Intensive Pedestrian Archeological Survey of Loop 1604 North Improvements Project, City of San Antonio, Bexar County, Texas



by Jennifer L. Thompson, Kristi M. Ulrich and Barbara A. Meissner

with contributions by Antonia L. Figueroa

Texas Antiquities Permit No. 4092, 4182

Prepared for: HNTB Corporation 85 N.E. Loop 410 Ste. 304 San Antonio, Texas 78216



Prepared by: Center for Archaeological Research The University of Texas at San Antonio Archaeological Report, No. 384



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Texas Antiquities Committee Permit No. 4092; 4182 CSJ: 245202074; 245203040

Principal Investigator Steve A. Tomka

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Abstract:

The Center for Archaeological Research (CAR) of the University of Texas at San Antonio was contracted by HNTB Corporation to conduct an archeological survey of the portion of Loop 1604 in northern Bexar County from Military Drive West to Farm Market Road (FM) 1346. Additional sections examined included: SH 151 from Loop 1604 to Wiseman Road, IH 10 W from Camp Bullis Road to 2500 feet southeast of Huebner Road, US 281 from Marshall Road to Bitters Road, IH 35 N from SH 218 (Pat Booker Road) to FM 3009 and IH 10 E from Pfiel Road to Foster Road and south to FM 1346. The total APE of the entire survey was approximately 65.5 miles. The intensive pedestrian survey was conducted over the course of several months in 2006 and 2007. The survey fieldwork was carried out under Texas Historical Commission (THC) Permit Numbers 4182 and 4092.

The goals of the survey were to locate or relocate all archeological sites and historic resources within the ROW, identify areas where there is a high or moderate probability of buried, undisturbed cultural resources, determine if any findings meet the criteria for the National Register of Historic Places (NRHP) and make recommendations for management of any resources identified.

The survey occurred in advance of proposed road construction in the Area of Potential Effect. The width of the ROW is variable. Along some sections of the project area, plans are to take 50 feet of new ROW on each side of the corridor. The archeological survey included pedestrian reconnaissance within the entire existing ROW and shovel testing on private property within 50 feet of the existing ROW boundary. In segments with no new ROW, existing ROW was shovel tested. Backhoe trenches were excavated at or near stream crossings. Shovel testing on private property was contingent upon landowner right of entry permission; therefore, some properties were not investigated. Because backhoe trenches and shovel tests inspected deposits on private property, we collected no artifacts from privately owned properties. Their NRHP eligibility status and SAL designation could not be fully assessed due to limited access.

Two new sites were recorded during the course of the survey: 41BX1692 and 41BX1693. One previously recorded site, 41BX1003, requires additional investigations should permission to enter the property be granted. In addition, previously recorded site 41BX52 was investigated to determine if deposits that may contribute to its NRHP eligibility may be impacted during the planned improvements. No such deposits were encountered.

Dr. Steve Tomka served as Principle Investigator. All project related documents and collected artifacts are housed at the Center for Archaeological Research curation facility.

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Chapter 1: Introduction

The Center for Archaeological Research at the University of Texas at San Antonio (CAR-UTSA) was contracted by the HNTB Corporation to conduct an intensive pedestrian survey of the Loop 1604 road improvements corridor from its intersection with Military Drive West to just south of the Loop 1604-IH 10 intersection in northeastern Bexar County, Texas (Figure 1-1). The total Area of Potential Effect was approximately 65.5 miles. The intensive pedestrian survey of the current and proposed Right-of-Way (ROW) was conducted in three segments (North, East, and West). In April 2006, the intensive pedestrian survey of high probability areas for archeological sites that fall within the Loop 1604 road improvements corridor of the North Segment was conducted under permit number 4182. Archeological investigations for the East Segment occurred during June, July and September of 2006 and February 2007. The intensive pedestrian survey and backhoe trenching of the West Segment was accomplished in March of 2007. The surveys of the East and West Segments were performed under permit number 4092. Portions of proposed ROW (on private properties) where Right of Entry (ROE) was not granted remain unsurveyed.

The goals of the proposed Loop 1604 road improvements project include: 1) the long-term capacity expansion to Loop 1604; 2) operational improvements at interchanges; and 3) service improvements and ramp revisions to accommodate future traffic volumes. While new ROW will be acquired along segments of the road improvements corridor, some of the project impacts will occur only within existing ROW. The project area in northeastern San Antonio crosses a moderately developed urban section near the suburban communities of Universal City, Schertz, and Converse along with Randolph Air Force Base. The southern portion crosses

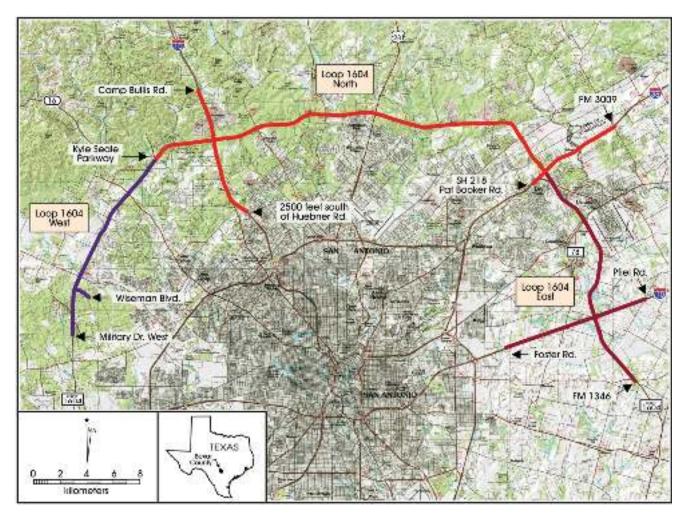


Figure 1-1. Segments of the Loop 1604 survey project.

a less developed, but growing area with several historic farmstead sites falling within two miles of the project area but not within its boundaries.

The archeological work was necessary to address the requirements of Section 106 of the National Historic Preservation Antiquities Code of 1966, as amended, the implementing regulations of 36 CFR Part 800, and the Texas Antiquities Code; because, the construction will impact land owned by the State of Texas and because the Federal Highways Administration (FHWA) is partially funding the project.

The remainder of this chapter discusses the Area of Potential Effect (APE) for each of the three segments, followed by the environmental setting of the project area. Chapter 2 presents prehistoric and historical background for the project area, while Chapter 3 summarizes the previous archeological work. Field and laboratory methods used during the project comprise Chapter 4. The results of the pedestrian surveys of all three segments are described in Chapter 5, while the summary and recommendations are presented in Chapter 6.

Areas of Potential Effect of the East Segment

The APE of the East Segment includes two tracts: the first along Loop 1604 and the second along IH 10. The Loop 1604 tract extends 12.5 miles from IH 35 to FM 1346 (south of the IH 10 interchange). The IH 10 tract extends approximately 10.5 miles from Foster Road east to Pfeil Road (east of the Loop 1604 interchange). Construction associated with road widening will occur along Loop 1604, while work along IH 10 will relate to construction of access ramps joining it to Loop 1604. Overall, the project will impact roughly 23.0 miles of ROW along Loop 1604 and IH 10. Of this 23-mile project corridor, new permanently or temporarily acquired ROW and easements will extend for only 13-miles along the project area. The entire project corridor appears on the Schertz and Martinez USGS 7.5' topographic quadrangle sheets (Figure 1-2).

The APE includes all existing and new ROW, detours, and temporary easements associated with the project. Generally, this conforms to the Loop 1604 corridor between IH 35 and FM 1346 with construction affecting proposed new ROW within 50 feet of the existing ROW on both sides of the road. In addition, the project includes construction of a modern interchange connecting Loop 1604 to IH 10, which will impact a segment of IH 10 approximately 3.0 miles east of Loop 1604 and 4.5 miles west of Loop 1604. Overall, the

project will expand the existing two- to four-lane highway to a six-lane highway with accompanying frontage roads.

Several creek crossings are located within the project APE. Three streams cross the ROW six times in the central and southern portions of the project area. Three crossing occur along Loop 1604. From north to south, these are Salitrillo Creek, Escondido Creek, and Martinez Creek. From west to east, Martinez, Escondido, and Salitrillo Creeks cross IH 10 respectively.

The archeological survey of the East Segment only covered mileage within the APE for which CAR was provided construction schematics and right of entry. Therefore, the archeological survey covered portions of Loop 1604 from its intersection with Pat Booker to 2.13 miles south of its intersection with IH 10 and did not extend to FM 1346. The survey also terminated on IH 10 at Foster Road in the west and .42 miles east from the intersection with Graytown Road; it did not extend to Pfeil Road.

Areas of Potential Effect of the North Segment

The evaluation and survey of the North Segment occurred within a section of Loop 1604 beginning at its intersection with Kyle Seale Parkway and ending at its intersection with IH 35. Here, the APE extends across portions of four USGS 7-minute quadrangle sheets: Longhorn, Castle Hills, Schertz, and Helotes. The APE under consideration in the North Segment includes the existing ROW encompassing the east and westbound lanes along 33.25 km (20.66 miles) of Loop 1604 (Figures 1-3 and 1-4). Two new sections were added to the current Loop 1604 North Segment and their survey was carried out under the same permit number as the initial Loop 1604 North Segment survey. The first addition runs along IH 10 from Camp Bullis Road at its northern point to 2,500 feet south of Huebner Road at its southern terminus. This corridor measures 9.78 km (6.1 miles). The second addition is along IH 35 running from FM 3006 to Pat Booker Road. This portion of the IH 35 corridor measures approximately 7.24 km (4.5 miles). The ROW, at its widest, measures 140 m, though its width varies along the project area.

The North Segment crosses rapidly expanding commercial and residential developments in northern San Antonio. Aerial photographs of this area show the extent of growth since the highway was first constructed. In recent months, the construction of commercial businesses along the Loop 1604 access roads has dramatically increased. Shopping centers at the intersection of Blanco Road and Loop 1604 continue to expand both east and west and have affected much of the

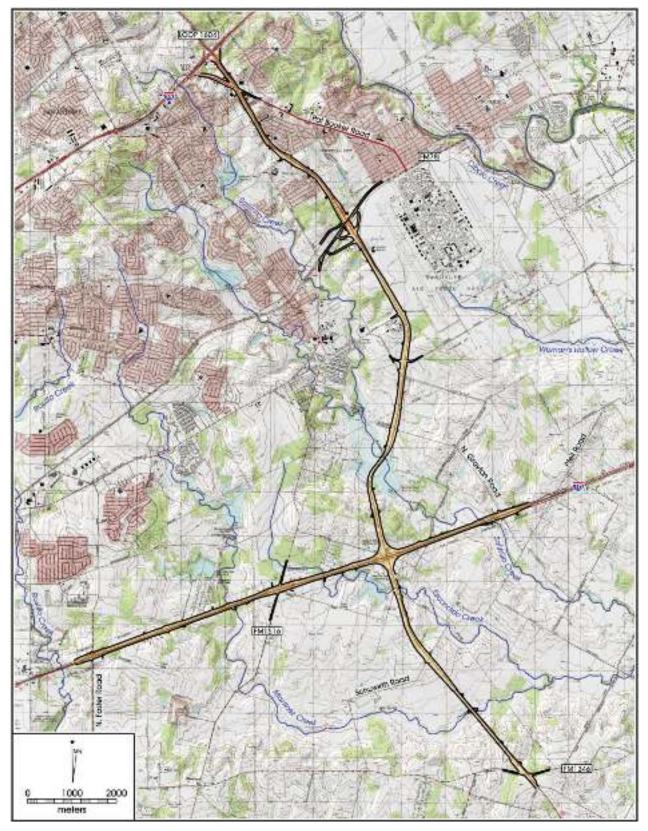


Figure 1-2. Map of the East Segment APE.

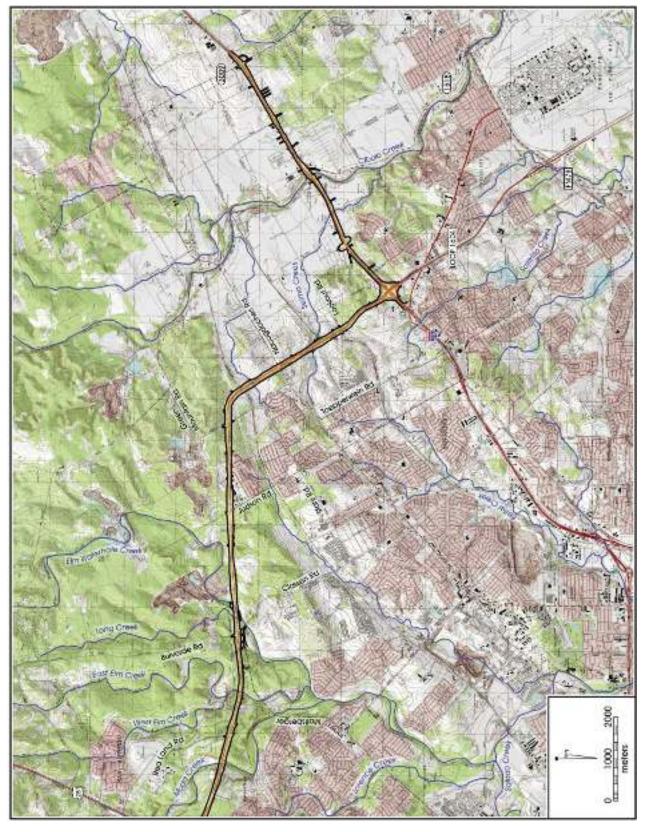
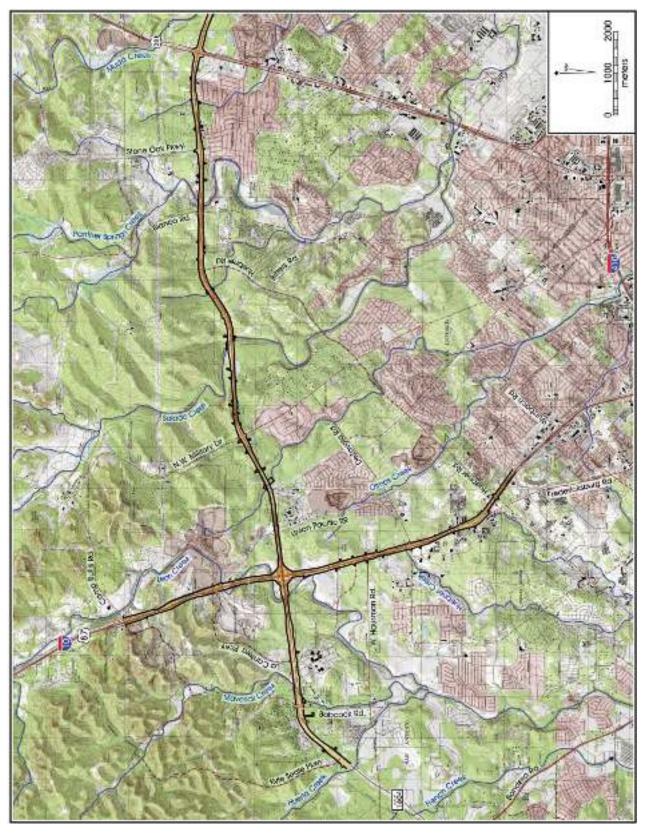


Figure 1-3. Map of the eastern portion of the North Segment APE.



ROW through construction activities and landscaping. The intersection of Loop 1604 and US Highway 281 exhibits the same trend, as does the intersection of Loop 1604 and Nacogdoches Road. A large shopping and entertainment center has recently been constructed just north of the Loop 1604 and IH 10 intersection along the westbound access road, across from the Fiesta Texas entrance. The area south of the IH 10 and UTSA Blvd intersection is almost entirely developed. The ROW located along IH 35 is highly developed as well. A section at the northwest corner of the IH 35 and Loop 1604 has recently been cleared for construction. The remainder of the area has been heavily developed by commercial businesses.

Several creeks cross the project area. Leon Creek intersects Loop 1604 just west of IH 10 and east of the Valero Corporation entrance. Leon Creek crosses the APE three times north of the Loop 1604 and IH 10 intersection, south of La Cantera Pkwy. The western section of the North Segment has an unnamed drainage crossing Loop 1604 between the Union Pacific Railroad and N.W. Military Drive. Salado Creek is located just west of Bitters Road (Figure 1-4). Another portion of the project area is crossed by an unnamed tributary of Panther Springs Creek to the west of Huebner Road, and Panther Springs Creek intersects the Loop just east of Blanco Road. Mud Creek intersects Loop 1604 just west of Redland Road, near 41BX67. To the east of Mud Creek, Elm Creek and Long Creek cross Loop 1604, one to the west of Bulverde Road and the other to the east of Bulverde Road, respectively. An unnamed drainage originating from a stock pond is found crossing Loop 1604 between Nacogdoches and Lookout Road. To assist with water runoff and deter further erosion, many of these creek and drainage crossings have been lined with cement berms.

Areas of Potential Effect of the West Segment

The West Segment of the Loop 1604 pedestrian survey runs west from Kyle Seale Parkway to Military Road, in Southwest Bexar County (Figure 1-5). This corridor measures 16.43 km (10.2 miles). An additional 1.58 km (1 mile) of SH151 is also included in the survey area. Several drainage easements are associated with this end of the project area. New and existing ROW will be impacted along the West Segment, portions of which had been surveyed previously. In addition, private owners who have built fences and other structures on the state lands maintain portions of the TxDOT ROW. Such properties were considered privately owned.

Two portions of the project ROW that have not been subjected to previous survey have a combined length of 5.7 miles. The first area measures 3.08 km (1.9 miles), beginning just north of the Bandera Road and Loop 1604 intersection and reaching just south of Huesta Creek. The second area is 6.13 kilometers (km), or 3.8 miles in length, starting about .5 miles south of the Bandera Road and Loop 1604 intersection and heading south 3.8 miles (north of Culebra Road and Loop1604). The focus of the intensive pedestrian survey was in these two areas.

The landscape surrounding West Segment of Loop 1604 varies from undeveloped countryside to highly developed urban settings. Within the West Segment, Loop 1604 is a limitedaccess four-lane freeway from Kyle Seale Parkway to just south of Bandera Road. From there to just south of Highway 151, Loop 1604 is a four-lane highway. At the time of survey, Loop 1604 from Highway 151 to Military Drive West was being upgraded to a four-lane highway. The development of the northwest side of San Antonio, in particular along Loop 1604, has been rapid and is ongoing. In many areas within the ROW, original sediments have already been either seriously disturbed or buried under many feet of fill.

Several creek and drainage crossings are within the APE of the West Segment. Huesta Creek intersects Loop 1604 near just south of Kyle Seale Parkway. Several branches of French Creek cross Loop 1604 just north of Bandera Road. South of Braun Road on Loop 1604, Helotes Creek crosses the APE. Just north of Culebra Road, Culebra Creek crosses Loop 1604 within the APE. Two branches of Culebra Creek cross into the APE along Highway 151. Aside from these larger creek crossings, several minor intermittent drainages are located within the project APE along Loop 1604.

Environmental Setting

The project area is situated in the geographic region referred to as South Texas. The region is bordered by the Edwards Plateau to the north, the Rio Grande River to the south, the Gulf of Mexico coastline to the east, and the Lower Pecos region to the west (Norwine 1995:138). The general topography of the project area is distinguished by gently rolling landscape with seasonal drainages.

Soils in south-central Texas vary from the Edwards Plateau to the coast. In eastern Bexar County, calcareous vertisols are most common. Specifically, the Eastern segment ROW in northeast San Antonio crosses three soil associations. The Austin Tarrant association along Loop 1604 and IH 35 has moderately deep and very shallow soils over marl and chalk. The majority of this survey area lies in the Houston Black-Houston association. These soils are similar to the Austin Tarrant association soils but are more deeply buried

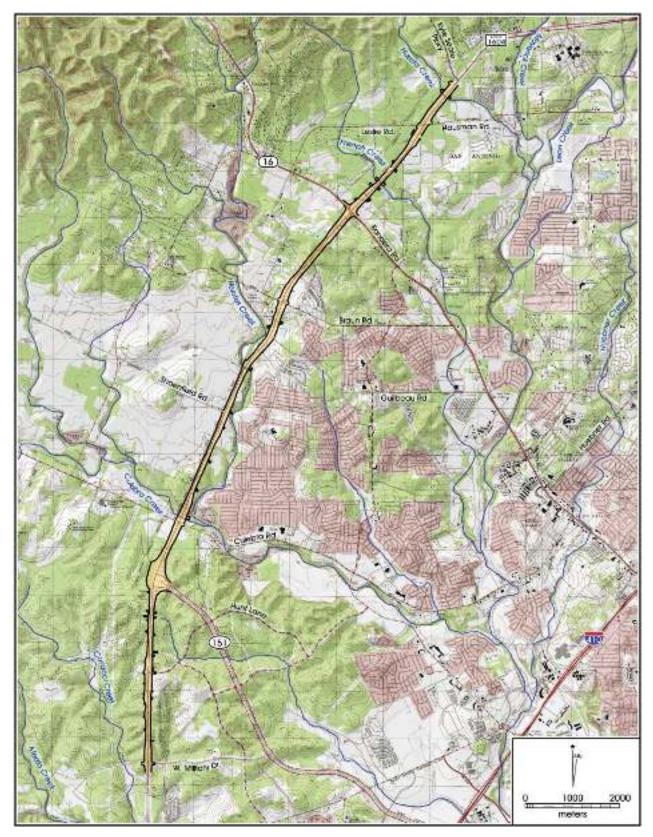


Figure 1-5. Map of the West Segment APE.

over calcareous clay and marl. These soils extend from immediately north of FM 78 to Martinez Creek. San Antonio-Crockett association soils are present in the extreme southern portion of the survey area. These soils are deep clay and sandy loam clay pans. Venus-Frio-Trinity association soils are present along creeks. These soils are deep calcareous soils on bottomlands and terraces (Taylor et al. 1991) and represent localities with the highest potential to contain buried cultural deposits.

The soils in the immediate vicinity of the North Segment project area are collectively described as part of the Crawford-Bexar association that consists of moderately deep, stony soils that are found over limestone bedrock (Taylor et al. 1991). The specific soil types vary along this project area. The easternmost portion of North Segment consists of Crawford soils, varying between clay and stony soils, with pockets of Tarrant association soils and Lewisville silty clays along drainages (Taylor et al. 1991: Sheets 20-22). From Highway 281 to approximately Judson Road, the soils vary between Crawford association, Tarrant association, and Lewisville silty clays, with a small pocket of Patrick soils where Loop 1604 crosses Long Creek (Taylor et al. 1991: Sheets 22-23). From Judson Road to IH 35, the project area crosses areas of Tarrant soils, Austin silty clays, Houston Black clays, Houston-Sumter clays, Houston clays, Brackett soils, and a small area of frequently flooded Trinity and Frio soils (Taylor et al. 1991: Sheets 23-24).

The majority of the West Segment survey crosses Crawford-Bexar soil associations between Bandera and Hausman Roads. Between Bander and Culebra, the survey crosses Lewisville-Houston Black, terrace association soils and shallow Tarrant-Black soils, and Patrick soils. From Culebra Road south, the survey area is almost entirely Tarrant association soils with areas of Lewisville Silty Clay (Taylor et al. 1991).

Elevations in the project area range from approximately 580 feet to 900 feet AMSL. In Bexar County, the San Antonio River, the Medina River, and Cibolo Creek drain the Balcones Escarpment. Smaller drainages crossing the project area include Martinez Creek, Salitrillo Creek, Escondido Creek, Helotes Creek, French Creek, Culebra Creek, Huesta Creek, Panther Springs Creek, Mud Creek, Long Creek, and Salado Creek. Other unnamed drainage also cross the project area.

Flora and Fauna

Three major geographic regions cross Bexar County: the Edwards Plateau, the Blackland Prairie, and the South Texas Plains (SCTRWPG 2006). The Edwards Plateau gradually slopes to the southeast and ends in the Balcones Escarpment

(Taylor et al. 1991). The limestone based Edward's Plateau is characterized by spring-fed, perennially flowing streams that flow across the Balcones Escarpment (SCTRWPG 2006). Vegetation on the Edwards Plateau consists of bald cypress (*Taxodium distichum*), live oak (*Quercus virginiana*), cedar elm (*Ulmus crassifolia*) and several species of grasses that include bluestem (*Schizachyrium* and *Andropogon spp.*), gramas (*Boutelous spp.*), Indiangrass (*Sorghastrum nutans*), common curly mesquite (*Hiaria belangeri*), buffalo grass (*Buchloe dactyloides*) and Canadian wild rye (*Elymus Canadensis*).

The Blackland Prairies vegetation regime includes a variety of oaks, pecan (*Cara illinoiensis*), cedar elm (*Ulmus crassifolia*) and mesquite (*Prosopis sp.*). Grasses in this region include big bluestem (*Andropogon gerardi*), little bluestem (*Schizachyrium scoparium*), Indiangrass (*Sorghastrum nutans*), switchgrass (*Panicum virgatum*), sideoats grama (*Bouteloua crutipendula*), hairy grama (*Bouteloua hirsuta*), and a variety of others.

The South Texas Plains vegetation area supports subtropical dryland vegetation including honey mesquite (*Prosopis glandulosa*), live oak (*Quercus virginiana*), blackbrush acacia (*Acacia rigidula*), huisache (*Acacia smallii*) and Mexican Paloverde (*Parkinsonia aculeate*).

Bexar County also falls within two of the six biotic provinces described by Blair (1950): the Tamaulipan and the Balcones. The Tamaulipan province spans from the Balcones Escarpment south into northeastern Mexico east of the Sierra Madre. The region supports a mix of vegetation across the plains, the southeastern US, and Mexico. It is generally covered with thorny brush species like acacias and mesquite but likely supported more grasses prior to historic modifications to the land (Black 1989b).

The Balcones province includes the Edwards Plateau, which also includes vegetation typical of its neighboring zones and is therefore quite diverse. It supports species typical of east Texas, the Trans-Pecos, and grasslands. Juniper and mesquite trees dominate the area today, though it once supported deciduous forest and wildlife like bison, wolf, and antelope that are gone today (Black 1989b). Though the majority of the APE has been cleared and is periodically mowed, the typical flora of the area consists of assorted grasses, seasonal wildflowers (e.g., *Solanum elaeagnifolium, Lupinus texensis, Rudbeckia hirta*, and *Oenothera speciosa*), cedar (*Juniperus ashei*), live oak (*Quercus fusiformis*), Texas mountain laurel (*Sophora secundiflora*), and mesquite (*Prosopis glandulosa*). In less manicured areas, prickly pear (*Opuntia* sp.), agarita (*Berberis trifoliolata*), cat claw (*Smilax bona-nox*), mustang grape (*Vitis mustangensis*), sotol (*Dasylirion texanum*), and Spanish dagger (*Yucca* sp.) were noted.

The fauna inhabiting the broader South Central Texas region includes at least 29 mammal and 95 bird species. The region is also home to a wide variety of fish species, reptiles, and amphibians (Cleveland and McLain 1992:1-5, 26-28). The variety of fauna found in the region changed largely due to the human occupation of the area, and resulting impacts to habitat caused certain species such as bison, antelope and bear to migrate out of the area (Hester 1995:428).

Mammal species noted along the ROW included whitetailed deer (*Odocoileus virginianus*), nine-banded armadillo (*Dasypus novemcinctus*), Virginia opossum (*Didelphis virgininana*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), cottontail rabbit (*Sylvilagus audubonii*), feral cat, and squirrel. Domestic mammals encountered near the project area included cow (*Bos taurus*), horse (*Equus caballus*), cat (*Felis domesticus*), and dog (*Canus familiarus*). Several species of birds were sighted during the course of the project. These include the cardinal (*Cardinalis cardinalis*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), swallow (*Hirundo rustica*), house finch (*Carpodacus mexicanus*), great-tailed grackle (*Quiscalus mexicanus*), turkey vulture (*Cathartes aura*), and red-tailed hawk (*Buteo jamaicensis*).

South Texas Climate

Climate in South Central Texas is humid subtropical with hot and humid summers (SCTRWPG 2006). The hot weather is persistent from late May through September. The cool season begins about the first of November and extends through March. Winters are typically short and mild with light precipitation. Rainfall in the San Antonio area averages about 32.92 inches a year (SRCC 2006; based on monthly averages from 1971 to 2000). Monthly temperature averages range from 50°F in January to 84°F in August.

Chapter 2: Historic Background

The culture history of the region, in particular Bexar County, spans nearly 11,500 years. There are four periods discernible by changes in hunting and gathering technologies, material culture, and the arrival of non-indigenous populations. These are Paleoindian, Archaic, Late Prehistoric, and Historic. Coherent culture chronologies of Central Texas by Collins (1995) and Prewitt (1981) are the standard summaries adhered to by many researchers. Collins culture chronology for Central Texas (1995 and 2004) is used as a basis in this section with supplemental current research included as well. This section will discuss each cultural period, beginning in the Paleoindian and concluding with the settling of Bexar County by European immigrants during the Historic Period.

Paleoindian

The earliest culture period recorded is the Paleoindian period, which marks the first signs of human populations in the New World. It coincides with the end of the Pleistocene and spans roughly from 11500 - 8800 BP (Collins 1995, 2004). Current research has confirmed absolute dates at three sites in Texas; the earliest is from the Aubrey site in Denton County, with radiocarbon assays of 11542 ± 111 BP and 11590 ± 93 BP (Bousman et al. 2004: 48). Environmental data suggest that climate during the Late Pleistocene was wetter and cooler than it is today (Mauldin and Nickels 2001; Toomey et al. 1993).

Early perceptions of Paleoindian populations generally conceptualized hunter-gatherers ranging over wide areas in pursuit of now extinct megafauna. This view of Paleoindian peoples, much like the dating of this period, is now being reassessed. While certainly exploiting Late Pleistocene megafauna, these peoples are perhaps better characterized as generalized hunter-gatherers with subsistence including a range of small game and plants. The Lewisville site (Winkler 1982) and the Aubrey site (Ferring 2001) possess faunal assemblages with a wide range of taxa that not only include large mammals but small to medium ones as well. Little information seems to be available on the consumption of plant resources during this cultural period, though according to Bousman et al. (2004) the late Paleoindian component at the Wilson-Leonard site reflects diverse exploitation of riparian, forest and grassland species. Skeletal analysis of Paleoindian remains indicates that the diets of the Paleoindian and later Archaic hunter-gatherers may not have differed so greatly (Bousman et al. 2004 after Powell and Steele 1994).

Clovis and Folsom fluted projectile points used for hunting megafauna characterize material culture from the early Paleoindian subperiod. Projectile points, such as Plainview, Dalton, Angostura, Golondrina, Meserve, and Scottsbluff, are diagnostic of the late Paleoindian. Typical site types associated with the early Paleoindian subperiod are camp, lithic procurement, kill, cache, ritual, and burial sites (Collins 1995). Meltzer and Bever (1995) have documented 406 Clovis sites in Texas. One of the earliest documented Paleoindian sites, 41RB1, was a small playa site near Miami in Roberts County, Texas (Bousman et al. 2004:15). According to radiocarbon assays, the maximum age for the Miami site is 11415 ± 125 BP (Bousman et al. 2004: 47).

Sites in Bexar County that contain Paleoindian components include St. Mary's Hall (Hester 1978 and 1990), Pavo Real (Collins et al. 2003), and the Richard Beene site (Thoms et al. 1996; Thoms and Mandel 2006). St. Mary's Hall, 41BX229, is located in northern San Antonio, Bexar County. The site was first encountered in 1972 during the construction of a house just outside the property of St. Mary's Hall institution (The Handbook of Texas Online 2008a). The Pavo Real site, 41BX52, is located along Leon Creek in northwest Bexar County. The site was recorded in 1970 and has been excavated several times since then (Collins et al. 2003). The Richard Beene site, 41BX831, is located on the Medina River in southern Bexar County (Thoms et al. 1996). Early Holocene soils are present on the site with evidence of a possible rock-lined oven (Bousman et al. 2004:46).

Archaic Period

The Archaic period spans from ca. 8800 to 6000 BP. Early Archaic, Middle Archaic and Late Archaic subperiods, divide this culture period. Johnson and Goode (1994) distinguish between a Late Archaic I and Late Archaic II. During the Archaic, there is a shift in subsistence with a greater emphasis on the exploitation of specific local environments. Differences between subperiods are again marked by changes in material culture and site characteristics. Hunting strategies focus mainly on medium to small game along with the continued foraging for plant resources.

Early Archaic

According to Collins (1995), the Early Archaic spans from 8800 to 1200 BP. Early Archaic projectile point styles include

Angostura, Early Split Stem, Martindale, and Uvalde (Collins 1995). The climate during the Early Archaic is described as drier than the Paleoindian period with a return of grasslands (Bousman 1998). Megafauna of the Paleoindian period could not subsist in the new ecosystem and gradually died out. With the extinction of megafauna, the Early Archaic exploitation of medium to small fauna intensified.

Data recovered from the Wilson-Leonard site reveals the continuation of projectile point forms and the use of small to medium-sized hearths that were also present during the Paleoindian period. The appearance of earth ovens implies another shift in subsistence patterns. Collins et al. (1998) suggest the earth ovens at Wilson-Leonard were used to cook wild hyacinth along with aquatic and terrestrial resources. Information from Early Archaic human remains from Kerr County (Bement 1991) indicates a diet low in carbohydrates in relation to Early Archaic populations in the Lower Pecos area. Stable-carbon isotopes also suggest a low reliance on C_3 plants and animals that consume such vegetation (Johnson and Goode 1994:24).

Middle Archaic

Date ranges for the Middle Archaic span from 6000 to 4000 BP (Collins 1995; Weir 1976) Data suggests that there was a population increase during this period. Climate was gradually drying as the onset of the Altithermal drought began. Demographic and cultural change likely occurred in response to the hotter and drier conditions. Middle Archaic projectile point styles include Bell, Andice, Calf Creek, Taylor, Nolan, and Travis. Johnson and Goode (1994) postulate that culture transmission from the Lower Pecos region explains the appearance of new point styles in the period.

Middle Archaic subsistence focused on exploitation of nuts and riverine environments (Black 1989a). The accumulation of burned rock middens during the Middle Archaic coincided with this focus on the exploitation of plant resources (Black 1989a; Johnson and Goode 1994). Current research has reassessed when the use of burned rock middens intensified. Data from Camp Bowie suggests that intensification occurred in the latter Late Prehistoric period (Mauldin et al. 2003). Little is known about burial practices during this subperiod, though a sinkhole in Uvalde County(41UV4) contained 25-50 individuals (Johnson and Goode 1994:28).

Late Archaic

The Late Archaic is the final subperiod of the Archaic and spans from 4000-1200 BP (Collins 2004). The Late Archaic is marked by the introduction of Bulverde, Pedernales, Kinney,

Lange, Marshall, Williams, Marcos, Montell, Castroville, Ensor, Frio, Fairland and Darl projectile points. During the early part of the Late Archaic, there are fluctuations in temperature and rainfall. Populations are believed to have increased through this period. This change in climate marks Johnson and Goode's Late Archaic II (1994).

Some researchers believe the accumulation of burned rock middens ceased at this time, though as discussed in the Middle Archaic section, current research has challenged this notion (Black and Creel 1997; Mauldin et al. 2003). In Johnson and Goode's (1994) summary of the Late Archaic, quite a bit of the discussion is devoted to the role of burned rock middens in acorn processing. Skeletal evidence from Late Archaic cemeteries in Central and South Texas, suggests the region saw increasing populations that may have prompted the establishment of territorial boundaries and resulted in boundary disputes (Nickels et al. 1998). Human skeletons dating to this sub period of the Archaic have been found near the Edward's Plateau. Dental evidence shows a high rate of enamel hypoplasia indicating nutritional stress at this time (Johnson and Goode 1994).

Late Prehistoric Period

This period begins ca. 1200 BP (Collins 1995, 2004) and lasts until the Protohistoric Period (ca. A.D. 1250). The term Late Prehistoric is commonly used to designate the period following the Late Archaic in Central and South Texas. A series of distinctive traits marks the shift from the Archaic to the Late Prehistoric period, including the technological shift to the bow and arrow and the introduction of pottery. The period includes two phases: The Austin Phase and the Toyah Phase.

At the beginning of this period environmental conditions were warm and dry. More mesic conditions appear to accelerate after 1000 BP (Nickels and Mauldin 2001). Subsistence practices remain relatively unchanged, especially during the Austin Phase. Projectile point styles associated with the Austin Phase include Edwards and Scallorn types while in the Toyah Phase the Perdiz projectile point is prevalent (Collins 1995).

Most researchers agree the early portion of the Late Prehistoric period was a time of population decrease (Black 1989a:32). Radiocarbon data has revealed that a number of burned rock middens in Central Texas were used long after Archaic and throughout the Late Prehistoric. Moreover, the "heyday of middenery began after A.D. 1 and peaked during the Late Prehistoric" (Black and Creel 1997:273). In addition, radiocarbon dates from Camp Bowie middens concur with arguments set forth by Black and Creel (1997) that burned rock middens are primarily a Late Prehistoric phenomena (Mauldin et al. 2003).

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

Ricklis (1995) contends that ceramics became a part of the archeological record in Central Texas beginning about A.D. 1250/1300. Early ceramics in Central Texas are associated with Toyah phase components and referred to as Leon Plain. The earliest dates for Leon Plain are relative and based on associations with "Toyah" assemblages. The Leon Plain ceramic type includes undecorated, bone-tempered bowls, jars, and ollas with oxidized, burnished, or floated exterior surfaces (Ricklis 1995). Although there is a typical set of attributes associated with Leon Plain, there is notable variation within the type (Black 1986; Johnson 1994; Kalter et al. 2005). This variation is typically attributed to differences in manufacturing methods and cultural affiliation. Stable carbon and nitrogen isotope data suggests that vessels were used to process bison bone grease/fat, mesquite bean/bison bone grease and deer/bison bone grease (Quigg et al. 1993).

Huebner (1991) suggests that the sudden return of bison to South and Central Texas during the Late Prehistoric resulted from a xeric climate in the plains north of Texas and increased grass in the Cross-Timbers and Post Oak Savannah in northcentral Texas. Together these formed a "bison corridor" into the South Texas Plain along the eastern edge of the Edwards Plateau (Huebner 1991:354–355). Settlement shifts into rock shelters such as Scorpion Cave in Medina County (Highley et al. 1978) and Classen Rockshelter in northern Bexar County (Fox and Fox 1967) have been noted (Skinner 1981) during this time. Cemeteries from this period often reveal evidence of conflict (Black 1989a:32).

Protohistoric

The Protohistoric period usually refers to the transitional period between the Late Prehistoric and Historic period. This period is not well documented and is marked by the end of the Toyah Phase, roughly A.D. 1250/1300 to 1600/1650 (Hester 1995), and the beginning of Spanish explorations of the area (ca. 1528). The period is concluded with the establishment of a strong Spanish presence in the region in the late 1600s and early 1700's. Sporadic encounters between the indigenous populations and Europeans occurred at this time. Identifying this period archeologically is problematic in that a clear material culture associated with this period is lacking. Protohistoric sites may have both Late Prehistoric and Historic artifacts.

History of Northern Bexar County

Until the late twentieth century, northern Bexar County was a rural area on the outskirts of San Antonio though its history is tied to the history of the city, which has been a population center for hundreds of years. Perhaps because of San Antonio's rich history, relatively less has been written on the rest of Bexar County. Areas outside of San Antonio were largely farming communities that grew with the advances in transportation from the earliest Spanish roads, continuing with stagecoaches and railroads until the overwhelming influence of the automobile and current highway system. The northern part of the county saw population growth as more transportation outlets like stagecoach stops and railroad depots eased movement of people.

As San Antonio grew toward Austin, these small communities grew into larger suburbs until the urban sprawl eventually overtook them all. Today, no countryside separates San Antonio city limits from its surrounding suburbs. Drivers across Loop 1604 today enter one suburb as they leave the next. The original and current construction of this road is due to the rapid growth of San Antonio and the growing commuter population driving to and from these suburbs into the city.

Work began on segments of Loop 1604 in the mid 1950s and continues today. The highway incorporated FM Roads 1518, 1604, 1677 and 2173, keeping the 1604 designation and becoming the only non-FM road with a four-digit designation (Purcell 2007). The four-lane, northern expanse of the Loop sees a high volume of traffic from Bandera to IH 35 and is seeing increasing traffic volume along the two-lane stretch from IH 35 east to IH 10. This highway services suburbs across the northward expansion of San Antonio, which has seen a steady rate of population growth since the 1940s. San Antonio saw a wartime population boom that increased by sixty-one percent in the 1940s. Until this time, San Antonio remained within the boundaries of its original Spanish charter only spreading beyond the historic boundaries during the automobile and World War II eras. These eras brought changes to Texas, turning it from a rural agricultural state into

an industrialized urban one by the end of the second World War, increasing the urban population as much as 60 percent (Campbell 2003:396) as wartime industries in urban centers drew Texans seeking work from the country to the city. Many small farming communities in the county died during this time as families moved to the city to support the war effort.

Since the 1940s, San Antonio has steadily grown in step with the State, increasing its population by 44 percent in the 1950s and by ten percent each subsequent decade. Urbanization of San Antonio continued into the 1990s driving San Antonio's population to 1,144,646 in 2000, making it the ninth largest city in the US (Campbell 2003:456). The population boom is largely due to the city's relationship with the military. During both World Wars, San Antonio was an important military center for the army and air force military branches. Fort Sam Houston, Camp Travis, Kelly Field, Wise Field, Randolph, Brooks, and Lackland Air Force Bases have been leading economic generators in San Antonio since the 1950s. San Antonio has continued to grow into the twenty-first century, as the city is a popular destination for retired military personnel.

Military presence was a part of San Antonio area history prior to the twentieth century wars. The military was vital to the growth of Texas and Bexar County when Spain first took control of the region and began its historic colonization. Armed forces escorted most sixteenth-century explorers, and military outposts guarded the early mission establishments in East Texas, Bexar County and along the Rio Grande. Once Bexar was regarded as relatively safe, more immigrants from Germany and Poland began settling in south Texas. While most immigrants from Poland settled in counties south of Bexar, many Germans made their homes north of San Antonio across the study area.

Beginning with the Spanish establishment of the mission system, the City of San Antonio attracted many immigrants because it offered more safety and economic opportunities than the rural areas of southern Texas. The seventeenth and eighteenth centuries brought many colonists from the Spanish Empire as the crown sought to control the New World and defend against France and England. In the nineteenth century, in the early years of the Republic, and into statehood, Europeans seeking new opportunities in Texas caused an immigration boom. Many of these immigrants were attracted to San Antonio as an urban center, but some opted for a rural life founding smaller communities around San Antonio. German farmers who needed fertile land did not find city life profitable or desirable. Today, many of the small communities that were on the outskirts of San Antonio until the early twentieth century are part of the city that continues to grow in all directions. The federal and state historic properties relevant to the history of the study area are discussed throughout this chapter.

The northern half of Loop 1604 crosses lands that were originally outside of historic San Antonio city limits, though the earliest history of the area is still tied to the Bexar missions and Spanish settlers (Figure 2-1). The missions of Béxar and La Bahía accompanied the military outposts constructed by Spain west of French settlements in Louisiana. From 1492 until 1821, Spain claimed most of the western hemisphere and in 1691, they designated the province of Texas the New Philippines. In North America, Spain owned all the land west of the Mississippi River, the French held land to the east of the river. The Spaniards tried to back a strong presence on the frontier to keep France from expanding its interests westward. Toward this end, the Spanish established outposts along the frontier that included a priest and church set up along side the presidio and often a civilian villa. The town and presidio provided protection for the missions that in turn oversaw and regulated the religious and social life in the community. This protection attracted native groups who were at odds with neighboring tribes and facilitated their conversion to Catholicism and Spanish way of life, which was a primary goal of the missionaries. The Native Americans who lived at the missions carried out many of the household chores, gardening, and ranching that were fundamental to the success of the ranches there. The number of natives occupying the missions was often used as a benchmark of the missions' success.

The five missions established at the head of the San Antonio River were founded between 1718 and 1731 and reached their height of prosperity in the 1770s. The first of these was San Antonio de Valero, followed by San José y San Miguel de Aguayo, Nuestra Señora de la Purísima Concepción, San Juan Capistrano, and San Francisco de la Espada. The San Antonio settlement included the missions, San Antonio de Béxar Presidio, and the civil town of San Fernando de Béxar.

Friar Antonio de Olivares founded the city, presidio, and the mission San Antonio de Valero in 1718. San Antonio de Béxar (referred to as both Béxar and San Antonio) became a small military community settled by Spanish soldiers. In 1731, settlers from the Canary Islands arrived in Béxar led by Juan Leal Goraz. The sixteen families started their new ranches here, forming the core of San Fernando de Béxar, which was the first regularly organized civil government in Texas.

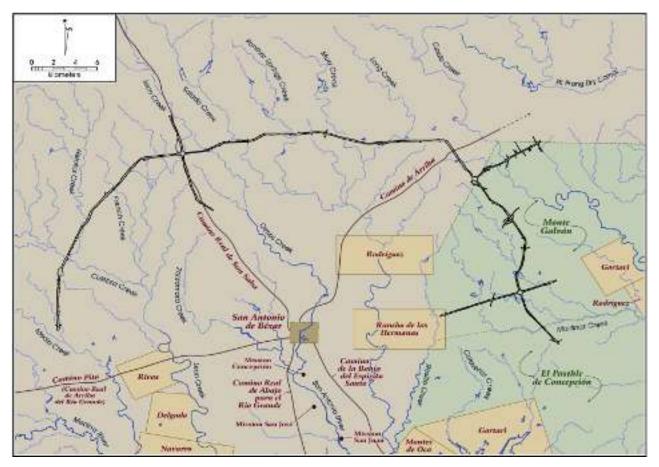


Figure 2-1. Map of the project corridor in relationship to major roads, missions, and private ranches during the Spanish and Mexican periods.

A second settlement to the southeast of Béxar was called La Bahía. It began in 1722 when the presidio and mission Nuestra Señora del Espíritu Santo de Zuñiga (Mission Espíritu Santo) were founded on the Gulf Coast. Later it was relocated to a site on the Guadalupe River and finally to the San Antonio River, near present-day Goliad, Texas, in 1749. Soon after, the Nuestra Señora del Rosario Mission (Mission Rosario) was founded across the river with the primary purpose of converting the Kawakawa. The missions located near Presidio La Bahía failed to flourish though they did contribute to relative regional stability.

Much of the land that Loop 1604 crosses was once part of private ranches, ranches of the Béxar presidio and villa (Monte Comal), those of Mission Valero (Monte Galván), and those of Mission Concepción (El Pasthle) (Figure 2-1, Table 2-1). Valero's lands were north and northeast of the mission itself and extended to the Cibolo River. The southern boundary lay along Martinez Creek and the northern boundary followed the Salado Creek northwest. These lands include El Monte Galván, wooded areas where mission cattle grazed. Monte Galván was a prosperous area that supplied all three missions, Valero, Concepción, and San Juan, with beef (Jackson 1986:94) and continued to prosper when the other missions' ranchos were failing (Jackson 1986:113).

The eastern end of the project area may encroach on the historic ranchlands of Mission Concepción as well. These lands measured fifteen square leagues from the east bank of the San Antonio River to the Arroyo del Cibolo. The mission itself was located near modern La Vernia and Sutherland Springs about halfway between Mission Valero to the north and Mission San José to the south. The ranch at Concepción was called Rancho del Paistle (Moss Ranch) after the moss that grew in the trees there (Jackson 1986:40). Rancho del Paistle was located very near the mission compound, an uncommon position of most mission ranches. Its lands ran on the west side of the Cibolo Creek, east of the Mission (Habig 1990:212).

Loop 1604 also crosses areas near privately owned ranches. As plotted on a 1721-1821 map of Spanish Ranching in Texas, the extension of IH 10 approaches the historic lands of Rancho de las Hermanas and those owned by Gertrude

Property I.D.	Original Grantee	Property I.D.	Original Grantee	Property I.D.	Original Grantee
1	Davison, T	32	City Of San Antonio	63	Sparks, H
2	Dignowity, J V	33	TC RR Co	64	Martinez, J M
3	Meurer, H	34	Kerchner, W	65	Villarial, F
4	York, T	35	Wagenfuhr, H	66	Vasques, J
5	BBB&C RR Co	36	Cox, J H	67	James, J
6	Leslie, A J	37	Hawkins, R C	68	Herrera, G
7	Ross, J M	38	Jecker, E	69	Herrera, T
8	Odit, P	39	Mc Crae, C C	70	Herrera, T
9	Braden, J	40	Hotchkiss, W	71	Saladin, J
10	Flores, N	41	Vargas, R	72	Torris, M L
11	Frick, C	42	Charles, S	73	Neal, J C
12	Dona, M	43	Capps, S B	74	Mockett, R
13	Alexander, W	44	LPIA&M Co	75	Duncan, D
14	Davis, P	45	Garza, F	76	Shepard, J F
15	Cadena, J M	46	Poitevent, J	77	Arrillano, C
16	O`Neil, T / Mc Call, T P	47	CCI Co	78	Bust, Luke
17	Stone, I	48	Poitevent, J	79	Texada, C
18	Castillo, G	49	Scheibel, C	80	SA&MG RR Co
19	O`Neil, T / Mc Call, T P	50	SI&A	81	Sanchez, J J
20	Matzdorff, C	51	Escamia, J	82	Torris, G
21	Barry, A G	52	Lasoya, D	83	Lisck, J
22	Ortega, R	53	Escamia, J	84	Howell, H I
23	Perev, J M	54	Voss, G	85	Hill, J B
24	Comanche Creek IRR O	55	Seay, M M	86	Zamora, A
25	BBB&C RR Co	56	Goll, M	87	Phelan, A F
26	Guerra, M T	57	Houston, A	88	Reyes, D
27	BBB&C RR Co	58	Jones, L	89	Presidio IRR Co
28	Montalbo, B	59	Harden, A	90	Isham, J
29	Locke, J W	60	Arthur, W A	91	Gozney, A
30	Pru, A	61	Sanches, P	92	Deffenbaugh, A
31	Beckman, C W	62	Sierra, J M	93	Springer, J M

Table 2-1. Original Land Grants Appearing in Figure 2-2

Rodriguez and Elisio Gortari. Owners of the Rancho de las Hermanas are not listed on this map, but an 1838 map of Bexar County show the eastern end of the ranch at that time was owned by L. Texada. Other 1868 property owners along the then future route of Loop 1604 are shown in Figure 2-2 tied to Table 2-2.

Camino Real

The earliest Spanish explorers came to Central Texas via trails used by the Natives who lived in the area and served as European guides. The establishment of roads was vitally important to European interests in Texas and some of these trails became roads. Alonso de Leon is credited with blazing the first trails that became the Camino Real in 1691. The Spanish Camino Real was the earliest avenue of access into the San Antonio area and an important connection between Spanish Colonial power, San Antonio, and the East Texas Missions. The Road was actually a series of trails that connected New Spain with its colonies from Mexico to Louisiana. Two segments of the Camino Real cross the study area (Figures 2-1 and 2-3:15).

The routes of the trails diverted as needed to avoid hostile Native American groups and to find water. Two of the trails

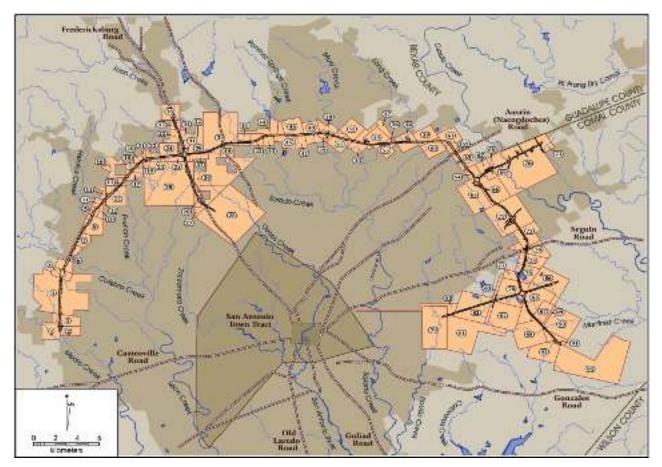


Figure 2-2. Project corridor in relationship to the original Texas land survey boundaries and post-Texas Revolution roads and trails (property boundaries from the Railroad Commission of Texas, 2007. Trails interpolated from 1868 map of Bexar County drawn by F.H. Arlitt).

Table 2-2.	Historic Property Appearing in Figure 2-3
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Property I.D.	Historic Property
1	41BX769, historic ranch house
2	Culebra Rd SA-Castroville Stagecoach Stop
3	Evers Family Cemetery
4	41BX1003, stone farmhouse
5	Zion Lutheran Church and Cemetery
6	41BX1615, circa 1850 - German settlement
7	41BX1616, circa 1850 - German settlement
8	John T. Floore Country Store
9	Helotes
10	The Plehwe Stagecoach Inn
11	Aue Stagecoach Inn
12	41BX38, Max Gerfer House
13	Lockhill School
14	Coker, John "Jack"
15	El Camino Real
16	Zions Kirche

Table 2-2. Continued...

Property I.D.	Historic Property
17	41BX1409, Selma Stage Coach Stop
18	J. S. Harrison House
19	Geier and Schmid Farm
20	Edens Cemetery
21	Schertz
22	Cibolo
23	Building 100 "Taj Mahal"
24	Randolph Air Force Base

came to be known as the Camino Pita (in use from 1750-1800) and the Camino en Medio. Stephen F. Austin established the Camino Arriba much later. This route connected San Antonio to Louisiana, and the rest of the United States. Today it is State Highway 21 also called the Old San Antonio Road. The Camino Pita also called the Camino Real de los Tejas was designated a National Historic Trail in 2004.

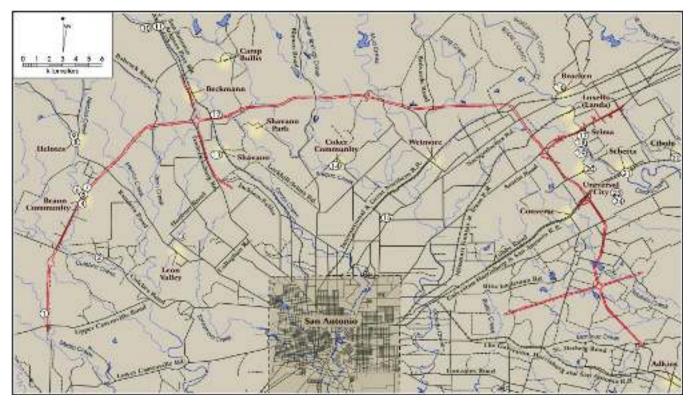


Figure 2-3. Early twentieth-century San Antonio area roads and communities (based on San Antonio and vicinity road map drawn by Dr. R.A. Goeth, 1913).

Portions of the Camino Real that cross the western section of Loop 1604 are called Camino Real de San Saba. This road roughly follows IH 10, heading northwest from San Antonio to Menard and the Presidio de San Saba.

German Immigration

By the first half of the nineteenth century, roads were bringing waves of German immigrants to Central Texas where they founded German communities around San Antonio. They represented the largest ethnic minority in the 1850s comprising over five percent of the Texas population (Jordan 2007). The first immigrants began arriving in the 1830s, settling in areas from Galveston to the Hill Country. This wide stretch of land became known as the German Belt. Friedrich Diercks and Henri Castro promoted much of the German immigration in the 1830s and 1840s. The German Emigration Company, founded in 1840, also brought many German families over from Europe.

Friedrich Diercks is credited with prompting the first major German immigration boom. He came to Texas in 1831 with a land grant of 4000 acres in northwest Austin County. His letters home influenced other prospective migrants, often promoting the benefits of Texas life and omitting the detriments. His letters were incorporated into immigrant guidebooks and printed in newspapers, further spreading the word of prosperity in Texas. Within ten years, citizens from Oldenburg, Westphalia, and Holstein had relocated to the German belt of Texas (Jordan 2007).

During the 1840s, noblemen seeking fame and fortune began the German Emigration Company. They believed their venture would solve population problems in Germany. As an independent republic, they hoped Texas might also afford them some political power. Though the company failed financially, it succeeded in transporting over 7000 Germans between 1844 and 1847. New Braunfels and Fredericksburg were both founded during this phase of German immigration (Jordan 2007).

Henri Castro also organized a project that transported 2000 German speakers from Alsace to Medina County, founding Castroville in 1844. Most of these folks settled in San Antonio to take advantage of the economic opportunities offered by the larger population center. As a French dignitary, Castro had political connections with Sam Houston and the two entered into a deal for Castro to colonize southwest Texas. He put up his own money for the colonists, supplying them with cows, farm equipment, seeds for planting, and medicines (Jordan 2007).

The organized German immigration ended by 1850 but word of mouth kept people coming through the 1850s. During that decade, the population of German-born Texans more than doubled to 20,000. The Civil War slowed immigration in the early 1860s. The Union blockade of Confederate ports prevented anyone from entering. After the war, more Germans came than during the previous thirty years, settling in rural areas across the German belt. Immigrants who came to Texas through these ventures were not poor oppressed peasants but middle class citizens who paid for their trip up front. Most were farmers but some were artisans, entrepreneurs, and university scholars (Jordan 2007). Their descendents still populate some of the communities in Bexar County today, including those along present-day Loop 1604.

Stagecoach Lines

After the immigrant population boomed, stagecoaches served to move people, goods, and mail from the coast to Central Texas. For 35 years, from 1847-1881 over fifty stage lines operated in San Antonio (Thonhoff 1971). As Houston was an important city with a large population, the first lines connecting San Antonio to the East originated in Houston. After a center of government was established in Austin, the city also saw the need to link Houston to Austin. Wars and the hostility of the frontier kept lines from developing beyond Austin and San Antonio until the Gold Rush in California. Then, as the western frontier expanded, so did the stagecoach lines. Even with the development of stagecoach lines, the roads did not provide a smooth ride. Most were two-track trails thick with dust and mud, which made for a slow journey.

The first stagecoach operators in Texas delivered mail and freight as they were awarded contracts from the US government. Passengers were allowed to come along with the freight for a fee, which allowed easier travel to most communities between Austin, San Antonio, and the coast, the most populated areas of the state. The earliest stagecoach ran between Houston and Washington-on-the-Brazos in 1839. Soon after, lines were extended into Austin. Routes connecting Austin to San Antonio were dangerous during the years of the Republic, as these cities were still on the western frontier and vulnerable to Indian raids and Mexican invasions.

When the Mexican War prompted the need for more consistent communication between Austin and Houston, the Tarbox and Brown Company began a line between these two cities connecting through Washington, Independence, La Grange, and Bastrop on a bi-weekly schedule. This was in 1845 (Thonhoff 1971:4).

The first stage lines reached San Antonio in 1847. Tarbox and Brown ran two lines connecting San Antonio to the coast: the Texas United States Mail Line of Stages between Houston and San Antonio and the Western United States Mail Line of Stages between Port Lavaca and San Antonio. These connecting lines were not very direct routes so they could deliver to smaller communities along the way. One route reached La Grange, Bastrop, and Austin before heading south to San Antonio. Another hit La Grange, Gonzales, Seguin, New Braunfels, before reaching San Antonio (Thonhoff 1971:5).

John Sutherland started his weekly United States Stage Line in 1847 as well, connecting Houston to Victoria through Richmond, Egypt, and Texana. It connected to the Brown and Tarbox Western line in Victoria (Thonhoff 1971:5). The need for routes inland from the coast grew as the immigrant population grew in the mid-nineteenth century. Another line, following an old route called the San Patricio road, was reopened in 1848 connecting Corpus Christi and San Antonio. The following year, San Antonio was connected to Lavaca on the Harrison and Brown stage line making weekly trips to Seguin, Gonzales, Cuero, and Victoria and charging \$12.50 for the entire trip (Thonhoff 1971: 8). This was run by John Harrison, his brother-in-law William McCulloch, and J.F. Brown. In 1850, after Brown sold his share of the business, John Harrison and William McCulloch began a stagecoach service from Austin to San Antonio originating in Austin and passing through Manchaca, San Marcos, Bonito, New Braunfels, Trier, and Cibolo (now Selma) with a final destination in San Antonio. The trip from Austin to San Antonio, as scheduled, took eighteen hours, slated to leave Austin at 3:00 a.m. and arrive in San Antonio at 9:00 p.m. the next night, barring any mishaps along the way (Heide 2006). This particular line stopped in Selma at a stagecoach stop constructed circa 1849 that still stands today (Figures 2-3 and 2-4). The site (41BX1409) has seen some archeological research performed focusing more on the architectural aspects of the structure than on the human history of the property (Nickels and Zapata 2005).

In 1851, Harrison moved his family from New Braunfels to Cibolo (renamed "Selma" in 1856). They bought their 127-acre farm from various landowners adjacent to the Jesse M. Hill property, where the stagecoach stop was built (Heide 2007) (Figure 2-3, Figure 2-4). His home was built in 1852. While living there, he served as the postmaster and stagemaster of the stop. This house was listed on the NRHP in 2006 (Figure 2-5).

By 1850, stage lines were fairly well established between the Texas Coast, Austin, and San Antonio. Lines also ran from Corpus Christi and Port Lavaca, but none extended west past San Antonio or Austin until the Gold Rush in California. Then, drivers and passengers seemed to be willing to risk the dangers of the west for a shot at a gold strike.

The first line heading west went to California through El Paso from San Antonio. This line was run by Henry Skillman in 1850. Carriages left Santa Fe every other month bound for San Antonio in the beginning, then increased to monthly trips with the granting of a mail contract. Six years later, George Gidding began another passenger and mail line running 1476 miles between San Antonio and San Diego CA. This trip could take over a month and cost \$200 (Campbell 2003:199). Related to this line, northwest of the current study area, site 41BX1617 is recorded near Camp Bullis on IH 10. This was a German homestead built by John Moos and his wife Rosina in 1850. The home was used as a stage relay station for stagecoaches traveling the San Antonio-El Paso route on the way to California (THC 2007).

Two NRHP properties related to the California route are south of the Moos Homestead. The Plehwe Complex represents a fine example of German vernacular architecture and official stop along the El Paso-San Antonio stagecoach route (Figure 2-3). Charles Felix George Con Plehwe, born in Berlin in 1823, was a prominent Prussian military officer. The Revolution of 1848 there and health problems prompted him and his wife Sophie to move to the United States in 1851. He bought 1000 acres near Leon Springs and

built a complex of three structures of hewn logs and limestone masonry. The residence is a fine example of a Sunday House built as Mrs. Plehwe's residence. The second structure served as a kitchen, and the third was the residence of Capt. Plehwe. After construction of the structures, Capt. Plehwe contracted with the stage line to use his farm as a stop for watering the horses. The line made weekly stops there (THC 2007). The Plehwe property was listed on the NRHP in 1983.

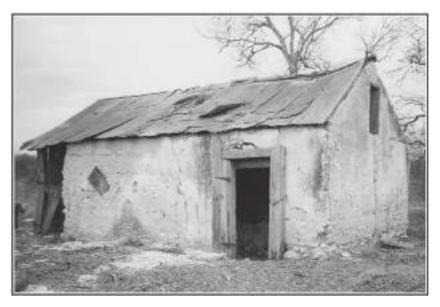


Figure 2-4. Photograph of the Selma Stagecoach Stop constructed ca. 1852, Selma, Texas.

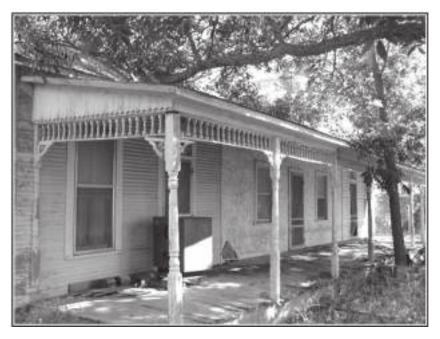


Figure 2-5. Photograph of the Selma Stagecoach master John Harrison House constructed ca. 1852, listed on the NHRP in 2006. (Photograph courtesy of Jean Heide and the Selma Historical Foundation).

Opposite the Plehwe complex, Max Aue, another German immigrant set up his homestead on 640 acres in 1855 after some short enlistments with the Rangers in 1851 and 1855 (Figure 2-3). The oldest structure is a one and one-half-story house typical of German vernacular frontier architecture, a saltbox house (Figure 2-6). This structure served a dual purpose as store and residence. Also in 1855, he constructed a log double-pen dogtrot for the stage house (Figure 2-7).



Figure 2-6. One and one-half-story saltbox house constructed ca. 1855, typical of German vernacular frontier architecture that served dual purpose as store and residence on the Aue complex property. (Photo credit: Library of Congress, Prints and Photographs Division, Historic American Buildings Survey, Reproduction Number HABS NO. TEX 15-LESP, 1A-1).



Figure 2-7. An 1855 log double-pen dogtrot that served as the stage house on the Aue complex property. (Photo credit: Library of Congress, Prints and Photographs Division, Historic American Buildings Survey, Reproduction Number HABS NO. TEX 15-LESP, 1B-1).

Years later in 1878, he built a two-story house as a hotel and residence (Figure 2-8). The complex offered a rest area for horseback and stage riders on their way to and from El Paso

and later for rail passengers on the San Antonio and Aransas Pass Railroad that stopped 50 yards from the complex (Garner 1968). The Aue Complex was added to the NRHP in 1979.

At the beginning of the Civil War there were still thirty-one stage lines operating in Texas, mainly serving the eastern half of the state. There was a route northward from San Antonio through New Braunfels, Austin, Dallas, and Clarksville, operated by Risher and Hall that likely stopped at the Selma Stagecoach Stop and Post Office (Stever 2007). Though some lines sought Confederate States mail contracts, the civil war slowed the mail routes. Afterward, there were hundreds of mail contracts available for short distances connecting many small communities.

The coming of the railroads signaled the end of the stagecoach era in Texas. Stage lines continued to operate from railheads into frontier areas not yet reached by rail and continued to serve bypassed rural areas. By the 1880s, most lines were gone, though they had sparked new settlement along the routes through rural areas (Stever 2007).

Railroads

Railroads brought with them prosperity to some cities that happened to fall along the line. These lines are shown on an early road map of San Antonio and its vicinity (Figure 2-3). Four railroad lines connected San Antonio and surrounding communities to the Gulf Coast. The Galveston, Harrisburg, and San Antonio Railroad reached San Antonio February 19, 1877 and eventually connected Converse, Schertz, and Cibolo to San Antonio. On its first run, over 300 visitors arrived in San Antonio from points along the route to a crowd of 8000 (San Antonio Express, 20 February 1877). The much-anticipated line brought expanded business opportunities but failed to supply a direct line to a deep-water port. To supply such a route, Uriah Lott formed the San Antonio and Aransas Pass Railroad in 1884. This line connected the small communities of Shavano, Beckman, and Leon Spring to San Antonio and points northwest (Werner 2007).

Between 1885 and 1887, the San Antonio and Aransas Pass Railway Company built 222 miles of track between San Antonio and Corpus Christi and between San Antonio and Kerrville. Out of San Antonio, the line crossed the current Loop 1604 corridor near IH 10 following Fredericksburg Road. By the end of 1891, the SA&AP was operating 688 miles of main track crossing much of south Texas. The Southern Pacific Railroad bought the SA&AP in 1892, reaping the benefits of its one-time successful competitor. The line attempted to grow southward into the Rio Grande Valley at the start of the twentieth century while under control of the Southern Pacific. In 1934, the remaining tracks merged into the Texas and New Orleans Railroad Company. With the changes in transportation requirements, much of the former SA&AP rail lines have been abandoned. In 1994, remaining portions included the track between Giddings and Cuero, San Antonio and Gregory, San Antonio and Camp Stanley, Houston and Eagle Lake, and Brownsville and McAllen (Werner 2007).

The International and Great Northern Railroad crosses the Loop 1604 corridor northwest of Nacogdoches Road, connecting the old communities of Wetmore and Bracken. This

line was a conglomeration of several railroads. It reached the study area in 1881 coming south from Austin to connect San Antonio. The railroad was formed on September 30, 1873, when the International Railroad Company and the Houston and Great Northern Railroad consolidated. In 1879, the International and Great Northern acquired the Georgetown Railroad Company at foreclosure and merged it into their holdings in 1882. Then, the Henderson and Overton Branch Railroad Company was acquired on September 27, 1880, eventually merging into the parent company in 1911 (Werner 2007).

The Missouri, Kansas and Texas (The Katy) ran roughly parallel to the International and Great Northern line connecting Fratt and Luxello (Landa) following the old Austin Highway that is now IH 35. It was the first line to reach Texas, crossing the state line from the north in 1872 and connecting Texas to the rest of the country. Despite its early entry in the state, the Katy line did not reach San Antonio until 1901 because the International and Great Northern already had a line going to San Antonio leased by the Katy. Ultimately, it was in the Katy's best interests to complete a line to San Antonio.

Mass transportation of the railroads was a catalyst for social and economic growth in Bexar County. It facilitated cultural mingling as demographics shifted with greater ease just as the



Figure 2-8. The two-story house constructed ca. 1878 that served as a hotel and residence on the Aue complex property. (Photo credit: Library of Congress, Prints and Photographs Division, Historic American Buildings Survey, Reproduction Number HABS NO. TEX 15-LESP, 1C-1).

earlier Spanish Roads, and stagecoach lines had done more modestly before them, and foreshadowed what the network of automobile roads has done by easing access between distant communities. What was once an eighteen-hour stagecoach ride between Austin and San Antonio is now under two hours by automobile. Such transportation advances have sparked the growth of some towns while others dwindled away consumed by San Antonio and its suburbs.

Historic Communities

Loop 1604 crosses through northern Bexar County where numerous rural communities once were. Some of these grew up along stagecoach routes or as railroad stops and remain today as suburbs of San Antonio. Most of these communities declined in population after World War II. Each is plotted in Figure 2-3 where historic markers note the significant history of areas near the study area.

Adkins

Adkins remains a community in east Bexar County that became a flag station on the Galveston, Harrisburg, and San Antonio Railway in the 1880s. The town was named for the man who donated land for the depot, William Adkins Jones. The community thrived after the construction of Loop 1604 (Hazelwood 2007).

Converse

Converse is one of the few historic communities that remain a suburb of San Antonio. Converse is at Loop 1604 and FM1976, 13 miles northeast of San Antonio. The town was named for the chief engineer of the Southern Pacific Railroad who bought the town site in 1877. Today Converse has a population of over 10, 000 (Cameron 2007a).

Universal City

The eastern section of the project area passes through Universal City and some historically significant properties nearby. Universal City is a northern suburb of San Antonio that has grown in population due to Randolph Air Force Base. The town's developer named the city to signify the "universal" importance of Randolph.

Randolph Air Field is a National Landmark (listed in 2001) and a National Historic District (listed in 1996) with 341 buildings and 7 contributing structures dating from 1925-1949 (Figure 2-3:24). Randolph Field is significant to US military history for its role in the development of the Army Air Corps. The field was established in 1928 as the first flying field designed for training pilots in the US. When the field opened in 1930, it was the world's largest primary flying school, conducting basic and primary flight training until 1941. During the 1930s, Randolph was known as the "West Point of the Air", for its function as a pilot and instructor training base. More than 6800 cadets graduated from the school, hundreds of whom served in World War II national defense operations.

Randolph Field was designed around Officers' recommendations for a circular center with bracketed flight lines. Lieutenant Harold L. Clark drew plans reflecting the recommendations. Clark was not an architect but had received architectural training at the University of Minnesota and the University of Illinois prior to his military career and drew up schematics on his own time. His design centered the field's residential area at the core of the site, surrounded by concentric streets. Aircraft ramps and runways extend along three sides of the field, forming a square perimeter that framed the interior wheel-like layout. No other twentieth century American air defense facility is designed this way (THC 2007).

The nomination is available on the NRHP website and provides additional information on the history and significance of the

Base, military history, architectural significance, description of individual resources, and architects associated with the district. Military administration buildings, hangars, and family residences are all part of the district, but Facility No. 100, called the Taj Mahal, is notable as it was listed individually on the National Register in 1987 (Figure 2-3:23).

The building was designed using a Spanish Colonial Revival style of architecture that was popular in Texas at the time of its design. In keeping with this particular trend, most of the original buildings constructed on Randolph were designed using the Spanish Colonial Revival style. Building 100 is distinguishable from other buildings on Randolph by its 147foot tower.

Building 100 opened as an administration building on 5 October, 1931. The building first served as the Headquarters of the Air Corps Training Center, then became the Headquarters building for the 3510th Flying Training Wing. After the 3510th was deactivated in May 1972, the 12th Flying Training Wing established its headquarters there. The theatre is still used as a base movie theatre and a location for large meetings. Throughout the years, the building has remained relatively unaltered and it has been maintained in excellent condition (THC 2007).

After Randolph Field opened on October 25, 1931, community businesses began to pop up nearby to serve the needs of the families on base. The first business to open outside the gate in 1932 was a service station followed by Randolph Cleaners in 1932, Kneupper's Garage in 1935, and Beaty's restaurant in 1939. Pat Booker Road (SH 218) was built soon after in 1936 to serve the community as the main street and the entrance to Randolph. This main street was named for Capt. Francis O. Booker, a pilot who served at Randolph. Until 1960, the town grew slowly; the population after thirty years was only 1800. By the 1970s, Universal City had 7613 people, and in 1990, it had a population of 13,057 and 130 businesses. Active and retired military comprise 90 percent of the population of Universal City (Duerson 2007).

The site of the Geier and Schmid Farm is in present day Universal City (Figure 2-3:19). German immigrants Martin Schmid and Wilhelm Geier moved there from New Braunfels with their families in 1855. Schmid married Geier's daughter in New Braunfels and the two families shared 127 acres of farmland. In 1869, they decided to split the property. Martin Schmid died in 1880. His widow sold the Schmid property in 1894 and moved to San Antonio. Mrs. Schmid, her parents, and two children are all buried on the property in the Schmid family cemetery (THC 2007). The Eden family was another early German family to reside in present-day Universal City (Figure 2-3:20). John Eden brought his family to Houston County in 1831. Years later, John Eden's son Bannister moved his family to Bexar County in 1855. In 1856, Bannister received 350 acres near Selma on Cibolo Creek. Mary Eden was buried near the site of the Historic Marker, close to the family farmhouse in 1856. Her grave is the earliest in the cemetery. Their son Napoleon and his wife moved to the family farm in 1866 to live with John Eden and his new wife. They later bought the land and continued to ranch and farm the property. The family still maintains the cemetery today but sold the farm in 1901. There are six known burials there, the last was WK. Kella, son in law of Napoleon, who was interred in 1902 (THC 2007).

Cibolo

Cibolo was settled by Germans and like many towns in the area saw economic growth when the Galveston, Harrisburg and San Antonio railway built a line through Guadalupe County (Figure 2-3:22). The first land in the area was bought by Jacob Schlather in 1867. His son George opened the first store with Ernst Tenull and later sold the store to Charles Fromme, after which the community was known as Fromme's Store for a time. After the railroad came through, the station was called Cibolo Valley. A visit by author O. Henry around 1914 is said to have inspired the story "The Smiling Valley of the Cibolo". As with the town of Schertz, its proximity to Randolph Air Force Base and San Antonio has contributed to the town's economic growth. The 2000 census reports the population at over 3000 (Weinert 2007).

Schertz,

The first settlers of the Schertz community were German immigrants from the New Braunfels area who arrived around 1840 in search of good farmland (Figure 2-3:21). The Galveston, Harrisburg, and San Antonio Railway aided the economy of the town when it arrived in 1876. The town was originally known as Cibolo Pit and Cutoff, but was named Schertz in honor of an early settler Sebastian Schertz in 1882. Schertz farmers grew wheat, oats, and corn in the early years of subsistence farming and later transitioned to cotton as a cash crop. The second boom for Schertz came in the 1920s with the installment of Randolph Air Force Base. The government acquired 2000 acres of farmland in Schertz to train pilots (Smyrl 2007).

Selma

Selma lies sixteen miles northeast of downtown San Antonio in northeastern Bexar, Comal, and Guadalupe counties. The community was first settled in 1847 and was the site of John B. Brown and William Davenport cattle ranch until the 1860s. The town was called Cibolo until 1856. German and Polish immigrants settled in Selma during the late 1880s causing a quick population growth that reached 600 in 1896. The town declined after 1900 and the post office closed soon after. The community incorporated in the 1960s and by 1980, the population had grown to 240. The development of the IH 35 corridor between Austin and San Antonio has helped this suburb to grow during the 1990s.

Luxello (Landa)

This community was on Cibolo Creek between Bracken and Selma eighteen miles northeast of downtown San Antonio. The community was also known as Landa and is plotted with this name on a 1913 San Antonio and vicinity road map. The community was settled at the turn of the twentieth century on the Missouri, Kansas, and Texas rail line. The name Luxello honored its first postmaster. The population of the community peaked with thirty-five residents in 1915 and slowly declined through the years prior to World War II as Selma and Universal City grew. After the war, the community continued to decline and was off the modern maps by the 1980s (Long 2007a).

Bracken (Davenport)

Davenport, now know as Bracken grew up around the International-Great Northern Railroad in southern Comal County. Like many communities in the area, it was named for early landowners, first James Davenport, and then William Bracken. The name was changed in 1883 because another community with an established post office already had the name Davenport. The community grew to fifty residents by 1940. The population of Bracken stabilized around seventyfive in the 1970s (Haas 2007).

The Bracken United Methodist Church was organized as Zion Kirche in 1871 by fifty German members led by itinerant minister Rev. William Felsing (Figure 2-3:16). The building was erected in 1872 of native limestone and was expanded in 1893. The brick façade and bell tower were added in 1913. The current congregation includes many descendents of the founding members.

Wetmore

Wetmore, another town that grew up around the International-Great Northern Railroad, lies eleven miles northeast of downtown San Antonio in Bexar County. The community was founded in 1880 on the Houston and Great Northern Railroad before it consolidated with the International Railroad company and was named for Jacob S. Wetmore, railroad director. A post office opened in 1890, and by 1914, the settlement had a general store, a blacksmith, and twenty-five residents. As late as 1985, the community reported 175 residents and 18 businesses, but with the growth of San Antonio, the community gradually lost its separate identity as many others did. By 1992, it no longer appeared on area maps (Long 2007b).

Coker

Coker Cemetery contains the graves of notables Jefferson Davis Smith and John "Jack" Coker (Figure 2-3:14). John Coker was the founder of the community of Coker who moved to Texas from South Carolina in 1834. He served in the Battle of San Jacinto in 1836. He was in the party with Deaf Smith that destroyed Vince's Bridge near Pasadena, a move that kept Santa Ana from retreating or gaining reinforcements and ensured a Texas victory. In recognition of his service, Coker received 1920 acres from the Texas legislature and founded the community of Coker with his brother John, who arrived from Alabama with his family to share his brother's grant. The Coker family raised oats, corn, wheat, sweet potatoes, and dairy cattle for self-sufficient farms. The community was called Buttermilk Hill because so many members of the Coker community raised dairy cattle (THC 2007).

Shavano Park (Shavano)

Shavano Park (also called Shavano) was both a stage stop and a train stop. The post office opened there in 1881 followed by the San Antonio and Aransas Pass Railway that arrived in 1884. The stagecoach stop connected San Antonio and Boerne. The Shavano townsite later became part of Stowers Ranch, owned by George Arthur Stowers. Stowers was a businessman from Georgia who expanded his furniture stores across Alabama and into Texas, eventually ending up in San Antonio. There he built a ten-story "skyscraper" at the corner of Main and Houston streets in 1910. Shavano was ultimately sold to Wallace Rogers and Sons for residential development as can be seen today (Kelley 2007). One of Texas' oldest public schools operated continuously since 1868 is located in this vicinity (Figure 2-3:13). It was named Lockhill School in honor of William J. Locke, the land donor. Originally, school was held in a supply depot one mile to the southwest of the current historical marker. The school was named "Shavano" for some years. The present structure was built in 1923 (THC 2007).

Beckmann

Beckmann was a small community in northwest Bexar County approximately 14 miles northwest of downtown San Antonio. The area was named for John A. Beckmann, a local recluse and artist who spent his latter years there. John A. Beckmann was son of John Conrad Beckmann who was one of the first Germans to settle his family permanently in San Antonio. The senior Beckmann is best known as the subject of one of Edward Genet's early portraits helping to launch the young artist's career in Paris. John A. Beckman was also an artist, well known for his pen and ink sketch of the Alamo. He also served as vice president and president of the Labor Union in 1882 (Chabot 1937).

As with many towns in the county, Beckman prospered with the arrival of the railroad, becoming a flag stop on the Texas and New Orleans line. After World War II, most residents moved away but Beckman remained on many maps at least until 1984 (Cameron 2007b). Beckmann's chief industry was the limestone quarry that opened as Redland Stone Product in 1934; it is still in operation today as the Martin Marietta Beckmann Quarry. Today this quarry is one of the largest crushed limestone quarries in the US (www.nssga.org).

Helotes

John Ross acquired the title to the land that was to become Helotes in 1836 when he purchased the rights from Almazon Huston, the Quartermaster General of the Republic of Texas Army (Figure 2-3:9). In 1852, the land was sold to Thomas Devine and Francise Giraud and in 1858 to Dr. George Frederick Marnoch. The town grew around the home and mercantile store of Arnold Gugger who purchased the land from Marnoch's heirs in 1880. He became the postmaster when the post office moved to his home in 1888. Arnold Gugger's father Anton was a pioneer of the area who owned farmland on which the Zion Lutheran Church and Cemetery now sit. Anton was interred on his property in 1881 on Leslie Road. His descendents donated that portion of the property in 1906 to the Zion Lutheran Church of Helotes for use as the church graveyard. His wife Maria was interred beside him in 1911. The congregation was formed in the early 1900s to serve German settlers in the area. Church members and pioneers of Leon Valley and Culebra are buried there as well (THC 2007). The church is in a historically significant complex of homes near Braun Road, discussed below and in the Loop 1604 West section of this report.

By 1908, the Gugger property was owned by Bert Hielman who opened the first dance hall, providing a popular hot spot for many of the ranchers and farmers in the area. It became a common stop along the cattle drives to and from San Antonio and was a stagecoach stop between Bandera and San Antonio (THC 2007).

Also of historical significance in Helotes is the John T. Floore Country Store (Figure 2-3:8). John T. Floore was a prominent San Antonio resident who also owned the Majestic Theatre in San Antonio. He created the Floore subdivision to serve as a community center for the residents of Helotes. He built a store and dance hall in 1946 that featured local and big name country acts like Bob Wills, Patsy Cline, Hank Williams, Kitty Wells, and Elvis Presley. Floore also created the Northside Independent School District to serve the children of Helotes. This community leader died in 1975. Helotes incorporated in 1981 and today has a population of over 4000 (THC 2007).

Braun Community

A 1927 Helotes quad map illustrates the number of property owners of German ancestry settled in the area of Braun Road and Loop 1604. Though it is beyond the scope of this project to discuss the significance of the entire district, a brief historic background is provided to bolster the historic context of the area and the importance of German settlers to Bexar County. The Braun Community includes many descendants of the founding member of the Zion Lutheran Church and the town of Helotes (Figure 2-3:5). The first Brauns to arrive were Phillip and Maria Braun who were settled near Loop 1604 and Braun Road by 1870. Their children were some of the founding members of the Zion Lutheran Church. Friedrich Braun married Matilda Gugger, daughter of Anton and Maria Gugger (Peterson and Anderson 2007b).

The Ruempel (also spelled Rempel, Rumpel, and Rumple) property was designated site 41BX1615 and later submitted for nomination as a City of San Antonio Landmark (Figure 2-3:7). A large barn and residence still stand on the corner of Braun Road and Loop 1604. The barn is constructed of rough-hewn rumble limestone while the residence is made of cut limestone blocks 18 inches thick. The roof is tin and the windows are 6/6 and 4/4 double hung sash. The house has three chimneys, one on the east façade, one on the west façade, and one in the center (City Landmark Designation).

Philipp Ruempel immigrated with his parents to Texas in 1855 with other German families from Offenberg and Bicken. They arrived in Galveston and made their first home in New Braunfels with José ph and Katharine Mann. In 1869, Philipp Ruempel married Carolina Braun, daughter Philipp Braun and Maria Susanna Braun (City Landmark Designation). Philipp and Carolina established their home in the area of present day Braun Road and Loop 1604 in 1867. The property is now documented as site 41BX1615. The Ruempels and the Brauns were also members of Zion Lutheran Church and are buried in the cemetery there. Philipp Ruempel and his son, Karl José ph Ruempel, were charter members of the church (City Landmark Designation).

Other important buildings in the Braun community include the Rousseau Complex, designated site 41BX1616, Braun Hall (ca. 1893), the Crenwelge/Braun House, the Fredrick Braun House, and the Weimer House (Barbara Meissner, personal communication).

Leon Valley

The Evers family cemetery is a historic cemetery where early German settlers of the area are interred (Figure 2-3:3). Claus and Johanna Evers came to Texas from Germany with their children in 1855. They moved to the Leon Valley area in 1874. The cemetery began on their farm in 1877 when a woman traveling through the community died at their home. Several generations of Evers and Braendles descendents are buried here (THC 2007). Christian Braendle was a founding member of the Zion Lutheran Church. Leon Valley is also where NRHP Huebner Onion Stagecoach Stop is located. The Huebner-Onion Homestead was built in the mid-nineteenth century by José ph Huebner. It was used as a stagecoach stop before becoming the home of the Onion family. The property is now in the care of the Leon Valley Historical Society. The property includes a large two-story limestone house with several wooden outbuildings. It was listed on the NRHP in 2005.

Conclusion

The history of Northern Bexar is closely tied to that of San Antonio, which has been a population draw since the city's founding. The population of Bexar County has grown as mass transportation made travel possible. Stagecoaches, railroads, and highways fostered the movement of people to the study area historically as it does today.

Chapter 3: Pervious Archeology

When Loop 1604 was first constructed in the 1960s, the route was not systematically surveyed for cultural resources. CAR conducted a background review of previous work and field investigations of the archeological APE to address the requirements of Section 106 and the Antiquities Code of Texas. This chapter summarizes previous archeological investigations that have been conducted in each segment. Both prehistoric and historic sites are included in the discussion. A majority of the sites discussed in this chapter do not fall within the archeological APE but rather are within one kilometer of it. Numerous archeological investigations have been conducted in Bexar County, specifically near Loop 1604 (THC 2006).

Previous Archeological Investigations of the East Segment

According to the Texas Archeological Sites Atlas, eleven surveys have been conducted along or near the project area (Appendix I; Figure 3-1; THC 2006). The Texas Department of Highways and Public Transportation (TDHPT; now Texas Department of Transportation) conducted three of these linear surveys between 1976 and 1984. Two of these surveys intersected the project area rather than running along the ROW of Loop 1604 or IH 10. The third began at IH 10 and ran south parallel to Loop 1604 but outside the current APE. The Federal Highway Administration (FHWA) sponsored another linear survey in 1991 paralleling FM 78, and Randolph Air Force Base sponsored a survey east of Loop 1604 south of its intersection with FM 78. A short portion of this survey, approximately .25 km long, did parallel Loop 1604. The Texas Water Development Board (TWDB) sponsored and conducted the longest linear survey that actually did include a 4.25 km section of Loop 1604 between Ware-Sequin Road and IH 10 (Henderson 2003). The portion of this survey adjacent to the Loop 1604/IH 10 interchange continued eastward along and within the IH 10 ROW for 4.4 km (approximately 2.7 miles). The work was for a proposed pipeline that paralleled existing rights-of-way, including IH 10, Lower Seguin Road, F.M. 1518, and Loop 1604 in the City Limits of San Antonio. Shovel testing and backhoe trenching failed to encounter cultural material. Backhoe trenching was conducted at streamside localities. Two backhoe trenches (BHT 3 and 4) excavated near Salitrillo Creek during that survey reached depths ranging from 1.5 to 1.7 m (Henderson 2003:18-19). Shovel tests were also excavated near the IH 10/Loop 1604 interchange that reached depths of 30 cmbs (Henderson 2003:19).

In addition to these linear surveys, five area surveys also were carried out in the vicinity and abutting the project corridor. The northern-most of these area surveys was conducted by TDHPT in 1984 near Kitty Hawk Road in northeast Bexar County (THC 2006). The San Antonio River Authority sponsored three area surveys: one southwest of the intersection of FM78 and Loop 1604, a second southwest of the IH 10/Loop 1604 interchange, where site 41BX1320 was recorded, and a third south of IH 10 near Graytown Road, during which sites 41BX1317 and 41BX1318 were recorded. Finally, the Environmental Protection Agency sponsored a survey of a rectangular area adjoining and west of Loop 1604 that became Martinez State Park immediately west of Martinez Creek Dam No. 6-A (THC 2006).

While only two of the eleven surveys documented archeological sites within their boundaries, thirty-three archeological sites are mapped on the Texas Archeological Sites Atlas within 2.0 miles of the current linear project area. These sites date to the historic and prehistoric periods. Of these, 11 contain historic components, 16 are prehistoric, one is a multi-component historic-prehistoric site, and 5 are of unknown temporal affiliation.

Though only one of the previously mentioned sites may fall into the APE, the following discussion will review each of these sites. The historic sites will be discussed followed by prehistoric cultural resources in the area. The cultural resources near the project area may indicate the types of undocumented sites within the project area.

Historic Sites

Of the 11 historic sites only one, site 41BX1320, falls within the project area. Six other sites (41BX1142-1145; 1466, 1467) near the western extent of the project area, both north and south of IH 10, are historic farmsteads as well. The remaining three historic sites (41BX1265, 1266, and 1409) are located east of Loop 1604 near Selma Creek. These include a historic post office and stagecoach stop (41BX1409) and historic farms. One family cemetery (41BX1265) was designated as a State Archeological Landmark. The presence of these historic farms near the APE indicates the likelihood for recovering historic artifacts during the course of the survey. The multi-component site, 41BX1468, is a sinkhole with a possible prehistoric burial with a nearby historic trash dump.

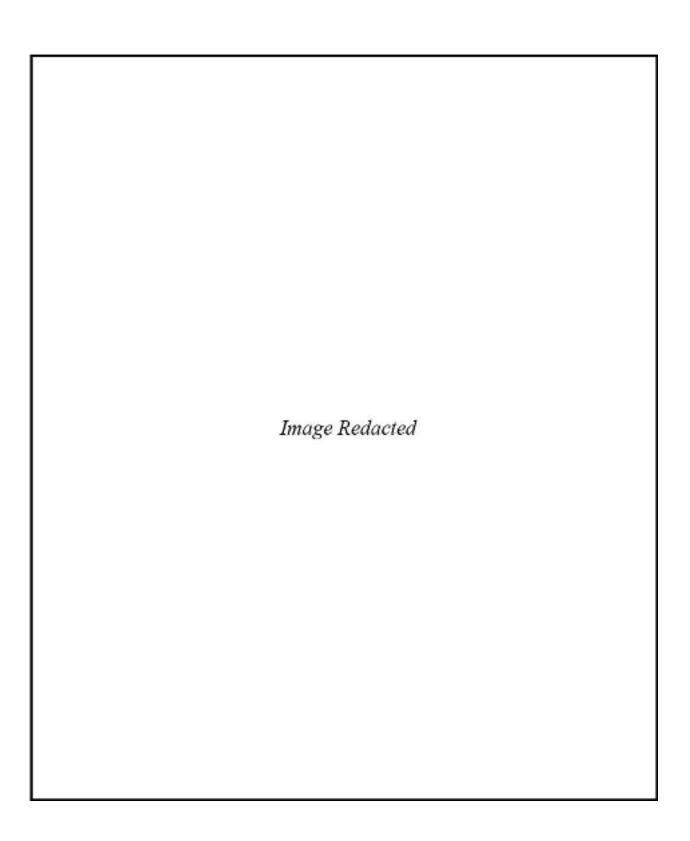


Figure 3-1. Map of the previously surveyed areas within 1 km of the East Segment.

In 1995, Turpin and Son, Inc. conducted an archeological survey of the proposed Tessman Road Landfill extension in east San Antonio. During the survey, they recorded four historic properties in proximity to the project area (Turpin and Utley 1995). None of the historic sites met NRHP elibibility criteria for listing. The sites identified during the survey include the Peter Drzymalla Homeplace (41BX1142), the Howes Housesite (41BX1143), the Pershing Catfish Johnson Home (41BX1144), the Old Kiefer Road Site (41BX1145), and the Calf Hill Site (41BX1146).

The Peter Drzymalla (41BX1142) historic farmstead spans three acres and includes a bungalow style house, cistern, metal garage, storage building, and wooden frame building (Turpin and Utley 1995). The property was purchased in the early 1900s but the Polish Drzymalla families did not build the house until the 1920's (Turpin and Utley 1995:13). The house is a Craftsman style bungalow with modern alterations. Though the home is intact, alterations to the home make it ineligible as a NRHP candidate and further work was not recommended.

The Howes Housesite (41BX1143) consists of a small wood frame and tin structure (4-x-8 m), along with a bell-shaped brick and cement cistern (Turpin and Utley 1995). Reportedly, the house was a former railroad section house that was later renovated into a residence before it burned down in the 1970s. The site has been used consistently as a modern dump. Due to the dumping and lack of outbuildings, no further work was recommended on the site (Turpin and Utley 1995:16).

When the Pershing Catfish Johnson Home (41BX1144) site was recorded in 1995, it consisted of two houses, a barn, two fish cleaning sheds, garage, outhouse, smoke house, stock ponds, fish ponds and various fence lines and enclosures (Turpin and Utley 1995:16). The property was purchased in 1901 and by 1917, the central structure of the farm, a rectangular frame bungalow, had been built. In 1958, the property was conveyed to the Johnson family, who developed the land for a "fee fishing" operation (Turpin and Utley 1995:17; after Bexar County Deed Records). Due to alterations and the lack of architectural and historical integrity, further work was not recommended.

At the time of recording, the Old Kiefer Road (41BX1145) site included a pole-barn, goat shed, surface cistern, subground cistern, and an outhouse (Turpin and Utley 1995:17). Early materials (bottle necks) from the site indicate early twentieth century activity, though a telephone pole and sheet tin construction suggest the 1950s. In 1901, a German immigrant (Adam Kieffer) purchased the property. The 1902-1903 USGS maps suggest that Kieffer may have erected a residence on the property. A barn dating to the late 1940s was still standing in 1995 and may have been used by the Tessman family. Besides the subsurface cistern, earlier structures were not located. Consultants concluded that the site held little research potential and did not recommend further work.

The Calf Hill site (41BX1146) possesses a prehistoric and historical component (Turpin and Utley 1995: 21). The site sits atop Calf Hill with a prehistoric presence defined by a scatter of tested cobbles, lithic debitage and tools. Due to deflated soils, no further work was recommended for the prehistoric component. The historical component of the site consisted of a barn, three wood and tin outbuildings and a large concrete capped cistern. The Kneupper family of German descent acquired the land in 1916. The main house reportedly burned in the 1980s. This property is beyond the archeological APE and the site's eligibility to the National Register under Criterion D has not been addressed at this time.

In 1998, Paul Price and Associates conducted an archeological survey in efforts to minimize impacts associated with the development of the Olympia Hills Golf Course (Walter et al. 2002). Historical properties identified during the 1998 survey include a historic cemetery (41BX1265) and historic homestead (41BX1266).

The cemetery was named for Mr. John A. Kincaid who purchased the plot in 1901. The site consists of a rectangular pattern of limestone rocks that enclose a decorative fence that surrounds a limestone block and depression, presumed to be a burial. Disturbance by heavy machinery had been noted near the site. Walter et al. (2002) recommended avoidance of the site. In 2005, it was designated as a State Archeological Landmark.

Site 41BX1266 is comprised of a concrete foundation (30 x 25 feet) and associated rock walls that could relate to a former structure (Walter et al. 2002). The site is situated on a ridge that overlooks a tributary of Selma Creek. Three cut limestone dams that are included as part of the site are distributed along the tributary 40 m apart (Walter et al. 2002:50). Two of the dams bear the inscription of "1941". Along the same slope that leads to the drainage, a limestone quarry area is present. The site may have been a water resort with cabins, though the only standing structure consists of a water tank.

In 2002, Paul Price and Associates surveyed three tracts of land that were possible candidates for development by the Judson Independent School District (Weaver and Schroeder 2002). During the survey efforts two historic sites were recorded (41BX1466 and 41BX1467).

41BX1466 consists of a shed (16-x-14-ft.) that according to USDA Soil Conservation Service aerial maps would have been built by 1938. The structure was part of larger complex that included a house and other outbuildings that are no longer standing (Weaver and Schroeder 2002:16).

41BX1467 is a scatter of historic debris likely related to a homestead that once stood in the area (Weaver and Schroeder 2002:17). The debris consisted of undecorated white earthenware, transferware, and manganese bleached glass. The scatter measures 147-x 176-ft.

Leonard Voellinger recorded or revisited several historic sites during a survey for the Rosillo Creek Housing Development in June of 1987 (41BX771, 41BX772, 41BX783, 41BX784). No report was referenced on the Texas Archeological Sites Atlas so the information included in these descriptions derives from the information on the site form.

Site 41BX771 is the remains of the historic Gembler Family property who owned the land in the nineteenth and twentieth centuries. Artifacts present on the surface but not collected include jars, glass (clear, green, and amber), whiteware ceramic fragments, various metal objects, and tin cans. Additional research was recommended to determine the function of this small farmstead within the larger Gembler land holdings for inclusion to the NRHP (THC 2006).

41BX772 contains the remains of the Emil Gembler Farm. At the time of reporting, a wood frame house and three wood frame outbuildings were still standing. A cistern, animal pens, and trash dumps were also present. No comments were made on the site form as to the NRHP recommendation of this property (THC 2006).

Mr. Voellinger also revisited 41BX782, the remains of another historic farm. The form indicates that the structures were no longer standing but building materials were still present in push piles. These suggest the farm post-dated 1930. The surveyor did not recommend the site eligible for NRHP nomination (THC 2006).

Site 41BX783 is the historic Adolph Hild Farm. The residence was no longer standing, but a house foundation, a well/cistern and a stock tank with an associated pump house were present. The site is potentially eligible under Criterion A because it represents a typical agrarian settlement in the area. No date

range for the historic use of the property was provided. Further research was recommended to determine its place in local history and to acquire the information to accurately assess it in terms of its eligibility to the NRHP (THC 2006).

41BX784, the Richard Hild Farm was also a historic farm with several structures that had been razed at the time of revisit in 1987. Despite the destruction, several structures could be discerned: Two cisterns, one concrete and one cinderblock, two concrete water troughs, a tank and associated woodframe pump house, three concrete slabs and seven rubble piles representing house sites and five ancillary structures. All the structures were of frame construction, none were extant, though the foundations were partially intact. The property was recommended potentially eligible for NRHP nomination due to its contribution to agrarian history in San Antonio, though no possible dates of significance were defined. The surveyor recommended additional research (THC 2006).

Site 41BX1460 was recorded by SWCA during a SAWS pipeline survey. This property consists of the remains of a historic (1890-1920) structure and associated landscape features, including fence posts and plantings. Few artifacts were scattered on the surface around the structure, including amethyst and clear bottle glass, ungalvanized wire nails, window glass, and coarse, unglazed earthenware.

The residence is a single story, two-pen house clad with board and batten siding with a side gable roof covered in pressed aluminum. The structure is supported by rough-hewn logs. The interior contains evidence of two chambers heated by a wood stove. Floor and decorative elements are tongueand-groove construction. Ungalvanized wire nails, artifacts, and construction methods indicate 1890 to 1920 construction and occupation. Also on the site are several wooden fence posts and landscape berms. These surround the structure on the south elevation (primary elevation) and on the north elevation (rear). Due to the poor integrity of the property, it was not recommended for listing on the NRHP (THC 2006).

41BX1320 is a twentieth century (est. 1930s) historic farmstead located west of Loop 1604 just north of the San Antonio corporate boundary, along Escondido Creek. This site is located near the ROW. Paul Price and Associates recorded the site in 1999 as part of an archeological survey for the San Antonio River Authority (Kotter 1999). Seven above-ground features were recorded on the site. These include metal cisterns, wood frame outbuildings, and a pile of Groesbeck Red bricks, which may be the only remains of the main house. A number of specific factors limited its eligibility potential for designation as a State Archeological Landmark or nomination to the National Register of Historic

Places at the time of the site recording. First, neither the house nor outbuildings were standing on the site. Second, the remaining outbuildings had no architectural significance. Third, trash scatters generally provide poor data compared to either midden deposits or concentrations of secondary trash. No buried deposits were noted at the site. The site was not eligible for listing on the NRHP or as a SAL under Criteria A, B, and C due to the lack of architectural significance of the remaining outbuildings and the removal of the original dwelling structure (Kotter 1999:17).

The Selma Stagecoach Stop and Post Office (41BX1409) was investigated in 2000 by CAR-UTSA (Nickels and Zapata 2005). Archival research concluded that the post office was established in 1852 and closed in 1871. The structure was one of only thirteen stagecoach stops or inns reported for Texas. The structure is also significant because of its architectural style, which employs tabby-construction, a concrete made from lime, sand, granite, or oyster shells more common on the south Atlantic coast than in Texas. This construction style is unique in Texas, with only a handful of comparable sites (Nickels and Zapata 2005:22-23). Shovel tests excavated near the structure revealed intact pre-1850's material, adding to the integrity of the site. CAR recommended further investigations on the site such as additional clearing around the structure with a historic archeologist or historic preservation architect present. Locating the north elevation wall through manual excavation of north-south oriented trenches and archival research of deed records and historical maps was also recommended.

Prehistoric Sites

The 16 prehistoric sites are scattered near creeks within 2.0 miles of the project area. They include lithic procurement sites (n=4), open-air campsites (n=7), and lithic scatters (n=5) usually on terraces overlooking streams. Two sites (41BX1264 and 41BX1270) may contain burned rock middens and 41BX1270 may have burials. Of these 16 prehistoric sites, none is found within the archeological APE.

CAR recorded site 41GU39 in 1997 during the archeological survey for the Retama/Selma Monopole Project (Vierra et al. 1998). This site is a lithic scatter measuring 95-x-24.4 m. Lithic material collected from the site included debitage and lithic tools. Two Guadalupe tools, a Gower point, and a possible Early Archaic Triangular or Tortugas point indicate an Early Archaic to Middle Archaic component. Previous construction of a building likely destroyed a large part of the material remains. CAR recommended that the installation of the monopole and support building locations proceed as planned.

Sites 41BX1316, 41BX1317, and 41BX1318 were identified in 1999 as part of the Martinez Tract Survey conducted for the San Antonio River Authority by Paul Price and Associates (Kotter 1999). 41BX1316 is a lithic scatter located in a plowed field near Escondido Creek. Agricultural berms occur at the margins of the sites. Surface materials included lithic debitage and tools, while auger testing produced debitage, utilized flakes and one core. It appears the site has been disturbed by agricultural activities and burning. It was recommended that the site be avoided and protected as it may be eligible for designation as a State Archeological Landmark, though further testing is required (Kotter 1999:30).

41BX1317 is located in the upper valley margin of Salitrillo Creek. It is a multi-component site with a Late Archaic component (Kotter 1999). Auger tests recovered lithic debitage and tools. Reportedly, the site has been disturbed by soil deflation and agricultural activities. The site was determined to have low research value due to the shallowness and disturbance of the cultural deposits (Kotter 1999:22). Similar to the setting of 41BX1317, 41BX1318 is located on nearby Salitrillo Creek. The site consists of a lithic scatter in an open pasture with agricultural terraces on the southern edge of the site and down slope. Cultural material observed on the surface included lithic debitage and one core, while subsurface material consisted solely of lithic debitage and one piece of milk glass. Further work was not recommended as the site has been subject to soil deflation, agricultural terracing and has low research potential (Kotter 1999:30).

Paul Price and Associates conducted an archeological survey in efforts to minimize impacts associated with the development of the Olympia Hills Golf Course (Walter et al. 2002). Prehistoric sites encountered during that investigation near the current project area include the following: 41BX35, 41BX1264, 41BX1267, 41BX1268, 41BX1269, and 41BX1270. Further work was not recommended on 41BX1264, 41BX1267, and 41BX1270. Further testing was conducted on 41BX35, 41BX1268, and 41BX1269 (Walter et al. 2002:64).

41BX1264 sits above Selma Creek and has been disturbed by mechanical clearing, dirt roads, and dumping activities. The size of the site is approximately 30,000 m². Cultural deposits consist mostly of lithic material that is disturbed on the surface and to a maximum depth of 20 centimeters below surface (cmbs) (Walter et al. 2002:46-47). A small, burned rock midden, approximately 10 m in diameter and 40 to 50 centimeters (cm) thick, was also present. Further work was not recommended on the site due to the disturbance and ephemeral deposits. 41BX1267 is located on a knoll and described as an open campsite and lithic procurement site. The boundaries of the site have not been well defined. The site has been impacted by heavy machinery, construction activities (evident from piles of dirt), and sewer line installations. Although lithic material was recovered from the surface and backhoe trenches, further work was not recommended because consequent disturbance and lack of significant deposits (Walter et al. 2002:64).

41BX1268 is adjacent to a tributary of Selma Creek. Minor impacts to the site include a dirt road and a wastewater line. The site was identified during survey and additional testing was conducted to evaluate the integrity of the site (Walter et al. 2002). Though initial shovel testing of the site produced debitage along with faunal remains, subsequent testing concluded that the site had limited research potential and further work was not recommended.

41BX1269 is on a limestone ridge on the opposite creek bank from 41BX1268. Power lines, construction, and vehicular traffic have reportedly disturbed the site. Dumping activities have also occurred on the site. Lithic material was collected from shovel tests and a concentration of burned rock was observed at 35 cmbs. Further testing of the site revealed mixed prehistoric and historic material in the upper deposits and possible features in the lower deposits. Due to the poor spatial and temporal integrity of the deposits, further work was not recommended.

41BX1270 is also located close to Selma Creek. At the time of its recording, the site had been heavily disturbed by several looters' trenches. Due to the heavy disturbance, it was difficult to assess the integrity of the site (Walter et al. 2002). In 2005, the site was designated as a State Archeological Landmark. According to the Texas Archeological Sites Atlas (THC 2006), human remains were discovered in the backdirt of a looter's trench and then reburied into the site.

The Turkey Hill Site (41BX35) is situated on a high terrace that separates Cibolo Creek from Selma Creek. The estimated size of the site is approximately 80,000 m². Charcoal samples taken from features on the site yielded radiocarbon dates from the Middle and Late Archaic periods. Diagnostic materials recovered from the site were dated to the Early Archaic, Middle Archaic and Late Archaic subperiods. The northern portion appears to have been disturbed by modern quarrying though the remainder of the site seems intact and retains high research potential (Walter et al. 2002). In 2005, the site was designated as a State Archeological Landmark (THC 2006).

David Cox first identified site 41BX441 in 1977 (Brown 1986; THC 2006). At the time of the initial recording, artifacts were eroding out of a gravel road. The site was reported as an extensive upland lithic scatter, covering 27 acres. In 1983, a survey was conducted on the site and in 1984, testing occurred (Brown 1986). The 1984 testing indicated shallow deposits and a variety of diagnostic lithic tools indicating a Paleoindian to Late Archaic occupation. Due to the shallowness of the deposits (40 cm) and lack of features, further work was not recommended. An area nearby was surveyed in 2000. Shovel tests encountered shallow soils (approximately 15 cm thick), along with one tool and burned rock fragments (Walter et al. 2002:42). The boundaries of 41BX441 were extended to include this area, which was located on the same landform.

In 1995, Turpin and Son, Inc. conducted an archeological survey of the proposed Tessman Road Landfill extension in east San Antonio. During the survey, three prehistoric properties were recorded (Turpin and Utley 1995) slightly outside the project area. Further work was not recommended on any of the prehistoric sites.

Site 41BX1139 is approximately 100-x-150 m and situated on the eastern terrace of an unnamed tributary to Martinez Creek. The site is bounded by fences and defined as a thin scatter of debitage and fire-cracked rock (FCR) concentrations. Extensive plowing activities have disturbed the site to a depth of 70 cm. Due to the lack of intact cultural materials further work was not recommended.

Site 41BX1140 sits on a bedrock hill adjacent to an intermittent tributary to Martinez Creek. FCR and lithic debitage were scattered across an area measuring 100 x 160 m at the time of recording. One basal fragment of a straight-sided dart point, similar to a Middle Archaic Pedernales form, was encountered. Two modern wood/sheet metal sheds were present on the site and part of the functioning farm on the property. Further work was not recommended because of the deflated conditions of the site.

41BX1141 is approximately 375-x-750-m and located on an extensive upland ridge between two intermittent tributaries to Martinez Creek. Cultural material on the site consisted of a surface scatter of lithic debitage, FCR, and lithic tools (Fairland and Lange projectile point types) that indicate a Late Archaic occupation. Walter et al. (2002) suggest that the site was used for camping, lithic procurement, and seasonal harvesting. Further work was not recommended due to erosion and deflation of the site.

41BX435 is a State Archeological Landmark originally recorded in 1977 during archeological work conducted by CAR for the City of Live Oak (Roemer and Black 1977; THC 2006). During the initial recording of the site, cultural material was seen eroding out of the creek bank. It measures approximately 750 m² and subsequent disturbance of the site had occurred in the form of drainage construction and road grading. Testing of the site indicated buried deposits associated with the Late Archaic.

41BX63 was originally recorded in 1977 by A. Marrou and described as occupying approximately one acre (THC 2006). In 1996, the site was revisited by CAR. Six shovel tests were excavated around the site to better define its boundaries (Gross 1997). A surface collection of all cultural material was also completed, recovering 410 lithic artifacts. The one diagnostic artifact (a Scallorn point) suggests a Late Prehistoric occupation. Shovel testing of the site indicated a low possibility of buried cultural deposits and further work was not recommended.

Site 41BX979 was recorded in 1992 as part of a pedestrian survey for the City of Converse for a proposed city park located on the northwest side of the city (Wright 1992). The site consisted of a lithic scatter that included chert cobbles, cores, and retouched flakes. 41BX979 is associated with a tributary of Martinez Creek. The recorder concluded that the deposits may be in a secondary context and further work was not recommended. 41BX698 was identified in 1986, also part of a pedestrian survey associated with developments for a city park located in southwest Converse (Snavely 1986). The entire park was located on the Martinez Creek floodplain. The site consisted of a lithic scatter and further work was not recommended.

Mardith Schuetz (1960) recorded 41BX14 and 41BX15 during a survey of the Martinez Creek. 41BX14 was located in cultivated field, near West Salitrillo Creek where surveyors observed lithic tools and debitage. 41BX15 consisted of a large lithic scatter also containing lithic tools and knives. The NRHP/SAL eligibility of the two sites was not addressed during the survey since the Register and List were not yet established.

The only available information on 41BX1465 is from the Texas Archeological Sites Atlas (THC 2006). The site was identified during a survey associated with a San Antonio Water System (SAWS) project along Culebra Creek. The site is located on a terrace that overlooks Culebra Creek and lithic debitage and cores were distributed across the site. The depth

of cultural deposits potentially reacheds 80 cmbs. It appeared that the site was modified by landscaping and further work was not recommended.

Previous Archeological Investigations of the North Segment

A review of the Texas Archeological Sites Atlas shows that only approximately 12.5 km (6.5 mi) of the North segment ROW has not been previously surveyed for archeological sites (Figures 3-2 and 3-3). The entire ROW found on the Longhorn Quadrangle sheet has been surveyed. On the other hand, roughly 7.02 km falling on the Castle Hills quadrangle, and 3.78 km on the Schertz quadrangle have not been previously surveyed. Finally, 1.68 km on the Helotes quadrangle falling within the project area at the southern terminus of the project also have not been surveyed. Selected reports concerning investigations conducted within the vicinity of the current project area include Hester (1974), Brown et al. (1977), Cliff et al. (1990), Houk and Skoglund (2002), and Collins et al. (2003).

The Texas Archeological Sites Atlas (THC 2006) indicates that at least 17 cultural resource surveys have been carried out within or adjacent to the North Segment of Loop 1604. Along IH 10, four cultural resource surveys were conducted within or adjacent to the APE. Within the APE along the IH 35 portion of the project, eight tracts were previously surveyed. In addition, there have been more than 90 previously recorded archeological sites within one km of the general vicinity of current APE.

In 1974, archeological investigations were conducted along portions of the Salado, Panther Springs, Elm, and Mud Creeks to determine impacts on cultural resources by proposed construction of floodwater retarding structures (Hester 1974). Twenty-nine sites were identified, and several were revisited, including 41BX68 located near Bulverde Road and Loop 1604. No specific recommendations were made concerning 41BX68 at the time of the report.

A linear survey was conducted in 1976 by Rural Electrification Administration to make ready the path of Schertz Parkway. No cultural resources were encountered within the current project APE where Schertz Parkway intersects with IH 10 (THC 2007).

Texas Department of Highways and Public Transportation had the IH 35 corridor surveyed in December of 1977 (THC

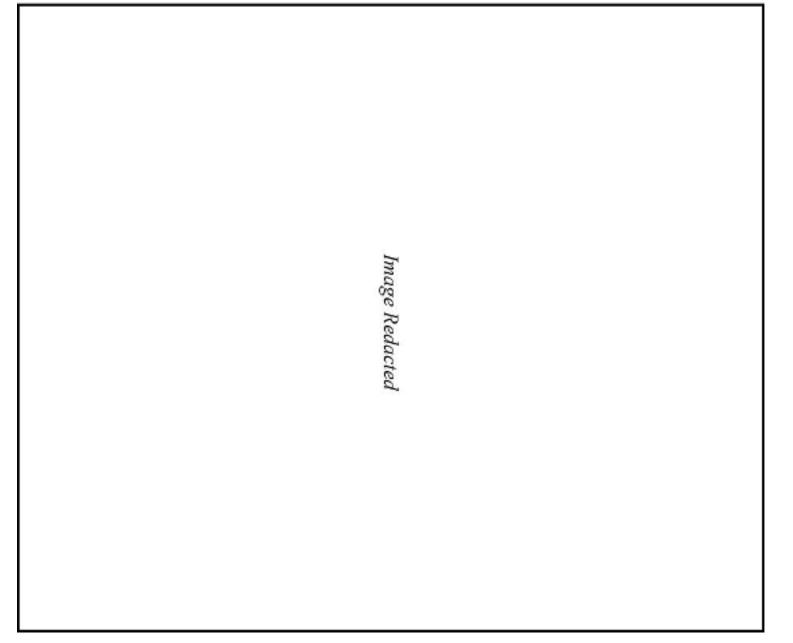


Figure 3-2. Map showing previously surveyed areas within 1 km of the eastern portion of the North Segment.



Figure 3-3. Map showing previously surveyed areas within 1 km of the western segment of the North Segment.

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2007). The survey was continued north of Olympia Pkwy along IH 35 in 1988. No sites within the current project's APE were located during the survey.

In July of 1987, the Texas Department of Highways and Public Transportation surveyed along FM 3009, from the intersection of IH 35 to FM 78. No significant cultural resources were encountered within the current APE (THC 2007).

In 1990, GeoMarine, Inc. conducted a pedestrian survey of the Upper Salado Creek south of Camp Bullis to locate and evaluate cultural resources that would be affected by the proposed installation of a pipeline within the Salado Creek drainage. Nine sites were recorded, one being 41BX22 (Rogers Site), located near Salado Creek (Cliff et al. 1990). Further testing of 41BX22 was recommended.

A linear survey was conducted along IH 10 and across the Loop 1604 Project Area for the State Department of Highways and Public Transportation in March 1991 (THC 2007). A pedestrian survey was conducted, though no backhoe trenching of the Leon Creek crossings were performed at that time.

CAR performed archeological investigations at 41BX427 and 41BX68 (Brown et al. 1977). Evidence of a large number of large flakes, chert cobbles, and tested cobbles at 41BX68 further supported the designation as a quarry/chipping station, though other artifacts indicate that additional activities were conducted in the area. Though the site contained shallow soils, Brown et al. (1977) recommended further investigations of the site due to the *in situ* cores and flakes located on the surface that refit.

In 2002, SWCA Environmental Consultants was contracted to conduct a survey of the undeveloped areas of the University of Texas at San Antonio 1604 campus. During the course of the project, six previously unrecorded sites were discovered, and seven recorded sites were reevaluated. Sites along Loop 1604, though outside of the ROW, included 41BX1477 and 41BX1481. Site 41BX1477 did not warrant further investigations. Site 41BX1481 was found to be an intact, burned rock midden that could produce material for radiocarbon dating. It was recommended for further investigations.

Paul Price Associates, Inc. was contracted by Universal City to survey a parcel of land adjacent to IH 35, just south of N. Evans Road. Several sites were recorded during the course of the survey, including 41BX35, 41BX1262, 41BX1263,

41BX1264, 41BX1265, 41BX1266, 41BX1267, 41BX1268, 41BX1269, and 41BX 1270. None of these site fall within the APE of the North Segment project. Three tracts of land were surveyed near the current APE in December of 1993. No cultural resources were recorded during the course of the survey.

While there are 90 previously recorded archeological sites within one km of the general vicinity of the North Segment of the Loop 1604 APE, only twelve of these appear to encroach within the project ROW. They are 41BX22, 41BX38, 41BX39, 41BX44, 41BX52, 41BX65, 41BX66, 41BX67, 41BX68, 41BX564, 41BX1064, and 41BX889. In addition, over 150 archeological sites plotted on the Texas Archeological Sites Atlas are found within two miles of the current project area. These date to the historic and prehistoric periods. Two sites located within the project APE are historic. Six prehistoric sites are located within the project APE along the North Segment. Two sites, 41BX44 and 41BX889, exhibit historic and prehistoric components.

Historic Sites

Site 41BX38 is a historic homestead known as the Max Gerfer House (THC 2006). The site was first visited in 1969 by Bill Fawcett and Paul McGuff, and then further investigated in 1970 by the John Marshall High School Archeological Club Project. The site is described as being north of Loop 1604 and therefore apparently outside of the project limits, but no boundary is provided on the Texas Archeological Sites Atlas or the site form. The site is described as a historic ranch dating from 1850-1910. Further investigations were recommended.

The Camino Real crosses the APE of the current project at the intersection of Nacogdoches Road and Loop 1604. The Camino Real is the historic roadway that was blazed to establish missions in East Texas. The Camino Real, also referred to as Old San Antonio Road, provided a lifeline between the missions and Mexico, enabling the extension of military protection as well as the transport of well needed supplies (The Handbook of Texas Online 2008b). No significant cultural historic properties related to the Camino Real are located within the current project APE.

Located just northwest of the intersection of Prue Road and Fredericksburg Road, 41BX316 is a historic site consisting of a stone fence and stone-lined well. The stone fence was recorded as approximately one to two feet high, with no mortaring. Construction dates for the well or the L-shaped wall have not been established. There was no associated house site noted at the time the site was recorded. The site was recommended for further work in 1976. This site does not encroach upon the APE but is within 2 miles of it.

Prehistoric Sites

Site 41BX52, near the IH 10/Loop 1604 intersection is the only State Archeological Landmark designated site and National Register of Historic Places eligible prehistoric site. Staff archeologists of the Texas Department of Transportation (TxDOT) have already excavated parts of the site found within the TxDOT ROW and the results of the analyses of the materials recovered from the site have been published (Collins et al. 2003).

The site was initially identified in 1970 by two high school students, Bill Fawcett and Paul McGuff. Intensive archeological investigations were conducted at the site from May 1979 to January 1980 after the proposal to widen Loop 1604 became public. The site contained Archaic Period components, as well as a layer of Paleoindian materials consisting of mixed Folsom and Clovis components. A total of 171 units were excavated during the course of the project. The portion of the site found within the existing ROW appears to have been largely destroyed by the archeological excavations and subsequent development of Loop 1604. However, some intact deposits may be found buried under the road base and intact deposits may also extend into the private property bordering the ROW. Initial construction schematics suggested that no additional construction would occur near the IH 10/Loop 1604 Interchange. Therefore, CAR planned no additional work in this area during this survey. However, 60 percent complete project schematics received during the project indicated that construction impact will occur near the site, so CAR implemented additional eligibility testing of the site within the APE. These findings are published under another cover (Figueroa 2008). No additional deposits were identified that contribute to the site NRHP eligibility.

Site 41BX22, known as the Rogers Site, located near Salado Creek, was recorded by TxDOT as a multi-component, prehistoric site consisting of an open terrace campsite, as well as a small, shallow cave or solution cavity within the exposed limestone bedrock along the drainage. The site is situated above the eastern bank of the creek channel at the intersection of Loop 1604 and Salado Creek. The site was estimated to be approximately 80-x-30 m, though it was projected that buried cultural material extended another 150-200 m north of the site boundary.

Approximately 50 percent of the initially investigated portion of the site was extensively disturbed by August of 1986. The portion disturbed was cleared of natural vegetation. The small cave located within the site boundary produced faunal remains, charcoal and ash, suggesting that features may have been present. The opening was sealed by boulders in 1985 to preserve the integrity of that portion of the site. The cave, which is located outside the ROW, was considered eligible for the NRHP under Criterion D, whereas the remainder of the site was not eligible.

Site 41BX39, the Allison Site, was located in 1970 near the Pacific Railway within the existing ROW (THC 2006). Parts of the burned rock midden present on the site were previously exposed within the Loop 1604 ROW. The site is believed to be an Archaic Period campsite with a possible quarry nearby. No further work was recommended at the site.

Site 41BX44 is a prehistoric camp/lithic procurement site with a historic component (THC 2006). The site appears to cross the Loop 1604 ROW. It is possible that the site dates to the Middle Archaic subperiod, due to the temporal affiliation of some of the artifacts recovered. The site was originally recorded in 1970 by Bill Fawcett and Paul McGuff. Further investigations were recommended to locate the occupation center.

Site 41BX65 is located north of Loop 1604 near Panther Springs Creek. It was first located in 1970 by Bill Fawcett and Paul McGuff. The site sketches produced during the initial recording of the site do not match the location on the map on file at THC. The site is in a previously unsurveyed portion of the ROW. The site was recorded as a small temporary hunting camp and chipping station with possible Archaic temporal affiliations. No eligibility statement was made at the time of recording.

The seventh site, 41BX66, is along Elm Creek. It was recorded by Bill Fawcett in 1971 as a temporary campsite with features and an abundance of lithic tools. The site is believed to date to the Archaic. It underwent additional investigation in January of 1989, which concluded the site met no criteria for listing on the NRHP. The deposits noted during this later investigation were deemed shallow, and the partial burned rock features encountered lacked integrity.

Site 41BX67 is located along the northern portion of the Loop 1604 ROW, near Mud Creek. The site is described as a prehistoric camp site, and sketch maps indicate that it may cross into the ROW. The site was recorded by Bill Fawcett in 1971 after a biface and lithic debitage were recovered from surface collections. Though the site was in poor condition due to erosion, further investigations were recommended to determine eligibility status.

Site 41BX68 is just outside of Loop 1604 near the crossing of East Elm Creek. It is described as a large quarry and chipping site with debitage scattered over a large area including the immediate vicinity of the ROW. The initial visit in 1971 resulted in recommendations for further investigations. An additional visit in 1974 produced more lithic material. At the time of its recording, no recommendations were made regarding eligibility status or additional work on site.

Site 41BX564 was recorded in 1982 by Daniel Fox during the Cibolo Creek Municipal Authority Project. The site consists of a scatter of lithic debitage, cores, and tested cobbles. It is located near the intersection of Nacogdoches Road and Loop 1604, within the ROW. Much of the site was cleared for use as pasture. At the time of its recording, no recommendations were made regarding eligibility status or additional work on site.

Site 41BX1064 is located west of Leon Creek but it is unclear from the plotting of the site centroid whether any portion of the site falls within the project's archeological APE. No information is available based on the Texas Archeological Sites Atlas, regarding the eligibility status of the site. The site has not been fully described and warrants further investigation, therefore, it is considered potentially eligible for designation as an SAL and for listing to the NRHP.

Site 41BX889, identified in 1990, is located at the middle fork of Leon Creek along IH 10 within the existing ROW of the interstate. The site is multi-component, with prehistoric lithic tools, and historic glass and ceramic sherds recovered from the surface. The historic component dates to the 1900s. The prehistoric component, consisting primarily of tools, flakes and FCR, possibly dates from the Late Archaic to Late Prehistoric. The site has been highly disturbed by highway construction and stone quarrying. It has potential for nomination to the SAL, though is not eligible for the NRHP. There were no recommendations at the time the site was recorded. The site was reevaluated in 2001 by TRC-Mariah who encountered very little cultural material and recommended that no further work was needed due to the extensive disturbance and paucity of artifacts.

Previous Archeological Investigations of the West Segment

An inspection of the Texas Archeological Sites Atlas indicates that portions of the existing ROW from Kyle Seale Parkway to Military Road and the portion of SH151 has been subjected to survey by several entities (Figure 3-4). The Environmental Protection Agency conducted surveys in 1977 and 1979, which were south of the Bandera Road and Loop 1604 intersection (0.2 miles) and along Loop 1604 and the Huesta Creek crossing (0.2 miles). The 1.58 km of SH151 has been subject to survey by the State Department of Highways and Public Transportation in 1985. In August of 1985, the FHWA conducted a survey of Culebra Road south of the Loop 1604 intersection.

Espey, Huston, & Associates conducted the West Creek Development Survey of a large portion of land west of Loop 1604 near the West Military Drive/Loop 1604 intersection in May of 1987. During that survey, ten sites were recorded. Three of these sites fall within 300 m of the Loop 1604 ROW: 41BX761, 41BX767, and 41BX769. Site 41BX761 appears as the remains of a small prehistoric open campsite. Cultural material was encountered only on the surface, and much of the site appears to have been disturbed by clearing activities and erosion (THC 2007). Site 41BX767 consists of a surface scatter of lithic debitage and biface fragments. The site appears to be a possible campsite, though clearing activities and erosion have left very little integrity to the site. Site 41BX769 is a historic homestead that was once the main residence of the Ellison Ranch. This main structure was possibly constructed during the 1930s. Several outbuildings were located on the property, though none remains standing. The main structure has been remodeled and retains little of the original architectural styling.

In March of 1991, the Texas Department of Transportation surveyed some of the project ROW that included a stretch from Military Road to the north, .5 miles past the Loop 1604 and Culebra Road intersection (5.7 miles). In November of 2001, GMI, Inc. conducted a survey along Culebra Creek, a portion of which was at the Culebra Creek and Loop 1604 intersection.

Three sites were located within the project APE for the West Segment. One of these is a historic farmstead; the remaining two are prehistoric lithic scatters. The boundaries of an additional historic site were explored to determine whether they extended into the project area.

Historic Sites

Site 41BX1003 is a historic site, consisting of a stone farmhouse and cistern, located between Shaenfield Road and Guilbeau Road. According to the Texas site atlas, the house dates from the early to mid-twentieth century. Historic trash was associated with the structure, but no artifacts were collected. The site is within the current ROW according to the information provided to CAR. The current fence-line, which was thought to be the ROW boundary, lies within the APE.

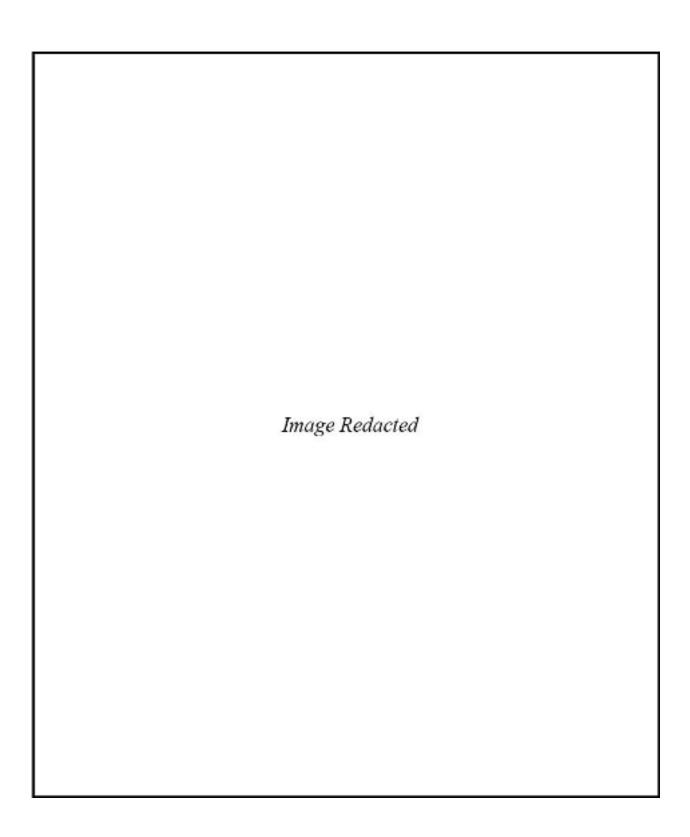


Figure 3-4. Map of the previously surveyed areas within 1 km of the West Segment.

The ROW boundary cuts through the northwest corner of the structure, with the remainder of the building extending into the current ROW. The site was determined not eligible by the original recorders for SAL listing or NHRP nomination. However, this assessment was based on the incorrect mid-twentieth century date of construction (see below).

Site 41BX1616, located at the corner of Loop 1604 and Braun Road, is the historic Ruemple farmstead. The structure dates to ca. 1850 and exhibits German influence. Historic artifacts were noted on the surface of the site. The site centroid appears to be located outside of the current APE although accurate site boundaries do not exist for this site. No eligibility recommendation was made at the time of original recording.

These two sites belong to a mid-nineteenth century German settlement located along the Loop 1604 West corridor. The community was established during the late 1800s, and the Zion Lutheran Church was founded for the settlement in the early 1900s (See Chapter 2). The concentration of farmsteads in the area may be an offshoot of Helotes, though research conducted at this time has not determined the community association or name. The complex of sites is characteristic of a historic dispersed, rural community.

Prehistoric Site

Within the project ROW, four previously recorded prehistoric archeological sites are known to exist. Site 41BX69 is a prehistoric site located north of Bandera Road where French Creek crosses Loop 1604. During the time of its recording in 1971, it was described as a scatter of lithic material that had been disturbed by bulldozing activities. One unidentified dart point was recovered, as well as preforms and lithic debitage. Recommendations called for additional testing if another lane was to be added to Loop 1604. In 1971, the eligibility status of the site was not determined. Site 41BX126, located just south of the second proposed survey area, is a prehistoric site situated on along the banks of Culebra Creek. Originally recorded in 1971, surveyors of the site recorded bifaces, flakes, and one Pedernales projectile point. In 1993 and 1995, due to plans to expand Loop 1604 at the Culebra Creek crossing, the site was tested by TxDOT. The first year it was established that the site was a large buried burned rock midden located on the northern bank of Culebra Creek that appeared to have separable upper and lower components (Nickels et al. 2001: 19). In 1995, the midden was found to be intact and dates indicated that it had begun to form after about 4500 BP (Nickels et al. 2001). In 1997, CAR began a third field season at the site, uncovered burned rock features with Nolan and Montell components and completed analysis of all materials collected during the three seasons (Nickels et al. 2001:215). The conclusions of the CAR report were that: 1) the site had been occupied between ca. 7,000 and 2000 year BP; 2) the complex structure of the burned rock midden, the result of many episodes of use and re-use of limestone rocks in earth ovens, had been to some extent elucidated. CAR recommended that the site be studied further, but the THC and TxDOT agreed that sufficient information about the site had been acquired (Nickels et al. 2001:220). Subsequent to the testing of the site, it was covered with a thick layer of fill to protect it from further impacts. The research potential of the site has been exhausted following the data recovery efforts carried out by CAR.

In October of 2000, Prewitt and Associates conducted a brief reconnaissance near 41BX126. In this assessment, no archeological material was located on the floodplain or terrace surfaces. The geomorphic settings were found to be unfavorable to the preservation of cultural material. In conclusion, Prewitt and Associates recommended that no further work was warranted at the location (TxDOT Archeological Impact Evaluation November 7, 2000).

Chapter 4: Field and Laboratory Methods

CAR conducted an intensive pedestrian survey of those private properties along the new ROW to which we had access and the existing ROW along the APE of Loop 1604. Because some properties within the project area are more likely to possess archeological deposits than other properties, we divided the corridor into areas of low, moderate, and high probability for possessing archeological resources based on distance to water, level of urban development, and proximity to previously recorded historic and prehistoric archeological sites. CAR conducted a reconnaissance of the entire existing project ROW to document archeological sites that may have been present prior to the construction of Loop 1604. Portions of new ROW with right-of-entry permission also were included in the reconnaissance. The archeological survey was conducted in accordance with the Texas Antiquities Committee's Rules of Practice and Procedure and followed the Council of Texas Archeologists guidelines (1998). This chapter describes methods used in the field during archeological fieldwork. Each segment followed slightly different methods; therefore, they will be discussed separately.

East Segment

The goals and objectives of the survey were to search for new historic and archeological properties, to revisit site 41BX1320, and to evaluate the types, quantity, and integrity of cultural materials that may exist within this site's original boundaries that fall within the ROW.

The first ninety-seven shovel tests were excavated without the aid of GIS data containing property ownership and construction limits. Construction limits were hand-drawn over aerial photographs to define locations for testing while staying within the project boundary. In January 2007, CAR received GIS data and was then able to upload this data onto GPS units and navigate more accurately within the project area. All shovel test locations were collected with GPS units and overlaid onto the aerials with property boundaries and other information added to the GIS database. No subsurface testing occurred within the existing ROW.

Defining Low, Moderate and High Probability Areas

CAR determined that an intensive pedestrian survey of the entire APE from IH 35 to IH 10 was not warranted because:

1) portions of the project area have already been surveyed and 2) judging from the survey results from other sections of Loop 1604 (i.e., Loop 1604 North Segment), archeological deposits falling within the existing ROW were disturbed by previous road construction. Instead, CAR focused the intensive pedestrian survey only on private property adjacent to the ROW along the project corridor.

Our review of the geomorphic settings and the drainages that will be crossed by the construction plans along the entire 23mile East Segment indicates that some parts of the project area are located in upland settings at some distance from existing drainages, while others are within valley margin and narrow floodplain contexts. In other words, environmental settings often associated with archeological sites are more common in some areas of the project corridor than others. Such variability influences the survey methods employed and the intensity and types of subsurface investigations recommended across the project area.

Urban development further influences the land and affects the probability of finding intact archeological deposits. Our review of 2001 aerials indicated that substantial commercial and residential development has occurred along the project corridor in the East Segment, especially at its northern terminus near the IH 35 interchange. Such development has continued since 2001 and has engulfed an even larger portion of this project area.

Accounting for the level of development-induced disturbances, the geomorphic setting, and distance to water along the ROW, CAR classified the project corridor as a series of adjoining Low, Medium, and High Probability localities with different research potentials rather than as a homogenous project area (Figure 4-1). Each locality was numbered and tested for archeological sites. We suggested that due to the likelihood that no intact cultural deposits would remain in Low Probability Areas, surface inspection of the existing ROW was sufficient to locate cultural resources. CAR focused its excavation efforts on moderate and high probability areas within the private property tracts along the project corridor. Moderate probability areas extend for 4.5 miles while high probability areas cover 9.0 miles.

Low Probability Areas were defined as those portions of the East Segment where urban developments immediately adjacent to the existing ROW have severely impacted any

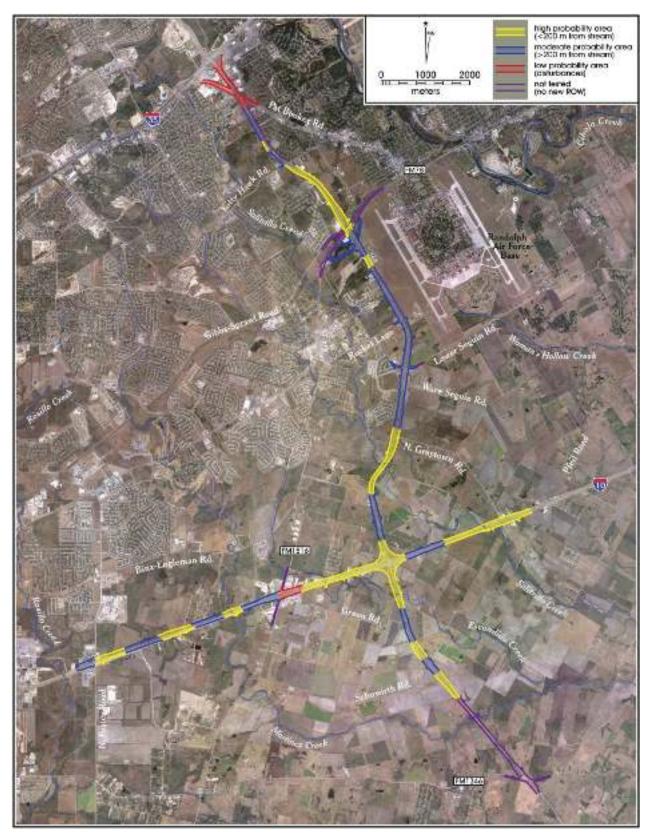


Figure 4-1. Map of Low, Moderate, and High probability areas of the East Segment.

potential archeological deposits. In these areas, we performed only surface inspection of the existing ROW and did not enter private property for assessment of the proposed ROW. We did not examine private properties in low probability areas.

Moderate Probability Areas were located at a distance greater than 200 m from creek crossings but in geomorphic settings overlooking drainages (i.e., valley margins or nearby uplands). Even in these settings, areas that were heavily disturbed by commercial construction fell into the Low Probability group. Otherwise, the existing ROW was examined for surface artifacts and 50 ft wide tracts along private properties were shovel tested at a density of 10 per mile.

High Probability Areas were those found less than 200 m from drainages in contexts where the deposition of alluvium could have buried cultural deposits. In these areas, the size of the drainage and amount of water discharge during rain and flood events determines the level of sediment deposited over previously exposed surfaces that could contain cultural material. In High Probability Areas, CAR performed surface inspection of the ROW, excavated shovel tests at a rate of 16 per mile, and monitored backhoe trench excavations on private property to determine the depth of any archeological sites buried during floods.

Before implementing the field methods as determined by review of 2001 aerials and topographic maps, each area was inspected during reconnaissance survey of the existing ROW to determine the relevance of our proposed field methods. When the field inspections confirmed that these localities contained alluvial deposits likely retaining buried cultural deposits, surveyors implemented the field investigations and methods described in detail below. When field inspections of these localities identified heavily disturbed settings, appropriate modifications to field investigations and methods were made (i.e., surface reconnaissance, shovel testing rather than backhoe trenching, photo documentation of present condition of locality).

Shovel Testing

CAR viewed the APE as one linear survey with 100 feet of proposed new ROW and examined 50 feet on each side of the existing roadways on private property when the owners granted access. The level of investigation within the project area was determined by the probability of archeological deposits remaining intact on private property and owner access restrictions. To determine the level of testing, we calculated the mileage of adjacent, accessible properties and shovel tested them as warranted by their probability level. Shovel test densities per area are outlined in Table 4-1. Standard archeological field methods were employed while conducting this pedestrian survey. These methods included surface inspection when ground cover was sparse and subsurface inspection when ground surface visibility was limited to less than 30 percent.

In high probability areas where repeated flooding could cause the burial of archeological deposits, we recommended a combination of shovel testing and backhoe trenching. We recommended a rate of 16 shovel tests per mile and two backhoe trenches per stream crossing in these areas. The appropriate number of shovel tests was excavated per accessible section. We did not enter properties without permission.

In areas of moderate probability, we proposed to excavate shovel tests at a rate of 10 per mile. Though 4.5 miles of proposed ROW falls within moderate probability zones, we were not granted access to all the private lands within. As with the high probability areas, we excavated the appropriate density for moderate probability land tracts to which we had access and did not include the restricted properties in our mileage total.

We expected shovel tests to be effective for identifying shallowly buried deposits, while backhoe trenches were more likely to reveal deeply buried materials, geologic, and geomorphic information. All excavations were mapped with a GPS unit and labeled on aerial photographs or topographic quadrangles.

Shovel tests were at least 30 cm in diameter and reached a maximum depth of 60 cmbs, if not otherwise prevented. The shovel tests were excavated in 10 cm levels and the deposits screened through .25" hardware cloth. The number of artifacts recovered by level, as well as the type and texture of the soil encountered in each level were noted on standard shovel test forms. Artifacts were not collected because the properties under survey are privately owned. When we did encounter artifacts, we noted them on field forms. Shovel tests that contained artifacts, but did not contain enough to qualify as a site (see below) appear on the aerials as Positive Shovel Tests. Diagnostic artifacts were photo-documented in the field when encountered. We reburied all artifacts recovered from shovel tests.

Backhoe Trenches

Backhoe trenches allowed us to examine deeply buried alluvium at stream crossings where the potential for archeological deposits was high. In high probability areas where repeated flooding could cause the burial of archeological deposits, we recommended a combination of

Area	Probability Level	Miles of Accessable Property	Shovel Test #	Total # of Tests	Properties tested
1	moderate	recent housing development	not tested	0	
2	high	contains only existing ROW	not tested	0	
3	moderate	contains only existing ROW	not tested	0	
4	high	0.68	1-11	11	1221, 1685
5	moderate	0.02	134	1	1705
6	high	contains only existing ROW	not tested	0	
7	moderate	0.25	20-22,120, 133	5	1772, 2152
7	moderate	0.37	12, 13, 18, 19, 117, 118, 119	7	1052, 1060, 1299
7	moderate	0.3	14-17	4	1740
7	moderate	0.31	23-25	3	1308, 2618, 1151
7	moderate		110-113	4	3156, 1738
7	moderate		114-116	3	1300
8	high	1.14	26-49, 55-57	27	2616, 2620, 860, 2615, 3154, 3152, 3180, 3151
9	moderate	0.46	50-54, 125, 132	7	3179, 824, 3184, 905
10	high		131	1	2191
10	high		107-108	2	823
10	high		109	1	1586
10	high		121-126	6	3165
10	high	0.4	67-69	3	3165
10	high	0.4	92-97	6	2945, 1172
11	moderate	contains only restricted property	not tested	0	
12	high	contains only restricted property	not tested	0	
13	moderate	0.09	58, 98, 104	3	1094, 1092
14	high	0.49	59-66	8	1092, 3198, 1093, 1087, 897
15	high		127-129	3	979, 3490
16	moderate	contains only restricted property	not tested	0	
17	high		99-103, 105-106	7	1006, 1000, 2103
18	moderate	contains only restricted property	not tested	0	
20	moderate	contains only restricted property	not tested	0	
21	low	commercially developed	not tested	0	
22	moderate	0.37	70-72	3	3188, 876
22	moderate	0.34	73-75, 91	4	3176
23	high	0.8	76-88	13	3191, 3225, 854
23	high	0.12	89-90	2	3227

Table 4-1.	Shovel	Test Densit	y of the	East Segment	of Loop	1604 Survey

shovel testing and backhoe trenching. Three streams cross the ROW six times in the central and southern portions of the East Segment. Three crossings occur along Loop 1604; from north to south, these are Salitrillo Creek, Escondido Creek, and Martinez Creek. From west to east, Martinez, Escondido, and Salitrillo Creeks cross IH 10 respectively.

Each backhoe trench reached a depth of 1.5 m below surface and extended a minimum of 5.0 m in length. We did not screen soils from these trenches but we did note the stratigraphy, artifact types, and any cultural features encountered in the back dirt and in the profiles. We profiled a segment of one wall of each backhoe trench unless the profiles reflected a great degree of homogeneity, in which case, we documented only those trenches reflecting different depositional processes. Any artifacts that we observed in the walls of the trenches were mapped but not collected. The locations of all backhoe trenches were recorded with GPS units and on the topographic quadrangle or aerial photographs.

When crew members encountered evidence of cultural materials within a trench, they inspected the materials to determine whether they were *in situ* or had been deposited during a flood. Such inspection focused on the surfaces of the chipped lithic artifacts to note any crushed or worn and micro-flaked edges that would have been created during water transport. If they did not retain the characteristics mentioned above, we assumed that the materials were deposited *in situ* and represent the remains of an archeological component.

Site Recording and Identification

For the purposes of the survey of the East Segment, a site constitutes a certain number of cultural materials or features that are at least 50 years old within a given area. The minimum requirements for the presence of cultural materials to constitute a site are as follows:

- 1. Five or more surface artifacts lie within a 15-m radius (ca. 706.9 m²) or;
- 2. A single cultural feature, such as a hearth, is observed either on surface or exposed in shovel testing, or;
- 3. A positive shovel test contains at least three artifacts within a given 10-cm level, or;
- 4. A positive shovel test contains at least five total artifacts, or;
- 5. Two positive shovel tests are located within 30 m of each other.

If evidence of cultural materials met the minimum criteria for an archeological site and was encountered in a shovel test, backhoe trench or on the surface, additional shovel tests were excavated at close intervals (10 m) to define the extent of the distribution in the cardinal directions. When necessary to define site boundaries, we excavated additional shovel tests within the limits of project boundaries, continuing to excavate shovel tests in each direction until we found no more cultural material in two consecutive shovel tests.

Site boundaries were plotted on aerial photographs and a topographic quadrangle and location data was collected with a GPS unit. The centers of newly documented sites were not marked by rebar as is typical in most surveys because the survey was on private property, and we did not want to contribute to the destruction of these sites. Sites maps were made using GPS units and the future relocation of the site will be based on GPS coordinates rather than a more permanent physical marker. Sketch maps were produced to serve as a backup for the GPS site data. Field crews completed a standardized form documenting observations of site disturbance, vegetation, estimated artifact counts by category, and presence of features. As mentioned, because this project crossed private property, field crews did not collect artifacts. Instead, archeologists analyzed the artifacts in the field and recorded observations on the site forms. All temporally diagnostic artifacts were plotted with the GPS and photographed on site. All artifacts were left on site or reburied if they came from shovel tests.

When artifacts did not meet the minimum requirement for a site, we considered them isolated finds. Isolated finds recovered from the surface were given IF numbers. These artifact locations were plotted on the maps and aerials and also recorded with a GPS unit. Isolated finds that were identified on the surface were not collected, even though they may have been temporally diagnostic.

In a few instances, positive shovel tests were encountered outside of existing ROW but the context of the materials was highly disturbed and we concluded that these areas did not warrant additional investigation. In other instances, positive shovel tests contained only fragments of burned rock and since their prehistoric association could not be guaranteed we assumed that they were the products of recent activities. Finally, in a few instances, positive shovel tests contained both burned rock and flaking debris. While these units were not defined as sites, additional fieldwork in their vicinity may be warranted to establish the limits of these material distributions.

North Segment

The impact evaluation and intensive pedestrian survey of the proposed Northern Segment of the Loop 1604 corridor included the identification of previously unsurveyed portions of the ROW, the pedestrian survey and subsurface investigation of high probability areas within previously unsurveyed portions of the ROW, and the revisit and shovel testing of previously recorded archeological sites along the entire ROW. The original SOW submitted with the Texas Antiquities Committee permit application called only for a pedestrian survey of selected high probability portions of previously unsurveyed segments of the project ROW. Unsurveyed portions of the APE identified during review of the literature and the Texas Archeological Sites Atlas are shown in Figure 3-2.

Defining Low, Moderate and High Probability Areas

Along with background research, an initial reconnaissance of the project ROW was conducted to determine the current condition of the APE and define probability areas (Figures 4-2 and 4-3). Prior to this reconnaissance, project maps were created using aerial photographs taken in 2001. Previously recorded sites were plotted on these maps, and any site outlines were displayed. During the reconnaissance, the physical conditions of the selected high probability areas along the project corridor were assessed. The crew also documented recent and ongoing construction-related disturbances along the project ROW to complement the information derived from the 2001 aerial photographs.

Definitions of probabilities along the North Segment were based in part on the level of development along this rapidly growing corridor, level of previous investigation, and proximity to water. High probability areas were defined based on geomorphic location and relationships to nearby creeks and waterways. Moreover, high probability areas were defined as minimally disturbed or undisturbed localities that have a high probability for intact historic or prehistoric archeological sites. Moderate probability areas included previously unsurveyed sections of the North Segment that exhibited signs of disturbance due to recent construction activities. Low probability areas included previously surveyed sections that did not warrant further investigations. The protocol for determining High, Moderate and Low probability areas for the North Segment differs from the East and West Segments because the North Segment was completed prior to the others and initially submitted as a separate entity.

Shovel Testing

The original Scope of Work proposed that subsurface investigations were to consist of about 70 shovel tests (STs) (4.2 miles at 16 STs/mi) and up to five backhoe trenches at creek crossing within the two high probability areas. The survey of the additional 4 miles of low and moderate probability ROW would add an additional 40 shovel tests at a rate of 10 STs/mile to be excavated along the three survey areas.

Due to pre-existing and ongoing disturbances within the project ROW, the actual field efforts were significantly scaled back compared to those proposed in the SOW. Nonetheless, all the shovel tests excavated during the survey or site relocation measured 35 cm in diameter, and when possible, extended to a depth of 60 cm. They were excavated in 10-cm levels, and all soil from each level was screened through .25" hardware cloth. A shovel test form was completed for every excavated shovel test. Data collected from each shovel test included the final excavation depth, a tally of all materials recovered, if any, from each 10-cm level, and a brief soil description. The location of every shovel test was recorded using Trimble Geo Explorer II GPS units. Shovel test locations were sketched onto topographic maps or aerial photographs as a backup to GPS provenience information.

Backhoe Trenches

The results of the shovel testing and pedestrian survey dictated the placement of backhoe trenches. Two backhoe trenches per stream crossing in areas of high probability were also proposed. Backhoe trenches were placed in areas that possessed deep soils that appeared to have cultural material extending beyond 60 cmbs. Backhoe trenches were 1.5 m deep and approximately one m wide and five m long. At least one representative segment of all trenches exhibiting unique stratigraphy was profiled. No matrix removed during mechanical trenching was screened, but sediments were inspected for artifacts upon excavation.

Site Recording and Identification

For the purposes of the archeological survey across the North Segment, the minimum requirements for the presence of cultural materials to constitute a site are the same as the East Segment: 1) Five or more surface artifacts within a 15-m radius (ca. 706.9 m²) or; 2) a single cultural feature, such as a hearth, observed either on surface or exposed in shovel testing, or; 3). a positive shovel test containing at least three artifacts within a given 10-cm level, or 4) a positive shovel test containing at least five total artifacts, or; 5) two positive shovel tests located within 30 m of each other. However, no additional sites were encountered during the North Segment survey so no further investigations for site recording were necessary.

Revisited Sites

To reassess the fifteen previously recorded sites within the bounds of the APE, CAR proposed to relocate each site using aerial photographs and field maps showing the location and outline of the sites as defined during the original surveys. Once



Figure 4-2. Map of the Low, Moderate and High probability areas of the eastern portion of the North Segment.

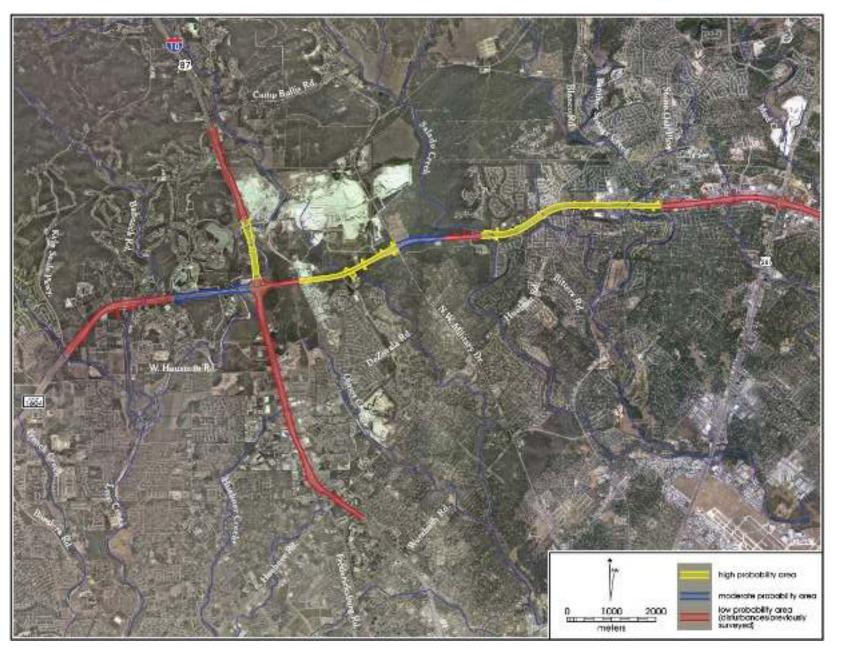


Figure 4-3. Map of the Low, Moderate and High probability areas of the western portion of the North Segment.

a site was relocated, crewmembers made written observations regarding the types of cultural materials noted on the surface, the relative density of materials, presence of artifact clusters, and temporal diagnostics. If soil and depositional context warranted (i.e., presence of undisturbed soils), three to ten shovel tests were excavated on all revisited sites to establish the depth and distribution of cultural material. No trenching was necessary and no artifacts were collected from these previously recorded sites. The provenience of modern (post-1950) trash was noted on the shovel test forms but the materials were not returned to the CAR laboratory.

The fifteen sites chosen as candidates for revisiting were determined based on the review of existing records rather than actual field visits. The number was revised to include eleven sites following the initial pedestrian survey. The levels of field investigations were conducted as warranted by the condition of each site and the nature of the deposits as found upon relocation. To re-evaluate the fifteen previously recorded sites within the bounds of the project ROW, CAR relocated each site and site boundary on aerial photographs and field maps. Following this process, it became evident that only eleven of the sites were found to warrant a revisit because their boundaries either extended into the project ROW or were within 100 ft. of it. Site 41BX52 was investigated under a separate work plan.

As originally proposed, investigations at the relocated sites were to include the excavation of six shovel tests per site and backhoe trenching if the depositional setting allowed for deep deposits and the cultural materials were present throughout the shovel tests. Overall then, the site relocation efforts called for the excavation of 60 shovel tests. Therefore, the combined total of subsurface investigations proposed for the North Segment of Loop 1604 prior to the survey was to consist of 170 shovel tests and 5 backhoe trenches. However, these proposed numbers were scaled back largely due to the level of urban development within the existing ROW along this segment of Loop 1604. Updated site forms were submitted for all previously recorded sites that were revisited.

West Segment

The intensive pedestrian survey of existing and new ROW in the West Segment of the Loop 1604 included shovel testing along two previously unsurveyed areas, backhoe trench excavation at selected stream crossings, and revisit of sites recorded within the ROW. As in the East Segment, TxDOT ROW often crossed private property along the West Segment. HTNB Corporation requested ROE from each landowner within the project area. GIS data including ROE was imported into GPS units so that surveyors were always aware of property accessibility.

Defining Low, Moderate and High Probability Areas

As in the other segments of Loop 1604, the West Segment was divided into areas of low, moderate, and high probability for possessing archeological resources, based on distance to water, level of urban development, and proximity to previously recorded historic and archeological sites (Figures 4-4).

Areas defined as having a high probability of cultural deposits were those found within 200 m of a major creek or drainage. An additional high probability area was defined by its relationship to several historic farmsteads around the intersection of Loop 1604 and Braun Road. Moderate probability areas were identified as all portions of the Survey Areas 1 and 2 that had not been seriously impacted by construction, outside the high probability areas. Low probability areas were defined as areas that have been profoundly impacted by previous or ongoing construction, either by reworking or by removal of natural sediments or the burying of such deposits under many meters of fill.

Shovel Testing

Shovel testing methods used in other segments remained the same in the West Segment. Shovel tests were at 35 cm in diameter and reached a maximum depth of 60 cmbs, if possible. The shovel tests were excavated in 10-cm levels and the deposits screened through .25" hardware cloth. All artifacts found in the shovel tests were collected since all excavation occurred within existing ROW. The number of artifacts recovered by level, as well as the type and texture of the soil encountered in each level were noted on standard shovel test forms. The location of every shovel test was recorded using Trimble Geo Explorer II GPS units. Shovel test locations were sketched onto topographic maps or aerial photographs as a backup to GPS provenience information.

High probability areas were subjected to a 100 percent pedestrian survey and were shovel tested approximately every 100 m (i. e., at a rate of approximately 16 shovel tests per mile). Moderate probability areas were subjected to a 100 percent pedestrian survey and shovel tested approximately every 160 m (i. e., at a rate of approximately 10 shovel tests per mile). Low probability area were not shovel tested.

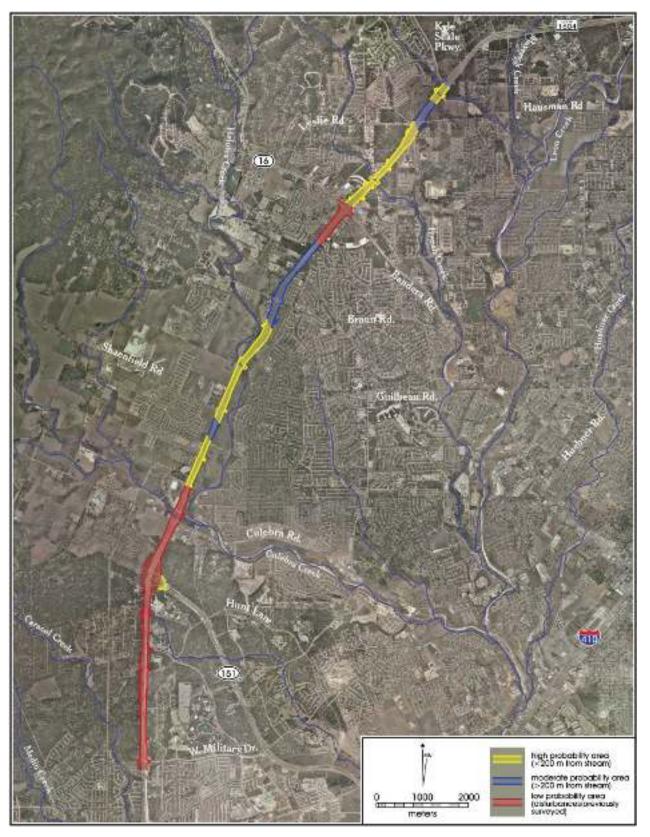


Figure 4-4. Map of the Low, Moderate and High probability areas of the West Segment.

Backhoe Trenches

Backhoe trenching was carried out at selected drainages over the entire project area because this was not performed during previous surveys. Backhoe trenches were to be carried out at all drainages crossing the West Segment of Loop 1604 within the project area whenever: 1) access to apparently undisturbed or minimally disturbed areas within the ROW was available; and 2) examination of the area near the drainage indicated that sediments deeper than 60 cmbs were likely to exist.

Only three drainages within the project area met these requirements, Huesta Creek, Helotes Creek, and a branch of Culebra Creek that crosses Highway 151. All other drainages were either inaccessible for backhoe trenching, were seriously impacted by previous construction, or had little or no significant sediment deposits associated with them. For instance, various creeks drainages south of Culebra Road to Military Drive West were examined and found to be cut into bedrock with little or no sediment deposits near them. On the other hand, no access to minimally disturbed areas near the various branches of French Creek that cross Loop 1604 north of Bandera Road prevented the excavation of backhoe trenches.

The backhoe trenches were excavated using a 60-cm (2 feet) bucket to depths that varied between 160 and 180 cmbs except BHT 4, which encountered a utility line and was terminated at ca. 60 cmbs. A profile of one wall from each trench was drawn when sediments other than modern fill were encountered. The location of every backhoe trench was recorded using Trimble Geo Explorer II GPS units.

Site Recording and Identification

For the purposes of the archeological survey across the West Segment, the minimum requirements for the presence of cultural materials to constitute a site are the same as the other segments: 1) Five or more surface artifacts within a 15-m radius (ca. 706.9 m²) or; 2) a single cultural feature, such as a hearth, observed either on surface or exposed in shovel testing, or; 3). a positive shovel test containing at least three artifacts within a given 10-cm level or; 4) a positive shovel test containing at least five total artifacts, or; 5) two positive shovel tests located within 30 m of each other. However, no additional sites were recorded in the West Segment survey so no further investigations for site recording were necessary.

When artifacts did not meet the minimum requirement for a site, we considered them isolated finds. The locations of such

artifacts were plotted on the maps and aerials and recorded with a GPS unit. Isolated finds that were identified on the surface were collected if temporally diagnostic.

Revisited Sites

Three archeological sites had been previously identified with the ROW: 41BX69, 41BX126, and 41BX1003. Two of these sites, 41BX69 and 41BX1003, were relocated for shovel testing to determine the condition of the deposits and determine NRHP and SAL eligibility. Six to ten shovel tests were proposed at 41BX69. Using the location information on the site form, CAR determined that the site was now under the eastern lanes of Loop 1604. The area near this location was revisited and examined for evidence of remnants of the site.

A series of shovel tests was also proposed around the Balscheidt House (41BX1003) to determine the extent of cultural deposits at the site. The entire site within the ROW was to be mapped and the house photo-documented. Though the Balscheidt House sits within the existing ROW, much of the property is maintained by a private owner and was inaccessible to the work originally proposed. Some surface artifacts were collected and the locations of all artifacts of interest were plotted with a GPS. 41BX126 was inaccessible to shovel testing as the site was buried under fill after previous testing. Updated site forms were submitted for all previously recorded sites that were revisited.

Laboratory Procedures

No artifacts were collected from the East and North Segments of the Loop 1604 project area, but they were collected from the West Segment. These cultural materials and records generated during the course of the project from all segments were prepared in accordance with federal regulations 36CFR part 79, and THC requirements for State-Held-in-Trust collections. Artifacts processed in the CAR laboratory were washed, air-dried, and stored in 4-mil zip-locking archivalquality bags. Acid-free labels were placed in all artifact bags. Each label displayed provenience information and a corresponding lot number laser printed or written in pencil. Artifacts were separated by class and stored in acid-free boxes identified with standard labels.

Field notes, forms, and photographs were placed in labeled archival folders. All field forms were completed in pencil. Documents and forms were printed on acid-free paper and any soiled forms were placed in archival-quality page protectors. A copy of this survey report and all digital material pertaining to the project, including a copy of this report in Adobe Acrobat[®] file format, were burned onto a CD and curated with the field notes and documents.

Chapter 5: Results of Pedestrian Survey

East Segment

Twenty-three contiguous areas were surveyed across the East Segment along Loop 1604 and IH 10 in northeast San Antonio (Figure 5-1). Two factors limited the work performed during this project prior to receiving GIS data of the construction plans and property access. The first was the unmarked project area and the second was limited access to private property. Because the project area was not marked, surveyors were unable to judge width of the project area and the individual property boundaries in some cases. Therefore, some excavations may have been performed outside the project area or on private property to which we were not granted access though surveyors made every effort to determine the

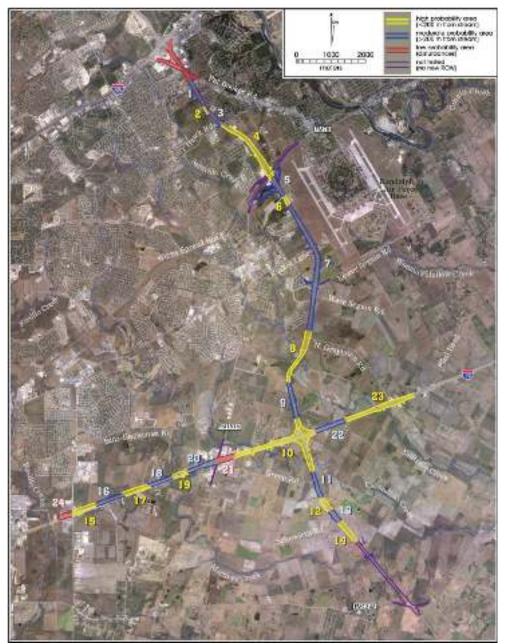


Figure 5-1. Map of the East Segment showing the Survey Areas.

correct areas and comply with property owners requests.

All of the lands proposed for subsurface testing within the project area are privately owned. Some owners did not grant right of entry to perform archeological testing. Therefore, some properties were not tested. CAR made every effort to contact owners from a list provided by HNTB before excavating with backhoes. In some cases, property ownership has changed since the list was compiled in 2005. CAR had no way of contacting the new owners to request entry and therefore did not excavate on those properties. CAR received an updated list showing ROE and attempted along with HNTB to contact individuals who allowed access contingent upon certain considerations. Such considerations include copies of the report and telephone calls prior to excavation. CAR made appropriate phone calls and assumes HNTB or TxDOT will provide any reports requested by property owners.

The results of the shovel tests, and terminal depths are presented in Table 5-1 at the end of the East Segment results. Prior to the pedestrian survey, the East Segment was divided into 24 survey areas in

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	Disturbances	FCR
1	1234	60	Negative		
2	1234	50	Negative		
3	1234	50	Negative	Modern trash, asphalt	
4	1234	60	Negative		
5	1234	45	Negative	Utility trench	
6	1685	50	Negative		
7	1685	60	Negative		
8	1685	60	Negative		
9	1685	53	Negative		
10	1685	60	Positive		Present
11	1221	60	Negative		

Table 5-1. Results of Shovel Testing in Survey Area 4

accordance with low, moderate, and high probability areas along the ROW. The discussion of the results is present by these areas.

Survey Area 1

Survey Area 1 was considered a zone of moderate probability based on 2001 aerial photographs;

however, recent developments since then prevented subsurface testing. It extends 900 m (.59 miles) along Loop 1604 in the northern portion of the project area from just north of Athenian Drive south to Palisades Drive. Only two short segments in this area will affect private property (Property 2198). These areas were not tested due to construction of housing developments since 2001 (Figure 5-2). Area 1 at the time of survey in June 2006 was developed with both multi-family residential and commercial properties.

Survey Area 2

Survey Area 2 extends from the southern boundary of Area 1, 459 m (.29 miles) south along Loop 1604. No new ROW will be acquired in this urban area; therefore, no shovel testing was performed. The existing ROW was surface inspected and no evidence of

cultural materials was found, though the area spans a high probability zone.

Survey Area 3

Survey Area 3 is also developed. It extends south from Area 2, 399 m (.25 miles) to Kitty Hawk Road. No new ROW will be acquired in this portion of the project area so no shovel tests were excavated. No artifacts or historic resources were observed in this area of Moderate Probability.

Survey Area 4

Survey Area 4 is a zone of high probability extending 2209 m (1.37 miles) south from Kitty Hawk Road (Figure 5-3). Shovel

testing began south of Meadowland Road on Property 1234 east of Loop 1604 in an area 110 m (.68 miles) long. Here, Shovel Tests 1-5 were excavated (Table 5-1). Some revealed disturbed soils while others revealed intact clay. On Property 1221 west of Loop 1604, one additional shovel test (ST 11) was excavated just north of W. Byrd Blvd. A church was under construction on this property at the time of survey.



Figure 5-2. Photograph of housing complex near corner of Shin Oak Drive, west of Loop 1604 in Survey Area 1 on Property 2198, view northwest. No shovel tests were excavated on this property due to development.



Figure 5-3. Aerial showing the location of shovel tests excavated in Survey Area 4.

Shovel testing continued in Area 4 south of W. Byrd Road west of Loop 1604 on Property 1685. Here five additional tests (STs 6-10) were excavated in a sparsely wooded area south of the Metro Plaza Shopping Center. The property is currently being cleared of vegetation. Construction activities limited testing along the southern section of the property. The New Life Fellowship Church now stands at the corner of FM 1976 and Loop 1604. Eleven shovel tests were excavated in Area 4, only Shovel Test 10 produced artifacts. These include 4 pieces of FCR in the lower 30 cm of the test. Three pieces of FCR cannot be definitively linked with prehistoric occupation. They may derive from modern or historic land clearing activities.

Survey Area 5

Survey Area 5 is in a moderate probability zone (Figure 5-1), but almost all property is restricted from the survey. Construction in this area includes some changes to the interchange with FM 78 along Kneupper Road and N. Perimeter. One negative shovel test (ST 134) was excavated on property 1705 along Kneupper Road. No shovel tests were excavated along Perimeter Road because access was limited or new ROW did not cross private property. The entire segment was 566 m (.35 miles) long.

Survey Area 6

Survey Area 6 is in a zone of high probability but contains only existing ROW and was not shovel tested. The area is 275 m long (.17 miles). The property borders Randolph Air Force Base on the east and a subdivision called Hanover Cove to the west. No cultural materials were observed during reconnaissance in this portion of the ROW.

Survey Area 7

Survey Area 7 is in a zone of moderate probability and extends from just north of Collins Road to just south of Autumn Run (Figure 5-4, 5-5). Within this 3,948 m (2.4 miles) segment, we had access to multiple sections of properties totaling 2,000 m (1.24 miles). Across these sections, we excavated fourteen shovel tests (Table 5-2). No artifacts were reported in any of the shovel tests. Soils were hard, dry, and difficult to excavate and screen. The majority of soil was troweled for artifacts, as the clay would not pass through .25' screen.

The first section crossed property 1772 and extended 400 m (.25 miles) south of Collins Road. The plans originally provided to CAR showed new ROW on these properties so Shovel Tests 20-22 were excavated. Revised construction

plans given to CAR in January 2007 showed no new ROW on this property. During the February excavations, two additional shovel tests (STs120 and 133) were excavated on property number 2152 that had previously be inaccessible. Soils were very hard, dry silt clay with some gravel inclusions. Soil color remains consistently dark throughout the tests. Shovel Test 133 contained burned rock in the upper 10 cm. Other tests were negative for cultural materials. Again, the nature of the burned rock cannot be established with certainty.

The second section in Survey Area 7 spanned 600 m (.37 miles) south from Rocket Lane. Shovel Tests 12 and 13 were excavated on the west side of Loop 1604 on Property 1052, and Shovel Tests 18 and 19 were excavated on Property 1060, east of Loop 1604 in a field. Shovel Tests 117-119 were placed on property 1299 leading to the approach with Lower Seguin/Thorton Lane. Soils were very compact, dark silty clay with gravels in the lower levels and modern trash in the upper 10 cm of Shovel Test 18. Shovel Tests 117 and 118 were positive for cultural materials containing burned rock and chipped stone in the upper 30 cm.

Adjacent to this segment, construction plans show alteration to lanes accessing Lower Seguin and Thorton Lane. We excavated three negative shovel tests (STs 114-116) across Property 1300 where a new lane will connect Lower Seguin/ Thornton Lane to Loop 1604.

The fourth section tested was between Lower Seguin Road and Ware Seguin Road, a distance of 500 m (.3 miles) on Property 1740. Shovel Tests 14 and 15 were placed east of Loop 1604 between the two roads in a rocky, plowed field. Shovel Tests 16 and 17 were placed along Lower Seguin Road in the same plowed field. The shovel tests contained very dark, silty clay with gravel inclusions. Soils were compact and sometimes mottled. The service station grounds on Property 1272 were not shovel tested.

Across Loop 1604 on Properties 1738 and 3156, we excavated four shovel tests (110-113) near the Coppergate Subdivision. Shovel Test 110 contained two pieces of burned rock at depths 40 to 60 cmbs; the other tests in this section were negative. Given the absence of other definitive prehistoric artifacts, the burned rock cannot be determined as prehistoric with any certainty.

The fifth section in Survey Area 7 that received shovel testing was near the Autumn Run subdivision on the west side of Loop 1604. The section also spanned 500 m (.3 miles) and received three shovel tests. Shovel Test 23 was placed on Property 1308, Shovel Test 24 was placed on Property 2618,

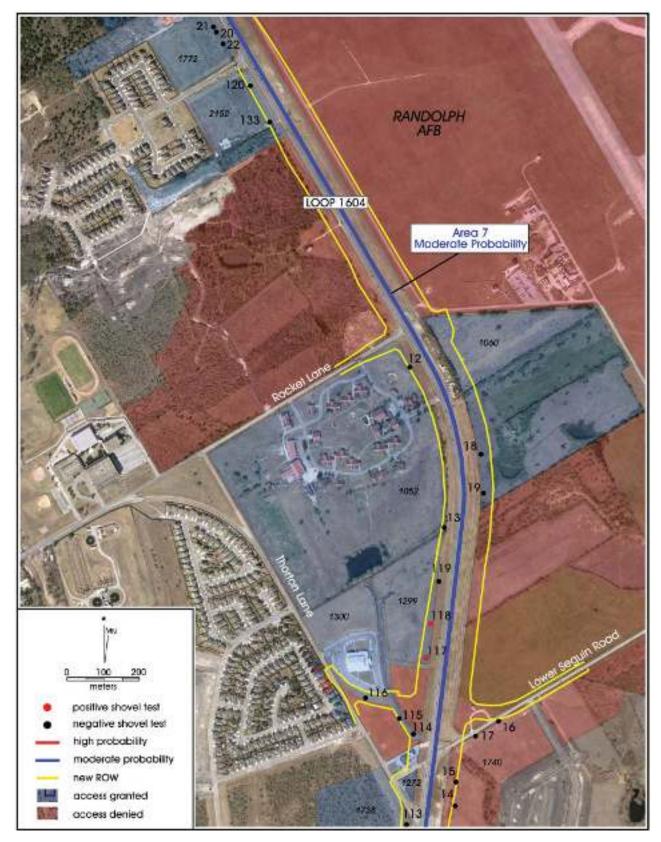


Figure 5-4. Aerial showing the location of shovel tests excavated in a portion of Survey Area 7.

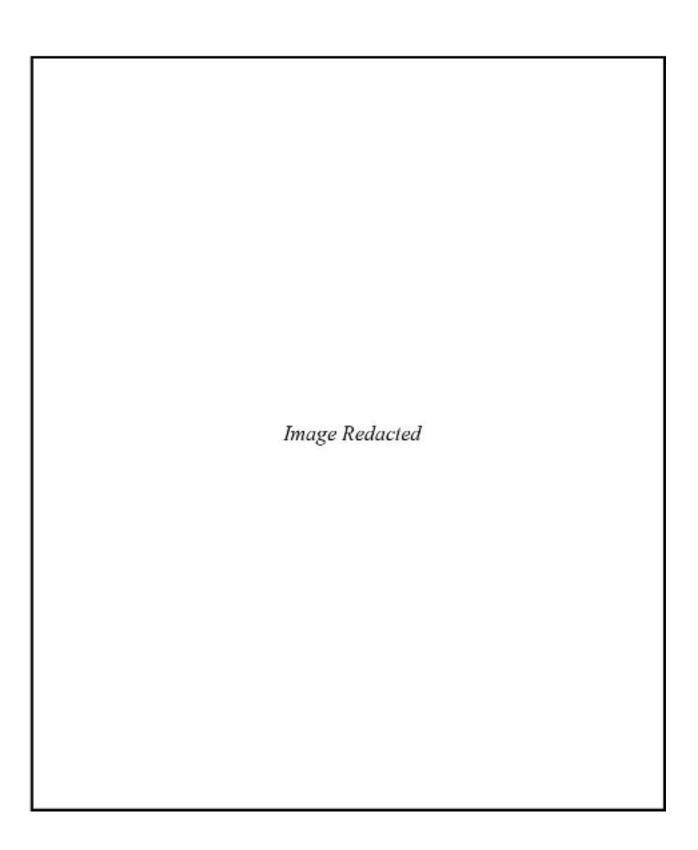


Figure 5-5. Aerial showing the location of shovel tests excavated in portions of Survey Area 7 and Survey Area 8.

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	Disturbances	FCR	Debitage
12	1052	60	Negative			
13	1052	53	Negative			
14	1740	51	Negative			
15	1740	60	Negative	Plowed		
16	1740	60	Negative			
17	1740	60	Negative			
18	1060	27	Negative			
19	1060	60	Negative			
20	1772	60	Negative			
21	1772	60	Negative			
22	1772	60	Negative			
23	1308	60	Negative			
24	2618	60	Negative			
25	1151	60	Negative			
110	3156	60	Negative		Present	
111	3156	60	Negative			
112	1738	60	Negative			
113	1738	60	Negative			
114	1300	60	Negative			
115	1300	60	Negative			
116	1300	60	Negative			
117	1299	60	Negative			Present
118	1299	60	Negative		Present	
119	1299	60	Negative			
120	2152	60	Negative	Gravel roads, dump		
133	2152	60	Negative			

Table 5-2. Results of Shovel Testing in Survey Area 7

and Shovel Test 25 was placed on Property 1151. Shovel tests revealed mottled stratigraphy and no cultural material.

Historic Resource 1

Within Survey Area 7, one historic resource stands at the corner of Ware Seguin Road and Loop 1604 (Figure 5-5, Property 2480). Surveyors were not given access to the property. The residence is outside the proposed ROW though construction plans will encroach upon the property to the north and south potentially affecting its historic integrity. Photographs taken from the existing ROW have been omitted from this report as a courtesy to the owners but are on file at CAR. As viewed from the ROW, the bungalow pre-dates 1950 and could potentially qualify for listing on the NRHP, however detailed examination of the structure was not possible. The property should be properly described if impacted by the current project as the integrity of this property may be compromised by nearby construction.

Survey Area 8

Survey Area 8 is a high probability area because of its proximity to Salitrillo Creek and Martinez Creek Dam 6-A, which cross the area on properties 3154 and 3155 (Figures 5-5 and 5-6). The area extends 1,850 m (1.14 miles) from just north of Graytown Road to just south of a gravel road access to Martinez Creek Dam No. 6-A. One backhoe trench (BHT 6) and twenty-seven shovel tests were excavated in this area (STs 26-49, 55-57, Table 5-3). The majority of the shovel tests were excavated on the west side of Loop 1604 on properties 860, 2616, 2615, 3154, 3180, 3152, though properties 2620 and 3151 also were tested on the east side of the highway. We also excavated Backhoe Trench 6 on Property 3151. We recorded one historic resource, one archeological site, and one surface isolated find in Area 8. The archaeological site and isolated find are discussed in more detail at the end of the East Segment of this chapter. Three additional shovel tests along the ROW were positive for cultural material. Shovel Tests 44, 49, and 55 all produced FCR.

South of Autumn Run subdivision, the landscape slopes gradually to the Salitrillo Creek drainage. These low-lying areas are undeveloped and overgrown in some areas. Illegal dumps are present under the bridge on both sides of the highway. South of the creek and west of Loop 1604, property owned by the San Antonio River Authority contains a large pond and soccer fields. Soils adjacent to the dam and creek east of Loop 1604 are moist, black clay. Soils at slightly higher elevations north and south of the drainage are drier but consistently dark, compact clay through all levels as they are elsewhere in the project corridor. The lower levels contain gravels and calcium carbonate inclusions.

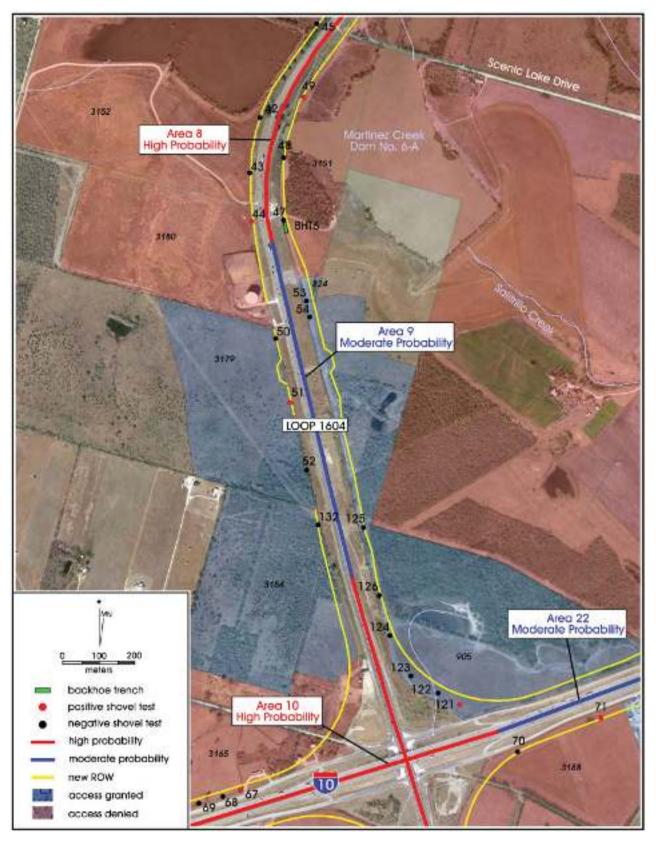


Figure 5-6. Aerial showing the location of shovel tests excavated in Survey Areas 8, 9, 10, and 22.

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	Disturbances	FCR	Debitage	Site
26	2616	60	Negative				
27	2615	60	Negative				
28	2615	60	Negative				
29	2615	60	Positive		Present	Present	41BX1692
30	2615	60	Negative				
31	2615	60	Positive		Present	Present	41BX1692
32	2615	60	Positive		Present	Present	41BX1692
33	2615	60	Positive		Present	Present	41BX1692
34	2615	60	Positive		Present		41BX1692
35	2615	60	Positive		Present		41BX1692
36	2615	60	Positive		Present		41BX1692
37	2615	60	Positive		Present		41BX1692
38	2615	60	Positive		Present		41BX1692
39	3154	56	Negative				
40	3154	60	Negative				
41	3154	60	Negative				
42	3152	60	Negative				
43	3152	60	Negative				
44	3180	60	Positive		Present		
45	3154	60	Negative				
46	3154	60	Negative				
47	3151	60	Negative	Plowed			
48	3151	60	Negative				
49	3151	60	Positive		Present		
55	2620	60	Positive		Present		
56	2620	53	Negative				
57	860	50	Negative	Plowed			8

Table 5-3	Results	of Shovel	Testing in	Survey Area 8	
	ICounts		resung m	Survey Area o	

2615 in Survey Area 8 (Figure 5-7 and 5-8). This house and one outbuilding are on the 1992 Martinez, Texas USGS topographic quadrangle, though a second outbuilding stands behind the main house. The house meets the minimum date requirements for historic properties as indicated by the Bexar County Appraisal District On-line Property Records. A search of these records shows one residential and one commercial storage building built on the property in 1950. There is no record of the second outbuilding, though from the project area, it appears comparable in age.

The primary resource is a single story residence with a side gable roof of corrugated metal. The house is sided with asbestos shingles. The windows are 1/1 double hung sash windows. The front façade was not visible from the project area. The residence appears to have lost its structural integrity, as a large portion of the rear elevation is gone. Both storage buildings sit outside the project area, one southwest and one west of the main house.

Dry conditions were problematic to our field methods and could have affected the shovel testing results. The dry soils at the surface easily fell into the test during excavation of lower levels. The hard, dry clay in the lower 30 cm were the most difficult to screen, as the matrix would not pass through a traditional .25" mesh shaker screen. The soil was broken apart by shovel, hand, or trowel and visually examined for artifacts.

Historic Resource 2

One historic property was recorded within the project boundaries in Survey Area 8. A dilapidated house and two outbuildings sit across from Graytown Road on Property Because the historic resource is in such dilapidated condition, we do not recommend further investigation of the house or standing structures and do not recommend its addition to the NRHP or SAL.

Survey Area 9

Survey Area 9 is a moderate probability area stretching from Survey Area 8, 988 m (0.61 miles) north of the IH 10 interchange (Figure 5-6). The landscape here rises from the creek at a moderate slope and soils become very rocky. Five shovel tests were excavated in this area, three west of Loop 1604 (ST 50-52) on Property 3179 and two east of the Loop (STs 53-54) on properties 824. No artifacts were observed in these shovel tests (Table 5-4).



Figure 5-7. *Historic Resource 2: A dilapidated ca 1950 residence on Graytown Road.*



Figure 5-8. Outbuildings associated with Resource 2.

Survey Area 10

Survey Area 10 covers several hundred meters at the intersection of Loop 1604 and IH 10, with sections in all directions (Figure 5-6 and 5-9). From north to south along Loop 1604, Survey Area 10 spans 1,750 m. From east to west along IH 10, Survey Area 10 crosses 2,450 m. Most of the properties in this high probability area are restricted, disturbed by development, or disturbed by

construction. The area also crosses sections where no new ROW will be taken. The most developed section of Survey Area 10 lies on IH 10 west of Loop 1604. Escondido Creek also crosses IH 10 near Property 260 and Loop 1604 near Property 205.

Sixteen shovel tests in Survey Area 10 were placed on properties 905, 3188, 3165, 823, 3184, 2945, 1172, 1168, and 2191 (Table 5-5). The first section of shovel testing occurred along both sides of Loop 1604 north of the intersection with IH 10. Shovel Tests 121-126 were excavated on property 905. Shovel Test 121 contained one flake and one piece of burned rock in Level 6 (50 to 60 cmbs). No artifacts were recovered from Shovel Tests 122 and 123. Dense gravels and bedrock were uncovered in Shovel Test 123. This test terminated at 40 cmbs. Shovel Tests 124-126 were all negative for cultural material. Shovel Test 132, also negative, was placed on property 3184. South of IH 10 along Loop 1604, we excavated two shovel tests (Shovel Tests 130-131) on property 2191. One piece of burned rock was recovered from Level 6 in Shovel Test 131.

Along IH 10, Shovel Tests 67-69 were placed in a plowed field on Property 3165, west of Loop 1604 (See Figure 5-10). Soil here was very rocky, dark compact silt clay. Though soil was difficult to excavate and screen, we were able to recover some artifacts. Shovel Test 67 produced one piece of FCR from Level 3. Shovel Tests 92-94 were placed on Property 2945 (See Figure 5-10). These were in a pasture with very hard rocky soils. Shovel Test 92 produced one piece of FCR from Level 1, one piece of debitage and one piece of FCR from Level 2, and one piece of debitage from Level 3. Shovel Test 93

contained only one piece of FCR from Level 1. Shovel Test 94 contained one piece of FCR in Level 2, one possible piece of debitage from Level 5.

Shovel Tests 95-97 were placed in pastures on Property 1172. Shovel Test 95 produced one piece of FCR from the surface of Level 1. Shovel Test 97 produced one piece of FCR from

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	FCR
50	3179	60	Negative	
51	3179	60	Positive	Present
52	3179	60	Negative	
53	824	32	Negative	
54	824	50	Negative	
132	3184	60	Negative	

Table 5-4. Results of Shovel Testing in Survey Area 9

Level 2. Soils in Area 10 become rockier as they approach Escondido Creek, which borders the eastern edge of Property 1172. Shovel Tests 95-96 had very little soil matrix.

Shovel Tests 107 and 108 were excavated on Property 823 north of IH 10 adjacent to a fenced pasture. Only one piece of burned rock was recovered from Level 3 of Shovel Test 107. Shovel Test 109 was placed on Property 1586 at the corner of Lincoln Wood and IH 10 frontage road. The shovel test was negative for cultural materials. The soil was mottled and appeared to be disturbed.

Because much of Survey Area 10 west of Loop 1604 is commercially developed, many properties to which we were granted access were not shovel tested. Figure 5-11 is an example of a property to which we had access but did not excavate because of the level of development. In most of these cases, we were able to test on the opposite side of the highway.

Site 41BX1320, a previously recorded historic site lies in the boundaries of Survey Area 10. We did not revisit the site because it lies on restricted private property. However, as seen from the existing ROW, no structures remain standing.

Survey Areas 11 and 12

Property owners in these portions did not grant us access to their lands; therefore, we did not excavate shovel tests (Figure 5-9). Land in these areas is farmed.

Survey Area 13

This moderate probability area is 386 m (.23 miles) long (Figure 5-9). We were only granted permission to enter Property 1092, which fronts 150 m of Loop 1604 south from Schuwirth Road. One shovel test (ST 58) was excavated here on the west side of Loop 1604. Fields in this area and in surrounding areas are planted with various crops. At the time of survey, farmers were baling hay. Only pieces of FCR were recovered from Shovel Test 58 in Levels 3-6. Soils in the fields south of IH 10 contain some gravels and calcium carbonate inclusions. Eventually, we were granted permission to enter property 1084 (.15 miles of Loop 1604 frontage) where we excavated two Shovel Tests 98 and 104 (Table 5-6). Shovel Test 98 contained a single primary flake in Level 3 (20-30 cmbs), and Shovel Test 104 contained one piece of burned rock and one piece of debitage at depths 40-60 cmbs.

Survey Area 14

Eight shovel tests were excavated along both sides of Loop 1604 in Survey Area 14 (Table 5-7); three of these were positive

Table 5-5. Results of Shovel Testing in Survey Area 10

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	Disturbances	FCR	Debitage	Historic Artifacts
67	3165	60	Positive	Plowed	Present		
68	3165	60	Negative	Plowed			
69	3165	40	Negative	Plowed			
92	2945	60	Positive		Present	Present	
93	2945	60	Positive		Present		
94	2945	60	Positive			Present	
95	1172	30	Positive		Present		
96	1172	30	Negative				
97	1172	60	Positive		Present		
107	823	60	Positive		Present		
108	823	60	Negative				
109	1586	60	Negative				
121	905	60	Positive		Present		Present
122	905	60	Negative				
123	905	40	Negative				
124	905	50	Negative				
125	905	60	Negative				
126	905	60	Negative				
130	2191	60	Negative				
131	2191	60	Positive		Present		

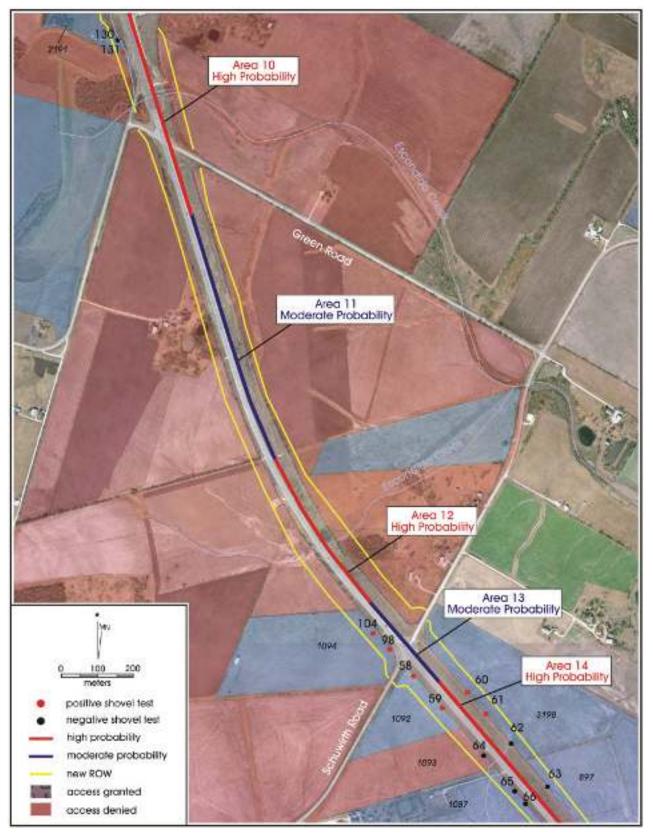


Figure 5-9. Aerial showing the location of shovel tests excavated in Survey Areas 10-14.

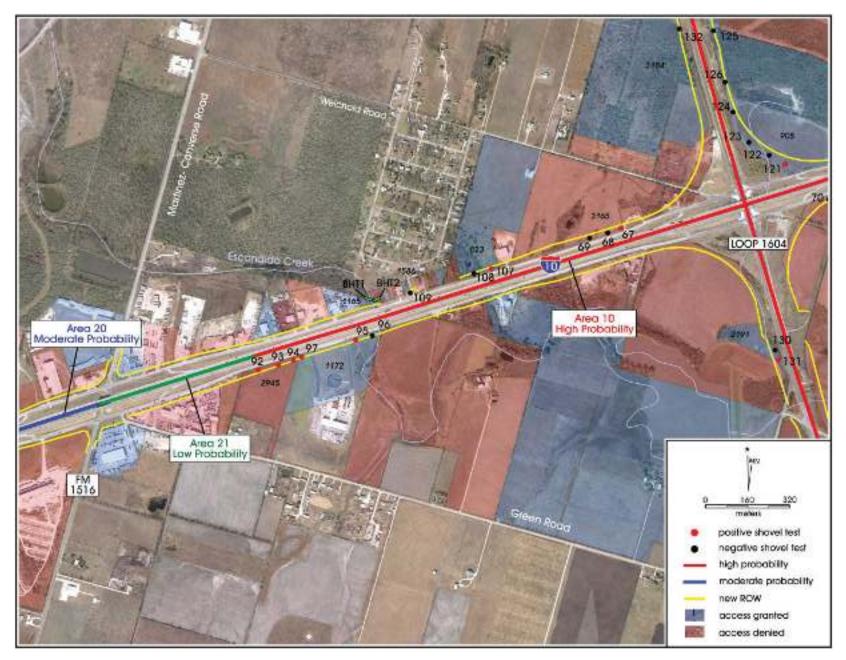


Figure 5-10. Aerial showing the location of shovel tests and backhoe trenches within Survey Areas 10, 20 and 21.



Figure 5-11. Photograph of Property 1171 in Survey Area 10. The property was not shovel tested. Facing west.

Table 5-6. Results of Shovel Testing in Survey Area 13

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	Disturbances	FCR	Debitage
58	1092	60	Positive	Plowed	Present	
98	1084	6	Positive			Present
104	1084	60	Positive		Present	8

Table 5-7. Results of Shovel Testing in Survey Area 14

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	Disturbances	FCR
59	1092	59	Positive	Plowed	Present
60	3198	60	Positive	Plowed	Present
61	3198	60	Positive	Plowed	Present
62	3198	60	Negative	Plowed	
63	897	60	Negative	Plowed	
64	1093	60	Negative		
65	1087	60	Negative		
66	1087	60	Negative		

for cultural materials. This section is 800 m (.49 miles) long, extending from just south of Schuwirth (Figure 5-9). Shovel Test 59 was placed on Property 1092, Shovel Test 64 was placed on Property 1093, and Shovel Tests 65-66 were

Survey Area 16

Survey Area 16 is a moderate probability area extending east 779 m (.48 miles) from Survey Area 15 (Figure 5-12). No shovel tests were excavated in this area. Construction plans show limited new ROW here. Private properties that will be affected by the construction were not suitable for shovel testing. They included auto parts junk yards and parking lots.

Survey Area 17

Survey Area 17 is a high probability area stretching 1147 m (.7 miles) east from Survey Area 16 (Figure 5-12). Seven shovel tests were excavated here (Shovel Tests 99-103, 105-

106, Table 5-9). Shovel Tests 103 and 105 were positive for cultural materials. Shovel Tests 99-103 were placed on property 2103. Shovel Test 103 contained one piece of debitage and burned rock. Shovel Test 105 was placed on property 1000

placed on Property 1087 along the west side of Loop 1604. Along the east side, Shovel Tests 60-62 were placed on Property 3198. Shovel Test 63 was placed on Property 897. Soils were hard, dry silt clay, and very dark in color. Shovel Test 59 contained one piece of FCR in Levels 3, 5, and 6 each. Shovel Test 60 contained three pieces FCR in Levels 2 and 3, and Shovel Test 61 contained one piece of FCR in Level 3. All fields contained row crops. Plowing activities most certainly disturbed the deposits within the fields.

Survey Area 15

Survey Area 15 is a high probability area 720 m (.45 miles) long on the western end of the IH 10 APE (Figure 5-12). In this area we had access to properties 3434 and 979. Three shovel tests were excavated within Survey Area 15 on the south side of IH 10 (Table 5-8). These were excavated near a landfill in thick brush along the fence line of the IH 10 frontage road. The project area is very narrow across this property. Shovel Tests 127-129 were excavated through soft clay. The upper 20 cm of Shovel Test 127 contained unidentified glass. Shovel Test 128 contained only unidentified metal fragments in the upper 10 cm. Shovel Test 129 contained two pieces of burned rock at the surface.

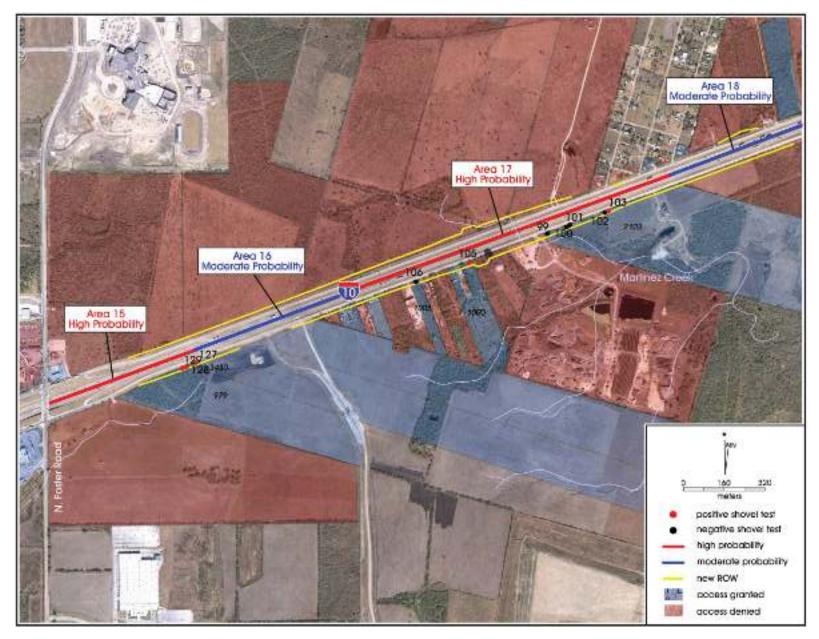


Figure 5-12. Aerial showing the location of shovel tests excavated in Survey Areas 15-18.

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	FCR	Historic Artifacts
127	3430	60	Positive		Present
128	979	60	Positive		Present
129	979	60	Positive	Present	

Table 5-8. Results of Shovel Testing in Survey Area 15

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	FCR	Debitage
99	2103	60	Negative		
100	2103	60	Negative		
101	2103	60	Negative		
102	2103	60	Negative		
103	2103	60	Positive	Present	Present
105	1000	60	Positive	Present	Present
106	1006	60	Negative		

and contained one piece of burned rock and two pieces of debitage in the upper 20 cm. Shovel Test 106 was placed on property 1006.

Survey Area 18

Survey Area 18 is a moderate probability area where no new ROW crosses property to which we had access. This area stretches from Survey Area 17 460 m (.28 miles) to the east (Figure 5-12).

Survey Area 19

Survey Area 19 is a high probability area that crosses Martinez Creek. We were not allowed access to any properties where new ROW will be acquired, so no backhoe trenching or shovel testing occurred in this area.

Survey Area 20

Survey Area 20 is a moderate probability area that spans 828 m (.5 miles) between Survey Area 10 and Foster Road. Again, we were not allowed access to any properties where new ROW will be acquired so no shovel testing occurred in this area (Figure 5-10).

Survey Area 21

Survey Area 21 is a low probability area spanning commercial properties. Truck repair shops and gas stations sit at the

corner of the intersection of FM 1516 and IH 10. Because of the level of development, no shovel tests were excavated in this area (Figure 5-10).

Survey Area 22

Survey Area 22 is a moderate probability area extending 1,120 m (.7 miles) east along IH 10 from the interchange with Loop 1604 (Figure 5-13). The area crosses land sparsely developed with some commercial properties. Weichold Road intersects the southern IH 10 access road twice. Between these intersections, we excavated two shovel tests (ST 71-72) on Properties 3188 and 876 (Table 5-10). East of Weichold and Scenic Lake Drive, we excavated an additional four shovel tests. Tests 73-75 were placed on the south side of the highway on Property 3176; Shovel Test 91 was placed in a field on the north side of IH 10 on Property 2473. Shovel Tests 71-73 were positive for cultural materials. Shovel Test 73 contained only FCR while the other two were positive for both FCR and debitage.

Survey Area 23

This area is considered a high probability area because of its proximity to Salitrillo Creek (Figure 5-13). It extends 1,992 m (1.2 miles) from the western property boundary of Property 3191, crossing farmland and sparse commercial developments. Shovel testing revealed a mixed deposit with modern artifacts within the upper 30 cm but prehistoric artifacts present down to 60 cmbs (Table 5-11). Shovel tests within the fields were entirely disturbed from plowing. Fifteen shovel tests were excavated in two separate sections of the area, one long transect south of the interstate and one short section on the north side. We excavated ten tests south of the interstate across the fields of Property 3191 west of the creek (STs 76-85). Shovel Tests 80, 81, 82, 84, and 85 were all positive for prehistoric artifacts. Shovel Test 80 contained FCR in the upper 30 cm. Shovel Test 81 contained both debitage and burned rock within the upper 40 cm of the excavation. Shovel Test 82 revealed a mixed deposit with FCR, debitage and plastic within the upper 30 cm of the excavation. Shovel Test 84 contained burned rock and debitage up to depths of 60 cmbs. Shovel Test 85 contained FCR in Levels 3 and 4.

Three additional tests were excavated south of the interstate between the creek and South Graytown Road (STs 86-88). Shovel Tests 86-87 were placed near the creek in an overgrown area littered with trash on Property 3225. The upper 10 cm of Shovel Test 86 were disturbed. Level 2 contained FCR, Level Image Redacted

Figure 5-13. Aerial showing the location of shovel tests and backhoe trenches within Survey Areas 10, 22 and 23.

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Table 5-10. Results of Shovel	Testing in Survey Area 22
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Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	Disturbances	FCR	Debitage
70	3188	60	Negative			
71	3188	60	Positive		Present	Present
72	876	60	Positive		Present	Present
73	3176	60	Positive	Plowed	Present	
74	3176	60	Negative	Plowed		
75	3176	60	Positive	Plowed	Present	

Table 5-11. Results of Shovel Testing in Survey Area 23

Shovel Test	Property #	Terminal Depth (cmbs)	Cultural Materials	Disturbances	FCR	Debitage	Historic Artifacts
76	3191	60	Negative	Plowed			
77	3191	60	Negative	Plowed			
78	3191	50	Negative	Plowed			
79	3191	60	Negative	Plowed			
80	3191	60	Positive	Plowed	Present		
81	3191	60	Positive	Plowed	Present	Present	
82	3191	60	Positive	Plowed	Present	Present	
83	3191	60	Negative	Plowed			
84	3191	60	Positive	Plowed	Present	Present	
85	3191	60	Positive	Plowed	Present		
86	3225	60	Positive		Present		Present
87	3225	30	Negative	Unidentifiable Object			
88	854	60	Positive		Present		
89	3227	60	Positive			Present	
90	3227	30	Negative				
91	2473	60	Negative	Plowed	Present	Present	

Backhoe Trenching

We excavated two backhoe trenches within Survey Area 10 on Property 1168, north of IH 10 at Escondido Creek (Figure 5-10). Backhoe Trench 1 was placed on the west bank of the creek in an area covered by small trees and undergrowth. This exposed 150 cm of gravels over clay. Backhoe Trench 2 was placed on the east bank of the creek (Figure 5-10). This trench revealed 1.0 m of silty clay over the gravels similar to those seen in Backhoe Trench 1. No artifacts were seen in either trench.

Three backhoe trenches were excavated within Survey Area 23 (Figure 5-13). Backhoe Trench 3 was placed on Property 3225, west of Salitrillo Creek in an open pasture. Here, the alluvium was blocky, silty clay with calcium carbonate filaments and pebbles present to the bottom of the exposure. A diffuse boundary and color change was noted at 90 cmbs where the matrix changed from a very dark brown to a very light brown. No artifacts were seen in the backdirt or walls of Backhoe Trench 3.

Backhoe Trench 4 was placed on the north side of IH 10 on Property 2472, west of Salitrillo Creek in a plowed field (Figure 5-13). The entire profile revealed blocky clay with gravel inclusions. The upper 40 cm

3 contained one piece of aqua glass and one piece of burned rock. Burned rock was also noted in Level 5 of this shovel test. The deposit is mixed at least in the upper 30 cm. Shovel Test 87 contained a large unidentified wooden object that prevented excavation beyond 30 cm. The area could have been an old home site or historic dump. One isolated find, a broken bottle was recorded in this area. Backhoe trenches on Property 3225 could help determine the level of integrity in this area; however, under private ownership we were unable to test east of Escondido Creek, south of IH 10. Shovel Test 88 was placed on Property 854 with FCR in Level 3.

Two more shovel tests (ST 89-90) were placed on Property 3227. The soils here were very hard to excavate. No cultural materials were recovered from these.

contained debitage and FCR. A gradual color change begins approximately 80 cmbs. No artifacts were seen in the lower, grayish brown horizon (Figure 5-14), though the area was designated Site 41BX1693 based on a surface scatter.

Backhoe Trench 5 was also placed on Property 2472 on the east side of Salitrillo Creek in a plowed field (Figure 5-13). We saw no artifacts within the backhoe trench or on the surface nearby. Stratigraphy of Backhoe Trench 5 was similar to Backhoe Trench 4 but contained pockets of gravel.

Backhoe Trench 6 was placed on Property 3151, south of Martinez Creek Dam and Salitrillo Creek, east of Loop 1604. This trench revealed silty clay above clay loam and a sandy gravel lens. The lower 80 cm of the trench exposed dark brown clay with gravel. Vertical cracks were present down to 60 cm despite recent rains. Some artifacts were noted in the profile (Figure 5-15). Debitage pieces were battered indicating that they incurred some damage during secondary deposition. Shovel tests excavated nearby were negative.

Sites Recorded

Site 41BX1692

In Survey Area 8, south of the historic house across from Graytown Road is a field with prickly pear, mesquite, Mexican Retama, and various grasses. Surveyors in this area identified Site 41BX1692 by a sparse scattering of FCR on the surface and subsurface FCR and debitage in shovel tests on property 2615. Shovel tests were placed inside the 50 feet of proposed new ROW to define the site boundaries (Figure 5-16 and 5-17). Based on these results, the site likely extends 80 m north to south and beyond the area currently available for testing to the west and east. The last positive shovel test to the west contained subsurface artifacts (ST 32). We could not excavate further east or west without entering the existing ROW or exiting the project area. Nine positive shovel tests were excavated on a north-south axis along the fence line. Shovel testing continued until two negative tests were encountered to the north (ST 27 and 28) and south (ST 30 and 39).

The 176 lithic artifacts observed in the positive shovel tests consisted of small debitage (<.50 in) and FCR (Table 5-12). No temporally diagnostic artifacts or tools were found. Sixteen pieces of debitage and 160 pieces of FCR were observed. The debitage was confined to STs 29, 31, 32, and 33, while FCR was present in all positive shovel tests. While the majority of the artifacts were noted in the upper 30 cm of the shovel tests, both debitage (n=8) and FCR (n=57) were recovered at depths between 30 and 60 cm. Artifact density and distribution was projected for the site based on the recovery of artifacts from the shovel tests (Figure 5-18). Shovel tests produced a concentration of artifacts in the center and at the edges of the site boundary. Tests with the highest number of artifacts were in the center of our boundary (ST 31 and 32), the second densest shovel tests were at the extreme ends of our boundary (ST 36 and 38), while the lowest positive recovery came between the center and the edge (ST 33-35, 37). As mentioned previously, all artifacts found within the shovel tests were reburied after documentation.

Soils across the site were similar to those seen elsewhere in the project area, very compact, dry, blocky silt clay with

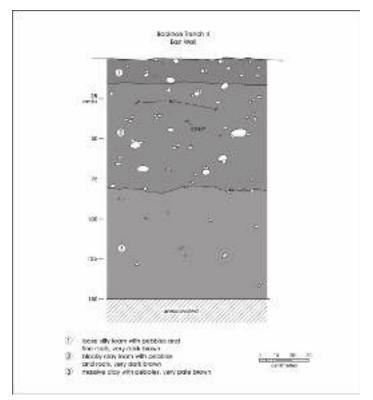


Figure 5-14. Profile drawing of the east wall of Backhoe Trench 4.

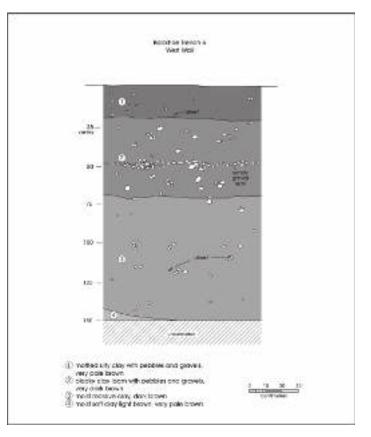


Figure 5-15. Profile of the west wall of Backhoe Trench 6.



Figure 5-16. Photograph of Site 41BX1692. Facing west.

Image Redacted

Figure 5-17. Map of Site 41BX1692 showing location of positive shovel tests and approximate boundaries.

ST#	2	9	3	1	3	2	3	3	3	4	3	5	3	6	3	7	3	8	
Level	Debitage	FCR	Total																
1	0	3		2		3	1	1		3		3		8		2		21	47
2	2	5		11	4	4	1	1		2		2		5		1		3	41
3	0	2		11		2	0	3						5					23
4	0	1	3	17	1	4				1				14					41
5	0	0		6	2	1													9
6	0	0	1	11		2	1												15
Total	2	11	4	58	7	16	3	5		6		5		32		3		24	176
Total per ST	1	3	6	2	2	3	8	3	(3	Į	5	3	2	3	3	2	4	

Table 5-12. Results of Shovel Testing at Site 41BX1692



Site 41BX1693

In Survey Area 23 on Property 2472, we recorded Site 41BX1693. Within this plowed field after heavy rains, we observed pieces of burned rock across a 100 m long area from the west bank of Salitrillo Creek (Figures 5-19, and 5-20). Backhoe Trench 4 showed similar artifacts within the plow zone (Figure 5-14). These artifacts are in a mixed context as the field has been plowed. No artifacts were seen in the lower stratum of the backhoe trench, which begins approximately 80 cmbs. Artifacts in the profile wall were within the upper 40 cm of clay. At the request of the property owners, minimal excavation occurred on this property. Because we were able to discern artifacts within the wall of the backhoe trench and because we were able to see artifacts on the surface of the field, we did not excavate additional shovel tests to determine the site boundaries. The depth of the deposit seen in the trench (40 cmbs) and the horizontal extent of the surface artifacts serve to determine the site boundary within the project area while also complying with owner concerns. The extent the lithic debris extends outside the project area is unknown.

Figure 5-18. Projected density of artifacts based on shovel testing at Site 41BX1692. Map at left represents chipped stone artifacts recovered and the map at right illustrates burned rock.

calcium carbonate inclusions in the lower 20 cm. The change in stratigraphy observed in these excavations was the degree of hardness. There is a noticeable difference between the hard upper 30 cm and the very hard and compact lower 30 cm. South of Salitrillo Creek on SARA property, the soil contains a higher percentage of gravel.

Isolated Finds

Surface Isolated Find 1

One isolated find was found near Shovel Test 40 in Survey Area 8. This medium early stage biface showed flaking on both sides with 40 percent cortex remaining. The piece was



Figure 5-19. Photograph of Site 41BX1693, view to west.



Figure 5-20. Sketch map of Site 41BX1693.

not diagnostic and not photographed. Shovel Test 40 was excavated to 60 cm but contained no artifacts. The biface was left on the property.

Surface Isolated Find 2

One amethyst glass bottle neck was found near Shovel Test 86 in Survey Area 23 (Figure 5-21). When the bottle was produced, manganese was added to decolorize the glass producing a clear, colorless bottle. After long exposure to sunlight, the manganese turned the glass purple. Bottles manufactured with this technology date between the late 1880s and ca. 1914 with some rare exceptions (Lockhart 2006b). The location of the bottle neck is within an area littered with modern refuse.

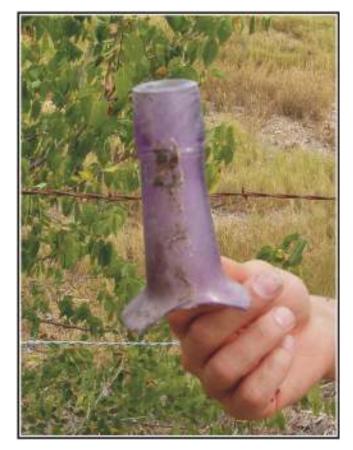


Figure 5-21. Photograph of Isolated Find 2, amethyst glass bottleneck, ca. 1880s-1914.

North Segment

CAR performed a 100 percent pedestrian archeological survey of two high probability areas within the previously unsurveyed segments of the project corridor (Survey Areas 1 and 2) and also surveyed three additional previously unsurveyed low to moderate probability segments of existing ROW (Survey Areas 3-5) (Figures 5-22 and 5-23). In addition, localities near ten previously recorded archeological sites were also revisited to ascertain whether cultural materials from these sites extend into the project ROW. Segments of IH 10 and IH 35 north of the Loop 1604 corridor were also examined. In total, seven survey and reconnaissance areas were visited by CAR along the North Segment of Loop 1604.

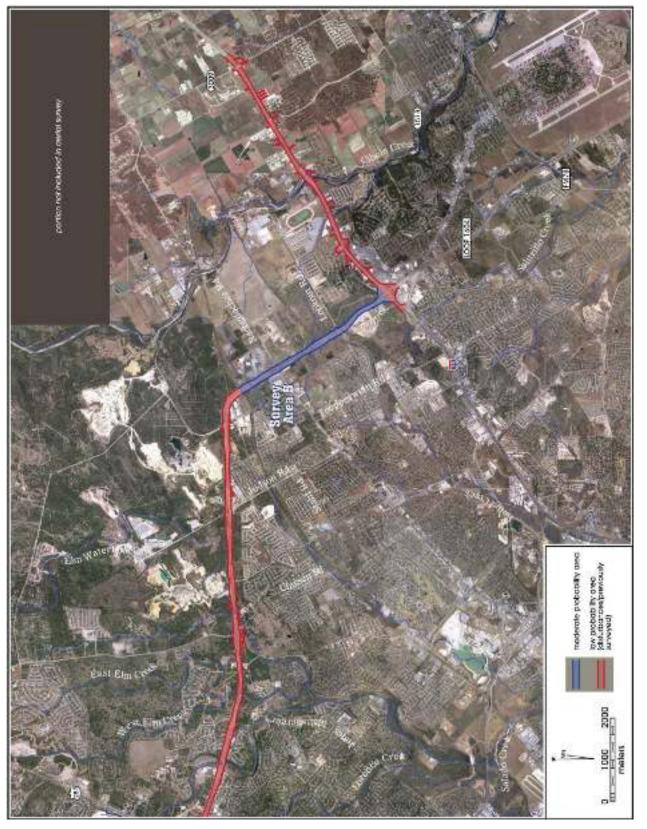
The combined length of the two high probability survey areas (Survey Areas 1 and 2) measured 6.7 km (4.2 mi.). Because the survey of Survey Areas 1 and 2 was completed ahead of schedule, in consultation with the client, TxDOT and THC, the three remaining previously unsurveyed segments of the project ROW were added to our pedestrian survey. This ensured that 100 percent of the project ROW would be surveyed following the completion of the fieldwork. These new areas were later identified as Survey Area 3, Survey Area 4, and Survey Area 5. Their combined length amounts to 6.45 km or approximately 4 mi.

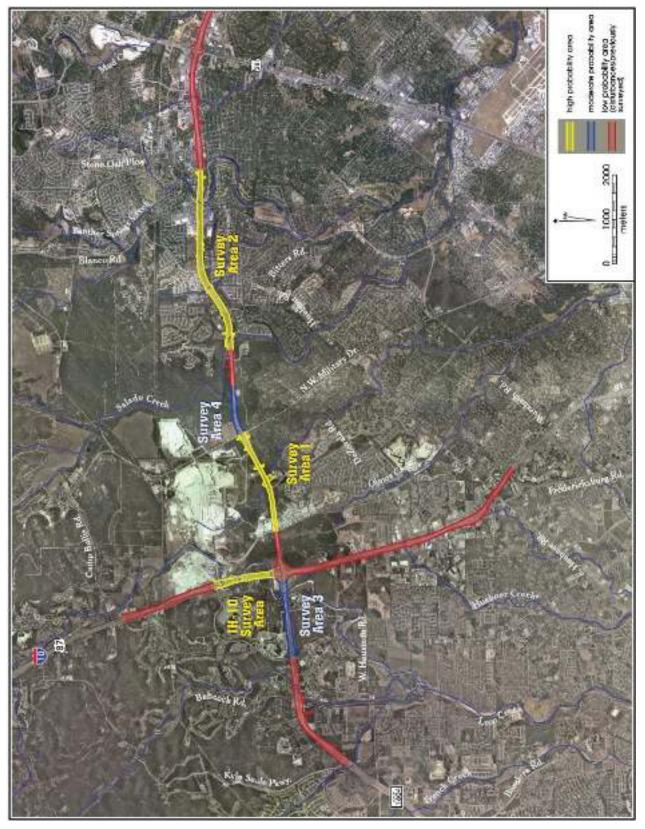
Fifty shovel tests were excavated within the two high probability areas. Twenty-two fell in Survey Area 1 and the rest (n=28) were excavated in Survey Area 2. Only 12 additional shovel tests were excavated; all 12 were excavated in Survey Area 5. The initial focus only on high probability areas left three additional areas of previously unsurveyed ROW within the project boundaries. All three of these had been categorized as either low or moderate probability areas due to development-induced disturbances and/or distances exceeding one kilometer from creek crossings.

A brief reconnaissance of several Leon Creek crossings was conducted to determine the need and extent of testing along IH 10. The first crossing of Leon Creek examined was closest to the IH 10 and Loop 1604 interchange and appeared to have the most potential. Backhoe trenching was conducted on one side of IH 10 on the north bank of Leon Creek at the first crossing. Five backhoe trenches were excavated along the westbound lanes of IH 10 to determine if any cultural resources are present in the area. No subsurface testing was necessary along the IH 35 corridor.

Survey Area 1

Survey Area 1 is approximately 2.5 km in length, beginning just west of the intersection of the Union Pacific Railroad and Loop 1604 and extending to the intersection of N. W. Military Drive and Loop 1604. (Figure 5-24). Twenty-two shovel tests were excavated within Survey Area 1. Of these, seven (32 percent) were excavated on or near known sites (see Revisited Sites section). The terminal depths and the deposits encountered in the 22 shovel tests are presented in Table 5-13. Only one (ST 61) of the 22 shovel tests





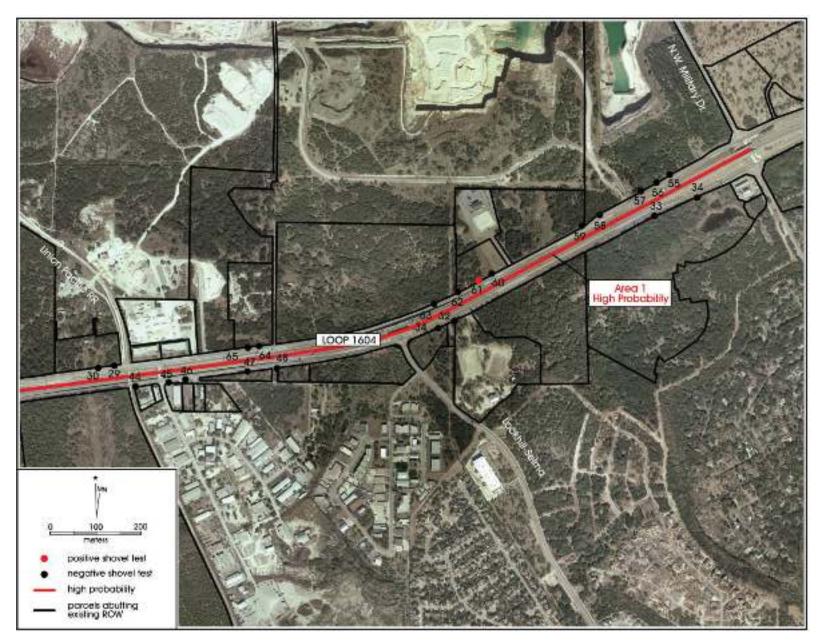


Figure 5-24. Aerial showing the location of shovel tests in Survey Area 1, from just west of Union Pacific Railroad to N. W. Military Drive.

Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts
29	11	Road Base	No
30	26	Road Base	No
31	60	Fill	No
32	46	Road Base	No
33	15	Bedrock	No
34	60	Road Base	No
44	6	Asphalt	No
45	40	Road Base	No
46	10	Limestone Rocks	No
47	20	Sand	No
48	30	Sand	No
55	30	Bedrock	No
56	30	Limestone Rocks	No
57	45	Fill and Bedrock	No
58	30	Sand	No
59	35	Bedrock	No
60	25	Bedrock	No
61	60	None	Yes
62	40	Bedrock	No
63	15	Bedrock	No
64	27	Bedrock	No
65	30	Bedrock	No

Table 5-13. Results of Shovel Testing in Survey Area 1

produced cultural material. Shovel Test 61 is located along the westbound access road of Loop 1604, just west of the entrance to the H.O.P.E. Center. The shovel test produced fragments (n<10) of modern brown glass at 10-20 cmbs. Brown glass fragments are commonly noted on the surface throughout the APE. They likely derive from beer bottles that are commonly discarded along the highway.

Many areas of the ROW within Survey Area 1 were marked by exposed bedrock that prevented crews from excavating shovel tests at proposed intervals. In other areas of the ROW, heavily compacted caliche road base was exposed on the surface and appears to represent a layer of road base that extends outside of the asphalt traffic lanes and shoulders of Loop 1604. Several areas marked by posted signs, manholes, fire hydrants, and t-bars bare evidence of having been impacted by the installation of utilities within the easement of Loop 1604. Cement-lined drainage ditches located adjacent to the access roads also prevented subsurface investigations. Still other areas of the ROW have been impacted by extensive landscaping and the construction of parking lots and sidewalks. Shovel tests were excavated in areas of the ROW where such obstacles were not an impediment and where undisturbed deposits were noted during the initial reconnaissance.

Along eastbound Loop 1604, shovel testing was attempted between the Union Pacific Railroad and a dirt road that connected to Bacon Road. Shovel testing revealed extensive disturbance resulting from construction activities in the area. Shovel Test 44 encountered asphalt in the first 10 cm of excavation. Shovel Tests 47 and 48 encountered sand and were terminated because it was apparent that the sand was fill within a utility trench. From Shovel Test 48 to Lockhill Selma Road, bedrock was exposed on the surface along the ROW, with a section cut back to make way for the access road and its shoulder. Past Lockhill Selma, a small section of the ROW allowed for the excavation of two shovel tests (ST 31 and 32). A large section of the ROW east of Shovel Test 32 consisted of a cement-lined drainage. Another cementlined drainage was located just west of the gas station at N.W. Military. Two shovel tests were excavated west of the gas station. Shovel Test 33 uncovered bedrock at 15 cmbs. Shovel Test 34 encountered road base material at approximately 20 cmbs. The shovel test was excavated to 60 cm without passing through the road base into natural soils.

Along the westbound access road of Loop 1604, shovel testing was conducted in areas where the previously discussed impediments did not prohibit subsurface testing. Two shovel tests (STs 29 and 30) were excavated immediately west of the railroad tracks. CAR initially hoped that given their general proximity to 41BX39, these shovel tests would reveal cultural materials. Instead, the shovel tests encountered compact caliche road base at 11 and 26 cmbs, respectively, and were terminated. The section just east of the Union Pacific Railroad had been developed since 2001 and a shopping center fronts approximately 250 m of the ROW. Pavement and asphalt prohibited testing in the area.

Further east, Shovel Tests 64 and 65 were excavated just west of Lou Mel Road and near 41BX38. Both shovel tests encountered bedrock between 25 and 30 cmbs. Shovel Tests 60 through 63 were excavated along the westbound access road in front of the H.O.P.E. Center. Shovel Test 61 appeared to have deep soils, though no cultural material was encountered during its excavation. The remaining shovel tests encountered bedrock at differing depths.

Shovel Tests 55 through 59 were excavated west of N.W. Military Drive. Shovel Test 58 encountered sand at 30 cmbs and was terminated assuming that the test was placed over an unmarked utility line. Shovel Test 57 uncovered large limestone rocks that prevented further progress past 45 cmbs.

The remainder of the shovel tests in this section hit bedrock between 30 and 45 cmbs.

Survey Area 2

Survey Area 2 is the portion of the ROW that runs from the west bank of Salado Creek to Sonterra Place, a small road intersecting the westbound access road of Loop 1604. This section encompasses both possible locations of 41BX65. Survey Area 2 is approximately 4.5 km in length. A total of 28 shovel tests were excavated in this section of the survey (Figures 5-25 and Figure 5-26). Twelve (43 percent) of these were excavated on or in the vicinity of previously documented archeological sites (see Revisited Sites section). The results of the shovel testing are presented in Table 5-14.

Nine shovel tests (17-19, 35-36, and 66-69) were excavated on the eastbound access road of Loop 1604. Shovel Test 17 was excavated to a depth of 40 cmbs before encountering road base. Shovel Tests 18 and 19 were terminated at 10 and 13 cmbs, respectively, upon encountering bedrock and road base. Shovel Tests 35 and 36 were excavated east of Bitters Road. Both revealed a dark brown, rich soil in the first two levels. Shovel Test 35 encountered bedrock at 24 cmbs, while Shovel Test 36 did not hit bedrock until 30 cmbs. No cultural material was noted in either test. Shovel Tests 66 through 69 were excavated west of Salado Creek hoping that some cultural material may be encountered in the shallow topsoil given its proximity to the creek. All four of the units encountered bedrock, the shallowest (ST 69) at 5 cmbs and the deepest (ST 66) at 40 cmbs. No cultural materials were recovered.

Nineteen shovel tests were excavated along the westbound access road including 9-11, 37-43, 49-53, and 70-73. Shovel Tests 9-11 and 70-73 were excavated near 41BX22. Shovel Tests 40-43 were excavated near the entrance to the Vinevard. located at Huebner Road. A pasture was immediately north of the ROW. Shovel Test 40 was excavated to a depth of 60 cmbs and exhibited road base in its entirety. Shovel Test 41 also encountered road base, with excavation terminating at 38 cmbs. Shovel Tests 42 and 43 were terminated when bedrock was uncovered. Shovel Tests 49-51 were excavated between Huebner Road and Blanco Springs Road. All three encountered impenetrable limestone rocks between 18 and 40 cmbs. Shovel Test 52 was excavated to a depth of 60 cmbs, though the matrix consisted of road base. Shovel Test 53 was terminated at a depth of 40 cmbs due to large limestone rocks. The matrix was a mixture of brown clay and road base. Eight shovel tests excavated in this survey area were placed on the west bank of the Salado Creek to determine if there were any intact soils. Of the eight shovel tests, seven (ST 66, 67, 68, 69,

70, 72, and 73) encountered bedrock at depths ranging from 5 to 50 cmbs. Shovel Test 71 contained a concentration of large limestone rocks at 56 cmbs that could not be penetrated. All eight shovel tests in this area revealed shallow disturbed deposits. During the survey of Survey Areas 1 and 2 no areas of deeply buried deposits were encountered that warranted the excavation of backhoe trenches.

Table 5-14. Results of Shovel Testing in Survey Area 2

Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts
9	9	Bedrock	No
10	18	Road Base	No
11	8	Road Base	No
17	40	Road Base	No
18	10	Bedrock	No
19	13	Road Base	No
35	24	Bedrock	No
36	30	Bedrock	No
37	32	Cement/Road Base	No
38	60	Road Base	No
39	60	Fill	Yes
40	60	Road Base	No
41	38	Road Base	No
42	7	Bedrock	No
43	28	Bedrock	No
49	37	Limestone Rocks	No
50	18	Limestone Rocks	No
51	40	Limestone Rocks	No
52	60	Sand	No
53	40	Limestone Rocks	No
66	40	Fill and Bedrock	No
67	14	Bedrock	No
68	30	Bedrock	No
69	5	Bedrock	No
70	26	Bedrock	No
71	56	Limestone Rocks	No
72	50	Bedrock	No
73	25	Road Base	No

Survey Area 3

Survey Area 3 is a 1.6 km tract of land along Loop 1604 from John Peace Boulevard/La Cantera Parkway to just west of the IH 10/Loop 1604 Interchange. Survey Area 3 was subjected to a 100 percent pedestrian survey. Shovel tests could not be excavated in the section along the westbound lanes of Loop

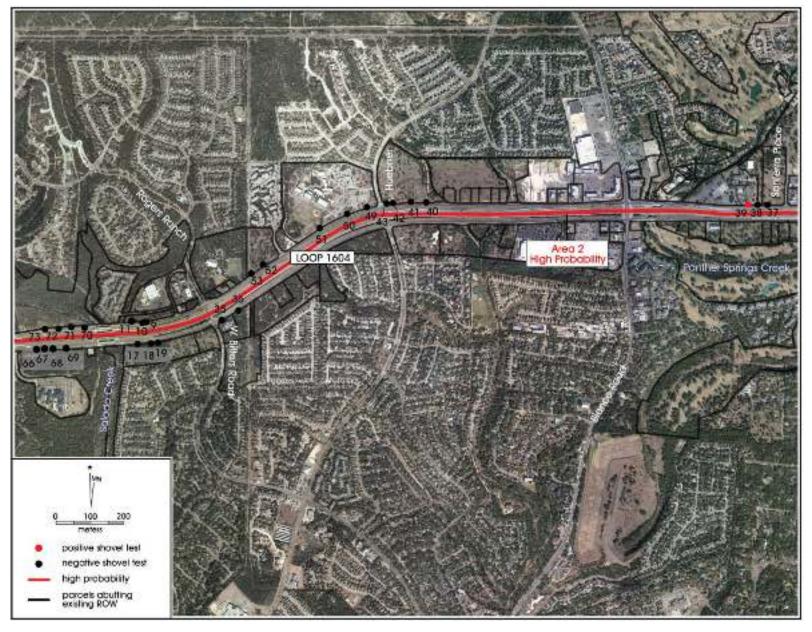
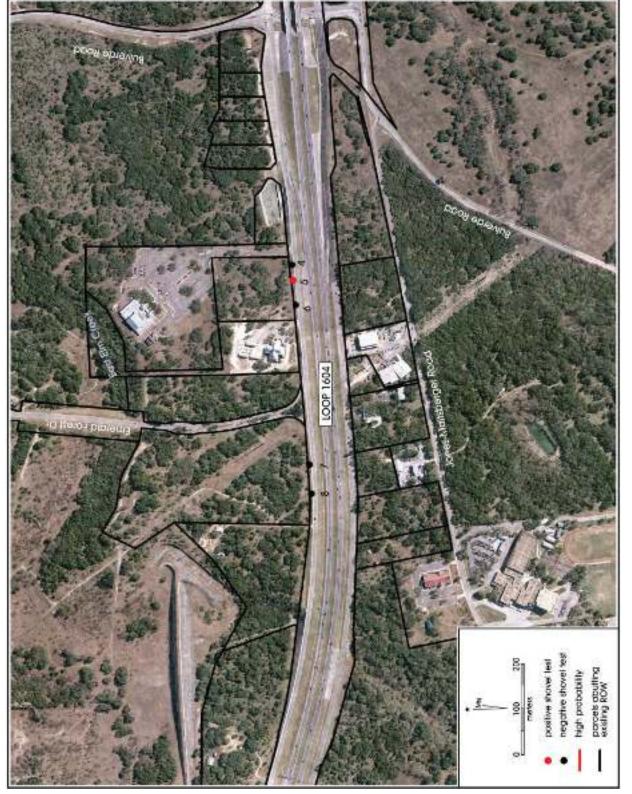


Figure 5-25. Aerial showing the location of shovel tests in Survey Area 2, between the Salado Creek area and Sonterra Place.





1604, east of IH 10. Recent construction of an Olive Garden restaurant altered and impacted the ROW immediately at the intersection of Loop 1604 and IH 10. A section west of the restaurant had been cut back during the initial construction of the Loop 1604 access roads. Just east of the intersection of the westbound access road and La Cantera Blvd/John Peace Blvd, a drainage had been cut into the ROW and lined with cement in certain areas.

Along the eastbound access road of Loop 1604, shovel testing also was not possible. From John Peace Blvd to the Valero entrance, the ROW had exposed bedrock over much of the surface. In addition to the bedrock, several signs were posted indicating buried gas, cable and sewer lines. From the Valero entrance to Leon Creek the ROW was landscaped or revealed cutbacks that indicated that bedrock was located very near the surface.

Survey Area 4

Survey Area 4 is a 1.35 km section of Loop 1604 from N. W. Military Drive to just west of Salado Creek. Survey Area 4 was subjected to a 100 percent pedestrian survey, though shovel testing was not possible. One section was lined by a cement berm that appears to be covering a water line. The remaining ROW abutted a cutback that was created during the construction of the Loop. A new apartment complex near N.W. Military was under construction at the time of the project and had imposted a partice of the

project and had impacted a portion of the ROW.

Along the eastbound access road of Loop 1604, a portion of the ROW was a cementlined drainage. A section in front of newly constructed office buildings and Paesanos Restaurant exhibited a cutback adjacent to the ROW. East of this cutback and west of the drive leading to Patricia Blattman Elementary School was a recently cleared and graded area along the ROW, which appears to have buried water lines (Figure 5-27).

Survey Area 5

Survey Area 5 is a 3.5 km section of Loop 1604 from the Union Pacific Railroad west of Nacogdoches Road to IH 35 (Figure 5-28). Twelve shovel tests were excavated within Survey Area 5. The results of these

shovel tests are presented in Table 5-15. Six shovel tests (STs 1, 2, 3, 20, 21, and 22) were excavated near 41BX564. The remaining six shovel tests were excavated on either side of Loop 1604 near the railroad tracks east of Nacogdoches.

Three shovel tests (STs 23, 24, and 25) were excavated along the eastbound turn-around, near a pasture. Two of these shovel tests (ST 23 and 24) contained mixed fill. Shovel Test 24 produced a fragment of rusted unidentified metal in Level 4 (30-40 cmbs). Due to the mixed nature of the matrix, the metal fragment has no significant research potential. Shovel Test 25 revealed a hard-packed layer of caliche at 38 cmbs.

Shovel Tests 26, 27, and 28 were excavated along the westbound access road east of Nacogdoches Road. Shovel Tests 26 and 28 encountered road base at 13 and 17 cmbs, respectively. Shovel Test 27 consisted of mottled yellow and brown clays indicating artificial fill.

Shovel tests were not excavated along the westbound access road of Loop 1604 between Lookout Road and IH 35 due to buried gas and cable lines in this section. Along the eastbound section between Lookout Road and IH 35, a housing development has encouraged erosion in the ROW, creating a gully with exposed bedrock. A credit union was constructed closer to IH 35 that has landscaped the ROW in that area.



Figure 5-27. *View of the ROW in the vicinity of Blattman Elementary School. Facing west.*



Figure 5-28. Aerial showing the location of shovel tests in Survey Area 5.

ST #	Terminal Depth (cmbs)	Disturbance	Artifacts	Location
1	60	Fill	No	41BX564
2	60	Road Base	No	41BX564
3	60	None	No	41BX564
20	60	None	No	41BX564
21	60	Fill	No	41BX564
22	58	None	No	41BX564
23	60	Fill	No	Survey Area 5
24	60	Fill	Yes	Survey Area 5
25	38	Road Base	No	Survey Area 5
26	13	Road Base	No	Survey Area 5
27	55	Fill	No	Survey Area 5
28	7	Road Base	No	Survey Area 5

Table 5-15. Results of Shovel Testing in Survey Area 5

IH 10 Survey Area

Two additional areas to amended to the project limits at a later date were also examined. The first addition runs along IH 10 from Camp Bullis Road to 2,500 feet south of Huebner Road. This corridor measures 9.78 km (6.1 miles) (Figure 5-23).

The portion of the project ROW falling south of the IH 10/ Loop 1604 intersection is located away from a running stream and therefore represents a low probability area for prehistoric camp sites. While historic sites may have been at one time located in the area, the heavy development along this portion of the ROW is likely to have disturbed any cultural materials found within or near the current ROW.

Much the same statement can be made about the portion of the ROW falling north of the IH 10/Loop 1604 intersection, and particularly the portion falling north of the abandoned quarry. However, between the quarry and the IH 10/Loop 1604 intersection, the current IH 10 ROW intersects two meanders of Leon Creek and cuts across a one mile segment of the broad creek floodplain.

Given that the project ROW cuts across Leon Creek and its broad floodplain in several places, CAR investigated only this one-mile section of the proposed project ROW since it is the only high probability area for the presence of buried archeological sites. The investigations included a combination of pedestrian survey accompanied by shovel testing and backhoe trenching.

The area around Leon Creek's second crossing of IH 10, located just south of Nina Louise Drive has been highly impacted by utilities and the installation of cement bank reinforcements and drainages. Reconnaissance showed that subsurface testing within this area was not necessary due to the disturbance.

The third crossing of Leon Creek is located just south of La Cantera Road. Recent construction of businesses and restaurants (Bass Pro Shop, Best Buy, Mimi's Café, etc) has extremely disturbed the north bank of Leon Creek. Installation of new drainages from the parking areas has all but obliterated the ROW of IH 10 along the westbound access road. Most of the area near the southern bank has been covered over by cement to aid in drainage. The ROW crossed by the creek on the east bound lanes, shows signs of previous disturbance. Shovel testing of areas not covered by cement occurred along the south bank of Leon Creek. The remainder of the area did not undergo subsurface testing.

The one-mile High Probability IH 10 segment extending from Loop 1604 to the third crossing of Leon Creek along IH 10 was the only area in the IH 10 segment that was shovel tested. Shovel testing occurred along the westbound access road, just south of the second crossing of Leon Creek. Eight shovel tests were excavated along the southern bank of the second Leon Creek crossing (Figure 5-29). The results of these tests are presented in Table 5-16. Shovel Tests 1 through 8 all encountered road base caliche. Shovel Tests 1, 2, and 3 encountered a mix of road base caliche and asphalt making digging very difficult. One shovel test, Shovel Test 4, was taken to a depth of 60 cm below surface through road fill to determine if the road base extended the entire 60 cm. All remaining shovel tests were terminated when road base was encountered. No significant cultural material was encountered in these shovel tests.

Table 5-16. Results of Shovel Testing Along the IH-10 Corridor

Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts
74	40	Asphalt/Roadbase	No
75	30	Asphalt	No
76	45	Asphalt/Roadbase	No
77	60	Limestone Rocks	No
78	54	Road Base	Yes
79	35	Road Base	No
80	20	Road Base	No
81	38	Road Base	No

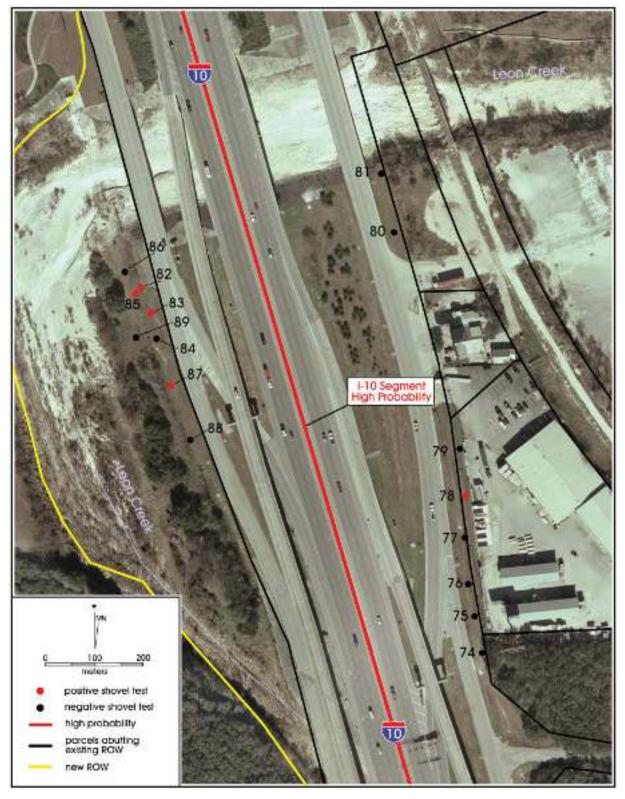


Figure 5-29. Aerial showing the location of the shovel tests along the westbound access road of IH 10 and Leon Creek.

IH 35 Survey Area

The second addition is along IH 35 running from FM 3006 to Pat Booker Road (Figure 5-22). This portion of the IH 35 corridor measures approximately 7.24 km (4.5 miles). No subsurface testing was recommended along the IH 35 corridor due to recent construction and clearing activities. Adjacent to the northbound lanes of IH 35, the area between the Loop 1604 interchange and Olympia Parkway is completely developed by the Forum Shopping Center. The landscape has been completely redone to accommodate for drainage from the parking areas, and to create an aesthetically pleasing setting to surround the shopping complex. Adjacent to the southbound lanes, the recent construction of several restaurants and businesses has disturbed the area from the interchange and Olympia Parkway. The area at the Cibolo Creek crossing has been impacted by the construction of the highway. The main lanes of the highway are above natural ground level and are supported by concrete piers. Beneath one section of IH 35, adjacent to the north bank of Cibolo Creek, an area was paved for a Park and Ride. The bank of the river was reinforced with concrete to protect the Park and Ride from eroding. Businesses line the I-35 access roads in both direction, with cement driveways and drainages disturbing any subsurface deposits that may have been there. Site 41BX1409 lies just outside of the ROW and will not be impacted by future construction activities. Currently, it had been covered with a small building to shield it from the elements, and a new road (Valhalla Dr) runs past the site.

Backhoe Trenches

Between the first and second crossing of Leon Creek along the west bound access road of IH 10, a series of backhoe trenches (BHT) were excavated to determine if intact soils were present. Five backhoe trenches were excavated (Figure 5-30); each one was approximately five meters long and up to 1.5 m deep. Two of the BHTs were not excavated to a terminal depth of 1.5 m below surface due to the presence of limestone bedrock.

Backhoe Trench 1 was located on the north bank of Leon Creek, approximately 72 m from the centerline of the creek, and was excavated to a depth of 1.5 m below surface (Figure 5-31). Five horizons were noted during the profiling of Backhoe Trench 1. Horizon 4, which sits above a Pleistocene deposit, exhibited mechanically crushed stones, but no cultural material. Below approximately 76 cm below surface, Horizon 5 consisted of strong brown sandy clay that may be similar to the soils identified in Suite II described by Collins et al. (2003). One fragment of brown glass was noted in the north wall of the trench in Horizon 5. Soil deposits in this trench were very similar to those encountered during the

recent trenching at 41BX52, located just southwest of the intersection of Loop 1604 and IH 10, though the deeper soils were not as compact as the 41BX52 soils.

Backhoe Trench 2 was located approximately 33 m north of Backhoe Trench 1 (Figure 5-30). The same strong brown, sandy clay from Backhoe Trench 1 was present at 20 cm below surface that contained no cultural material. The sandy clay was compact, but the backhoe had no trouble excavating the matrix. Just above this soil was dark brown silty clay that contained no cultural material.

Backhoe Trench 3 was placed approximately 134 m from Backhoe Trench 2 (Figure 5-30). The trench was excavated to a depth of 1.5 m below surface. Four soil horizons were present within the profile of Backhoe Trench 3. Horizon 3, which sat above the Pleistocene orange sandy clay of Horizon 4, exhibited no cultural remains. Horizon 4 contains a larger quantity of limestone rocks than the previous two BHTs. The limestone rocks were also much larger, averaging 50 by 30 cm. No cultural material was observed in Backhoe Trench 3.

Backhoe Trench 4 was placed approximately 264 m south of the south bank of the second crossing of Leon Creek due to the location of a buried gas line and cement driveways (Figure 5-30). The trench was excavated to 1.1 m below the surface before encountering bedrock. Clay appears to cap layers of gravel and crushed limestone. No cultural material was encountered in Backhoe Trench.

Backhoe Trench 5 was placed approximately 177 m from Backhoe Trench 4 and 49 m from Backhoe Trench 3 (Figure 5-30). Backhoe Trench 5 reached impenetrable bedrock between 80 and 120 cm below surface. Backhoe Trench 5 showed similar characteristics to Backhoe Trench 3, though there was a slight difference in the texture of soil at the base of the backhoe trench. No cultural material was encountered in this trench.

Revisited Sites

Eleven previously recorded sites were revisited during the course of the project. The investigations conducted at each site are described below.

41BX22

Site 41BX22 is located on the east bank of Salado Creek along the westbound access road of Loop 1604. The site falls within Survey Area 2 but the extent of the site boundary into the ROW is unclear. The results of the shovel testing are found in Table 5-17. Shovel Tests 9, 10 and 11 were excavated at

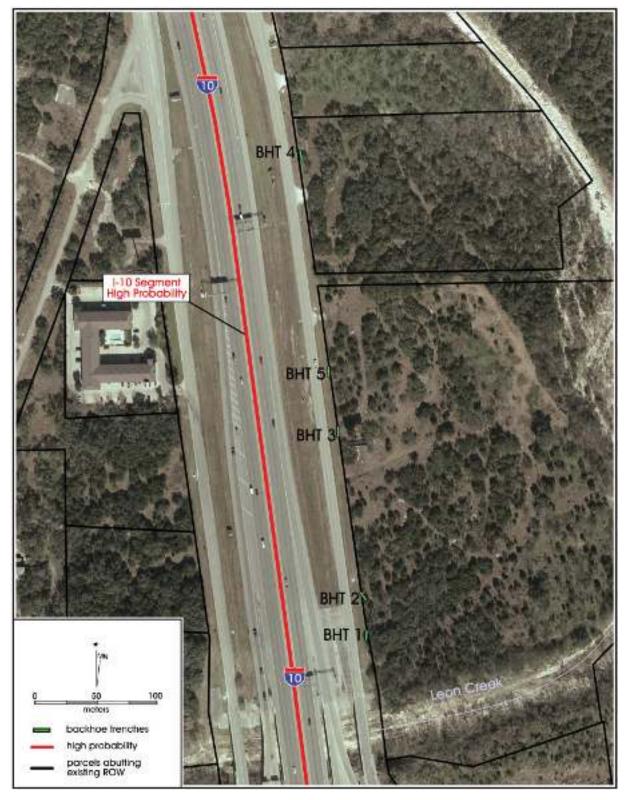


Figure 5-30. Aerial showing the location of the backhoe trenches along the westbound access road of IH 10.

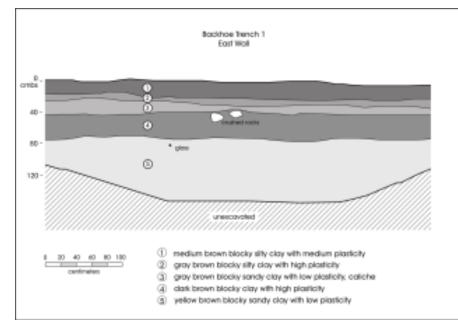


Figure 5-31. Profile of the east wall of the Backhoe Trench 1.

Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts	Survey Area
9	9	Bedrock	No	2
10	18	Road Base	No	2
11	8	Road Base	No	2
52	60	Sand	No	2
53	40	Limestone Rocks	No	2
70	26	Bedrock	No	2
71	56	Limestone Rocks	No	2
72	50	Bedrock	No	2
73	25	Road Base	No	2

Table 5-17.Results of Shovel Testing at 41BX22

the edge of the site along the east bank of the creek, along the westbound access road of Loop 1604. The three shovel tests did not produce cultural material, and all ended at rather shallow depths due to road base or bedrock.

Shovel Tests 70 through 73 were placed on the west bank of the creek. Shovel Test 70 contained compact, medium brown silty clay with increasing amounts of gravels. The shovel test was terminated at 26 cmbs when bedrock was encountered. In Shovel Test 71, the first level (0-10 cmbs) consisted of slightly compact, medium brown, silty clay. Beneath this initial layer, the matrix consisted of light tan road base, with pockets of the brown silty clay. Level 2 (10-20 cmbs) contained large limestone cobbles, which when removed revealed the loose road base of Level 3 (20-30 cmbs). The remainder of the shovel test consisted of loose road base with large quantities of limestone gravel. Excavation of the shovel test was terminated at 56 cmbs due to an impenetrable layer of limestone. Shovel Test 72 was excavated in an area with no road base, though the soils appear to be disturbed. The first level consisted of brown silty clay, with a few fragments of metal. The remainder of the shovel test consisted of hard packed, dark brown clay. Bedrock was encountered at 50 cmbs. Shovel Test 73 exhibited much disturbance with wire mesh found in Level 2 (10-20 cmbs) and impenetrable road base at 25 cmbs.

The nine shovel tests excavated did not produce any cultural materials that may have derived from site 41BX22.

These results suggest that the site boundary may not have extended into the project ROW, or the site's deposits have been removed by road construction or buried below the road base. That portion of the site boundary that might still exist within the ROW is not eligible for listing on the NRHP.

41BX38

Site 41BX38 (Max Gerfer House) is located east of 41BX44, along the westbound access road of Loop 1604. The site is located in Survey Area 1 but outside of the project limits. Road base was evident on the surface of the ROW near the site. Shovel Tests 61 through 64 were excavated near the area of the site (Table 5-18). Three of the four shovel tests encountered bedrock. Shovel Test 61 reached a depth of 60 cm in what appears to be intact soil. Brown glass was noted in Level 2 (10-20 cmbs). No other cultural material was encountered. Shovel Test 62 was excavated to a depth of 40 cmbs, at which point bedrock hindered further progress. Shovel Test 63 encountered bedrock at 15 cmbs. Shovel Test 64 was excavated to 27 cmbs before encountering bedrock.

 Table 5-18.
 Results of Shovel Testing at 41BX38

Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts	Survey Area
61	60	None	Yes	1
62	40	Bedrock	No	1
63	15	Bedrock	No	1
64	27	Bedrock	No	1

No cultural material was recovered from Shovel Tests 62, 63 or 64.

A stonewall gate entrance was located just east of Bacon Road, set back from the access road approximately 6 m. It is possible that this marked the entrance to the Max Gerfer House site. If so, cultural deposits associated with the site would not be expected within the current project ROW. However, if the site boundaries do extend into the existing ROW, that portion of the site is not eligible for listing on the NRHP.

41BX39

Site 41BX39 was located within the boundaries of Survey Area 1. The site, as shown on the Texas Archeological Sites Atlas (THC 2007), is under the eastbound lanes of Loop 1604, just east of the Union Pacific Railroad. The area along the Loop 1604 ROW between the Union Pacific Railroad and Bacon Road was identified as potentially part of the site. Shovel Tests 44, 45 and 46 were excavated to determine if the site boundary extended into the ROW. The results of the shovel tests are presented in Table 5-19. Shovel Test 44 was excavated to a depth of 6 cm before encountering a layer of asphalt. The shovel test was placed near the railroad tracks. Shovel Test 45 was excavated to 40 cmbs. No cultural material was encountered in the shovel tests. Shovel Test 46 encountered large limestone cobbles at 10 cm below the

Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts	Survey Area
44	6	Asphalt	No	1
45	40	Road Base	No	1
46	10	Limestone Rocks	No	1

Table 5-19. Results of Shovel Testing at 41BX39

surface. These findings of disturbed deposits suggest that no intact cultural remains are present within the current ROW of the project area.

41BX44

Site 41BX44 is located along the westbound access road of Loop 1604, just east of the Union Pacific Railroad and may not extend across the entire Loop 1604 ROW although no site boundaries are defined. The site lies within the boundaries of Survey Area 1. Shovel testing was conducted to determine if the site boundary extended into the ROW. Site 41BX38 is located just east of 41BX44. Road base was noted on the surface of the area near the site. Shovel Tests 29 and 30 were excavated on the west side of the Union Pacific Railroad. Both shovel tests encountered road base just beneath the surface (Table 5-13). No cultural material was located near the site. The site nucleus is located outside of the ROW; therefore, it is possible the site boundary does not extend into the APE.



Figure 5-32. Photograph of the eastern portion of site 41BX65. Facing west.

41BX65

Site 41BX65 is located east of Blanco Road, near Panther Springs Creek, within Survey Area 2. The Texas Archeological Sites Atlas places the site on the east bank of the creek. Field sketches place the site a few meters from the entrance to the Alzafar Shrine Temple (Figure 5-32). Both possible site locations were examined to determine the presence/absence of cultural material. The location listed on the Texas Archaeological Sites Atlas has undergone major construction activities. The majority of the area within the ROW is lined with cement and asphalt. No shovel tests were excavated at this location.

Three shovel tests were excavated within the vicinity of the field sketch location (Table 5-20). Shovel Test

Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts	Survey Area
37	32	Cement/Road Base	No	2
38	60	Road Base	No	2
39	60	Fill	Yes	2

Table 5-20. Results of Shovel Testing at 41BX65

37 contained dark brown silty clay with gravel inclusions in Level 1 (0-10 cmbs). At approximately 12 cmbs, road base was revealed. The road base continued until cement was encountered at 32 cmbs.

Shovel Test 38 exhibited road base material through all levels. The test reached a depth of 60 cmbs, where the remains of a wooden lathe stick was noted. Shovel Test 39 contained rich, dark brown, loam riddled with leaves and small gravels in Level 1 (0-10 cmbs). Level 2 exhibited a

change in the matrix to mottled clay with gravels (including mechanically crushed chert) and a few fragments of modern brown glass. The remainder of the shovel test consisted of the mottled clay with gravel inclusions and reached a depth of 60 cmbs. No historic or prehistoric cultural remains were recovered from the shovel tests. In summary, no cultural deposits were found within either of the two possible locations of 41BX65. These findings may result from the extensive construction impact along this portion of the APE.

41BX66

Site 41BX66 is located east of the intersection of Bulverde Road and Loop 1604. It was revisited, though no subsurface investigations were conducted. The APE within the vicinity of the site is a cementlined berm (Figure 5-33) that aides in the drainage of the area. It is likely that the construction of this cemented embankment has severely impacted any cultural deposits that may be found in the area.

41BX67

Site 41BX67 is located on the west-descending bank of Mud Creek along the westbound Loop 1604 access road. It was revisited, but no shovel tests were excavated near the site. The site centroid is placed well outside of the APE and surface inspections along the ROW did not reveal any cultural material. The ROW had exposed bedrock as well as the remnants of an asphalt road (Figure 5-34).

41BX68

Site 41BX68 is a prehistoric site marked by scattered lithic debitage, possibly indicating a quarry and chipping site. The site is located along the westbound ROW of Loop 1604, west of Bulverde Road. A large portion of the area near the site within the APE has been covered by a cement berm (Figure 5-35). What remains is located in front of Family Harvest Church International and Northern Hills. Five shovel tests were excavated within the ROW near 41BX68. All five of these shovel tests encountered road base (Table 5-21). In Shovel Tests 4 and 5, road base prevented excavation further than 20 cmbs. Shovel Test 5 produced a fragment of debitage in the first 10 cm. Shovel Test 6 had road base at 10 cmbs. Shovel Test 7 was terminated at 15 cm due to bedrock. Shovel Test 8 reached road base material at 12 cmbs. No cultural material was recovered from Shovel Tests 4, 6, 7, and 8.

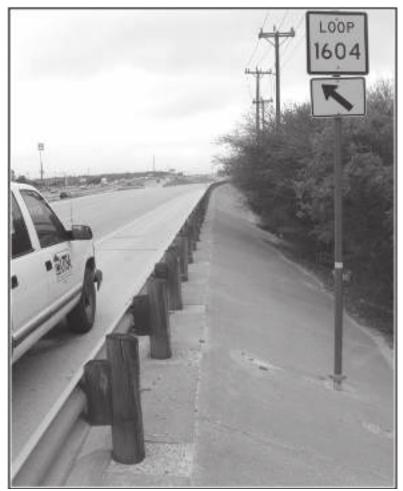


Figure 5-33. Photograph of the western portion of site 41BX66. Facing west.

Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts	Survey Area
4	20	Road Base	No	N/A
5	20	Road Base	Yes	N/A
6	10	Road Base	No	N/A
7	15	Bedrock	No	N/A
8	12	Road Base	No	N/A

Table 5-21. Results of Shovel Testing at 41BX68

Based on these findings, it appears that the deposits from 41BX68 may not have extended within the APE.

41BX564

Site 41BX564, a prehistoric lithic scatter, is located just east of Nacogdoches along the eastbound access road of Loop 1604, within Survey Area 5. Six shovel tests were excavated within the boundary of the site. The results of the shovel tests are presented in Table 5-22. Three of the six shovel tests (STs 3, 20, and 22) appear to have been placed in intact soils. The remaining three (STs 1, 2, and 21) contained either fill or road base. No cultural material was recovered from any of the six shovel tests. Whatever deposits may have been present on the site do not appear to have extended below the surface and no evidence of the site is present within this portion of the APE.

Table 5-22.	Results	of Shovel	Testing at 4	41BX564
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Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts	Survey Area
1	60	Fill	No	5
2	60	Road Base	No	5
3	60	None	No	5
20	60	None	No	5
21	60	Fill	No	5
22	58	None	No	5

41BX889

Site 41BX889, a prehistoric open campsite and historic dump, is located along the eastbound access road of IH 10 between the second and third crossing of Leon Creek, just south of La Cantera Parkway. Eight shovel tests were excavated at the site. The results of the shovel tests are presented in Table 5-23. Four of the eight shovel tests produced cultural material, though much of it was modern glass and corroded metal.



Figure 5-34. *Photograph of the western portion of site 41BX67. Facing west.*



Figure 5-35. *Photograph of the central portion of site 41BX68, along the ROW. Facing west.*

Table 5-23. Results of Shovel Testing at 41BX889

Shovel Test	Terminal Depth (cmbs)	Disturbance	Artifacts
82	30	Limestone Rocks	No
83	35	Limestone Rocks	No
84	25	Limestone Rocks	No
85	60	None	No
86	10	Road Base	No
87	18	Road Base	No
88	15	Road Base	No
89	20	Road Base	No

Water, gas, and cable lines have been buried along the upper portion of the site. The lower portion of the site is on a small terrace just above Leon Creek. The area is flooded during heavy rains. The cultural material encountered was modern trash. Little, if any, remains of the site at this point.

41BX1064

Site 41BX1064 is located on the western bank of Leon Creek near the entrance to Valero Corporation, within Survey Area 3. The site locality was revisited, though no subsurface testing was conducted. A cutback within the Loop 1604 ROW revealed the bedrock in the area. The remainder of the area was landscaped and had a cement sidewalk. It is likely that no more of the site exists in the ROW.

West Segment

This segment of Loop 1604 runs from Kyle Seale Parkway to Military Drive West. The fieldwork was completed during February and March 2007 by CAR, when the sections of the West Segment of Loop 1604 were surveyed to determine the potential impact to cultural resources by planned improvements to a segment of Loop 1604 West from Two areas that had not been systematically surveyed in the past, designated Survey Areas 1 and 2, and three previously identified archeological sites within the project area (41BX69, 41BX126, and 41BX1003) were examined over the course of the West Segment Survey (Figure 5-36).

Shovel Testing

The first two shovel tests, STs 1 and 2, were located on the south bank of Huesta Creek on both east and west sides of Loop 1604 (Figure 5-37), north of Survey Area 1, to determine if there were enough sediments above bedrock to require the excavation of a backhoe trench. Both of these shovel tests had modern fill in them. Shovel Test 1 contained modern fill material to 30 cmbs, where the test was terminated because of the presence of large rocks. Five pieces of dark amber (brown) container glass were collected from Level 1 of ST 1. Shovel Test 2 was dug to 60 cmbs, and had modern fill throughout.

Survey Area 1

Survey Area 1 included Shovel Tests 3-12 and Shovel Test 14 (Figure 5-37). Table 5-24 shows information on the eleven shovel tests dug in Survey Area 1, including the depth reached, reason for early termination of test (when applicable), depth of undisturbed sediments (if known), levels in which artifacts were recovered, and notes on each test.

Most of Survey Area 1, with the exception of the northernmost portion, was defined as a high probability area, based on preliminary examination of maps and aerial photographs. However, upon closer examination, a large percentage of the ROW in Survey Area 1 clearly had a very low potential for retaining intact cultural deposits. No shovel tests were conducted in such areas.

Shovel testing in areas that did not appear to be impacted by previous construction showed that this appearance could be deceptive. Figure 5-38 shows an area south of Hausman Road, not far from the location of Shovel Test 11, with a moderate-sized tree growing in the ROW. Yet the shovel testing in this area, including Shovel Test 11, showed that the area had been disturbed, with original sediments replaced by modern fill. All shovel tests in Survey Area 1 were found to contain modern fill (Table 5-14). No artifacts were collected.

Table 5-24. Results of Shovel Testing in Survey Area 1

ST	Depth Ended	Reason ended	Level(s) w/ Artifacts	Note
3	51	Large rocks	4, 5	Modern fill throughout
4	60		-	Modern fill throughout
5	25	Bedrock	-	Modern fill throughout
6	28 Compacted road base		-	Modern fill throughout
7	32	Large rocks	-	Modern fill throughout
8	25	Compacted road base	-	Modern fill throughout
9	45	Compacted road base	-	Modern fill throughout
10	17	Compacted road base	-	Modern fill throughout
11	15	Compacted road base	-	Modern fill throughout
12	23	Compacted road base	-	Modern fill throughout
14	35	Compacted road base	-	Modern fill throughout

Survey Area 2

Because there has been much less highway construction and other development along Loop 1604 in the project area south of Braun Road, most of the shovel tests in Survey Area 2 encountered undisturbed sediments (Tables 5-25 and 5-26). Nonetheless, the ROW in the northern part of Survey Area 2, to a point about almost 450 m (0.28 miles) south of Braun Road on both sides of Loop 1604, has been impacted by road construction and urban development (Figure 5-36). Therefore, no shovel tests were dug in this area. Shovel tests in Survey

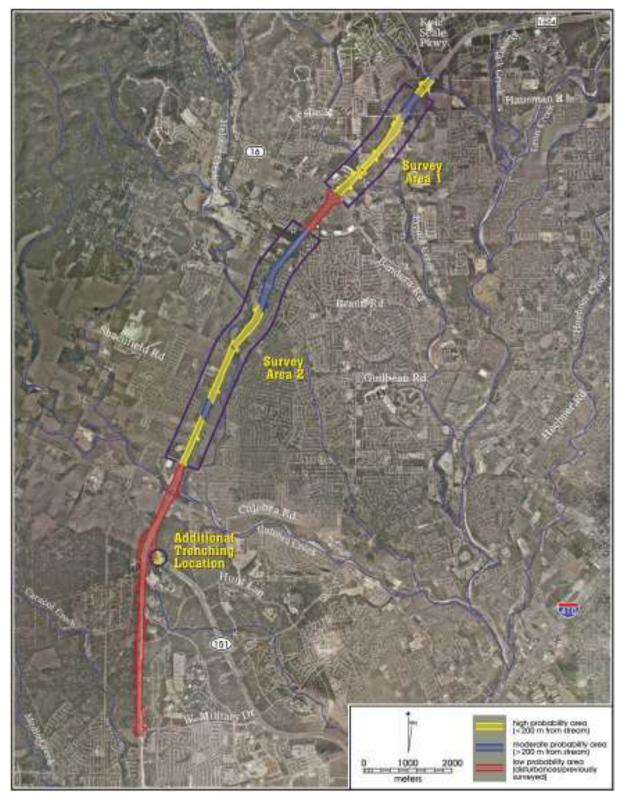


Figure 5-36. Map of survey areas in the West Segment.



Figure 5-37. Aerial showing the location of shovel tests and Backhoe Trench 4 in Survey Area 1.



Figure 5-38. West side of Loop 1604 West between Hausman Road and Bandera Road. Note tree, suggesting area may have some intact soil despite road construction.

Area 2 included Shovel Tests 15-85. Note that there is no Shovel Test 13, due to mis-numbering. The results of the shovel testing are discussed from north to south.

Figure 5-39 shows the location of the 20 shovel tests (ST 15-26, 72-79) dug in the northern part of Survey Area 2, excluding those (STs 80-85) dug witin site 41BX1003. The first shovel test in Survey Area 2 (ST 15) was located on the west side of Loop 1604, approximately 440 m south of Braun Road, in an area that appeared minimally impacted by road construction. At this point, the boundary of the ROW expands beyond the existing highway onto private property beyond the area maintained by TxDOT. CAR surveyed only those properties to which entry was granted.

Unlike Survey Area 1, the shovel tests dug between Braun Road and the intersection with Leslie Road for

Table 5-25.	Results of Shovel	Testing in Northern	Part of Survey Area 2

ST	Depth Ended (cmbs)	Reason ended	Level(s) w/ Artifacts	Depth of Undisturbed Sediments	Note
15	60		-	Surface	
16	60		-	Surface	
17	60		1	10 cmbs	No evidence of disturbance below 10 cm
18	60		-	Surface	
19	60		-	Surface	
20	60		1, 2, 3	40 cmbs	20th cent. or later artifacts to Lv. 3, no evidence of disturbance below 30 cm
21	60		-	Surface	
22	60		-	Surface	
23	60		-	Surface	
24	60		-	Surface	
25	10	Compacted road base	-	-	Modern fill throughout
26	20	Compacted road base	-	-	Modern fill throughout
72	35	Large rocks	-	Surface	Undisturbed, creek gravels below level 2
73	60		-	-	Modern fill throughout
74	60		-	Surface	
75	60		-	Surface	
76	60		-	50 cmbs	
77	60		-	-	Roadbase in part of test from level 3 to bottom, other sediments disturbed.
78	60		-	Surface	
79	60		-	-	Modern fill throughout

ST	Depth Ended (cmbs)	Reason ended	Level(s) w/ Artifacts	Depth of Undisturbed Sediments	Note
27	60		-	Surface	
28	60		1	Surface	
29	60		2	20 cm bs	Modern glass in Level 2
30	60		-	Surface	
31	60		-	Surface	
32	60		3	50 cm bs	Visibly disturbed sediments to 50 cmbs
33	60		-	Surface	
34	60		2	20 cm bs (?)	Container glass in Level 2 but no obvious differences in sediments
35	60		-	Surface	
36	43	Bedrock	-	Surface	
37	35	Large rocks	-	-	Modern fill throughout
38	40	Large rocks	-	-	Modern fill throughout
39	19	Bedrock	-	Surface	
40	34	Large rocks	-	Surface	
41	40	Large rocks	-	-	Modern fill throughout
42	14	Bedrock	-	Surface	
43	60		-	Surface	
44	60		-	Surface	
45	60		-	-	Modern fill throughout (in pipe trench)
46	57	Bedrock	-	Surface	
47	60		-	Surface	
53	60		-	Surface	
54	52	Large root	-	Surface	
55	60		-	30 cm bs	
56	60		2	20 cm bs (?)	Container glass in Level 2 but no obvious differences in sediments
57	60		-	Surface	
58	60		-	Surface	
59	60		-	Surface	
60	60		-	Surface	
61	51	Large rocks	-	Surface	
62	60		-	Surface	
63	60		-	-	Modern fill throughout
64	60		-	Surface	
65	60		-	Surface	
66	60		-	-	Modern fill throughout
67	60		-	Surface	-
68	60		-	Surface	Creek gravels to bottom
69	60		-	Surface	Creek gravels to bottom
70	40	Large rocks	-	Surface	Creek gravels below 30 cmbs
71	60		-	Surface	Creek gravels below Level 3

Table 5-26.	Results of Shovel	Testing in Southern	Part of Survey Area 2
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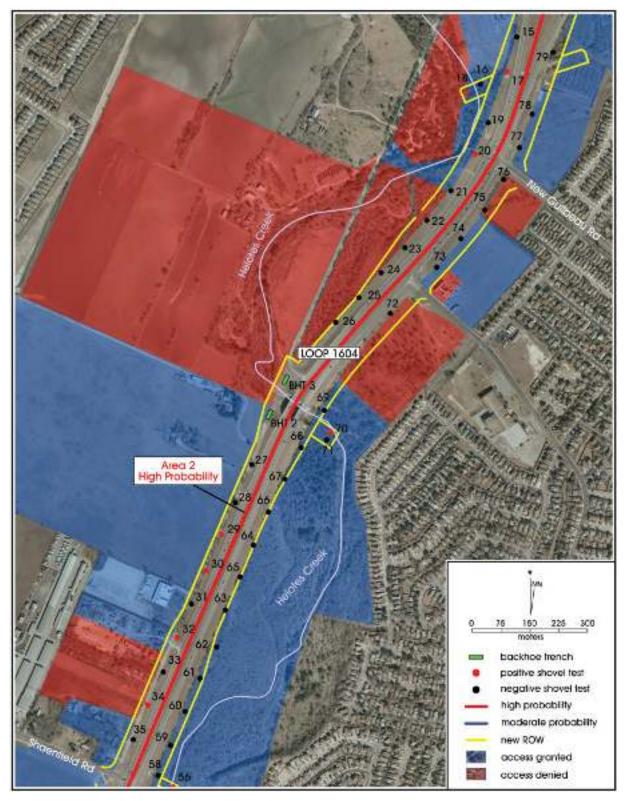


Figure 5-39. Aerial showing the location of shovel tests and Backhoe Trenches 2 and 3 in Survey Area 2.

the most part encountered what appeared to be undisturbed sediments, largely consisting of dark brown, friable silty clay loam that became denser, with higher clay content, below 40 cmbs. However, only two shovel tests in this part of Survey Area 2 that were not part of the testing of 41BX1003 were positive (Table 5-25). Shovel Test 17 had a piece of plastic and an aluminum pull tab dating from between ca. 1965 to ca. 1983 (Maxwell 1993:96). Shovel Test 20 had a mixture of modern artifacts, including dark amber (brown) glass, rubber fragments, and concrete in obviously disturbed sediments to about 28 cmbs (Table 5-15). Below this were apparently undisturbed sediments. Shovel Tests 16 and 18 were dug in the drainage easement. They encountered undisturbed sediments throughout, with no evidence of cultural deposits.

Shovel Tests 21 and 22, which by chance were placed on either side of the surface artifact scatter associated with the Balscheidt House (41BX1003), were both sterile. Details of the examination of 41BX1003 are presented below.

Forty-five shovel tests were dug in the southern portion of Survey Area 2 around the Helotes Creek crossing and south (Figures 5-39 and 5-40). Five of these (STs 48-52) were dug to explore surface artifacts identified as Isolated Finds. Shovel Tests 27-35 were dug between Helotes Creek and Shaenfield Road in the median between the southern part of Leslie Road and Loop 1604. The rest of the shovel tests were on the east side of the highway.

Seven shovel tests in the southern part of Survey Area 2 were positive (Table 5-26). The artifacts collected from Shovel Test 28 were limited to the first level and consisted only of modern dark amber glass, which was also found in Level 2 of Shovel Test 29. The upper 50 cm of Shovel Test 32 were obviously disturbed and a complete glass bottle with an aluminum screw cap was found in Level 3. Container glass in Shovel Tests 34 and 56 could not be assigned dates more specific than "nineteenth century to recent". There was no obvious disturbance in the sediments below about 5 cm (Table 5-26).

Shovel Tests 68 to 71 were dug near Helotes Creek. All contained creek gravels at various depths. Shovel Tests 68 and 69 encountered these creek gravels just below the ground surface. Shovel Test 70 had very sandy silt sediments to 29 cmbs where an almost solid layer of flat, water-rounded rocks was encountered with a thin (ca. 1 cm) layer of dense clay beneath them. Below this to 40 cmbs, the sediments were creek gravels in reddish-tan very sandy silt. Large cobbles at 40 cmbs prevented further digging of this test. Shovel Test. 71, dug across the creek from Shovel Test 70 in the drainage easement, also had very sandy silt sediments to about 30 cm, above creek gravels. Faunal bone from Shovel Test 70 was collected, although there was no evidence of a cultural

association. The single bone was identified as the cervical vertebra of an opossum (*Didelphis virginianus*).

Backhoe Trenching

The SOW for this project included backhoe trenching along both sides of the ROW in search of archeological deposits buried at water crossings. The backhoe trenching was to be carried out if prior field inspection determined the locales were suitable for such testing. Though large portions of the West Segment project area had been previously surveyed, none of these investigations included backhoe trenching to search for deeply buried sediments that might contain archeological deposits. Therefore, all creek crossings in the project area were included in a list of possible localities for backhoe trenching. Preliminary examination indicated that most of the creek crossings in the project area were unsuitable for backhoe trenching for one of the following reasons: a) there was no access to an area within the ROW that was large enough to allow trenching; b) the area adjacent to the creek had been extensively modified by road construction, the realignment of the original creek bank, or the addition of many meters of fill: and c) there was little or no sediment deposited adjacent to the creek, with extensive amounts of bedrock showing on the ground surface.

Each creek crossing in the project area was examined. Only three such crossings had areas on adjacent terraces that were considered suitable for trenching, Huesta Creek north of Survey Area 1 (Figure 5-37), Helotes Creek in the middle of Survey Area 2 (Figure 5-39), and a branch of Culebra Creek on Highway 151 (Figure 5-40).

Backhoe Trench 1 was located on the east bank of a branch of Culebra Creek on the south side of Highway 151. Comparison with the land surface on the adjacent private property suggested that the terrace had not been significantly altered by road construction and that only a small amount of fill had been added in the ROW. However, the trench exposed modern fill to a depth of 160 cmbs. No profile was drawn due to the uniform fill matrix and the lack of undisturbed sediments.

Backhoe Trenches 2 and 3 were located on the south and north banks of Helotes Creek on the west side of Loop 1604 West. The west side of Loop 1604 was chosen because shovel tests on the east side of the highway had shown creek gravels near the ground surface. The terrace on the west side did not appear to have been extensively modified except in the area where Leslie Road turns to connect to the southbound lanes of Loop 1604.

The walls of BHT 2 (Figure 5-41) revealed that modern fill extended 40 to 50 cmbs. Below that was a thin (15-25

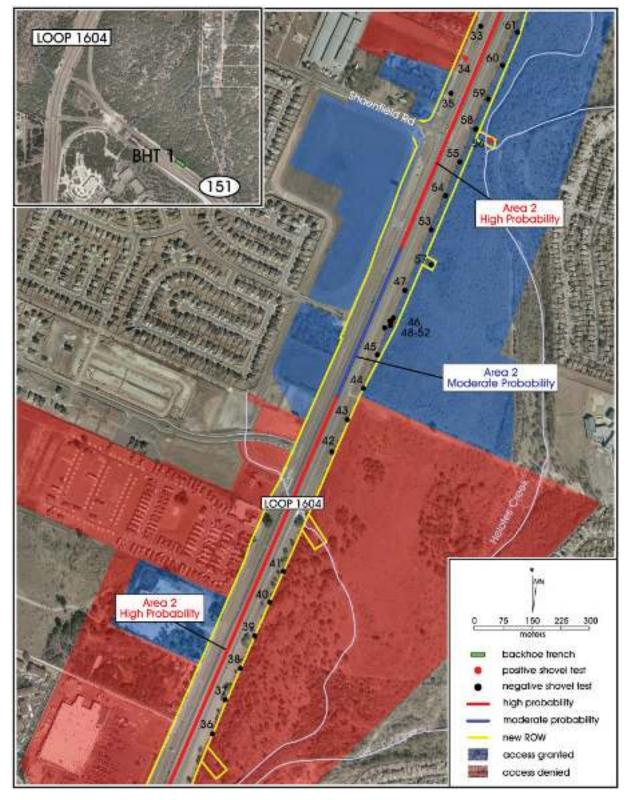


Figure 5-40. Aerial of the southern part of Survey Area 2 showing locations of shovel tests. Inset shows the location of Backhoe Trench 1 at Highway 151.

cm) layer of sand and small gravels that appeared to be a natural deposit. Beginning roughly 65 cmbs and extending to varying depths was a layer of brown silty clay loam with only occasional small limestone rocks in it. Beneath this were dark yellowish brown silty clay deposits with a few calcium carbonate filaments that increased slightly near the bottom of the trench. No artifacts were seen during the excavation of this trench, or in the backdirt.

BHT 3 was on the north bank of Helotes Creek. Figure 5-42 is a profile of BHT 3. Even though BHTs 2 and 3 are only about 65 m apart, on opposite sides of Helotes Creek, the profiles are very different. Modern fill extends deeper in BHT 3, especially on the southern end, where it cuts completely through Layers 2 and 3, extending all the way to the deposits of creek gravels. It appears that Layer 3 was deposited in a channel that had cut through older deposits of creek gravels.

BHT 4 was located on the south bank of Huesta Creek on the west side of Loop 1604 in the only area available for the trench. The trench was dug through modern fill and terminated at 58 cmbs, when builder's sand usually used to cover utility lines, was observed.

Revisited Sites

Three archeological sites previously identified with the ROW were revisited. Sites 41BX69, 41BX126, and 41BX1003 were examined to determine the nature and extent of archeological deposits within the ROW. Site 41BX1616 near the project ROW was also assessed to confirm whether the site extended onto the West Segment ROW.

41BX69

Following the recording of 41BX69, the construction of Loop 1604, has impacted the site area. The site now lies under the highway and could not be revisited. The area examined within the ROW nearby was disturbed by highway construction. The entire area near the crossing of several French Creek branches was extensively altered during the building of the limitedaccess freeway.

41BX126—the Culebra Creek Site

After the 1997 excavations at the Culebra Creek Site (41BX126), the site was buried; therefore, additional shovel testing or assessment of the site was not possible.



Figure 5-41. Photograph of the east wall of Backhoe Trench 2, showing undisturbed sediments below modern fill.

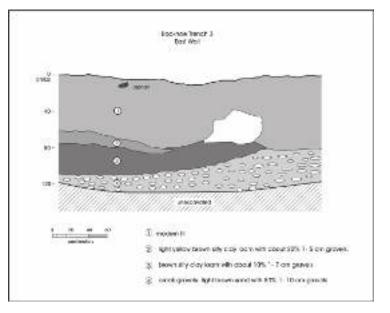


Figure 5-42. Profile of the east wall of Backhoe Trench 3 on the north bank of Helotes Creek.

41BX1616—the Reumple Complex

Site 41BX1616, located at the corner of Loop 1604 and Braun Road, is a historic farmstead referred to as the Reumpel Complex. The site centroid appears to be located outside of the current APE, but due to the possibility that cultural deposits may extend into the current ROW, CAR examined the APE near the site. Three structures from the complex remained standing outside of the ROW at the time of survey. They were surrounded by a chain-link fence. Shovel testing was not possible within the ROW directly adjacent to the site due to massive grading and soil clearing activities associated with recent construction in the area. However, the examination of the surface revealed no historic artifacts suggesting that they either were removed during the grading or were never there.

41BX1003—the Balscheidt House

The Balscheidt House (41BX1003) was first recorded as a historic archeological site in 1993 (Texas Historical Commission 2007). At that time, the recorder felt that the stone house, originally covered with stucco and fallen into ruin, could be dated to the early twentieth century due to the presence of wire nails in the floorboards in the eastern portion of the house. However, during a brief initial reconnaissance of the Loop 1604 West Segment, CAR staff members noted building elements that suggested an earlier construction date. CAR determined that although wire nails were found in milled floorboards in the eastern segment of the house, the joists under these boards spanning a rock-lined cellar were obviously hand-hewn cedar. Additionally, at least two and possibly three building episodes were recognizable from the differences in the patterns of the stone laying in the walls and in the method used to construct the windows. Finally, the remaining wood in the western portion of the house still held a number of both machine cut and hand-forged nails. The latter are unlikely to date very much later than 1877, when the first railroad line arrived in San Antonio (Werner 2007), making goods manufactured all over the country readily available for the first time in the San Antonio area.

Unfortunately, HTNB Corporation did not receive a reply from the landowner to the request for ROE to the western portion of the site. This portion of the site is found withing the TxDoT ROW, although behind a fence. During the survey, restricted access limited close examination of the site to the portion that was being maintained by TxDOT. Figure 5-43a is a photograph of the western façade of the remains of the Balscheidt House as seen from the edge of the maintained part of the site. The cellar underlies the northern side of the house (left), which appears to be an enclosed porch, possibly built over a much older cellar. Figure 5-43b shows the top of the stone-lined cistern located to the northwest of the house.

One unexpected finding at 41BX1003 was the identification of a prehistoric component at the site. Six chert flakes and two expedient bifacially worked chert tools were observed on the surface of the site (see Table 5-27). The number and grouping of these artifacts clearly indicate thee presence of a prehistoric component at the site. Unfortunately, heavy rains

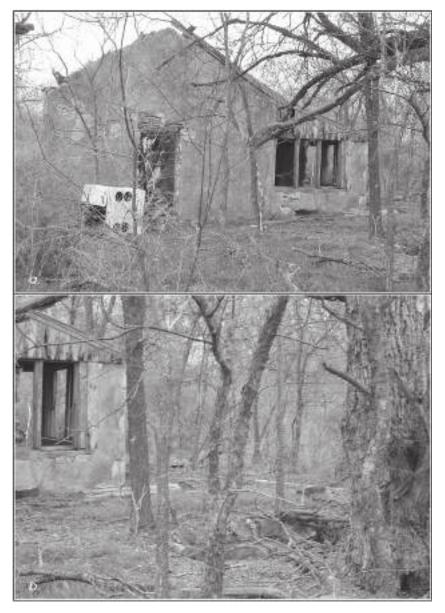


Figure 5-43. The remains of the Balscheidt House (41BX1003) seen from the accessible part of the site: a) the western façade of the house, showing stucco-covered stone construction; b) view of the stone-lined cistern, northeast of the house.

ST	Depth Ended (cmbs)	Level(s) w/ Artifacts	Depth of Undisturbed Sediments	Note
80	60	1,2,5	Surface	Prehistoric artifact in Level 2, historic artifacts to Level 5
81	60	1,2	Surface	Prehistoric artifacts in Level 1, historic artifacts to Level 2
82	60	1,6	Surface	Historic artifacts to Level 6
83	60	2,3,4	Surface	Historic artifacts to Level 4
84	60	2,3	Surface	Historic artifacts to Level 3
85	60	2	Surface	Historic artifacts to Level 2

Table 5-27. Results of Shovel Testing at 41BX1003

fell between the time the flakes were originally seen and the GPS mapping was done resulting in heavy growth of wild flowers and other forbs that limited the relocation and mapping of only two of these artifacts.

Six shovel tests were excavated at the site after surface inspection. Figure 5-44 shows the location of the shovel tests at 41BX1003, as well as artifacts collected from the surface and selected non-diagnostic artifacts not collected. Table 5-27 shows the overall depth reached, the levels that contained artifacts, and the depth of apparently undisturbed sediments. As can been seen from Table 5-27, all the shovel tests reached a depth of 60 cm. The sediments were brown friable silty clay loams that became somewhat denser, with higher clay content, in the last 20 cmbs. A mixture of historic and prehistoric artifacts was found as deep as 55 cmbs. A discussion of the dating of the collected artifacts and a consideration of the significance of the information obtained from 41BX1003 follows below.

The Balscheidts

As part of the project, a preliminary examination of the available records concerning the early occupants of the house was made. The following is a brief discussion of Julius and Augusta Balscheidt, their family, and their community.

Most of the following information was put together from various pages of a web site devoted to the history of the Zion Lutheran Church (Peterson and Anderson 2007a), which stands at the intersection of Braun Road and Loop 1604. The original church building, built in 1906 and recently restored, is on Leslie Road just south of Braun Road. This church served a small community of German-American farmers, the southern edge of the community that became the town of Helotes.

Beginning slowly in the 1830s and becoming a massive migration in the late 1840s and 1850s (see Chapter 2), there was a large influx of Germans into Texas, including the San Antonio area. They were for the most part small farmers and tradesmen who had found life in the German states after the Napoleonic Wars difficult, due to a combination of overpopulation and the inherent social disruptions of the beginnings of the Industrial Revolution (Biesele 1987:6-7). One of those that ended up in northwestern Bexar County was Anton Gugger, who was born in Germany in 1807, and who purchased land in what is now downtown Helotes in

Image Redacted	

Figure 5-44. Aerial of the accessible portion of 41BX1003, showing location of shovel tests and surface finds.

1840, where he started a stage-stop and grocery store on the road from San Antonio to Bandera (Peterson and Anderson 2007b). Later Gugger also purchased land on Helotes Creek, near the intersection of Braun and Leslie Road, and it was there that he was buried in 1881 (Figure 5-45). His wife Marie was buried beside him in 1911 (Peterson and Anderson 2007b)

Gugger's second daughter, Augusta, married a man named John Green and had three children by him before he was killed by Native Americans. She then married Robert Robinson, and had a daughter, Eleanora, by him. After Robinson's death, she married Julius Balscheidt (Peterson and Anderson 2007b). They lived in the house that was later designated 41BX1003.

Very little information other than that available in Peterson and Anderson (2007a) has been learned about the house and its early occupants. It is known that Eleanora Robinson



Figure 5-45. Photograph of the tombstone of Anton Gugger, the father-in-law of Julius Balscheidt in Helotes Cemetery No. 1, Zion Lutheran Church. Note the original stone was repaired by encasing it in cement.

married teacher Henry T. Brauchle and in 1895, they were living in the back room of the Helotes School, where he taught about 48 students. This school was replaced in 1902 by a wood frame building on Leslie Road (Figure 5-46), and was then used mostly for church services until the Zion Lutheran Church was built in 1906. Henry T. Brauchle became a prominent member of the Helotes community. Henry T. Brauchle Elementary School, located a short distance east of Loop 1604 West, was named for him (Peterson and Anderson 2007b).

Julius Balscheidt served on the Church Building Committee. He convinced George Breckenridge, along with other wealthy men in San Antonio, to donate money for the building fund and was instrumental in convincing his mother-in-law, Maria Gugger, to donate the land in which her husband was buried to the church (Peterson and Anderson 2007c). By that time, Anton Gugger's gravesite had been the nucleus around which a small community cemetery had already formed. Between 1881 and 1905, at least 17 people were buried near Gugger's grave (Zion Lutheran Church of Helotes 2007). Given the active involvement of Balscheidt in the establishment and building of the church, it is interesting that neither he nor his wife are buried at the Zion Cemetery (also known as the Helotes Cemetery) (Zion Lutheran Church of Helotes 2007).

Although the Balscheidt House is now in ruins, it was once one of many such farmsteads built by German immigrants in northwest Bexar County, who continued well into the twentieth century to form a thriving and tightly knit community. Figure 5-46 is a map of the area around the intersection of Braun Road and Loop 1604, based on a 1927 USGS Helotes Quadrangle map, showing houses and other buildings built before 1900 still known to stand near 41BX1003. Very briefly, they are:

The Philipp Ruempel Complex (41BX1616). The house, barn and some outbuildings, located near Loop 1604, still stand, now surrounded by a shopping and office complex under construction.

The Braun/Rousseau Complex (41BX1615). The house, barn, and several outbuildings still stand, just off Braun Road west of Loop 1604.

The Braun/Crenwelge Complex. The house, barn, windmill, water tank, and numerous other buildings are still extant, located approximately 850 m east of Loop 1604 on Braun road.

The Frederick Braun House. The house still stands on Leslie Road, north of Braun Road.

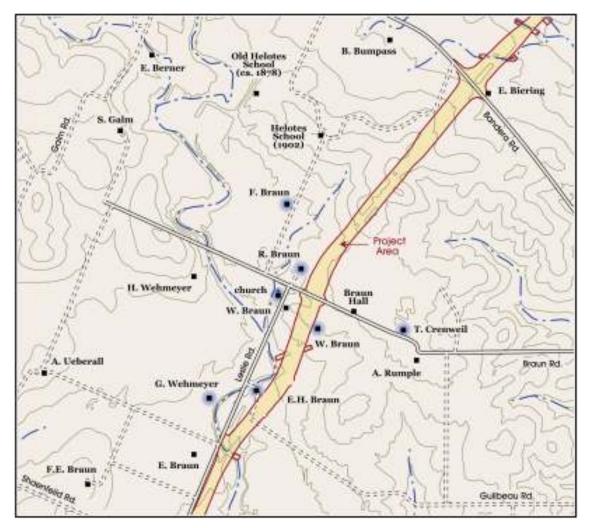


Figure 5-46. Map showing locations of houses and other buildings of a German-American farming community begun in the mid-19th century (highlighted in blue). Based on a 1927 USGS map, Helotes Quad. Buildings still extant are noted. (Note: Spelling of names is from the 1927 map).

The Weimer/Wehmeyer House. The house still stands on Leslie Road, south of Braun Road.

Braun Hall. Located just east of Loop 1604 on Braun road, it is a wood frame structure built in 1892 to serve as a meeting hall for the Sons of Hermann Lodge, and still serves that function as well as being one of the oldest dance halls in South Texas. The original building has been surrounded by a later addition but is otherwise intact.

Zion Lutheran Church of Helotes, Church No. 1. The original building for the church, a wood frame structure in a simplified Gothic vernacular style (Jordan 2001), was constructed in 1906, probably by members of the community (Peterson and Anderson 2007c), and was recently restored to its original appearance.

Isolated Finds

Four isolated finds were recorded during this project. The first three were in an area in the southern part of Survey Area 2, on the eastern side of Loop 1604, on a hill between two minor branches of Helotes Creek (Figure 5-40). The top of the hill does not appear to have been seriously impacted by highway construction. A two-track dirt road, presumably used by the adjacent landowner, runs approximately 5 m from the fence line. During the pedestrian survey, three pieces of lithic debitage were located, one of which was in the backdirt of a large animal burrow on the fence line. These artifacts were too far apart for the area to be considered a site. Five shovel tests (STs 48-52) were dug in the area. Four of these shovel tests showed no sign of disturbed sediments but no artifacts were recovered. The fifth (ST 49) held modern fill throughout and it was later realized that this test had been placed in a pipe

trench that runs just west of the fence line. As there was no ROE for the land beyond the fence line within the proposed ROW, no survey of that area was possible.

The fourth isolated find was located on a terrace south of Helotes Creek on the east side of Loop 1604. It consisted of a grouping of limestone rocks arranged in a distinct rectangle completely covering an area measuring 110 cm by 150 cm. When first observed, it was noted that there was more than a single layer of rocks in the alignment. It seemed that the most likely explanation was the burial of an animal, however, in order to make sure that is was not a human burial, CAR was asked to excavate two 50-x-50-cm units to determine exactly what the stone feature represented.

Unit 1 was placed to excavate the northern corner of the rock formation, to determine if there was a pit visible below the layers of limestone. Unit 1 was excavated to 103 cm below the datum, which was 17-20 cm above the ground surface. A pit wall could be seen in the profile, beginning about 5 cmbs. The sediments consisted of creek gravels mixed with 5 to 30 percent sandy silt. The pit had been dug into these gravels and then refilled, leaving the pit fill only slightly darker and looser than the surrounding sediments, without the layering visible in the rest of the profile. At about 53 cm below the datum, a piece of soft blue plastic was recovered from the pit fill. The bottom of the pit was approximately 70cm below the datum.

Artifacts Recovered

All artifacts recovered from shovel tests were collected (Appendix II). Otherwise, collection was limited to temporally diagnostic artifacts on the surface, with one exception: when several artifacts were located on the ground surface within 5 cm of a diagnostic artifact they were all collected. This occurred in two cases at 41BX1003. A total of 116 artifacts were collected from the West Segment of Loop 1604. The majority of these (n=92; 79%) were collected from 41BX1003. By far the largest artifact category was dark amber (brown) container glass, which comprised 29.3 percent of the total artifact count (n=34). This type of glass, typically the remains of modern beer bottles, was often found scattered over the surface of areas being tested. Table 5-18 is a complete list of artifacts recovered and catalog numbers. The following includes a brief discussion of artifacts and their estimated ages.

Lithics

The only prehistoric lithics collected during the project were along the eastern edge of 41BX1003. One bifacial tool (22-01, Figure 5-47a) was located in Level 1 of Shovel Test 81. Two chert flakes were also recovered from the site, one on the surface immediately adjacent to a piece of diagnostic white earthenware, and the other in Level 2 of Shovel Test 81. In addition to the three collected artifacts, one additional expedient tool (Figure 5-47b) and six more chert flakes were

Having shown that the rocks covered a pit, CAR extended Unit 1 to the south to locate anything that might be buried in the pit. Unit 2 was also 50 cm by 50 cm. At 65 cm below the datum, the cranium of a large canid was uncovered. Further excavation showed the skull was still articulated to the mandible, three cervical vertebrae, and the left scapula. The remainder of the skeleton extended into the eastern wall of Unit 2. The cranium was briefly examined. It was that of a large dog (Canis lupus familiaris) with a robust bone structure and a relatively short muzzle. The cranial and nasal sutures were fused, but the incisors retained remnants of the lateral lobes, indicating that the animal was probably no more than 2 years of age (Hillson 1990:216). The skull was returned to the grave, the pit refilled and the stones replaced in order to restore the grave as closely as possible to its original appearance.



collected).

seen on the surface of the site, two within about a meter of Shovel Test 81 and four more in other areas of the site.

Ceramics

All of the ceramics collected were from the eastern edge of the historic Balscheidt House Site (41BX1003).

Undecorated white earthenware cannot be dated more certainly than ca. 1830 to recent times. Undecorated porcelain can be dated throughout the span of European occupation of the San Antonio area, as Chinese porcelain is sometime found in Colonial sites in Texas (Carlson 1994:87). For the purposes of this report, undecorated porcelain is considered to date from the early nineteenth century to recent times.

Three kinds of decorations on white earthenware and semiporcelain were recovered.

One sherd has an under-glaze graduated pink coloration on white earthenware (38-01, Figure 5-48a) that appears similar to a type of coloration that serves as a background on some decal-decorated wares (K. M. Ulrich 2007: personal communication). Two decal decorated sherds, one on white earthenware (31-01, Figure 5-48b) and one on semi-porcelain (41-02, Figure 5-48c) also were collected. The application of polychrome decals over the glaze on ceramics began in 1850 and by 1890 was becoming very popular (Durrenberger 1965:21). Its popularity peak had passed by the 1930s but the technique is still used to some extent today (Stelle 2006). Finally, a single, solid-colored glaze on white earthenware, known generally as Fiesta ware, (also called "plain colored" (Tennis 1997:15)) was collected. Only the type manufactured by the Homer Laughlin Company between 1936 and 1973 (Lehner 1988:246) could carry the trademarked name (Rinker 1997:93). Fiesta ware came in a number of colors. The sherd recovered on the surface at 41BX1003 (35-01, Figure 5-48d) appears to be an example of "Fiesta Rose" (Rinker 1997:95), a color that was not introduced until 1943 (Lehner 1988:246).

In addition, one piece of undecorated white earthenware was collected because it had a partial maker's mark on the back (28-01), consisting of the partial word "Pea" preceded by a

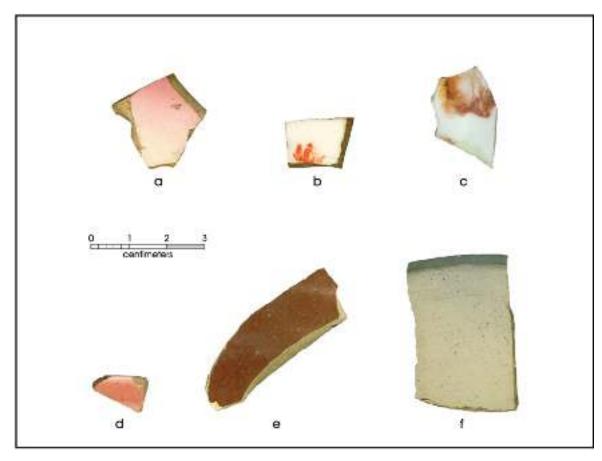


Figure 5-48. Selected ceramic artifact from 41BX1003: a) white earthenware sherd with pink under-glaze decoration; b) decal decorated white earthenware; c) decal decorated semi-porcelain; d) "Fiesta" sherd; e) salt-glazed stoneware sherd; f) partially glazed stoneware sherd.

set of quotation marks. Unfortunately, a search of available pattern and maker's marks references did not find a match for this small fragment.

Three stoneware sherds were collected from the surface at 41BX1003. Stoneware is made from refined clays fired in a very hot kiln until they are vitrified. Stoneware was usually used for utility wares such as bottles, jugs, crocks, and baking dishes of various types (Greer 1981). It was commonly used for such utilitarian wares into the early twentieth century and to a much lesser extent is still used today (Tennis 1997:16). After the Civil War, a number of potteries in the San Antonio area were making stoneware (Greer and Black 1971). As a result of excavations before the building of the Alamodome in San Antonio, Tennis (1997:23) was able to compare the ceramic assemblage from 19 sites with more than 50 ceramic artifacts recovered. She noted that the percentage of stoneware (vs. white earthenware and porcelain) was highest in sites occupied first in the 1850s, and there was a marked decline in this percentage in sites first occupied after 1900 (Tennis 1997:23).

Two of the stoneware sherds recovered had a salt-glaze exterior with a dark brown Albany interior (Figure 5-48e). Salt-glazed wares were made by throwing coarse table salt into the kiln when the temperature was above the vaporization temperature of sodium chloride. The resulting gas reacted with the clay of the stoneware, creating a glassy layer that was usually a light grey to white color and had the texture of orange peel. The interior of most salt-glazed pots made in the United States was the dark brown Albany slip glaze (Stelle 2006; Tennis 1997:20). Salt glazing of stoneware was almost completely replaced by the white to cream-colored Bristol slip glaze by about 1900 (Greer 1981:17). One other stoneware sherd, which appears to be the rim of a platter or the flared rim of a dish, has a Bristol slip glaze on the upper surface and an unglazed slip covering the underside (Figure 5-48f). Glazing only the interior of a stoneware piece was usually done for baking dishes. This fragment probably dates to around 1900 but may be somewhat later (Tennis 1997: 21).

Glass

Glass from containers can sometimes be useful in dating the occupation of a site. Methods of manufacture, maker's marks, remaining advertising, and sometimes color can, together or separately, provide a great deal of information about the date and use of containers. However, since most glass recovered in archeological context is broken, determining methods of manufacture or maker's marks is often not possible. The one attribute that can usually be determined is color. Unfortunately, most colors of glass have been used for a very long time and can provide only a very general date (Lindsey 2007a and 2007b). One glass color, bright green, sometimes called 7-Up® green, can be reliably dated to the twentieth century (Lindsey 2007b).

As mentioned above, the largest category of artifacts collected was dark amber (brown) glass. Glass of many shades of amber has been in use for centuries. It has been of particular use in bottles that contain beer, because shortly after brewers began to bottle beer, they discovered that too much exposure to light changed the flavor of the beer, making it unpalatable (Lindsey 2007b). Lindsey (2007b) has noted, however, that once the bottle-making machine had become almost universal, there was much less variation in glass colors in utilitarian containers. In particular, the dark amber (brown) color associated with beer bottles today was standardized by about 1920 (Lindsey 2007b). Thus, although it is possible that the dark amber glass is older than 1920, all but one piece have colors within the small range of colors seen in modern bottles and can be assumed to be post-1920, and probably a great deal more recent than that. The one exception is a small sherd of dark amber glass with an olive tint and a heavy patina (46-01), found in Level 4 of Shovel Test 81 at 41BX1003 (Appendix 2). None of the other dark amber glass in this collection has any significant patina. Munsey (1970:53) has noted that the two most important factors that determine the development of patina on glass are the chemistry of the glass itself and its long-term exposure to water. Although the glass fragment in question cannot be positively dated to the nineteenth century, it is likely that it was manufactured before the development of more standardized colors after about 1920.

Another glass color that can be used for dating is clear glass manufactured with manganese dioxide used as a de-coloring agent (Lindsey 2007b). Exposure to sunlight for an extended period will cause this glass to turn various shades of purple, variously called sun-colored or solarized purple, lavender, or amethyst. Although solarized amethyst glass has been seen occasionally in earlier contexts (Lockhart 2006a:52), it was not until 1870 that large-scale American glass makers began to use manganese to de-color glass (Lockhart 2006a:54). When the automatic bottle-making machine began to take over the glass container industry after 1903 the use of manganese declined sharply because it was discovered that glass using selenium as a de-colorizing agent worked better in the machines than the formula that used manganese (Lockhart 2006a:53). In addition, selenium was cheaper and, after the beginning of World War I, more readily available. By about 1920 only a small percentage of bottles were still being blown by hand using the manganese dioxide formula. With few exceptions, these were limited to small runs of bottles made with the embossed names of drug stores. By 1930, all

common clear bottle types were made without manganese (Lockhart 2006a:53-54).

As Appendix II shows, two pieces of glass found on the surface of 41BX1003 are solarized amethyst. One is a fragment of thick glass with considerable patina (30-20). This is probably from a soda water bottle, as these containers were made of thick glass to hold the pressure from the carbonation (Lindsey 2007c). The other fragment is pressed glass (24-01, Figure 5-49a), and appears to be the scalloped edge at the top of an oil or gas lampshade. These were often decorated in this fashion as can be seen in the 1897 Sears, Roebuck Catalog (Israel 1968: 689). It may be the rim of a glass dish, though the thinness of the glass below the scallops makes this less likely. One fragment of glass is pale blue satin glass (19-01, Figure 5-49b). Satin glass is made by immersing translucent or opaque glass, usually in pastel shades, in hydrofluoric acid (Van Tassel 1950:78). This gives the glass a soft-looking matte finish that was highly prized as art glass but was used for utilitarian purposes as lampshades. The technique was developed around 1890 and was very popular throughout the late nineteenth and early twentieth centuries, though it is still occasionally used today both for art glass and for a "frosted" glass effect on more utilitarian items (Encyclopedia Britannica Online 2007). The thickness, size, shape, and lack of any decoration of this fragment suggest that it is more likely to be from a utilitarian lighting shade rather than a fancy shade, but it could be the fragment of a dish.



Figure 5-49. Selected glass artifacts from 41BX41003: a) pressed glass solarized amethyst; b) satin glass rim; c) "blob top" bottle lip fragment; d) machine-made medicine bottle neck; e) clear bottle base f) thick aqua glass fragment (possible insulator fragment).

Manufacturing techniques can also serve to date glass though, as with color, many techniques were used for long periods. The period at the end of the nineteenth century and into the early twentieth century, however, saw a number of changes in bottle manufacturing, including the development of tooled lips, and later the invention of the automatic bottle-making machine. Two artifacts from 41BX1003 can be dated with considerable reliability by the type of lips they have.

The first one is a fragment of a soda bottle, with a "blob" type lip (25-01, Figure 5-49c). The shape of the bottle neck can be determined and that, along with the blob lip show that this bottle was manufactured for the Hutchinson Spring Stopper (Lindsey 2007d). This stopper, which was patented in 1879, was a major improvement over cork stoppers for soda and beer bottles, and by the mid-1880s had largely taken over the soda water market in the United States. The Hutchinson stopper consisted of a rubber gasket inside the bottle, with a loop of wire that extended above the rim of the bottle. When the bottle was filled, the wire loop was used to pull the gasket up into the bottleneck. The pressure from the carbonated beverage kept the stopper in place until the metal loop was pushed down, pushing down the rubber gasket and allowing some of the gas to escape with a loud popping sound. This is the source of the name "pop" for carbonated beverages (Lindsey 2007d). The lip on this bottle fragment is applied, a bottle finishing technique used on bottles meant for Hutchinson stoppers only in the first few years of production. This allows a tight dating of the manufacture of the bottle, between about 1880 and 1885, (see Lindsey 2007d for a discussion of dating this type of bottle).

Another bottle lip (30-03, Figure 5-49d), recovered from the surface at 41BX1003, was made in an automatic bottlemaking machine, which means it was made some time after the patenting of that machine in 1903 (Munsey 1970:33). The lip is in the form known as an "oil" finish, a type that had been standardized by about the middle of the nineteenth century and usually used for medicines like castor oil and similar products. This finish is intended for a cork closure. With the exception of wine bottles, screw caps and crown caps had replaced cork closures by about 1920 for almost all bottles, although the Owen-Glass Company still offered a few small bottles intended for cork closures into the 1940s (Lindsey 2007d). Thus, the dating of this bottle can be reasonably limited from 1903 to ca. 1920.

Several bottlenecks with crown finishes were recovered from the surface of 41BX1003 (Appendix 2). The crown cap was patented in 1892 but was not widely used until the invention of the bottle-making machine provided uniform lips not possible when bottle lips were finished by hand. By about 1920, the crown cap had replaced all previous closure systems for soda and beer bottles (Lindsey 2007d).

Bottles made in the United States were usually free-blown until the nineteenth century (Munsey 1970:38). The practice of blowing glass into various types of molds became more common in the nineteenth century. Aside from standardizing the lower part of the bottle (the lips and sometimes the necks were still finished by hand until after 1903 when the automatic bottle-making machine was invented), these molds allowed two types of embossing: product identification, usually found on the side of the bottle, and manufacture's identifications or maker's marks, usually found on the bottom of the bottle (Lindsey 2007e). The amount of information that can be gleaned from maker's marks varies a great deal, and depends to some extent on the amount of information about a particular manufacturer that has been collected. For instance, a Coca Cola bottle base recovered from the surface at 41BX1003 (32-01) is embossed "San Antonio/Texas", but although we know that this bottle was made by the San Antonio Bottling Company (now the Coca Cola Bottling Company of the Southwest), there is no information available about the dating of that particular style of maker's mark. Thus, the bottle can be dated only as post 1916, when the distinctive "hobble skirt" bottle was adopted by Coca Cola, who required all bottlers to use it (Sellari and Sellari 1975:142).

On the other hand, the information from maker's marks can be more complete. A complete bottle found in Level 3 of Shovel Test 32 has an aluminum screw cap with a "Pepsi" logo on it. The aluminum cap suggests a late twentieth century date for the bottle, but in this case, the information embossed on the bottom of the bottle (10-01) tells us that this was made by the Brockway Glass Company (1933-1988), while the date and plant codes indicate the bottle was made in 1982 in their plant at Muskogee, OK. (Witten 2007a).

The marker's mark on a partial bottle base (30-01, Figure 5-49e), from the surface at 41BX1003, is that of the Obear-Nester Glass Company, made some time between 1915 and 1980 (Witten 2007a).

Another partial base, made with cobalt glass and embossed "RUB/25" on the bottom, is part of a Vicks VapoRub® jar. This salve, still in common use today, was invented in 1894 by Lunsford Richardson, who called it Vicks Magic Salve, but later changed the name to Vicks Croup and Pneumonia Salve. The familiar trade name was established in 1907, and within four years, the salve was pictured in advertising in both small metal containers and in the familiar cobalt blue glass jar (North Carolina Museum of History 2007).

One glass artifact recovered from the surface of 41BX1003 does not appear to be from a container (27-01, Figure 5-49f). The aqua glass is very thick, the molding is very poor, and the shape, with a large opening through the entire piece, suggests that this artifact was from a glass insulator or some other more industrial use. Glass was used to insulate electrical lines from the ground beginning with the telegraph era ca. 1840 and continued in use until about the 1930s, though some glass insulators were still being made into the 1960s (Witten 2007b). The piece is too fragmentary to identify positively as an insulator, so a date cannot be reliably suggested.

Other artifacts from 41BX1003

A number of cut nails, which date to the nineteenth century until about 1890 (Wells 1998:87), were found on the surface of the site, and three were found in shovel tests (Appendix 2). An example of one (20-05, from Level 2 of Shovel Test 80 is shown in Figure 5-50a. This is a machine-cut nail that snapped about 2.7 cm below the head. Such breaks indicate it was cut from a blank where the grain of the sheet iron ran across the width of the nail rather than along the length of the nail. The burrs left by the cutting are on the same side, indicating it was cut with a reciprocating blade, and the

"pinch" (where it was grasped for heading) is on the face. According to the typology proposed by Wells (1998), this nail is a Type 6, which he found in houses built in Louisiana from 1810 to 1840 (Wells 1998:95). However, Wells notes the importance of using nails from local houses of known dates to establish local nail chronologies (Wells 1998:96). This is especially important for houses built before the introduction of the railroad in areas where there was no access to water transportation, as there would have been limited availability of machine-cut nails in such places. Even if local production was available, the machinery used my have been old (Wells 1998:86). The railroad first arrived in San Antonio in 1877 (Werner 2001). In any case, this nail is likely to date from the building of the house to approximately 1890, when wire nail technology had largely taken over the nail-making industry (Wells 1998:87).

A metal belt buckle was found on the surface (26-01, Figure 5-50b). The shape suggests it is of the "roller" variety, though the roller itself, which should be on the bar opposite the tongue, is missing. This artifact probably dates after 1877 when the railroad arrived in San Antonio made manufacturers' goods from all over the country and the world more readily available to the city and surrounding communities (Werner 2001).

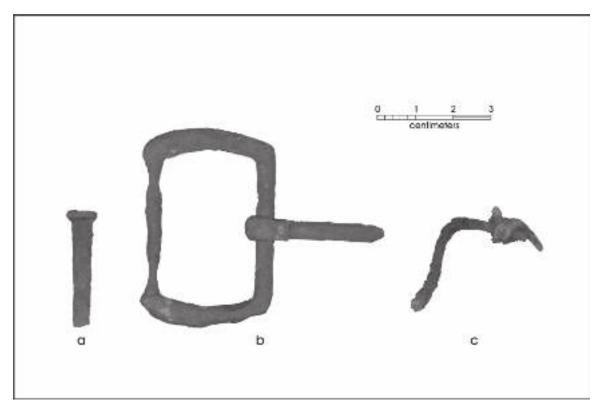


Figure 5-50. Selected metal artifacts from 41BX1003: a) cut nail; b) metal buckle; c) barbed wire fragment.

One piece of barbed wire, recovered from Level 3 of Shovel Test 84 is of particular interest (48-01, Figure 5-50c). It is a type patented (# 6913) in 1876 by José ph Glidden (The Devil's Rope Museum 2007). Although he was not the first to come up with the idea of a "thorny fence" to keep cattle from pushing down wire fences, he was one of the first to patent an economically viable method of creating barbed wire (McCallum and McCallum 1965:56). He patented several varieties, and the piece recovered from 41BX1003 is one of the earliest. It is of interest that by 1885 almost all barbed wire for cattle fencing produced in the United States was a variation on two strands twisted together to hold either twoor four-pointed barbs, very similar to the first barbed wire patent Glidden received in 1874 (McCallum and McCallum 1965:231). Thus the piece shown in Figure 5-50c was almost certainly produced between 1876 and 1885.

Chapter 6: Summary and Recommendations

Summary of Findings within the East Segment

CAR surveyed 7.0 miles of private property adjacent to the current ROWs of Loop 1604 and IH 10 and 13.5 miles of existing ROW along the East Segment. Areas within private lands were shovel tested based on level of development, probability of existing resources, and length. Because some property owners did not grant access, we did not test all properties within the project area. Sixty-seven properties with ROE permissions were examined. While artifacts were identified on surface or documented during shovel testing and backhoe trenching, none were collected from those portions of the archeological APE. Approximately 40 percent of the properties (n=42) where new ROW will be acquired for this segment had no ROE and were excluded from the pedestrian survey.

Survey segments that received shovel testing ranged from 1.14 to .02 miles, but most were restricted to less than one half mile. One hundred thirty-four shovel tests were excavated across the project area; forty-nine of these were positive for cultural materials (Table 4-4). CAR monitored excavation of six backhoe trenches at three stream crossings. Two of these were positive for cultural materials. Two new sites, two surface isolated finds, and two historic resources were documented.

Site 41BX1692 is a lithic scatter that extends 80 m along the west side of Loop 1604 in Area 8. The extent of the boundaries to the east and west are unknown because testing was constrained to the 50 ft. width of the project area. Over 160 pieces of burned rock and debitage were observed in nine positive shovel tests from the surface to 60 cmbs. No temporally diagnostic artifacts were observed. All artifacts were left on site. The site is potentially eligible and should be treated as an eligible site until further significance testing.

Site 41BX1693 is also a lithic scatter extending 100 m west from Salitrillo Creek north of IH 10 in Area 23. The site boundaries were determined from observation of surface artifacts and artifacts within the profile of Backhoe Trench 4. These included only FCR and debitage. No other artifact types were seen and no artifacts were collected. No shovel testing occurred on the site. The site boundaries likely extend beyond the limits of this project area. The NRHP eligibility and SAL status of the site could not be fully assessed due to limited access.

Isolated Find 1 was recorded near Shovel Test 40 in Area 8 a few hundred meters south of Site 41BX1692 north of Salitrillo Creek and west of Loop 1604. This early stage biface was not temporally diagnostic. The location was recorded with

a GPS and the tool was left in place. This was the only tool documented during the survey.

Surveyors recorded Isolated Find 2 in Area 23 south of IH 10 on the ground surface near Salitrillo Creek. This was the neck of a broken bottle recorded because its amethyst color indicates it could be a historic artifact. The area was littered with modern trash. The bottle fragment was photographed and left on the property.

Historic Resource 1 stands in Area 7 at the corner of Ware Seguin Road and Loop 1604 (Property 159). Surveyors were not given access to the grounds associated with this residence, which sits slightly outside the proposed ROW. The bungalow pre-dates 1956 the minimum age for NRHP listing and SAL designation, however detailed examination of the structure was not possible. Construction could compromise the integrity of the residence if such construction extends outside of the immediate project ROW.

Historic Resource 2 was recorded outside the project boundaries in Area 8. This includes a dilapidated single story residence and two outbuildings on Property 2615. The house meets the minimum date requirements for historic properties as indicated by the Bexar County Appraisal District On-line Property Records but because it is in such dilapidated condition, we do not recommend further investigation of the house or associated standing structures and do not recommend its addition to the NRHP or designation as an SAL. Shovel tests within the land inside the project boundaries were negative.

Archeological Recommendations for the East Segment

Because much of the project area remains privately owned, CAR recommends returning to restricted areas as soon as access is available to assess the cultural resources that may exist there. This includes shovel testing at the appropriate density for the length of the property and backhoe trenching near stream crossings. Table 6-1 also lists properties that we recommend surveying if access becomes available and road construction affects them. Finally, we recommend that once ROE permissions are obtained for restricted properties (see Table 6-1), crews also revisit the locations of some positive STs within new ROWs to determine whether they should be designated as archeological sites (see Figures 5-10, 5-12, and 5-13).

Area	Property Number	Recommendation		
4	922	shovel testing		
7	3143	shovel testing		
8	3154	backhoe trench		
8	2615	architectural assessment		
10	3186	shovel testing		
10	3172	shovel testing		
10	3173	shovel testing		
10	3171	shovel testing		
10	3190	shovel testing		
10	3183	shovel testing		
10	3185	shovel testing		
11	3195	shovel testing		
11	3200	shovel testing		
12	3193	shovel testing		
12	1096	shovel testing		
12	1090	shovel testing		
12	1089	shovel testing		
12	1083	shovel testing		
23	3225	backhoe trench		
23	2472	shovel testing site		
_	1531	shovel testing		
_	930	shovel testing		
_	1662	shovel testing		
_	1533	shovel testing		
_	1030	shovel testing		
_	1029	shovel testing		
_	3461	shovel testing		
_	3460	shovel testing		
_	3471	shovel testing		
_	3487	shovel testing		
-	3468	shovel testing		
-	3469	shovel testing		
-	3484	shovel testing		
_	3499	shovel testing		
_	3489	shovel testing		
_	3458	shovel testing		
-	1664	shovel testing		
_	1686	shovel testing		
_	1690	shovel testing		
_	1715	shovel testing		
_	1663	shovel testing		
_	1707	shovel testing		
_	3481	shovel testing		
_	1704	shovel testing		

 Table 6-1. Recommendations for Untested and Restricted

 Properties by Area

Backhoe trenching was possible at the three stream crossings: Salitrillo Creek at Loop 1604 in Area 8, Escondido Creek at IH 10 in Area 10, and Salitrillo Creek at IH 10 in Area 23. Six backhoe trenches were excavated to determine the depth and nature of the deposits. Backhoe Trenches 4 and 6 contained debitage and FCR. Two additional backhoe trenches are recommended on properties on each bank of Escondido Creek where it crosses Loop 1604 in Area 10 south of IH 10 if access becomes available.

We also recommend an additional backhoe trench in Area 8 on Property 3154 or 2615 north of Salitrillo Creek and south of Site 41BX1692. CAR was unable to determine to whom the property belonged when access was given in July 2007 and therefore did not enter the property for backhoe trenching. ROE status has since changed and CAR no longer has permission to enter the property.

Recommendations for Historic Properties and Archeological Sites

Just outside the project area within Area 7, one historic property (Historic Resource 1) includes a single residence at the corner of Ware Seguin Road and Loop 1604 (Property 2480). As viewed from the ROW, the bungalow pre-dates 1950 and could potentially qualify for listing on the NRHP. Examination of the structure was not possible because access to the property was not granted and the house sits just outside the boundary of the project corridor. However, the property should be properly described if impacted by the current project as the integrity of this property may be compromised by nearby construction.

Another historic property was recorded within the project boundaries. Historic Resource 2 includes one house and two outbuildings on Property 2615 in Area 8. Though the property meets the minimum age requirements, we do not recommend it for listing on the NRHP due to its dilapidated condition. We do not recommend further documentation of this property.

Site 41BX1692

The lithic scatter of unknown temporal affiliation recorded in Area 8 contains artifacts from the surface to at least 60 cmbs. A few hundred meters south of the site, an isolated biface was recorded. Due to the density of artifacts, its proximity to water, and presence of a lithic tool in the area, we recommend Phase II testing to explore the integrity of the site and its significance. At this time, the site is considered as potentially eligible for listing on the NRHP. Based on current information, we recommend that the site be treated as eligible and recommend avoidance (Table 6-2). However, if the site cannot be avoided, CAR recommends additional work to determine the extent and nature of additional investigations necessary.

Table 6-2. Recommendations and Eligibility Status of Sites within the Archeological APE
of the East Segment

Site	Historic/ Prehistoric	Site Type	Eligibility Status	Comment
41BX1320	Historic	farmstead	Not Eligible	Not eligible according to Criteria A, B, and C. The site will be revisited to determine if the site is eligible under Criterion D.
41BX1692	Prehistoric	Unknown	Undetermined	Access to property was limited. Requires further testing
41BX1693	Prehistoric	Unknown	Undetermined	Access to property was limited. Requires further testing

Initial investigation of Survey Area 1 revealed that large portions of the ROW exhibited exposed bedrock and road base at the surface, as well as areas highly disturbed by construction and erosion along drainages. Twentytwo shovel tests were excavated within Survey Area 1. Bedrock was encountered between 15 and 40 cmbs in 9 (41 percent) of the 22 shovel tests. Where bedrock was not present near the surface, asphalt, road base, and sand representing trench fill was the typical heavily disturbed matrix.

Site 41BX1693

In Area 23 on Property 2472, CAR recorded a prehistoric site, 41BX1693, of unknown temporal affiliation. To comply with the landowners wishes, we limited our excavation to a single backhoe trench and did not perform additional shovel tests to determine the site boundaries. Instead, we relied on surface inspection of the plowed field. Within this plowed field after heavy rains, we observed pieces of burned rock across a 100 m area from the west bank of Salitrillo Creek. Backhoe Trench 4 showed similar artifacts within the plow zone. The extent the lithic debris outside the project area is unknown.

Due to restrictions expressed by the current landowner, the NRHP eligibility of the site could not be fully assessed (Table 6-2). To define the site boundaries, we recommend additional shovel tests at 10 m intervals across the site boundaries within the proposed ROW after ROE is granted.

Summary of Findings within the North Segment

CAR conducted a 100 percent intensive pedestrian survey of five tracts (Survey Areas 1-5) of land located along the North Segment of Loop 1604 between Kyle Seale Parkway and IH 35. The surveyed areas are the property of TxDOT and will be impacted by the proposed improvements of Loop 1604. CAR was contracted by HNTB Corporation to conduct the intensive pedestrian survey of these five Survey Areas and portions of IH 10 and IH 35 north of Loop 1604.

Eighty-nine shovel tests were excavated during the course of the survey. The majority of the shovel tests encountered compacted road base revealing the disturbed nature of the ROW. Shovel test records indicate that the road base extends deeper than 60 cmbs. No cultural material was encountered in the shovel tests conducted.

Survey Area 2 also was impacted by recent construction activities. The intersection of Loop 1604 and Blanco Road had been heavily disturbed by the construction of shopping centers and associated drainages. The intersection of Loop 1604 and Huebner Road revealed much exposed bedrock. Shovel testing was conducted where feasible, with 28 tests excavated within the survey area. Bedrock was encountered between 5 and 50 cmbs in certain areas along the ROW. Areas marked by road base revealed that the base material extended to a depth exceeding 60 cmbs.

Survey Areas 3-5 were included in the North Segment survey following consultation with HNTB, TxDOT, and THC to survey all previously unsurveyed areas within the APE. Survey Area 3 extended from La Cantera Parkway to IH 10 along North Loop 1604; this area was surveyed, although no intact areas could be identified where shovel tests could be excavated. Bedrock on the surface and cutbacks prevented any subsurface probing.

Investigations of Survey Area 4, located along Loop 1604 from N.W. Military to Salado Creek, revealed that the soils are shallow along most of the ROW. No cultural materials were encountered during the pedestrian survey of Survey Area 4. No subsurface testing was possible within the area due to shallow topsoil and/or extensive disturbances.

Survey Area 5 extended from the Union Pacific Railroad west of Nacogdoches Road to IH 35. The majority of the area west of Nacogdoches either has been previously developed or was in the process of being developed at the time of the project. Twelve shovel tests were excavated within the survey area. Survey Area 5 incorporates site 41BX564 which appears to have deeper soils than the rest of the project area to the west. The IH 10 Segment extended from Loop 1604 to La Cantera Parkway. Much of the area has undergone either recent construction related to the Rim Shopping area or from the placement of underground utilities. Areas that did not appear to be disturbed were shovel tested. Eight shovel tests were excavated within this survey area. One shovel test contained cultural material; it consisted of a frayed rubber machine belt found between 40 and 50 cm below surface.

Eleven of the twelve previously identified sites were revisited and where possible shovel tests were excavated within either their boundaries or their vicinity. In some cases, site boundaries had been recorded and testing was conducted within these boundaries. Most of the recorded site locations consisted of a site nucleus, so shovel tests were placed near the site centroid within the project ROW. Of the twelve sites, eight (41BX22, 41BX38, 41BX39, 41BX44, 41BX65, 41BX68, 41BX564, and 41BX889) were subjected to shovel testing. Three (41BX66, 41BX67, and 41BX1064) were not shovel tested because of the extensive disturbances evident in their vicinity. Testing revealed no cultural remains that could be attributed to the sites extending into the ROW of Loop 1604 and IH 10. It is likely that if any cultural deposits from these sites existed, they were removed or covered by road construction. Site 41BX52 was not examined during the survey of the North Segment, but was tested by CAR in 2007. The results of these excavations are published under a separate cover. Testing found no deposits remaining within the ROW that would contribute to the eligibility of the site.

Archeological Recommendations for the North Segment

In summary, the intensive pedestrian survey along the portion of North Segment of Loop 1604 from Kyle Seale Parkway to IH 35 produced no historic or prehistoric cultural materials. Initial reconnaissance, and subsequent survey accompanied by shovel testing, identified no areas along the Loop 1604 corridor examined suitable for backhoe trenching. Backhoe trenching was conducted along a portion of IH 10, but did not encounter significant cultural deposits. These investigations documented extensive disturbances along the North Segment of Loop 1604 ROW. No cultural deposits were located within the project APE during the course of the project. Finally, the CAR investigations have found that none of the previously documented sites found near or within the project APE warrant listing in the NRHP or formal designation as SALs (Table 6-3). In addition, improvement activities along Loop 1604 will not extend beyond the present ROW. Therefore, CAR recommends no additional archeological investigations within the APE, and we suggest that the proposed construction activities along the Loop 1604 ROW proceed as planned.

Summary of Findings within the West Segment

Across the West Segment of Loop 1604, CAR examined unsurveyed areas of the APE and monitored backhoe trenches at selected stream crossings, revisited sites, and conducted limited archival research on the historic community near Braun Road. During this work, eighty-four shovel tests were

Table 6-3. Recommendations and Eligibility Status of Sites within the Archeological APE of the North Segment

Site	Historic/ Prehistoric	Site Type	Eligibility Status	Comment	
41BX22	Prehistoric	campsite, cave	Eligible	No further work recommended. Rockshelter/cave is eligible, remainder of site is not.	
41BX38	Historic	Homestead	Unknown	Eligibility will be reassessed after UTSA-CAR survey.	
41BX39	Prehistoric	campsite/quarry	Not Eligible	No Further Work was recommended. But site will be revisited	
41BX44	Prehistoric	temporary campsite	Unknown	No Further Work was recommended. But site will be revisited	
41BX52	Prehistoric	campsite	Eligible	Currently being investigated	
41BX65	Prehistoric	temporary campsite	Unknown	No Further Work was recommended. But site will be revisited	
41BX66	Prehistoric	temporary campsite	Not Eligible	No Further Work was recommended. But site will be revisited	
41BX67	Prehistoric	campsite	Unknown	Futher work was recommended to determine eligibility. Site will be revisited.	
41BX68	Prehistoric	quarry/chipping station	Unknown	No Further Work was recommended. But site will be revisited	
41BX564	Prehistoric	lithic procurement/ scatter	Unknown	No Further Work was recommended. But site will be revisited	
41BX1064	Prehistoric	Unknown	Unknown	nown Site will be revisited.	
41BX889	Historic/ Prehistoric	Trash dump/open campsite	Unknown	Futher work was recommended to determine eligibility. Site will be revisited.	

excavated, no additional sites were recorded, additional information was added to previously recorded sites, and four isolated finds were recorded. All shovel tests (STs 3-12 and 14) and the backhoe trench (BHT 4) excavated in Survey Area 1 were found to contain modern fill. No evidence of undisturbed sediments or cultural deposits was found.

Of the 71 shovel test excavated in Survey Area 2 (STs 15-85), 49 (69.0 percent) contained at least some undisturbed sediments. However only 14 of these tests contained artifacts. Of these, six were the tests excavated on previously identified historic site 41BX1003. Only the shovel tests on site 41BX1003 contained artifacts that predate the late twentieth century.

Although a few chert flakes were located on one hill in the southern part of Survey Area 2, shovel tests conducted nearby did not locate buried deposits.

Only eight of the shovel tests excavated in Survey Areas 1 and 2 (excluding STs 80-85 intended to test the accessible portion of 41BX1003) recovered artifacts. All of the artifacts except the bone recovered from Shovel Test 70 are probably modern, although the clear container glass in Level 2 of STs 34 and 56 were located in apparently undisturbed sediment. The soils at the locations of most of the shovel tests south of Braun Road are part of the Lewisville series (Taylor et al. 1991:25). Artifacts in any of these tests may have fallen from the surface into deep cracks that commonly open in sediments of this type when they are very dry (Taylor et al. 1991:86).

Overall, with the exception of 41BX1003 (see below), the pedestrian survey and shovel testing in Survey Areas 1 and 2 encountered no significant historic or prehistoric cultural deposits.

Only three creek crossings were considered suitable for backhoe trenching. All of the creeks south of the intersection with Highway 151 were examined and found to be cut through bedrock with little or no sediments deposited. In addition, most of the creeks that cross north of the Highway 151 intersection have been substantially modified by previous construction.

Of the four backhoe trenches dug, two (BHTs 1 and 4) revealed areas were modern fill had replaced natural sediments. The two backhoe trenches adjacent to Helotes Creek (BHTs 2 and 3) showed different depositional histories below the modern fill. This is not surprising when a creek is subject to common flash flooding events that can lead to channel migration. This survey suggests that for most of the creeks that cross Loop 1604 in the West segment, either no natural sedimentation has occurred or the natural sediments have already been disturbed by previous road construction. Only at Helotes Creek were undisturbed sediments located. These sediments were 60 to 80 cm below the current ground surface. No evidence of cultural deposits was noted in any of the backhoe trenches.

Three archeological sites previously identified with the ROW were revisited. Sites 41BX69, 41BX126, and 41BX1003 were examined to determine the nature and extent of archeological deposits within the ROW. 41BX69 was under the eastern lanes of Loop 1604 and the ROW had been severely impacted by the construction of this highway. 41BX126 was also buried under fill after previous excavations and was no longer accessible at the time of this survey. Only a part of 41BX1003 was accessible.

Brief observation and minimal shovel testing at the Balscheidt House site (41BX1003), though limited by restricted access, did bolster architectural evidence that the house was built before the early twentieth century. At least five artifacts, the "Blobtop" bottle neck fragment (25-01), the barbed wire fragment (48-01), and three cut nails (20-05, 22-02) were all made before 1890. A great deal more archival research and fieldwork is needed before the date and number of construction episodes can be established, but there is sufficient evidence to state that at least part of the house was built before 1890, and probably even before 1880.

As mentioned above, the majority of the site has not been examined except in a very brief reconnaissance before field work on this project began. Very little can be said about the house itself, and what little has been observed begs many questions. We do not know when the house was built or how many building episodes there were, although very brief observations, the limited shovel testing on the eastern periphery of the site, and hints from the methods used to construct the house (see below) all strongly point to construction of at least the older part of the house before 1880. The older part of the house was built of roughly dressed limestone tiers alternating with tiers of much smaller and only very roughly dressed limestone. Both hand-forged and machine-cut nails were observed in the wood in this part of the house.

The younger (eastern) part of the house was built with larger and somewhat more standardized stone blocks with smaller fragments used to fill spaces between them. Both parts of the house were covered with stucco on the outside and plaster on the inside. This house is an example of what has been called "folk houses", that is, houses built "by non-professionals or by the intended occupants" (Fox 1997:53). These were generally small, and building materials were generally those immediately available (Fox 1997:53). Alexander (1966:3) notes that they usually show a strong cultural influence that reflects the origins of the homebuilders.

It has been noted (Uecker 1997:126) that, at least in San Antonio, the notation "adobe" on Sanborn insurance maps referred to houses built, not of real adobe but of partially dressed soft limestone, covered on the exterior with stucco; in other words, construction not unlike that seen at the Balscheidt House. Uecker remarks that this "was an index construction technique for homes dating roughly from the Spanish Colonial period through the immediate post-Civil War period in San Antonio" (Uecker 1997:127). Fox (1997:54) notes that professionally built wooden frame houses became the norm in San Antonio after about 1880, and relates the change in part to the coming of the railroad in 1877, because it provided the cheap lumber needed in this building technique.

Archeological Recommendations for the West Segment

The survey of the West Segment of Loop 1604 was conducted by CAR in February and March 2007. A 100 percent pedestrian survey of previously unsurveyed areas that appeared relatively undisturbed by road construction and urban development including excavation of 85 shovel tests and 4 backhoe trenches. Based on the finds from this fieldwork, the following recommendations are made for the Loop 1604 West Segment:

Previous surveys of portions of the project area indicate that no significant cultural deposits will be encountered. Therefore, no further archeological work is necessary in the current ROW of these areas.

No further archeological work is necessary in the current ROW of Survey Area 1.

Although undisturbed sediments were encountered in Survey Area 2, no significant cultural deposits were located there except those associated with site 41BX1003. It is recommended therefore that with the exception of site 41BX1003, no further archeological work is necessary in the current ROW of Survey Area 2.

Sites 41BX69 and 41BX126 have been sealed under a protective blanket of matrix within the ROW. No further work is recommended at either of these sites or at the portion of site 41BX1616 found within the project APE (Table 6-4).

41BX1003

No attempt to assess the eligibility of 41BX1003 for listing to the NRHP and formal designation as an SAL can be made at this time, as the majority of the site, including the Balscheidt House itself, is outside the part of the ROW maintained by the state. There is strong evidence that the house was built before 1890, contrary to the original assessment made at the time the house was recorded as an archeological site.

Although the house itself is beyond repair, information about the architecture and development of the house through time is still available. Other features associated with the house are currently difficult to assess, but may provide much data in understanding aspects of rural life in the second half of the nineteenth century in the small German-American community. Since most of the other extant nineteenth century buildings of this community were still (or until recently still) in use at the time of survey, the potential research value of BX1003 is considerable, despite the condition of the house. The importance of this research potential is increased when one considers the extremely rapid development of the Loop 1604 West Segment. Many of the remaining nineteenth century farmsteads may suffer the fate of the Naeglin House, which was destroyed after only minimal testing of the site (see Thompson and Figueroa 2005:36).

Although there is a great deal of information already gleaned from archeological work about this period in downtown San Antonio (see Fox et al. 1997), our knowledge of life in the country surrounding the town is very limited. The only currently known archeological work done on a similar site was at the Walker Ranch site (41BX180) in the late 1970s (Fox 1979).

Much more research needs to be done on the techniques used in construction of the nineteenth century houses and other structures that still exist as remnants of small farming communities that surrounded San Antonio. A carefully designed research project at Balschiedt House can serve as an important first step in this process, providing significant information about "folk house" building and vernacular architecture. Such a project could delineate the nature of the influence of the builder's German heritage, the impact of ideas learned from those of different cultural backgrounds who had preceded them to the area, and the necessities imposed by the nature of local materials. Analysis of artifacts at the site could result in much better understanding of the degree of self-sufficiency versus the reliance on products brought from San Antonio. There is also the possibility that the site can improve understanding of the impact of the arrival of the railroad to the periphery of San Antonio.

Site	Historic/ Prehistoric	Site Type	Eligibility Status	bility Status Comment			
41BX69	Prehistoric	open campsite	Unknown	Site will be revisited to asses eligibility.			
41BX126	Prehistoric	open campsite	Not Eligible	No Further work is warranted.			
41BX1003	Historic	Farmstead	Not Eligible Site needs to be reassessed.				
41BX1616	Historic	Farmstead	Unknown Further work is warranted to determine if site extends into ROW				
41BX1423	Prehistoric	burned rock midden	Not Eligible No Further work is warranted.				
41BX1424	Prehistoric	lithic procurement	Not Eligible No Further work is warranted.				

Table.6-4 Recommendations and Eligibility Status of Sites within the Archeological APE of the West Segment

As mentioned in Chapter 5, the scatter of lithic artifacts found on the eastern-most part of the site would have been enough to classify the area as an archeological site even without the presence of the historic component. It will be necessary, therefore, to assess the nature of the prehistoric component of this site to determine if this component may be eligible for inclusion on the National Register and formal designation as an SAL.

In summary, therefore, based on the identification of prehistoric artifacts within the site limits of 41BX1003, CAR recommends that the site be designated as a multi-component site containing both historic and prehistoric artifacts of an unknown temporal affiliation. Furthermore, given that the site was not fully accessible, the site's eligibility for listing to the National Register and formal designation as an SAL could not be adequately assessed.

At a minimum, the entire site within the ROW, both the historic and prehistoric components must be assessed for such eligibility. The site has significant research potential as an example of "folk house" construction, and in understanding the nineteenth century German-American community of which it was a part. We therefore recommend that a program of research be undertaken to: 1) properly record the house and all other structures as they stand; 2) review local archival material to learn as much as possible about the history of the house, its inhabitants, and their community; 3) locate and excavate specific areas, especially trash pits and privies or other areas with large artifact concentrations; and 4) analyze all of these sources of information to determine the nature various influences in the architecture of the house, degree of self sufficiency vs. the reliance on products brought from San Antonio, and the impact of the arrival of the railroad to the periphery of San Antonio.

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Appendix I Summary of Previous Archeological Investigations

Section	Date	Agency	Contractor	Survey Type	Description
North	Jan-79	Environmental Protection Agency	unknown	area	Survey area abuts the Loop 1604 Project Area along the eastbound lanes at Maverick Creek (near the western portion of the UTSA property).
North	Jan-77	Environmental Protection Agency	unknown	area	An archaeological survey was conducted along Panther Springs Creek and several unnamed tributaries between Huebner and Blanco Road. This survey area abutted and crossed the area of Loop 1604 at the drainage just east of Huebner Road.
North	Apr-82	Environmental Protection Agency/Texas Department of Water Resources/Cibolo Creek Municipal Authority	Texas Department of Water Resources	area	Survey for Cibolo Creek Municipal Authority focused on site 41BX564 and a survey of a connecting tributary of Cibolo Creek. Report by Daniel E. Fox titled "An Archeological Reconnaissance at Cibolo Creek Municipal Authority, Bexar and Guadalupe Counties, TX."
North	Jun-90	Federal Highway Administration	unknown	linear	Began about 300 m NE of Huesta Creek (near the present Kyle Seale Pkwy.) and extended eastward around Loop 1604 past the John Pease Blvd. entrance to the University of Texas at San Antonio (UTSA)
North	Apr-92	Federal Highway Administration	unknown	linear	A linear survey was conducted along Blanco Rd. southward from its intersection with Loop 1604.
North	Sep-84	Federal Highway Administration	unknown	linear	A linear survey along Loop 1604 began about 550 m east of Panther Springs Creek (near the present Sonterra Place.) and extended eastward along Loop 1604 approximately 320 m past the Union Pacific Railroad (3.8 km NW of the Loop 1604/IH35 Interchange). This survey takes in almost 14.5 km of the current project area and would have included the areas of sites 41BX67, 41BX68, 41BX66, and 41BX564.
North	Sep-87	Federal Highway Administration	unknown	linear	A linear survey was conducted along US 281 as it crosses the Loop 1604 Project Area.
North	Feb-86	Federal Highway Administration	unknown	linear	A linear survey was conducted westward along East Campus Road from its intersection with Loop 1604.
North	1986	Federal Highway Administration/State Department of Highways and Public Transportation	(Frank Weir - P.I.)	linear	Letter Report: FM 2252 From O'Connor Road to Loop 1604 - 2.3 Miles, Cultural Resources Assessment, Bexar County
North	1976	Rural Electrification Administration	unknown	linear	Unknown, appears to folow a similar path to TDWR survey by Daniel Fox in 1982.
North	1974	Soil Conservation Service	UTSA area		This 275 acre reconnaissance surveyed an area of upper Salado Creek from near the boundary of the Camp Bullis Reservation to the north of Loop 1604 southward to the west-bound ROW of Loop 1604. Five sites were identified during this survey; 41BX442, 41BX443, 41BX444, 41BX445, and 41BX446. None of these sites will be impacted by improvements to Loop 1604.
North	1979	Soil Conservation Service	unknown	area	The archaeological survey began approximately 1 km north of Loop 1604 and extended southeastward following the Salado Creek channel until adjacent to the west-bound ROW of Loop 1604. Sites 41BX876, 41BX443, 41BX442, 41BX444, and 41BX875 were within the survey area.

Appendix I. Summary of Previous Archeological Investigations Within or Adjacent to the Loop 1604 ROW

Section	Date	Agency	Contractor	Survey Type	Description		
North	1974	Soil Conservation Service	UTSA	area	An archaeological survey was conducted along a portion of Mud Creek in the vicinity of the current project area. This survey of approximately 142 acres of the Mud Creek floodplain starts in the area of Loop 1604 at Mud Creek and extend southeastwardly along the drainage for a little more than two kilometers ending approximately 250 m northwest of Jones-Maltsberger Road. Three small sites were identified during the survey; 41BX450, 41BX451 and 41BX452.		
North	1979	Soil Conservation Service	unknown	area	A second archaeological survey was conducted in 1979 along a portion of Mud Creek in the vicinity of the current project area. This survey appears to overlap much of the same area of the first SCS survey conducted in 1974. Both surveys start in the area of Loop 1604 at Mud Creek and extend southeastwardly along the drainage for a little more than two kilometers ending approximately 250 m northwest of Jones- Maltsberger Road.		
North	Mar-91	State Department of Highways and Public Transportation	unknown	linear	A linear survey was conducted along IH10 and across the Loop 1604 Project Area for the State Department of Highways and Public Transportation in March, 1991.		
North	Sep-84	State Department of Highways and Public Transportation	(Frank Weir - P.I.)	area	Cultural resources assesment at the Roger's site, 41BX22.		
North	Jul-82	Texas Department of Highways and Public Transportation	unknown	linear	The area extends approximately 1.1 km approximately from 300 m east of IH10 to Lou Mell.		
North	Apr-77	Texas Department of Highways and Public Transportation	unknown	linear	A linear survey was conducted <i>along</i> NW Military Hwy. where it crosses Loop 1604.		
North	Nov-75	Texas Department of Highways and Public Transportation	unknown	linear	A linear survey was conducted southward along US 281 from its intersection with Loop 1604.		
North	1965	unknown	Witte Museum	excavations	Excavations at the Roger's site, 41BX22.		
North	Apr-90	US Army Corps of Engineers	Geo-Marine	area	The survey extended from the boundary of the Camp Bullis Reservation southward across Loop 1604 to just south of Cliffside Drive in Shavano Park.		
North	Nov-02	UTSA	SWCA	area	SWCA conducted an archaeological survey of the undeveloped portions of the UTSA main campus directly south of and adjacent to Loop 1604.		
West	May- 87	Espey, Huston and Assoc., Inc.	Espey, Huston and Assoc., Inc.	area	Espey, Huston and Assoc., Inc. conducted a survey of the area under the West Creek Development Project. The survey area included a portion adjacent to Loop 1604 between Marbach Road and Lakeside Pkwy.		
West	Mar-91	Texas Department of Highways and Public Transportation		linear	The Survey area extends from Culebra Road to Pue Road along Loop 1604.		
West	Aug-77	Texas Department of Highways and Public Transportation		area	Survey area consisted of a portion of land west of Loop 1604, just south of the intersection of Texas Road 1957 and Loop 1604. Two sites were loacted withing the project area: 41BX466 and 41BX467.		
West	Sep-00	Texas Department of Highways and Public Transportation	Prewitt and Associates, Inc.	area	Investigated an area within the 08-1977 survey by TxDOT, located site 41BX1421 (Medio Creek).		

Appendix I. Continued...

Section	Date	Agency	Contractor	Survey Type	Description	
West	Aug-85	Federal Highway Administration/State Department of Highways and Public Transportation		area	Survey conducted prior to the construction of Stotzer Fwy (Hwy 151).	
West		TWDB	GMI, Inc.	A linear survey alongside Culebra Creek. linear crosses the current project area at the inte Culebra Creek and Loop 1604 W.		
West	Jan-77	Espey, Huston and Assoc., Inc.	Espey, Huston and Assoc., Inc.	area	The survey area included the west side of Bandera Road (16) from 1560 to south of Guilbeau Road.	
West		City of San Antonio	Abasolo	area	Survey area is located southeast of Loop 1604, and south of Hausman Road.	
West/ North	Jan-79	Espey, Huston and Assoc., Inc.	Espey, Huston and Assoc., Inc.	Survey area is located south of Loop 1604, north		
East	Apr-76	Texas Department of Highways and Public Transportation		linear	Survey followed the path of Kitty HawkRoad from just north of Pat Booker Road to just south of the Loop 1604 and Kitty Hawk Rd intersection.	
East	Aug-91	Federal Highway Administration		linear	The survey was conducted prior to the construction of <i>W. Aviation Blvd. The linear survey is adjacent to Loop 1604, heading NE towards Pat Booker Road.</i>	
East	Dec-77	Texas Department of Highways and Public Transportation		linear	The survey appears to follow the path of Gibbs Sprawl Road, southwest of Loop 1604, ending at Topperwein Road/Gibbs Sprawl intersection	
East	Dec-80	AirForce		linear	The perimeter of Randolph Ariforce Base was surveyed in December of 1980. Randolph Highschool was included in the perimeter survey, with a small portion of the survey adjacent to the north side of Loop 1608.	
East		TWDB		linear	The linear survey from Lower Seguin Road, alongside Loop 1604, then following IH10 East to Freudenburg Road.	
East	Feb-79	Espey, Huston and Assoc., Inc.	Espey, Huston and Assoc., Inc.	area	Survey of a parcel of land on the east side of Loop 1604 near Scenic Lake Dr.	
East	Oct-76	Texas Department of Highways and Public Transportation		linear	A linear survey, with a portion crossing into the current APE just south of the Loop 1604 and IH-10 interchange. The survey is somewhat parrallel to Loop 1604, though not adjacent.	
East	May- 99	San Antonio River Authority	Paul Price & Associates	area	Survey of a tract of land within the Martinez Tract III, near the Martinez Creek Dam 3. One site was located within the survey area: 41BX1320. Additional land was surveyed during the course of this project, from the intesection of IH-10 and Graytown Road to Green Road. Three sites were located in this section: 41BX1316, 41BX1317 and 41BX1318.	

Appendix I. Continued...

Appendix II List of Collected Artifacts

Site #	Prov	Lv	Cat #	Description	Ct.	Est. Date
	ST 01	1	01-01	Container glass fragment: Dark amber	5	Ca. 1920 to recent
	ST 03	4	02-01	Container glass fragment: Agua	1	19th century to recent
	ST 03	5	03-01	Container glass fragment: Clear	1	19th century to recent
	ST 17	1	04-01	Aluminum pull tab	1	Ca. 1965 to ca. 1985
	ST 17	1	04-02	Slag	1	Unknown
	ST 17	1	04-03	Plastic fragment	1	Post World War I
	ST 20	1	05-01	Wire nail w/ plastic washer	1	Post World War I
	ST 20	1	05-03	Container glass fragment: Dark amber	1	Ca. 1920 to recent
	ST 20	1	05-04	Container glass fragment: Dark amber with partial embossed Anheuser-Busch logo	1	Ca. 1920 to recent
	ST 20	1	05-05	Container glass fragment: Clear	1	20th century to recent
	ST 20	1	05-02	Can tab	1	ca. 1985 to recent
	ST 20	2	06-01	Container glass fragment: Dark amber	2	Ca. 1920 to recent
	ST 20	2	06-02	Rubber fragment	1	Post World War I
	ST 20	3	07-01	Concrete Fragment	2	20th century to recent
	ST 20	3	07-02	Container glass fragment: Dark amber	1	Ca. 1920 to recent
	ST 28	1	08-01	Container glass fragment: Dark amber	21	Ca. 1920 to recent
	ST 29	2	09-01	Container glass fragment: Dark amber	2	Ca. 1920 to recent
	ST 32	3	10-01	Complete bottle, machine made with aluminum screw cap labeled "Pepsi"	1	Made in 1982 by the Brockway Glass Company (1933-1988) in their plant at Muskogee, OK.
	ST 34	2	14-01	Container glass fragment: Clear	1	19th century to recent
	ST 56	2	15-01	Flat glass	2	19th century to recent
	ST 56	2	15-02	Container glass fragment: Clear	1	19th century to recent
	ST 70	3	16-01	Faunal bone: small mammal	1	Unknown
	Unit 01	2	18-01	Plastic fragment	2	Post World War I
41BX1003	ST 80	1	19-02	Wire nail	1	Post 1890
41BX1003	ST 80	1	19-01	Fragment of a translucent pale blue "Satin" glass dish	1	Late 19th century to recent
41BX1003	ST 80	2	20-05	Cut nail	1	19th century
41BX1003	ST 80	2	20-01	Undecorated porcelain fragment with a footer ring	1	19th century to recent
41BX1003	ST 80	2	20-02	Undecorated white earthenware rim fragment	1	19th century to recent
41BX1003	ST 80	2	20-04	Container glass fragment: Bright green	1	20th century to recent
41BX1003	ST 80	2	20-03	Container glass fragment: Clear	4	19th century to recent
41BX1003	ST 80	2	20-06	Chert debitage	1	Prehistoric
41BX1003	ST 80	2	20-07	Metal scrap	3	Unknown
41BX1003	ST 80	5	21-01	Metal scrap	1	Unknown
41BX1003	ST 81	1	22-02	Cut nail	2	19th century
41BX1003	ST 81	1	22-06	Flat glass	1	19th century to recent

Appendix II. Complete List of Artifacts Collected During Loop 1604 West Segment Survey

Site #	Prov	Lv	Cat #	Description	Ct.	Est. Date
41BX1003	ST 81	1	22-03	Container glass fragment: aqua	1	19th century to recent
41BX1003	ST 81	1	22-04	Container glass fragment: bright green	1	20th century to recent
41BX1003	ST 81	1	22-05	Container glass fragment: Clear	3	19th century to recent
41BX1003	ST 81	1	22-01	Chert: bifacial expedient tool	1	Prehistoric
41BX1003	ST 81	1	22-07	Metal scrap	1	Unknown
41BX1003	ST 81	2	23-01	Metal scrap	1	Unknown
41BX1003	ST 82	1	42-01	Lamp glass	1	19th to early 20th century
41BX1003	ST 82	6	43-01	Undecorated semi-porcelain with footer ring	1	19th century to recent
41BX1003	ST 83	2	44-03	Flat glass	1	19th century to recent
41BX1003	ST 83	2	44-01	Wire nail	1	Post 1890
41BX1003	ST 83	2	44-02	Decal decorated porcelain	1	
41BX1003	ST 83	2	44-05	Container glass fragment: Aqua	1	19th century to recent
41BX1003	ST 83	2	44-04	Container glass fragment: Clear	3	19th century to recent
41BX1003	ST 83	3	45-01	Container glass fragment: Aqua	1	19th century to recent
41BX1003	ST 83	3	45-02	Metal scrap	1	Unknown
41BX1003	ST 83	4	46-02	Wire nail	1	Post 1890
41BX1003	ST 83	4	46-01	Container glass fragment: Dark Olive Amber with heavy patina	1	19th century to ca. 1920
41BX1003	ST 84	2	47-01	Wire nail	1	Post 1890
41BX1003	ST 84	3	48-01	Barbed wire fragment	1	1876 to ca. 1885
41BX1003	ST 85	2	49-01	Clear glass machine-made jar rim with screw finish	1	Probably post 1920
41BX1003	ST 85	2	49-02	Coca Cola aqua bottle base fragment	1	Post 1917
41BX1003	Surface		33-01	Modern unglazed ceramic (possible flower pot)	1	20th century to recent
41BX1003	Surface		36-01	Stoneware: Salt glazed exterior, Albany interior	1	19th century
41BX1003	Surface		37-01	Stoneware: Salt glazed exterior, Albany interior	1	19th century
41BX1003	Surface		29-01	Stoneware: White unglazed slip exterior, Bristol glaze interior	1	Late 19th to early 20th century
41BX1003	Surface		31-01	Decal decorated white earthenware	1	
41BX1003	Surface		38-01	Unknown type decorated white earthenware, possibly underglaze background for decal decorated type	1	If it is part of a decal decorated piece it dates from around 1890 to recent, otherwise the date must be considered the same as for undecorated white earthenware
41BX1003	Surface		35-01	Solid colored "Fiesta" white earthenware	1	1943 to 1972
41BX1003	Surface		28-01	Undecorated white earthenware with partial maker's mark "Pea	1	ca. 1830 to recent
41BX1003	Surface		32-01	Coca Cola bottle base "San Antonio/Texas"	1	Post 1917
41BX1003	Surface		25-01	Aqua bottle neck fragment designed for a Hutchinson stopper with applied blop finish	1	ca. 1880 to 1890
41BX1003	Surface		41-01	Clear bottle neck, machine-made, screw finish	1	Post 1920

Appendix II.	Continued
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Site #	Prov	Lv	Cat #	Description	Ct.	Est. Date
41BX1003	Surface		34-01	Bright green bottle neck, machine-made, crown finish	1	20th century to recent
41BX1003	Surface		30-01	Clear machine-made bottle base, made by Obear-Nester Glass Company	1	20th century to recent
41BX1003	Surface		30-03	Clear machine-made bottle neck with oil finish	1	ca. 1905 to 1920
41BX1003	Surface		40-01	Green machine-made bottle neck, crown finish	1	20th century to recent
41BX1003	Surface		39-01	Cobalt jar base fragment with "RUB/ 25"	1	20th century to recent
41BX1003	Surface		24-01	Clear, solarized amethyst pressed glass oil lamp chimney or gas lamp shade	1	ca. 1870 to 1920
41BX1003	Surface		30-02	Container glass fragment: Clear, solarized amethyst	1	ca. 1870 to 1920
41BX1003	Surface		27-01	Aqua glass fragment, very thick, poor molding, probably part of an insulator or similar industrial item	1	Most likely between ca. 1830 and 1930, though some glass insulators were made as late as the 1960s
41BX1003	Surface		38-02	Lithic: chert debitage	1	Prehistoric
41BX1003	Surface		26-01	Belt buckle, probably roller variety	1	Late 19th century to recent
41BX1003	Surface		30-04	Small rounded and smoothed piece of coral	1	Unknown

Appendix II. Continued
