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Cultural Resources Survey for the Proposed Dam No. 101 Project within the Upper Brushy Creek WCID, Williamson County, Texas

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Cultural Resources Survey for the Proposed Dam No. 101 Project within the Upper Brushy Creek WCID, Williamson County, Texas

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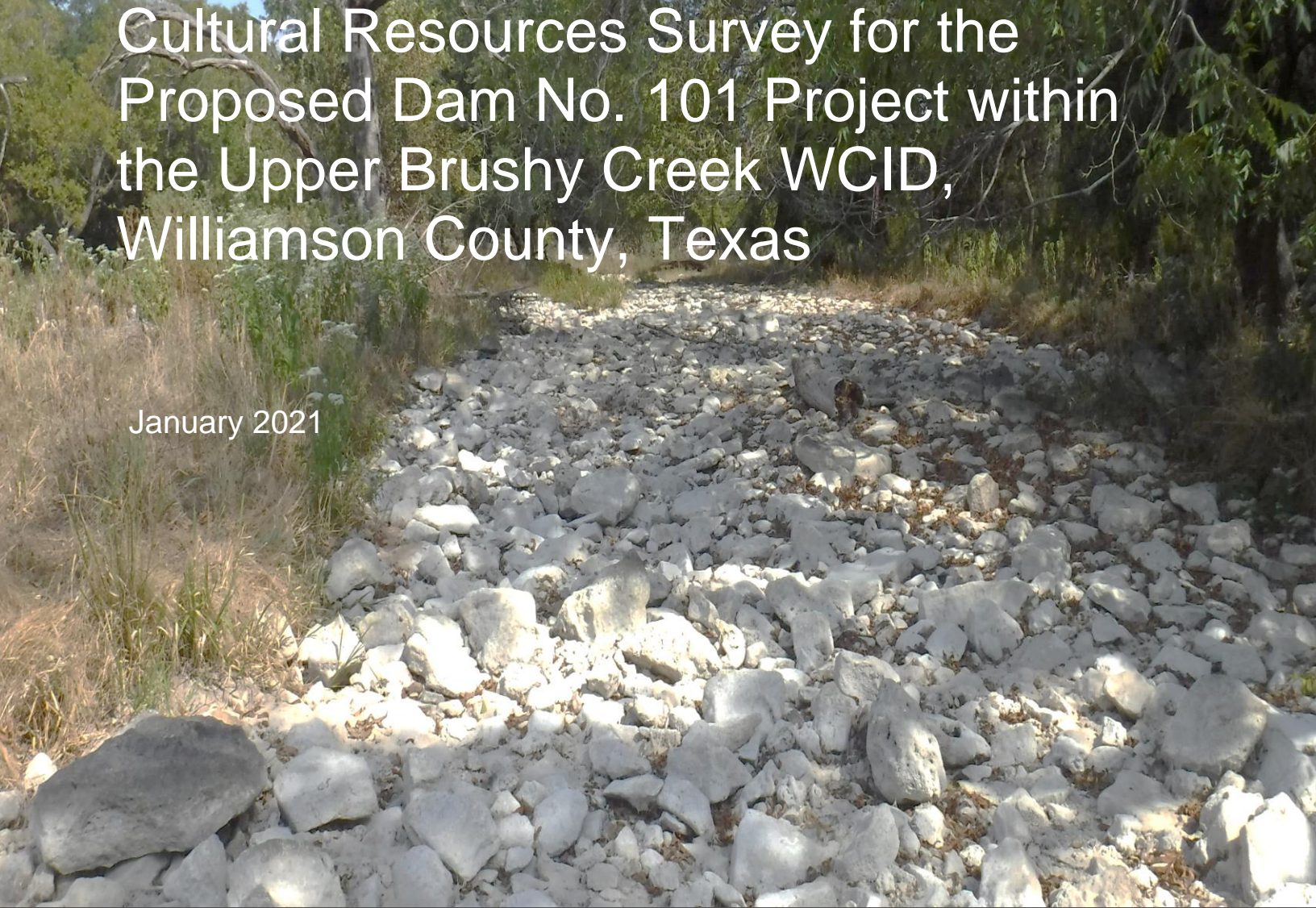


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A photograph of a rocky stream bed in a wooded area. The stream bed is composed of numerous light-colored, rounded rocks of various sizes. The surrounding area is filled with green trees and bushes, with sunlight filtering through the leaves, creating dappled shadows on the rocks.

Cultural Resources Survey for the Proposed Dam No. 101 Project within the Upper Brushy Creek WCID, Williamson County, Texas

January 2021

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AECOM Project Number: 60596433

Texas Antiquities Permit No. 8855

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List of Acronyms

amsl	Above mean sea level
APE	Area of Potential Effect
BEG	Bureau of Economic Geology
B.P.	Before Present
CAD	County Appraisal District
cm	Centimeters
cmbs	Centimeters below surface
FM	Farm-to-Market
ft	Foot / feet
GLO	General Land Office
GPS	Global Positioning System
IF	Isolated find
m	Meter(s)
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
TARL	Texas Archaeological Research Laboratory
TASA	Texas Archaeological Sites Atlas
THC	Texas Historical Commission
SAL	State Antiquities Landmark
SH	State Highway
USGS	United States Geological Survey
UBCWCID	Upper Brushy Creek Water Control and Improvement District

Management Summary

AECOM was contracted by the Upper Brushy Creek Water Control and Improvement District (UBCWCID) to conduct a cultural resources survey for the proposed Dam No. 101 project, located in Williamson County, Texas. AECOM evaluated a 189-acre area of potential effects (APE), which includes the conceptual dam footprint plus a 150-foot (ft) buffer, the inundation area, and any additional areas that could be potentially affected by key construction activities. The project is bisected by O'Conner Drive on the north side of State Highway 45 and partially overlaps the existing Dam No. 9. AECOM conducted an intensive cultural resources survey within the APE from September 16 – 20, 2019. The objectives of the survey were to inventory any archaeological and historic resources within the APE and to evaluate their eligibility for inclusion in the National Register of Historic Places (NRHP) and for designation as State Antiquities Landmarks (SALs). All work was performed in accordance with Texas Historical Commission (THC) Archeological Survey Standards for Texas. The survey was completed under Texas Antiquities Permit No. 8855 and utilized a combination of pedestrian survey methods and the systematic excavation of 78 shovel tests.

No new archaeological sites were identified during the survey. However, the survey revisited four previously recorded archaeological sites, including 41WM748, 41WM750, 41WM1058, and 41WM1248. These sites are within, or are partially within, the portion of the APE located east of O'Connor Drive. Each of these sites has been impacted by erosion and natural weathering, and all the site components were found to be resting on either limestone and eroded soils surfaces, or within shallow (<30 cm) soils. Due to these factors, the sites do not exhibit integrity. Due to the absence of temporally diagnostic artifacts and features, these sites are not likely to yield information important to prehistory. Based on the current investigations, we recommend that sites 41WM748, 41WM750, 41WM1058, and 41WM1248 are ineligible for listing in the NRHP and do not merit designation as SALs. In addition, the two prehistoric isolated finds (IF-1 and IF-2) identified during the survey are recommended as ineligible for NRHP listing and SAL designation. Finally, two historic-age resources, including Dam No. 9 (Resource 001) and a corral (Resource 002), were recorded during the survey and evaluated by an architectural historian. Both resources are assessed as failing to meet NRHP criteria of eligibility and are recommended as ineligible for listing in the NRHP.

Right-of-entry could not be obtained for the portion of the APE on the west side of O'Connor Drive, which contains one previously recorded archaeological site (41WM1057), and one NRHP-eligible structure (ca. 1950 Agricultural Building). In 2004, the THC determined site 41WM1057 to be ineligible. Based on the current plans, no construction will take place in the APE west of O'Connor Drive. Since no significant hydrological changes would occur in this area as a result of Dam 101 construction, no impacts to these sites are anticipated and no archaeological survey is currently warranted.

A field geomorphic assessment was conducted and revealed that the APE contains thin and eroded soils that formed in residuum weathered from Cretaceous limestone. Along Lake Creek, the soils consist of shallow, gravelly deposits confined to a relatively narrow flood surface. Given the residual nature and ancient age of the APE soils, the absence of deep alluvial deposits, and the high-energy flood discharge regime evidenced in creek bank profiles, the APE does not exhibit the pedologic and geomorphic conditions necessary for the deep burial and preservation of cultural deposits. It is therefore unlikely that any archaeological sites in these areas would exhibit the integrity necessary to be considered eligible for the NRHP or to merit SAL designation. No backhoe trenching is recommended for this project.

Based on the results of the survey, the proposed project should have No Effect on historic properties or SALs. AECOM recommends that construction can proceed without further cultural resources investigations. However, should the dimensions of the project area change, additional archaeological and historical investigations may be warranted. If any unmarked prehistoric or historic human remains or burials are encountered at any point during the project, the area of the remains is considered a cemetery under current Texas law and all construction activities must cease immediately to avoid impacting the remains. The THC must be notified immediately by contacting the Archeology Division at (512) 463-6096. All cemeteries are protected under State law and cannot be disturbed. Further protection is provided in Section 28.03(f) of the Texas Penal Code, which provides that intentional damage or destruction inflicted on a human burial site is a state jail felony.

No artifacts were collected during the survey. All correspondence, field records, and photographs generated during field investigations were prepared for permanent curation at the Texas Archeological Research Laboratory.

1 Introduction

The Upper Brushy Creek Water Control and Improvement District (UBCWCID) is pursuing flood control and mitigation projects within the Lake Creek Watershed. The UBCWCID wishes to design and construct Dam No. 101 as part of this effort, which is located along Lake Creek in Williamson County, Texas (**Figure 1**). The general criteria for the concept design are to provide improvements to divert and/or detain flood water to reduce potential flooding in the project vicinity. AECOM evaluated a 189-acre area of potential effects (APE) which includes the conceptual dam footprint plus a 150-foot (ft) buffer, the inundation area, and any additional areas that could be potentially affected by key construction activities. The project is on either side of O'Conner Drive on the north side of State Highway (SH) 45 and partially overlaps the existing Dam No. 9.

AECOM has been selected to assist the UBCWCID in meeting applicable cultural resources compliance requirements under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the Antiquities Code of Texas. Under Section 106 of the NHPA, as amended, and in accordance with Advisory Council on Historic Preservation regulations pertaining to the protection of historic properties (36 Code of Federal Regulations [CFR] 800), prior to permit issuance or funding, federal agencies are required to locate, evaluate, and assess the effects of their undertaking on historic properties. Historic properties are defined as those properties that are included in, or eligible for inclusion in the National Register of Historic Places (NRHP). The Fort Worth District of the United States Army Corps of Engineers is the lead agency for an anticipated Nationwide Permit, and thus the project constitutes a federal undertaking requiring Section 106 review.

Because the project is being developed by the UBCWCID, which is a political sub-entity of the State of Texas, the project also falls within the purview of the Antiquities Code of Texas (Texas Natural Resource Code, Title 9, Chapter 191). The Antiquities Code requires the Texas Historical Commission (THC) to review any actions that have the potential to disturb prehistoric or historic sites within the public domain of the State of Texas. Regulations pertaining to the code can be found within Title 13 Part 2, Chapter 26 of the Texas Administrative Code (TAC), Rules of Practice and Procedure. In accordance with 13 TAC 26.7(d)(2), the THC may require archaeological investigations to take place in all potentially affected areas of a project to identify potential impacts to cultural resources. Such investigations are regulated through an Antiquities permitting process, which establishes the terms under which work may proceed (13 TAC 26.2). Thus, prior to field investigations, AECOM obtained Antiquities Permit No. 8855 from the THC.

Based upon coordination with the THC dated July 19, 2017, the APE for archaeological resources was determined to be equivalent to the 189-acre Study Area, which includes a 150-ft buffer around the dam footprint, and the inundation area. Any temporary easements, staging areas, access roads, or project-specific locations that may be subsequently identified would also be included as part of the APE. AECOM conducted an intensive cultural resources survey within the APE from September 16 – 20, 2019. The objectives of the survey were to inventory archaeological and historic resources within the APE and to evaluate their eligibility for inclusion in the NRHP and for designation as State Antiquities Landmarks (SALs). Steve Ahr served as Principal Investigator and was assisted by AECOM archaeologists Patricia Hutchins, Gary Hawkins, Chris DiMaiolo, and Gabrielle Perry. Tanya McDougall served as Senior Architectural Historian and was aided by Architectural Historian Beth Reed.

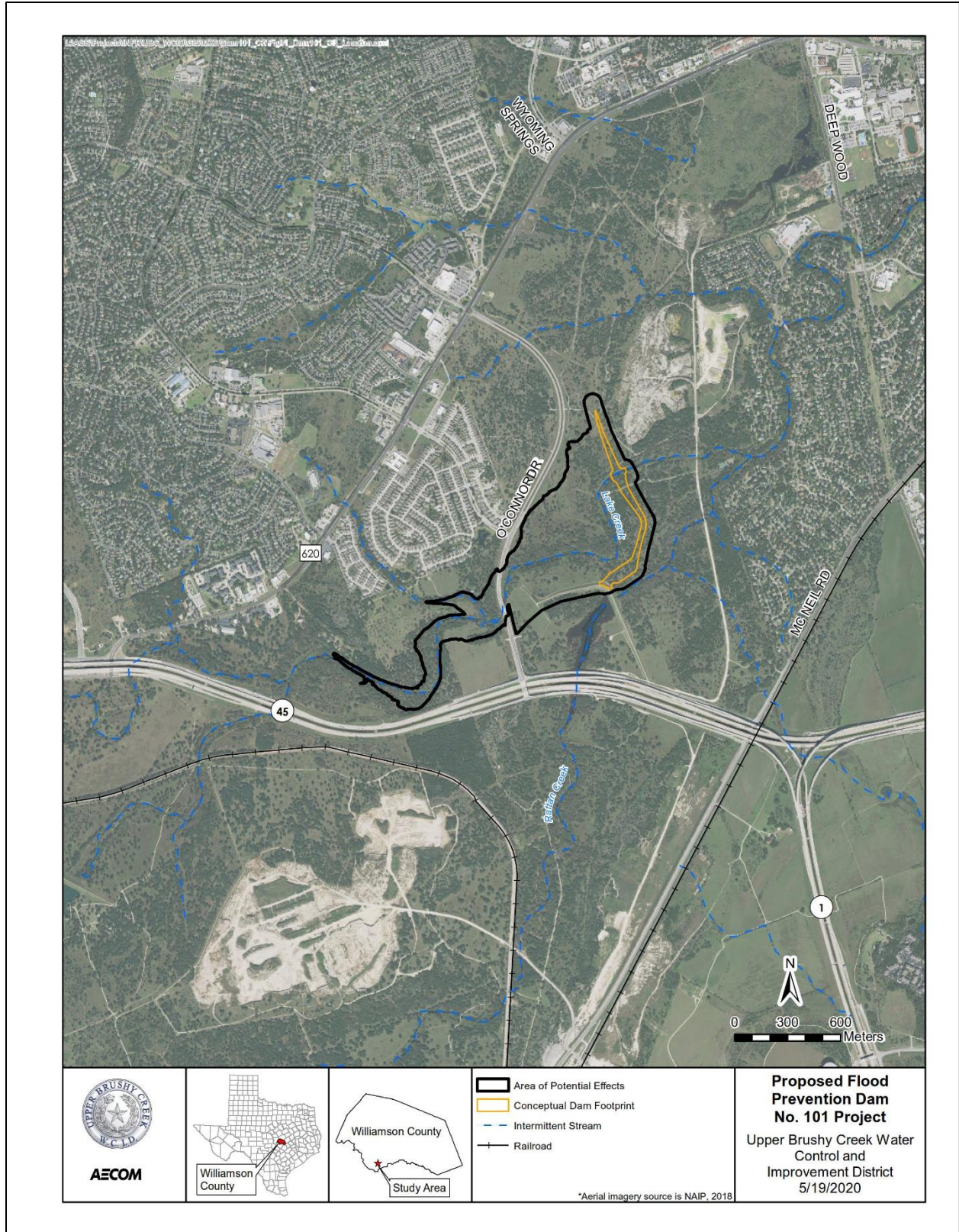


Figure 1. Dam No. 101 Area of Potential Effects, Williamson County, Texas

2 Environmental Setting

2.1 Ecology

The project is located within the Cross Timbers ecoregion, approximately two miles west of the Blackland Prairie and 13 miles east of the Edwards Plateau ecoregions (Griffith et al. 2007). The Cross Timbers ecoregion contains irregular plains and low hills, with a mosaic of forest, woodland, savannah and prairie. The nearby Blackland Prairie ecoregion is characterized by fine-textured clayey soils with prairie vegetation. Dominant grasses include little bluestem, big bluestem, yellow Indiangrass, and switchgrass (Griffith et al. 2007). The Edwards Plateau ecoregion consists of a dissected limestone plateau bordered by a sharp fault line. It contains numerous perennial streams, natural springs, and karst topography. The area is covered by juniper-oak savannah and mesquite-oak savannah (Griffith et al. 2007).

2.2 Topography

The project is located within the United States Geological Survey (USGS) Pflugerville West topographic quadrangle in southern Williamson County, Texas. The APE ranges in elevation from 790 ft above mean sea level (amsl) within the upland margins along Lake Creek, to approximately 750 ft amsl within the Lake Creek channel.

2.3 Geology and Soils

The geology of the APE consists of the Lower Cretaceous Edwards Limestone Formation which is made up of limestone, dolomite, and chert (Bureau of Economic Geology [BEG] 1981). The limestone fine grained, massive to thinly bedded, hard, and brittle, while the dolomite is fine to very fine grained, porous, and medium gray to grayish brown (BEG 1981).

Soils include the Eckrant-Rock outcrop complex, rolling (26 percent); Eckrant extremely stony clay, 0 to 3 percent slopes (6 percent); and Georgetown Stony Clay Loam, 1 to 3 percent slopes (68 percent) (Natural Resources Conservation Service [NRCS] 2020). Eckrant soils are well drained, moderately slowly permeable soils that are very shallow to shallow over indurated limestone bedrock. These nearly level to very steep soils formed in residuum weathered from limestone and are present on summits, shoulders, and backslopes of ridges on dissected plateaus. Official series data indicate these very cobbly clay soils are shallow (<30 cm) and well-developed and contain between 15 and 35 percent limestone cobbles within the clayey soil matrix, and commonly contain weathered fragments of bedrock throughout (NRCS 2020). They are along uplands bordering stream valleys where bedrock outcrops are common.

The Georgetown soils are moderately deep, well drained, and very slowly permeable, and formed within residuum weathered from Cretaceous limestone (NRCS 2020). These soils are shallow (<18 cm) in the upper part and overlie a series of older clayey Bt horizons. The soils contain up to 30 percent chert gravels and cobbles and weathered limestone fragments throughout the clay and clay loam matrix. Based on the likely genetic relationships of each of these soil series to the underlying bedrock, they are too old to contain buried cultural materials within their original systemic context. It is expected that archaeological deposits will be most often identified either on the modern ground surface, or very shallowly buried within range of standard shovel test excavations. Many of the soils observed in the APE are thin and eroded, which suggests an overall low probability for the presence of intact archaeological deposits. In such areas, archaeological materials would likely be present within a deflated or otherwise disturbed setting.

3 Cultural Background and Previous Investigations

3.1 Cultural Background

3.1.1 Paleoindian Period (11,500 – 8800 Years Before Present [B.P.])

The conventional interpretation of the Paleoindian Period is that it ranges from approximately 11,500 to 8800 B.P. and represents the earliest known human occupation in North America. Two main Paleoindian periods have been extensively documented and include Early Paleoindian, represented largely by Clovis points, and Late Paleoindian, represented by Folsom points. Early Paleoindian Clovis cultures were characterized by highly mobile big game hunters consisting of small bands. Notable cases of these occupations within the Central Texas region have been reported at the Gault Site (41BL323) in Bell County, the Buttermilk Creek Site in Williamson County, Kincaid Rockshelter (41UV2) on the southern margin of the Edwards Plateau in Uvalde County, and the Pavo Real Site (41BX42) in Bexar County. The Late Paleoindian Period is represented by Folsom artifacts, which appear to have been more closely aligned to hunting bison and included a much more diverse subsistence base than the preceding period (Collins 1995). During this Late Pleistocene-Early Holocene transition, the climate is thought to have been much cooler and wetter, though it was becoming increasingly dry and warm. Small, isolated occurrences of Late Paleoindian sites are common in upland settings in Central Texas, while larger, deeply buried, and intact occupations are less well documented. Those sites that weren't eroded away during Late Pleistocene stream erosional events are likely buried deeply in alluvial deposits and still await detection. Those that have been found and fully investigated include the Wilson-Leonard Site (41WM235) in Williamson County and suggest a much wider range of subsistence activities than previously thought (Collins 1998). Recent investigations at the Buttermilk Creek Site and the Gault Site in Central Texas are providing new insights into potential pre-Clovis occupations that date as far back as 15,500 B.P. (Collins and Brown 2000; Waters et al. 2011). These discoveries are challenging long-held notions about the timing of the entrance of humans into North America and Texas.

3.1.2 Archaic Period (8800 – 1300 B.P.)

3.1.2.1 Early Archaic (8800 - 6000 B.P.)

The Early Archaic Period is one of increasingly warmer and drier climate conditions than had existed previously, and one in which subsistence strategies were necessarily broadened to include a much more diverse array of plant and animal resources. Sites from this period tend to be small and contain diverse tool assemblages. Consequently, greater hunter-gatherer mobility and lower population densities are attributed to this period (Prewitt 1981). Increased reliance on floral remains and hot-rock cooking technology and more diverse lithic technology are also indicated, with sites tending to be concentrated along the eastern and southern Edwards Plateau margins (Black 1995; Johnson and Goode 1994). In South Texas, a greater emphasis on gathering and exploitation of riparian environments is observed (Black 1986), while in Central Texas, burned rock middens begin to emerge (Hester 1991; Prewitt 1981). Diagnostic projectile points from this time include Gower, Hoxie, Wells, Bell-Andice, Uvalde, and Martindale types (Hester 1980; Turner and Hester 1985).

3.1.2.2 Middle Archaic (6000 - 4000 B.P.)

The Middle Archaic Period is generally recognized as a period of population increase, with a concomitant increase in the number and diversity of archaeological site types (Collins 1995; Hall et al. 1986; Turner and Hester 1985). Climate during this time in Central Texas is believed to have been significantly warmer

and drier than today because of the mid-Holocene Altithermal. Climate conditions coupled with a reduction in bison populations resulted in greater exploitation of richer environments such as natural springs. The number and sizes of campsites and burned rock middens increased during this period, though there was still a strong reliance on game hunting (Hall et al. 1986; Prewitt 1981). Greater use of cemeteries also occurred across the region during this time (Bement 1994; Taylor and Highley 1995). Common diagnostic projectile points for this period include Carrollton and Nolan types (Collins 1995; Turner and Hester 1985).

3.1.2.3 Late Archaic (4000 - 1300 B.P.)

During the Late Archaic Period, climate is thought to have returned to cooler and moister conditions (Collins 1995). Bison returned in greater numbers than had been present during the Middle Archaic Period, and population densities are thought to have increased substantially (Prewitt 1981). Burned-rock middens are currently believed to have increased in number during the Late Archaic and are represented by abundant fire-cracked rock features, such as hearths and earth ovens. Use of cemeteries continued from the previous period, and defined territories and trade networks emerged (Collins 1995; Hall 1981; Hester 1995; Story 1985). Diagnostic projectile points for this period include Pedernales, Bulverde, and Marcos types, though the relatively low densities of such points in site assemblages may indicate that hunting was of lesser importance than gathering (Prewitt 1981).

3.1.3 Late Prehistoric Period (1300 – 300 B.P.)

The Late Prehistoric Period in Central Texas is marked by the introduction of small, stemmed projectile points for use with the bow and arrow. Two main periods are recognized in Central and South Texas and include the Austin and Toyah Phases (Collins 1995; Hester 1995).

3.1.3.1 Austin Phase (1300 - 650 B.P.)

The Austin Phase is marked by the introduction of the bow and arrow. This period is represented by diagnostic Scallorn arrow points and other side-notched points (Black 1989). Other common artifacts at Austin Phase sites include bifaces, gouges, scrapers, and grinding stones; cemeteries continued to be used as well. Subsistence was broad-based and included hunting deer, exploiting freshwater fish resources, and gathering (Collins 1995; Prewitt 1981; Hester 1995).

3.1.3.2 Toyah Phase (650 BP - 300 B.P.)

The Toyah Phase is perhaps the better known of the two Late Prehistoric Periods. It is distinct from the preceding Austin Phase and is marked by the introduction of contracting-stem Perdiz arrow points, bone-tempered pottery, beveled-edge bifacial knives, perforators, and end-scrapers (Black 1986, 1989; Creel 1991; Hester 1980; Johnson 1994; Kelley 1986; Prewitt 1981). The Toyah material cultural is arguably geared toward extensive bison exploitation and mobility, and extensive trade relationships likely existed that focused on the exchange of bison hides and other commodities (Creel 1991).

3.1.4 Historic Period (Post-300 B.P.)

This section provides an overview of the history and development of Williamson County and cultural development of the Study Area. Contextual information was obtained through the review of historic maps, topographic maps, aerial photographs, newspaper archives, and secondary literary sources.

3.1.4.1 Historic Development of Williamson County

Alonso De León was likely among the first Europeans to explore what would later become Williamson County, Texas. In the late seventeenth century, he traversed the area along Brushy Creek and the San Gabriel River while seeking a route (Camino de Arriba) from San Antonio to the Spanish missions in East Texas. In 1716, Louis Juchereau de St. Denis and Domingo Ramón led an expedition that passed through

the area, and in the mid-1700s, the San Xavier missions were founded along the San Gabriel River near the present-day Williamson and Milam County border (Odintz 2020).

During the subsequent Mexican period, this area became part of Robertson's Colony, and land grants were awarded to several Mexican families, though no settlements took hold during this time. Just prior to and immediately following the Texas Revolution from Mexico, Anglos began to actively settle the area, which was still part of Milam County. A military outpost was built in 1835 near the head of Brushy Creek to protect the settlers against Indian attacks. In 1838, Dr. Thomas Kenney and a party of settlers established the first civilian settlement on Brushy Creek near the site of the present-day crossing of the Missouri-Kansas-Texas Railroad. Several nearby settlements followed, but constant predation by Native Americans resulted in the deaths of many early pioneers, including Kenney. Following annexation to the United States and a reduction of hostilities, there was an influx of Anglo immigrants to the area. By 1848, there were at least 250 settlers. Due to the need for a local seat of government, the Texas legislature established Williamson County on March 13, 1848, naming it for the prominent judge and soldier Robert M. Williamson. Georgetown was established as the county seat (Odintz 2020).

By 1850, Williamson County had a population of 1,379 whites and 155 slaves. Agriculture was the county's economic mainstay during the mid-1800s, and corn was the primary crop grown. The rich blackland soils in the region allowed cotton to be introduced, but it was not yet an important cash crop. During this period, however, cattle and sheep ranching were also important to the economy. Between 1850 and 1860, herds of cattle more than tripled from 11,973 to 38,114 head and the number of sheep grew from 2,937 to 16,952 (Odintz 2020).

During the Civil War, Union sympathy was strong, and Williamson County was one of 19 Texas counties to reject secession. In July 1863, eight Williamson County men were caught by Confederate troops while traveling to Mexico and were hanged near Bandera, Texas. Other Unionists were also persecuted during the war (Odintz 2020). Following the war, freed slaves began to form several new communities, and much of the post-war political and racial strife occurring in other Texas counties was absent. However, during the late nineteenth century, violent crime and horse and cattle theft were rampant (Odintz 2020).

Similar to other regions in Texas, Williamson County experienced an economic slump after the war, but a recovery was well underway by the 1870s as a result of growth in the cattle and sheep industries and expansion of cotton farming. Feeder routes linking to the Chisholm Trail crossed Williamson County, and many cattle drives passed through the area until the early 1880s when the railroad constructed a line through Taylor in the eastern part of the county. Cattle remained important to the local agricultural economy well into the twentieth century, and by 1869, ranchers owned 65,093 cattle. Sheep and goat raising followed a similar pattern. By 1900, Williamson County ginned more cotton than any county in Texas except Ellis County, following a 10-fold increase in the number of improved acres between 1870 and 1880. The construction of the International and Great Northern Railroad in 1876 and the Taylor, Bastrop, and Houston Railway in the 1880s, led to the founding of Taylor and Hutto and the relocation of Round Rock. Both lines were important for growing the local agricultural economy (Odintz 2020).

During the 1880s and 1890s, significant numbers of Scandinavians, Germans, Czechs, Wends, and Austrians moved to the county, with the proportion of foreign born at about 10 percent. Mexican immigration began to rise significantly at the turn of the century, with 294 present in 1900, 732 in 1910, and 4,967 in 1930. By 1980, 9,693 residents, or 11 percent, were of Hispanic origin. By 1930, Williamson County had a culturally diverse population of 44,146 inhabitants and an economy that was still largely agricultural (Odintz 2020).

During the Great Depression, the cotton industry suffered as a result of soil depletion, overproduction, and the boll weevil. Consequently, the number of acres used for growing cotton was cut in half. However, cropland acreage used for corn production increased over the same period, and wool and mohair

production more than doubled. Farmers began to turn to crops such as sorghum and wheat. During the 1950s, poultry farming gained a significant foothold in the economy, and the county ranked fifth in the state in egg and chicken production. In 1980, Williamson County was tenth in the state in the production of turkeys (Odintz 2020).

Although Williamson County experienced a dramatic increase in population, growing from 37,305 inhabitants in 1970 to an estimated 85,700 inhabitants in 1982, the African American population steadily declined, a trend that began in the 1940s. Much of the overall growth in population was related to “suburbanization” and housing development in the areas bordering Austin (Odintz 2020).

3.1.4.2 Development of the Project Area

The Dam No. 101 project is in southern Williamson County, northeast of Jollyville and southwest of Round Rock. The project area is located within three land surveys, which include, starting from west to east: Jacob M. Harrell survey (Abstract #284); M. M. Hornsby survey (Abstract #281); and J. McQueen survey (Abstract #425; General Land Office [GLO] 2020a). Although the majority of the project area is undeveloped it does contain Dam No. 9 (built in the 1950s), as well as a corral (east of O’Connor Drive) and a historic farmstead (west of O’Connor Drive). More recent developments in the surrounding areas include quarry operations to the northeast and southwest of the Project, and construction of the O’Conner Drive, which bisects the Project area. A large housing subdivision is also present on the west side of O’Conner Drive.

Through the first half of the twentieth century, Brushy Creek and its tributaries had experienced several episodes of flooding. Due to this concern, local landowners organized and formed the Brushy Creek Watershed Association. The purpose of the association was “...to obtain, by mutual cooperation, satisfactory installation and maintenance of flood prevention measures that benefit or protect the lands owned or occupied by members of the Association” (Taylor Daily Press 30 March 1954; Taylor Daily Press 28 September 1954).” The original Brushy Creek Water Control and Improvement District No. 1 was officially established in 1956 for Williamson and Milam counties and served as the local sponsor for 46 planned floodwater retarding structures (Upper Brushy Creek WCID [UBCWCID] 2020). The Soil Conservation Service constructed the earthen dams between 1957 and 1966 (UBCWCID 2020). Of the proposed dams, the one located in the project area was designated Dam No. 9. Easements for the construction of Dam No. 9 on Rattan Creek was acquired by July 1957 (**Figure 2**). The inundation area of the dam was estimated to cover 40 acres at low level and 187 acres when full and have a height of 40 feet (Taylor Daily Press 21 July 1957). The construction work for Dam No. 9 was awarded to the Affolter Construction Co. of Rio Hondo. The firm was the lowest bid for the work at a cost of \$157,537 (Taylor Daily Press 16 December 1958). By January 1960, Dam No. 9 was complete.

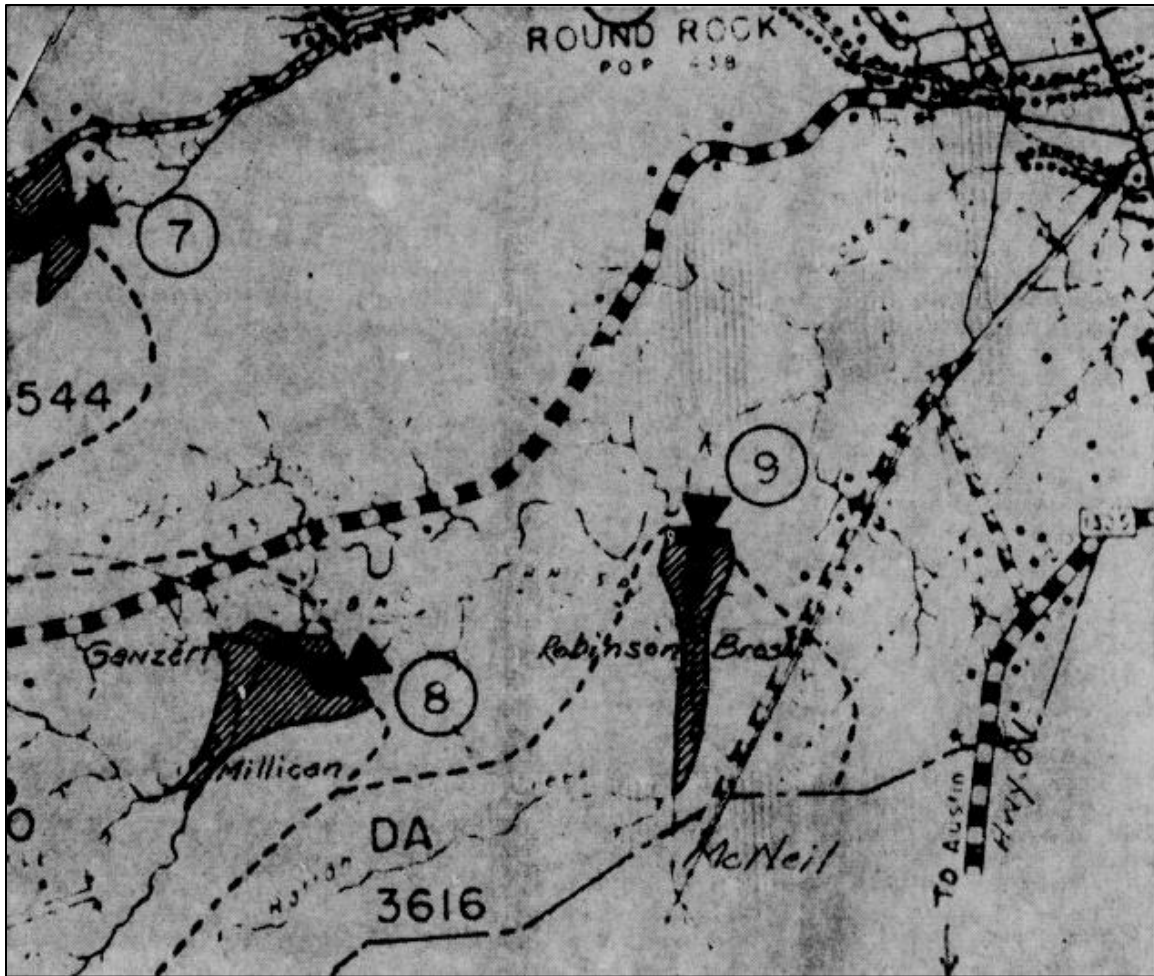


Figure 2. 1957 map showing the planned locations for Dams 7, 8, and 9 and property owners (Taylor Daily Press 21 July 1957)

At the time Dam No. 9 was constructed, the property was owned by the Robinson family who also owned the Austin White Lime Company. That property continues to be owned by the Robinson family (Robinson Land LTD Partners et al.). A review of aerial photographs from 1954 and 1967 shows the APE remained largely undeveloped, except for a farmstead containing buildings constructed between ca. 1912 and 1950. The 1967 aerial photograph shows Dam No. 9 built on Rattan Creek, which is a tributary to Lake Creek (**Figure 3**). At around the same time, a corral was constructed adjacent to the dam spillway. The cattle corral and Dam No. 9 are still extant and were confirmed in the field. Access to the farmstead was not granted, but modern aerial imagery continues to depict those resources. Dam No. 9, the cattle corral, and farmstead are all greater than 50 years of age and therefore meet the historic-age cut-off for this project.



Figure 3. 1967 aerial photograph showing historic farmstead, corral, and Dam No. 9 (EarthExplorer.com 2020)

3.2 Previous Investigations

3.2.1 Archaeological Background Search

A background review of the Texas Archeological Sites Atlas (TASA) was conducted in order to identify previous archaeological investigations and previously recorded archaeological sites within 1,000 meters (m) of the APE (**Tables 1 and 2; Figure 4**). Within the 1,000-m search area, five previous archaeological investigations (four areal surveys and one multi-component linear survey) have been conducted. Review of the TASA further revealed that 15 previously recorded archaeological sites are located within 1,000 m of the APE. Twelve of the sites have been previously recommended as Not Eligible for listing in the NRHP. Three sites currently have unknown eligibility. Five of the sites are located inside the APE.

Table 1. Previous archaeological investigations within 1,000 m of the APE

Type	Date	Antiquities Permit No.	Agency/Firm	Description	Distance from APE
Linear Survey	07/1999	N/A	City of Round Rock / Unknown	Unknown	Several segments traverse the APE
Areal Survey	04/2006	4056	Texas Department of Transportation (TxDOT) / PBS&J	Archeological Survey of the State Highway (SH) 45 Expansion Area and Arterial C right-of-way (ROW) west of McNeil-Round Rock Road, Williamson County; site 41TV612 was revisited and 41WM1147 was newly discovered during the survey	860 m southeast
Areal Survey	02/2010	5548	Williamson County / SWCA	Archeological Survey of the O'Connor Drive Extension Project, Williamson County; site 41WM1248 was discovered during survey	The eastern portion of the survey is within the APE
Areal Survey	09/2010	5763	TxDOT / Blanton and Associates	Intensive Archeological Survey of the SH 45 / O'Connor Drive Interchange from West of Rattan Creek to McNeil Road in the TxDOT Austin District, Williamson County; no sites were discovered during survey	295 m south
Areal Survey	11/2010	5732	TxDOT / Ecological Communications Corporation	Archeological Survey in Advance of Improvements Along Ranch-to-Market 620 from Cornerwood Drive to Wyoming Springs Drive, Williamson County; no sites were discovered during survey	875 m northwest

Source: TASA (2020)

Table 2. Previously recorded archaeological sites within 1,000 m of the APE

Site	Cultural Period(s)	Site Description	Recommendation	Distance from APE
41WM748	Unknown Prehistoric / Historic	Lithic procurement site; debitage, cores, tested cobbles	No further work recommended in 1987; determined ineligible within the Outer Parkway Roadway Project ROW in 2002 and 2010	Portion of the site is within the APE
41WM750	Unknown Prehistoric	Lithic procurement site; debitage, cores, tested cobbles	No further work recommended in 1987; determined ineligible within the Outer Parkway Roadway Project ROW in 2002	Portion of the site is within the APE
41WM1057	Unknown Prehistoric	Lithic scatter; biface fragment, debitage	No further work recommended in 2002; determined ineligible within the Wyoming Springs Roadway Project ROW in 2002; determined ineligible in 2004	Site is within APE

Site	Cultural Period(s)	Site Description	Recommendation	Distance from APE
41WM1058	Unknown Prehistoric	Lithic procurement site; debitage, cores, tested cobbles	No further work recommended in 2002; determined ineligible within the Wyoming Springs Roadway Project ROW in 2002 and 2010; determined ineligible in 2004	Site is within APE
41WM1248	Unknown Prehistoric	Lithic procurement site; bifaces, debitage, cores, tested cobbles, untyped point; this portion of the site destroyed by O'Connor Drive	No further work recommended in 2010; determined ineligible within the O'Connor Drive Roadway Project ROW in 2010	Site is within APE
41WM1147	Unknown Prehistoric	Lithic procurement site; debitage, cores, tested cobbles	No further work recommended in 2006; determined ineligible within the Arterial C Roadway Project ROW in 2008	80 m south
41WM1059	Unknown Prehistoric	Lithic procurement site; debitage, cores, tested cobbles	No further work recommended in 2002; determined ineligible within the Wyoming Springs Roadway Project ROW in 2010	Site is adjacent to APE
41WM1	Prehistoric; Archaic	Campsite; 40+ burned rock middens, debitage	Investigations conducted 1905, 1918, 1919, 1956, 1999; recommendations unknown	125 m east
41WM990	Unknown Prehistoric	Lithic scatter; debitage, tools	No further work recommended in 2001; determined ineligible in 2001	270 m south
41WM749	Unknown Prehistoric	Lithic procurement site; debitage, cores, tested cobbles; site destroyed by housing development	No further work recommended in 1987; determined ineligible within the Outer Parkway Roadway Project ROW in 2010	285 m north
41WM936	Unknown	Unknown; site has most likely been destroyed by housing development	Recommendations unknown	600 m east
41TV612	Historic	Historic lime kilns; possible 1905	Investigation conducted in 1973; determined ineligible within the Arterial C Roadway Project ROW in 2008	660 m southeast
41WM728	Unknown Prehistoric / Historic	Lithic procurement site; bifaces, debitage, cores, tested cobbles Historic livestock facility; barn, windmill, concrete tank, livestock pens, cans, glass, lumber	No further work recommended in 1986	800 m west
41WM1056	Unknown Prehistoric	Lithic procurement site; debitage, cores, tested cobbles	No further work recommended in 2002; determined ineligible within the Wyoming Springs Roadway Project ROW in 2002	840 m north
41WM751	Historic	Historic three-room log cabin; cans, bottles, agricultural equipment	Records search recommended in 1986 and 2002; determined ineligible within the Outer Parkway Roadway Project ROW in 2002	970 m southeast

Source: TASA (2020)

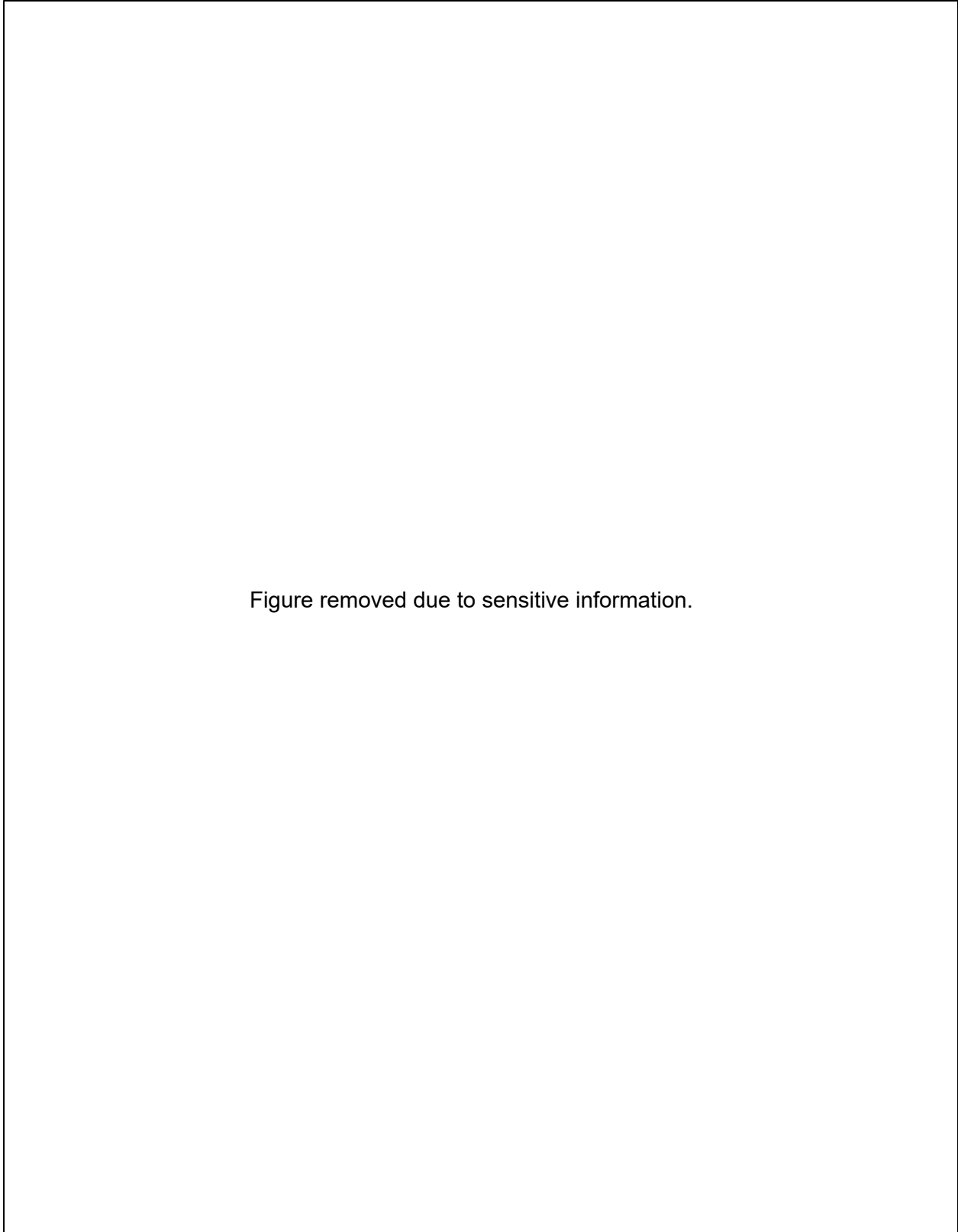


Figure 4. Previously recorded sites and surveys within 1,000 meters of the APE

3.2.2 Historic Background Search

A background search of the Texas Historic Sites Atlas, NRHP database, and TxDOT Historic District and Properties GIS layer was conducted in February 2020, to identify previously recorded and/or designated historic resources within one-quarter mile (400 m) of the APE. For this coordination, historic resources refer to any buildings, structures, objects, or potential historic districts that are, or will be, 45 years of age or older at the time of the anticipated project letting date for construction. At present, the let date for the proposed project is anticipated to be 2022; therefore, it is recommended that any buildings, structures, objects, or potential historic districts dating 1977 or earlier be considered historic resources. This date is based on the year 2022 minus 45 years to provide a 5-year buffer that allows for unexpected delays in project planning. The records review included properties listed in, or eligible for listing in, the NRHP, National Historic Landmarks, SALs, Recorded Texas Historic Landmarks, and Official Texas Historical Markers.

Based on the records review, six historic resources previously recorded and evaluated by TxDOT were identified within or adjacent to the APE (**Table 3; Figure 5**). These resources comprise a farmstead consisting of five buildings and one structure dating between ca. 1912 and ca. 1950. These resources include a retaining wall; a single-family residence; a rock building; a smoke house; a barn; and an agricultural outbuilding. A review of TxDOT's Historic Districts & Properties of Texas database found the resources were previously determined eligible for listing in the NRHP under Criterion A for being "associated with events that have made a significant contribution to the broad patterns of our history." Of these eligible historic resources, only the agricultural building is located inside the APE. Although right-of-entry was not granted for this property and field verification was not possible, archival research was conducted that included a review of historic and modern aerial photographs.

Table 3. Previously recorded historic resources within 400 m of the APE

Description	Current Parcel No. Location	Time Period	NRHP Recommendation
Retaining Wall	R534502	1920	Eligible – Criterion A
Single-Family Residence	R534502	1912	Eligible – Criterion A
Rock Building	R534502	1930	Eligible – Criterion A
Smoke house	R534502	1928	Eligible – Criterion A
Barn	R534502	1912	Eligible – Criterion A
Agricultural Building (inside APE)	R534502	1950	Eligible – Criterion A

Source: TxDOT (2020)

Archival research found these six resources are situated on a portion of the original 370-acre Malcolm M. Hornsby Survey granted by the Republic of Texas in 1841 (GLO 2020b). Between 1841 and 1927, the land on which the resources are located was granted to Albert Pfluger, who in 1927 granted the property to K.P. Barton (Williamson County Clerk [WCC] 1927: Deed Book [DB] 233:180). In 1939, K.P. Barton granted the property to Oscar and Jennie Beck, who in 1950 sold the land to Eugene and Genell Beck (WCC 1939: DB 300:207; WCC 1950: DB 360:87). Between 1950 and 1988, Ralph O'Connor obtained the property, and in 1988 he sold it to HRI Development Corp (WCC 1988: DB 1660:105). The property is currently owned by O'Farrell Family Trust (Williamson County Appraisal District [WCAD] 2020).

- The retaining wall was constructed ca. 1920. Integrity of the resource could not be observed and verified.

- The single-family residence was constructed ca. 1912. Aerial photography shows the house has a rectangular plan and a hipped roof with metal cladding. A rectangular, hipped roof addition appears to extend from the south elevation. Integrity of the resource could not be observed.
- The rock building was constructed ca. 1930. Aerial photography shows the building has a square plan with a flat roof. The rock building is situated directly to the northeast of the residence. Integrity of the resource could not be observed.
- The smokehouse was constructed ca. 1928. Aerial photography shows the building has a rectangular plan and a gabled roof clad with metal paneling. This resource is situated east of the rock building. Integrity of the resource could not be observed.
- The rectangular barn with a side-gabled roof clad with metal panels was constructed ca. 1912. Aerial photography shows the north and south elevations are open and the east and west elevations exhibit a single-entry door and a single window. Integrity of the resource could not be observed.
- The agricultural building was constructed ca. 1950. Aerial imagery shows the building has a rectangular plan and a flat roof. Integrity of the resource could not be observed and verified. Current mapping from the TxDOT Historic Districts and Properties GIS Layer show that this structure is located inside the APE.

These six historic resources appear to remain in their original location in a rural landscape. Due to lack of right-of-entry, the resources could not be directly observed in the field but were reviewed through archival research. The resources were previously evaluated as part of a TxDOT project (CSJ 0914-05-139). In a letter dated 6/22/2017, the THC determined the farmstead is eligible for listing in the NRHP. All six resources were determined individually NRHP-eligible under Criterion A. Based on archival research and a review of historic and modern aerial photography conducted for this investigation, no new information was identified to dispute the previous determination.

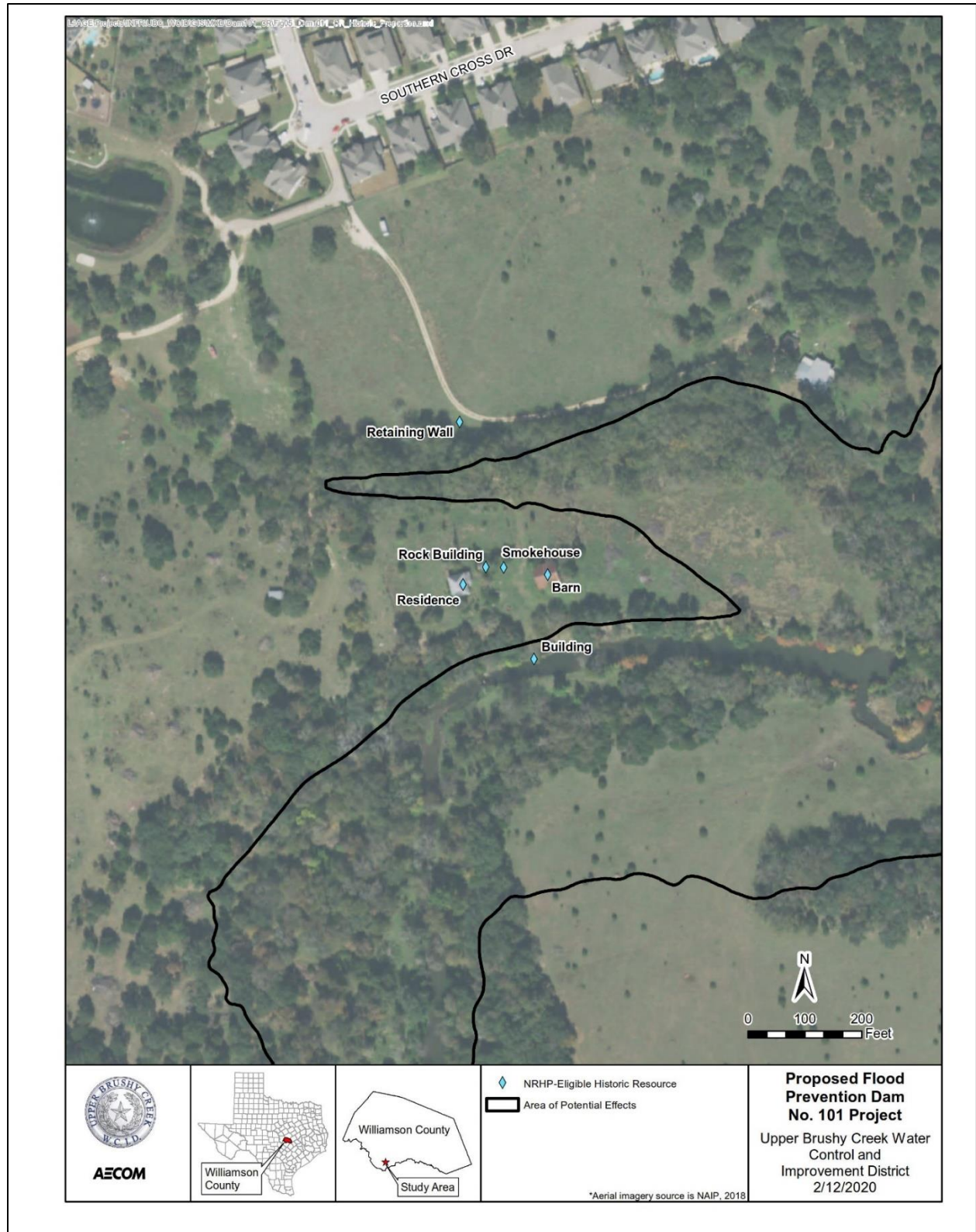


Figure 5. Aerial view of six historic farmstead resources

4 Methods

4.1 Antiquities Permit

Since the project falls within the purview of the Antiquities Code of Texas, a Texas Antiquities Permit application and research design were prepared and submitted to the THC prior to fieldwork. The THC approved the application and issued Antiquities Permit No. 8855 on April 8, 2019. Steve Ahr served as Principal Investigator. The objectives of the survey were to identify and inventory cultural resources sites within the APE, assess the potential of any resources for NRHP eligibility and/or SAL designation, assess the potential for the presence of significant cultural resources relative to previous disturbances and anticipated future impacts, and determine whether any additional archaeological studies were warranted. All work was supervised by AECOM cultural resources professionals meeting the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (Title 36 CFR Part 61).

4.2 Archaeological Survey Methods

AECOM performed an intensive archaeological survey of the APE in accordance with THC's Archeological Survey Standards for Texas, which require a shovel test intensity of one shovel test per every three acres for projects >101 – 200 acres. Thus, the total required number of survey shovel tests for the 189-acre project is 63, not including site delineation shovel tests. This shovel test density equates to a 100-m grid across the APE, which was established using Arc GIS software.

Components of the survey included pedestrian survey, stream cutbank inspection, shovel testing, artifact inventories, and site recording. All exposed ground surfaces were examined for evidence of archaeological resources. Shovel tests were excavated on the 100-m grid established for the project as well as judgmentally selected locations determined at the discretion of the lead field archaeologist. A total of 78 shovel tests were excavated (**Appendix A**). If a shovel test grid point was located on exposed bedrock, the shovel test was moved to a nearby location that had soils present. If no soils were present in the grid point vicinity, then the surrounding exposed ground surface was closely inspected for surface archaeological materials.

Each shovel test was excavated to the bottom of Holocene deposits, which generally terminated at shallow bedrock or other restrictive layer, such as a gravel zone or argillic horizon. In no cases were the soils found to extend to 100 centimeters (cm) below surface. Shovel tests were 30 cm in diameter and excavated soils were screened through ¼-inch hardware cloth, except where clayey soil conditions required troweling. Location, depth, soil strata, and presence/absence of cultural materials were recorded for each shovel test. All shovel tests were backfilled upon completion. No cultural materials were collected.

Archaeological site boundaries were delineated by shovel tests and/or the surficial extent of artifacts. In areas where buried deposits were suspected, shovel tests were dug to help define site boundaries and site depth, and to provide information on potential integrity of the cultural deposits. For this survey, a site was determined to be present when at least 5 or more artifacts were identified (with or without tools). Isolated Finds (IFs) were designated when a cultural resources locality contained fewer than four non-diagnostic artifacts, or fewer than one tool and three non-diagnostic artifacts. A handheld Trimble GeoXH 6000 GPS was used to record the boundaries of each newly identified site, as well as the location of all shovel tests and surface artifacts. For any new sites, a temporary field designation was assigned and a

TexSite form was completed and submitted to the Texas Archeological Research Laboratory (TARL) for permanent trinomial designation.

A geomorphic assessment of the project was performed by a qualified geoarchaeologist to determine the likelihood for the presence of deeply buried cultural materials and whether deep mechanical prospection (e.g., backhoe trenching) was necessary. This assessment was based on the soil-geomorphic setting, the nature of alluvial soils observed in natural stream cutbank exposures, and the estimated ages of soils and deposits within the APE.

4.3 Site Assessment

All newly discovered sites were assessed to determine if they could be eligible for listing in the NRHP, and whether they meet the criteria to merit official designation as a SAL. For an archaeological or historic resource to be considered eligible for listing in the NRHP, the resource must be evaluated by applying the NRHP criteria of eligibility presented in 36 CFR Part 60.4 (a-d), which states:

“...the quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, 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.”

To be considered eligible for the NRHP, a resource must satisfy at least one of the four criteria listed above (a through d), and it must retain one or more aspects of integrity, including location, design, setting, materials, workmanship, feeling, or association. The integrity that a resource must retain for NRHP eligibility is different for different kinds of resources. For example, for archaeological sites, integrity generally means that components of a site must be in their original depositional context, such that the stratigraphic relationships of site components are maintained.

The Antiquities Code of Texas allows for certain cultural resources to be designated and protected as a SAL. For a historic building to be eligible for designation as a SAL, it must be listed in the NRHP prior to being designated. The same prerequisite does not apply to archaeological sites. At the state level, under Title 13, Part 2, Chapter 26, Subchapter C, Rule 26.10 of the Texas Administrative Code, an archaeological site under the ownership or control of the State of Texas may merit official designation as a SAL if one of the following criteria applies:

1. The site has the potential to contribute to a better understanding of the prehistory and/or history of Texas by the addition of new and important information;
2. The site's archaeological deposits and the artifacts within the site are preserved and intact, thereby supporting the research potential or preservation interests of the site;
3. The site possesses unique or rare attributes concerning Texas prehistory and/or history;
4. The study of the site offers the opportunity to test theories and methods of preservation, thereby contributing to new scientific knowledge; and
5. There is a high likelihood that vandalism and relic collecting has occurred or could occur, and official landmark designation is needed to ensure maximum legal protection, or alternatively,

further investigations are needed to mitigate the effects of vandalism and relic collecting when the site cannot be protected.

4.4 Curation

No artifacts were collected during the survey. Pursuant to 13 TAC 26.17, correspondence, field records, and photographs generated during field investigations were prepared for permanent curation at TARL.

4.5 Historic Resources Methods

Fieldwork for historic resources consisted of a site visit conducted on January 23, 2020 by a Secretary of the Interior-qualified architectural historian. During the site visit, the condition, materials, alterations, and other features for evaluating significance and integrity of the historic resources were noted. All accessible identified historic resources were documented with digital photography and evaluated for NRHP eligibility. Due to lack of right-of-entry access, the six eligible resources recorded by TxDOT could not be viewed and evaluated from the public ROW.

5 Results

5.1 Overview

The APE consists of a relatively open and undulating grassland and oak mosaic centered on Lake Creek (**Figures 6 and 7**). Prior impacts to the APE appear to be minimal and surficial, and include two-track and paved access roads, as well as natural soil erosion. More significant impacts have resulted from the construction and maintenance of the earthen dam and auxiliary spillway for Dam No. 9, which is partially within the southern part of the APE (**Figure 8**). Previous impacts have also resulted from the construction of O'Connor Drive, which is intersected by the APE. Pedestrian survey and shovel testing revealed the APE is within dissected uplands exhibiting shallow and cobbly soils that formed in residuum weathered from the underlying Cretaceous limestone. Overall ground surface visibility was greater than 30 percent, with increased visibility in highly eroded areas.

Gravelly and cobbly soils were more common within shovel tests around Lake Creek. Inspection of cutbank profiles revealed lenses of poorly sorted and angular gravels (2-10 cm diameter), which are indicative of high-energy flood regime discharges following storm events. This is further evidenced by large bedload cobbles and gravels at the base of the stream channel (see **Figure 7**). Within the APE, Lake Creek has incised between 30 and 50 cm into the surrounding soils, which lie directly upon Cretaceous limestone bedrock (**Figure 9**).

During the survey, a total of 78 shovel tests was excavated within the portion of the APE on the east side of O'Connor Drive (**Figure 10**). Soil textures revealed in shovel tests ranged from silty clay loam to clay, which commonly contained calcium carbonate masses and nodules above weathered and unweathered bedrock. Gravelly horizons were also commonly encountered at shallow depths. The average depth of shovel tests before encountering these restrictive layers was 29 cm, at which point the shovel test was terminated. No right-of-entry could be obtained for the APE parcels on the west side of O'Connor Drive.



Figure 6. Overview of northern portion of APE, facing north



Figure 7. Overview of Lake Creek channel within APE, facing north



Figure 8. Overview of Dam No. 9 area, facing north



Figure 9. View of shallow floodplain soils bordering Lake Creek; note the poorly sorted gravels in profile

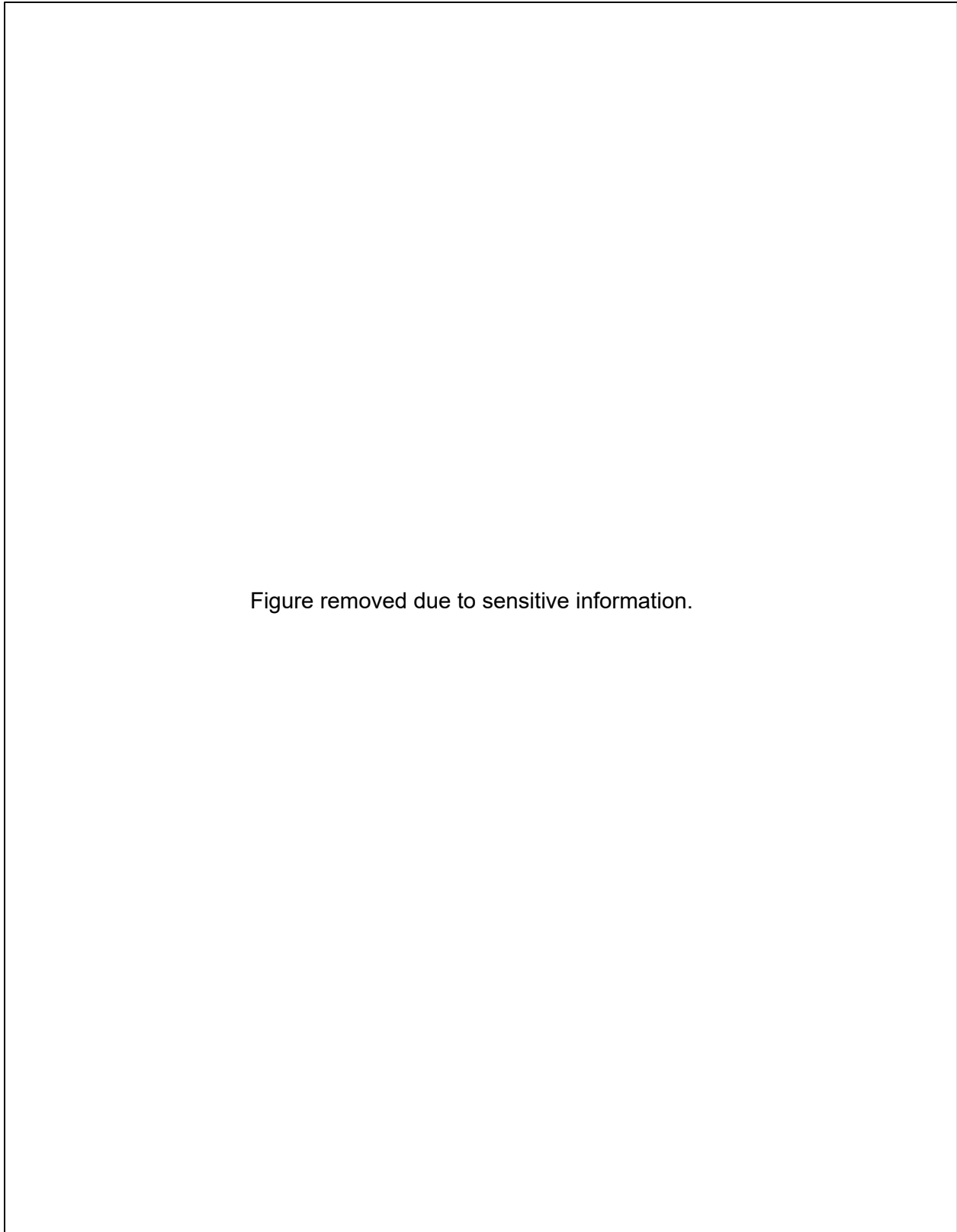


Figure 10. Location of shovel tests and cultural resources sites within Dam No. 101 APE

5.2 Archaeological Resources

No new sites were identified during the survey. The survey revisited four previously recorded archaeological sites, including 41WM748, 41WM750, 41WM1058, and 41WM1248. These sites are within, or are partially within, the portion of the APE on the east side of O'Connor Drive. Right-of-entry could not be obtained for the portion of the APE located on the west side of O'Connor Drive. Therefore, no survey of this area was possible and no site revisit to 41WM1057 could be conducted. In addition to the four site revisits, the survey resulted in the identification of two IFs, designated as IF-1 and IF-2.

5.2.1 41WM748

Site 41WM748 was originally recorded by the State Department of Highways and Public Transportation (SDHPT), now TxDOT, in 1987 during a survey of the Outer Parkway for SH 45. The site consists of a large prehistoric lithic procurement site measuring 600 m northeast-southwest by 300 m northwest-southeast, at an elevation of 790 ft amsl. Cultural materials previously recorded at the site included a surficial scatter of numerous flint nodules, cores, large flakes, and tested cobbles distributed upon an upland surface eroded down to limestone. A water tank and windmill were also noted on the western edge of the site. The site was revisited in 2002 by the Archaeological and Cultural Sciences Group (ACSG), which conducted a surface inspection and excavated one shovel test. Inspection of the historic features revealed a date of 1944 in the concrete windmill base. A scatter of chert nodules and tested cobbles was also noted. Due to the surficial nature of the deposits, shallow to non-existent soils, and a lack of diagnostics and isolable cultural components, the research value was assessed as very low.

AECOM revisited and reevaluated the portion of site 41WM748 within the APE in September 2019. Numerous limestone outcrops were observed across the site area, along with a general paucity of overstory vegetation (**Figure 11**). Short grasses are common across the entire site area, which exhibited approximately 50 percent ground surface visibility. Soils at the site consist of Georgetown stony clay loam, 1 to 3 percent slopes (NRCS 2020); they are very shallow to eroded. The shallow depth of the potential artifact-bearing soils was confirmed by the excavation of 11 shovel tests within the site, which averaged 31 cm in depth before encountering either bedrock or a restrictive argillic horizon.

Four of the 11 shovel tests were positive for cultural materials (**Table 4; Figure 12**). These shovel tests yielded a total of 30 pieces of shatter and 19 lithic flakes from the upper 27 cm of deposits. In addition, 20 debitage, 4 shatter, and one flake were observed on the surface of the site. No temporally diagnostic artifacts or features were found. Based on the shallow soils, the prevalence of exposed bedrock, and excellent ground surface visibility, the site boundaries for site 41WM748 were confirmed by the surficial extent of artifacts and shovel test results.

The artifacts identified during the current survey are consistent with the previous site descriptions, which characterize the site as a lithic procurement site containing a relatively dense scatter of lithic debris within an area of shallow/eroded soils and/or bedrock surfaces. The site has been impacted from erosion and natural weathering, and all the site components were found to be resting on limestone and eroded soil surfaces or within shallow (<30 cm) soils. As such, the potential for deeply buried and intact cultural materials is low. Due to this suite of factors, the site does not exhibit integrity. Furthermore, due to the absence of temporally diagnostic artifacts and features, the site is not likely to yield information important to prehistory. The site was determined by THC to be ineligible within the ROW in 2002 and 2010. Based on the current investigations, we recommend that 41WM748 is ineligible for listing in the NRHP and does not merit designation as a SAL. No further investigations are recommended at this site.



Figure 11. Overview of 41WM748, facing south

Table 4. Shovel tests excavated within site 41WM748

Shovel Test	Depth (cm)	Matrix Description	Cultural Materials
T4S1	24	0-24 cm: Brown (10YR 4/3) silty clay loam over bedrock	17 flakes 0-24 cm
T5S1	40	0-25 cm: Brown (10YR 4/3) silty clay loam 25-40 cm: Strong brown (7.5YR 5/8) clay over bedrock	13 shatter 0-25 cm
T6S1	27	0-27 cm: Brown (10YR 4/3) silty clay loam over bedrock	17 shatter and 1 flake 0-27 cm
T6S2	35	0-35 cm: Brown (10YR 4/3) silty clay loam over bedrock	None
T7S1	45	0-45 cm: Dark Brown (7.5YR 3/2) sandy clay loam over clayey argillic horizon	1 flake at 30 cm
T7S2	35	0-35 cm: Dark brown (7.5YR 3/2) sandy clay loam over clayey argillic horizon	None
T8S1	40	0-40 cm: Dark brown (7.5YR 3/2) sandy clay loam over clayey argillic horizon	None
J3	14	0-14 cm: Brown (10YR 4/3) clay loam over bedrock	None
J6	24	0-10 cm: Brown (10YR 4/3) clay loam 10-24 cm: Strong brown (7.5YR 5/8) clay over bedrock	None
J8	34	0-15 cm: Brown (10YR 4/3) clay loam 15-34 cm: Strong brown (7.5YR 5/8) clay over bedrock	None
J9	22	0-10 cm: Brown (10YR 4/3) clay loam 10-22 cm: Strong brown (7.5YR 5/8) clay over bedrock	None

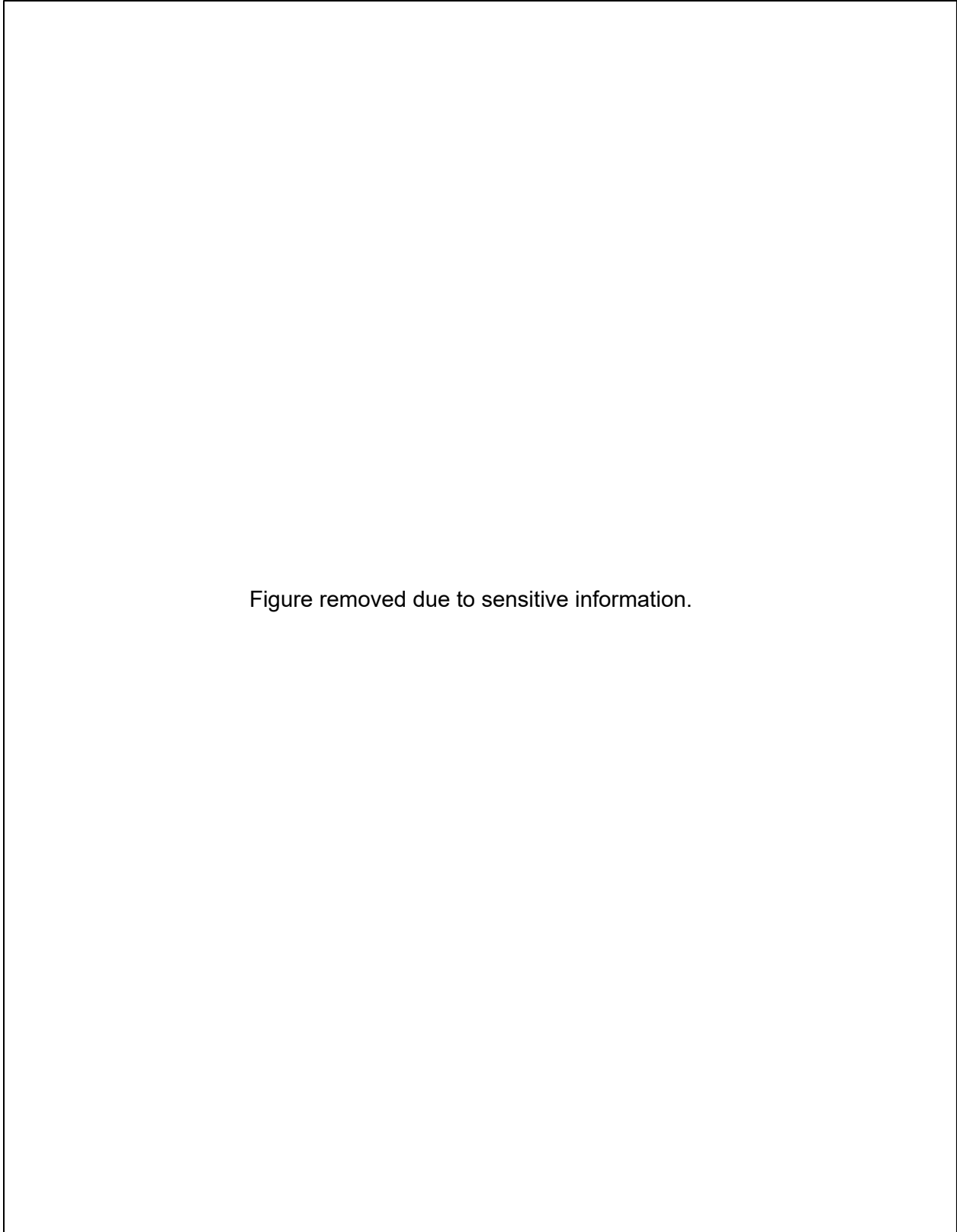


Figure 12. Site map of 41WM748

5.2.2 41WM750

Site 41WM750 was originally recorded by the SDHPT in 1987 during a survey of the Outer Parkway for SH 45. The site consists of a large prehistoric lithic procurement site measuring 800 m by 300 m at an elevation of 760 ft amsl. Cultural materials reported at the site included a surficial scatter of flint nodules eroding from bedrock, cores, quarry blanks, and large flakes distributed upon an upland surface largely eroded down to limestone bedrock. The site was revisited in 2002 by ACSG during a pedestrian survey. This inspection found a similar concentration of large lithic primary and secondary reduction flakes, tested chert nodules, and cores over a somewhat larger area. Due to the surficial nature of the deposits, shallow to non-existent soils, and a lack of diagnostics and isolable cultural components, the research value was assessed as very low.

AECOM revisited and reevaluated the portion of site 41WM750 within the APE in September 2019, which extends approximately 480 m north-south by 240 m east-west along the east bank of Lake Creek. Numerous limestone outcrops extend across the site area, which is moderately well-wooded with short grasses (**Figure 13**). Ground surface visibility is approximately 50 percent. Soils at the site are mapped as Georgetown stony clay loam, 1 to 3 percent slopes (NRCS 2020), and in most areas, these soils are very shallow or eroded. The shallow soils were confirmed by the excavation of 12 shovel tests within the site, which averaged 28 cm deep before encountering either bedrock or a restrictive argillic horizon.

Three of the 12 shovel tests were positive for cultural materials (**Table 5; Figure 14**). These shovel tests yielded a total of six lithic flakes and one piece of animal bone. In addition, 40 chert flakes, one biface, and one partial utilized flake were observed on the surface of the site, at the northern end and slightly north of the current site boundary (**Figures 15 and 16**). No temporally diagnostic artifacts or features were found. Based on the current survey results revealed by surface finds and shovel tests, the site boundaries for site 41WM750 should be extended approximately 140 m to the north.

The artifacts identified during the current survey are consistent with the previous site descriptions, which characterize the site as a lithic procurement site containing a surface scatter of lithic debris within an area of shallow/eroded soils and/or bedrock surfaces. The site has been impacted from erosion and natural weathering, and all the site components were found to be resting on limestone and eroded soil surfaces, or within shallow (<30 cm) soils. As such, the potential for deeply buried and intact cultural materials is low. Due to this suite of factors, the site does not exhibit integrity. Furthermore, due to the absence of temporally diagnostic artifacts and features, the site is not likely to yield information important to prehistory. The site was determined by THC to be ineligible within the ROW in 2002. Based on the current investigations, we recommend that 41WM750 is ineligible for listing in the NRHP and does not merit designation as a SAL. No further investigations are recommended at this site.



Figure 13. Overview of 41WM750, facing south

Table 5. Shovel tests excavated within site 41WM750

Shovel Test	Depth (cm)	Matrix Description	Cultural Materials
T7S6	33	0-18 cm: Dark reddish brown (5YR 2.5/2) clay loam 18-33 cm: Reddish brown (2.5YR 4/4) clay loam over clayey argillic horizon	None
T7S7	24	0-24 cm: Dark reddish brown (5YR 2.5/2) clay loam over bedrock	None
T8S6	23	0-23 cm: Dark reddish brown (5YR 2.5/2) clay loam over weathered bedrock and roots	None
T8S7	27	0-27 cm: Dark reddish brown (5YR 2.5/2) clay loam over bedrock	None
T9S6	20	0-20 cm: Dark reddish brown (5YR 2.5/2) clay loam over bedrock	None
T9S7	28	0-16 cm: Dark reddish brown (5YR 2.5/2) clay loam 16-28 cm: Reddish brown (2.5YR 4/4) clay loam over bedrock	None
T10S7	17	0-17 cm: Brown (10YR 4/3) clay loam over bedrock	3 flakes 0-17 cm
T10S8	40	0-40 cm: Brown (10YR 4/3) clay loam over bedrock	2 flakes 0-40 cm
J13	29	0-12 cm: Brown (10YR 4/3) clay loam 12-29 cm: Strong brown (7.5YR 5/8) clay over bedrock	None
J16	25	0-10 cm: Brown (10YR 4/3) clay loam 10-25 cm: Strong brown (7.5YR 5/8) clay over bedrock	None
J18	27	0-8 cm: Brown (10YR 4/3) clay loam 8-27 cm: Strong brown (7.5YR 5/8) clay over root zone	None
J4	50	0-50 cm: Black (7.5YR 2.5/1) sandy loam over clayey argillic horizon	1 animal bone and 1 flake, 30-50 cm

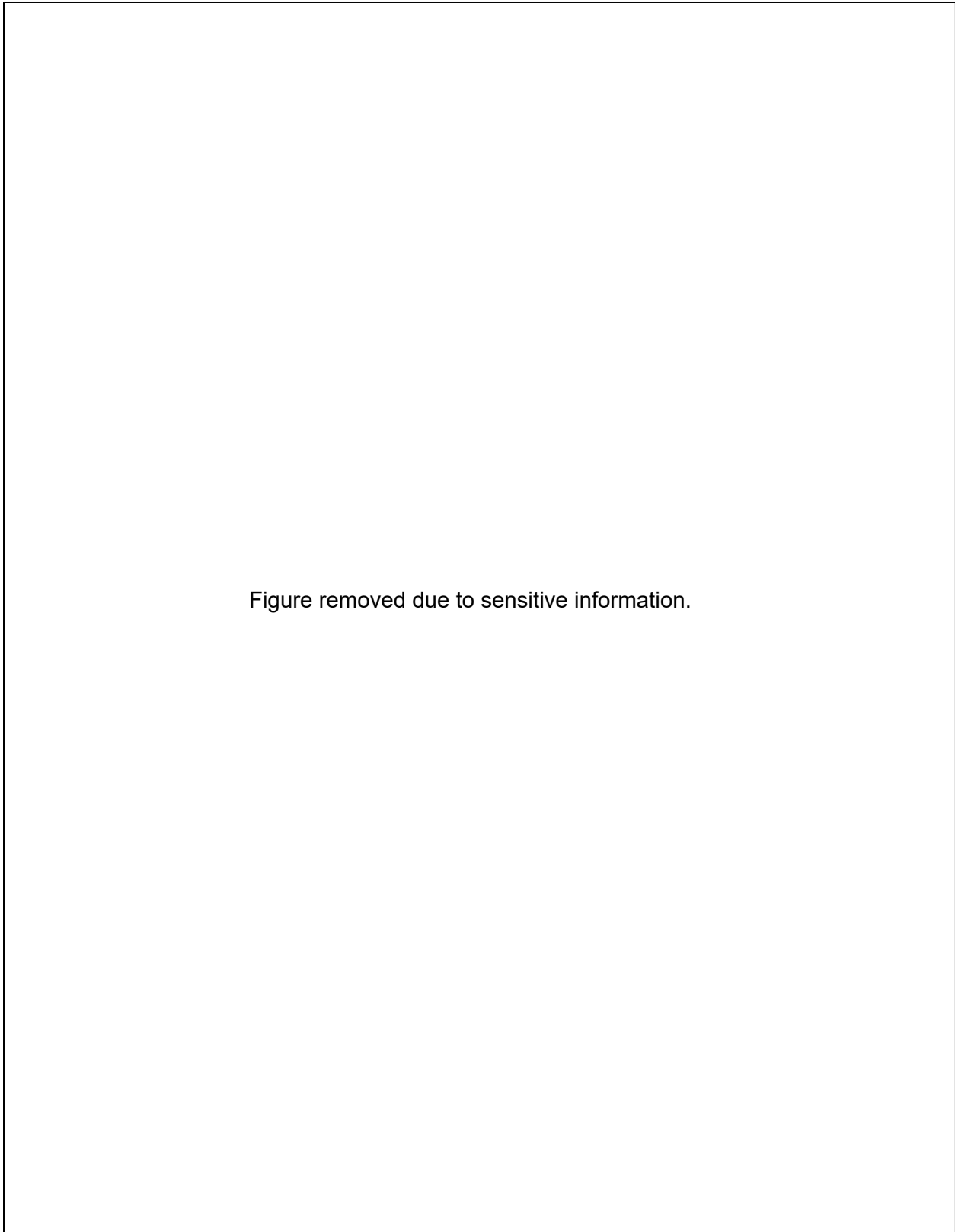


Figure 14. Site map of 41WM750

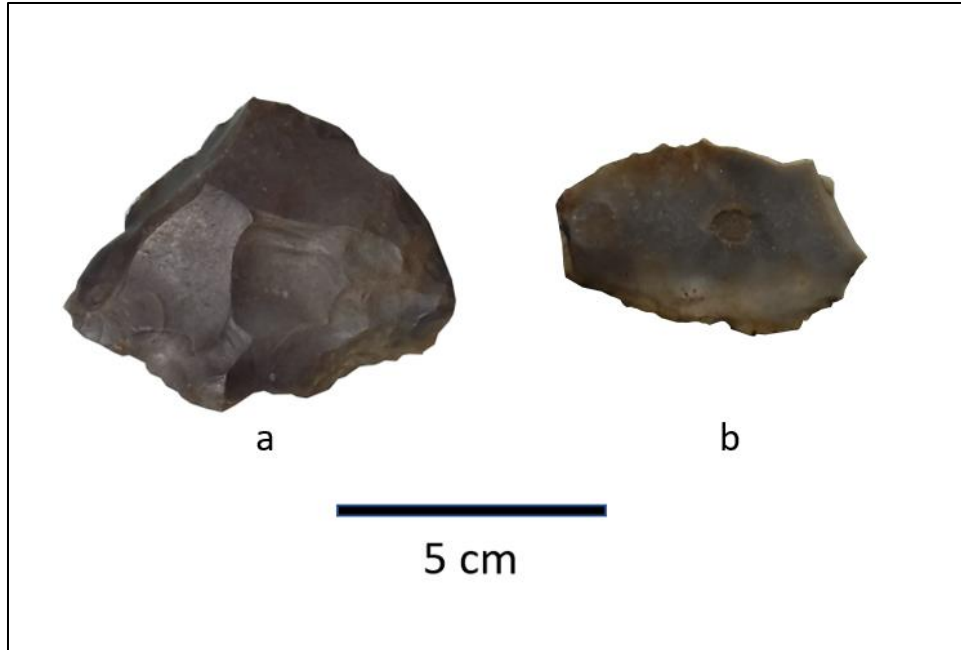


Figure 15. Lithic tools observed at 41WM750: a) biface fragment; b) utilized flake



Figure 16. Selected chert flakes observed at 41WM750.

5.2.3 41WM1058

Site 41WM1058 is a surficial prehistoric lithic procurement area that was recorded in 2002 as part of the Wyoming Springs Improvement Project conducted by ACSG. The site is 85 m north of Lake Creek and measured 50 x 50 m at an elevation of 780 ft amsl. Cultural materials previously reported at the site included a surficial scatter of fractured chert nodules resting on an eroded surface of outcropping

bedrock. Debitage, cores, and tested cobbles were found distributed upon an upland surface largely eroded down to limestone. The site was revisited in 2010 by SWCA during a survey for the O'Connor Drive Expansion Project for TxDOT. The site revisit resulted in the identification of fractured chert, some of which was fire-damaged, along with tested cobbles/cores, and three primary and secondary flakes. Shovel tests revealed shallow to eroded soils, with one flake recovered from 2 centimeters below surface (cmbs). Both site assessments reported that the site is surficial and has been disturbed by land clearing.

AECOM attempted to relocate site 41WM1058 in September 2019 during the survey. Despite intensive ground surface inspection and the excavation of shovel tests, no artifactual evidence of the site could be found. Numerous limestone outcrops are present across the site area; the site is moderately well-wooded and contains short grasses and exhibits greater than 50 percent ground surface visibility (**Figure 17**). Soils are mapped as Georgetown stony clay loam, 1 to 3 percent slopes (NRCS 2020), and in most areas, are very shallow or non-existent. The shallow depth of the potential artifact-bearing soils was confirmed by the excavation of two shovel tests in the recorded boundaries of the site, which terminated at bedrock at 10 and 22 cmbs (**Figure 18**). None were positive for cultural materials; no temporally diagnostic artifacts or features were found.

The site area has been impacted from erosion and natural weathering, with outcropping bedrock and eroded soils that extend only to 22 cmbs. The potential for deeply buried and intact cultural materials is low. Due to these factors, the site does not exhibit integrity. Furthermore, due to the absence of any observable artifacts and features related to this site, the site is not likely to yield information important to prehistory. Site 41WM1058 was determined by THC to be ineligible within the ROW in 2002 and 2010, and determined ineligible in 2004. Based on the current investigations, we recommend that 41WM1058 is ineligible for listing in the NRHP and does not merit designation as a SAL. No further investigations are recommended at this site.



Figure 17. Overview of site 41WM1058, facing southeast

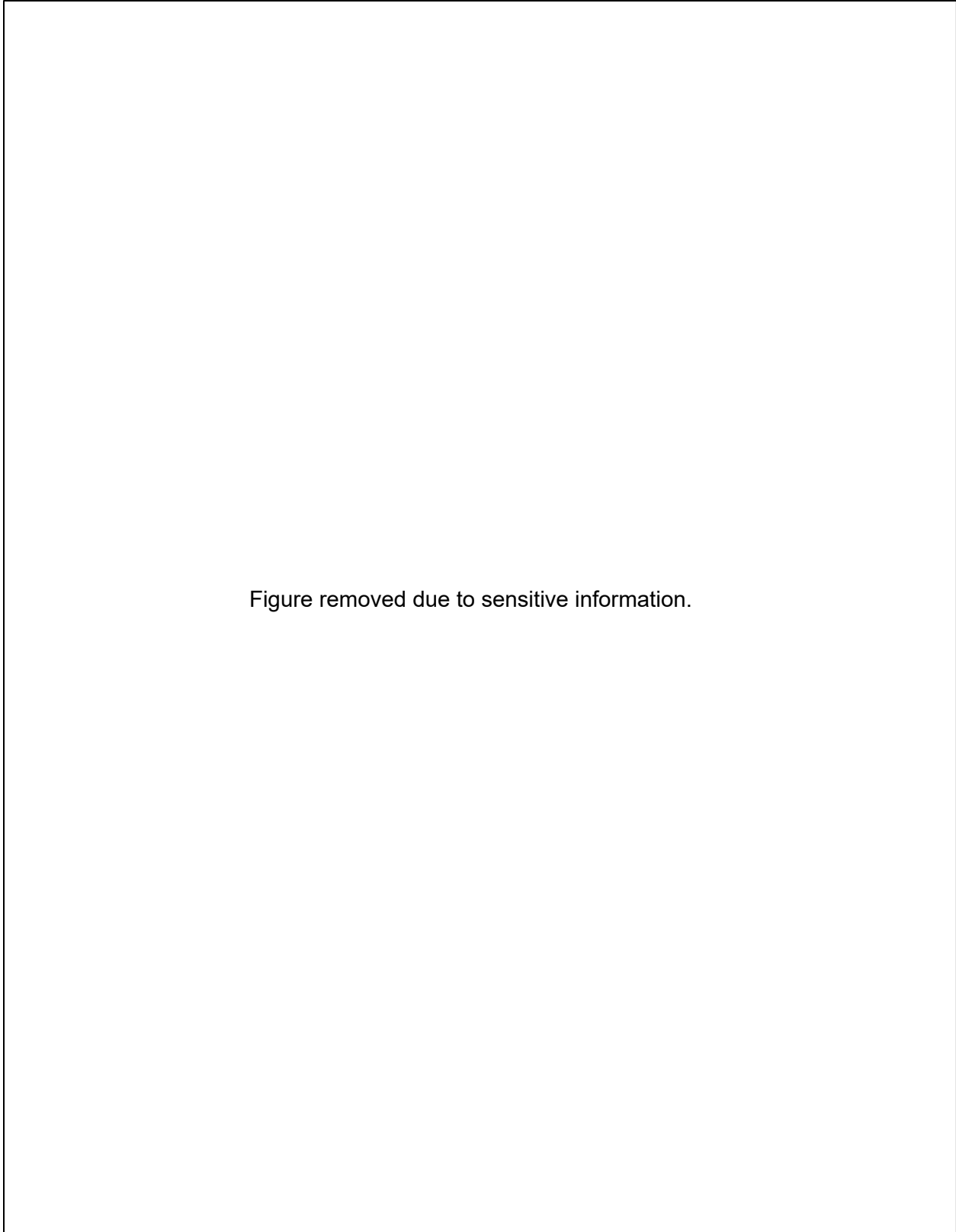


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Figure 18. Site map of 41WM1058

5.2.4 41WM1248

Site 41WM1248 was originally recorded in 2010 by SWCA as part of TxDOT's O'Connor Drive Expansion Project. The site consists of a large prehistoric lithic procurement site containing a scatter of fractured chert within natural chert outcrops; many of the chert appeared to be culturally modified, as well as damaged from machine clearing. The site dimensions were originally measured to be 500 m north-south by 60 m east-west, at an elevation of 700 ft amsl. Cultural materials reported at the site included a surficial scatter of tested cobbles, cores, bifaces, an untyped point, and over 200 pieces of debitage. Previous impacts to the site included mechanical land clearing, cattle grazing, and erosion. Due to the lack of stratified deposits, diagnostic artifacts, and features, no further work was recommended at the site.

AECOM revisited site 41WM1248 in January 2019, which extends approximately 350 m north-south and 65 m east-west within the APE. The embankment for the existing Dam No. 9 is located 150 m east of the site, and the northwest corner of the Dam No. 9 auxiliary spillway intersects the site boundary. During the survey, a corral was identified on a narrow strip of land between the O'Connor Drive ROW and the auxiliary spillway. This corral (designated as **Resource 002**) was assessed by an architectural historian on January 23, 2020. The results of this assessment are presented in **Section 5.5** below.

Site 41WM1248 is open and contains short grasses across the site area. Bare ground areas are extensive, and the area exhibits approximately 50 percent ground surface visibility (**Figure 19**). Soils at the site are mapped as Georgetown stony clay loam, 1 to 3 percent slopes (NRCS 2020), and in most areas, are very shallow or non-existent. The shallow depth of the potential artifact-bearing soils was confirmed by the excavation of nine shovel tests within or immediately adjacent to the site. These shovel tests averaged 27 cm in depth before encountering either bedrock or a restrictive argillic horizon. Two of the nine shovel tests were excavated to the east of the corral and were both positive for cultural materials and yielded a total of three chert flakes/debitage (**Table 6; Figure 20**). Because these materials were recovered from two shovel tests that were excavated within the disturbed/graded auxiliary spillway, it is questionable whether the flaked chert materials are prehistoric in origin (**Figure 21**). Given their provenance it is quite possible that they are pieces of chert that were mechanically fractured during construction of the Dam No. 9 spillway. None of the other shovel tests were positive for cultural materials. Furthermore, no additional surface finds were observed at this site.

No temporally diagnostic artifacts were found. The site has been impacted from erosion and natural weathering, and all the site components were found to be resting on limestone and eroded soils surfaces, or within shallow (<30 cm) soils. As such, the potential for deeply buried and intact cultural materials is low. Due to this suite of factors, the site does not exhibit integrity. Furthermore, due to the absence of temporally diagnostic artifacts or features, the site is not likely to yield information important to prehistory. Site 41WM1248 was determined by THC to be ineligible within the ROW in 2010. Based on the current investigations, we recommend that 41WM1248 is ineligible for listing in the NRHP and does not merit designation as a SAL. No further investigations are recommended at this site.



Figure 19. Overview of 41WM1248, facing north

Table 6. Shovel tests excavated within site 41WM1248

Shovel Test	Depth (cm)	Matrix Description	Cultural Materials
T11S1	10	0-10 cm: Brown (10YR 4/3) clay loam over bedrock; disturbed	None
T11S2	25	0-25 cm: Very dark grayish brown (10YR 3/2) clay loam over bedrock; disturbed	None
T12S2	30	0-30 cm: Grayish brown (10YR 5/2) clay loam over bedrock; disturbed area from spillway	None
T13S1	30	0-30 cm: Black (7.5YR 2.5/1) clay loam over bedrock; disturbed area from spillway	1 chert thinning flake 0-30 cm
T13S2	27	0-27 cm: Black (7.5YR 2.5/1) clay loam over bedrock; disturbed area from spillway	2 chert fragments, 20-27 cm
T14S1	40	0-40 cm: Very dark brown (10YR 2/1) clay loam over weathered bedrock; disturbed	None
J17	34	0-18 cm: Brown (10YR 4/3) clay loam 18-34 cm: Strong brown (7.5YR 5/8) clay over bedrock; disturbed area from spillway	None
J14	20	0-8 cm: Brown (10YR 4/3) clay loam 8-20 cm: Strong brown (7.5YR 5/8) clay over clayey argillic horizon; disturbed area from spillway	None
J19	30	0-30 cm: Very dark brown (10YR 2/1) clay loam over gravels; disturbed	None

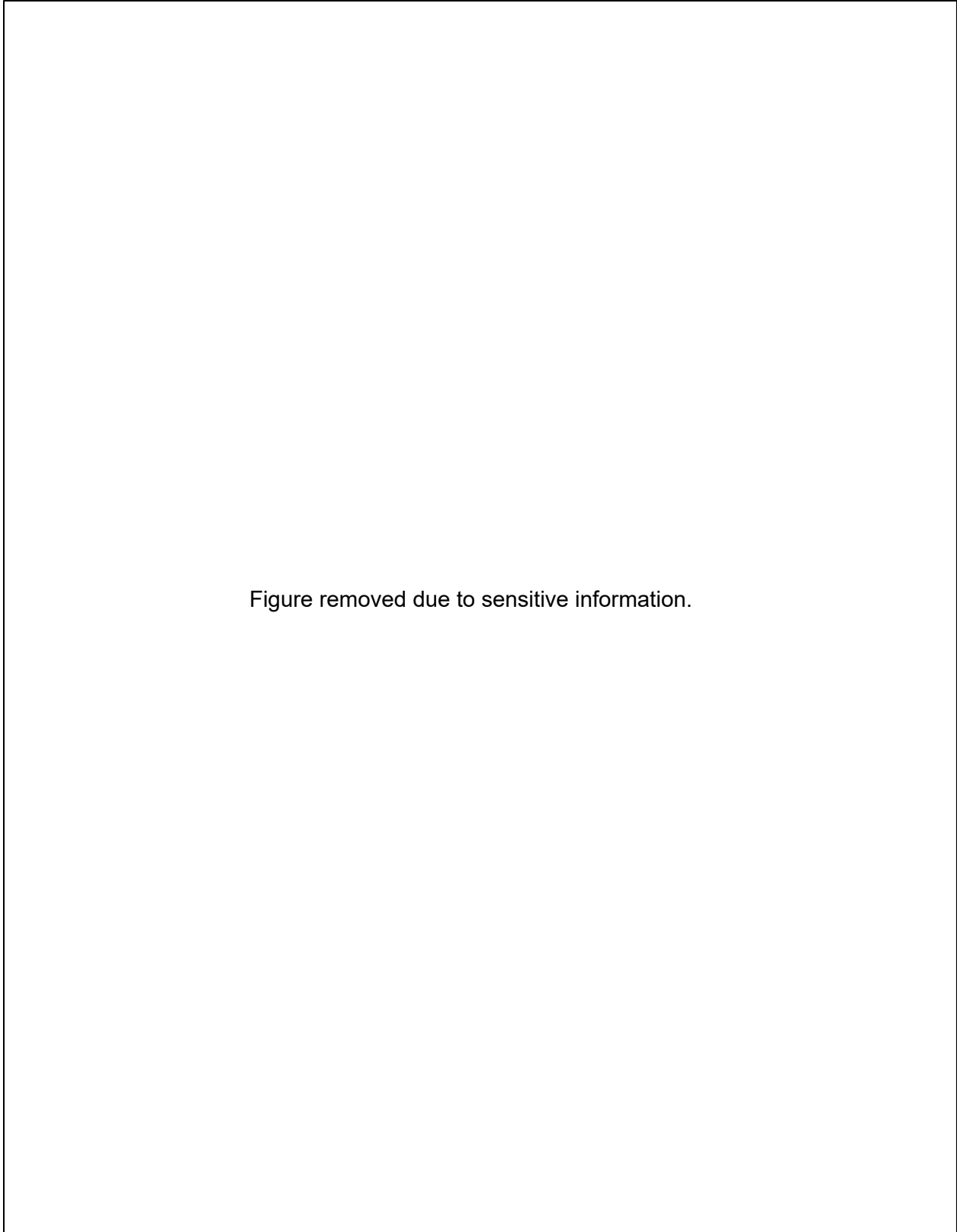


Figure removed due to sensitive information.

Figure 20. Site map of 41WM1248



Figure 21. Potential debitage observed in shovel tests within Dam 9 spillway east of 41WM1248.

5.2.5 Isolated Finds

Two IFs (IF-1 and IF-2) were identified during the survey (see **Figure 10**). The IFs were designated when an identified cultural resource locality contained fewer than four non-diagnostic artifacts, or fewer than one tool and three non-diagnostic artifacts. IF-1 is located 60 m north of Lake Creek and midway between shovel tests T9S2 and T9S3 on an eroded ground surface of exposed limestone and consist of a single chert biface that measures 7 x 6 cm. No other cultural materials were observed in the area. IF-2 is located near Shovel Test T12S6 and within the impoundment area behind Dam No. 9. This find also consists of a single isolated biface that measures 8 x 3.5 cm (**Figure 22**). It was observed in a disturbed setting within an area of eroded soils; no other cultural materials were observed. Due to the isolated occurrences of these cultural materials and the lack of integrity context, IFs do not meet NRHP eligibility requirements nor do they merit designation as SALs. No further investigations are recommended for these IFs.

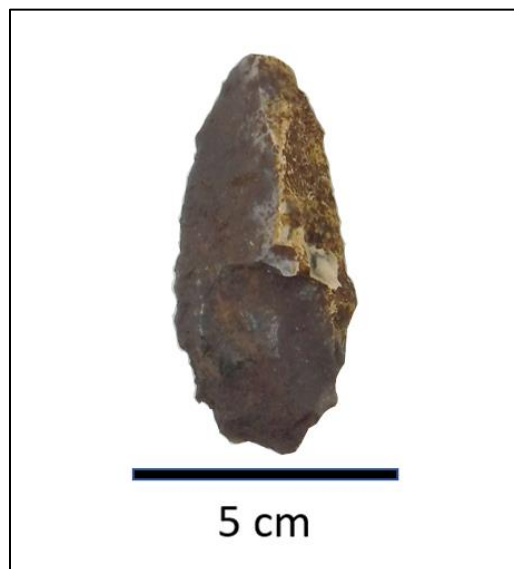


Figure 22. Isolated biface from IF-2.

5.3 APE West of O'Connor Drive

Right-of-entry could not be obtained for the portion of the APE on the west side of O'Connor Drive; therefore, no survey could be conducted. No construction will take place in the APE west of O'Connor Drive. This area is significantly narrower in terms of inundation potential, and in most places the proposed flood pool (e.g., 100-year storm level) is equal to the existing 100-year floodplain. Consequently, no significant hydrological changes would occur as a result of the Dam 101 construction.

One archaeological site (41WM1057) and one NRHP-eligible structure (ca. 1950 Agricultural Building) are located within the APE. In 2004, the THC determined site 41WM1057 to be ineligible. Neither resource could be investigated due to a lack of right-of-entry. However, since construction of Dam No. 101 would not cause changes to the hydrology in this area, there should be no impacts to these sites due to the current project.

In some areas of the western APE, where the proposed flood pool slightly exceeds the 100-year floodplain, inundation of elevated surfaces during large but infrequent storms could occur due to the hydrological conditions resulting from the construction of Dam No. 101. Current engineering models indicate that the inundation period would be of relatively short duration (typically less than 24 hours), and as such, any potential impacts to sites in this area are not likely to be adverse. No previously recorded archaeological sites or historic resources are located within the zone between the 100-year floodplain and the proposed flood pool.

5.4 Geomorphic Assessment

Field investigations included an assessment of the soils and geomorphic setting of the APE to evaluate archaeological integrity potential, previous impacts, and anticipated project disturbances. The APE is comprised of sloping uplands, interfluves, side slopes on upland ridges, and dissected upland plains that border Lake Creek. The soils on these landforms formed in residuum weathered from the underlying Cretaceous limestone, and tend to be thin to eroded (e.g., <30 cm deep). This was confirmed by numerous shovel tests and creek bank inspections throughout the APE, which revealed relatively shallow pockets of soils interspersed with outcropping and weathered bedrock exposures. Shovel test data are consistent with the NRCS series descriptions, which include descriptions of strong, calcareous, brown, dark brown, very dark gray, and black clays and clay loams abruptly overlying residuum at depths that do not exceed 30 cmbs. Inspection of Lake Creek banks revealed shallow, gravelly alluvial soils confined to a relatively narrow flood surface. Large bedload cobbles and gravels within the channel bottom, along with very poorly sorted and angular gravel deposits within the creek bank deposits, typify the drainageway. Given the residual nature and ancient age of the APE soils, the absence of deep alluvial deposits, and the high-energy flood discharge regime that is indicated by the creek bank soils, the APE exhibits no potential to contain deeply buried and intact archaeological materials. It is therefore recommended that no backhoe trenching is warranted for this project.

Soil within the APE west of O'Connor Drive are mapped as Georgetown stony clay loam, 1 to 3 percent slopes, and are very shallow and/or eroded down to bedrock. As such, the burial and preservation potential of any archaeological deposits would be limited to the zone of modern ranching impacts and natural site formation processes. It is therefore unlikely that any archaeological sites in the inaccessible areas of the project would exhibit the integrity necessary to be eligible for the NRHP or to merit designation as a SAL. As such, no archaeological survey of the APE west of O'Connor Drive is recommended.

5.5 Historic Resources

5.5.1 Resource 001

Resource 001 is Dam No. 9, located on Rattan Creek. Dam No. 9 is an earthen dam constructed in an 'L' shape and is approximately three-quarters of a mile long. The dam is 40 feet high and holds 40 acres at low level and 187 acres when full, at maximum flood stage (**Figures 23 - 25**). Construction of Dam No.9 was completed in 1960. It is one of 46 dams constructed for Brushy Creek WCID No. 1 by the Soil Conservation Service beginning in the mid-1950s.

Deed research shows the land was owned by members of the Robinson family by 1954 (WCC 1954: DB 394:155). The Robinson family are the owners of the Austin White Lime Company, a large lime quarry in Williamson County, and still own the property on which Dam No. 9 is located.

Dam No. 9 and the inundation lake are on land parcels that are part of the original 370-acre Malcom M. Hornsby survey (GLO 2020b: 1841 Abstract 281, Patent 69, Volume 1) and part of the original 4,428-acre Jacob M. Harrell survey (GLO 2020c: 1841 Abstract 284, Patent 106, Volume 1). The dam and lake intersect Williamson County land parcels R055505 and R327614. Parcel R055505 consists of 79.075 acres and is out of the Hornsby land grant and Parcel R327614 consists of 86.778 acres out of the Harrell land grant (WCAD 2020).

Deed research shows that the land on which Dam No. 9 and the lake are situated is currently owned by the Robinson Land Limited Partners et al. and consists of numerous members of the Robinson family (WCC 1992: DB 2512:468). The land that includes Dam No. 9 and the lake first came into the possession of the Robinson family in 1954 when A. Capps and wife Maggie Capps sold a 687.76-acre tract to George E. Robinson and Alfred H. Robinson (WCC 1954: DB 394:155). Dam No. 9 and the inundation lake have been under ownership of members of the Robinson Family since its completion in 1959. It is located on private property and is not accessible to the public.

Dam No. 9 does not appear to have been altered, and the surrounding landscape has remained undeveloped. Therefore, this resource has retained integrity of location, design, setting, materials, workmanship, feeling, and association. Although the resource retains integrity, its association with flood control development in the Brushy Creek Watershed is not sufficient for NRHP-listing as there are many examples of this type of resource in Williamson County that have a similar historical context. The resource is not associated with a pattern of development in Williamson County as there was not a significant growth in population until the 1980s. As such, the resource fails to illustrate any known association with significant historical events or a significant pattern of development in Williamson County, and does not qualify for NRHP eligibility under Criterion A. The resource is also not associated with significant persons in history and lacks engineering design merit to qualify for NRHP eligibility under Criteria B or C. Furthermore, the resource is not likely to yield information important to history or prehistory, and does not qualify for NRHP eligibility under Criterion D. Therefore, Resource 001 (Dam No. 9) is recommended as not eligible for listing in the NRHP.



Figure 23. Historic photo, looking southeast, showing Dam No. 9 under construction (Taylor Daily Press 9 March 1959)



Figure 24. View from top of Dam No. 9, facing west



Figure 25. View of Dam No. 9 and inundation lake, facing north

5.5.2 Resource 002

Resource 002 is an animal corral constructed ca.1963. The structure is located immediately east of O'Connor Drive about 250 ft south of Lake Creek. The corral has a square plan and is divided into four fenced sections of equal size. Materials used to create the structure include a mix of wood posts, wood planks, and metal (**Figures 26 - 28**).

Archival research found the structure is situated on a portion of the original 370-acre Malcolm M. Hornsby Survey granted by the Republic of Texas in 1841(GLO 2020b). It is located on parcel number 055505 and is currently owned by the Robinson family as Robinson Land Limited Partners et al. (WCAD 2020). Research shows the Robinson family has owned the property since prior to 1964 and therefore the corral was constructed while under their ownership.

The corral first appears on the 1964 aerial photograph as consisting of two compartments. The structure was divided into four compartments between 1981 and 1985. The physical condition of the corral is poor and some of the materials used in the construction of the corral appear to be non-historic age. The corral is overgrown with vegetation; no livestock was observed in the area during the field visit. Due to the use of modern replacement materials, the resource lacks integrity of design, materials, and workmanship, but retains integrity of location, setting, feeling and association.

Although the resource retains some integrity, its association with ranching is not sufficient for NRHP-listing as there are many examples of this type of resource in Williamson County with similar historical context. As such, the resource fails to illustrate any known association with significant historical events or a significant pattern of development in Williamson County, and does not qualify for NRHP eligibility under Criterion A. The resource is also not associated with significant persons in history and lacks engineering design merit to qualify for NRHP eligibility under Criteria B or C. Furthermore, the resource is not likely to yield information important to history or prehistory, and does not qualify for NRHP eligibility under Criterion D. Therefore, Resource 002 is recommended not eligible for listing in the NRHP.



Figure 26. View of Resource 002, facing north



Figure 27. View of Resource 002 showing various construction materials, facing east



Figure 28. Aerial view of Resource 002 (Google Earth 2020)

6 Summary and Recommendations

From September 16 – 20, 2019, AECOM conducted an archaeological survey within a 189-acre project area for the proposed Dam No. 101. The objectives were to inventory any archaeological and historic resources within the APE and to evaluate their eligibility for inclusion in the NRHP and for designation as SALs. All work was performed under Texas Antiquities Permit No. 8855 in accordance with THC's Archeological Survey Standards for Texas. The survey included pedestrian survey, cutbank inspection, shovel testing, artifact inventories, and site recording.

No new archaeological sites were identified during the survey. However, the survey revisited four previously recorded archaeological sites, including 41WM748, 41WM750, 41WM1058, and 41WM1248. These sites are within, or are partially within, the portion of the APE located east of O'Connor Drive. Each of these sites has been impacted by erosion and natural weathering, and all the site components were found to be resting on either limestone and eroded soils surfaces, or within shallow (<30 cm) soils. Due to these factors, the sites do not exhibit integrity. Due to the absence of temporally diagnostic artifacts and features, these sites are not likely to yield information important to prehistory. Based on the current investigations, we recommend that sites 41WM748, 41WM750, 41WM1058, and 41WM1248 are ineligible for listing in the NRHP and do not merit designation as SALs. In addition, the two prehistoric isolated finds (IF-1 and IF-2) identified during the survey are recommended as ineligible for NRHP listing and SAL designation. Finally, two historic-age resources, including Dam No. 9 (Resource 001) and a corral (Resource 002), were recorded during the survey and evaluated by an architectural historian. Both resources were assessed as failing to meet NRHP criteria of eligibility, and they are recommended as ineligible for listing in the NRHP.

Right-of-entry could not be obtained for the portion of the APE on the west side of O'Connor Drive, which contains one previously recorded archaeological site (41WM1057), and one NRHP-eligible structure (ca. 1950 Agricultural Building). In 2004, the THC determined site 41WM1057 to be ineligible. Based on the current plans, no construction will take place in the APE west of O'Connor Drive. Since no significant hydrological changes would occur in this area as a result of Dam 101 construction, no impacts to these sites are anticipated and no archaeological survey is currently warranted.

A field geomorphic assessment revealed that the APE contains thin and eroded soils that formed in residuum weathered from limestone. Given the ancient age of the APE soils and the absence of deep alluvial deposits, the APE does not exhibit the pedologic and geomorphic conditions necessary for the deep burial and preservation of cultural deposits. It is therefore unlikely that any archaeological sites in these areas would exhibit the integrity necessary to be considered eligible for the NRHP or to merit SAL designation. No backhoe trenching is recommended for this project.

Based on the results of the survey, the proposed project should have No Effect on historic properties or SALs. AECOM recommends that construction can proceed without further cultural resources investigations. However, should the dimensions of the project area change, additional archaeological and historical investigations may be warranted. If any unmarked prehistoric or historic human remains or burials are encountered at any point during the project, the area of the remains is considered a cemetery under current Texas law and all construction activities must cease immediately to avoid impacting the remains. The THC must be notified immediately by contacting the Archeology Division at (512) 463-6096. All cemeteries are protected under State law and cannot be disturbed. Further protection is provided in Section 28.03(f) of the Texas Penal Code, which provides that intentional damage or destruction inflicted on a human burial site is a state jail felony.

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APPENDIX A: SHOVEL TEST DATA

Shovel Test	Depth (cm)	Matrix Description	Site No.	Cultural Materials
T1S1	23	0-23 cm: Brown (10YR 4/3) silty clay loam over bedrock; disturbed	41WM1248	None
T2S1	24	0-24 cm: Brown (10YR 4/3) silty clay loam over bedrock		None
T2S2	20	0-20 cm: Brown (10YR 4/3) silty clay loam over bedrock		None
T3S1	32	0-15 cm: Brown (10YR 4/3) clay loam; 15-32 cm: Strong brown (7.5YR 5/8) gravelly clay over weathered bedrock		None
T3S2	6	0-6 cm: Brown (10YR 4/3) silty clay loam over bedrock		None
T4S1	24	0-24 cm: Brown (10YR 4/3) silty clay loam over bedrock	41WM748	17 flakes 0-24 cm; 20 debitage on surface within 10 m
T4S2	32	0-32 cm: Brown (10YR 4/3) silty clay loam over bedrock		None
T4S3	44	0-44 cm: Brown (10YR 4/3) silty clay loam over bedrock		None
T5S1	40	0-25 cm: Brown (10YR 4/3) silty clay loam 25-40 cm: Strong brown (7.5YR 5/8) clay over bedrock	41WM748	13 shatter 0-25 cm; 4 shatter and 1 flake on surface within 10 m
T5S2	20	0-20 cm: Brown (10YR 4/3) silty clay loam over bedrock		None
T5S3	26	0-26 cm: Brown (10YR 4/3) silty clay loam over bedrock		None
T6S1	27	0-27 cm: Brown (10YR 4/3) silty clay loam over bedrock	41WM748	17 shatter and 1 flake 0-27 cm
T6S2	35	0-35 cm: Brown (10YR 4/3) silty clay loam over bedrock	41WM748	None
T6S3	23	0-23 cm: Brown (10YR 4/3) silty clay loam over bedrock		None
T6S4	33	0-33 cm: Brown (10YR 4/3) silty clay loam over bedrock		None
T7S1	45	0-45 cm: Dark Brown (7.5YR 3/2) sandy clay loam over clayey argillic horizon	41WM748	1 flake at 30 cm
T7S2	35	0-35 cm: Dark brown (7.5YR 3/2) sandy clay loam over clayey argillic horizon	41WM748	None

Shovel Test	Depth (cm)	Matrix Description	Site No.	Cultural Materials
T7S3	35	0-35 cm: Dark brown (7.5YR 3/2) sandy clay loam over bedrock		None
T7S4	32	0-32 cm: Dark brown (7.5YR 3/2) sandy clay loam over bedrock		None
T7S5	18	0-18 cm: Black (7.5YR 2.5/1) sandy loam over bedrock		None
T7S6	33	0-18 cm: Dark reddish brown (5YR 2.5/2) clay loam 18-33 cm: Reddish brown (2.5YR 4/4) clay loam over clayey argillic horizon	41WM750	None
T7S7	24	0-24 cm: Dark reddish brown (5YR 2.5/2) clay loam over bedrock	41WM750	None
T8S1	40	0-40 cm: Dark brown (7.5YR 3/2) sandy clay loam over clayey argillic horizon	41WM748	None
T8S2	26	0-26 cm: Dark brown (7.5YR 3/2) sandy clay loam over weathered bedrock		None
T8S3	30	0-30 cm: Dark brown (7.5YR 3/2) sandy clay loam over weathered bedrock		None
T8S4	40	0-40 cm: Dark brown (7.5YR 3/2) sandy clay loam over weathered bedrock		None
T8S5	55	0-55 cm: Black (7.5YR 2.5/1) sandy loam over weathered bedrock and roots		None
T8S6	23	0-23 cm: Dark reddish brown (5YR 2.5/2) clay loam over weathered bedrock and roots	41WM750	None
T8S7	27	0-27 cm: Dark reddish brown (5YR 2.5/2) clay loam over bedrock	41WM750	None
T9S1	10	0-10 cm: Very dark gray (5YR 3/1) clay loam over bedrock		None
T9S2	33	0-33 cm: Very dark gray (5YR 3/1) clay loam over bedrock		None
T9S3	27	0-27 cm: Very dark gray (5YR 3/1) clay loam over bedrock		None
T9S4	26	0-26 cm: Black (7.5YR 2.5/1) sandy clay loam over bedrock		None
T9S5	10	0-10 cm: Black (7.5YR 2.5/1) sandy loam over gravels		None
T9S6	20	0-20 cm: Dark reddish brown (5YR 2.5/2) clay loam over bedrock	41WM750	None
T9S7	28	0-16 cm: Dark reddish brown (5YR 2.5/2) clay loam 16-28 cm: Reddish brown (2.5YR 4/4) clay loam over bedrock	41WM750	None

Shovel Test	Depth (cm)	Matrix Description	Site No.	Cultural Materials
T10S1	35	0-35 cm: Grayish brown (10YR 5/2) clay loam over bedrock		None
T10S2	13	0-13 cm: Yellowish brown (10YR 5/4) clay loam over bedrock		None
T10S3	50	0-50 cm: Yellowish brown (10YR 5/4) clay loam over bedrock		None
T10S4	32	0-32 cm: Brown (10YR 4/3) clay loam over bedrock		None
T10S5	21	0-21 cm: Brown (10YR 4/3) clay loam over bedrock		None
T10S6	40	0-40 cm: Very dark grayish brown (10YR 3/2) clay loam over bedrock		None
T10S7	17	0-17 cm: Brown (10YR 4/3) clay loam over bedrock	41WM750	3 flakes 0-17 cm; 5 flakes on surface within 10 m
T10S8	40	0-40 cm: Brown (10YR 4/3) clay loam over bedrock	41WM750	2 flakes 0-40 cm
T11S1	10	0-10 cm: Brown (10YR 4/3) clay loam over bedrock; disturbed	41WM1248	None
T11S2	25	0-25 cm: Very dark grayish brown (10YR 3/2) clay loam over bedrock; disturbed	41WM1248	None
T11S3	45	0-15 cm: Brown (10YR 4/3) clay loam 15-45 cm: Strong brown (7.5YR 5/8) clay over weathered bedrock		None
T11S4	37	0-18 cm: Brown (10YR 4/3) clay loam 18-37 cm: Strong brown (7.5YR 5/8) clay over weathered bedrock		None
T11S5	40	0-10 cm: Brown (10YR 4/3) clay loam 10-40 cm: Strong brown (7.5YR 5/8) clay over weathered bedrock		None
T11S6	24	0-9 cm: Brown (10YR 4/3) clay loam 9-24 cm: Strong brown (7.5YR 5/8) clay over weathered bedrock		None
T11S7	30	0-30 cm: Very dark grayish brown (10YR 3/2) clay loam over gravels		None
T11S8	32	0-15 cm: Brown (10YR 4/3) clay loam 15-32 cm: Strong brown (7.5YR 5/8) clay over gravels		None
T12S2	30	0-30 cm: Grayish brown (10YR 5/2) clay loam over bedrock; disturbed area from spillway	41WM1248	None
T12S3	35	0-15 cm: Brown (10YR 4/3) clay loam 15-35 cm: Strong brown (7.5YR 5/8) clay over bedrock		None
T12S5	33	0-33 cm: Dark reddish brown (5YR 2.5/2) clay loam over gravels		None

Shovel Test	Depth (cm)	Matrix Description	Site No.	Cultural Materials
T12S6	30	0-30 cm: Dark reddish brown (5YR 2.5/2) clay loam over weathered bedrock		None
T13S1	30	0-30 cm: Black (7.5YR 2.5/1) clay loam over bedrock; disturbed area from spillway	41WM1248	1 chert thinning flake 0-30 cm
T13S2	27	0-27 cm: Black (7.5YR 2.5/1) clay loam over bedrock; disturbed area from spillway	41WM1248	2 chert fragments, 20-27 cm
T14S1	40	0-40 cm: Very dark brown (10YR 2/1) clay loam over weathered bedrock; disturbed	41WM1248	None
J17	34	0-18 cm: Brown (10YR 4/3) clay loam 18-34 cm: Strong brown (7.5YR 5/8) clay over bedrock; disturbed area from spillway	41WM1248	None
J14	20	0-8 cm: Brown (10YR 4/3) clay loam 8-20 cm: Strong brown (7.5YR 5/8) clay over clayey argillic horizon; disturbed area from spillway	41WM1248	None
J1	22	0-22 cm: Brown (10YR 4/3) clay loam over bedrock		None
J2	18	0-5 cm: Brown (10YR 4/3) clay loam 5-18 cm: Strong brown (7.5YR 5/8) clay over bedrock		None
J3	14	0-14 cm: Brown (10YR 4/3) clay loam over bedrock	41WM748	None
J6	24	0-10 cm: Brown (10YR 4/3) clay loam 10-24 cm: Strong brown (7.5YR 5/8) clay over bedrock	41WM748	None
J8	34	0-15 cm: Brown (10YR 4/3) clay loam 15-34 cm: Strong brown (7.5YR 5/8) clay over bedrock	41WM748	None
J10	20	0-10 cm: Brown (10YR 4/3) clay loam 10-20 cm: Strong brown (7.5YR 5/8) clay over bedrock		None
J13	29	0-12 cm: Brown (10YR 4/3) clay loam 12-29 cm: Strong brown (7.5YR 5/8) clay over bedrock	41WM750	None
J16	25	0-10 cm: Brown (10YR 4/3) clay loam 10-25 cm: Strong brown (7.5YR 5/8) clay over bedrock	41WM750	None
J18	27	0-8 cm: Brown (10YR 4/3) clay loam 8-27 cm: Strong brown (7.5YR 5/8) clay over root zone	41WM750	None
J15	26	0-9 cm: Brown (10YR 4/3) clay loam 9-26 cm: Strong brown (7.5YR 5/8) clay over bedrock		None
J9	22	0-10 cm: Brown (10YR 4/3) clay loam 10-22 cm: Strong brown (7.5YR 5/8) clay over bedrock	41WM748	None
J12	22	0-8 cm: Brown (10YR 4/3) clay loam		None

Shovel Test	Depth (cm)	Matrix Description	Site No.	Cultural Materials
		8-22 cm: Strong brown (7.5YR 5/8) clay over bedrock		
J19	30	0-30 cm: Very dark brown (10YR 2/1) clay loam over gravels; disturbed	41WM1248	None
J5	36	0-36 cm: Black (7.5YR 2.5/1) sandy loam over bedrock		None
J4	50	0-50 cm: Black (7.5YR 2.5/1) sandy loam over weathered bedrock	41WM750	1 animal bone and 1 flake, 30-50 cm
J7	41	0-24 cm: Dark brown (7.5YR 3/2) sandy loam 24-41 cm: Dark reddish brown (2.5YR 3/4) sandy loam over weathered bedrock		None
J11	42	0-24 cm: Dark brown (7.5YR 3/2) sandy loam 24-42 cm: Dark reddish brown (2.5YR 3/4) sandy loam over bedrock		None

