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Intensive Archaeological Survey for the Lake Leon Dam Improvements Project

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Management Summary

Eastland County Water Supply District has contracted with HDR Engineering, Inc. (HDR) to conduct an intensive archaeological survey in advance of the proposed improvements to the Lake Leon Dam in Eastland County, Texas (Figure 1). The Area of Potential Effects (APE) includes an approximately 6-acre emergency spillway area located east of Farm-to-Market Road (FM) 2461, approximately 400 feet (ft; 122 meters [m]) south of its intersection with County Road (CR) 569, in Eastland County, Texas. Correspondence with the Texas Historical Commission (THC) recommended that a survey be conducted within the emergency spillway area on the east side of FM 2461, but no survey was recommended for the proposed dam slope improvements (Osburn 2016).

This project is being funded by a grant from the Federal Emergency Management Agency's (FEMA's) Hazard Mitigation Grant Program (HMGP). The use of federal funding for the project requires that the project comply with the regulations set forth in Section 106 of the National Historic Preservation Act of 1966 (NHPA) as amended. Additionally, as an entity of the State of Texas, the Eastland County Water Supply District is required to be in compliance with Chapter 191 of the Texas Natural Resources Code, also known as the Antiquities Code of Texas (13 Texas Administrative Code [TAC] 26.12). The purpose of the archaeological investigation is to determine the presence/absence of archaeological resources (36 Code of Federal Regulations [CFR] 800.4) within the APE and to evaluate identified resources for their eligibility for inclusion in the National Register of Historic Places (NRHP) as per Section 106 (36 CFR 800) of the NHPA, as amended or as a designated State Antiquities Landmark (SAL) under the Antiquities Code of Texas (13 TAC 26.12).

HDR completed an intensive archaeological survey of the entire six-acre APE on August 14, 2017. The survey crew included principal investigator Megan Koszarek and crew chief Melanie Johnson, and a total of 16 person hours were invested in the field survey. This work was conducted under Texas Antiquities Permit Number 8129.

During the course of the survey, the entire APE was pedestrian surveyed with transect intervals no greater than 15 m (49 ft), and a total of 12 shovel tests were excavated. No archaeological sites were recorded during the course of the survey. One historic isolated find (HDR-ISO-001) was recorded within an ephemeral creek bed. Isolated finds do not meet the basic definition of a site and are therefore not eligible for inclusion in the NRHP.

In accordance with 36 CFR 800 and 13 TAC 26.12, no further cultural resources investigations are recommended for the presently-defined APE, and the proposed improvements project to the Lake Leon Dam may proceed. However, in the event that any archaeological deposits are encountered during construction, work should cease, and the THC should be notified.

Upon the completion of fieldwork, all project-related materials (i.e., field forms, photographs, correspondence, etc.) will be curated at the Center for Archaeological Studies (CAS) at Texas State University in San Marcos.

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Abbreviations and Acronyms

APE	Area of Potential Effects
Atlas	Texas Archeological Sites Atlas
ca.	Circa
CAS	Center for Archaeological Studies
CFR	Code of Federal Regulations
cm	Centimeter(s)
CR	County Road
FM	Farm-to-Market Road
FEMA	Federal Emergency Management Agency
ft	Foot/Feet
GPS	Global Positioning System
HDR	HDR Engineering, Inc.
HMGP	Hazard Mitigation Grant Program
in	Inch/Inches
m	Meter(s)
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
OTHM	Official Texas Historical Marker
RTHL	Recorded Texas Historic Landmark
SAL	State Antiquities Landmark
TAC	Texas Administrative Code
TARL	Texas Archeological Research Laboratory
THC	Texas Historical Commission

1 Introduction

The Eastland County Water Supply District is proposing to construct spillway and dam slope stability improvements to the Lake Leon Dam in Eastland County, Texas (Figure 1-1). As an entity of the State of Texas, the district is required under the Antiquities Code of Texas to provide a cultural assessment of the area to be affected by the proposed improvements. Eastland County Water Supply District contracted with HDR, to conduct the cultural resources investigation under Texas Antiquities Permit Number 8129.

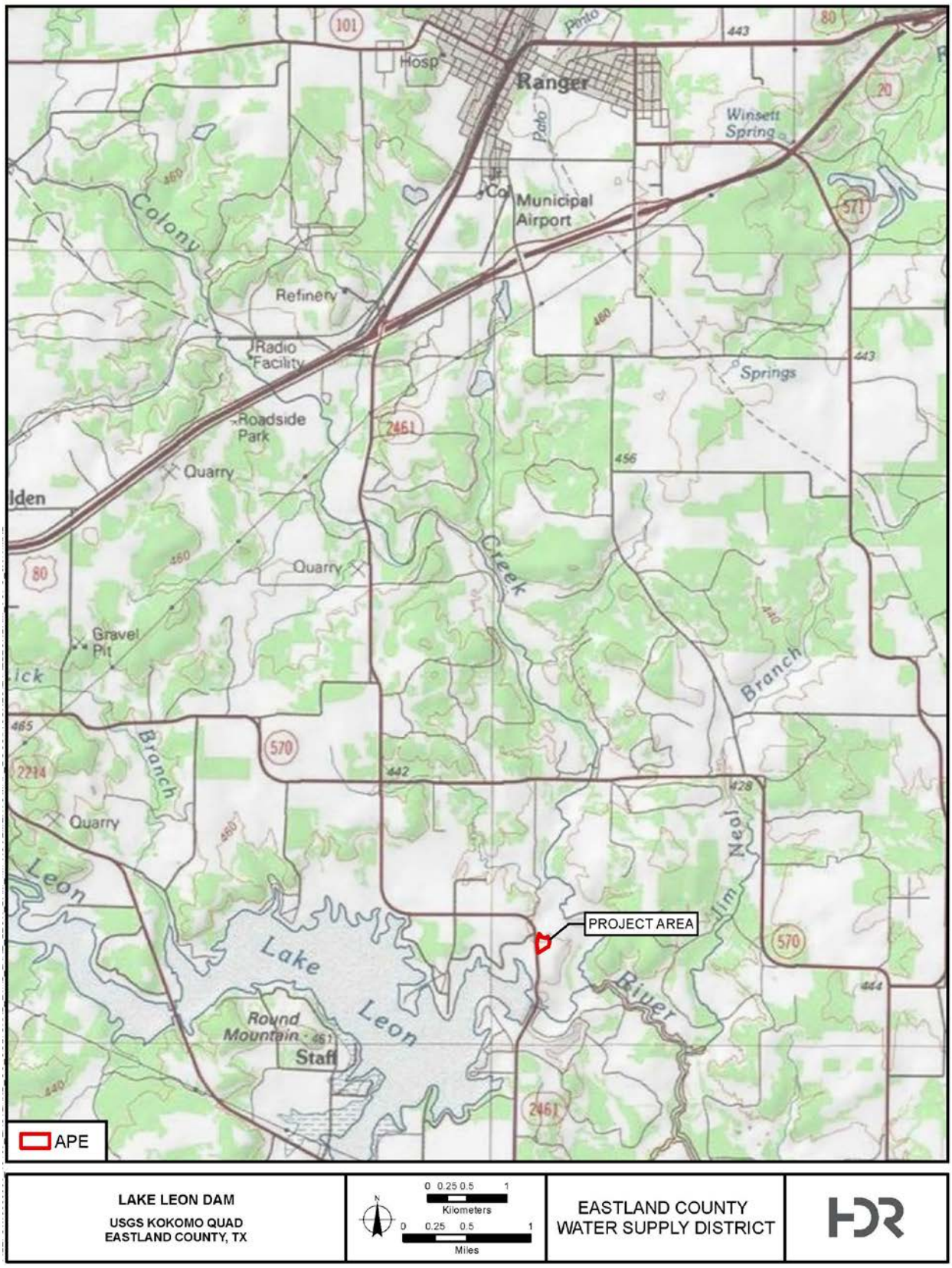
After preliminary coordination with the THC, it was determined that a survey of the proposed emergency spillway area east of FM 2461 would be required, but the portion of the project comprising the dam slope improvements do not require further cultural resources survey (Osburn 2016). Thus, the proposed survey area consists of the approximately six-acre APE encompassing the emergency spillway area located east of FM 2461, approximately 400 ft (122 m) south of its intersection with CR 569, in Eastland County, Texas. HDR conducted an intensive cultural resources survey of the six-acre APE.

The purpose of the archaeological investigation is to determine the presence/absence of archaeological resources (36 CFR 800.4) within the APE and to evaluate identified resources for their eligibility for inclusion in the NRHP as per Section 106 (36 CFR 800) of the NHPA of 1966, as amended or as a designated SAL under the Antiquities Code of Texas (13 TAC 26.12). Due to the project funding from FEMA's HMGP grant, the project must comply with Section 106 of the NHPA of 1966, as amended (36 CFR 800). Furthermore, the involvement of the Eastland County Municipal Water Supply District, a political subdivision of Texas, requires that the proposed developments be in compliance with Chapter 191 of the Texas Natural Resources Code, also known as the Antiquities Code of Texas (13 TAC 26.12).

On August 14, 2017, archaeologists Megan Koszarek—who served as the Principal Investigator—and Melanie Johnson conducted an intensive archaeological survey of the entire six-acre project area. A total of 16 person-hours were invested in the field project.

Upon the completion of fieldwork, all project-related materials (i.e., field forms, photographs, correspondence, etc.) will be curated at the CAS at Texas State University in San Marcos.

Figure 1-1. Topographic Map of the Project Area.



2 Background

2.1 Geology and Soils

The underlying geology within the APE consists of Wolf Mountain Shale of Missourian age (United States Geologic Survey 2007). According to data from the Natural Resources Conservation Service (NRCS), the APE contains two soil map units: Bonti fine sandy loam, 1 to 3 percent slopes, (BnB) and Exray stony soils, hilly (ESE) (Soil Survey Staff 2017). A majority of the APE falls within the Bonti soils, exhibiting a soil profile of: 0 to 10 centimeters (cm; 0 to 4 inches [in]) brown (10YR 4/3) very fine sandy loam; 10 to 20 cm (4 to 8 in) light brown (7.5YR 6/4) very fine sandy loam; 20 to 50 cm (8 to 20 in) red (2.5YR 4/6) clay; 50 to 76 cm (20 to 30 in) yellowish red (5YR 5.6) clay loam; and 76 to 203 cm (30 to 80 in) brownish yellow weakly to moderately cemented sandstone.

Figure 2-1. Map of Soil Data for Project Area.

2.2 Cultural History

Little archaeological research has been carried out in the area, and the limited work done has used different frameworks that resist efforts to synthesize. Another obstacle is the fact that chronology in this area is based on projectile point types since radiocarbon dates are often difficult to obtain. Due to this, the lack of diagnostic artifacts at most prehistoric sites makes an accurate cultural history of the region difficult to piece together. The cultural phenomenon for which the region is best known—the Henrietta focus (also called the Henrietta phase or complex)—typified by the Harrell site (41YN1) in Young County—was a relatively late development and exhibits only limited material predating the Late Prehistoric period (Dial and Black 2002). In the absence of well-established cultural associations and sequences, researchers often set heuristic boundaries based on environmental and physiographic zones. From an ecological point of view, the study area lies at the border of the Western Cross Timbers and Rolling Plains (Griffith et al. 2004), a classification that is occasionally used for cultural adaptations (Kawecki and Wyckoff 1984). From a hydrological perspective, the study area is located within the central Brazos drainage, which has also been used to organize the analysis of cultural groups (Meyer 2008). From a macroregional standpoint, the study area is included within the Southern Great Plains (or Lower Plains) (Hofman et al. 1989; Saunders et al. 1992). Finally, it is also on the border of the North Central Texas and West Central Texas archaeological regions (Perttula 2004).

This area is located on the southeastern edge of the Lower Plains region and has two of the largest river systems in Texas running through it: the Trinity and Brazos Rivers. These waterways play prominent roles in this region throughout time. A glance at the location of archaeological sites in this area shows the majority are concentrated along these waterways. Evidence of occupation from the Paleoindian through the Late Prehistoric period can be found in this area (Saunders et al. 1992). While prehistoric sites are difficult to date, the most common site type is an open campsite consisting of a lithic scatter and rock hearths (Saunders et al. 1992; Tinsley and Frederick 2010; Tinsley et al. 2011). Other site types that are difficult to date are rock art sites. An increase in the discovery of rock art sites in the Lower Plains indicates possible connections to the Rio Grande Style found in New Mexico and show that these types of sites are much more common in this region than previously believed (Saunders et al. 1992).

For many years the prehistory of this region of Texas has remained a mystery. Up until recently, only a few sites were known and had any temporal data. However, recent reservoir projects in the area have spurred the finding and excavation of a large number of sites from which we can begin to develop a better understanding of the prehistory of the Lower Plains. In fact, several prehistoric sites in this area are pending further investigation, which may result in the improvement of our knowledge in the near future. Table 2-1 summarizes the general cultural chronology within the Lower Plains.

Table 2-1. Cultural Historical Sequence for the Southern Great Plains.

Cultural Period	Approximate Dates
Paleoindian	
Clovis	9800–8900 B.C.
Folsom	8800–8200 B.C.
Late Paleoindian	8100–6500 B.C.
Archaic	
Early	6000–3000 B.C.
Middle	3000–1000 B.C.
Late	1000 B.C.–A.D. 700
Late Prehistoric	A.D. 700–1541
Protohistoric—Early Native American	A.D. 1541–1875
Historic—Euro-American	A.D. 1541–Present

2.2.1 Paleoindian Period

The Paleoindian period is generally based on evidence of human presence that is dated to the very late Pleistocene and the immediate post-Pleistocene periods and is termed the Clovis period. Clovis points have been found throughout the Southern Great Plains in Texas and Oklahoma, sometimes in association with extinct Pleistocene megafauna such as mammoth (*M. columbi*) and bison (*Bison antiquus)* (Hofman 1989a:31–33). Both Clovis points and bison remains (undated) have been positively identified at sites in the South Bend area (Saunders et al. 1992). The methods employed by nomadic hunters in killing mammoth can only be conjectured, but it is possible that a group of experienced hunters armed with Clovis-tipped spears could have dispatched a young, old, or sick animal separated from the herd. Evidence suggests animals also may have been trapped at water holes, in marshes, in broken terrain, or at slippery stream crossings where they could be successfully attacked (Wedel 1961:59). Despite the spectacular nature and higher visibility of mammoth kill sites, it is quite likely that smaller game animals and wild plant foods (such as nuts, berries, and tubers) provided the bulk of the diet for Clovis populations (Ferring 1989). Because non-kill sites have a much lower visibility than the mammoth-kill/butchery sites, a biased picture of Clovis peoples as mainly megafauna-hunters persists.

Despite the lack of extensive data relating to the early Paleoindian period in Texas, some attempts have been made to generalize regarding settlement mobility and intensity of site occupation, drawing on what is known and on assumptions based on comparisons with other areas. For instance, several researchers (Meltzer and Smith 1986; Shafer 1977; Story 1990) have seen evidence of a high degree of group mobility in the broad distribution of Paleoindian artifacts over the landscape and in the variety of presumably nonlocal lithic raw materials from which the artifacts were made. Likewise, the well-documented exploitation of large megafauna by Paleoindians in the western United States, coupled with the known presence of similar faunal species in Texas between 9000 and 7000 B.C. (see Slaughter and Hoover 1963), has resulted in the popular (and logical) conclusion that “big game hunting” was part of the Paleoindian subsistence strategy in Northcentral Texas. However, the important excavations at the Aubrey site east of the project area indicate that subsistence efforts did not focus on big game

animals alone. Rather, the occupants of the site used the entire range of prairie and forest species, including bison, deer, rabbits, squirrels, fish, and abundant turtle (Ferring 1989; Ferring and Yates 1997). Interestingly, although mammoth remains are present, their exploitation has not been substantiated (Ferring and Yates 1997). This pattern of a more generalized foraging subsistence system as characteristic of Clovis adaptations on the fringes of the Eastern Woodlands and that the focus on now-extinct, big-game species is more characteristic of a Plains adaptation remains to be documented. Ferring and Yates (1997:5) suggest, in general, the Clovis people probably employed "very flexible adaptive strategies" (for additional information on the Clovis stage see Bryan and Ray 1938; Johnson 1983, 1987; Johnson and Holliday 1985; Leonhardy 1966; Sellards 1952).

The Folsom complex apparently superseded Clovis (ca. 8800–8200 B.C.) and is characterized by the continuation of the same general mobile hunting/gathering lifestyle as the Clovis stage but with the temporally diagnostic Folsom and possibly Midland projectile point styles, both associated with now-extinct forms of bison (primarily *Bison antiquus*). As with the Clovis complex, other game animals (e.g., deer and pronghorn) were probably important sources of meat. In addition, nuts, berries, tubers, and seeds probably supplemented the meat diet (for additional information on the Folsom stage, see Bell 1954; Harrison and Killen 1978, 1986; Johnson 1987; Tunnell 1977).

Subsequent to Folsom, the Southern Great Plains appear to have been characterized by a period of more regional variation in projectile point styles, which are collectively grouped within a Late Paleoindian period (ca. 8100–6500 B.C.). Throughout much of Texas and Oklahoma, this period appears represented by the Plainview complex (ca. 8100–7800 B.C.), which is defined by the presence of unfluted, lanceolate projectile points such as Plainview, Scottsbluff, and Angostura (Hofman 1989a:38–40). These points are associated with modern bison (*Bison bison*) and often occur as surface finds. Although bison may have been the main source of meat for both Folsom and Late Paleoindian peoples, other species were probably also important. Both Horn Shelter No. 2 (Forrester 1985) on the Brazos River in Bosque County and Hinds Cave (Shafer and Bryant 1977) in Val Verde County have yielded subsistence data indicating a variety of vertebrate fauna consumed by Late Paleoindian peoples. As with the earlier Paleoindian peoples, the meat diet of Late Paleoindian populations probably was supplemented with wild plant foods such as nuts, berries, tubers, and seeds (for additional information on the Late Paleoindian stage, see Bamforth 1985; Guffee 1979; Harrison and Killen 1978; Hofman 1989a; Holliday and Johnson 1981, 1986; Johnson 1983; Johnson and Holliday 1980; Johnson et al. 1982; Saunders and Penman 1979; Sellards et al. 1947).

2.2.2 Archaic Period

The subsequent period in the Southern Great Plains is generally labeled the Archaic stage and is characterized by a diverse utilization of a wide array of modern plant and animal species in what is generally assumed to have been a diffuse foraging economy (Hofman 1989a:44–47). Despite this, the single most important resource in the region, when it was available, was bison. Present evidence, however, suggests bison were not abundant in the Southern Plains between around 7,000 and 3,500 years ago. Characteristic artifacts generally associated with Archaic sites on the Southern Plains include grinding tools (presumably for processing vegetal foods), roasting ovens, rock-

lined hearths, and a variety of notched and stemmed projectile points. All these appear to set Archaic sites apart from earlier Paleoindian sites. In addition, Archaic peoples probably were more restricted in their wanderings, on the basis of evidence of more frequent and intensive reoccupation of many sites and more intensive local resource usage during this period. Finally, the absence of bow-and-arrow and ceramic technology distinguishes Archaic sites from subsequent Plains Woodland stage sites. The evidence of increasingly restricted movements, more frequent reoccupations, more intensive usage of local resources, and simply an increased number of sites has been perceived by many as an indicator of steadily increasing population levels throughout the Archaic (see Hofman 1989a for a more extensive discussion of the characteristics of the Archaic).

Beginning dates for the Archaic stage generally are only approximate and vary somewhat from place to place. Ending dates, although usually more exact, show an equal degree of spatial variation. In this area, the Archaic sequence depends entirely upon correlations with surrounding regions, especially Central Texas. On the Lower Plains, Archaic sites tend to be small open camps or workshops and are generally characterized by large numbers of burned hearthstones or boiling pebbles. Hughes (1976) has suggested that earlier sites are characterized by limited numbers of dart points, along with a relative abundance of gouges (e.g., Clear Fork gouges), choppers, and hammers. Later sites contain corner-indented and corner-notched dart points, ovate to triangular knives, thick end scrapers, small manos, and thin grinding slabs. The subsistence pattern is assumed to have become more diffuse, reflecting a greater exploitation of local environments, and there was probably an increase in the dietary importance of smaller game animals, fish, and wild plant foods in comparison to the earlier Paleoindian period. Archaic peoples probably continued to follow a nomadic way of life, traveling seasonally to utilize different food resources in various localities (Weir 1976a, 1976b).

At present, many researchers believe that throughout the Archaic period, the southern part of the Lower Plains of Texas was closely tied to Central Texas. This has resulted in the transference of the Central Texas projectile point chronology and substage dating northward, without adequate data to justify the shift (Etchieson et al. 1978, 1979; Thurmond et al. 1981). However, with the discovery of over 500 prehistoric sites, the excavations at South Bend provide the most substantial evidence that, during the Archaic period, the lithics of the Lower Plains are most similar to those of Central Texas (Saunders et al. 1992). Dart points from the Lower Plains that may date to the Early Archaic subperiod include Bell, Martindale, Gower, and possibly Golondrina, Angostura, and Meserve. Clear Fork and Guadalupe gouges, burins, circular scrapers, a variety of bifaces, and grinding implements also are present in this part of Texas (Prewitt 1981; Weir 1976a). During the Middle Archaic, the burned rock middens that are so characteristic of this period in Central Texas occur much less frequently on the Texas Lower Plains (Saunders et al. 1992). Dart points, which are assumed to relate to Central Texas, are represented by stemmed and notched styles (e.g., Nolan, Bulverde, Pedernales, and Marshall), although the first indications of divergence appears in the form of Carrollton points along the Clear Fork of the Brazos. The triangular Baird and Taylor points (varieties of Tortugas) are also apparently characteristic of this period in the

Abilene area. Clear Fork gouges, bifaces, a variety of scrapers, and unifaces are also present.

The Late Archaic on the Southern Plains appears to represent a population high-water mark. The bison had apparently returned in abundance by the beginning of the Late Archaic period and would certainly have provided an important resource, although the evidence also suggests a continuing utilization of other resources in the area as well. Overall, this is a period characterized by the emergence of new cultural patterns, and the intensification of preexisting ones (Story 1985:45). The lithic assemblages contain a variety of dart point styles with relationships to both Central Texas (e.g., Nolan, Castroville, Marcos, Pedernales, Fairland, Bulverde, Ensor, Darl, Williams, Palmillas, Frio, and Lange) and to Northcentral Texas (e.g., Yarbrough-like, Ellis, Godley, Eliasville [a variant of Godley], Edgewood, and Trinity). Clear Fork gouges probably continued to be used, along with gravers, scrapers, and a variety of unifaces and bifaces. In the Justiceburg area west of the project area, the Late Archaic period has been dated between 2550 and 50 B.C., with a limited number of diagnostic artifacts including gouges and Castroville, Ensor, Mahomet, Nolan, and Marcos dart points (for additional information on the Archaic stage, see Bastian 1964; Boyd et al. 1989:198–199; Boyd and Tomka 1990:258; Cheatum 1976; Etchieson et al. 1978, 1979; Hammatt 1976; Keith and Snow 1976; Prewitt 1981; Story 1985; Weir 1976a; Wyckoff 1984; Wyckoff and Taylor 1971).

2.2.3 Late Prehistoric Period

The beginning of what is called the Late Prehistoric period in the region (ca. A.D. 700–1600) is marked by the initial appearance of pottery and arrow points. Both Lynott (1977) and Prikryl (1990) have proposed that the Late Prehistoric period be divided into an early and a late phase—the early phase reflecting a continuation of the foraging subsistence system of the preceding Late Archaic period, and the late phase reflecting Southern Plains influences. In this view, the early phase dates between A.D. 700 and 1200 and is characterized by sand- and grog-tempered ceramics and by Scallorn, Steiner, Catahoula, and Alba arrow points (Lynott 1977; Prikryl 1990). The late phase dates from A.D. 1200 to 1541 and is associated with the appearance of Nocona Plain ceramics, various unstemmed triangular points (e.g., Maud, Fresno, Harrell, Washita), and the stemmed Perdiz point (Lynott 1977; Prikryl 1990). Evidence of horticulture and bison procurement also appears in sites of this period (Harris and Harris 1970; Morris and Morris 1970).

The archetypal hunter-horticulturalists of the latter part of the Late Prehistoric in North Central Texas are the people of the Henrietta phenomenon—variously labeled a focus, complex, or phase—depending on the methodological and theoretical predilections of the analyst (Boyd 1997; Dial and Black 2002; Krieger 1946). In contrast with the ties to Central Texas seen in the Lower Plains during the Archaic period, the Henrietta phase shows marked influence during the Late Prehistoric period from the Washita River phase originating in the plains of south-central Oklahoma (Saunders et al. 1992). Henrietta influence extended throughout the upper Trinity and middle and upper Brazos drainages, as well as across the Red River into Oklahoma (Dial and Black 2002), and perhaps as far south as the Colorado River (Boyd 1997).

One of the most striking but mysterious features of the archaeological record at the two most prominent Henrietta sites, M.D. Harrell and Dillard, is the evidence for violence. The sites yielded a combined total of nearly four dozen burials, of which approximately one-quarter showed signs of violent death and mutilation, such as dismemberment, decapitation, and—most vividly—arrow points still in association with mortal wounds (Hughes 1942; Martin 1994). At this point, beyond tentative comparisons to trophy-taking in the Blow Out Mountain culture to the west, the nature of Henrietta conflict is poorly understood; it stands as one of the most pressing areas for future research (Boyd 1997).

Other facets of Henrietta life are better understood. According to data from the Harrell site (supplemented by information from several other sites in northern Texas and southern Oklahoma), Henrietta people lived in small villages of round houses; hunted bison, deer, and small game with Fresno, Washita, Harrell, Scallorn, Alba, Bonham, Eddy, and Perdiz points; tilled the soil with bone hoes; and stored goods in shell- and limestone-tempered Nocona Plain ceramics (Boyd 1997; Dial and Black 2002; Krieger 1946; Saunders et al. 1992). Nonlocal materials and artifacts are common, such as pottery and stone from the Southwest cultural region far to the west and Caddo communities to the east (Boyd 1997). Summarizing current evidence and taking it a step further, Martin (1994, paraphrased by Boyd 1997:361) theorizes that the occupants of sites from the Henrietta focus were “semi-sedentary, bison hunting horticulturalists who acted as trade intermediaries between Caddoan peoples and Plains peoples.”

2.2.4 Protohistoric Period and Historic Native American Groups

On the Southern Plains in general, the Protohistoric period begins with the initial Spanish entrada of Francisco Vásquez de Coronado in 1541 and encompasses that period with limited European contacts and only brief records of journeys into or through the area (Hofman 1989b:91). Prior to the founding of New Mexico in 1598, the European presence in the Southwest and on the Southern Plains had been sporadic at best—Coronado in 1540–1541, the Rodriguez-Chamuscado party in 1581, Espejo in 1582–1583, among others. After 1598, however, Spanish influence was never absent from the Southern Plains—although actual contact with Europeans continued to be limited—and there are only brief records of journeys into or through the area (Hofman 1989b; John 1975). Despite this, it was not until the beginning of the nineteenth century that the physical presence of Europeans on the Southern Plains became commonplace—the result of increasingly peaceful relations between the Spanish in Texas and the Plains Indians to the north, and the acquisition of Louisiana by the United States in 1803. Prior to about 1725–1750, Apachean groups appear to have dominated the western portion of the Southern Plains, known as the High Plains, but after this time the area was increasingly controlled by the Comanche and Kiowa. On the eastern portion of the Southern Plains, within the area now known as the Lower Plains and North Central Texas, the Wichita tribes became dominant (Bell et al. 1967; Hofman 1989b:91).

Unfortunately, since good historical documentation is very sparse for the upper Trinity and Brazos river basins during the Protohistoric period, it is not clear which specific aboriginal groups were residing in the area at the beginning of this period. What is clear is that the Protohistoric period in North Central Texas was a time of population fluctuation, movement, and amalgamation (see Newcomb 1993). Available data suggest that many—if not all—of the aboriginal occupants of the southeastern margin of the

Great Plains, which in a broad sense includes North Central Texas, were Caddoan-language speakers, from the Arikara in the north to the Wichita and Kichai in the south. In this light, it is worth noting that it has also been suggested that the Socoatino, encountered by the survivors of the de Soto expedition in the sixteenth century, were Caddoan speakers and were the same group as the Canohatino, identified by the French in the latter part of the seventeenth century, apparently located at that time "on the Blackland Prairies between the Guadalupe and Trinity Rivers to the east of present-day San Antonio, Austin, and Waco" (Newcomb 1993:24). If the prehistoric occupants of the eastern margin of the plains in Texas were indeed Caddoan speakers, it would explain how they were absorbed very early by other Caddoan-speaking groups (such as the Yojuane, Kichai, Tawakoni, Taovaya, Iscani, and Wichita proper) who arrived in North Central Texas in the late seventeenth and early eighteenth centuries. Most of these groups, in turn, amalgamated to form the historic Wichita Tribe, but some were probably absorbed by the united Caddo tribes, and some may even have joined amalgamations of a variety of groups (such as the Tonkawa) during the late eighteenth and early nineteenth centuries.

The term "Wichita" has been used to refer to a group of linguistically related tribes, including the Wichita, Taovaya, Tawakoni, Yscani, Waco, and Kichai, many of whom apparently entered the Southern Plains in the seventeenth century, probably from Kansas and southern Nebraska, to escape the hostilities of the Osage (Webb and Carroll 1952:2:904). The Wichita were true Plains Villagers, with an economy that was jointly dependent upon agriculture and bison hunting. They occupied permanent villages of beehive-shaped grass houses, from which they conducted semi-nomadic bison hunts. In 1719, their villages were located along the Arkansas River in northern Oklahoma (Hofman 1989b:95). By 1750, they had moved some of their villages to southern Oklahoma, along the Red River. Others were located on the upper end of the Sabine and Neches Rivers in Texas, and subsequently on the middle Trinity and upper Brazos Rivers. In 1772, the year they concluded a nominal peace with the Spanish, one of their villages was on the Salt Fork of the Brazos River (John 1975: Map 3; Webb and Carroll 1952:2:705). Wichita groups were included in treaties made with the Republic of Texas in 1843 and with the United States government in 1837 and 1856 (Webb and Carroll 1952:2:709). In Texas, they continued to live between the upper Brazos and Trinity Rivers until 1855, when the Tawakoni and Waco were placed on the Brazos Indian Reservation, south of Fort Belknap, in company with a number of other Native American remnant groups (Smith 1996; Webb and Carroll 1952:1:212, 2:905). As a result of increasing animosity from white settlers, the groups were subsequently removed to Indian Territory in 1859 (Smith 1996; Webb and Carroll 1952:1:210). The remnants of the Wichita moved to Kansas during the Civil War but returned to Oklahoma after the war to settle permanently near present-day Anadarko (Hofman 1989b:95).

The Comanche were a Shoshonean group originally residing along the upper Yellowstone and Platte Rivers. About the beginning of the eighteenth century, they left those areas and began to migrate onto the Southern Plains, where they drove a wedge between the Apache to the west (driving them farther south and west) and the Pawnee and Wichita to the east. By the early nineteenth century, their range was at its greatest extent, stretching from central Kansas to Austin, and from Oklahoma City westward to Raton Pass in New Mexico. The most important divisions of the Comanche were the

Yamparika (root-eaters), who ranged along the Arkansas River; the Kotsoteka (buffalo-eaters), who were just to the south of the Yamparika; the Nokoni (wanderers), who occupied the territory along the Red River; the Quahadi (antelope people), located on the High Plains; and the Penateka (honey-eaters), who were the southernmost Comanche grouping in Texas (Webb and Carroll 1952:1:385). Their earliest known raid in Texas was in 1758, when the Comanche helped in the destruction of the mission of San Sabá de la Santa Cruz in present-day Menard County. For the next 117 years, they waged intermittent warfare against first the Spanish, next the Mexicans, then the Texans, and, finally, the United States (Webb and Carroll 1952:1:385). The Comanche were nomadic Plains hunters, whose lifestyle depended upon the bison as a source of meat and raw material for clothing, shelter, etc., and upon the horse as a means of hunting and transport. The Comanche were signatories to the Medicine Lodge Treaty with the United States in 1867, in which they agreed to cede all of their territory except for a 5,546-square-mile reservation in southwestern Oklahoma. Following a general uprising of the Comanche and Kiowa in 1874, they were defeated by the United States army in 1875 and permanently confined to their Oklahoma reservation (Webb and Carroll 1952:1:385).

Archaeological remains that can be associated with mobile Protohistoric and historic groups are rare compared to the remains of earlier periods. Plains Villagers such as the Wichita Confederacy, on the other hand, left much more substantial archaeological remains. Several villages belonging to historic Wichita groups have been identified and investigated in Oklahoma, North Central Texas, and Northeast Texas (Bell 1984; Fox 1983:41–46). On the basis of excavations at the Pearson site in Rains County, Texas, east of Dallas County, the Norteño focus has been proposed for these historic Wichita components (Duffield and Jelks 1961). The most extensive archaeological work has been done at several sites along the Red River in Texas and Oklahoma, near the present-day Texas town of Spanish Fort, which is believed by some to be the site of the village attacked by Parilla in 1759 (Bell et al. 1967). The excavations at the Longest site (34JF1) in Oklahoma documented the presence of a fortified enclosure and circular grass-covered lodges. Artifactual material recovered from these Wichita sites shows a mixture of artifacts of Native American manufacture and of materials obtained in trade with the French or the Spanish. Native American artifacts include triangular arrow points (e.g., Fresno, Harrell, and Washita), thick end scrapers made from flakes, diamond-shaped beveled knives, T-shaped perforators, bifacial gun flints, bison scapula hoes, pottery elbow pipes, and Womack Engraved pottery. Trade artifacts found to be present at Wichita sites include metal knives and knife handles; axes; splitting wedges; kettle fragments; awls; chisels; scissors; buttons; flintlock gun parts; bullets and shot; bridle parts; metal ornaments such as bells, finger rings, and bracelets; and numerous trade beads (Fox 1983:45).

The pressure of the westward movement of Anglo-American settlers displaced numerous Native Americans from their homelands north and east of the study area. Delaware, Chickasaw, Waco, Cherokee, Shawnee, Caddo, and Kichai sought refuge in North Central Texas. Skirmishes and raids were frequent into the early to mid-nineteenth century, as the Comanche and Kiowa attacked isolated settlements. The first European Americans to settle in the region established communities along the Trinity River and its tributaries as the frontier grew westward. Settlement remained sparse until 1841, when people from the upper southern states were drawn to North Central Texas by the Peters

Colony land grant, the first land contract to populate the newly-formed Republic of Texas. Eventually, more contracts were secured, and the land grant encompassed most of North Central Texas (Wade 2009).

2.3 Historic Period

On May 22, 1834, the governor of the Mexican state of Coahuila y Tejas awarded an empresario contract to Sterling C. Robertson. The lands within the contract stretched over at least part of 30 present-day counties of Texas, including much of Eastland County, covering an area 100 miles wide and stretching northwest for 200 miles along the Brazos River from the old San Antonio-Nacogdoches Road (McLean 2010). Approximately the northern third of Eastland County was later included in an 1841 empresario grant by the Republic of Texas to William S. Peters (Wade 2009). Robertson's Colony was broken up following the independence of Texas, and the Peters Colony contract expired in 1848. Texas organized counties from the former empresario grants, and the lands were open to general settlement. Among the earliest settlers in Eastland County was Frank Sanchez, a Mexican-American who settled between Jim Neal Creek and its junction with the Leon River, approximately one mile east of what is now Lake Leon, in the early 1850s (Leffler 2016). More settlers soon followed, including John Flanagan and his family, who built a home on Colony Creek near present-day Ranger in 1855–1856, and William H. Mansker and his family, who settled on a small lake that still bears his name, approximately 3.5 miles southeast of the Project (Langston 1904:13-14). In 1858, Eastland County was formed from land previously assigned to Bosque, Coryell, and Travis counties; for judicial purposes, the county was attached to Palo Pinto County (Leffler 2016).

The 1860 federal census listed 99 Eastland County residents, with most of the adult males listed as stock farmers or farmers. The county remained sparsely settled in its first decade, and only 88 residents are listed in the 1870 census, Once again, nearly all adult males are listed as stock farmers or farmers. When Kiowa and Comanche raids ceased in the early 1870s, settlers began to move to Eastland County in larger numbers (Leffler 2016). In December of 1872, the county was organized and detached from Palo Pinto County. An 1875 vote moved the county seat from Merriman to the new, more centrally located town of Eastland (Langston 1904:60).

In 1880, 4,855 people were living in Eastland County (Leffler 2016). Among these residents, stock farming was still the most common occupation, but many were also employed by the newly-arriving railroads. By 1881, the Texas and Pacific and the Texas Central railroads had extended lines through Eastland (Langston 1904:111,113). The town of Cisco was organized where the two lines intersected. Several other small settlements and towns along the two railroad lines were soon established (Leffler 2016). The arrival of the railroads encouraged immigration and helped to open the area to commercial agriculture as well as trade.

The population of Eastland County more than tripled in the last two decades of the nineteenth century, reaching 17,971 in 1900 (Texas Almanac 2017). Farming was still the primary economic driver, as the new arrivals increased both the number of farms and the amount of improved acreage within the county. Cotton boomed during this time, and

by 1910, more than 87,000 acres of Eastland County were devoted to raising cotton (Leffler 2016). A boll weevil infestation hit the county in the first half of the 1910s, and the local agricultural economy was devastated. By 1920, the number of farms in the county had been cut nearly in half, the tilled acreage decreased by a third, and acreage dedicated to cotton was reduced to a quarter of what it had been in 1910 (Leffler 2016).

Just as the agricultural growth in Eastland County dropped off, oil was discovered at Ranger in 1917. This touched off a major oil boom over the next five years. Thousands of investors and oil company workers arrived in Eastland County. In 1910, Eastland County had 23,421 residents, but by 1920 that had more than doubled, reaching 58,508 residents (Texas Almanac 2017). The boom tapered off after 1922, and the county population decreased accordingly. By that time, agricultural production had shifted and the number of cattle that were raised in Eastland County nearly doubled. The agricultural economy steadied through the late 1920s, and the Great Depression and the population remained around 30,000 residents (Leffler 2016). Despite tapering off following the boom, the petroleum industry also continued to be an important part of the local economy. Raising livestock became the backbone of the county economy, followed by the production of peanuts, sorghum, and wheat. By the second half of the twentieth century, development of pecan and peach orchards was also substantial (Sition 1971:112).

In the three decades following World War II, the mechanization of agriculture helped lead to a steadily decreasing population in Eastland County. Rural areas throughout much of Texas and the central Great Plains states saw similar trends during the same period. Since 1990, the population of Eastland County has generally held steady at approximately 18,500 (Texas Almanac 2017). The economy of the county continues to center around agriculture, with cattle ranching being the leading sector, along with the production of peanuts, sorghum, pecans, wheat, and peaches. More than 500 businesses were located in the county in 2003, including retail, construction, health care, and manufacturing (Eastland Economic Development Corporation 2003).

Lake Leon

Lake Leon, also known as Leon Reservoir, is located five miles southeast of the city of Eastland in Eastland County. It is a source of water for Eastland and Ranger as well as a local recreation site. It was formed by a rolled-earth embankment dam on the Leon River, completed in June 1954 (Texas Water Development Board 2017). The uncontrolled emergency spillway is approximately one-half mile north of the dam. FM 2461 crosses the dam and the emergency spillway. Just north of FM 2214, the small unincorporated community of Staff, first settled c. 1896, is located along the south shore (*Handbook of Texas Online* 2010). Even before the lake finished filling with water, local efforts were made to get a paved access road to it (*Abilene Reporter-News* 1954:2). Although a hoped-for state highway between Eastland and Desdemona never materialized, by the end of 1957, FM roads connecting local communities to Lake Leon had been established (Browder 1957:49).

With the completion of newly-paved roads, recreation areas were soon established near the new lake. Lakeside cabins were constructed, primarily by local families, but also as tourist rental properties. Water-skiing, boating, fishing, and picnicking opportunities on

Lake Leon prompted the establishment of several fishing supply and boat rental companies as well (*Abilene Reporter-News* 1958:17). By 1960, amenities along the 40 miles of lakeshore included two parks with picnic tables and public restrooms, four commercial fishing lodges, eight boat launches, and Lone Cedar Country Club, a 9-hole golf course on the north shore of the lake (Murrell and Townsend 1960:17). By the early 1960s, the lake was hosting regional fishing tournaments and had acquired a reputation as a very good lake for anglers, especially for bass fishing (*Abilene Reporter-News* 1963:113). Historic aerial photography shows significant development along the lake by 1965, with more than 120 buildings in the vicinity of the dam, at the northeast end of the lake. By 1969, both FM 2461 and FM 2214 had been improved and paved for use as medium-duty roads, according to a U.S. Geological Survey topographic map (Kokomo Quadrangle).Most of the lakeshore had been developed by 1995, but recent additions include two RV parks and a youth camp along the northeast section of the lakeshore.

3 Methods

3.1 Previous Investigations near the APE

A review of THC's Archeological Sites Atlas (Atlas) indicates that archaeological site (41EA2) has been recorded within one mile of the APE (Figure 2). However, no previous cultural resources surveys have been conducted, and no Official Texas Historical Markers (OTHMs), Recorded Texas Historic Landmarks (RTHLs), or NRHP Properties or Districts are located within one mile of the APE.

Site 41EA2 is located approximately 0.3 mile south of the APE. It was recorded in 1976 as a deflated scatter of lithic debris on naturally occurring gravel. The site consists of local chert chips, flakes, and a possible core. Thermal fractures were noted on some chert and quartzite in the site, though this may be due to modern campers and picnickers. The site is located within a parking lot for Lake Leon and has been disturbed by frequent vehicular traffic. Site 41EA2 is not considered eligible for inclusion in the NRHP, and no further work is recommended.

Figure 3-1. Aerial Photographic Map Showing Cultural Resources and Previous Surveys within One Mile of the Project Area.

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3.2 Survey Methods

HDR conducted an intensive archaeological survey consisting of a combination of shovel testing and pedestrian survey throughout the entire six-acre APE. The entire APE was pedestrian surveyed with transects spaced 15 m (49 ft) apart. Due to the shallow soils mapped in the area, shovel tests were dug where intact soil deposits were present, as verified during fieldwork. Following the survey standard set forth by the THC for project areas measuring between 3 and 10 acres, two shovel tests per acre were excavated, resulting in 12 shovel tests excavated within the APE. No deep testing was necessary due to the shallow soils within the APE.

Each shovel test was approximately 30 cm (12 in) in diameter and was excavated in 20 cm (8 in) arbitrary levels to a depth of 80 cm (32 in) below surface, or until sterile subsoil was encountered. The soil removed was screened through 0.635 cm (0.25 in) mesh screen, and soil descriptions followed the guidelines and terminology established by the National Soil Survey Center (Schoeneberger et al. 2002). Soil colors were recorded using a Munsell Soil Color Chart. All excavated shovel tests were recorded on shovel test forms which note depth, soil matrix descriptions, and cultural materials recovered. Digital photographs were used to document the survey conditions, disturbances, and any cultural features observed; and details of each photograph were recorded on standardized forms. All shovel test locations were recorded using a Global Positioning System (GPS) unit capable of sub-meter accuracy.

3.2.1 Site Designation

In the case that any archaeological sites were located, photographs and notes were taken to identify the deposits; and completion of a site form that recorded location information, vegetation cover, contextual integrity, estimated temporal period, and artifactual material noted were completed for each site. All site forms were submitted to the Texas Archeological Research Laboratory (TARL) for official recordation, and site trinomials were obtained for all sites discovered prior to project completion.

Each site located was identified by a temporary marker placed on the site. The marker had an identifying number in the form of “HDR XXX”. This number was a temporary field number only, though formal site trinomials were obtained. Site designations were applied only to clusters of artifacts (whether surface or subsurface) that represent occupation or activity areas. Field notes concerning sites were maintained by the project archaeologist. These field notes documented survey conditions, vegetative cover, and initial interpretations of the cultural properties.

Generally, surface collections of both historic and prehistoric materials would involve only temporally diagnostic artifacts or tools. For prehistoric material, this includes decorated body sherds or rims, projectile points, biface preforms, finished tools, or well-made cores. For historic artifacts, material to be collected includes decorated ceramics, decorated or embossed glass, and pieces with maker’s marks or indications of manufacturing technology. In addition, samples may be collected of any undecorated earthenwares, stonewares, window glass, colored glass, and nails that may be present on the surface and would aid in site age determination.

4 Results

On August 14, 2017, archaeologists conducted an intensive archaeological survey of the entire six-acre APE. The entire APE was pedestrian surveyed, and areas where soils were present were subjected to systematic shovel testing (Figure 4-1). A total of 12 shovel tests were dug within the APE. The APE itself is situated on a ridge top north of Lake Leon. The vegetation within the APE consisted of tall prairie grasses, cedar elm, mesquite, prickly pear, and various other shrubs and cacti (Figure 4-2).

The typical shovel test consisted of 0 to 30 cm (0 to 12 in) dark brown (7.5YR 3/3) sandy clay loam underlain from 30 to 40 cm (12 to 16 in) by dark brown (7.5YR 3/4) sandy clay subsoil with calcium carbonate and manganese nodules (Figure 4-3). As shovel tests approached the rocky outcrop and the ephemeral stream to the north, soils became shallower, exhibiting profiles such as 0 to 10 cm (0 to 4 in) dark brown (7.5YR 3/4) sandy clay loam atop limestone bedrock (Figure 4-4). No subsurface cultural materials were observed within the APE. The survey of the northern-most portion of the APE was limited to pedestrian survey due to the lack of soils in the area and an ephemeral stream that ran northward (Figure 4-5).

While no archaeological sites were encountered during the survey, one historic isolated find was observed (HDR-ISO-001) on the surface of the ephemeral creek bed. The isolated find consisted of a cutter mattock head, wire cable, and cable anchor (Figure 4-6). These artifacts to not constitute an archaeological site due to the secondary nature of the artifacts, lack of additional artifacts, and lack of cultural features. As an isolated find, HDR-ISO-001 does not meet the basic definition of a site and is therefore not eligible for inclusion in the NRHP.

Figure 4-1. Aerial Photographic Map of the Area of Potential Effects Showing Survey Results.

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Figure 4-2. Overview of Area of Potential Effects, Facing North.

Figure 4-3. Soil Profile at Shovel Test 1, Plan View.

Figure 4-4. Soil Profile at Shovel Test 12 Plan View.

Figure 4-5. Overview of the Pedestrian Survey Area, Facing West.

Figure 4-6. Cutter Mattock Observed at HDR-ISO-001, Plan View

5 Summary and Recommendations

5.1 National Register Eligibility

As part of this review process, cultural resources investigations are undertaken with the purpose of identifying resources that are listed in, or eligible for listing in, the NRHP. The assessment of significance of cultural resources is based on federal guidelines and regulations. Any cultural resource that is listed in or eligible for inclusion in the NRHP is known as a "historic property," and the term "eligible for inclusion in the NRHP" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP listing criteria (36 CFR 800.2).

5.1.1 Criteria for Evaluation of Eligibility

As part of this review process, cultural resources investigations are undertaken with the purpose of identifying resources that are listed in, or eligible for listing in, the NRHP. The assessment of significance of cultural resources is based on federal guidelines and regulations. Any cultural resource that is listed in or eligible for inclusion in the NRHP is known as a "historic property," and the term "eligible for inclusion in the NRHP" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP-listing criteria. The criteria for evaluating properties for inclusion in the NRHP (36 CFR 60.4 [a–d]) are codified under the authority of the HMGP grant of 1966, as amended, and the Advisory Council on Historic Preservation has set forth guidelines to use in determining site eligibility. Subsequent to the identification of relevant historical themes and related research questions, these four criteria for eligibility are applied:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association and

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

B. that are *associated with the lives of persons* significant in our past; or

C. that *embody the distinctive characteristics* of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that *have yielded, or may be likely to yield, information important in prehistory or history*. Note that the application of Criterion D presupposes that the information imparted by the site is significant in history or prehistory [36 CFR 60.4, emphasis added].

The physical characteristics and historic significance of the overall property are examined when conducting NRHP evaluations. Although a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data are also required for individual components therein based on date, function, history, physical characteristics,

and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the NRHP criteria.

For a historic resource, district, or landscape to be determined eligible for the NRHP, it must retain enough of its historic integrity to convey its significance. For the NRHP, there are seven aspects of integrity:

1. Location
2. Design
3. Setting
4. Materials
5. Workmanship
6. Feeling
7. Association

Occasionally, certain resources fall into categories in which they must be evaluated further using one or more of the following Criterion Considerations. If a resource identified during the reconnaissance-level survey falls into one of these categories, the following Criterion Considerations will be applied in conjunction with one or more of the four NRHP criteria:

A. A religious property deriving primary significance from architectural or artistic distinction or historical importance, or

B. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or

C. A birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life, or

D. A cemetery that derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or

E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or

F. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance, or

G. A property achieving significance within the past 50 years if it is of exceptional importance (36 CFR 60.4).

The scientific value of archaeological sites is assessed under Criterion D. With regard specifically to this criterion, the goal of prehistoric archaeological research and management is to fill gaps in the knowledge about specific research domains. Scientific importance is driven, in part, by the research paradigms of the time and in part by the amount of information available about a particular research topic in a specific geographic area. The most robust forms of scientific importance should honor diverse and

occasionally competing schools of research interests and their attendant approaches. In order to fulfill Criterion D, a site must possess certain attributes (e.g., intact buried cultural strata with functionally and temporally diagnostic materials, datable cultural features) such that further intensive research at the site could be expected to add additional information to relevant research questions.

The research domains are addressed through testing and excavation programs. Over time, data required for addressing specific questions are collected, analyzed, and compiled. Eventually, the potential importance, or significance, of sites that contain only the types of data already collected may diminish. This suggests the identification criteria of important historic properties are tied to both a specific geographic area reflecting a cultural adaptation or cultural region and a state of accumulated knowledge about a research domain topic. The criteria and priorities of important sites are apt to shift as accepted research paradigms change or as data accumulations approach redundancy. Archaeological sites that retain contextual integrity and contain artifacts and features capable of contributing information toward addressing relevant research issues are significant and should therefore be considered eligible for inclusion in the NRHP.

5.1.2 State Antiquities Landmark

At the state level, archaeological sites may be considered significant and be recognized or designated as a SAL, provided that at least one of the following conditions is met:

1. The archaeological site is situated on lands owned or controlled by the State of Texas or one of its political subdivisions; or
2. The archaeological site is situated on private land which has been specifically designated as an SAL and fits at least one of the following criteria:
    A. Preservation of materials must be sufficient to allow application of standard archaeological techniques to advantage;
    B. The majority of artifacts are in place so that a significant portion of the site's original characteristics can be defined through investigation;
    C. The site has the potential to contribute to cumulative cultural history by the addition of new information;
    D. The site offers evidence of unique or rare attributes; and/or
    E. The site offers a unique and rare opportunity to test techniques, theories, or methods of preservation, thereby contributing to scientific knowledge [Texas Natural Resources Code 1977; Title 9, Chapter 191, Texas Antiquities Committee, Section 191.094 and Chapter 41.7, Antiquities Code of Texas].

Buildings, structures, cultural landscapes, and non-archaeological sites, objects, and districts may be designated as an SAL, provided that the following conditions are met:

1. The property fits within at least one of the following criteria:
    A. The property is associated with events that have made a significant contribution to the broad patterns of our history, including importance to a particular cultural or ethnic group;

B. The property is associated with the lives of persons significant in our past;

C. The property embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction;

D. The property has yielded, or may be likely to yield, information important in Texas culture or history;

2. The property retains integrity at the time of the nomination, as determined by the executive director of the commission; and

3. For buildings and structures only, the property must be listed in the NRHP, either individually, or as a contributing property within a historic district. Contributing status may be determined by the Keeper of the National Register or the executive director of the commission.

5.2 Conclusion and Recommendation Summary

HDR completed an intensive archaeological survey of the six-acre APE on August 14, 2017. During the course of the survey, no archaeological sites were encountered. One historic isolated find (HDR-ISO-001) was recorded within the APE but, as it does not meet the basic definition of a site, HDR-ISO-001 is not considered eligible for inclusion in the NRHP. In accordance with 13 TAC 26.12, no further cultural resources investigations are recommended for the presently-defined APE, and the proposed Lake Leon Dam Improvements project may proceed. However, in the event that any archaeological deposits are encountered during construction, work should cease, and the THC should be notified.

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Appendix A. Texas Historical Commission Correspondence

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TEXAS HISTORICAL COMMISSION
real places telling real stories

May 18, 2016

Melisa Durham
Langford Community Management Services
13740 Research Blvd., Ste G1
Austin, TX 78750

Re: Project review under the National Historic Preservation Act and the Antiquities Code of Texas: Lake Leon Dam FEMA Hazard Mitigation Grant Program project; Eastland County (FEMA, Eastland County WSD; 201606819).

Dear Ms. Durham:

Thank you for your correspondence describing the above referenced project. This letter serves as comment on the proposed project from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

The review staff, led by Tiffany Osburn, has examined our records. According to our maps, previously recorded archeological sites are located near the proposed improvements. It appears that portions of the proposed spillway channel and bridge will constitute new ground disturbance. We recommend that a professional archeologist conduct survey over the northern portion of the project area on the east side of FM 2461. Survey may require shovel testing in areas with the potential for alluvial deposition regardless of surface visibility. No work is required for the proposed dam slope improvements.

The work should meet the minimum archeological survey standards posted on-line at www.thc.state.tx.us. A report of investigations should be produced in conformance with the Secretary of the Interior's Guidelines for Archaeology and Historic Preservation, and submitted to this office for review. You may obtain lists of most professional archeologists in Texas on-line at: www.c-tx-arch.org or www.rpanet.org. Please note that other potentially qualified archeologists not included on these lists may be used.

If portions of the survey will be performed on state public land or within a public easement your contract archeologist must obtain an Antiquities Permit from our office before any investigations are undertaken. An Antiquities Permit can be issued as soon as we have a completed permit application.

Thank you for your cooperation in the review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Tiffany Osburn at 512/463-8883.**

Sincerely,

for
Mark Wolfe, State Historic Preservation Officer

received
5/23/16 LCMS

MW/to