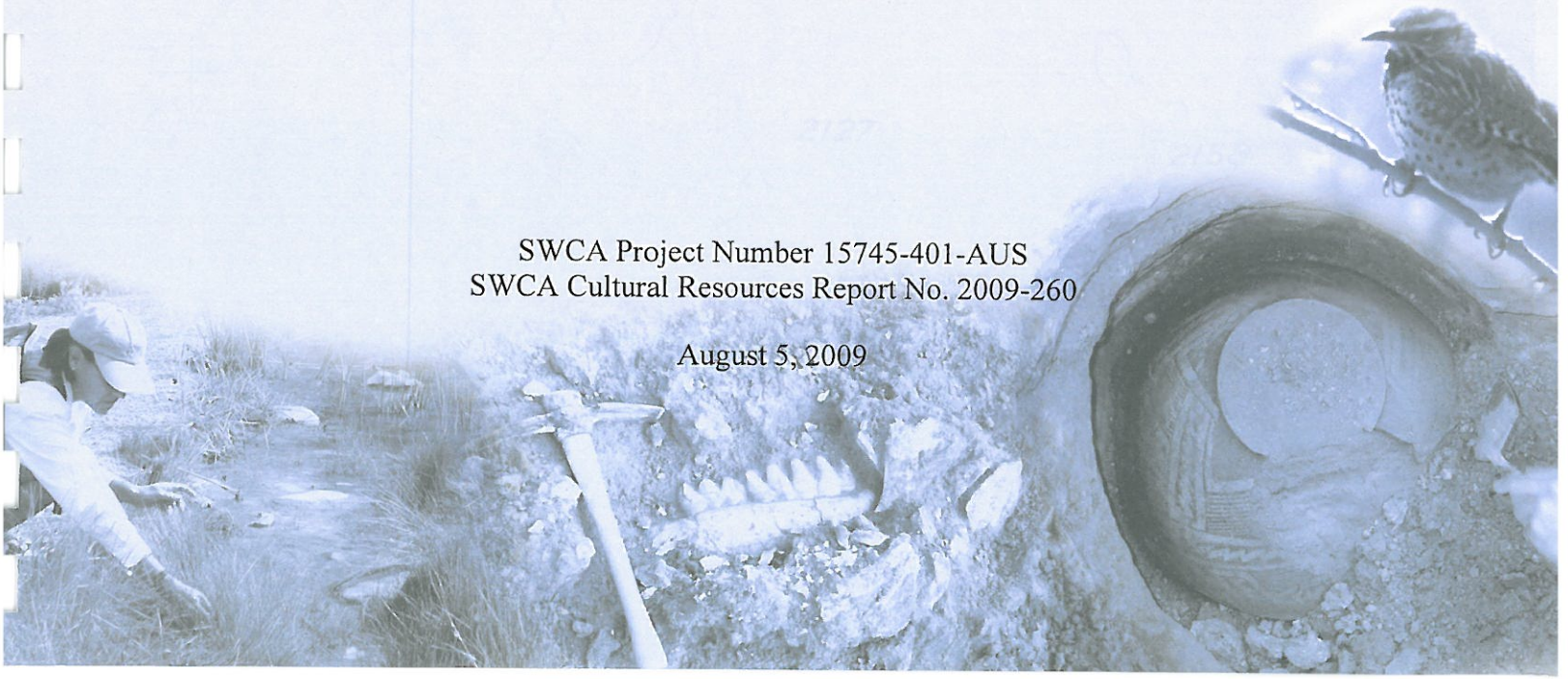

ABSTRACT

On behalf of Highland Estates, LLC., SWCA Environmental Consultants (SWCA) conducted an intensive cultural resources survey of the 184-acre Highland Estates project area in Bexar County, Texas. The work was done to satisfy requirements of the City of San Antonio's Historic Preservation Office (HPO). The project area is immediately north of San Antonio, from approximately one mile northwest of the Bulverde Road/US 281 intersection, north to Borgfeld Drive, immediately southeast of the "Oaks North" subdivision.

The investigations included a background literature and records review and an intensive pedestrian survey with subsurface investigations. The background review revealed that a small part of the project area had been previously surveyed and no archaeological sites had been recorded within the APE. SWCA's field survey included 39 shovel tests placed in areas that had the highest potential for containing buried cultural materials. No cultural materials were identified within any of the shovel tests, and only a sparse presence of historic material was observed in the heavily disturbed context along a graded roadway. A standing windmill tower and associated concrete tank were observed, but are not associated with any artifacts or evidence of a former house site. This resource appears to be of mid- to late-twentieth century construction. Overall, the project area is a rocky upland setting with prevalent limestone bedrock outcroppings. No archeological sites were recorded as a result of the current survey and SWCA recommends no further archaeological investigations within the project area.

No artifacts were collected; therefore, nothing was curated.

INTRODUCTION

On behalf of Presto Properties LTD., SWCA Environmental Consultants (SWCA) conducted an intensive archeological resources survey of the 184-acre Highland Estates project area in northern Bexar County, Texas. The work was done to satisfy requirements of the City of San Antonio's Historic Preservation Office (HPO). Cultural resource investigations were conducted in compliance the City of San Antonio Historic Preservation and Design Section of the Unified Development Code (Article 6 35-630 to 35-634). The entire 184 acres of the project area is the Area of Potential Effects (APE).

The archaeological investigations for this project included a 100 percent intensive archaeological survey of the project area with shovel testing in areas with sufficient soil deposition. The goal of the work was to locate all prehistoric and historic archaeological sites in the project area, establish vertical and horizontal site boundaries as appropriate, and provide sufficient information to significance recommendations. All work was done in accordance with the standards and guidelines of the THC and the Council of Texas Archaeologists.

SWCA archaeologists Matthew C. Stotts and Christina Nielsen conducted the fieldwork on July 28 and 29, 2009.

DEFINITION OF STUDY AREA

The project area appears on the Bulverde, Texas, USGS 7.5-minute topographic quadrangle immediately north of San Antonio, Bexar County, Texas (Figure 1). The proposed project area is located one mile west of US 281 and roughly seven miles north of Loop 1604. The 184-acre project area is located northwest of the intersection of US 281 and Bulverde Road, with "The Estates of Stonegate" neighborhood as its southern boundary and the "Oaks North" subdivision as its northern boundary. The property is oriented north-south at its longest axis, and although irregularly shaped, is approximately 800 meters (m) from east to west at its widest point. The eastern and western boundaries correspond to existing property fencelines.

Although the depths of impact for the project construction were not available at the time of survey, the shallow soils throughout the area preclude the possibility for the presence of deeply buried archeological sites. The project area is situated in an upland setting, with the southern half being roughly divided by a small ephemeral drainage that originates near the center of the project area. The majority of the project area is composed of rocky limestone upland hilltops with little vertical depth and broad areas of unconsolidated bedrock (Figure 2).

About 80 percent of the project area contains an overstory of live oaks and cedar, and a sparse understory of yucca, cacti, and scattered grasses (Figure 3). The remaining 20 percent has been extensively cleared of all vegetation and disturbed by recent and current activity including roadway grading, horse and cattle rearing, and the installation of multiple water well sites (Figure 4). Ground visibility within the project area ranged from a low of 15 percent to a high of 100 percent, but the visibility was typically about 90 percent.

SOILS AND GEOLOGY

The geology of the project area is mapped as the Lower Cretaceous age Glen Rose Formation (Kgru) (Barnes 1983). This consists of limestone, dolomite, and marl with marine mega fossils to a depth of approximately 400 feet.

In order of predominance, the soils of the project area are mapped as Brackett gravelly clay

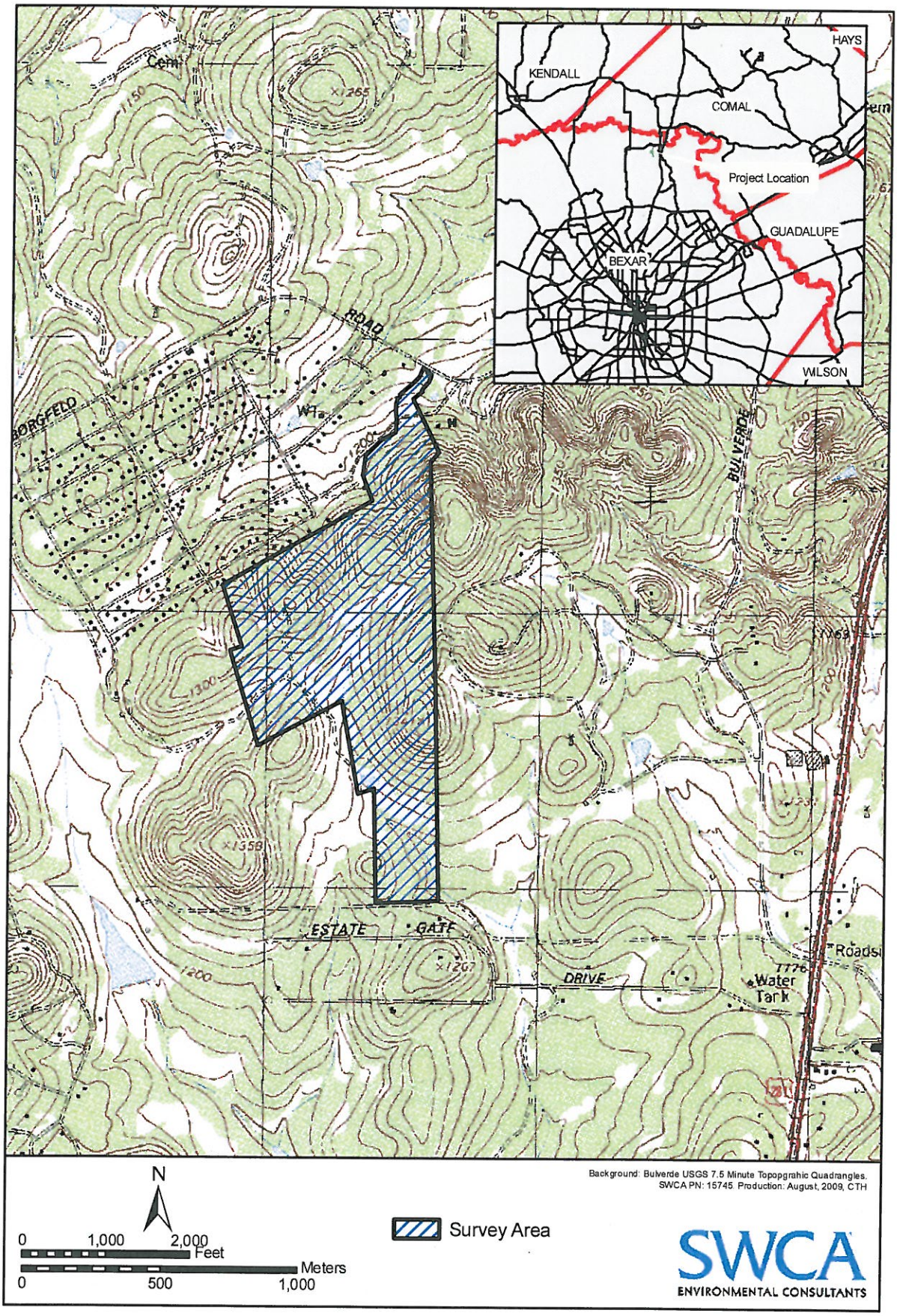

Figure 1. Project Location.

Figure 2. Typical ground surface within the project area.

Figure 3. Typical project area vegetation.

Figure 4. Lift/pump station on a hilltop in the eastern portion of the project area.

loam on 12 to 30 percent slopes (BrE), Krum clay on 1 to 5 percent slopes (Kr), and shallow, stoney Tarrant Association clay loams in the southern portion (TaB and TaD).

The Brackett gravelly clay occupies approximately 75 percent of the project area and is characterized as thin, lightly-colored soil that developed over hard limestone. This soil is expansive in the northern part of Bexar County (Taylor et al. 1991). The Krum clay is described as a moderately deep soil occupying narrow valleys in the limestone areas of the northwestern part of the county. Within the project area, the Krum clay is found along a small ephemeral drainage that originates in the central portion of the project area, flowing to the southeast. Another small section of Krum clay is also found in the northern extreme of the project area near Borgfield Drive (Taylor et al. 1991).

CULTURAL SETTING

The proposed project area falls within Central Texas Archeological Region (Pertulla 2004). Although the archaeological regions are not absolute, they do generally reflect recognized biotic communities and physiographic areas in Texas (Pertulla 2004:6). The Central Texas Region, as its name implies, is in the center of Texas and covers the Edwards Plateau and portions of the Blackland prairie east of the Edwards Plateau. The following synopses provide basic culture histories of the Central Texas region.

The archaeological record of the Central Texas region is known from decades of investigations of stratified open air sites and rockshelters throughout the Edwards Plateau, its highly dissected eastern and southern margins, and the adjoining margins of physiographic regions to the east and south (see Collins [2004] for review). Traditionally, the Central Texas archaeological area has included the Balcones Canyonlands and Blackland Prairie—that is, north of San Antonio (e.g., Prewitt 1981; Suhm 1960). These two areas are on the periphery of the Central Texas archaeological area, and their archaeological records and projectile point style sequences contain elements that suggest influences from and varying degrees of contact over time with other areas such as the Lower Pecos and Gulf Coastal Plain (Collins 2004; Johnson and Goode 1994). Archaeological sites in these two areas in Bexar County area that have contributed important information include the Richard Beene site at the Applewhite Reservoir (McGraw and Hindes 1987; Thoms et al. 1996; Thoms and Mandel 1992), the Cibolo Crossing site at Camp Bullis (Kibler and Scott 2000), the Panther Springs Creek site in Bexar County (Black and McGraw 1985), the Jonas Terrace site in Medina County (Johnson 1995), the Camp Pearl Wheat site in Kerr County (Collins et al. 1990), 41BX1 in Bexar County (Lukowski 1988), 41BX300 in Bexar County (Katz 1987), and several sites at Canyon Reservoir (Johnson et al. 1962). For more-complete bibliographies concerning archaeological work done in the region, see Black (1989), Collins (1995), and Johnson and Goode (1994).

Paleoindian Period

Surficial and deeply buried sites, rockshelter sites, and isolated artifacts represent Paleoindian (11,500–8,800 B.P.) occupations of the Central Texas region (Collins 2004:116). The period is often described as having been characterized by small but highly mobile bands of foragers who were specialized hunters of Pleistocene megafauna. But Paleoindians probably used a much wider array of resources (Meltzer and Bever 1995:59), including small fauna and plant foods. Faunal remains from Kincaid Rockshelter and the Wilson-Leonard site (41WM235) support this view (Bousman 1998; Collins 1998; Collins et al. 1989).

Longstanding ideas about Paleoindian technologies also are being challenged.

Collins (2004) divides the Paleoindian period into early and late subperiods. Two projectile point styles, Clovis and Folsom, are included in the early subperiod. Clovis chipped stone artifact assemblages, including the diagnostic fluted lanceolate Clovis point, were produced by bifacial, flake, and prismatic-blade techniques on high-quality and oftentimes exotic lithic materials (Collins 1990). Along with chipped stone artifacts, Clovis assemblages include engraved stones, bone and ivory points, stone bolas, and ochre (Collins 2004:116; Collins et al. 1992). Clovis points are found evenly distributed along the eastern edge of the Edwards Plateau, where the presence of springs and outcrops of chert-bearing limestone are common (Meltzer and Bever 1995:58). Sites within the area yielding Clovis points and Clovis-age materials include Kincaid Rockshelter (Collins et al. 1989), Pavo Real (Henderson and Goode 1991), and San Macros Springs (Takac 1991). A probable Clovis polyhedral blade core and blade fragment was found at the Greenbelt site in San Antonio (Houk et al. 1997). Analyses of Clovis artifacts and site types suggest that Clovis peoples were well-adapted, generalized hunter-gatherers with the technology to hunt larger game but not solely rely on it.

In a survey of fluted points reported from throughout the state, Bever and Meltzer (2007:72) identified 151 Clovis points recovered from the counties comprising the Central Texas region. However, only four Clovis points have been recorded for Bexar County (Bever and Meltzer (2007:67). Bever and Meltzer (2007:91) also determined that roughly 76 percent of the Clovis point raw material originated from the Edwards Plateau, but the distribution suggests the Clovis groups focused on the Nueces-Guadalupe Plain in the South Texas region.

In contrast, Folsom tool kits—consisting of fluted Folsom points, thin unfluted (Midland) points, large thin bifaces, and end scrapers—are more indicative of specialized hunting, particularly of bison (Collins 2004:117). Folsom points have been recovered from Kincaid Rockshelter (Collins et al. 1989) and Pavo Real (Henderson and Goode 1991). Folsom point distributions, both the frequency and spatial patterning, differ from the Clovis patterns, suggesting a shift in adaptation patterns (Bever and Meltzer 2007; Meltzer and Bever 1995:60 and 74). Folsom points appear more frequently in the coastal plain as well as the South Texas plain, located to the south and southeast of Bexar County. As Folsom points are almost exclusively found in plains settings (they are conspicuously lacking in the Edwards Plateau), the technology perhaps marks a more specialized adaptation, likely to a more intensive reliance on ancient bison.

Postdating Clovis and Folsom points in the archaeological record are a series of dart point styles (primarily unfluted lanceolate darts) for which the temporal, technological, or cultural significance is unclear. Often, the Plainview type name is assigned these dart points, but Collins (2004:117) has noted that many of these points typed as Plainview do not resemble Plainview type-site points in thinness and flaking technology. Recent investigations at the Wilson-Leonard site (see Bousman 1998) and a statistical analysis of a large sample of unfluted lanceolate points by Kerr and Dial (1998) have shed some light on this issue. At Wilson-Leonard, the Paleoindian projectile point sequence includes an expanding-stem dart point termed Wilson, which dates to ca. 10,000–9,500 B.P. Postdating the Wilson component is a series of unfluted lanceolate points referred to as Golondrina-Barber, St. Mary's Hall, and Angostura, but their chronological sequence is poorly understood. Nonetheless, it has become clear that the artifact and feature assemblages of the later Paleoindian subperiod

appear to be Archaic-like in nature and in many ways may represent a transition between the early Paleoindian and succeeding Archaic periods (Collins 2004:118).

Archaic Period

The Archaic period for Central Texas dates from ca. 8,800 to 1,300–1,200 B.P. (Collins 2004:119–121) and generally is believed to represent a shift toward hunting and gathering of a wider array of animal and plant resources and a decrease in group mobility (Willey and Phillips 1958:107–108). In the eastern and southwestern United States and on the Great Plains, development of horticultural-based, semisedentary to sedentary societies succeeds the Archaic period. In these areas, the Archaic truly represents a developmental stage of adaptation as Willey and Phillips (1958) define it. For Central Texas, this notion of the Archaic is somewhat problematic. An increasing amount of evidence suggests that Archaic-like adaptations were in place before the Archaic (see Collins 2004:118, 1998; Collins et al. 1989) and that these practices continued into the succeeding Late Prehistoric period (Collins 1995:385; Prewitt 1981:74). In a real sense, the Archaic period of Central Texas region is not a developmental stage, but an arbitrary chronological construct and projectile point style sequence. Establishment of this sequence is based on several decades of archaeological investigations at stratified Archaic sites along the eastern and southern margins of the Edwards Plateau. Collins (1995, 2004) and Johnson and Goode (1994) have divided this sequence into three parts—early, middle, and late—based on perceived (though not fully agreed upon by all scholars) technological, environmental, and adaptive changes.

Early Archaic (8,800–6,000 B.P.) sites are small, and their tool assemblages are diverse (Weir 1976:115–122), suggesting that populations were highly mobile and densities low (Prewitt 1985:217). It has been noted that Early Archaic sites are concentrated along the eastern and southern margins of the Edwards Plateau (Johnson and Goode 1994; McKinney 1981). This distribution may indicate climatic conditions at the time, given that these environments have more reliable water sources and a more diverse resource base than other parts of the region. Early Archaic projectile point styles include Hoxie, Gower, Wells, Martindale, and Uvalde. Clear Fork and Guadalupe bifaces and a variety of other bifacial and unifacial tools are common to Early Archaic assemblages. Botanical remains, as well as other organic materials, are often poorly preserved in Early Archaic sites, so the range of plant foods exploited and their level of importance in the overall subsistence strategy are poorly understood. Significant Early Archaic sites include the Richard Beene site in Bexar County (Thoms and Mandel 1992), the Camp Pearl Wheat site in Kerr County (Collins et al. 1990), and the Jetta Court site in Travis County (Wesolowsky et al. 1976).

During the Middle Archaic period (6,000–4,000 B.P.), the number and distribution of sites, as well as their size, probably increased as population densities grew (Prewitt 1981:73; Weir 1976:124, 135). Macrobands may have formed at least seasonally, or more small groups may have used the same sites for longer periods (Weir 1976:130–131). Development of burned rock middens toward the end of the Middle Archaic suggest a greater reliance on plant foods, although tool kits still imply a considerable dependence on hunting (Prewitt 1985:222–226). Middle Archaic projectile point styles include Bell, Andice, Taylor, Baird, Nolan, and Travis. Bell and Andice points reflect a shift in lithic technology from the preceding Early Archaic Martindale and Uvalde point styles (Collins 2004:119). Johnson and Goode (1994:25) suggest that the Bell and Andice darts are parts of a specialized bi-

son-hunting tool kit. They also believe that an influx of bison and bison-hunting groups from the Eastern Woodland margins during a slightly more mesic period marked the beginning of the Middle Archaic. Though no bison remains were recovered or present, Bell and Andice points and associated radiocarbon ages were recovered from the Cibolo Crossing (Kibler and Scott 2000), Panther Springs Creek, and Granberg II (Black and McGraw 1985) sites in Bexar County. Bison populations declined as more-xeric conditions returned during the late part of the Middle Archaic. Later Middle Archaic projectile point styles represent another shift in lithic technology (Collins 2004:120; Johnson and Goode 1994:27). At the same time, a shift to more-xeric conditions saw the burned rock middens develop, probably because intensified use of a specific resource (geophytic or xerophytic plants) or resource patches meant the debris of multiple rock ovens and hearths accumulated as middens on stable to slowly aggrading surfaces, as Kelley and Campbell (1942) suggested many years ago. Johnson and Goode (1994:26) believe that the dry conditions promoted the spread of yuccas and sotols, and that it was these plants that Middle Archaic peoples collected and cooked in large rock ovens.

During the succeeding Late Archaic period (4,000 to 1,300–1,200 B.P.), populations continued to increase (Prewitt 1985:217). Within stratified Archaic sites such as Loeve-Fox, Cibolo Crossing, and Panther Springs Creek, the Late Archaic components contain the densest concentrations of cultural materials. Establishment of large cemeteries along drainages suggests certain groups had strong territorial ties (Story 1985:40). A variety of projectile point styles appeared throughout the Late Archaic period. Johnson and Goode (1994:29–35) divide the Late Archaic into two parts, Late Archaic I and II, based on increased population densities and perceived evidence of Eastern Woodland ceremonial rituals and religious ideological influences. Middle Archaic subsistence technology, including the use of rock and earth ovens, continued into the Late Archaic period. Collins (2004:121) states that, at the beginning of the Late Archaic period, the use of rock ovens and the resultant formation of burned rock middens reached its zenith and that the use of rock and earth ovens declined during the latter half of the Late Archaic. There is, however, mounting chronological data that midden formation culminated much later and that this high level of rock and earth oven use continued into the early Late Prehistoric period (Black et al. 1997:270–284; Kleinbach et al. 1995:795). A picture of prevalent burned rock midden development in the eastern part of the Central Texas region after 2,000 B.P. is gradually becoming clear. This scenario parallels the widely recognized occurrence of post-2,000 B.P. middens in the western reaches of the Edwards Plateau (see Goode 1991).

The use of rock and earth ovens (and the formation of burned rock middens) for processing and cooking plant foods suggests that this technology was part of a generalized foraging strategy. The amount of energy involved in collecting plants, constructing hot rock cooking appliances, and gathering fuel ranks most plant foods relatively low based on the resulting caloric return (Dering 1999). This suggests that plant foods were part of a broad-based diet (Kibler and Scott 2000:134) or part of a generalized foraging strategy, an idea Prewitt (1981) put forth earlier. At times during the Late Archaic, this generalized foraging strategy appears to have been marked by shifts to a specialized economy focused on bison hunting (Kibler and Scott 2000:125–137). Castroville, Montell, and Marcos dart points are elements of tool kits often associated with bison hunting (Collins 1968). Archaeological evidence of this association is seen at Bonfire Shelter in Val Verde County (Dibble and Lorrain 1968),

Jonas Terrace (Johnson 1995), Oblate Rockshelter (Johnson et al. 1962:116), John Ischy (Sorrow 1969), and Panther Springs Creek (Black and McGraw 1985).

The Archaic period represents a hunting and gathering way of life that was successful and that remained virtually unchanged for more than 7,500 years. This notion is based in part on fairly consistent artifact and tool assemblages through time and place and on resource patches that were used continually for several millennia, as the formation of burned rock middens shows. This pattern of generalized foraging, though marked by brief shifts to a heavy reliance on bison, continued almost unchanged into the succeeding Late Prehistoric period.

Late Prehistoric Period

Introduction of the bow and arrow and, later, ceramics into Central Texas marked the Late Prehistoric period. Population densities dropped considerably from their Late Archaic peak (Prewitt 1985:217). Subsistence strategies did not differ greatly from the preceding period, although bison again became an important economic resource during the late part of the Late Prehistoric period (Prewitt 1981:74). Use of rock and earth ovens for plant food processing and the subsequent development of burned rock middens continued throughout the Late Prehistoric period (Black et al. 1997; Kleinbach et al. 1995:795). Horticulture came into play very late in the region but was of minor importance to overall subsistence strategies (Collins 2004:122).

In Central Texas, the Late Prehistoric period generally is associated with the Austin and Toyah phases (Jelks 1962; Prewitt 1981:82–84). Austin and Toyah phase horizon markers, Scallorn-Edwards and Perdiz arrow points, respectively, are distributed across most of the state. Violence and conflict often marked introduction of Scallorn and Edwards arrow points into Central Texas—many excavated burials contain these point tips in contexts indicating they were the cause of death (Prewitt 1981:83). Subsistence strategies and technologies (other than arrow points) did not change much from the preceding Late Archaic period. Prewitt's (1981) use of the term "Neoarchaic" recognizes this continuity. In fact, Johnson and Goode (1994:39–40) and Collins (2004:122) state that the break between the Austin and Toyah phases could easily and appropriately represent the break between the Late Archaic and the Late Prehistoric.

Around 1,000–750 B.P., slightly more-xeric or drought-prone climatic conditions returned to the region, and bison came back in large numbers (Huebner 1991; Toomey et al. 1993). Using this vast resource, Toyah peoples were equipped with Perdiz point-tipped arrows, end scrapers, four-beveled-edge knives, and plain bone-tempered ceramics. Toyah technology and subsistence strategies represent a completely different tradition from the preceding Austin phase. Collins (1995:388) states that formation of burned rock middens ceased as bison hunting and group mobility obtained a level of importance not witnessed since Folsom times. Although the importance of bison hunting and high group mobility hardly can be disputed, the argument that burned rock midden development ceased during the Toyah phase is tenuous. A recent examination of Toyah-age radiocarbon assays and assemblages by Black et al. (1997) suggests that their association with burned rock middens represents more than a "thin veneer" capping Archaic-age features. Black et al. (1997) claim that burned rock midden formation, although not as prevalent as in earlier periods, was part of the adaptive strategies of Toyah peoples.

Historic Period

Hester (1989) and Newcomb (1961) provide historical accounts of Native Americans and their interactions with the Spanish, the Republic of Mexico, the Texas Republic, and the United States throughout the region. The beginning of the late seventeenth and early eighteenth centuries was an era of more-permanent contact between Europeans and Native Americans as the Spanish moved northward out of Mexico to establish settlements and missions on their northern frontier (see Castañeda [1936–1958] and Bolton [1970] for extended discussions of the mission system and Indian relations in Texas and the San Antonio area). There is little available information on aboriginal groups and their ways of life except for the fragmentary data Spanish missionaries gathered. In the San Antonio area and areas to the south, these groups have been referred to collectively as Coahuiltecans because of an assumed similarity in way of life, but many individual groups may have existed (Campbell 1988). Particular Coahuiltecan groups, such as the Payaya and Juanca, have been identified as occupying the San Antonio area (Campbell 1988). This area also served as a point of contact between the southward-advancing Apaches and the Spanish, with native groups often caught in between. Disease and hostile encounters with Europeans and intruding groups such as the Apache were already wreaking their inevitable and disastrous havoc on native social structures and economic systems by this time.

Establishment of the mission system in the first half of the eighteenth century to its ultimate demise around 1800 brought the peaceful movement of some indigenous groups into mission life, but others were forced in or moved in to escape the increasing hostilities of southward-moving Apaches and Comanches. Many of the Payaya and Juanca lived at Mission San Antonio de Valero (the Alamo), but so many died there that their numbers declined rapidly (Campbell 1988:106, 121–123). By the end of the mission period, European expansion and disease and intrusions by other Native American peoples had decimated many Native American groups. The small numbers of surviving Payaya and Juanca were acculturated into mission life. The last references to the Juanca and Payaya were recorded in 1754 and 1789, respectively, in the waning days of the mission (Campbell 1988:98, 123). By that time, intrusive groups such as the Tonkawa, Apache, and Comanche had moved into the region to fill the void. Outside of the missions, few sites attributable to these groups have been investigated. To complicate matters, many aboriginal ways of life endured even after contact with the Spanish. For example, manufacture of stone tools continued even for many groups settling in the missions (Fox 1979). The nineteenth century brought the final decimation of many Native American groups, the United States' defeat of the Apaches and Comanches, and the forced removal of Native Americans to reservations.

METHODS

BACKGROUND REVIEW

SWCA conducted a thorough background cultural resources and environmental literature search of the project area. An SWCA archaeologist reviewed the Bulverde, Texas, USGS 7.5-minute topographic quadrangle map at the Texas Archeological Research Laboratory (TARL) and searched the Texas Historical Commission's (THC) Texas Archeological Sites Atlas (Atlas) online database for any previously recorded surveys and historic or prehistoric archaeological sites located in or near the project area. In addition to identifying recorded archaeological sites, the review included information on the following types of cultural resources: National Register of Historic Places (NRHP) properties, State Archeo-

logical Landmarks (SALs), Official Texas Historical Markers, Registered Texas Historic Landmarks (RTHLs), cemeteries, and local neighborhood surveys. The archaeologist also examined the *Soil Survey of Bexar County, Texas* (Taylor et al. 1991) and the *Geologic Atlas of Texas, San Antonio Sheet* (Barnes 1983). Aerial photographs were reviewed to assist in identifying any disturbances.

Field Methods

SWCA conducted an intensive archeological resources survey of entire 184-acre Highland Estates project area. These investigations consisted of an intensive pedestrian survey supplemented with subsurface investigations and photographic documentation.

Archaeologists examined the ground surface and erosional profiles for cultural material. Subsurface investigations involved shovel testing in settings with the potential to contain buried cultural materials. The shovel tests were approximately 30 cm in diameter and excavated to culturally sterile deposits or impassible limestone, whichever came first. The matrix from each shovel test was screened through ¼-inch mesh, and the location of each excavation was plotted using a hand-held GPS receiver. Each shovel test was recorded on a standardized form to document the excavations.

SWCA followed a modified no-collection policy for the survey, whereby only temporally diagnostic artifacts were to be collected at the discretion of the Principal Investigator. All non-diagnostic artifacts were analyzed in the field, documented through notes and photographs and returned to their original location. No artifacts were collected and no sites were recorded during the current investigation; therefore nothing was curated.

Results

Background Review

There are five surveys recorded within a mile of the project area. These surveys were apparently conducted by SWCA in 2001, 2005, and 2007, TxDOT in 2007, and South Texas Archeological Research Services, LLC (STARS) in 2006. The 2006 STARS survey was conducted along Borgfeld Road, which represents the extreme northern terminus of the current project area. Aside from this project point, none of the other previously conducted surveys overlap the proposed project area.

Although there are no previously recorded archeological sites within the current project area, seven sites have been recorded within an approximately one mile radius of the proposed Highland Estates Development. These archaeological sites include 41BX1008, 41BX1009, 41BX1620 41BX1671, 41BX1695, 41BX1696, and 41BX1698. All of these are prehistoric sites that were identified on the surface with the exception of 41BX1671, which also contains a potential historic burial.

Sites 41BX1009 and 41BX1671 are located approximately 600 m southwest of the project area along Mud Creek. Site 41BX1009 was recorded in 1994 by C. K. Chandler, an archeological steward, as the area was being prepared for residential development. The site consisted of three burned rock scatters within a thin scatter of lithic debitage and tools, including Angostura dartpoint fragments. The site was estimated to be present from the surface to a potential depth of 50 centimeters below the surface (cmbs). Site 41BX1671 is a 500 m diameter mulit-component site dating from the Early Archaic to potentially the Civil War era. Multiple diagnostic artifacts were recovered from prehistoric occupations and a possible historic grave and rock wall were

present. Deposits were recorded to a depth of 30 to 60 cmbs. When recorded, in 2006, the site was recommended as very significant and in need of further testing.

Site 41BX1008 is located approximately 970 m southeast of the project area on the east bank of an unnamed drainage that originates within the central portion of the project area. This site was also recorded in 1994 (along with 41BX1009) by Chandler. The site was reported to contain a burned rock midden along with Scallorn, Edwards, and Angostura dartpoints. Overall, the site occupied a 10 to 12 m area and had been nearly destroyed by extensive looting. No recommendations were made for further investigation.

The remaining four sites that are within approximately one mile of the project area are located along the route of US 281, all between 1500 and 1600 m to the east of the proposed development. All were recorded prior to expansion of US 281. Site 41BX1620 was recorded by SWCA in 2005 as a lithic scatter of unknown temporal affiliation, occupying approximately 170 linear meters within the right-of-way. The site was heavily disturbed and not recommended for further investigation. Sites 41BX1695, 41BX1696, and 41BX1698 were recorded in 2006 by PBS&J archeologists. All of these sites were confined to the surface and contained scatters of lithic debitage with no features present. Archeological survey was recommended for all three sites, although no soil was present

Field Survey

On July 28 and 29, 2009, two SWCA archaeologists conducted an intensive pedestrian survey of the 184-acre Highland Estates project area. Overall, the project exhibits prevalent rocky uplands and significant modification throughout. Some of these disturbances include: two-track and improved gravel roadways, overhead utilities, water well sites, cedar clearing, extensive commercial dumping, landscaping operations, and the recent construction of a horse pen/exerciser. All of these activities included surface grading to various depths. The project area is a mix of thick vegetation with an overstory of live oaks and cedar and extensively cleared or natural glade areas with only scattered vegetation (see Figures 2 and 3).

The subsurface investigations of the project area consisted of 39 shovel tests (Figure 5). The depths of these shovel tests ranged from 0 to 40 cmbs; however, most of them encountered limestone bedrock at depths of less than 5 cmbs. With the exception of the narrow margins of a small drainage that bisects the southern half of the area, very little to no soil is present throughout the hilly project area. Along the drainage, soils reach an average depth of 21 cmbs, which consist of compact, very dark grayish brown (10YR 3/2) sandy to silty clay. Soils become more compact and highly calcareous with depth and shovel tests in this area were typically terminated due to ancient and sterile soil (Table 1).

Surface visibility within the project area was excellent, and occasional shovel tests were excavated across the hilltops in locations that were obscured by leaf litter. All of these shovel tests verified the absence of soil in the rocky uplands, with either solid limestone at the surface or immediately beneath a thin layer of gravelly sand. Due to exposed bedrock, extensive disturbance, and surface visibility that typically exceeded 75 percent, additional shovel tests were deemed unnecessary.

Several gravel roads have been graded through the project area, often over and/or intersecting older and less substantial two-track roads. These newer roadways have been leveled and covered in a thick bed of limestone and caliche gravels (Figure 6). The roads ap-

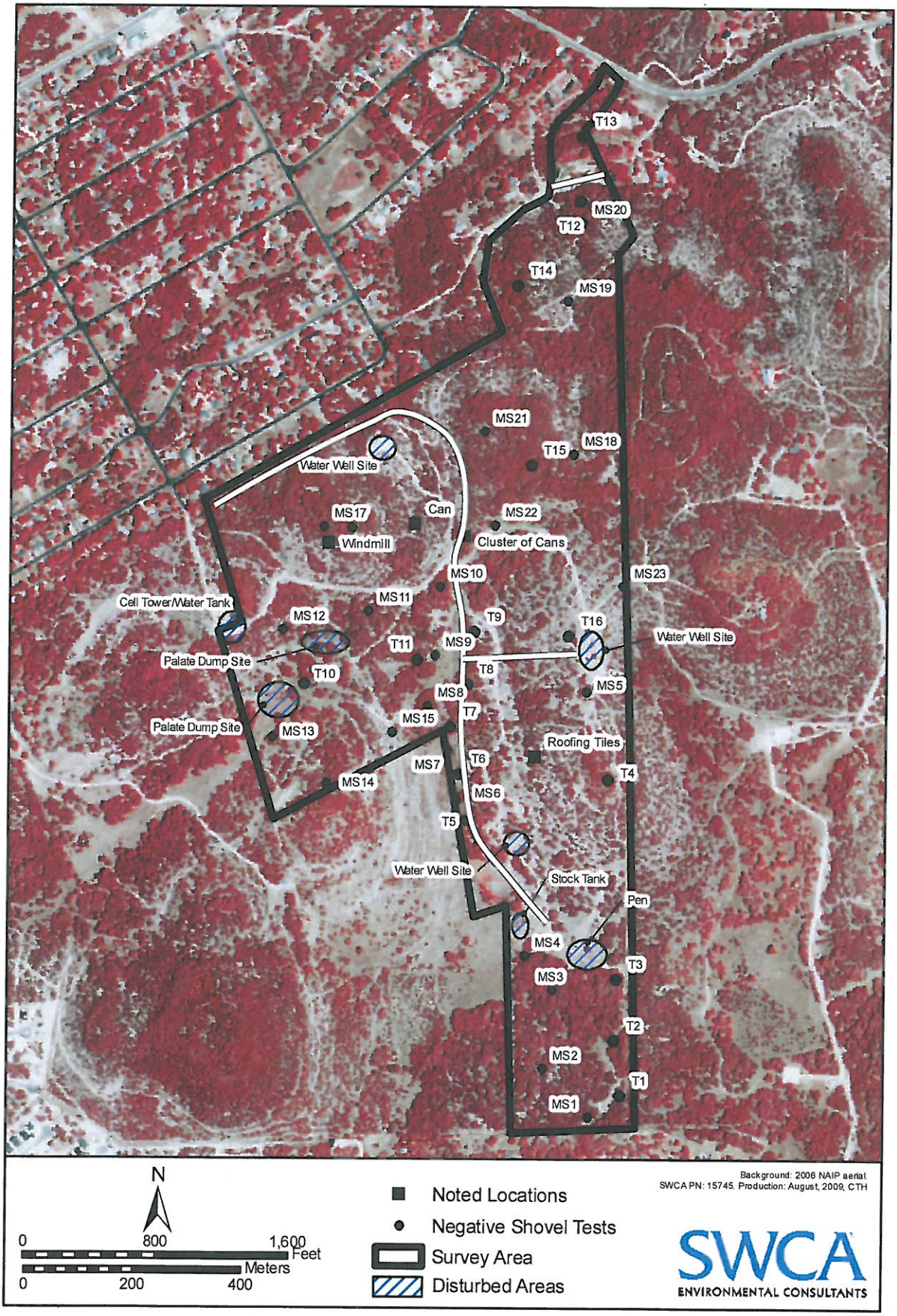

Figure 5. Results of Field Investigation.

Table 1. Shovel Test Data

Shovel Test	Depth	Munsell	Soil Color	Soil Texture	Description	Reason for Termination
MS-1	0-30	10YR 3/2	Very Dark Grayish Brown	Sandy Clay	South end of project area, in clearing west of drainage; gravelly.	Bedrock
MS-2	0-5	10YR 3/2	Very Dark Grayish Brown	Sandy Clay	Southwest corner of project area near upland hilltop; lots of rock on the surface.	Bedrock
MS-3	0-25	10YR 2/1	Black	Sandy Clay	Just south of drainage at base of hill in south of project area; limestone throughout shovel test.	Bedrock
MS-4	0-20	10YR 4/2	Dark Grayish Brown	Sandy Clay	Southwest corner of project area, immediately west of drainage; very rocky.	Bedrock
MS-5	0-5	10YR 3/2	Very Dark Grayish Brown	Sandy Clay	Saddle between high hilltops along east boundary; heavily disturbed to north and south by lift/pump station; graded and cleared.	Bedrock
MS-6	0-30	10YR 3/2	Very Dark Grayish Brown	Sandy Clay	Terrace immediately west of drainage in open field; becomes very sandy with high calcium carbonate.	Ancient soil
MS-7	0-30	10YR 3/2	Very Dark Grayish Brown	Sandy Clay	Terrace immediately west of drainage in open field; becomes very sandy with high calcium carbonate.	Ancient soil
MS-8	0-40	10YR 2/1	Black	Sandy Clay	Terrace immediately west of drainage in open field; becomes very sandy with high calcium carbonate.	Ancient soil
MS-9	0-15	10YR 3/2	Very Dark Grayish Brown	Sandy Clay	Very dense sandy clay with high calcium carbonate at 15 cmbs.	Compact soil
MS-10	0-10	10YR 3/2	Very Dark Grayish Brown	Sandy Clay	Very sandy; on hillside west of drainage.	Bedrock
MS-11	0-10	10YR 3/1	Very Dark Gray	Sandy Clay	Very rocky hillside; flat area where colluvial wash has settled; lots of limestone and calcium carbonate.	Bedrock
MS-12	0-2	10YR 4/1	Dark Gray	Sandy Clay	No soil; very thin, gravelly sand over bedrock.	Bedrock
MS-13	0-2	n/a	n/a	Gravel	5 mm of gravel and leaf litter over bedrock near western boundary.	Bedrock
MS-14	0	10YR 6/3	Pale Brown	Gravelly Sand	At southern fenceline near edge of hilltop.	Bedrock
MS-15	0-2	10YR 6/3	Pale Brown	Sand	Very thin sand over bedrock; hillslope in southern portion of project area.	Bedrock
MS-16	0-5	10YR 5/2	Grayish Brown	Sandy Loam	Very shallow sandy loam over bedrock on hilltop in western portion of project area.	Bedrock
MS-17	0-5	10YR 5/3	Brown	Sandy Clay	Hilltop near windmill; very gravelly.	Bedrock
MS-18	0	n/a	n/a	Gravel	Solid limestone at surface; in ENE portion of project area overlooking drainage to the NW.	Bedrock
MS-19	0-5	10YR 5/2	Grayish Brown	Gravelly Sand	On two-track road in NE portion of project area.	Bedrock
MS-20	0-3	10YR 5/2	Grayish Brown	Sand	Toe slope in NE corner of project area; no soil and clumps of grass on surface.	Bedrock
MS-21	0	n/a	n/a	Gravel	Large, gradually sloping ridge in north central project area.	Bedrock
MS-22	0-5	10YR 5/3	Brown	Sand	Near gravel road intersection; becomes very compact with high calcium carbonate at 5 cmbs.	Bedrock
MS-23	0-4	10YR 6/3	Pale Brown	Gravelly Sand	Gravelly sand above bedrock on narrow ridgetop in east portion of project area	Bedrock
T-1	0-3	10YR 3/3	Dark Brown	Silty Loam	Exposed bedrock and juniper in area; 40 percent surface visibility.	Bedrock
T-2	0-15	10YR 2/2	Very Dark Brown	Silty Clay	Lots of leaf litter; compact soil at 10 cmbs; 5 percent surface visibility.	Bedrock
T-3	0-3	10YR 2/2	Very Dark Brown	Silty Clay	Lots of roots, leaf litter.	Compact soil
	3-20	10YR 3/2	Very Dark Grayish Brown	Silty Clay	Compact clay with high calcium carbonate content.	
T-4	0-15	10YR 2/2	Very Dark Brown	Silty Clay	Hilltop with leaf litter; low surface visibility.	Bedrock
T-5	0-1	n/a	n/a	No Soil	Bedrock beneath leaf litter.	Bedrock
T-6	0-30	10YR 2/2	Very Dark Brown	Silty Clay	East side of drainage, west of gravel road; very compact soil.	Compact soil
T-7	0-10	10YR 3/2	Very Dark Grayish Brown	Silty Clay	Very compact.	Compact soil, caliche
T-8	0-10	10YR 3/2	Very Dark Grayish Brown	Silty Clay	Very compact.	Compact soil, caliche

Table 1. Shovel Test Data

Shovel Test	Depth	Munsell	Soil Color	Soil Texture	Description	Reason for Termination
T-9	0-2	10YR 3/2	Very Dark Grayish Brown	Gravelly Sand	Exposed bedrock nearby; very compact with calcium carbonate.	Caliche
T-10	0-30	10YR 3/3	Dark Brown	Silty Clay	Exposed bedrock nearby; very compact with calcium carbonate.	Compact soil
T-11	0-15	10YR 3/3	Dark Brown	Silty Clay	Lots of small gravels; low surface visibility through leaf litter.	Caliche
T-12	0-1	10YR 3/2	Very Dark Grayish Brown	Silty Loam	Exposed gravels on surface; leaf litter.	Bedrock
T-13	0-5	10YR 5/2	Grayish Brown	Silty Loam	Very compact soil with high calcium carbonate content.	Compact soil
T-14	0-2	10YR 3/2	Very Dark Grayish Brown	Silty Loam	Shallow bedrock; some calcium carbonate.	Bedrock
T-15	0-2	10YR 3/2	Very Dark Grayish Brown	Silty Loam	Shallow bedrock; some calcium carbonate.	Bedrock
T-16	0-1	10YR 3/2	Very Dark Grayish Brown	Silty Loam	Shallow bedrock on narrow ridgetop; 80 percent surface visibility.	Bedrock

Figure 6. Graded gravel roadways within the project area.

pear to have been constructed to access the water well sites that have been installed across the area in preparation for the proposed development (Figure 7). The pads surrounding these stations have been leveled as well, in some instances grading several feet into the bedrock. In the southern portion of the project area a recently constructed, circular horse pen/exerciser is present. Electric cables are laid across the ground surface to power temporary lighting that is currently sitting on top of a trailer parked to the south of the pen (Figure 8). This area has also been graded to level, which is evident by push piles of dirt and limestone in the surrounding trees.

Hundreds of wooden loading pallets have been dumped across the project area in piles of varying size, most heavily in the western portion (Figure 9). Additional push piles of limestone and construction debris, including ceramic roofing tiles and tar paper are also present, suggesting repeated use for commercial dumping.

Part of an active landscaping business (Greens and Blooms, Inc.) is located within the narrow northernmost portion of the project area. This business has potted plants, large slabs of limestone, piles of trash, and gravel roads (including parked cars at the time of survey) within the project area (Figure 10). This area was extensively disturbed and not subject to shovel testing. One shovel test (T13) was excavated to the north of the heavily disturbed area, adjacent to a minor drainage, which revealed shallow and compact silty loam to a depth of 5 cmbs. This shovel test was terminated due to dense soil with a very high calcium carbonate content.

No cultural materials were encountered in any of the 39 shovel tests excavated throughout the project area. No chert sources or outcrops were seen interbedded within the limestone formations encountered. In fact, the only presence of chert observed within the project area was among the imported limestone roadbed.

A few pieces of aqua glass, brown glass, and porcelain were observed within the central portion of the project area along the main access road. This area was very heavily disturbed and no additional artifacts were observed beyond the immediate roadside. To the north of this area and few meters west of the same roadway, four tin cans were observed. All exhibit church key openings and crimped seams. Additionally, all cans had been cut in half and were lying in an area less than two meters in diameter (Figure 11). This is likely a spot to have been utilized by either workers or hunters as a one-time rest stop. Due to the lack of temporally diagnostic physical attributes of the cans along with a very limited assemblage, this occurrence was not considered significant and was not designated as an archeological site. Another, single tin can was noted on the surface approximately 100 m to the west of this location, on the side of a rocky hill. This can is likely a beer can, which also exhibited a church key opening. The can was approximately 2.5 inches diameter but was crushed, preventing further measurement. This is also considered an isolated occurrence and not of archeological significance.

At the top of a hill in the northwestern portion of the project area, investigators came across an abandoned windmill tower and associated concrete tank (Figure 12). The location of this windmill is marked on the Bulverde 7.5 minute USGS quadrangle. No artifacts were found in the area and investigators observed no evidence of a home or additional structures. The windmill is constructed of tubular aluminum segments and likely dates to the mid to late twentieth century. The turbine and wind vane have been removed and the windmill is no longer functioning. The concrete tank is located just north of the windmill and measures approximately 3 by 3 meters. Be-

Figure 7. Lift/pump station in the southern portion of the project area.

Figure 8. Horse pen/exerciser and trailer in southern portion of the project area.

Figure 9. Piles of dumped loading pallets.

Figure 10. Greens and Blooms, Inc. property in the northern portion of the project area.

Figure 11. Tin cans located in the central portion of the project area.

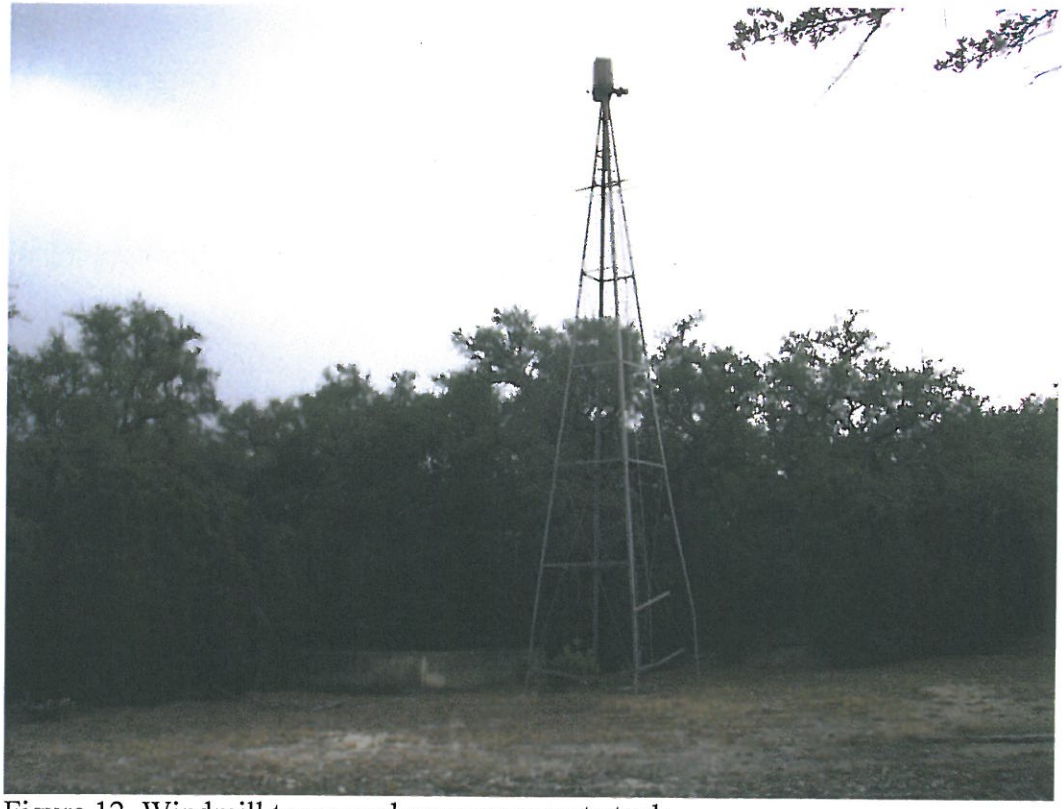

Figure 12. Windmill tower and square concrete tank.

cause the windmill and tank exhibit fairly modern attributes and are not associated with any historic artifacts or structures, no historic archeological site designation was made.

Summary and Recommendations

SWCA conducted a cultural resources investigation of the 184-acre Highland Estates Development project area in northern Bexar County, Texas. The work was designed to assess the presence and potential for cultural resources in accordance with the recommendations of the San Antonio HPO. Cultural resource investigations were conducted in compliance the City of San Antonio Historic Preservation and Design Section of the Unified Development Code (Article 6 35-630 to 35-634).

The background review revealed that no previously recorded archaeological sites are located within the project area. There are seven recorded sites and five previously conducted archaeological surveys within a mile of the project area. Overall, the project area is a rocky upland setting with prevalent limestone bedrock outcroppings and minor areas of shallow, rocky, silty and sandy clay soils.

The survey included 39 shovel tests placed in areas that had the highest potential for containing buried cultural material; however, none were identified within any of the shovel test excavations. Extensive disturbance was observed throughout the project area as a result of roadway and utilities construction, commercial operations, and animal rearing. The scarce historic artifacts and single windmill feature observed did not constitute designation as archeological sites. Therefore, the survey recorded no archaeological sites on the property. Accordingly, no significant cultural resources will be affected by any construction activities within the project area and SWCA recommends no further archaeological investigations of the Highland Estates Development prior to construction.

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