ARCHAEOLOGICAL SURVEY OF THE MONTE VIEJO DEVELOPMENT, BEXAR COUNTY, TEXAS

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ABSTRACT

SWCA investigated an approximately 40-acre portion of the Monte Viejo development in southeastern Bexar County. The survey area comprised a 100-m wide strip paralleling the eastern boundary of the development. The investigations included 10 backhoe trenches, a pedestrian survey of access roads and trails, and a careful search for evidence of 41BX362, a previously recorded site near the project area. Although a few isolated artifacts—primarily cores and early-stage flakes associated with prehistoric exploitation of lag gravels in the area—are present in the project area, these materials are of insufficient density to warrant designation as an archaeological site(s). The backhoe trenching did not encounter any buried cultural materials, and the search for 41BX362 failed to locate any artifacts in the northern end of the project area. The proposed development will not impact any significant cultural resources, and SWCA recommends to the City of San Antonio Historic Preservation Office that the project be allowed to proceed as planned.

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MANAGEMENT SUMMARY

PROJECT TITLE: Archaeological Survey of the Monte Viejo Development, Bexar County, Texas.

SWCA PROJECT NUMBER: 6893-020-SAN.

PROJECT DESCRIPTION: SWCA conducted archaeological investigations on portions of the proposed Monte Viejo subdivision. The investigations included a pedestrian survey and backhoe trenching.

LOCATION: The project area is located south of SE Military Drive and east of IH 37 in southeastern San Antonio. The project area is depicted on the Southton 7.5-minute USGS quadrangle.

NUMBER OF ACRES SURVEYED: 40 acres.

PRINCIPAL INVESTIGATOR: Brett A. Houk.

DATES OF WORK: April 15 and 16, 2003.

PURPOSE OF WORK: The project sponsor is complying with City of San Antonio requirements regarding historic preservation.

NUMBER OF SITES: None.

COMMENTS: No archaeological sites were discovered in the project area.

INTRODUCTION

SWCA was contracted by Continental Homes to conduct an archaeological survey of a 40-acre portion of a proposed residential development in southeastern San Antonio, Texas. The survey was associated with a planned residential development and was conducted to comply with requirements of the City of San Antonio's Historic Preservation and Urban Design Ordinance #80910. The San Antonio Historic Preservation Office (HPO) oversees compliance with this ordinance.

The investigations included a background literature review of the project area and a pedestrian survey with backhoe trenching. Brett A. Houk, Kevin Miller, and Ken Lawrence conducted the survey on April 15 and 16, 2003.

PROJECT AREA DESCRIPTION

The proposed Monte Viejo residential development is located in southeastern Bexar County along SE Military Drive. Salado Creek flows from north to south and passes just east of the proposed development. The general area is still largely rural, although residential development is rapidly transforming much of southeastern San Antonio. Historically, most of the area was cleared for farming or pasture, and the Monte Viejo development is no exception. Today, the project area is covered in dense mesquite thicket representing secondary growth on the once-cleared land.

Several corporations are involved in the Monte Viejo subdivision's development; Continental Homes is developing the eastern portion, which borders a recently constructed golf course, through which Salado Creek passes. In general, the subdivision occupies an upland setting, but the southern and eastern margins include low-lying areas that are either terraces or flood plain deposits of Salado Creek.

The proposed development would create several streets and cul-de-sacs and subdivide the project area into numerous small residential lots across a 270-acre area. The project was reviewed by the HPO in 2001, and, in a letter dated August 3, 2001, to Drash Consulting Engineers, Herb Uecker recommended that a 100-m wide strip along the irregular eastern boundary of the project area be surveyed for cultural resources. Mr. Uecker recommended that the investigations include a pedestrian survey with subsurface investigations within all alluvial deposits or flood plain areas. Apparently, one or more Native American burials had been discovered during the construction of the adjacent golf course, and Mr. Uecker was concerned about the potential for burials to be present in the Monte Viejo project area near Salado Creek (personal communication, 2002). The letter also indicates that Mr. Uecker was concerned about previously recorded archaeological site 41BX362, which is recorded near the northeastern boundary of the proposed project area.

In the 2001 letter, Mr. Uecker also recommended intensive background archival research and a pedestrian survey of the upland portion of the project area to document all historic-era structures associated with a 1890s bath facility once used by President Theodore Roosevelt. Subsequently, it was determined that the bath house was not located on the portion of the project area proposed for development by Continental Homes. The bath house and any associated structures were apparently destroyed by another developer constructing homes in the northwestern portion of Monte Viejo. Mr. Uecker (personal communication, 2002) indicated that Continental Homes would only need to conduct the pedestrian survey of the 100-m zone near Salado Creek to comply with his original recommendations.

Therefore, SWCA investigated approximately 40 acres comprising a 100-m zone along the irregularly shaped eastern boundary of the project area. The investigations focused on surveying alluvial settings and locating site 41BX362. Several small tributaries of Salado Creek cross the project area, but only one at the northern end actually contained water at the time of the survey. Two upland drainages, one of which is a steep-sided erosional gully, are also located in the northern half of the project area, and a small, ephemeral drainage is located near the southern end of the project area.

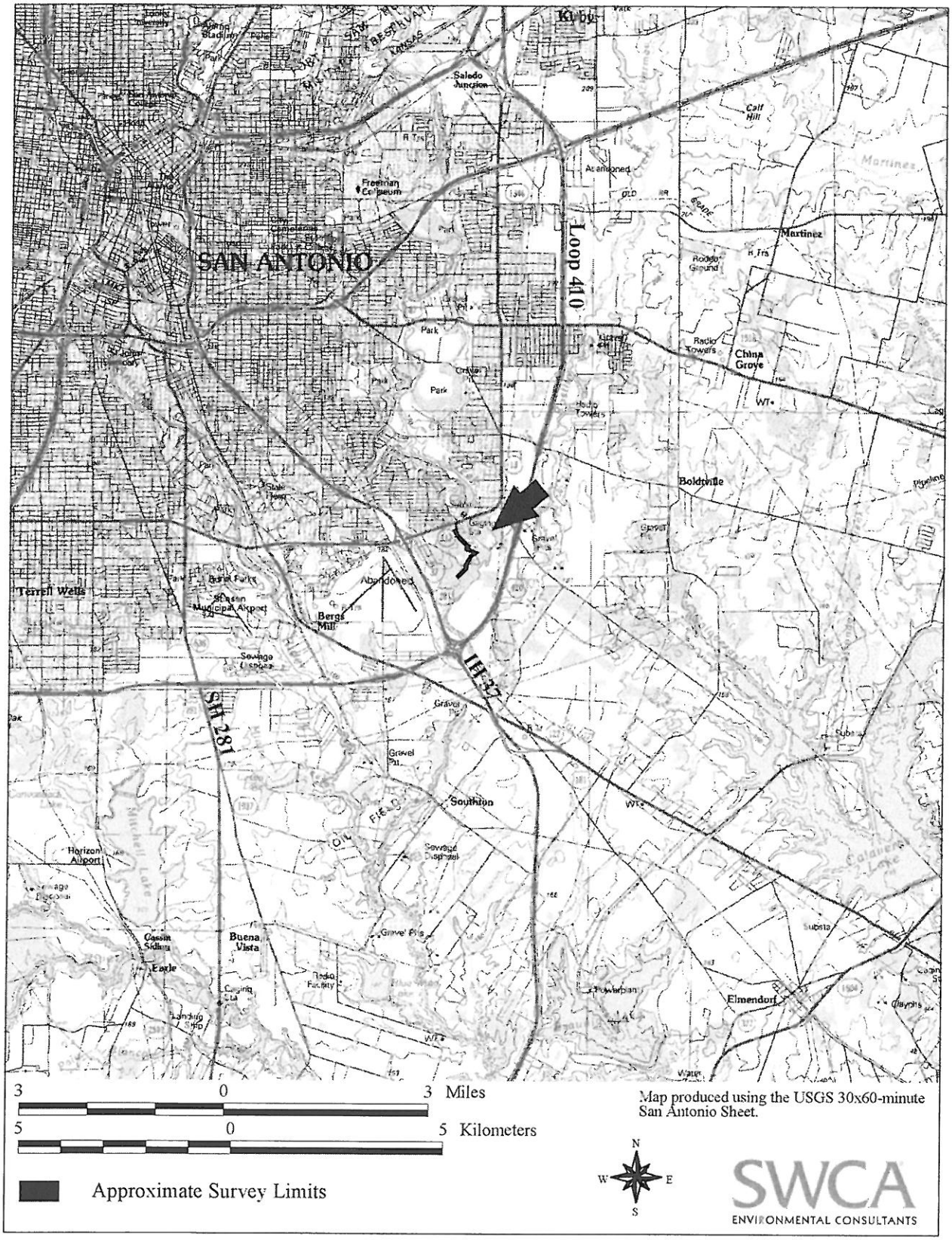

Figure 1. Project location map.

ENVIRONMENTAL SETTING

The geology of the entire project area is mapped as Pliocene or Pleistocene Uvalde Gravel. This formation consists of caliche-cemented gravel, including cobbles of chert, quartz, limestone and igneous rock, with some boulders up to 30 cm in diameter. These deposits are found in "topographically high areas not associated with present drainage" (Barnes 1983).

The project area is composed of several different soil types (Taylor et al. 1962). The two largest components are Houston Black gravelly clay (approximately 40 percent of the project area) and Karnes loam (approximately 30 percent of the project area), both with 1 to 3 percent slopes. Houston Black gravelly clay is found on uplands, generally as long, smooth, convex slopes but also as shorter undulating slopes along drainageways. The surface layer of this soil is black to about 96 cm below the surface. It generally contains approximately 8–18 percent gravel but can contain as much as 60 percent. Gravel can extend into the subsurface layer, which consists of clay to about 127 cm below surface.

Karnes loam forms gentle, convex slopes. The surface layer is light brownish gray to 50 cm below surface, and the subsurface is brown loam to 96 cm below surface. Venus clay loam, 3 to 5 percent slopes; Hilly gravelly land; and Houston Black clay, terrace, 0 to 1 percent slopes are also present in the project area. Venus clay loam (approximately 15 percent of the project area) occurs as slopes along creeks, in deeply entrenched field drainageways, and between terrace benches. Hilly gravelly land (approximately 10 percent of the project area) occurs as knolls and narrow ridges and are likely the remnants of old waterways. Houston Black clay, terrace (approximately 5 percent of the project area) is mapped on old outwash plains and on broad terraces.

Vegetation trends across the project area vary according to the degree of modern disturbance, soil type, and proximity to water. Trees found in abundance within the project area include honey mesquite (*Prosopis glandulosa*) with some post oak (*Quercus stellata*) (Everitt and Drawe 1993; Niehaus 1984; Petrides 1992). On the uplands of the project area, some plains prickly pear cactus (*Opuntia polyacantha*), Spanish Dagger (*Yucca treculeana*), Whitebrush (*Aloysia gratissima*), and buckley yucca (*Yucca constricta*) were observed (Everitt and Drawe 1993). The disturbed areas of the project area had Italian thistle (*Carduus Pycnocephalus*) and unidentified bunch grasses (Whitson 1996).

The project area is located at the southern end of the Balconian Biotic Province (Blair 1950). At least 75 species of amphibians and reptiles are found within this province. The birds found in the project area are diverse with numerous breeding, migrant, and wintering species present (Kutac and Caran 1994). Common species found in the area include northern cardinal (*Cardinalis cardinalis*), tufted titmouse (*Parus bicolor*), Berwick's wren (*Thryomanes bewickii*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), red-tailed hawk (*Buteo jamaicensis*), wild turkey (*Melagris gallopavio*), and turkey vulture (*Cathartes aura*) (Kutac and Caran 1994).

Common mammals of the area include white-tailed deer (*Odocoileus virginianus*), opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), nine-banded armadillo (*Dasypus novemcinctus*), black-tailed jackrabbit (*Lepus californicus*), deer mouse (*Peromyscus maniculatis*), ghost-faced bat (*Mormoops megalophylla*), and desert shrew (*Notiosorex crawfordi*). Less common are the predatory mammals including bobcat (*Lynx rufus*), coyote (*Canis latrans*), and gray fox (*Urocyon cinereoargenteous*) (Blair 1950; Kutac and Caran 1994).

CULTURAL SETTING

The project area lies at the interface of two broad archaeological regions, South Texas and Central Texas. As evident in the artifact assemblages from the San Antonio area, cultural influences fluctuated over time. The following culture history emphasizes Central Texas regional patterns as the best fit for the study area, although reference is made to important developments and trends in South Texas. The following discussion

draws primarily from the chronologies proposed by Collins (1995), Johnson and Goode (1994), and Black (1989) for Central Texas, with observations from Hester (1995) for South Texas. The cultural sequence is divided into four periods: Paleoindian, Archaic, Late Prehistoric, and Historic. The Archaic period is subdivided into four subperiods: Early, Middle, Late, and Transitional.

Paleoindian Period

Paleoindian artifacts and sites date from about 11,500–8,800 B.P. and are not uncommon in Central Texas (Collins 1995). The period begins during the close of the Pleistocene with the earliest evidence of humans in the Central Texas region. Diagnostic artifacts of the period include lanceolate shaped, fluted projectile points such as Clovis, Folsom, and Plainview. These projectile points were hafted onto wooden spears, launched from atlatls (spearthrowers), and often used to hunt big game such as mammoth, mastodons, bison, camel, and horse (Black 1989). During the Paleoindian period, subsistence strategies gradually changed to include increased harvesting of flora and small game as the big game died off and the climate warmed following the end of the Pleistocene ice age. Most Paleoindian artifacts in the area are recovered as either isolated surface finds or within surface lithic scatters lacking good stratigraphic context (e.g., Howard 1974; Meltzer and Bever 1995).

Archaic Period

As the Paleoindian period came to an end, humans began to harvest more intensively local floral and faunal resources (Collins 1995). Material culture became more diverse, and the use of burned rock middens and ovens became widespread. This period is known as the Archaic and dates from approximately 8,800 to 1,200 B.P. in Central Texas (Collins 1995; Johnson and Goode 1994). While Collins (1995) and Johnson and Goode (1994) subdivide the Archaic into Early, Middle, and Late subperiods, this report recognizes the Transitional Archaic as the final subperiod of the Archaic.

Early Archaic

Early Archaic artifacts and sites date from about 8,800 to 6,000 B.P. (Collins 1995). Once thought to be Paleoindian in age, some unstemmed point types such as Angostura have recently been recognized as the first Early Archaic diagnostic styles (Collins 1995). By about 8,000 B.P., these points were replaced by stemmed varieties such as Early Split Stem, Martindale, and Uvalde (Black 1989; Collins 1995). Most sites were open campsites, although cave sites have also been found (Collins 1995). Current site distribution data suggest that Early Archaic peoples were concentrated along the eastern and southern margins of Edwards Plateau in areas with more stable water sources (Collins 1995; McKinney 1981). Specialized tools, perhaps used in woodworking, known as Guadalupe and Neuces bifaces, were prevalent in this period (Collins 1995). While subsistence data are sparse, it appears that people were hunting deer and other small animals, fishing, and cooking bulbs in earth ovens (Collins 1995). This strategy evolved, in part, due to the extinction of megafauna and the changing climate at the beginning of the Holocene epoch (McKinney 1981).

Middle Archaic

Middle Archaic artifacts and sites date from about 6,000 to 4,000 B.P. Characteristic Middle Archaic projectile points include Bell, Andice, Taylor, Nolan, and Travis, several of which are deeply notched (Black 1989). These artifacts could have served as knives and projectile points. Bison were hunted intensively at the start of the Middle Archaic, but, as the climate became drier, a reliance on dry climate plants such as sotol probably became common. The end of the Middle Archaic may have been the most xeric conditions ever in Central Texas (Collins 1995). The climatic change was accompanied by a technological change as Nolan and Travis points, which are thick and have narrow blades, first appear in the archaeological record (Collins 1995). Burned rock middens and earth ovens first appeared ca. 5,000 B.P. and became increasingly common, although their exact functions may have varied based on the

culture and environment (Johnson and Goode 1994).

Late Archaic

Late Archaic artifacts and sites date from about 4,000 to 2,250 B.P. The period began with very xeric conditions but gradually became more mesic (Collins 1995). Characteristic dart point types include Bulverde, Pedernales, Marshall, and Marcos (Collins 1995). Increasingly complex and sedentary cultural manifestations first appeared in the Late Archaic. Sites of the Late Archaic are very common and include burned rock middens, open campsites, and lithic procurement sites. Large cemeteries suggest population increases. Also, trade and exchange networks between cultures appear to have increased in complexity based on the presence of exotic goods in sites and cemeteries (Black 1989).

Transitional Archaic

As Collins (1995:384–385) notes, "diverse and comparatively complex archeological manifestations toward the end of the Late Archaic attest to the emergence of kinds of human conduct without precedent in the area." This period (2,250–1,250 B.P.) is referred to as the Transitional Archaic (Turner and Hester 1993). During the Transitional Archaic, smaller dart point forms such as Darl, Ensor, Fairland, and Frio were developed (Turner and Hester 1993). These points were probably ancestral to the first Late Prehistoric arrow point types and may have overlapped temporally with them (Hester 1995). Several researchers believe that the increased interaction between groups at the end of the Late Archaic was an important catalyst for cultural change (Collins 1995; Johnson and Goode 1994).

Late Prehistoric

By the end of the Transitional Archaic, bow and arrow technologies were introduced, indicated by the increasingly smaller size of projectile points. The subsequent period is now commonly referred to as the Late Prehistoric period (Black 1989; Collins 1995; Turner and Hester 1993). The Late Prehistoric period dates from 1,250 to 260 B.P. (Collins 1995). Characteristic artifacts include small arrowpoints as well as a variety of specific use tools. The Austin and Toyah intervals of the Late Prehistoric, originally recognized by Suhm (1960) and Jelks (1962), remain accepted divisions for the period. These style intervals may represent distinct cultural entities (e.g., Johnson 1994), although others challenge this view (e.g., Black and Creel 1997).

During the earlier Austin interval, burned rock midden use may have reached its maximum based on conclusions by Black and Creel (1997). Characteristic arrow point types of the Austin interval include Scallorn and Edwards (Collins 1995; Turner and Hester 1993). By the Toyah interval, plainware ceramics appeared, indicating possible influence in the Central Texas region from ceramic producing cultures to the east and north (Perttula et al. 1995). Contrary to bog pollen data (Collins et al. 1993), data from Hall's Cave in Kerr County indicate that the climate of Central Texas began to dry around 1,000 B.P. (Toomey et al. 1993). This drying trend may have resulted in a change in vegetation that made central and south Texas more conducive to bison migration into the area, and bison remains in archaeological sites in the region became common after 750 B.P. (Dillehay 1974; Huebner 1991).

Most Toyah sites have the distinctive Perdiz arrow point, and some sites also have bison processing tool kits. This technological change has been interpreted as the spread of an ethnic group by Johnson (1994) and as the spread of technological ideas in response to opportunities provided by an increased bison population in the Late Prehistoric by Ricklis (1992). Increasing complexity in subsistence patterns and very high prehistoric populations are postulated for the Late Prehistoric period (Black 1989; Collins 1995).

Historic Period

The Historic period (beginning ca. 260 B.P. or A.D. 1690) differs from the prehistoric periods in that it can be investigated from both archaeological remains and documentary records. From just after A.D. 1550 to the late 1600s, European incursions into South and Central Texas

were rare, and the first Europeans did not settle in the region until around A.D. 1700 (Taylor 1996). Although the Historic period theoretically begins in Texas with the arrival of Alvar Nuñez Cabeza de Vaca and the survivors of the Narvaez expedition along the Texas coast in 1528, the bulk of the inhabitants were native Americans until the late eighteenth century. Spanish incursions into the region from the late seventeenth century on left valuable information on native groups and tribes. One such group, the Payaya, lived in the area of the modern city of San Antonio and are described as a hunting and gathering group organized in extended family units camping near springs and streams where nuts, pecan trees, and woods were abundant. Bison were hunted on open grasslands between the San Antonio and Colorado Rivers for their meat and hides (Hester 1989:80). The Payaya may have occupied several sites in a roughly 50 km "summer" range and had occasional contact with other groups as they traveled to and from resource camps seasonally (Campbell 1983:349–351).

The Payaya sought protection from the Apache at newly established Spanish missions, settlements, and presidios like the Mission San Antonio de Valero (the Alamo) and the Presidio San Antonio de Bexar founded on May 5, 1718, by Don Martín de Alarcón near the headwaters of San Pedro Creek (Chipman 1992:117). The Spanish in turn, actively recruited the Native Americans to help bolster their settlements on this northern frontier in response to French incursions led by La Salle. The Spanish presence around San Antonio is best seen as part of the complex European political picture of the time. Spearheading the renewed Spanish interest with leadership and funding was the captain, general and governor of Coahuila and Texas, Joseph de Azlor y Virto de Vera, Marques de San Miguel de Aguayo, who established San Antonio as the regional hub of northern Spanish settlement in Texas at this time (Cox 1997; Fox 1989).

After the establishment of San Antonio in the 1720s, the settlement effectively developed into a provincial Spanish town in the eighteenth century. In the early nineteenth century, the viceroyalty of New Spain gained independence from the Spanish empire partly due to the Napoleonic invasion of Spain, and the nation of Mexico was born. To help facilitate settlement of Texas, the region was opened up to Anglo settlers from the United States led by Stephen F. Austin. Eventually, this led to an independence movement by Texas area Anglo and Mexican citizens in the 1830s (Fox 1989). The well-known story of the battle of the Alamo and Texas independence is beyond the scope of discussion here, but the city of San Antonio played an integral part for both Mexican and Texan forces during the War for Texas Independence. Following this period, San Antonio remained a significant provincial city, growing and developing under Mexican, Texan, and American national policy in the nineteenth century (Fox 1989).

Anglo-period settlement began in the nineteenth century with significant historical events including the initial 1820s settlements, the Texas War for Independence in 1836, the incorporation of the Republic of Texas into the United States in 1845, the War with Mexico a few years after incorporation, and the U. S. Civil War of 1861–1865. During the War with Mexico, San Antonio served as a major hub for General Zachary Taylor's invasion of Mexico. Many of the military commanders of the U. S. Civil War were stationed and operated out of San Antonio at this time (Taylor 1996). San Antonio also served as a communications and shipping hub for goods imported from Mexico for the Confederate war effort in the early 1860s (Taylor 1996).

The first railway came through the city in 1877, bringing with it a plethora of job opportunities and commercial ventures. The railroad brought about a large shift in settlement patterns, as the eastern neighborhoods which were once multi-ethnic, became popular among African-Americans who worked as porters, mechanics, and loading crew for the growing railways. Wealthy citizens moved from the noise and traffic of downtown to quieter suburbs to the north and west. Through the 1880s and 1890s, as the economy of the city prospered through tourism, population of the city doubled from 53,321 to over 100,000 people (Fox et al. 1997:31).

In the early 1890s, a spa and hotel opened in at Hot Sulphur Wells, immediately adjacent to the project area (Long 2003). Theodore Roosevelt reportedly stayed at the resort (Valenza 2003), which burned down after being open for only 1 year.

Throughout the early twentieth century, trade, transportation, and tourism continued to bring economic prosperity to the city. The establishment of Fort Sam Houston and the activity surrounding World War I and World War II kept the railway system active and commercial activity in the east prospered. Through the remainder of the twentieth century, the city expanded rapidly but the downtown portion retained the city plan established in the nineteenth century.

METHODS

Background Review

An archaeological background literature and records search was performed by SWCA archaeologists to determine the locations and content of any previous surveys and recorded sites in or near the project area. The investigation included examining records at the Texas Archeological Research Laboratory (TARL) and the Texas Historical Commission.

Field Methods

The pedestrian survey targeted alluvial areas within the 100-m wide survey zone and attempted to relocate site 41BX362, which is plotted on maps at TARL as being near the northeastern corner of the project area. Because vegetation across the project area is very thick, it was not possible to walk controlled survey transects. Therefore, the survey crew utilized existing two-track roads, dirt-bike trails, and clearings within the survey area to inspect the surface for evidence of cultural materials.

The crew also excavated backhoe trenches within alluvial soils and areas that appeared to have the potential to have alluvial soils to prospect for buried archaeological sites. A two-track road that loosely follows the eastern boundary of the project area provided access to the flood plain of Salado Creek and allowed the crew to adequately sample the high-probability areas within the 100-year flood plain with multiple backhoe trenches.

In general, trenches were 4 m long and 1.5 m deep. All trenching was monitored by an experienced archaeologist while excavations were underway. After each trench was excavated, it was examined by an archaeologist for cultural materials, anomalies, and geomorphic data. Detailed stratigraphic soil descriptions were recorded for each trench. The entire process was thoroughly photographed, and all trenches were backfilled and leveled upon completion of excavation and recording.

RESULTS

Background Review

The background literature review revealed that no sites have been previously recorded within the project area boundaries. However, several sites have been recorded in the vicinity of the current project area. These sites include 41BX176, 41BX360–362, 41BX595, 41BX596, and 41BX705. Sites 41BX360–362, 41BX595, and 41BX596 were recorded during a survey for the San Antonio 201 Wastewater Treatment Facilities (Snavely et al. 1984). It is unclear whether or not that project included a portion of the current project area.

Site 41BX176 is a prehistoric burial site, recorded in 1972. The remains of at least three individuals, both child and adult, were observed along with mussel shell, chert flakes, two Scallorn arrow points, and a shell pendant with a punctate design. The topsoil had been commercially stripped from the area, leaving the site exposed to looting (TARL, site files).

Sites 41BX360–362 were recorded in 1977 by Wayne Cox, Augustine Frkuska, and Fred Valdez. These sites, located along Salado Creek, are the closest to the project area, with 41BX362 possibly adjacent to the northeastern boundary. All three sites are lithic scatters, and they include flakes,

cores, mussel shell, burned rock, and a few stone tools (point fragments and bifaces). Historic bottle glass was also present at site 41BX361. No further work was recommended at sites 41BX360 and 41BX362. The undisturbed portion of site 41BX361 (one-quarter of the site) was recommended as possibly suitable for testing (TARL, site files).

Sites 41BX595 and 41BX596 were recorded in 1983 by Snavely et al. (1984) of the Center for Archaeological Research at The University of Texas at San Antonio. Site 41BX595 contains the remains of a possibly historic building and a prehistoric lithic scatter. The building has cut-block construction and possibly a slate roof. Further research was suggested to determine the structure's date and significance. The prehistoric component consists of a burned biface fragment and exhausted cores and flakes. Shovel testing revealed thin soils, and no recommendations were made concerning the prehistoric portion of the site. Site 41BX596 is also a prehistoric lithic scatter containing debitage, snail and mussel shells, and burned rock fragments. Deposits at the site are confined to the surface, and no further work was recommended (TARL, site files).

Site 41BX705 is a prehistoric campsite on a terrace of a tributary to Salado Creek. Al McGraw, with the Texas Department of Transportation, recorded the site in 1986. The site contains a light scatter of lithic debris and burned rock within disturbed highway right-of-way. The possibility for undisturbed deposits to exist outside the surveyed area was noted (TARL, site files).

Herb Uecker (personal communication, 2002), then of the HPO, reported that construction crews encountered several prehistoric burials while building the golf course adjacent to Monte Viejo. The burials occurred on the eastern side of Salado Creek, but were apparently not recorded as an archaeological site.

Field Survey

The survey determined that approximately 50 percent of the 100-m wide survey zone contained alluvial soils or comprised high-probability areas adjacent to the flood plain of Salado Creek or the margins of several small drainages that cross the project area. The remainder of the project area occupies upland settings with little to no potential to contain buried cultural resources with good integrity.

The pedestrian survey encountered abundant lag gravels littering the surface of the project area, particularly in the upland portions. These gravels, which are primarily chert, are common in southeastern Bexar County and are thought to be Pliocene or Pleistocene in age (Barnes 1983). The survey crew noted several chert cores and flakes interspersed among the unmodified cobbles across the project area, but the density of these artifacts was never great enough to warrant designating an archaeological site. No more than four artifacts per 50 m^2 were noted. These artifacts are presumably related to periodic prehistoric exploitation of the gravels for raw material to make stone tools.

The survey included the excavation of 10 backhoe trenches in the project area (Figure 2; Table 1). Seven of the trenches were excavated along the southern leg of the property where the greatest potential for alluvial soils existed. The two-track road that follows the property line provided access to areas that would have otherwise been inaccessible to the backhoe because of the dense vegetation in the project area.

Backhoe Trenches (BTs) 1 and 2 were excavated at the southwestern corner of the property, near a small, unnamed drainage. Neither trench contained any buried cultural materials (Table 1). BTs 3–5 were excavated within the 100-year flood plain along the southern edge of the Monte Viejo property. This area, because of its topographic setting, was considered to have a high potential for containing buried cultural resources, but none of the three trenches encountered any artifacts. BT 6 was placed on a slightly higher surface than BTs 1–5; it encountered upland soils with no potential for buried material with good integrity. The field crew excavated BT 7 at the southeastern corner of the project area in another small section of the 100-year flood plain. Although this area was also

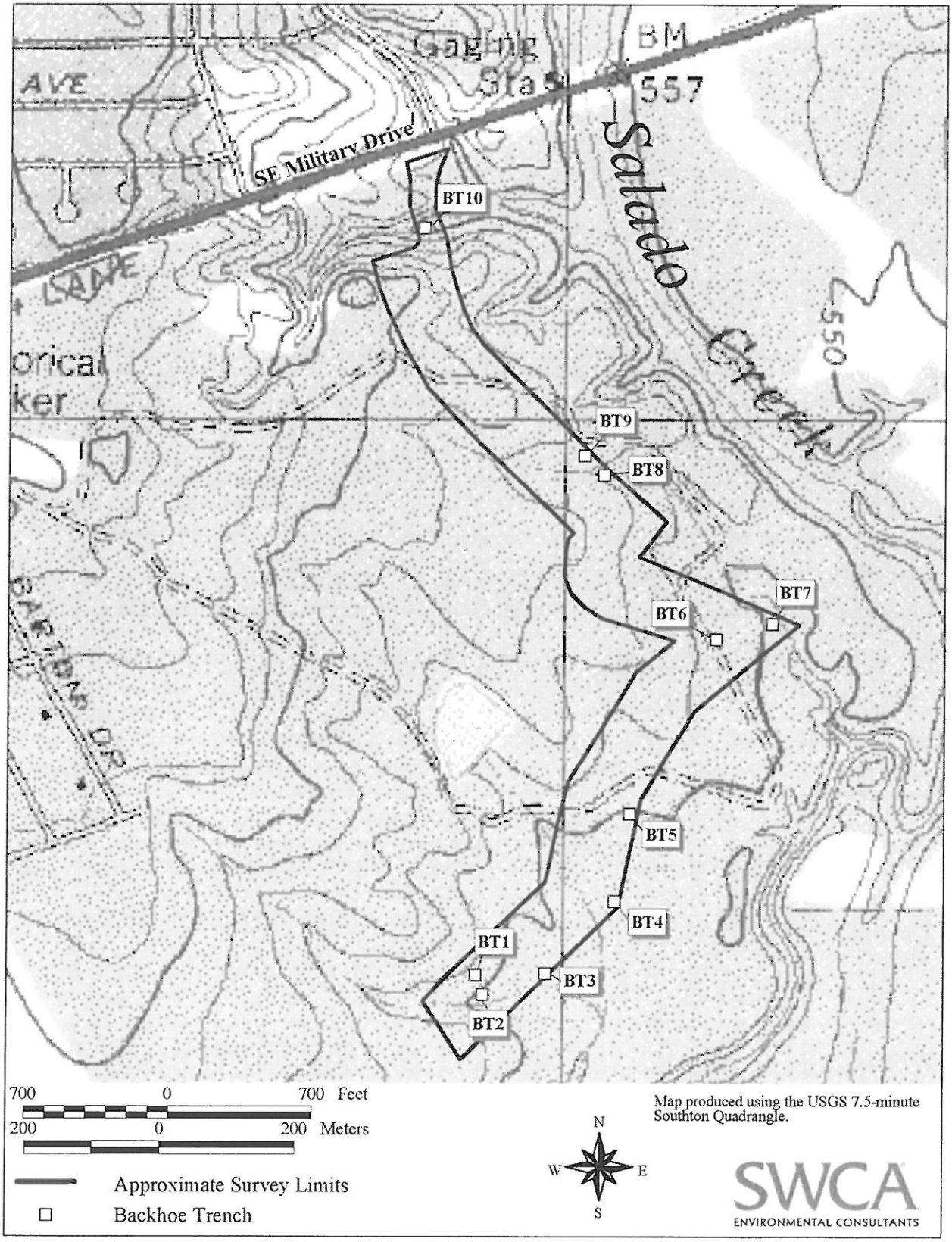

Figure 2. project area map.

Table 1. Backhoe Trench Data

BT#	Depth	Sediment Texture	Soil Color (Munsell)	Comments
1	0-50	clay loam	Very dark brown (10YR2/2)	Sediment was blocky in structure, friable to firm in consistency, with some chert gravels and cobbles present. Lower boundary was gradual and smooth.
	50-90	clay loam	Dark gray (10YR4/1)	Sediment was blocky in structure, friable to firm in consistency, with some chert gravels and cobbles present. Lower boundary was gradual and smooth.
	90-130+	clay	Pale brown (10YR6/3) mottled with brownish yellow (10YR6/6)	Sediment was blocky in structure, friable to firm in consistency. Some inclusions of degrading ferrous sandstone fragments.
2	0-50	silty loam	Very dark gray (10YR3/1)	Sediment was blocky in structure and friable in consistency with abundant chert cobbles and gravels. Some snail shells and roots present. Lower boundary has a gradual boundary that slopes southward.
	50-85	clay loam	Very dark brown (10YR2/2)	Sediment was blocky in structure, friable to firm in consistency, with some chert gravels and cobbles present. Lower boundary was gradual and smooth.
	85-160	clay loam	Dark gray (10YR4/1)	Sediment was blocky in structure, friable to firm in consistency, with some chert gravels and cobbles present.
	160-170+	clay	Pale brown (10YR6/3) mottled with brownish yellow (10YR6/6)	Sediment was blocky in structure, friable to firm in consistency. Some inclusions of degrading ferrous sandstone fragments.
3	0-15	silty loam	Very dark gray (10YR3/1)	Sediment was blocky in structure and friable in consistency with abundant chert cobbles and gravels. Some snail shells and roots present. Lower boundary has a gradual and smooth.
	15-60	clay loam	Very dark brown (10YR2/2)	Sediment was blocky in structure, friable to firm in consistency, with some chert gravels and cobbles present. Lower boundary was gradual and smooth.
	60-120	clay loam	Dark gray (10YR4/1)	Sediment was blocky in structure, friable to firm in consistency, with some chert gravels and cobbles present. Lower boundary was gradual and smooth.
	120-150+	clay	Pale brown (10YR6/3) mottled with brownish yellow (10YR6/6)	Sediment was blocky in structure, friable to firm in consistency. Some inclusions of degrading ferrous sandstone fragments.
4	0-60	silty loam	Very dark gray (10YR3/1)	Sediment was granular in structure and friable to firm in consistency. Some roots, few gravels, and snail shells. Lower boundary is gradual and clear.
	60-150+	clay	Very dark brown (10YR2/2)	Sediment had a blocky structure and firm consistency with a few gravels and roots.

BT#	Depth	Sediment Texture	Soil Color (Munsell)	Comments
5	0-35	silty loam	Very dark gray (10YR3/1)	Sediment had a blocky structure and friable consistency with a few gravels, snail shells, and roots. The lower boundary is gradual and smooth.
	35-100	silty loam	Dark grayish brown (10YR4/2)	Sediment was granular in structure and friable in consistency. Some roots present with abundant fine sand and some snail shell fragments. Lower boundary is gradual and clear.
	100-170+	clay loam	Brown (10YR5/3)	Sediment was granular in structure and friable in consistency. Some roots present with abundant fine sand and some snail shell fragments.
6	0-30	silty loam	Very dark gray (10YR3/1)	Sediment was blocky in structure and friable in consistency. Stratum had abundant onion roots with some snail shells. The lower boundary was gradual and smooth.
	30-80	clay loam	Yellowish brown (10YR5/4) mottled with brownish yellow (10YR6/6)	Sediment had a blocky structure and friable consistency with a few tiny pebbles, snail shells, and abundant calcium carbonate filaments. The lower boundary is gradual and smooth.
	80-135+	clay	Yellowish brown (10YR5/4) mottled with brownish yellow (10YR6/6)	Sediment had a massive structure and firm consistency. The stratum had common calcium carbonate filaments and nodules with some gravels.
7	0-30	clay loam	Very dark gray (10YR3/1)	Sediment is very blocky in structure, particularly in the upper 10 cm possibly due to machine compaction. The sediment was firm in consistency with some roots and snail shells present. The lower boundary was smooth and diffuse.
	30-160+	loam with some clay content	Brown (10YR4/3)	Sediment was blocky in structure with a friable consistency. Stratum contained some gravels, two mussel shell fragments, and some snail shells. Clay content in this stratum increased with depth. Lower boundary is unknown.
8	0-50	clay loam	Very dark gray (10YR3/1)	Sediment was blocky in structure and firm in consistency with some gravels and cobbles and abundant roots. The lower boundary was gradual and smooth.
	50-120+	clay loam	Dark grayish brown (10YR4/2)	This stratum (IIa) appears in the eastern half of the trench. It truncates Stratum IIb. It may be an infilled relict channel of the nearby drainage. This sediment was blocky in structure and friable to firm in consistency. This sediment had some gravels and snail shells and roots. The lower boundary is unknown, but boundary with Stratum IIb was abrupt and clear.
	50-120+	clay	Brown (10YR5/4) mottled with brownish yellow (10YR6/6)	This stratum (IIb) appears in the western half of the trench and is truncated by the clay described above. The boundary between the two was abrupt and smooth. Sediment is a vertisol that had a massive structure and firm consistency. The stratum had common calcium carbonate filaments and nodules with common ferrous sandstone fragments.

BT#	Depth	Sediment Texture	Soil Color (Munsell)	Comments
9	0-30	silty loam	Very dark gray (10YR3/1)	Sediment had a blocky structure with a friable to firm consistency. Gravels observed on surface. Stratum contained snail shells and roots. The lower boundary is gradual and smooth.
	30-90	clay loam	Very dark gray (10YR3/1) mottled with pale brown (10YR6/3)	Sediment had a massive structure and firm consistency. The stratum had common small gravels and roots. Lower boundary is gradual and smooth.
	90-140+	clay	Grayish brown (10YR5/2)	Sediment had a massive structure and firm consistency. Stratum contained degrading ferrous sandstone fragments. The lower boundary is unknown.
10	0-40	silty sand	Very dark grayish brown (10YR3/2)	Sediment was finely sorted with a granular structure and loose to friable consistency. Stratum had some roots. The lower boundary is clear and smooth.
	40-110	sandy clay	Strong brown (7.5YR5/6) mottled with very dark grayish brown (10YR3/2)	Sediment had a granular structure and friable consistency. Stratum contained some rounded gravels and a few roots. The lower boundary is gradual and smooth.
	110-150+	sandy clay	Light yellowish brown (10YR6/4) mottled with strong brown (7.5YR5/6)	Sediment had a granular structure and friable consistency. Stratum contained some calcium carbonate filaments and a few roots. The lower boundary is unknown.

considered to have a high potential for containing buried cultural material, the trench did not encounter any artifacts.

The final three backhoe trenches were excavated on the northern leg of the project area, targeting the small drainages that flow from west to east across the 100-m wide survey zone. BTs 8 and 9 encountered primarily upland soils with little to no potential to contain buried cultural deposits. Although some recent alluvium—filling a relict channel of the drainage—was apparently exposed by BT 8, no artifacts were found in the trench. None were found in BT 9, either.

The final trench, BT 10, was situated on a level bench above the steep-sided, unnamed drainage at the northern end of the project area. This trench encountered an apparent alluvial stratum from 0–40 cm below surface overlying older clays. The silty sand was a very fine, very dark grayish brown sediment that was presumably deposited during severe flood events. While this zone had the potential to contain buried cultural materials with good integrity, BT 10 did not encounter any artifacts.

The northern end of the project area, with the exception of the alluvium-covered bench on which BT 10 was excavated, occupies a heavily eroded upland surface. Weathering red and yellow clays are visible on the surface, and the frequency of lag gravels is somewhat lower than in other portions of the project area. Site 41BX362 is plotted on maps at TARL as being located in the vicinity of the northern end of the project area, but a careful search of the area failed to locate any cultural materials that could be associated with the site. It appears that 41BX362, if it still exists, does not extend into the Monte Viejo project area.

SUMMARY AND RECOMMENDATIONS

SWCA thoroughly investigated the approximately 40-acre portion of the Monte Viejo development comprising a 100-m wide strip paralleling the eastern boundary of the development. The investigations included 10 backhoe trenches, a pedestrian survey of access roads and trails, and a careful search for evidence of 41BX362. Although a few isolated artifacts—primarily cores and early-stage flakes associated with prehistoric exploitation of the ubiquitous lag gravels in the area—are present in the project area, these materials are of insufficient density to warrant designation as an archaeological site(s). The backhoe trenching did not encounter any buried cultural material, and the search for 41BX362 failed to locate any cultural material in the northern end of the project area.

The proposed development will not impact any significant cultural resources, and SWCA recommends to the HPO that the project be allowed to proceed as planned. If, however, any significant cultural resources are found during development, further disturbance or alteration in the vicinity of the discovery must be immediately stopped until the HPO can be afforded the opportunity to examine and evaluate the discovery to determine whether or not additional investigation or documentation, or avoidance, will be required per applicable city codes.

REFERENCES

Barnes, V. E..
1983 *Geologic Atlas of Texas, San Antonio Sheet.* Bureau of Economic Geology, The University of Texas at Austin.

Black, S. L.
1989 Central Texas Plateau Prairie. In *From the Gulf to the Rio Grande: Human Adaptation in Central, South, and Lower Pecos Texas*, by T. R. Hester, S. L. Black, D. G. Steele, B. W. Olive, A. A. Fox, K. J Reinhard, and L. C. Bement, pp. 17–36. Research Series No. 33 Arkansas Archaeological Survey, Fayetteville.

Black, S. L., and D. G. Creel
1997 The Central Texas Burned Rock Midden Reconsidered. In *Hot Rock Cooking on the Greater Edwards Plateau: Four Burned Rock Midden Sites in West Central Texas*, Volume I, by S. L. Black, L. W. Ellis, D. G. Creel, and G. T. Goode, pp. 269–301. Studies in Archeology 22. Texas Archeological Research Laboratory, The University of Texas at Austin. Archeology Studies Program, Report 2. Texas Department of Transportation, Environmental Affairs Division, Austin, Texas.

Blair, W. F.
1950 The Biotic Provinces of Texas. *The Texas Journal of Science* 2(1): 93–117.

Campbell, T. N.
1983 Coahuiltecans and Their Neighbors. In *Handbook of North American Indians*, Vol. 10, edited by W. C. Sturtevant, pp. 343–358. Smithsonian Institution, Washington, D.C.

Chipman, D. E.
1992 *Spanish Texas, 1519–1821.* University of Texas Press, Austin, Texas.

Collins, M. B.
1995 Forty Years of Archeology in Central Texas. *Bulletin of the Texas Archeological Society* 66:361–400.

Collins, M.B., C. B. Bousman, and T. K. Perttula
1993 Historic Context: Quaternary Environments and Archeology in Northeastern Texas. In *Archeology in the Eastern Planning Region, Texas: A Planning Document*, edited by N. A. Kenmotsu and T. K. Perttula, pp. 49–67. Cultural Resource Management Report 3. Department of Antiquities Protection, Texas Historical Commission, Austin.

Cox, I. W.
1997 The Growth of San Antonio. In *Archaeology at the Alamodome: Investigations of a San Antonio Neighborhood in Transition, Vol. I, Historical Architectural, and Oral History Research*, edited by A. A. Fox, M. Renner, and R. J. Hard, pp. 8–44. Archaeological Survey Report, No. 236. Center for Archaeological Research, The University of Texas at San Antonio.

Dillehay, T. D.
1974 Late Quaternary Bison Population Changes on the Southern Plains. *Plains Anthropologist* 19(65):180–196.

Everitt, J. H., and D. L. Drawe
1993 *Trees, Shrubs, and Cacti of South Texas*. Texas Tech University Press. Lubbock, Texas.

Fox, A. A.
1989 Historic Anglo-European Exploration and Colonization, in *From the Gulf to the Rio Grande: Human Adaptation in Central, South, and Lower Pecos Texas*, by T. R. Hester, S. L. Black, D. G. Steele, B. W. Olive, A. A. Fox, K. J. Reinhard, and L. C. Bement, pp. 85–92. Research Series No. 33. Arkansas Archeological Survey, Fayetteville.

Fox, A., M. Renner, and R. Hard
1997 *Archaeology at the Alamodome: Investigations of a San Antonio Neighborhood in Transition, Volume 1-Historical, Architectural, and Oral History Research*. Archaeological Survey Report, No. 236. Center for Archaeological Research, the University of Texas at San Antonio, San Antonio.

Hester, T. R.
1989 Historic Native American Populations. In *From the Gulf to the Rio Grande: Human Adaptation in Central, South, and Lower Pecos Texas*, by T. R. Hester, S. L. Black, D. G. Steele, B. W. Olive, A. A. Fox, K. J. Reinhard, and L. C. Bement, pp. 77–84. Research Series No. 33. Arkansas Archeological Survey, Fayetteville.

1995 The Prehistory of South Texas. *Bulletin of the Texas Archeological Society* 66:427–459.

Howard, C. D.
1974 Paleo-Indian Surface Finds in Bexar County. *La Tierra* 1(4):14–17.

Huebner, J. A.
1991 Late Prehistoric Bison Populations in Central and Southern Texas. *Plains Anthropologist* 36(137):343–358.

Jelks, E. B.
1962 The Kyle Site; a Stratified Central Texas Aspect Site in Hill County, Texas. Department of Anthropology, University of Texas, Austin.

Johnson, L.
1994 *The Life and Times of Toyah-Culture Folk: The Buckhollow Encampment, Site 41KM16, Kimble County, Texas*. Report 38. Office of the State Archeologist, Austin, Texas.

Johnson, L., and G. Goode
1994 A New Try at Dating and Characterizing Holocene Climates, as well as Archaeological Periods, on the Eastern Edwards Plateau. *Bulletin of the Texas Archeological Society* 65:1–15.

Kutac, E. A., and S. C. Caran
1994 *Birds and Other Wildlife of South Central Texas*. University of Texas Press, Austin.

Long, C.
2003 Bexar County. The Handbook of Texas Online. http://www/tsha.utexas.edu/handbook/online/articles/view/BB/hcb7.html [Accessed Mon Apr 21].

McKinney, W. W.
1981 Early Holocene Adaptations in Central and Southern Texas: The Problem of the Paleo-Indian-Archaic Transition. *Bulletin of the Texas Archeological Society* 52:91–120.

Meltzer, D. J., and M. R. Bever
1995 Paleoindians of Texas: An Update on the Texas Clovis Fluted Point Survey. *Bulletin of the Texas Archeological Society* 66:47–81.

Niehaus, T. F.
1984 *Peterson Field Guides: A Field Guide to Southwestern and Texas Wildflowers.* Houghton Mifflin Company, Boston.

Pertulla, T. K., M. R. Miller, R. A. Ricklis, D. J. Prikryl, and C. Lintz
1995 Prehistoric and Historic Aboriginal Ceramics in Texas. *Bulletin of the Texas Archeological Society* 66:175–235.

Petrides, G. A.
1992 *Peterson Field Guides: A Field Guide to Western Trees.* Houghton Mifflin Company, Boston, New York, and London.

Ricklis, R. A.
1992 The Spread of the Late Prehistoric Bison Hunting Complex: Evidence from the South-Central Coastal Prairie of Texas. *Plains Anthropologist* 37(140):261–273.

Snavely, R., M. Greco, and A. A. Fox
1984 *Archaeological Assessments for the San Antonio 201 Wastewater Treatment Facilities Project Surveys of Five Proposed Pipeline Routes and Testing at Site 41BX333.* Archaeological Survey Report No. 131, The Center for Archaeological Research, The University of Texas at San Antonio.

Suhm, E. A.
1960 A Review of Central Texas Archaeology. *Bulletin of the Texas Archaeological Society* 29:63–108.

Taylor, F. B., R. B. Hailey, and D. L. Richmond
1962 *Soil Survey of Bexar County, Texas.* United States Department of Agriculture, Soil Conservation Service, Washington, D. C.

Tyler, R. (editor)
1996 *The New Handbook of Texas in Six Volumes.* The Texas State Historical Association, Austin.

Toomey, R. S., III, M. D. Blum, and S. Valastro, Jr.
1993 Late Quaternary Climates and Environments of the Edwards Plateau, Texas. *Global and Planetary Change* 7:299–320.

Turner, E. S., and T. R. Hester
1993 *A Field Guide to Stone Artifacts of Texas Indians.* Second Edition. Texas Monthly Field Guide Series. Gulf Publishing Company, Houston, Texas.

Valenza, J. M.
2003 Mineral-Water Springs and Wells. The Handbook of Texas Online. http://www/tsha.utexas.edu/handbook/online/articles/view/MM/sbm11.html [Accessed Mon Apr 21].

Whitson, T.D. (editor)
1996 *Weeds of the West.* Fifth Edition. The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities Cooperative Extension Services, Jackson, Wyoming.