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Intensive Cultural Resources Survey of the Hutto Independent School District's Proposed 16.7-acre Elementary School No. 6 Tract, Hutto, Williamson County, Texas

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Texas Antiquities Permit No. 7207
HJN 150049 AR

Prepared for:

Hutto ISD
Hutto, Texas

Prepared by:

Horizon Environmental Services, Inc.
Austin, Texas

April 2015

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MANAGEMENT SUMMARY

Horizon Environmental Services, Inc. (Horizon) was selected by Hutto Independent School District (ISD) to conduct an intensive cultural resources inventory and assessment of the proposed location of Hutto ISD's Elementary School No. 6 Project. The proposed Elementary School No. 6 tract consists of an approximately 6.8-hectare (16.7-acre) tract located east of the Park at Brushy Creek residential subdivision, extending eastwards from the eastern end of Holbrooke Street. For purposes of the cultural resources survey, the project area was considered to consist of the entire 6.8-hectare (16.7-acre) tract, though construction-related activities would be restricted to approximately the southern half of the tract. No ground-disturbing activities would be conducted in the northern half of the project area.

The proposed undertaking is being sponsored by Hutto ISD, which represents a political subdivision of the state of Texas, on land owned by Hutto ISD; as such, the project falls under the jurisdiction of the Antiquities Code of Texas (Texas Natural Resources Code of 1977, Title 9, Chapter 191). No federal jurisdiction has been identified for the project at this time. As the project represents a publicly sponsored undertaking with the potential to impact significant cultural resources, Hutto ISD is required to provide for a cultural resources inventory of the project area.

On March 5, 2015, Horizon archeological technicians Briana Nicole Smith and Jared Wiersema, under the overall direction of Jeffrey D. Owens, Principal Investigator, performed an intensive cultural resources survey of the project area to locate any cultural resources that potentially would be impacted by the proposed undertaking. Horizon's archeologists traversed the 6.8-hectare (16.7-acre) tract in parallel, linear transects spaced no more than 30.5 meters (100.0 feet) apart and thoroughly inspected the modern ground surface for aboriginal and historic-age cultural resources. The project area has apparently been cleared of vegetation in the past and is currently characterized as an open field covered in sporadic clump grasses and shrubs. Trees are largely absent except for a small copse of trees surrounding a windmill and stock tank in the southeastern portion of the project area. Approximately the southern half of the project area is situated on an upland formation, while approximately the northern half is situated on alluvial terraces that frame the channel of Brushy Creek, which flows eastwards to the north of the project area. The cultural resources survey was conducted under Texas Antiquities Permit No. 7207.

In addition to pedestrian walkover, the Texas State Minimum Archeological Survey Standards (TSMASS) require the excavation of 1 shovel test per 2 acres for project areas measuring between 11 and 100 acres in size; thus, a minimum of 9 shovel tests were required within the 6.8-hectare (16.7-acre) project area to meet the TSMASS. Horizon excavated a total of 11 shovel tests during the survey, thereby exceeding the TSMASS for a project area of this size. Holocene-age soils with the potential to contain cultural resources were fully penetrated in 9 of the 11 shovel tests located. The remaining 2 shovel tests, designated as BS3 and BS4, which are located near the northern boundary of the project area, were terminated at depths of 60.0 and 70.0 centimeters (23.6 and 27.6 inches) below surface, respectively. While the potential exists for more deeply buried cultural resources to be present at greater depths, no backhoe trenching was conducted during the survey as no ground-disturbing activities are proposed in the northern half of the project area.

Aside from a modern windmill and stock tank located in a small copse of trees in the southeastern portion of the project area, no cultural resources, historic or prehistoric, were identified within the project area as a result of the survey. Based on the results of the survey-level investigations documented in this report, no potentially significant cultural resources would be affected by the proposed undertaking. In accordance with 36 CFR 800.4, Horizon has made a reasonable and good-faith effort to identify historic properties within the project area. No cultural resources were identified within the project area that meet the criteria for designation as State Antiquities Landmarks (SAL) according to 13 TAC 26, and no further archeological work is recommended in connection with the proposed undertaking. However, human burials, both prehistoric and historic, are protected under the Texas Health and Safety Code. In the event that any human remains or burial objects are inadvertently discovered at any point during construction, use, or ongoing maintenance in the project area, even in previously surveyed areas, all work should cease immediately in the vicinity of the inadvertent discovery, and the Texas Historical Commission (THC) should be notified immediately.

TABLE OF CONTENTS

LIST OF FIGURES

Page

LIST OF TABLES

Page

1.0 INTRODUCTION

Horizon Environmental Services, Inc. (Horizon) was selected by Hutto Independent School District (ISD) to conduct an intensive cultural resources inventory and assessment of the proposed location of Hutto ISD's Elementary School No. 6 Project. The proposed Elementary School No. 6 tract consists of an approximately 6.8-hectare (16.7-acre) tract located east of the Park at Brushy Creek residential subdivision, extending eastwards from the eastern end of Holbrooke Street. For purposes of the cultural resources survey, the project area was considered to consist of the entire 6.8-hectare (16.7-acre) tract (Figures 1 and 2), though construction-related activities would be restricted to approximately the southern half of the tract.

The proposed undertaking is being sponsored by Hutto ISD, which represents a political subdivision of the state of Texas, on land owned by Hutto ISD; as such, the project falls under the jurisdiction of the Antiquities Code of Texas (Texas Natural Resources Code of 1977, Title 9, Chapter 191). No federal jurisdiction has been identified for the project at this time. As the project represents a publicly sponsored undertaking with the potential to impact significant cultural resources, Hutto ISD is required to provide for a cultural resources inventory of the project area.

On March 5, 2015, Horizon archeological technicians Briana Nicole Smith and Jared Wiersema, under the overall direction of Jeffrey D. Owens, Principal Investigator, performed an intensive cultural resources survey of the project area to locate any cultural resources that potentially would be impacted by the proposed undertaking. The cultural resources investigation consisted of an archival review, an intensive pedestrian survey of the project area, and the production of a report suitable for review by the State Historic Preservation Office (SHPO) in accordance with the Texas Historical Commission's (THC) Rules of Practice and Procedure, Chapter 26, Section 27, and the Council of Texas Archeologists' (CTA) Guidelines for Cultural Resources Management Reports. The cultural resources survey was conducted under Texas Antiquities Permit No. 7207.

Following this introductory chapter, Chapters 2.0 and 3.0 present the environmental and cultural backgrounds, respectively, of the project area. Chapter 4.0 describes the results of background archival research, and Chapter 5.0 discusses archeological survey methods. Chapter 6.0 presents the results of the archeological survey, and Chapter 7.0 presents archeological management recommendations for the project. Chapter 8.0 lists the references cited in the report, and Appendix A summarizes shovel test data.

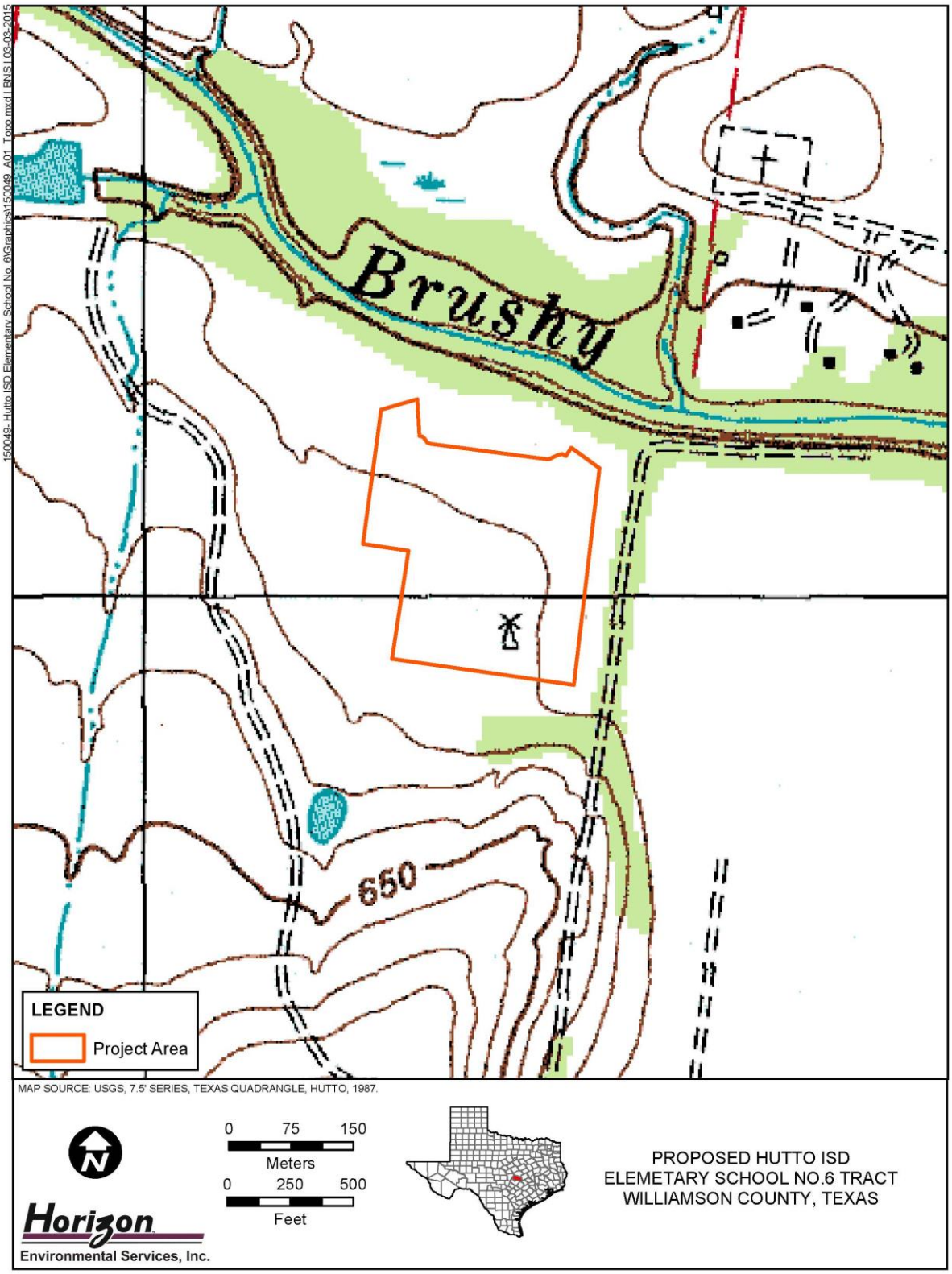

Figure 1. Location of Project Area on USGS Topographic Map

Figure 2. Location of Project Area on Aerial Photograph

2.0 ENVIRONMENTAL SETTING

2.1 PHYSIOGRAPHY AND HYDROLOGY

The project area is located in south-central Williamson County, Texas, near the boundary of 3 significant physiographic provinces—the Blackland Prairie, the Edwards Plateau, and the Gulf Coastal Plain. The Blackland Prairie, within which the project area is situated, is a narrow physiographic zone between the Edwards Plateau to the west and the Gulf Coastal Plain to the east. It is a low, rolling land that extends in a narrow band along the eastern edge of the Balcones Fault Zone from the Red River Valley in northeastern Texas to the southern edge of the Edwards Plateau. This is an area of low topographic relief and poor drainage in which water often ponds after rainstorms and streams flow at very gentle gradients. The Edwards Plateau and Balcones Escarpment are associated with a great fault system that arcs across Texas to form a distinct boundary between uplands composed primarily of limestone bedrock and lower plains composed mostly of softer rocks. In places, this boundary is marked by an abrupt scarp (the Balcones Escarpment) and in others by a more gradational ramp, but the entire length of this transition zone is a major ecotone in terms of topography, bedrock, hydrology, soil, vegetation, and animal life. The project area is situated on alluvial terrace formations south of the channel of Brushy Creek. The northern half of the project area is located on a Holocene-age terrace structure, while the southern half is situated on an upland formation composed of a Pleistocene-age fluviatile terrace remnant. Brushy Creek flows eastwards approximately 100.0 meters (328.0 feet) to the north of the project area. Elevations within the project area slope down gently to the north, toward Brushy Creek, with elevations ranging from approximately 187.5 to 190.5 meters (615.0 to 625.0 feet) above mean sea level (amsl).

Hydrologically, the project area is situated within the Brazos River basin. The project area is situated on terrace structures south of Brushy Creek, which flows generally northeastwards to its confluence with the Little River in Milam County, which in turn flows a short distance eastward and empties into the Brazos River. The Brazos River flows southeastwards across the Blackland Prairie and Gulf Coastal Plain, ultimately discharging into the Gulf of Mexico a short distance northeast of East Matagorda Bay. No drainage features are present within the project area.

2.2 GEOLOGY AND GEOMORPHOLOGY

The project area is situated on a combination of Late Pleistocene- and Holocene-age alluvial structures. The lower elevations nearer to Brushy Creek in the northern portion of the project area are situated on Holocene-age alluvium (Qal), while the higher elevations on the uplands within the southern portion of the project area are situated on a terrace remnant composed of Pleistocene-age fluviatile terrace deposits (Qt) (Fisher 1974). Holocene-age alluvium consists of indistinct low terrace deposits and clay, silt, sand, clay, and gravel on floodplains. Fluviatile terrace deposits consist of sand, silt, clay, and gravel on terraces along streams and may correspond to Pleistocene-age coastal units.

Geomorphologically, 3 specific soil units are mapped within the project area (Table 1; Figure 3) (NRCS 2015). The northern portion of the project area is composed of Oakalla silty clay loam, 0 to 2% slopes, frequently flooded (Oa), while the southern portion of the project area is composed mainly of Austin-Whitewright complex, 1 to 5% slopes, eroded (AwC2), with a very small area of Houston Black clay, 3 to 5% slopes, moderately eroded (HuC2), in the southwestern corner. The soils on the upland formation in the southern portion of the project area consist of relatively thin deposits of silty clay overlying bedrock (AwC2) and deep deposits of Pleistocene-age clay (HuC2). The Holocene-age Oakala soils on the lower terraces of Brushy Creek in the northern portion of the project area consist of relatively deep alluvial sediments composed of silty clay loam.

Aboriginal cultural resources are commonly encountered in deep alluvial sediments adjacent to major streams in Central Texas, such as those that compose the northern portion of the project area, while the relative antiquity of the pre-Holocene-age uplands in the southern portion of the project area suggests that any cultural resources in this area would be constrained to the modern ground surface and/or in shallowly buried contexts in erosional settings lacking integrity and depth. Historic-era resources may occur in virtually any physiographic setting.

Table 1. Mapped Soils Located within Project Area

Soil Name	Soil Description	Typical Profile/Horizon (inches)
Austin-Whitewright complex, 1 to 5% slopes, eroded (AwC2)	Residuum weathered from chalk on ridges	0-13: Silty clay 13-34: Silty clay 34-48: Bedrock
Houston Black clay, 3 to 5% slopes, moderately eroded (HuC2)	Clayey residuum weathered from calcareous mudstone of Upper Cretaceous age on ridges	0-6: Clay (Ap) 6-70: Clay (Bkss) 70-80: Clay (BCkss)
Oakalla silty clay loam, 0 to 2% slopes, frequently flooded (Oa)	Loamy alluvium derived from limestone on floodplains	0-8: Silty clay loam (Ap) 8-23: Silty clay loam (Ak) 23-53: Silty clay loam (Bk1) 53-80: Silty clay loam (Bk2)

Source: NRCS 2015

Figure 3. Distribution of Soils Mapped within Project Area

2.3 CLIMATE

Evidence for climatic change from the Pleistocene to the present is most often obtained through studies of pollen and faunal sequences (Bryant and Holloway 1985; Collins 1995). Bryant and Holloway (1985) present a sequence of climatic change for nearby east-central Texas from the Wisconsin Full Glacial period (22,500 to 14,000 B.P.) through the Late Glacial period (14,000 to 10,000 B.P.) to the Post-Glacial period (10,000 B.P. to present). Evidence from the Wisconsin Full Glacial period suggests that the climate in east-central Texas was considerably cooler and more humid than at present. Pollen data indicate that the region was more heavily forested in deciduous woodlands than during later periods (Bryant and Holloway 1985). The Late Glacial period was characterized by slow climatic deterioration and a slow warming and/or drying trend (Collins 1995). In east-central Texas, the deciduous woodlands were gradually replaced by grasslands and post oak savannas (Bryant and Holloway 1985). During the Post-Glacial period, the east-central Texas environment appears to have been more stable. The deciduous forests had long since been replaced by prairies and post oak savannas. The drying and/or warming trend that began in the Late Glacial period continued into the mid-Holocene, at which point there appears to have been a brief amelioration to more mesic conditions lasting from roughly 6000 to 5000 B.P. Recent studies by Bryant and Holloway (1985) indicate that modern environmental conditions in east-central Texas were probably achieved by 1,500 years ago.

Travis County is located within the south-central climatic division. The modern climate is typically dry to subhumid with long, hot summers and short, mild winters. The climate is influenced primarily by tropical maritime air masses from the Gulf of Mexico, but it is modified by polar air masses. Tropical maritime air masses predominate throughout spring, summer, and fall. Modified polar air masses are dominant in winter and provide a continental climate characterized by considerable variations in temperature.

On average throughout the past century, precipitation and temperature in Texas manifest regional clines with mean annual precipitation totals declining fairly regularly from east to west and mean annual temperature declining equally evenly from northwest to southeast (Larkin and Bomar 1983). In Central Texas, climate has fluctuated from subtropical humid to subtropical subhumid. Average annual precipitation totals 81.3 centimeters (32.0 inches) and temperature averages 19°C (67°F) annually, ranging from 36°C (96°F) in August (the warmest month) to 15°C (59°F) in January (the coldest month). During this time, however, drier periods lasting from 3 to 7 years, when total annual rainfall ranged from 30.5 to 63.5 centimeters (12.0 to 25.0 inches), were followed by abnormally wet years with 114.3 to 127.0 centimeters (45.0 to 50.0 inches) of rainfall.

Two annual precipitation peaks, which typically occur in May and September, are associated with frontal storms that form when southward-moving cool air masses collide with warm, moist air masses moving inland from the Gulf of Mexico (Bomar 1983; Carr 1967). The topographic discontinuity along the Balcones Escarpment lies directly in the path of the Gulf storm trace and increases the lift in convective storms to produce extreme amounts of rainfall. Two extreme examples are the excess of 91.4 centimeters (36.0 inches) of rain that fell within an 18-hour period in the vicinity of Thrall, Texas, in September 1921, and the 55.9-centimeter (22.0-

inch) deluge that fell in less than 3 hours near O'Harris, Texas, in May 1935. Lower rainfall amounts are characteristic of winter and late summer. In winter, frontal storms pass so frequently that there is little time for moisture to increase, and prevailing upper-level winds from west to east often dominate over meridional flow, meaning that much of the available moisture is derived from the Pacific rather than from the Gulf of Mexico. In summer, cool fronts rarely penetrate into the region, and rainfall occurs primarily as localized, thermal convective storms.

2.4 BIOTA

The project area is situated in the southwestern portion of the Texan biotic province (Blair 1950), an intermediate zone between the forests of the Austroriparian and Carolinian provinces and the grasslands of the Kansan, Balconian, and Tamaulipan provinces (Dice 1943). Some species reach the limits of their ecological range within the Texan province. The boundary, characterized as "approximate," between Blair's (1950) Texan and Balconian provinces passes through western Williamson County, northwest of the project area. Rainfall in the Texan province is barely in excess of water need, and the region is classified by Thornwaite (1948) as a C_2 (moist subhumid) climate with a moisture surplus index of from 0 to 20%.

Edaphic controls on vegetation types are important in the Texan biotic province, which is located near the border between moisture surplus and moisture deficiency. Sandy soils support oak-hickory forests dominated by post oak (*Quercus stellata*), blackjack oak (*Q. marilandica*), and hickory (*Carya buckleyi*). Clay soils originally supported a tall-grass prairie, but much of this soil type has been placed under cultivation. Dominant tall-grass prairie species include western wheatgrass (*Agropyron smithii*), silver beardgrass (*Andropogon saccharoides*), little bluestem (*Andropogon scoparius*), and Texas wintergrass (*Stipa leucotricha*). Major areas of oak-hickory forest include the Eastern and Western Cross Timbers, and major tall-grass prairie areas include the Blackland, Grand, and Coastal prairies. Some characteristic associations of the Austroriparian province occur locally in the Texan province, such as a mixed stand of loblolly pine (*Pinus taeda*), blackjack oak, and post oak in Bastrop County, and a series of peat and bog marshes distributed in a line extending from Leon to Gonzales counties.

The fauna associated with this region are represented by a mixture of species from the Austroriparian, Tamaulipan, Chihuahuan, Kansan, Balconian, and Texan biotic provinces. At least 49 species of mammals occur in the Texan province, including Virginia opossum (*Didelphis virginiana*), eastern mole (*Scalopus aquaticus*), fox squirrel (*Sciurus niger*), desert pocket gopher (*Geomys breviceps*), fulvous harvest mouse (*Reithrodontomys fulvescens*), white-footed mouse (*Peromyscus leucopus*), hispid cotton rat (*Sigmodon hispidus*), eastern cottontail rabbit (*Sylvilagus floridanus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), white-footed mouse (*Peromyscus leucopus*), black-tailed jackrabbit (*Sylvilagus californicus*), ground squirrel (*Citellus tridecemlineatus*), white-tailed deer (*Odocoileus virginiana*), hispid pocket mouse (*Perognathus hispidus*), deer mouse (*Peromyscus maniculatus*), pygmy mouse (*Baiomys taylori*), 9-banded armadillo (*Dasypus novemcinctus*), and jaguar (*Felis onca*).

Both species of *Terrapene* known from the Austroriparian province—eastern box turtle (*T. Carolina*) and desert box turtle (*T. ornata*)—occur in the Texan biotic province. Sixteen species of lizards, including 7 grassland and 9 forest species, are also found, including green anole (*Anolis*

carolinensis), eastern fence lizard (*Sceloporus undulates*), common ground skink (*Leiolopisma laterale*), glass snake (*Ophisaurus ventralis* [grassland species]), collared lizard (*Crotaphytus collaris*), Texas spiny lizard (*Sceloporus olivaceus*), Texas horned lizard (*Phrynosoma cornutum*), and Great Plains skink (*Eumeces obsoletus* [forest species]). Only 5 species of urodele fauna are known from this area, including small-mouthed salamander (*Ambystoma texanum*), tiger salamander (*Ambystoma tigrinum*), and eastern lesser siren (*Siren intermedia*), and the Texan province acts as a barrier to urodele distribution between the endemic Balconian province fauna to the west and the Austroriparian fauna to the east.

Anuran fauna is composed primarily of Austroriparian or otherwise widely distributed species, including eastern spadefoot toad (*Scaphiopus holbrookii*), Gulf Coast toad (*Bufo valliceps*), Woodhouse's toad (*Bufo woodhousii*), southern cricket frog (*Acris gryllus*), southern chorus frog (*Pseudacris nigrita*), gray tree frog (*Hyla versicolor*), green tree frog (*Hyla cinerea*), North American bullfrog (*Rana catesbeiana*), northern leopard frog (*Rana pipiens*), and narrow-mouthed toad (*Microhyla carolinensis*). Additional anuran species that fail to cross from the Texan into the Austroriparian province include pacific tree frog (*Pseudacris clarkia*), Strecker's chorus frog (*Pseudacris streckeri*), and striped whipsnake (*Microhyla olivacea*).

Other reptile and amphibian species common to this biotic zone include 6-lined racerunner (*Aspidoscelis sexlineata*), rat snake (*Ptyas mucosus*), eastern hognose snake (*Heterodon platirhinos*), rough green snake (*Opheodrys aestivus*), copperhead (*Agkistrodon contortrix*), western diamondback rattlesnake (*Crotalus atrox*), Blanchard's cricket frog (*Acris crepitans*), diamondback water snake (*Nerodia rhombifer rhombifer*), and Houston toad (*Bufo houstonensis*). Common bird species include northern bobwhite (*Colinus virginianus*), eastern meadowlark (*Sturnella magna*), mourning dove (*Zenaida macroura*), killdeer (*Charadrius vociferus*), field sparrow (*Spizella pusilla*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), belted kingfisher (*Ceryle alcyon*), and mockingbird (*Mimus polyglottos*). Small herds of bison and antelope were common during the late prehistoric and early historic periods, but these species are no longer native to this region (Jurney et al. 1989:13-14).

3.0 CULTURAL BACKGROUND

The project area is located within Prewitt's (1981, 1985) Central Texas Archeological Region. Prewitt demarcated the southeastern boundary of the Central Texas Archeological Region at the town of Bastrop in Bastrop County, which borders Travis County on the southeast. The indigenous human inhabitants of Central Texas practiced a generally nomadic hunting and gathering lifestyle throughout all of prehistory, and, in contrast to much of the rest of North America, mobility and settlement patterns do not appear to have changed markedly through time in this region.

3.1 PALEOINDIAN PERIOD (CA. 12,000 TO 8500 B.P.)

The initial human occupations in the New World can now be confidently extended back before 12,000 B.P. (Dincauze 1984; Haynes et al. 1984; Kelly and Todd 1988; Lynch 1990; Meltzer 1989). Evidence from Meadowcroft Rockshelter in Pennsylvania suggests that humans were present in Eastern North America as early as 14,000 to 16,000 years ago (Adovasio et al. 1990), while more recent discoveries at Monte Verde in Chile provide unequivocal evidence for human occupation in South America by at least 12,500 years ago (Dillehay 1989, 1997; Meltzer et al. 1997). Most archeologists presently discount claims of much earlier human occupation during the Pleistocene glacial period.

The earliest generalized evidence for human activities in Central Texas is represented by the PaleoIndian period (12,000 to 8500 B.P.) (Collins 1995). This stage coincided with ameliorating climatic conditions following the close of the Pleistocene epoch that witnessed the extinction of herds of mammoth, horse, camel, and bison. Cultures representing various periods within this stage are characterized by series of distinctive, relatively large, often fluted, lanceolate projectile points. These points are frequently associated with spurred end scrapers, gravers, and bone foreshafts. PaleoIndian groups are often inferred to have been organized into egalitarian bands consisting of a few dozen individuals that practiced a fully nomadic subsistence and settlement pattern. Due to poor preservation of floral materials, subsistence patterns in Central Texas are known primarily through the study of faunal remains. Subsistence focused on the exploitation of plants, small animals, fish, and shellfish, even during the PaleoIndian period. There is little evidence in this region for hunting of extinct megafauna, as has been documented elsewhere in North America. Rather, a broad-based subsistence pattern appears to have been practiced throughout all prehistoric time periods. In Central Texas, the PaleoIndian stage is divided into 2 periods based on recognizable differences in projectile point styles. These include

the Early PaleoIndian period, which is recognized based on large, fluted projectile points (i.e., Clovis, Folsom, Dalton, San Patrice, and Big Sandy), and the Late PaleoIndian period, which is characterized by unfluted lanceolate points (i.e., Plainview, Scottsbluff, Meserve, and Angostura).

3.2 ARCHAIC PERIOD (CA. 8500 TO 1200 B.P.)

The onset of the Hypsithermal drying trend marks the beginning of the Archaic period (8500 to 1200 B.P.) (Collins 1995). This climatic trend marked the beginning of a significant reorientation of lifestyle throughout most of North America, but this change was far less pronounced in Central Texas. Elsewhere, the changing climatic conditions and corresponding decrease in the big game populations forced people to rely more heavily upon a diversified resource base composed of smaller game and wild plants. In Central Texas, however, this hunting and gathering pattern is characteristic of most of prehistory. The appearance of a more diversified tool kit, the development of an expanded groundstone assemblage, and a general decrease in the size of projectile points are hallmarks of this cultural stage. Material culture shows greater diversity during this broad cultural period, especially in the application of groundstone technology.

Traditionally, the Archaic period is subdivided into Early, Middle, and Late subperiods. Changes in projectile point morphology are often used as markers differentiating these 3 subperiods, though other changes in material culture occurred as well. Perhaps most markedly, burned rock middens appear during the Middle Archaic subperiod, continuing into the Late Archaic subperiod, and large cemeteries appear during the Late Archaic subperiod. In addition, the increasing density of prehistoric sites through time is often considered to constitute evidence of population growth, though differential preservation probably at least partially accounts for the lower numbers of older sites.

3.3 LATE PREHISTORIC PERIOD (CA. 1200 TO 350 B.P.)

The onset of the Late Prehistoric period (1200 to 350 B.P.) (Collins 1995) is defined by the appearance of the bow and arrow. In Central Texas, pottery also appears during the Late Prehistoric period (though ceramics appear earlier in Southeast Texas). Use of the atlatl (i.e., spearthrower) and spear was generally discontinued during the Late Prehistoric period, though they continued to be used in the inland subregion of Southeast Texas along with the bow and arrow through the Late Prehistoric period (Patterson 1980, 1995; Wheat 1953). In Texas, unifacial arrow points appear to be associated with a small prismatic blade technology. The Late Prehistoric period is generally divided into 2 phases, the Austin and Toyah phases. Austin phase sites occur earliest to the north, which has led some researchers (e.g., Prewitt 1985) to suggest that the Austin-phase populations of Central Texas were migrants from the north, and lack the ceramic industry of the later Toyah phase.

3.4 HISTORIC PERIOD (CA. 350 B.P. TO PRESENT)

The first European incursion into what is now known as Texas was in 1519, when Alonso Álvarez de Pineda explored the northern shores of the Gulf of Mexico. In 1528, Álvar Núñez Cabeza de Vaca crossed South Texas after being shipwrecked along the Texas Coast near

Galveston Bay. However, European settlement did not seriously disrupt native ways of life until after 1700. The first half of the 18th century was the period in which the fur trade and mission system, as well as the first effects of epidemic diseases, began to seriously disrupt the native culture and social systems. This process is clearly discernable at the Mitchell Ridge site, where burial data suggest population declines and group mergers (Ricklis 1994) as well as increased participation on the part of the Native American population in the fur trade. By the time that heavy settlement of Texas began in the early 1800s by Anglo-Americans, the indigenous Indian population was greatly diminished.

The earliest known historical occupants of Williamson County were the Tonkawa Indians[1]. The Tonkawa traditionally followed buffalo herds on foot and periodically set fire to the prairie to aid them in their hunts. During the 18th century, however, they made the transition to a horse-based culture and used firearms to a limited extent. Decimated by European diseases and by warfare with the Cherokee and Comanche, the Tonkawa were generally friendly toward the early settlers of Williamson County, but were nevertheless removed from Central Texas by the 1850s. Lipan Apaches and Comanches were also associated with the area that would become Williamson County. Before the arrival of Europeans in the area, the Lipan Apaches ranged through the western part of present Williamson County, and, after Spanish missions were established on the San Gabriel River in the 18th century, the Indians frequently raided the missions for horses. Their enemies, the Comanches, arrived in the area in the 18th century and lived in parts of the territory of Williamson County until as late as 1838. After they were crowded out by Anglo settlers, the Comanches continued to raid settlements in the county until the 1860s. There also appear to have been small numbers of Kiowa, Yojuane, Tawakoni, and Mayeye Indians living in the county at the time of the earliest Anglo settlements.

While Álvar Núñez Cabeza de Vaca may have traveled through the area in the 16th century, it was probably first explored by Europeans in the late 17th century, when Capt. Alonso De León sought a route between San Antonio and the Spanish missions in East Texas that would serve as a drier alternative to the more southerly Camino Real. The new route passed through the area of Williamson County along Brushy Creek and the San Gabriel River and was called Camino de Arriba. In 1716, 2 explorers in the Spanish service, Louis Juchereau de St. Denis and Domingo Ramón, led an expedition that passed through the area and camped on Brushy Creek and the San Gabriel River, naming them respectively Arroyo de las Bendítas Ánimas and Rio de San Xavier. The San Xavier missions, which were founded in the mid-18th century and occupied a series of sites along the San Gabriel River, were just across the eastern border of Williamson County in present-day Milam County, and the area was extensively explored by the Spanish. During the Mexican period, parts of the county were awarded as land grants, first to several Mexican families, then as part of Robertson's colony, but no settlement resulted from these grants.

Anglo settlement began during the Texas Revolution and the early days of the Republic of Texas, when the area was part of Milam County. In 1835, in an attempt to strengthen the

[1] Much of the following historical summary is adapted from TSHA (2015).

frontier against Indian attack, a military post was built near the headwaters of Brushy Creek in what would become southwestern Williamson County and was named for Capt. John J. Tumlinson, Jr., the commander of the company of Texas Rangers who garrisoned the post. The post was abandoned in February of 1836, when its garrison was withdrawn to deal with the Mexican invasion. In 1838, the first civilian settlement was established by Dr. Thomas Kenney and a party of settlers who built a fort, named Kenney's Fort, on Brushy Creek near the site of the present-day crossing of the Missouri-Kansas-Texas Railroad. Several other sites on Brushy Creek were settled soon after, but Indian raids kept Anglo settlement in check, and a number of the early pioneers, including Kenney, were killed by Indians over the next few years.

In 1842, many of the early farms were abandoned when Governor Sam Houston advised settlers to pull back from the frontier. The Indian threat eased after 1846, and part of the influx of settlers who came to Texas after its annexation traveled to the frontier along Brushy Creek and the San Gabriel River. By 1848, there were at least 250 settlers in what was then western Milam County, and in the early months of that year 107 of them signed a petition to organize a new county. Recognizing that the petitioners needed a seat of local government that was considerably closer to them than Milam County, the Texas legislature established Williamson County on 13 March 1848, naming it for prominent judge and soldier Robert M. Williamson. Georgetown, the county seat, was laid out during the summer of that year, and the district court was in session by October. According to the census of 1850, Williamson County had a population of 1379 Anglos and 155 slaves living in agricultural communities on Brushy Creek and the San Gabriel. As was common in other frontier counties, most of the improved acreage was used to grow corn. Three families owned 15 or more slaves in 1850, but family farms and subsistence agriculture remained the norm prior to the Civil War. While most of the settlers had moved to Texas from other southern states, particularly Tennessee, a substantial contingent came from Vermilion County, Illinois, and this latter group remained pro-Union and Republican in its political orientation during the secession crisis.

On the eve of the Civil War, Williamson County had moved beyond the frontier stage and was a populous, agriculturally diverse county. The Anglo population tripled between 1850 and 1860 to 3,638, while the slave population grew even more dramatically to 891, six times the number of slaves in 1850. Agricultural pursuits were quite varied and reflected the county's geographical diversity. Farmers used the rich blackland soils in the eastern half of the county to grow wheat and corn. Cotton was introduced in the 1850s, but only 271 bales were grown in 1860, and it was not an important cash crop for most farmers. The early settlers had found large herds of wild cattle in the 1840s, and cattle ranching for both home consumption and the market was widespread throughout the county by 1860. The number of cattle on county ranches had more than tripled from 11,973 head in 1850 to 38,114 head in 1860. Similarly, the number of sheep grew from 2937 producing 3499 pounds of wool in 1850 to 16,952 sheep and 32,994 pounds of wool in 1860.

Williamson County was marked by political divisions during the secession crisis, divisions that were carried over into the Civil War and Reconstruction. Unionist sentiment was strong in the county, and a resolution denouncing secession was adopted by a Texas Constitutional Union party meeting in Round Rock in 1860. One of the county's delegates to the secession convention,

Thomas Proctor Hughes, was among the 8 who voted against the ordinance of secession. When the ordinance was referred to a statewide election, Williamson County was one of 19 counties to oppose it, rejecting secession by 480 to 349 votes. When the war came, most of the citizens of Williamson County supported the Confederate cause, and at least 5 companies were raised in the county: an independent "spy" company under James O. Rice, a company of Texas Rangers for border defense under William C. Dalrymple, and companies in the Fourth, Seventh, and Sixteenth Texas Cavalry regiments. While some of those who had opposed secession became active Confederate supporters, others remained loyal to the Union and fled to Mexico or the North, and a number enlisted in the Union army. In July 1863, 8 Williamson County men were caught by Confederate troops while traveling to Mexico and were hanged near Bandera, Texas, and other Unionists were persecuted during the war. The pattern of violence within the community continued into the summer following the end of the war, when several men were arrested for "flagrant crimes" and "illegal persecution of Union men." In September 1865, a mass meeting of the citizens of Williamson County was held on the San Gabriel River near Georgetown, and the gathering set a general tone of reconciliation, which seems to have characterized the Reconstruction period in Williamson County, a period that ended with the return of county government to conservative Democratic control in 1869. Freed slaves formed several new communities, and the county seems to have been free of much of the political and racial strife that occurred in other Texas counties during Reconstruction. On the other hand, there was a great deal of crime, much of it violent, in the latter 19th century. Horse and cattle thieves and some of the more famous outlaws of the day, such as Sam Bass and John Wesley Hardin, preyed on the property of citizens, and long-term family feuds and drunken brawls at the various saloons in the towns added to the toll of homicides.

Though the Civil War had caused little material damage in the area, the county was a much poorer place in 1870 than it had been in 1860. The total value of farms had fallen from $833,418 to $389,239 and the value of livestock from $823,653 to $341,794. The economic recovery in the 1870s was aided by the growth of the cattle and sheep industries and a dramatic expansion of cotton farming. Various feeder routes to the Chisholm Trail passed through Williamson County, and many cattle drives passed through or originated in the county from the 1860s through the early 1880s. With the coming of the railroads to the county in the 1870s, Taylor, in the eastern part of the county, became an important rail center for the cattle trade. Cattle-raising, after declining somewhat in importance in the early 20th century, was again a major part of the agricultural economy by 1950, and in 1969, ranchers owned a record 65,093 cattle. Sheep- and goat-raising followed a similar pattern. Sheep ranching recovered its pre-war level by 1880 and peaked at 39,961 sheep and 171,752 pounds of wool in 1890, then declined in the late 19th and early 20th centuries to 13,397 sheep and 39,458 pounds in 1920. The industry revived in the 1930s and reached a new high of 59,919 sheep and 336,494 pounds of wool in 1959. Mohair became a significant agricultural product by 1930 and reached a peak in 1959, when 44,668 goats produced 209,098 pounds of mohair. Cotton, the second boom industry in Williamson County, developed at about the same time as the cattle industry. As early as 1869, the editor of the Georgetown *Watchman* was advising farmers to "make cotton, but do not, by any means, neglect the grain crop-diversity." Cotton production, which had been insignificant before the war, rose to successive heights of 4217 bales in 1880; 33,945 bales in 1890; and 80,514 bales

in 1900. In 1900 to 1901, Williamson County ginned more cotton than any county in Texas except Ellis County. The number of improved acres increased almost tenfold from 1870 to 1880 and doubled again to 306,881 acres by 1890. The proportion of cropland used for cotton production moved from about 1/3 of the total in 1880 to a high of 77% in 1910, and cotton was grown on 73% of the cropland as late as 1930. Dramatic changes in land tenure attended the shift to cotton production. As late as 1880, 1183 of the 1538 farms, or 77%, were still worked by owners. By 1890, only 43% of the farms were operated by owners, and the percentage of owner-operators remained at 40% until the 1920s, when it dropped still further to 29% in 1930. Farm tenancy rates began to decline during the Great Depression with the shift away from cotton and other staple crops and by 1959 had dropped to 36% of the county's farmers.

Both the cattle and the cotton booms were aided by the improved communications available in the county in the later 19th century. The International-Great Northern Railroad, which later was consolidated with the Missouri Pacific, was built across the eastern part of the county in 1876 and led to the founding of Taylor (now Williamson County's third largest city) and Hutto and to the relocation of Round Rock. It also opened up large areas in eastern Williamson County to commercial farming. The Taylor, Bastrop, and Houston Railway, which was eventually consolidated with the Missouri, Kansas, and Texas Railway, was built in the 1880s and aided in the development of Taylor, Granger, and Bartlett. Roads were generally poor throughout the county in the early 20th century. There were 11,882 automobiles in the county by 1930, and extensive improvements, including blacktopping, of all major roads took place in the 1930s.

The county also became more ethnically diverse in the later 19th and early 20th centuries. While there were only 111 inhabitants of foreign birth out of a population of 6368 in Williamson County in 1870, significant numbers of Scandinavians, Germans, Czechs, Wends, and Austrians moved to the county in the 1880s and 1890s. The proportion of foreign-born in the county population remained at about 10% from 1890 to the 1930s. Mexican immigration reached a significant level by about 1910, just as Europeans stopped arriving in the county. There were 294 Hispanics in 1900, 732 in 1910, and 4967, or 11% of the population, in 1930. In 1980, 9693 residents, or again 11%, were of Hispanic origin. The immigrants added their distinctive customs and architectural styles to the mix of county life and introduced new religious denominations. By the time of the Civil War, Williamson County had a number of Baptist and Methodist churches and several different factions of the Presbyterian Church. Churches of other denominations were built after the war, and the new immigrants established Lutheran, Catholic, and Czech Moravian congregations. By 1930, Williamson County had a culturally diverse population of 44,146 inhabitants. The economy was still overwhelmingly agricultural; only 29 manufacturing establishments employed 347 workers that year. While cotton production was near its peak in terms of percentage of cropland, the cotton industry was already undergoing a rapid transformation.

The combined effects of soil depletion, overproduction, and the influx of the boll weevil had already injured the profitability of the industry by the late 1920s, and the situation of cotton growers was further worsened by the depression. The black population seems to have been particularly hard hit by the depression. Of the 944 county families on relief in 1933, 442, almost half, were black, though blacks constituted only 16% of the population. Various federal relief

programs benefited farmers with farm loans and subsidies, and in 1936, a total of $204,000 in subsidy checks were issued. The Depression encouraged diversification among farmers and a shift away from staple crops to livestock. Between 1930 and 1940, the number of acres used for cotton-growing fell by almost half, and cotton production went from 68,266 to 36,890 bales. Cropland acreage used for corn production increased over the same period by about half, and wool and mohair production more than doubled to 342,983 and 102,517 pounds, respectively. While cotton continued to be an important crop in eastern Williamson County, farmers increasingly turned to other crops like sorghum and wheat and to livestock-raising in the latter 20th century. Along with such traditional livestock as sheep and cattle, poultry farming played a significant role in the economy by 1950, when the county was fifth in the state in the production of eggs and chickens. In 1980, it was 10th in the state in the production of turkeys.

The agricultural diversification of the middle decades of the 20th century was followed by significant social and economic changes in the 1960s, 1970s, and 1980s. The black population, which had remained at between 15 and 18% of the total in the early and mid-20th century, began to decline, both proportionately and in real numbers, from the 1940s on and had fallen to 4111, or about 5%, by 1980. As in other areas of Texas, blacks were relegated to segregated and inferior housing and educational facilities until the 1960s, when some improvements were brought about by federal desegregation policies. Along with changes in racial composition, Williamson County experienced a dramatic increase in population during this period, growing from 37,305 inhabitants in 1970 to an estimated 85,700 inhabitants in 1982, making it 34th in population growth among counties in the US in the 1970s.

4.0 ARCHIVAL RESEARCH

Prior to initiating fieldwork, Horizon personnel reviewed existing information on file on the THC's online *Texas Archeological Sites Atlas* (Atlas), the National Park Service's (NPS) online *National Register Information System* (NRIS), and the Texas State Historical Association's (TSHA) *Handbook of Texas Online* for information on previously recorded archeological sites and previous archeological investigations conducted within a 1.6-kilometer (1.0-mile) radius of the project area (NPS 2015; THC 2015; TSHA 2015). Based on this archival research, 5 known aboriginal archeological sites and 3 cemeteries (2 of which have also been recorded as archeological sites) are located within a 1.6-kilometer (1.0-mile) radius of the proposed project area (Table 2; Figure 4). Cultural components represented on the 5 previously recorded aboriginal archeological sites include undated aboriginal lithic artifact scatters and burned rock middens. Two of these sites have been dated to the Middle and Late Archaic periods, though the remaining 3 sites are of unknown prehistoric age. No historic properties listed on the National Register of Historic Places (NRHP) or designated as State Antiquities Landmarks (SAL) were identified within the archival review area.

No prior cultural resources surveys have been conducted within or in the immediate vicinity of the current project area, and no portion of the project area has been previously surveyed for cultural resources.

Table 2. Summary of Previously Recorded Cultural Sites within 1 Mile of Project Area

Site No./Name	Site Type	NRHP/SAL Eligibility Status	Distance/Direction from Project Area	Potential to be Impacted by Project?
Archeological Sites				
41WM472	Aboriginal lithic scatter (undated prehistoric)	Undetermined	0.9 miles southeast	No
41WM820	Aboriginal lithic scatter (undated prehistoric)	Recommended ineligible	0.8 miles west	No
41WM961	Aboriginal burned rock midden (Middle Archaic)	Undetermined	0.9 miles south	No
41WM1010	Aboriginal campsite with burned rock middens (Late Archaic)	Eligible	1.0 miles west	No
41WM1026	Aboriginal campsite (undated prehistoric)	Ineligible	1.0 miles west	No
Cemeteries				
Hutto City Cemetery (41WM813) (WM-C107)	Historic Texas Cemetery	N/A	0.5 miles east	No
Hutto Lutheran Cemetery (41WM814) (WM-C018)	Historic Texas Cemetery	N/A	0.2 miles north-northeast	No
St. Mary's Cemetery (WM-C016)	Cemetery	N/A	1.0 miles southeast	No

APE Area of Potential Effect
NRHP National Register of Historic Places
SAL State Archeological Landmark

Sensitive site data omitted

Figure 4. Known Cultural Resources and Previous Surveys within 1 Mile of Project Area

5.0 SURVEY METHODOLOGY

On March 5, 2015, Horizon archeological technicians Briana Nicole Smith and Jared Wiersema, under the overall direction of Jeffrey D. Owens, Principal Investigator, performed an intensive cultural resources survey of the project area to locate any cultural resources that potentially would be impacted by the proposed undertaking. The survey consisted of pedestrian walkover of the project area with surface inspection and systematic shovel testing.

Horizon's archeologists traversed the 6.8-hectare (16.7-acre) tract in parallel, linear transects spaced no more than 30.5 meters (100.0 feet) apart and thoroughly inspected the modern ground surface for aboriginal and historic-age cultural resources. The project area has apparently been cleared of vegetation in the past and is currently characterized as an open field covered in sporadic clump grasses and shrubs (Figures 5 and 6). Trees are largely absent except for a small copse of trees surrounding a windmill and stock tank in the southeastern portion of the project area (Figures 7 and 8). Approximately the southern half of the project area is situated on an upland formation, while approximately the northern half is situated on alluvial terraces that frame the channel of Brushy Creek, which flows eastwards to the north of the project area.

In addition to pedestrian walkover, the Texas State Minimum Archeological Survey Standards (TSMASS) require the excavation of 1 shovel test per 2 acres for project areas measuring between 11 and 100 acres in size unless field conditions warrant excavation of more probes (e.g., due to the presence of culturally sensitive areas) or less probes (e.g., due to extensive prior disturbances or cultural low-probability areas). In the event that a probe yields evidence of subsurface cultural deposits, additional probes may be necessary to determine the horizontal and vertical extent of the subsurface deposits associated with the cultural resource. Thus, a minimum of 9 shovel tests were required within the 6.8-hectare (16.7-acre) project area to meet the TSMASS. Horizon excavated a total of 11 shovel tests during the survey, thereby exceeding the TSMASS for a project area of this size (Figure 9).

In general, shovel tests measured approximately 30.0 centimeters (11.8 inches) in diameter and were excavated to a target depth of 1.0 meters (3.3 feet) below ground surface, to the top of pre-Holocene deposits, or to the maximum depth practicable, and all sediments were screened through 6.35-millimeter (0.25-inch) hardware cloth. In practice, shovel tests were terminated at depths of 30.0 to 70.0 centimeters (11.8 to 27.6 inches) below surface due to the presence of dense, sticky clay and gravelly clay. Shovel tests excavated on the upland formation in the southern portion of the project area were typically somewhat shallower than shovel tests

Figure 5. Overview of Project Area from Western Boundary (Facing East)

Figure 6. Overview of Project Area from Northern Boundary (Facing South)

Figure 7. Windmill in Southeastern Portion of Project Area (Facing North-Northeast)

Figure 8. Stock Tank at Base of Windmill (Facing North)

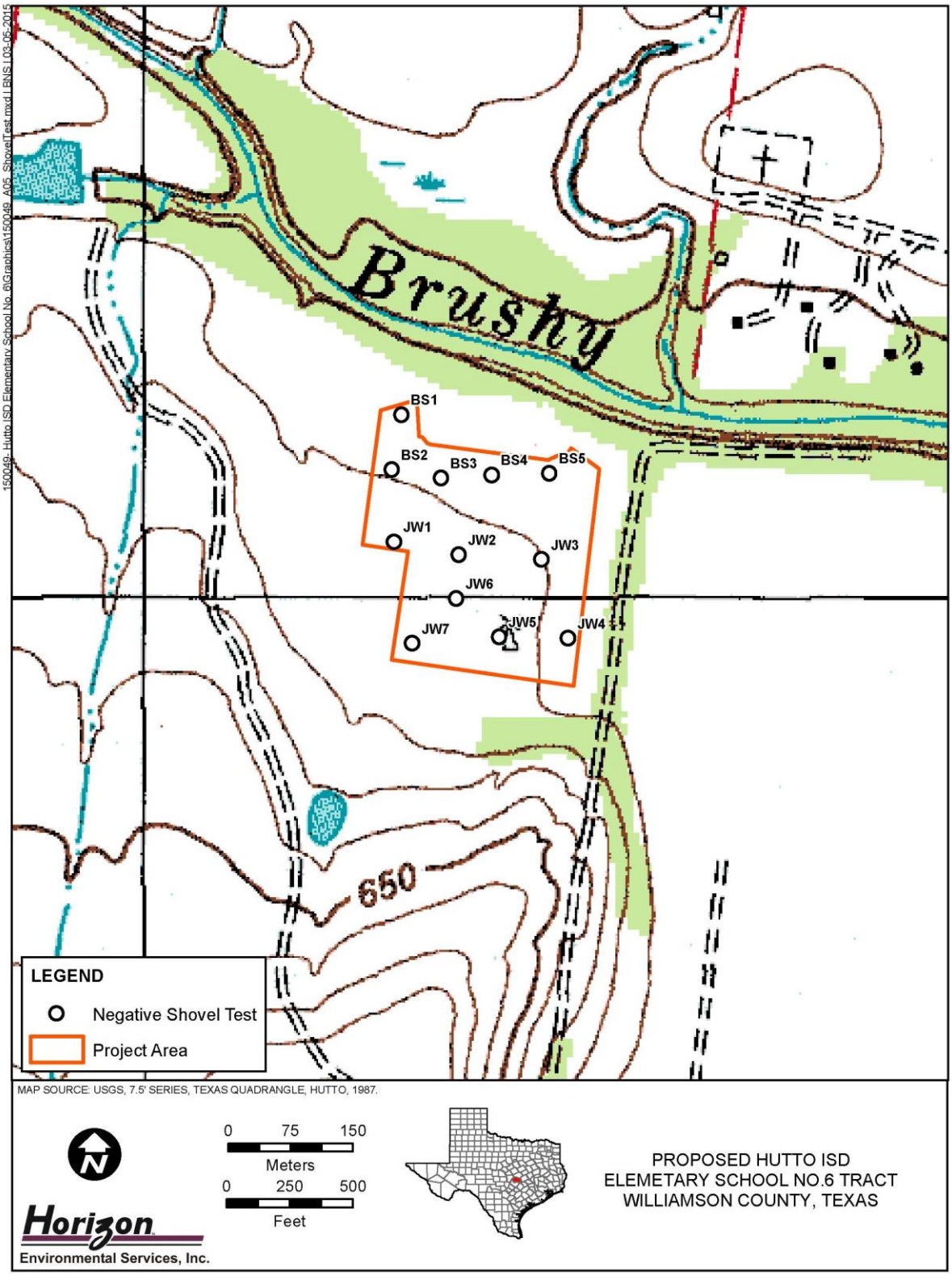

Figure 9. Locations of Shovel Tests Excavated within Project Area

excavated on the lower terraces in the northern portion of the project area. Holocene-age soils with the potential to contain cultural resources were fully penetrated in 9 of the 11 shovel tests. The remaining 2 shovel tests, designated as BS3 and BS4, which are located near the northern boundary of the project area, were terminated at depths of 60.0 and 70.0 centimeters (23.6 and 27.6 inches) below surface, respectively. While the potential exists for more deeply buried cultural resources to be present at greater depths, no backhoe trenching was conducted during the survey as no ground-disturbing activities are proposed in the northern half of the project area. Summary data for all 11 shovel tests excavated during the survey are presented in Appendix A.

During the survey, field notes were maintained on terrain, vegetation, soils, landforms, survey methods, and shovel test results. Digital photographs were taken, and a photographic log was maintained. Horizon employed a non-collection policy for cultural resources. Diagnostic artifacts (e.g., projectile points, ceramics, historic materials with maker's marks) and non-diagnostic artifacts (e.g., lithic debitage, burned rock, historic glass, and metal scrap) were to be described, sketched, and/or photo-documented in the field and replaced in the same location in which they were found. Aside from a modern windmill and stock tank in the southeastern portion of the project area, no cultural materials were observed during the survey, so the collection policy was not brought into play.

The survey methods employed during the survey represented a "reasonable and good-faith effort" to locate significant archeological sites within the project area as defined in 36 Code of Federal Regulations (CFR) 800.3.

6.0 RESULTS OF INVESTIGATIONS

Horizon was selected by Hutto ISD to conduct an intensive cultural resources inventory and assessment of the proposed location of Hutto ISD's Elementary School No. 6 Project. The proposed Elementary School No. 6 tract consists of an approximately 6.8-hectare (16.7-acre) tract located east of the Park at Brushy Creek residential subdivision, extending eastwards from the eastern end of Holbrooke Street. For purposes of the cultural resources survey, the project area was considered to consist of the entire 6.8-hectare (16.7-acre) tract, though construction-related activities would be restricted to approximately the southern half of the tract. No ground-disturbing activities would be conducted in the northern half of the project area.

The proposed undertaking is being sponsored by Hutto ISD, which represents a political subdivision of the state of Texas, on land owned by Hutto ISD; as such, the project falls under the jurisdiction of the Antiquities Code of Texas (Texas Natural Resources Code of 1977, Title 9, Chapter 191). No federal jurisdiction has been identified for the project at this time. As the project represents a publicly sponsored undertaking with the potential to impact significant cultural resources, Hutto ISD is required to provide for a cultural resources inventory of the project area.

On March 5, 2015, Horizon archeological technicians Briana Nicole Smith and Jared Wiersema, under the overall direction of Jeffrey D. Owens, Principal Investigator, performed an intensive cultural resources survey of the project area to locate any cultural resources that potentially would be impacted by the proposed undertaking. Horizon's archeologists traversed the 6.8-hectare (16.7-acre) tract in parallel, linear transects spaced no more than 30.5 meters (100.0 feet) apart and thoroughly inspected the modern ground surface for aboriginal and historic-age cultural resources. The project area has apparently been cleared of vegetation in the past and is currently characterized as an open field covered in sporadic clump grasses and shrubs. Trees are largely absent except for a small copse of trees surrounding a windmill and stock tank in the southeastern portion of the project area. Approximately the southern half of the project area is situated on an upland formation, while approximately the northern half is situated on alluvial terraces that frame the channel of Brushy Creek, which flows eastwards to the north of the project area.

In addition to pedestrian walkover, the TSMASS require the excavation of 1 shovel test per 2 acres for project areas measuring between 11 and 100 acres in size; thus, a minimum of 9 shovel tests were required within the 6.8-hectare (16.7-acre) project area to meet the TSMASS. Horizon excavated a total of 11 shovel tests during the survey, thereby exceeding the TSMASS

for a project area of this size. Holocene-age soils with the potential to contain cultural resources were fully penetrated in 9 of the 11 shovel tests located. The remaining 2 shovel tests, designated as BS3 and BS4, which are located near the northern boundary of the project area, were terminated at depths of 60.0 and 70.0 centimeters (23.6 and 27.6 inches) below surface, respectively. While the potential exists for more deeply buried cultural resources to be present at greater depths, no backhoe trenching was conducted during the survey as no ground-disturbing activities are proposed in the northern half of the project area,

Aside from a modern windmill and stock tank located in a small copse of trees in the southeastern portion of the project area, no cultural resources, historic or prehistoric, were identified within the project area as a result of the survey.

7.0 SUMMARY AND RECOMMENDATIONS

7.1 CONCEPTUAL FRAMEWORK

The archeological investigations documented in this report were undertaken with 3 primary management goals in mind:

- Locate all historic and prehistoric archeological resources that occur within the designated survey area.
- Evaluate the significance of these resources regarding their potential for designation as SALs.
- Formulate recommendations for the treatment of these resources based on their SAL evaluations.

At the survey level of investigation, the principal research objective is to inventory the cultural resources within the project area and to make preliminary determinations of whether or not the resources meet one or more of the pre-defined eligibility criteria set forth in the state and/or federal codes, as appropriate. Usually, management decisions regarding archeological properties are a function of the potential importance of the sites in addressing defined research needs, though historic-age sites may also be evaluated in terms of their association with important historic events and/or personages. Under the Antiquities Code of Texas, archeological resources are evaluated according to criteria established to determine the significance of archeological resources for designation as SALs.

Analyses of the limited data obtained at the survey level are rarely sufficient to contribute in a meaningful manner to defined research issues. The objective is rather to determine which archeological sites could be most profitably investigated further in pursuance of regional, methodological, or theoretical research questions. Therefore, adequate information on site function, context, and chronological placement from archeological and, if appropriate, historical perspectives is essential for archeological evaluations. Because research questions vary as a function of geography and temporal period, determination of the site context and chronological placement of cultural properties is a particularly important objective during the inventory process.

7.2 ELIGIBILITY CRITERIA FOR LISTING AS A STATE ANTIQUITIES LANDMARK

The criteria for determining the eligibility of a prehistoric or historic cultural property for designation as an SAL are presented in Chapter 191, Subchapter D, Section 191.092 of the Antiquities Code of Texas, which states that SALs include:

> Sites, objects, buildings, artifacts, implements, and locations of historical, archeological, scientific, or educational interest including those pertaining to prehistoric and historical American Indians or aboriginal campsites, dwellings, and habitation sites, their artifacts and implements of culture, as well as archeological sites of every character that are located in, on, or under the surface of any land belonging to the State of Texas or to any county, city, or political subdivision of the state are state antiquities landmarks and are eligible for designation.

For the purposes of assessing the eligibility of a historic property for designation as an SAL, a historic site, structure, or building has historical interest if the site, structure, or building:

1. [W]as the site of an event that has significance in the history of the United States or the State of Texas;
2. [W]as significantly associated with the life of a famous person;
3. [W]as significantly associated with an event that symbolizes an important principle or ideal;
4. [R]epresents a distinctive architectural type and has value as an example of a period, style, or construction technique; or,
5. [I]s important as part of the heritage of a religious organization, ethic group, or local society.

The Antiquities Code of Texas establishes the THC as the legal custodian of all cultural resources, historic and prehistoric, within the public domain of the State of Texas. Under Part II of Title 13 of the Texas Administrative Code (13 TAC 26), the THC may designate a historic structure as an SAL if it (1) is publicly or privately owned and listed on the NRHP and (2) meets one of the following 6 eligibility criteria:

A. Is associated with events that have made a significant contribution to the broad patterns of our history;

B. Is associated with the lives of persons significant in our past;

C. Is important to a particular cultural or ethnic group;

D. Is the work of a significant architect, master builder, or craftsman;

E. Embodies the distinctive characteristics of a type, period, or method of construction, possesses high aesthetic value, or represents a significant and distinguishable entity whose components may lack individual distinctions; or

F. Has yielded or may be likely to yield information important to the understanding of Texas culture or history.

7.3 SUMMARY OF INVENTORY RESULTS

Horizon archeologists performed an intensive cultural resources survey of the project area to locate any cultural resources properties that potentially would be impacted by the proposed undertaking. The project area was traversed by Horizon's archeologists, the modern ground surface was thoroughly inspected for cultural resources, and a total of 11 shovel tests were excavated within the project area, thereby exceeding the state survey standards for a project area of this size. Aside from a modern windmill and stock tank located in a small copse of trees in the southeastern portion of the project area, no cultural resources, historic or prehistoric, were identified within the project area as a result of the survey.

7.4 MANAGEMENT RECOMMENDATIONS

Based on the results of the survey-level investigations documented in this report, no potentially significant cultural resources would be affected by the proposed undertaking. In accordance with 36 CFR 800.4, Horizon has made a reasonable and good-faith effort to identify historic properties within the project area. No cultural resources were identified within the project area that meet the criteria for designation as SALs according to 13 TAC 26, and no further archeological work is recommended in connection with the proposed undertaking. However, human burials, both prehistoric and historic, are protected under the Texas Health and Safety Code. In the event that any human remains or burial objects are inadvertently discovered at any point during construction, use, or ongoing maintenance in the project area, even in previously surveyed areas, all work should cease immediately in the vicinity of the inadvertent discovery, and the THC should be notified immediately.

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APPENDIX A:

Shovel Test Data

Table A-1. Shovel Test Summary Data

ST No.	UTM Coordinates[1]		Depth (cmbs)	Soils	Artifacts
	Easting	Northing			
BS1	638279	3377423	0-55	Dark grayish-brown gravelly clay loam	None
			55-60+	Very dark grayish-brown clay	None
BS2	638267	3377356	0-30	Dark grayish-brown gravelly clay loam	None
			30-60+	Very dark grayish-brown gravelly clay	None
BS3	638327	3377346	0-50+	Dark grayish-brown silty clay	None
BS4	638388	3377350	0-30	Dark grayish-brown silty clay	None
			30-60	Very dark brown silty clay loam	None
			60-70+	Very dark brown silty clay	None
BS5	638458	3377352	0-20	Grayish-brown gravelly clay loam	None
			20-40+	Very dark grayish-brown gravelly clay	None
JW1	638270	3377269	0-30+	Grayish-brown gravelly clay	None
JW2	638348	3377254	0-50	Dark brown loamy clay	None
			50+	Very dark brown clay	None
JW3	638448	3377248	0-50	Dark brown loamy clay	None
			50+	Very dark brown clay	None
JW4	638481	3377153	0-50	Dark brown loamy clay	None
			50+	Very dark brown clay	None
JW5	638397	3377155	0-50	Dark brown loamy clay	None
			50+	Very dark brown clay	None
JW6	638345	3377201	0-35	Dark brown loamy clay	None
			35+	Very dark brown clay	None

[1] All UTM coordinates are located in Zone 14 and utilize the North American Datum of 1983 (NAD 83)

cmbs = Centimeters below surface

ST = Shovel test

UTM = Universal Transverse Mercator