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ARPA Permit No. 17-AMIS-01
HJN 170192 AR

Prepared for:

WHITENTON group environmental consultants

Whitenton Group, Inc.
San Marcos, Texas

Prepared by:

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Austin, Texas

February 2018

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ABSTRACT

On 26 October 2017, Horizon Environmental Services, Inc. (Horizon) conducted an intensive cultural resources survey of Frontier Communications Corporation's (FCC) proposed Amistad Electric Line Project in southeastern Val Verde County, Texas (Project Area). The undertaking will be privately funded and will not require any federal permits. However, it is located on property within the Amistad National Recreation Area, a federal property maintained by the National Park Service (NPS). As the undertaking is located on federal property, it is regulated by the Archaeological Resources Protection Act (ARPA) of 1979 and the Antiquities Act (AA) of 1906. On behalf of FCC, Whitenton Group (Whitenton) contracted with Horizon to conduct the cultural resources survey of the Project Area in compliance with the ARPA and the AA. The purpose of the cultural resources survey was to determine if any archeological sites were located within the Area of Potential Effect (APE) and, if any existed, to determine if the project had the potential to have any adverse impacts on sites listed on or considered eligible for listing on the National Register of Historic Places (NRHP). The investigations were conducted under ARPA Permit No. 17-AMIS-01.

The undertaking consists of the removal of old communication poles from within an existing electrical transmission line right-of-way (ROW) within the Amistad National Recreation Area. The APE for the undertaking measures approximately 1.0 miles (1.6 kilometers [km]) long by 30.0 feet (9.1 meters [m]) wide (approximately 4.0 acres).

Horizon's survey efforts resulted in the observation of a solitary chert flake on a landform in the northern extent of the Project Area. An intensive surface inspection on this landform, as well as the excavation of 10 shovel tests in the vicinity of the solitary specimen, failed to document any additional cultural materials at the location. As such, the specimen is considered an isolated find and was not documented as a formal archeological site.

Site 41VV1222 is a previously recorded, low-density, prehistoric lithic scatter that is mapped in proximity to the southern extent of the Project Area. Horizon's survey efforts failed to find any materials associated with the site within the current Project Area. However, supplemental survey efforts conducted by Jack Johnson (Amistad Park Archeologist), who has first-hand knowledge the site's location, resulted in the reassessment of the site's sparse deposits as well as an accurate plotting of its location on the landscape. Based on its sparse and surficial nature, the lack of temporally diagnostic implements, and the lack of preserved

floral and faunal materials, it is Horizon's opinion that site 41VV122 is ineligible for inclusion on the NRHP and that no additional investigations are warranted on the site in connection with the current undertaking.

Based on the results of the cultural resources survey, it is Horizon's opinion that the undertaking will have no adverse effect on any significant cultural resources listed on or considered eligible for listing on the NRHP within the APE. Horizon therefore recommends that FCC be allowed to proceed with the development of the Project Area relative to the jurisdiction of the ARPA and AA.

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ACKNOWLEDGEMENTS

Horizon Environmental Services, Inc. (Horizon) conducted the intensive cultural resources survey of Frontier Communications Corporation's (FCC's) proposed Amistad Electric Line Project reported herein in compliance with the Archaeological Resources Protection Act (ARPA) of 1979 and the Antiquities Act (AA) of 1906. Russell Brownlow served as the principal investigator for the project and lead author of this report. Jacob Lyons conducted the field investigations and was responsible for the drafting of the figures. In addition, Jack Johnson (Amistad Park Archeologist) conducted supplemental survey efforts and aided in the reassessment of site 41VV1222 within the Project Area.

1.0 INTRODUCTION

This document reports the results of an intensive cultural resources survey of Frontier Communications Corporation's (FCC) proposed Amistad Electric Line Project in southeastern Val Verde County, Texas (Project Area; Figures 1-1 and 1-2). The undertaking will be privately funded and will not require any federal permits. However, it is located on property within the Amistad National Recreation Area, a federal property maintained by the National Park Service (NPS). As the undertaking is located on federal property, it is regulated by the Archaeological Resources Protection Act (ARPA) of 1979 and the Antiquities Act (AA) of 1906. On behalf of FCC, Whitenton Group (Whitenton) contracted with Horizon Environmental Services, Inc. (Horizon) to conduct the cultural resources survey of the Project Area in compliance with the ARPA and the AA. The purpose of the cultural resources survey was to determine if any archeological sites were located within the Area of Potential Effect (APE) and, if any existed, to determine if the project had the potential to have any adverse impacts on sites listed on or considered eligible for listing on the National Register of Historic Places (NRHP). The investigations were conducted under ARPA Permit No. 17-AMIS-01.

The undertaking consists of the removal of old communication poles from within an existing electrical transmission line right-of-way (ROW) within the Amistad National Recreation Area. The APE for the undertaking measures approximately 1.0 miles (1.6 kilometers [km]) long by 30.0 feet (9.1 meters [m]) wide (approximately 4.0 acres).

The cultural resources investigations consisted of an archival review, an intensive cultural resources survey of the Project Area, and the production of a report suitable for review by the State Historic Preservation Officer (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. Russell Brownlow (Horizon's cultural resources director) served as the project's principal investigator, while Jacob Lyons (Horizon staff archeologist) conducted the field investigations.

Horizon conducted the survey of the Project Area on 26 October 2017. This entailed intensive surface inspection and subsurface shovel testing efforts along the length of the portion of the existing ROW comprising the Project Area. The Texas State Minimum Archeological Survey Standards (TSMASS) require a minimum of 16 shovel tests per mile for linear projects measuring up to 100.0 feet (30.5 m) in width. As the Project Area totaled 1.0 miles (1.6 km) in length, a minimum of 16 shovel tests were necessary within in order to comply with the

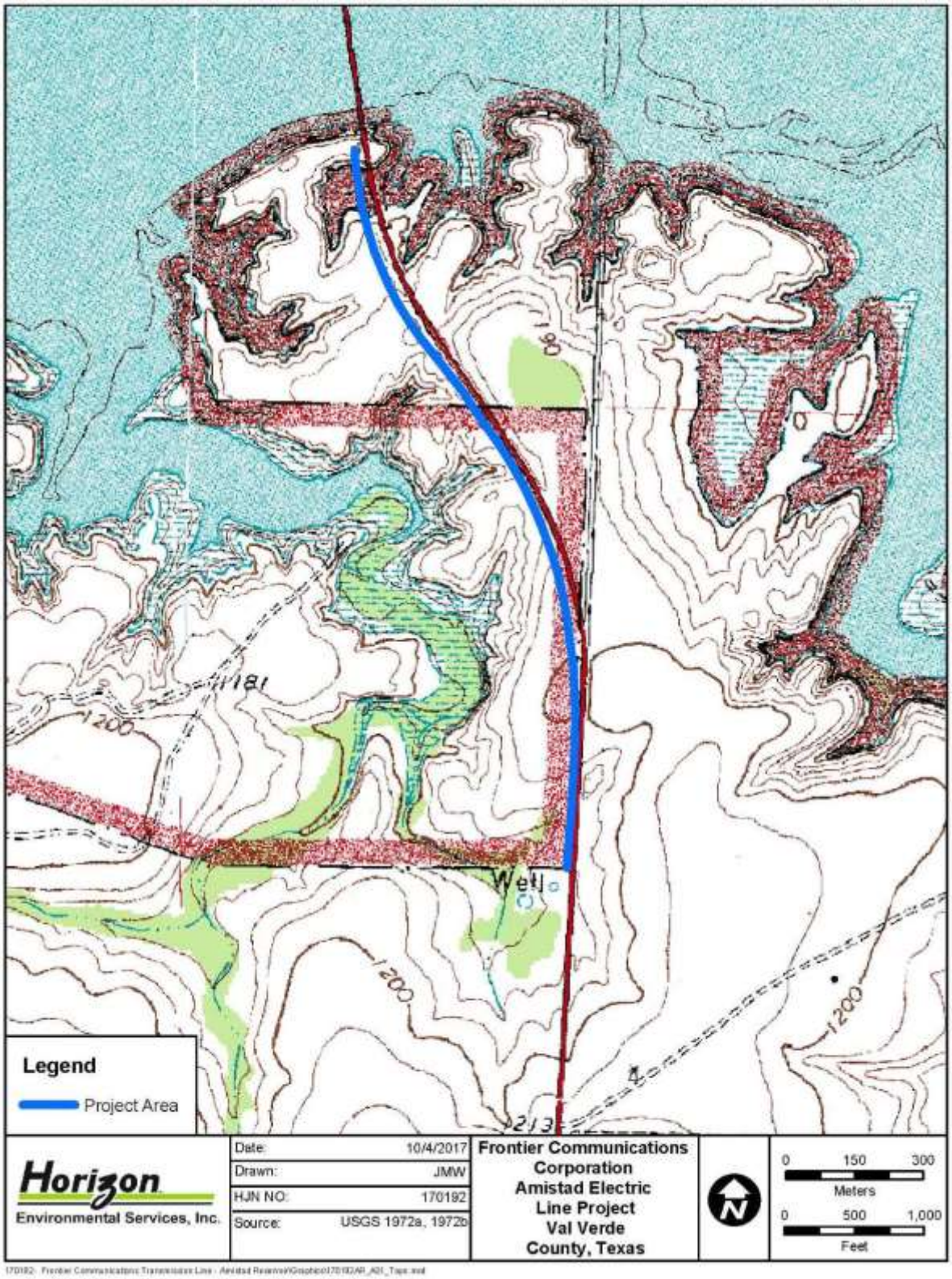

Figure 1-1. Topographic map with the location of the Project Area

Figure 1-2. Aerial photograph with the location of the Project Area

TSMASS. Horizon exceeded the TSMASS by excavating a total of 42 shovel tests along the length Project Area.

Horizon's survey efforts resulted in the observation of a solitary chert flake on a landform in the northern extent of the Project Area. An intensive surface inspection on this landform, as well as the excavation of 10 shovel tests in the vicinity of the solitary specimen, failed to document any additional cultural materials at the location. As such, the specimen is considered an isolated find and was not documented as a formal archeological site.

Site 41VV1222 is a previously recorded, low-density, prehistoric lithic scatter that is mapped in proximity to the southern extent of the Project Area. Horizon's survey efforts failed to find any materials associated with the site within the current Project Area. However, supplemental survey efforts conducted by Jack Johnson (Amistad Park Archeologist), who has first-hand knowledge the site's location, resulted in the reassessment of the site's sparse deposits as well as an accurate plotting of its location on the landscape. Based on its sparse and surficial nature, the lack of temporally diagnostic implements, and the lack of preserved floral and faunal materials, it is Horizon's opinion that site 41VV122 is ineligible for inclusion on the NRHP and that no additional investigations are warranted on the site in connection with the current undertaking.

Based on the results of the cultural resources survey, it is Horizon's opinion that the undertaking will have no adverse effect on any significant cultural resources listed on or considered eligible for listing on the NRHP within the APE. Horizon therefore recommends that FCC be allowed to proceed with the development of the Project Area relative to the jurisdiction of the ARPA and AA. However, in the unlikely event that any cultural materials (including human remains or burial features) are inadvertently discovered at any point during construction, use, or ongoing maintenance of the Project Area, even in previously surveyed areas, all work at the location of the discovery should cease immediately, and the NPS and THC should be notified of the discovery.

2.0 ENVIRONMENTAL SETTING

2.1 GENERAL PROJECT AREA DESCRIPTION

FCC's proposed Amistad Electric Line Project is consists of the removal of old communication poles from within an existing electrical transmission line ROW. This existing ROW is located along the western edge of US Route 277/377 (US 277/377) near the far southeastern edge of the Amistad Reservoir, approximately 2.7 miles (4.4 km) northeast of Lake View, Texas in Val Verde County (see Figures 1-1 and 1-2). It can be found on the US Geological Survey (USGS) 7.5-minute Del Rio NW, Texas, topographic quadrangle map (see Figure 1-1). The APE for the undertaking measures approximately 1.0 miles (1.6 kilometers [km]) long by 30.0 feet (9.1 meters [m]) wide (approximately 4.0 acres). It is located on federal property within the Amistad National Recreation Area. Representative images of the Project Area at the time of the cultural resources survey are presented in Figures 2-1 through 2-4.

2.2 PHYSIOGRAPHY AND HYDROLOGY

The Project Area is located on the southeastern edge of Amistad Reservoir. It initiates just south of the US 277/377 bridge that traverses the reservoir. From there, it extends southeasterly along the west side of the highway, primarily within a cleared utility ROW that is spotted with desert scrub. It terminates 1.0 miles (1.6 km) to the southeast at the boundary of Amistad National Recreation Area. Elevations along the length of the Project Area range between approximately 1150.0 and 1200.0 feet (350.5 and 365.8 m) above mean sea level (amsl). Hydrologically, the Project Area is situated within the Rio Grande River basin. The Project Area is drained to the north and northwest via overland sheet flow into the Amistad Reservoir, near the original confluence of San Pedro Creek and its north and south forks prior to reservoir construction. San Pedro Creek originally flowed to the west, joining the Devils River roughly 5.0 miles (8.1 km) west of the Project Area. The Devils River originally joined the Rio Grande River approximately 9.3 miles (15.0 km) southwest of the Project Area.

2.3 CLIMATE

Val Verde County has a semiarid, continental climate with dry winters and hot summers. Average annual precipitation is 8.4 inches (21.3 centimeters [cm]), while daily temperatures range from an average maximum of 99.2°Fahrenheit (F) (37.3°Celsius [C]) in July to an average minimum of 38.1°F (3.4°C) in January. Absolute recorded extreme temperatures range from 12.0 to 110.0°F (11.1 to 43.3°C). (NRCS 1982).

Figure 2-1. Typical view along Project Area, facing north

Figure 2-2. Another typical view along Project Area, facing north

Figure 2-3. Typical view along Project Area, facing south

Figure 2-4. Typical view of ground surface within Project Area

2.4 FLORA AND FAUNA

Ecologically, the Project Area lies at the intersection of Blair's (1950) Balconian, Tamaulipan, and Chihuahuan biotic provinces, and in the extreme northwestern corner of the South Texas Plains ecoregion where it meets the Chihuahuan Desert and Edwards Plateau (Griffith et al. 2007). As a result, the plant and animal communities in this area consist of a mixture of the various regions. Plant species include a mix of junipers (cedar) and oaks typical of the Edwards Plateau, a variety of desert specimens such as creosote, lechugilla, and cacti typical of the Chihuahuan Desert, and huisache, retama, and mesquite common within the Tamaulipan Shrubland (NPS 2017a). Similarly, animal species in this transition zone include a mix of the various regions. These include, but are not limited to, species such as white-tailed deer, rabbits, skunks, porcupines, as well as a variety of snake, reptile, and amphibian species. Amistad National Recreation Area also lies in the path of the annual fall migration of Monarch butterflies that utilize the area as roosting grounds on their flight to central Mexico (NPS 2017b).

2.5 SOILS

Three soil types are mapped within the boundaries of the Project Area. These soils are presented in Table 2-1 and in Figure 2-5. All 3 soil types are shallow upland soils with no potential to harbor deeply buried cultural deposits. Any cultural deposits, if present, would likely be contained to surface or near surface contexts.

Table 2-1. Soils mapped within the Project Area

Soil Name and Map Unit	Soil Type	Soil Depth (Inches)	Setting
Amistad very flaggy clay loam, 1 to 8% slopes (AmD)	Clay loam	0 to 6: Flaggy clay loam 6 to 17: Caliche 17 to 80: Limestone bedrock	Hilly uplands
Zorra-Rock outcrop complex, 1 to 8% slopes (ZoD)	Cobbly loam	0 to 8: Cobbly loam 8 to 12: Caliche 12 to 15: Fractured limestone 15 to 20: Limestone bedrock	Hilly uplands
Zorra-Rock outcrop complex, 8 to 15% slopes (ZoE)	Cobbly loam	0 to 8: Cobbly loam 8 to 12: Caliche 12 to 15: Fractured limestone 15 to 20: Limestone bedrock	Hilly uplands

Source: NRCS 1982

Figure 2-5. Soils mapped within the Project Area

3.0 CULTURAL BACKGROUND

The Project Area is located within the Lower Pecos Canyonlands, which represent a portion of the Lower Pecos archeological region (Hester et al. 1989). This region includes the area surrounding the confluences of the Pecos and Devils rivers with the Rio Grande, and it encompasses the surrounding area of southwestern Texas and north-central Mexico, including the southwestern extension of the Edwards Plateau and the eastern edge of the Stockton Plateau. The Lower Pecos archeological region is part of the larger area known as the Trans-Pecos, which was originally defined as including all of Texas west of the Pecos River plus Val Verde County (Suhm et al. 1954). Archeologically, the Lower Pecos River region has been defined on the basis of the distribution of the classic Pecos River style pictographs (Turpin and Bement 1985:5).

The Rio Grande and the Pecos and Devils rivers have incised deep canyons into the massive Cretaceous limestone deposits in this region, and multiple-canyon systems are quite common. Erosional processes have also created numerous rockshelters and overhangs, some of which are quite large and have facilitated the development of deeply stratified archeological sites. Most of the best-known sites in the area are located in these dry rockshelters and shallow erosional cavities along the cliff faces overlooking the rivers (Hester et al. 1989:7).

3.1 PREVIOUS ARCHEOLOGICAL RESEARCH

The rich prehistoric remains in the Lower Pecos River region have attracted public interest since before the earliest map makers came to the area in the 1850s (Emory 1857; Young 1853). Formal archeological investigations here have been restricted to approximately the last 80 years, beginning in the 1930s with work funded by both private and academic institutions. Much of the early work was aimed at the recovery of museum-quality specimens from the dry caves and rockshelters of the area. Archeological investigations in the region have undergone numerous methodological and theoretical changes within the last 50 years since Amistad Reservoir was constructed. These more recent studies have attempted to explain the cultural continuity and change reflected by the artifactual remains of the aboriginal inhabitants rather than to merely seek out well preserved perishables, as had been done previously.

Excavations begun in the early 1930s were sponsored by various institutions, including the Witte Museum of San Antonio, the Smithsonian Institution, the University of Texas at Austin, and Texas Technological University. Key sites excavated during this time period by the Witte

Museum were Eagle Cave (41VV167) near Langtry (Davenport 1938) and the Shumla caves (41VV112 and 31VV113) near the small settlement of Shumla (Martin 1933). The Smithsonian Institution promoted excavations at Goat Cave (41VV67) and Moorehead Cave (41VV55) along the Pecos River throughout the 1930s (Setzler 1932, 1933, 1934, 1935, 1939). Personnel from the University of Texas at Austin concentrated their efforts in this region on the trenching of Fate Bell Shelter (41VV74) in Seminole Canyon in 1932 (Pearce and Jackson 1933; Thomas 1933) and the excavation of Horseshoe Ranch Cave (41VV171) and Kelly Shelter (41VV164) by A.M. Woolsey in 1936 (Shafer and Zintgraff 1986:228). Also at this time, Murrah Cave (41VV351) on the Pecos River was excavated as part of Texas Technological University's fieldwork in the area (Holden 1937). These early excavations yielded an array of extremely well preserved artifacts, including wood specimens, mats, baskets, bone tools, sandals, antler implements, and skins, as well as burials, many of which retained both skin and hair.

Also in the 1930s, several attempts were made to record the rock art in the region. The first attempt was sponsored by the Witte Museum and was done by Emma Gutzeit and Mary Virginia Carson in 1931. They crafted free-hand color copies of 18 of the more notable panels in the area (Turpin 1982:19). Also at this time, Forrest Kirkland, a meticulous artist, and his wife embarked on a mission to travel across Texas and record as much rock art as possible. Many of the spectacular pictographs in the Lower Pecos region were included in Kirkland's work, which involved painstaking measurements and the use of matched watercolors (Kirkland 1937, 1938, 1939; Kirkland and Newcomb 1967). A.T. Jackson's (1938) *Picture-Writing of Texas Indians* was the first formal archeological study of the pictograph and petroglyph sites in the area. He, like Kirkland, attempted a systematic documentation of the rock art sites. Jackson's and Kirkland's work laid the groundwork for future research on the remarkable rock art in the Lower Pecos River region.

During the 1940s, limited formal archeological investigations in the area were undertaken as a result of World War II. Kelley et al. (1940) divided the Trans-Pecos region into 8 cultural foci based on material recovered from the Big Bend to the Lower Pecos. The Pecos River focus was one of these foci for which a detailed list of material culture traits was presented. This trait list was compiled using materials from Fate Bell Shelter, Murrah Cave, Goat Cave, and Moorehead Cave. Fate Bell Shelter was listed as the type site. One of Kelly's students, Herbert Taylor, initiated limited excavations and surveys along both sides of the Rio Grande (Taylor 1948, 1949). After performing a reconnaissance into northern Mexico, Taylor concluded that "Pecos River Focus sites are to be found south of the Rio Grande near the mouth of the Pecos in virtually the same locations and numbers in which they occur north of the border" (1948:84). Taylor proposed that the Pecos River focus was present throughout the Trans-Pecos region, from the Big Bend to the Lower Pecos, before A.D. 1000. He felt that, around A.D. 1000, this cultural type abandoned the Big Bend but persisted in the Lower Pecos, creating a long-lived cultural continuum there (Taylor 1949:86). Suhm et al. (1954) offered a summary of the Lower Pecos cultural sequence using this background. Their summary placed the Lower Pecos within the southeastern area of the Trans-Pecos.

The Water Treaty of 1944 between the US and Mexico initiated the next series of investigations in the Lower Pecos region. This treaty provided for unusual cooperation in the

construction of reservoirs along the Rio Grande to alleviate flooding problems and to allow storage of irrigation water for agricultural areas downstream. One of these reservoirs, Diablo Reservoir (later renamed Amistad) would inundate an area from the confluence of the Rio Grande with the Devils River and the Pecos River—and upstream on these 2 rivers for 30.0 and 20.0 miles (48.3 and 32.2 kilometers), respectively—to a point about 1.2 miles (2.0 kilometers) downstream on the Rio Grande. The National Park Service (NPS) was placed in charge of the extensive cultural resources to be affected by the construction and filling of this reservoir (Bement 1989). The Archeological Salvage Program Field Office was set up in Austin, Texas (Graham and Davis 1958), and E.B. Jelks of the University of Texas at Austin was put in charge of the Texas Archeological Salvage Project. The initial inventorying of cultural resources to be adversely affected by the reservoir began in January 1958 (Jelks 1958). Areal survey, as well as reconnaissance by raft along the Rio Grande, was used in the identification of sites. This survey resulted in the recording of 188 archeological sites, of which 49 contained pictographs (Graham and Davis 1958).

At this time, with the newfound concerns about the archeology of the area, some of the material excavated in the 1930s was reanalyzed. Mardith Schuertz (1956, 1961, 1963) conducted the most extensive reevaluations, looking at artifacts from Eagle Cave, the 5 Shumla caves, and Jacal Cave (41VV674). She did a thorough study of the recovered sandals, reanalyzed the projectile points using the formalized typology defined by Suhm et al. (1954), and completed studies on the wood, bone, antler, stone (pecked, ground, and painted), shell, clay, skins, fiber, basketry, and matting.

As a result of the 1958 survey of the Amistad Reservoir area, a 5-year program was envisioned to test and excavate many of the recorded sites. This program actually lasted through the late 1960s, with a vast quantity of information being amassed. The first excavations were done at Centipede Cave (41VV191) and Damp Cave (41VV189) in 1958 by Jeremiah Epstein (1963). He felt that only the projectile points recovered showed any change through time. The rest of the artifacts from these 2 sites showed little variability and were thought to be part of a long-lived cultural continuum in the area.

Other work associated with the reservoir at this time included additional surveys along the Pecos, Devils Mouth, and Rio Grande rivers in the US (Parsons 1962) and Mexico (Taylor 1948; Taylor and Rul 1961); excavations at rockshelters (Alexander 1970; Collins 1969; Dibble 1965; Nunley et al. 1965; Parsons 1965; Prewitt 1966; Ross 1965) and terrace sites (Dibble 1967; Johnson 1961, 1964; Sorrow 1968a, 1968b); and additional recording and analyzing of pictograph sites (Gebhard 1965; Grieder 1965; Parsons 1962).

Dibble's excavations at Bonfire Shelter (1965) identified 4 (possibly 5) human utilizations of a bison jump there, with the earliest bone bed possibly due to human involvement dated to before 10,000 years ago. Alexander's excavations at Parida Cave (41VV187) along the Rio Grande recovered human coprolites, identified 3 extensively used plant taxa (sotol, lechuguilla, and prickly pear), and noted an increase in the utilization of riverine fauna during Late Archaic times (Alexander 1970). Eagle Cave was partially excavated in 1963 by Ross (1965), who developed a projectile point sequence for the site from the Early Archaic through the Late Archaic. His relative sequence compared favorably with other site sequences from the area.

Most of the projectile point styles, however, occurred chronologically later than had been hypothesized for the same styles from other sites (Ross 1965:139). Leroy Johnson (1961, 1964) began work at Devil's Mouth Cave (41VV188), a deeply stratified alluvial deposit, in the early 1960s. He established a projectile point sequence there identifying a PaleoIndian component and 3 subsequent Archaic components. At the same time, Dee Ann Story proposed an 8-period chronology using radiocarbon dates and associated projectile points from these latest excavations (Story and Bryant 1966). William Sorrow returned to further excavate the Devil's Mouth site in 1967 (Sorrow 1968a) and also did work at the Nopal Terrace site (41VV301) that same year (Sorrow 1968b). He further refined the cultural sequence for the Amistad area using Johnson's Devil's Mouth data (Story and Bryant 1966) and shorter sequences from 7 other sites in the area. Eight periods were established, with the first 7 mirroring the Devil's Mouth sequence and the eighth representing the historic period of European contact. The excavations at Arenosa Shelter (41VV99) by David Dibble (1967) provided the longest cultural sequence of stratified, radiocarbon-dated episodes from the reservoir to date. Dibble refined an 11-part chronology for the Lower Pecos region based on the Arenosa sequence and the PaleoIndian data from Bonfire Shelter.

A relative chronology of the rock art in the area was proposed by David Gebhard in 1960. He based this chronology on similarities in style and superposition of motifs within a panel (Turpin 1982). His final report in 1965 refined the chronology and included the analysis of additional panels recorded by Parsons (1962). Terence Grieder (1965) also did some rock art recording at this time. He visited 2 sites in Satan Canyon and concluded that all of the painting had been done within a period of time marked by relatively minor changes in style and that none of the painting appeared to be of a more recent age than any of the others (Grieder 1965:14).

The reservoir salvage years provided the archeological community with data of immeasurable value about Lower Pecos prehistory. The absence of large-scale projects since the salvage program ended has drastically reduced the number of archeological investigations in this area. Funding for additional surveys and excavations in close proximity to the reservoir has primarily been provided by grants and research organizations in recent years. The large body of data from the salvage years in the Lower Pecos enabled some students to complete theses and dissertations using excavated material (Collins 1974; Marmaduke 1978). Some areas adjacent to the reservoir were surveyed in the 1970s to further refine the settlement scheme for the area and to look at the spatial distribution of features (Brown et al. 1976; Marmaduke and Whitsett 1974; Prewitt and Dibble 1974).

Several major rockshelter sites were excavated in the 1970s by academic institutions. Baker Cave (41VV503) on the Devils River was excavated in the summer of 1976 by the University of Texas at San Antonio (Chadderdon 1981; Hester 1983). This excavation yielded both Angostura and Golondrina projectile point types dated to more than 9000 years ago. The excavated materials from Baker Cave indicated that lechuguilla and sotol were not part of the flora during late PaleoIndian times. These plants apparently were not present in the region until ca. 6000 B.C. (Hester 1983). Texas A&M University conducted excavations at Hinds Cave (41VV456) along a tributary of the Pecos River over several seasons. This excavation provided important data concerning the use of the area by the aboriginal occupants and their subsistence

base (Shafer and Bryant 1977). Also, intrasite information was obtained with the discovery of a latrine area that provided coprolites for analysis and the location of the areas containing well preserved floral and faunal remains (Dering 1979; Lord 1984; Williams-Dean 1978). Well preserved perishable items, including matting, sandals, and basketry, were found to date back roughly 5000 years (Andrews and Adovasio 1980). It was proposed that Hinds Cave was occupied for extended periods of time lasting several seasons (Shafer 1977; Williams-Dean 1978).

A State Historical Park was created along Seminole and Presa canyons in 1979-1980 when various tracts of land either were donated by landowners or purchased by the state. Many pictograph sites, including Fate Bell Shelter, were located within the park. The University of Texas at Austin conducted an inventory of the cultural resources within the park for the Texas Parks and Wildlife Department, locating 38 new sites and reevaluating 32 previously known sites (Turpin 1982). Several new site types were identified during this survey, including signal fire hearths, oblong burial cairns, and circular stone alignments (i.e., tipi rings) (Turpin 1982, 1984a). One burial cairn was excavated during this project. A sinkhole, located during this inventory, was later excavated using funding from the Texas Parks and Wildlife Department. A rock pile beneath the vertical shaft entrance to the sinkhole was found to contain the remains of at least 21 individuals (Bement 1985). This burial population was found to be more than 5000 years old.

The lower levels of Bonfire Shelter were excavated as part of the 1983-1984 investigations conducted by the University of Texas at Austin. These excavations explored the PaleoIndian levels and the levels immediately beneath them. Possible human activities in the shelter between 12,500 and 10,000 B.P. were identified (Bement 1986).

During the 1980s, extensive surveys for rock art sites along the 3 primary rivers in the area were conducted to provide baseline data for future settlement pattern research (Turpin et al. n.d.). Another excavation at this time was undertaken at Live Oak Hole (41VV169), a Historic-period aboriginal site (Turpin and Bement 1988). This tipi ring/historic pictograph site contained brown plainware ceramics, arrow points, Dorso end scrapers, and a Plains-style pictograph. A continuous circular pile of stones (2 stones wide) located on the sloping nose of a creek meander was excavated, but only a small concentration of burned rock was noted. Oblong cairns are often associated with such circular alignments, and at this site these cairns were interpreted as partial rings that had been robbed of stones for the construction of subsequent structures (Turpin and Bement 1988).

In the mid-1980s, several areas near Hinds Cave were surveyed to develop a subsistence model for upland areas in the region (Saunders 1986). Saunders concluded that "formal uniface sites and projectile point sites were associated with separate and distinct economic activities" (1986:227). He also postulated that large burned rock middens were products of a Middle Archaic subsistence strategy, while smaller ones represented changing strategies during the Late Archaic (Saunders 1986:228).

Much emphasis in the 1980s centered on rock art sites in the region (Turpin 1984b, 1986a, 1986b, 1986c, 1986d, 1987, 1988). To date, 5 pictograph styles have been identified:

Pecos River, Red Linear, Red Monochrome, Bold Line Geometric, and Historic. The Pecos River style appears to be the earliest and is thought to date to the Middle Archaic, San Felipe phase (3200 to 3900 years B.P. [Turpin and Bement 1985]). The Red Linear portrays group activities and is thought to be Late Archaic in age by Turpin (1984b:191-193) due to the lack of bow and arrow motifs, probable buffalo hunting scenes, and superpositioning over Pecos River style panels. The Red Monochrome style had been previously dated to the Late Prehistoric period (Kirkland and Newcomb 1967:84) based on definite bow and arrow depictions. This style is characterized by naturalistic depictions of humans and animals, with human figures shown facing frontally and animals drawn in profile (Turpin 1986b). The most recently defined rock art style has been termed the Bold Line Geometric style (Turpin 1986a). This style is thought to be Late Prehistoric age, but this hypothesis is tentative. Historic pictographs represent 3 types of scenes: peaceful depictions of European people and associated material goods, hostilities toward the Spanish, and hostilities toward Anglo-American settlers (Turpin 1988:283).

The Witte Museum developed a permanent exhibit on the Lower Pecos region using material from the 1930s excavations at Baker Cave (Bement 1989). The Witte has also sponsored a book, *Ancient Texans* (Shafer and Zintgraff 1986), which contains excellent color plates of many rock art panels as well as the work of many researchers in the Lower Pecos.

In the summer of 1989, the Texas Archeological Society held its annual field school along the Devils River on newly purchased Texas Parks and Wildlife land. The field school was designed to help the state inventory the cultural resources present within the approximately 22,000-acre park and to test a number of sites. A total of 158 new sites were recorded, and 37 of the 52 known sites within the park boundaries were reevaluated. Five sites were tested and/or excavated, including 2 rockshelters, a sinkhole/cave, and 2 midden sites. More recent archeological studies in the area have consisted of small surveys conducted for cultural resources management purposes.

In summary, much archeological work has occurred in the Lower Pecos River region in the last 80 years and has led to the compilation of a vast database for the area. Future work in the area will undoubtedly build on this database with specific problem-oriented studies dominating the progress.

3.2 CULTURAL CHRONOLOGY IN THE LOWER PECOS RIVER REGION

Numerous researchers have noted an apparent absence of significant technological or cultural change throughout much of the prehistoric period in the Lower Pecos River region, with the continuation of an “Archaic” mode of adaptation from the end of the PaleoIndian period at about 7000 B.C. to the Historic period (Saunders 1986; Turpin 1982). Throughout this long period of time, the economy was apparently based on collecting plant and shellfish resources along with hunting small animals and large game.

Because of the excellent preservation conditions in the dry rockshelters, which were apparently intermittently occupied throughout the prehistoric period, we have a relatively complete inventory of the material culture of the prehistoric inhabitants. This inventory includes baskets, various types of netting, bone tools, a wide variety of woven goods, such as bags and

sandals, "middens" of burned rock that are presumed to relate to the preparation of plant foods, and a large assemblage of lithic tools.

The perception of the conservative nature of this tradition derives largely from the lithic industry, which consists of projectile points, bifaces, and unifacial tools. With the exception of projectile point styles, the lithic assemblage changed little throughout most of the prehistoric period (Saunders 1986). The most important shift in technology may have occurred around A.D. 600, when the bow and arrow was introduced into the region, apparently accompanied by a change in the morphological structure of burned rock middens (Saunders 1986).

As is to be expected given this apparent pattern of cultural conservatism, chronology in the Lower Pecos River region is based almost entirely on the stylistic seriation of projectile points that have been excavated from rockshelters and deeply stratified terrace sites in the canyons. Such sites have provided a rather consistent sequence of projectile point styles that can be bracketed by radiocarbon dates (Marmaduke 1978:Fig. 18). For our purposes, 4 major periods of Native American occupation can be defined: PaleoIndian, Archaic, Late Prehistoric, and Historic (Saunders 1986; Turpin and Bement 1985). The following discussion of these cultural periods is, of necessity, brief and is limited only to the major innovations or traits that can be firmly associated with specific points in time.

3.2.1 PaleoIndian Period (ca. 10,000 to 7000 B.C.)

Two phases have been defined for the PaleoIndian period in the Lower Pecos River region: the Aurora phase (pre-10,000 B.C.) and the Bonfire phase (10,000 to 7800 B.C.) (Saunders 1986; Turpin and Bement 1985). Evidence for the Aurora phase is rather circumstantial, consisting only of scattered, broken, or burned bones of extinct Pleistocene fauna recovered from 2 rockshelter sites: Cueva Quebrada (41VV162A) (Collins 1976; Lundelius 1984) and Bonfire Shelter (Bement 1986; Dibble 1970; Dibble and Lorrain 1968; Turpin and Bement 1985:6). Formal tools and features are lacking from these deposits, and the only evidence for human activity lies in the burning of the bones and the nature of the breakage patterns. Unfortunately, such evidence elsewhere has often proved illusory and firm evidence for the existence of this phase remains to be discovered. Radiocarbon dates associated with this phase range from 12,000 to 10,000 B.C. at Cueva Quebrada and from 10,500 to 8000 B.C. at Bonfire Shelter (Turpin and Bement 1985:6).

The later phase of the PaleoIndian period, the Bonfire phase, is well represented only at Bonfire Shelter (Dibble and Lorrain 1968). A massive bone deposit of extinct *Bison antiquus* and *Equus* sp. at this site has yielded radiocarbon dates of 10,000 years ago. The site is estimated to contain the remains of 120 animals that were driven from the overhanging cliff in at least 3 separate episodes. Two distinctive PaleoIndian point types were found in association with these remains: Folsom and Plainview. Other sites in the region that have yielded remains of *Bison antiquus* include Arenosa Shelter and Cueva Quebrada (Turpin and Bement 1985:8). Based on this evidence, the Lower Pecos River region has been suggested to have been part of a larger economic pattern of "big game hunting" that was found across much of the western US at this time. PaleoIndian projectile points of this phase have also been found at Devil's Mouth Cave in a context suggestive of an open camping area (Turpin and Bement 1985:6-8).

The period from about 7800 to 7000 B.C. has been placed in the Oriente phase, also termed “Pre-Archaic” (Turpin and Bement 1985:8). The type site for this “terminal” PaleoIndian manifestation is Baker Cave, where Golondrina and Angostura points were found in contexts that show little difference from those of the subsequent Archaic period (Chadderdon 1983; Word and Douglas 1970). Apparently, by this time, the broad-spectrum, “Archaic” subsistence pattern that was to characterize the Lower Pecos region for the next 10,000 years was already in place. Turpin and Bement (1985:8) note that the onset of the dry, post-Pleistocene climatic conditions was signaled by the appearance of desert succulents, such as prickly pear, as a dietary mainstay. Work at Hinds Cave as well as Saunders’s (1986) survey data in the surrounding region show that canyon, upland, and interior upland environments were all being exploited by this time period.

3.2.2 Early Archaic Period (ca. 7000 to 4000 B.C.)

Turpin and Bement (1985:8) have defined the Viejo phase for the Early Archaic period in the Lower Pecos region. This is the period when the full range of Archaic traits appears in the dry rockshelters in the region. Specifically, they refer to burned rock middens, hearths, slab- and grass-lined pits, prickly pear floors, and refuse dumps as being present in several sites, including Eagle Cave (41VV167) and Hinds Cave (Andrews and Adovasio 1980; Parsons 1965; Shafer and Bryant 1977; Stock 1983). They also note the appearance at this time of basketry, cordage and sandals, and the first painted pebbles. Characteristic projectile points of the Viejo phase include Baker, Bandy, Uvalde, Gower, Martindale, and the Early Barbed series (Turpin and Bement 1985:8).

Coprolite data support an increasing dietary emphasis on vegetation, small animals, and reptiles, in comparison to the preceding phase. The diet now included agave, sotol, and yucca plants, as well as selected rodent parts. Saunders’s upland survey data failed to record any evidence for Early Archaic utilization of these areas, but the remains of upland plants and animals from Hinds Cave shows that these areas must have been utilized (Saunders 1986:228). Saunders suggests that the more remote upland areas were not utilized as frequently at this time as they were in later periods.

3.2.3 Middle Archaic Period (ca. 4000 to 1200 B.C.)

The Middle Archaic period has been divided into 2 periods: the Eagle Nest phase (4000 to 1900 B.C.) and the San Felipe phase (1900 to 1200 B.C.). The period defined as the Eagle Nest phase is now placed in the Middle Archaic period on the basis of the occurrence of Pandale points (Dibble 1967) and of a pattern of increasing regionalization of traits (Turpin 1982:24; Turpin and Bement 1985:9). Coprolite data reveal an increasing reliance on desert vegetation and fauna (Williams-Dean 1978), while the dry shelter deposits dating to this period contain the full range of fiber, wood, bone, and flint industries.

The San Felipe phase (1900 to 1200 B.C.) continues this pattern of regionalization and is characterized by Langtry, Val Verde, Arledge, and Almagre dart points (Turpin and Bement 1985:9). Turpin and Bement (1985:9) feel that the classic Pecos River rock art style should be placed in this phase. The subsistence economy mirrors that of the preceding Eagle Nest phase,

although there may have been a shift in some sites toward riverine and upland resources exploitation.

3.2.4 Late Archaic Period (ca. 1200 B.C. to A.D. 950)

The Late Archaic period has been subdivided into 3 cultural phases by Turpin and Bement (1985:9-10): the Cibola phase (1200 to 400 B.C.), the Flanders phase (400 B.C. to A.D. 200), and the Blue Hills phase (A.D. 200 to 950). The Cibola phase appears to have occupied a short mesic interlude within the overall trend toward increasing aridity in the Lower Pecos River region. Bison apparently extended their range southward during this phase, and northern hunters from the Llano Estacado and Central Texas followed them into the area (Turpin and Bement 1985:9). The bison jump at Bonfire Shelter was utilized again during this phase, and characteristic projectile point types include Montell, Castroville, and Marshall. Turpin and Bement (1985:9) have tentatively placed the Red Linear rock art style within this cultural phase based on the depiction of bison hunting. Interestingly, domestic dogs are also shown in these paintings at the same time that canid bones reached a peak in Arenosa Shelter (Turpin and Bement 1985:9). Projectile point types representative of this phase include Montell, Castroville, and Marshall dart points.

The subsequent Flanders phase saw the resumption of the previous arid trend in the Lower Pecos River region and the retreat of the bison back to the north. This apparently encouraged a return to the "desert-adapted" economy of the Middle Archaic. Turpin and Bement (1985:9-10) suggest that the lack of continuity during the previous phase was the result of an intrusive culture, and the resurgence of the earlier pattern is the result of renewed visibility rather than abrupt cultural change. Dart point types characteristic of this phase include Shumla and Marcos. Turpin and Bement (1985:10) state that "few distinctive or innovative traits beyond the characteristic projectile point styles can be securely attributed to this phase."

The final phase of the Late Archaic period is the Blue Hills phase. This phase witnessed an intensification of the traditional "desert lifestyle" of the earlier periods. Sharp increases in percentages of unifaces are interpreted as indicating an increased emphasis on vegetal processing. The occurrence of silica sheen on some of these tools would tend to support this view (Turpin and Bement 1985:10). In addition, there is some evidence for a heavier reliance on riverine resources (especially fish) during this phase, although this may be more a result of better preservation than of an actual change in emphasis. Ring middens first appeared at this time and have been interpreted as the remains of burned rock ovens used for the preparation of desert succulents. Projectile point styles characteristic of this period include the Frio and Ensor types. There is an elaboration of the fiber industry that incorporated patterned and painted matting and basketry. Such artifacts were often intended as funerary goods. Burials were usually bundled and placed in rockshelters, bound and wrapped in shrouds of hide and matting. Finally, stone features that may be the remnants of supports for huts covered with hide and grass may date to this phase.

3.2.5 Late Prehistoric Period (ca. A.D. 950 to 1700)

The Late Prehistoric period is divided into the Flecha phase (A.D. 950 to 1500), belonging to the Late Prehistoric proper, and the protohistoric Infierno phase (A.D. 1500 to 1700). As noted above, the bow and arrow were introduced into the Lower Pecos River region sometime after A.D. 600, as indicated by the characteristic point types of the Flecha phase—initially Scallorn and Perdiz arrow points, followed by Livermore and Toyah (Turpin and Bement 1985:10). Rockshelters continued to be occupied during this phase, but there may have been a preference for upland settlement. Mortuary customs may have shifted to include cairn burial in the uplands, and circular stone rings can be positively attributed to this phase. Turpin and Bement (1985:10) feel that the distinctive Red Monochrome pictograph style was introduced during this phase, or possibly later. Turpin and Bement conclude that, "taken in composite, the attributes of this phase reflect considerable cultural mobility, most probably effected by the movements of people rather than diffusion" (1985:10).

The Infierno phase has been referred to as protohistoric based on what appears to be a completely different artifact assemblage in comparison to earlier assemblages characteristic of the Lower Pecos River region (Turpin and Bement 1985:10). This artifact assemblage includes small, triangular arrow points, plain brownware ceramics (some with bone temper), steeply beveled Dorso end scrapers, and prismatic blades. This material is typically found at stone circle sites and resembles assemblages from the margins of the Southern Plains more than any preceding indigenous complex. It has been suggested that this phase reflects a period of cultural unrest and change during the Late Prehistoric and early Historic periods (Turpin and Bement 1985:10-11). Turpin and Bement feel that some of the late-style monochrome pictographs may be attributable to the Infierno phase (1985:10).

3.2.6 Historic Period (ca. A.D. 1700 to 1850)

The "official" end of the prehistoric period in the Lower Pecos River region can be set at 1590 when the expedition of Gaspar Castaño de Sosa passed through the area on its passage from Monclova to Pecos (Turpin 1982; Turpin and Bement 1985:11). Serious Anglo-American penetration of the region began in the mid-1800s, brought about by the need for trade and military routes (Turpin 1982:29). The area was mapped in 1857 as a result of the Unites States-Mexico Boundary survey. Attempts to control the region culminated with the construction of the military road from the Devil's River to the Pecos to the mouth of the Pecos in 1880. This same route was followed by the Southern Pacific Railroad 2 years later in 1882. As is the case in many areas of the west, the archeological visibility of historic Native American populations, such as the Apache and later the Comanche, is extremely low. The presence of such groups may only be revealed by occasional metal arrow points and in the Historic pictograph style, depicting missions, domestic livestock, and European or Anglo human figures. Turpin and Bement (1985:11) suggest that "the paucity of sites of this age can be attributed to the short span of this phase and to the extremely mobile lifeways of these refugees from colonization."

4.0 ARCHIVAL RESEARCH

4.1 DATABASE AND MAP REVIEW

Archival research conducted via the THC's *Texas Archeological Sites Atlas* (Atlas) online database indicated the presence of 21 previously recorded archeological sites within a 1.0-mile (1.6-km) radius of the Project Area (THC 2017), while a review of the NPS' NRHP Google Earth map layer indicated the presence of no historic properties listed on the NRHP within the review perimeter (NPS 2017c). The previously recorded archeological sites and their distances from the Project Area are summarized in Table 4-1, while their locations relative to the Project Area are presented in Figure 4-1.

According to the Atlas database, no documented cultural resources, including any listed on the NRHP, are mapped within the Project Area. However, site 41VV1222 is a prehistoric lithic scatter with a site centroid that is mapped only 100.0 feet (30.5 m) west of the Project Area (see Figure 4-1). Site 41VV1222 is described as low-density lithic scatter comprised of debitage and several other lithic specimens (biface, uniface, and edge-modified flake). The site form also indicates that an untyped dart point was also observed on the site, suggesting a general Archaic period utilization of the site. It is noted as being situated on a high terrace overlooking a dry creekbed. This setting is described as being a strategic location for it excellent vantage point, proximity to water sources, as well as its proximity to a raw material source. Despite this, its location is also described as likely lacking buried deposits due to its upland setting.

The Atlas plotting depicts site 41VV1222 to the west of the southern end of the current Project Area (see Figure 4-1). A review of the sketch map associated with this site shows it mapped just south of an arroyo and west of US 277/377 (Figure 4-2). This sketch map also shows the site situated roughly 0.2 miles (0.3 km) to the north of the NPS park boundary. This location coincides with the coordinate plotting of the site centroid on the topographic quadrangle and the aerial imagery, but there is no obvious arroyo immediately north of this location as indicated on the site sketch map. Rather, the nearest arroyo north of the site plotting is located roughly midway along the route of the current Project Area (see Figure 4-1). This suggests that either the site centroid was misplotted prior to the use of handheld GPS units or that the associated sketch map scale is off. Prior to the survey efforts, it was unclear if site 41VV1222 extended into the current Project Area.

Table 4-1. Summary of documented cultural resources within 1.0 Miles of Project Area

Site Trinomial, Cemetery, or Historic Property	Site Type	NRHP Eligibility Status	Distance from the Property	Potential to be Impacted?
41VV1776	Prehistoric campsite w/ burned rock midden (BRM) features	Ineligible	1.0 miles northwest	No
41VV1210	Prehistoric lithic procurement area	Undetermined	1.0 miles northwest	No
41VV1759	Prehistoric campsite	Undetermined	0.9 miles northwest	No
41VV1762	Prehistoric campsite	Undetermined	0.8 miles northwest	No
41VV1761	Prehistoric campsite w/ BRM features	Undetermined	0.6 miles northwest	No
41VV1760	Prehistoric campsite w/ BRM features and rockshelter	Undetermined	0.4 miles northwest	No
41VV1772	Prehistoric campsite w/ BRM features	Undetermined	0.3 miles northwest	No
41VV1753	Prehistoric campsite w/ BRM features	Undetermined	0.2 miles northeast	No
41VV1749	Prehistoric campsite	Ineligible	0.6 miles east	No
41VV1222	Prehistoric lithic scatter	Undetermined	100.0 feet west	No
41VV1876	Stone alignment feature	Undetermined	0.4 miles west	No
41VV1224	Prehistoric lithic procurement area	Undetermined	1.0 miles west	No
41VV428	Prehistoric lithic procurement area with stone circle feature	Undetermined	1.0 miles west	No
41VV429	Prehistoric lithic procurement area	Ineligible	0.4 miles west	No
41VV1755	Prehistoric campsite w/ BRM features	Undetermined	0.3 miles west	No
41VV1754	Prehistoric campsite w/ BRM features	Undetermined	0.4 miles west	No
41VV1223	Prehistoric lithic scatter	Undetermined	0.6 miles west	No
41VV1862	Prehistoric campsite	Undetermined	0.7 miles west	No
41VV1757	Prehistoric campsite	Undetermined	0.9 miles west	No
41VV767	Prehistoric campsite	Eligible	0.8 miles west	No
41VV1877	Prehistoric lithic scatter	Undetermined	0.9 miles west	No

Sensitive Site Location Data Omitted

Figure 4-1. Previously recorded archeological sites in vicinity of Project Area

Sensitive Site Location Data Omitted

Figure 4-2. Sketch map of site 41VV1222 (Atlas 2017)

Based on the Atlas database, no previous cultural resources survey areas are mapped in the vicinity of the Project Area. However, the proximity of site 41VV1222 to the Project Area and this site's associated site forms suggest that the area was assessed as early as 1973 by Anderson (41VV1222 not recorded at that time) and again in 1988 by Kenny Wright (Seasonal Archeologist) and Joe Labadie (Park Archeologist) as part of the Amistad Preservation Project.

4.2 PROBABILITY ASSESSMENT

Prehistoric archeological sites are commonly found in upland areas and on alluvial terraces near stream/river channels or drainages. Based on the location of the Project Area on elevated landforms above what was once confluence San Pedro Creek and its north and south forks, in conjunction with the presence of numerous previously recorded prehistoric sites within the review perimeter, it is Horizon's original opinion, prior to the field efforts, that there existed a high potential for undocumented prehistoric cultural deposits within the boundaries of the Project Area. However, based on the shallow upland soils mapped along the Project Area, it was also Horizon's opinion that there existed a decreased potential for deeply buried and stratified prehistoric cultural deposits within the Project Area.

In regard to historic-era resources, the lack of visible structures in proximity to the Project Area on the relevant topographic quadrangle map and Google Earth suggested decreased potential for undocumented historic-era standing structures or associated cultural deposits within the Project Area.

5.0 SURVEY METHODOLOGY

A Horizon archeologist completed the intensive pedestrian survey of the Project Area on 26 October 2017. This entailed intensive surface inspection and subsurface shovel testing efforts along the length of the Project Area. The TSMASS require a minimum of 16 shovel tests per mile for linear projects measuring up to 100.0 feet (30.5 m) in width. As the Project Area totaled 1.0 miles (1.6 km) in length, a minimum of 16 shovel tests were necessary within in order to comply with these minimum standards. Horizon exceeded the TSMASS by excavating a total of 42 shovel tests along the length Project Area. All excavated matrices were screened through 0.25-inch (6.3-millimeter [mm]) hardware mesh or were trowel-sorted if the dense clay soils prohibited successful screening.

Field notes were maintained on terrain, vegetation, soils, land forms, shovel tests, and cultural materials observed. Standardized shovel test forms were completed for every shovel test. These forms included location data, depth, soil type, and notations on any artifacts encountered. If any new archeological sites were recorded, standard site forms were to be completed and filed at the Texas Archeological Research Laboratory (TARL) for permanent housing. Similarly, if any previously recorded archeological sites were assessed, updated site forms were to be completed and filed at TARL.

A selective collection strategy was utilized during the survey efforts wherein only diagnostic cultural materials were to be collected for eventual curation at an approved facility or for return to the appropriate landowner. Non-diagnostic artifacts were to be tabulated and assessed in the field and placed back where they were found. Digital photographs with a photo log were completed as appropriate. The locations of all shovel tests were recorded via handheld global positioning system (GPS) units utilizing the Universal Transverse Mercator (UTM) coordinate system and the North American Datum of 1983 (NAD 83). Shovel test locations are presented in Figure 5-1. Shovel test data are presented in Appendix A.

In addition to Horizon's survey efforts, Jack Johnson (Amistad Park Archeologist) also conducted a reassessment of site 41VV1222 within the Project Area. Mr. Johnson's assessment consisted of intensive surface inspection, digital photography, intensive note taking, and the establishment of accurate locational data via the use of a hand-held GPS unit.

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cultural materials

Figure 5-1

6.0 RESULTS

Horizon's survey efforts resulted in the observation of an isolated chert flake on a landform in the northern extent of the Project Area, but failed to document any evidence of site 41VV1222 at its mapped location within the southern extent Project Area. However, supplemental survey efforts conducted by Jack Johnson (Amistad Park Archeologist), who has first-hand knowledge the site's location, resulted in the reassessment of the site's sparse deposits as well as an accurate plotting of its location on the landscape. The isolated find and the reevaluation of site 41VV1222 are discussed separately below.

6.1 ISOLATED FIND

Horizon's cultural resources survey efforts resulted in the observation of 1 chert flake on an upland landform in the northern extent of the Project Area (Figures 6-1 through 6-3). An intensive surface inspection on this landform, as well as the excavation of 10 shovel tests in the vicinity of the solitary specimen, failed to document any additional cultural materials at the location. As such, the specimen is considered an isolated find and was not documented as a formal archeological site.

6.2 SITE 41VV1222

General Description

Site 41VV1222 is a previously recorded prehistoric lithic scatter that is mapped in proximity to the southern extent of the Project Area (see Figure 6-1). The site form indicates that the location of the site was previously assessed in 1973 with negative results. However, an assessment of the area by the University of Texas at San Antonio (UTSA) in 1988 resulted in the formal documentation of the site. It is described as a low-density prehistoric lithic scatter comprised of lithic debitage, a biface, a uniface, and a modified flake. One of the 2 available site forms for the site also indicates that an unidentified dart point specimen was observed, suggesting an Archaic period utilization of the site, while the second available site form notes that no temporally diagnostic materials were observed. The site is further described as being on a high terrace that provided an excellent vantage point as well as access to nearby chert and water sources. It is noted as being partially destroyed (10%) by the construction of US 277/377 and also within a hunt area that is likely heavily collected during hunting season. Despite its ephemeral nature, no NRHP eligibility assessments are provided on the available site forms.

Sensitive Site Location Data Omitted

Figure 6-1. Location of isolated find within the Project Area

Figure 6-2. Isolated chert flake observed within Project Area

Figure 6-3. View of location of isolated chert flake, facing south

Horizon's field archeologist conducted intensive surface inspection efforts and excavated 13 shovel tests within the portion of the Project Area traversing the mapped location of this site (see Figure 5-1). These efforts failed to document any cultural materials associated with this site within surface and subsurface contexts.

Following Horizon's assessment of the Project Area, Jack Johnson (Amistad Park Archeologist), who has first-hand knowledge the site's location, conducted supplemental survey efforts in the vicinity of the mapped location of site 41VV1222. Mr. Johnson's efforts also failed to find evidence of the site at the location of the site mapped on the Atlas database. However, he did relocate it roughly 164.0 feet (50.0 m) to the north of the plotted location (Figure 6-4). Although the location is covered with stands of sage, mesquite, prickly pear, and various short grasses, Mr. Johnson utilized game trails that provided the best ground visibility beneath the existing powerline ROW to relocate the site. In doing so, he observed approximately 26 pieces of lithic debitage within an area measuring approximately 23.0 feet (7.0 m) north-south by 16.4 feet (5.0 m) east-west and several additional fragments sporadically to the north and south of this cluster (Figure 6-5). No formal tools or diagnostic materials were observed during the assessment. While Mr. Johnson did not excavate any shovel tests at this location, he did note that the potential for buried features at this upland location was minimal. In addition, Horizon's archeologist excavated several shovel tests in the vicinity of the scatter, all of which produced negative results (see Figure 5-1).

Observed Cultural Materials

Observed cultural materials on site 41VV1222 consist entirely of aboriginal lithic debitage specimens (Figure 6-6). These include approximately 26 clustered specimens as well as several additional specimens to the north and south of the cluster. Aside from the lithic specimens, no fire-cracked rocks (FCR), formal tools, or preserved floral or faunal remains were observed during the reevaluation of the site.

Observed Cultural Features

No evidence of any cultural features was observed on the modern ground surface of the site by Mr. Johnson or within any of the shovel tests excavated across the location by Horizon. Mr. Johnson noted the presence of potlid fractures on several of the chert specimens and "pinkening" on several limestone specimens, both of which are indicative of thermal alteration. However, Mr. Johnson noted that no formal FCR was observed and that the potlid fractures and pink, "fire-kissed rock" were like the result of natural wildfires on the landform.

Horizontal and Vertical Extents of Cultural Materials

Based on the distribution of observed cultural materials on the modern ground surface, Mr. Johnson estimated the densest portion of site 41VV1222 to measure 23.0 feet (7.0 m) north-south by 16.4 feet (5.0 m) east-west. Considered the few specimens observed outside of this cluster, he also estimated the overall horizontal extent to measure approximately 65.6 feet (20.0 m) north-south by 26.2 feet (8.0 m) east-west.

Sensitive Site Location Data Omitted

Figure 6-4. Location of site 41VV1222 observed by Amistad Park Archeologist

Figure 6-5. General view of area containing lithic scatter on site 41VV1222, facing north

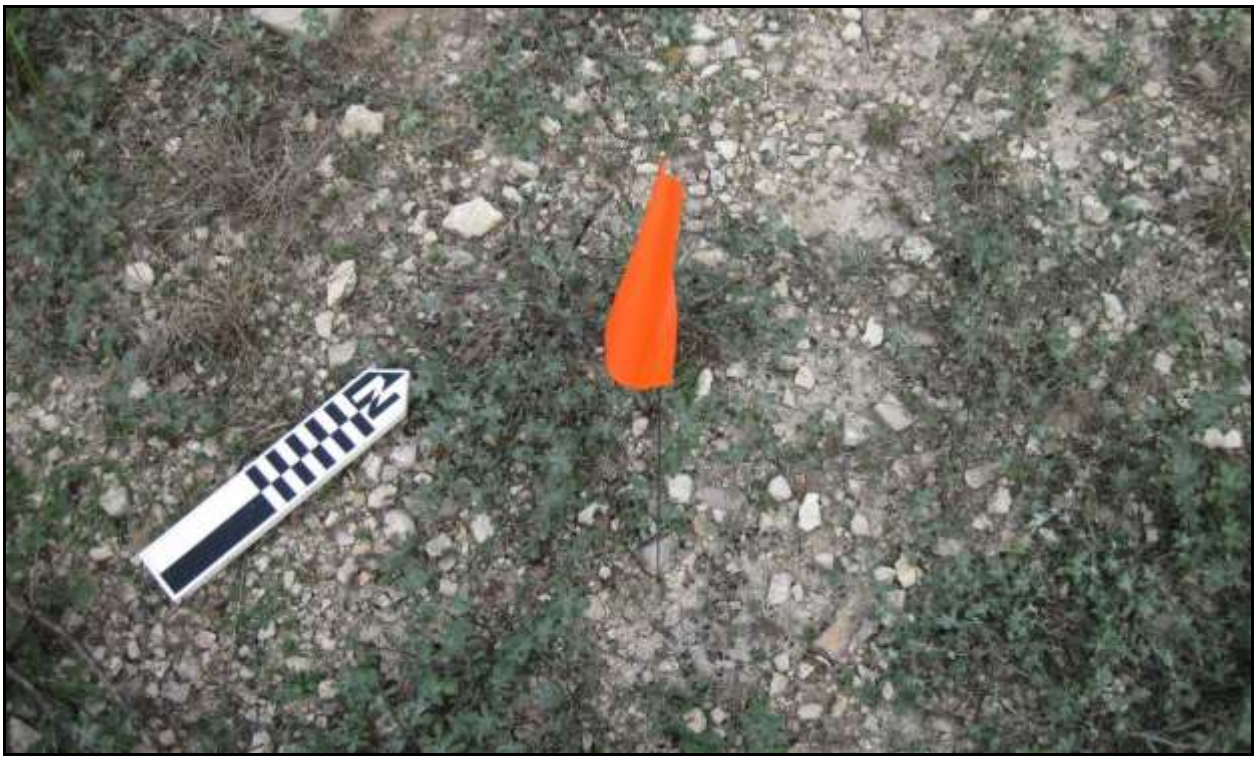

Figure 6-6. Example of lithic debitage observed on surface of 41VV1222

When originally documented in 1988, the site recorder listed the vertical extent of the site as unknown, but added that there was probably no depth to the deposits. Mr. Johnson estimated the potential for soil depth to be between 11.8 and 19.7 inches (30.0 and 50.0 centimeters [cm]) based on animal burrows and the presence of mesquite trees on the hilltop, but also noted that the potential for buried features was generally low. Horizon excavated several shovel tests within the Project Area at this location, and all produced negative results for subsurface cultural materials.

Site Summary

Site 41VV1222 is a low-density, prehistoric lithic scatter that was originally documented in 1988 by UTSA. The site forms for this site note that the observed deposits were sparse amounts of non-diagnostic lithic implements and debitage within surface contexts, but no formal assessment of the site's NRHP eligibility status was provided. In addition, while locational notes were provided on the site forms, the site's location was manually placed on a prominent vantage point prior to the use of handheld GPS units. As a result, the plotted location of the site on the Atlas database was considered to slightly suspect by archeologists such as Jack Johnson who had more recently visited the area. Horizon's survey efforts failed to locate the site at its plotted location. However, park archeologist Jack Johnson supplemented Horizon's survey efforts by returning to the actual location of the site that he had observed on a prior visit. Mr. Johnson's efforts served to confirm the originally documented sparseness of the lithic scatter and to provide an accurate plotting of its location on the landscape.

The lithic scatter comprising site 41VV1222 suggests that location was at least minimally used by the aboriginal occupants of the area as a knapping locale on a prominent vantage point above several creek drainages. However, the lack of any observed FCR on the site also suggests that the site represents an ephemeral activity area rather than a formal campsite.

Based on sparsity of the observed cultural deposits, the lack of formal, temporally diagnostic implements, the lack of preserved floral and faunal remains, and the lack of potential for intact, buried cultural features, it is Horizon's opinion that site 41VV1222 is ineligible for inclusion on the NRHP. As such, no additional investigations are recommended on site 41VV122 in connection with the currently proposed undertaking.

7.0 SUMMARY AND RECOMMENDATIONS

7.1 SUMMARY

On 26 October 2017, Horizon conducted an intensive cultural resources survey of FCC's proposed Amistad Electric Line Project in southeastern Val Verde County, Texas. The undertaking will be privately funded and will not require any federal permits. However, it is located on property within the Amistad National Recreation Area, a federal property maintained by the NPS. As the undertaking is located on federal property, it is regulated by the ARPA and the AA. On behalf of FCC, Whitenton contracted with Horizon to conduct the cultural resources survey of the Project Area in compliance with the ARPA and the AA. The purpose of the cultural resources survey was to determine if any archeological sites were located within the APE and, if any existed, to determine if the project had the potential to have any adverse impacts on sites listed on or considered eligible for listing on the NRHP. The investigations were conducted under ARPA Permit No. 17-AMIS-01.

The undertaking consists of the removal of old communication poles from within an existing electrical transmission line ROW within the Amistad National Recreation Area. The APE for the undertaking measures approximately 1.0 miles (1.6 km) long by 30.0 feet (9.1 m) wide (approximately 4.0 acres).

The TSMASS require a minimum of 16 shovel tests per mile for linear projects measuring up to 100.0 feet (30.5 m) in width. As the Project Area totaled 1.0 miles (1.6 km) in length, a minimum of 16 shovel tests were necessary within in order to comply with these minimum standards. Horizon exceeded the TSMASS by excavating a total of 42 shovel tests along the length Project Area.

Horizon's survey efforts resulted in the observation of a solitary chert flake on a landform in the northern extent of the Project Area. An intensive surface inspection on this landform, as well as the excavation of 10 shovel tests in the vicinity of the solitary specimen, failed to document any additional cultural materials at the location. As such, the specimen is considered an isolated find and was not documented as a formal archeological site.

Site 41VV1222 is a previously recorded, low-density, prehistoric lithic scatter that is mapped in proximity to the southern extent of the Project Area. Horizon's survey efforts failed to find any materials associated with the site within the current Project Area. However,

supplemental survey efforts conducted by Jack Johnson (Amistad Park Archeologist), who has first-hand knowledge the site's location, resulted in the reassessment of the site's sparse deposits as well as an accurate plotting of its location on the landscape. Based on its sparse and surficial nature, the lack of temporally diagnostic implements, and the lack of preserved floral and faunal materials, it is Horizon's opinion that site 41VV122 is ineligible for inclusion on the NRHP and that no additional investigations are warranted on the site in connection with the current undertaking.

7.2 RECOMMENDATIONS

Based on the results of the cultural resources survey, it is Horizon's opinion that the undertaking will have no adverse effect on any significant cultural resources listed on or considered eligible for listing on the NRHP within the APE. Horizon therefore recommends that FCC be allowed to proceed with the development of the Project Area relative to the jurisdiction of the ARPA and AA. However, in the unlikely event that any cultural materials (including human remains or burial features) are inadvertently discovered at any point during construction, use, or ongoing maintenance of the Project Area, even in previously surveyed areas, all work at the location of the discovery should cease immediately, and the NPS and THC should be notified of the discovery.

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APPENDIX A

Shovel Test Data

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