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**THE ARCHAEOLOGICAL SURVEY
OF
TIMBER CREEK TRAIL,
LEWISVILLE, TEXAS**

Texas Antiquities Permit Number 3297

Jesse Todd, MS, MA

Submitted to:

HALFF ASSOCIATES, INC.
8616 Northwest Plaza Drive
Dallas, Texas 75225

Prepared by:

AR CONSULTANTS, INC.
P.O. Box 820727
Dallas, Texas 75382

Cultural Resources Report 2003-49
December 31, 2003

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ABSTRACT

A cultural resources survey was conducted for the City of Lewisville of 7,940 feet of proposed trail route by AR Consultants, Inc. in December, 2003. A records check revealed no recorded historic or prehistoric sites in the area which is on the edge of the Eastern Cross Timbers near the Blackland Prairie.

A pedestrian survey of the proposed route which is mostly in Timber Creek's floodplain failed to locate any evidence of historic or prehistoric occupation on the ground surface or in the banks of Timber Creek or its tributaries. Likewise, shovel testing uncovered no evidence of buried cultural deposits, or the likelihood of finding such deposits. It is our conclusion, that the potential for archaeological sites in this area along Timber Creek is very low.

AR Consultants, Inc. recommends that further archaeological investigations are unwarranted in conjunction with construction of the Timber Creek Trail. If buried cultural materials are encountered during development of the tract, work should stop in that area and the Archeology Division of the Texas Historical Commission should be notified immediately.

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INTRODUCTION

On December 15, 2003, AR Consultants, Inc. (ARC) conducted an archaeological survey of 7,940 feet of a trail route that the City of Lewisville intends to construct south and north of Timber Creek. The proposed trail route begins on the west side of Valley Parkway and runs southeast and then northeast until it terminates at an existing concrete trail in Central Park (Figure 1). Most of the route is to be placed in Timber Creek's floodplain and crosses Timber Creek at one point. The trail route is to be placed adjacent to several streets, behind apartment complexes and in Central Park. The survey was done for Halff Associates, Inc. which is designing the trail and conducting the necessary environmental investigations.

The purpose of this survey was to locate any cultural resources present within the proposed trail route and make recommendations about their significance and how they might be impacted by trail construction. The Antiquities Code of Texas applies since the survey is being done for the City of Lewisville which is a political subdivision of the State of Texas. Since the proposed trail crosses Timber Creek, relevant federal legislation may include the National Historic Preservation Act of 1966, as amended (PL-96-515), the National Environmental Policy Act of 1969 (PL-90-190), and the Archeological and Historical Preservation Act of 1974, as amended (PL-93-291).

The scope of the project included a records review, a field survey, the recording of sites, if present, and the preparation of a summary report. This report was written in accordance with the guidelines for short reports adopted by the Archeology Division of the Texas Historical Commission and developed by the Council of Texas Archeologists (ND). The following report presents a brief description of the natural setting of the project area. This is followed by a short discussion about North Central Texas archaeology and history. The research design and methodology follow. The results of the field survey are presented in the major section of the report. Recommendations conclude the text. A list of references cited is at the end of the report.



LEGEND	
DESCRIPTION / SYMBOL	LENGTH / NUMBER
10' CONCRETE TRAIL	4370 LF
8' CONCRETE TRAIL	260 LF
6' CONCRETE TRAIL	3310 LF
CROSSWALKS	33 EACH
	EXISTING TRAIL
	PROPOSED TRAIL
	SIDEWALK

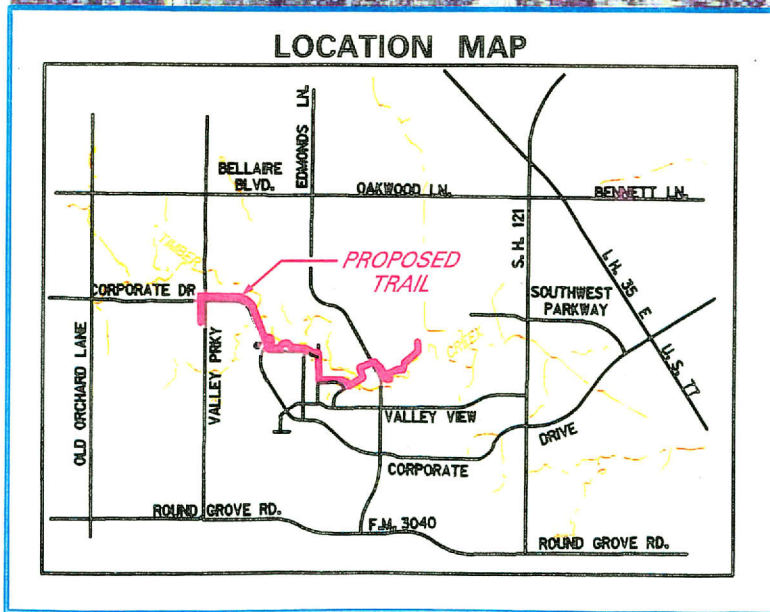


Figure 1. Proposed trail route, street names and shovel test locations shown on an aerial photograph of the study area in southwestern Lewisville, Texas. Map provided by Halff Associates, Inc.

TIMBER CREEK TRAIL
CONCEPT OVERALL MAP

CITY OF
LEWISVILLE

Halff Associates, Inc.
ENGINEERS • ARCHITECTS • SCIENTISTS • PLANNERS • SURVEYORS

4000 FOSSIL CREEK BOULEVARD
FORT WORTH, TEXAS 76137
TEL (817) 429-9975
FAX (817) 232-9784

AV01 21793 | FILE: 793o0m.dgn | DATE: OCT. 2003 | SCALE:

Administrative Information:

Sponsor:	City of Lewisville, Texas
Review Agency:	Texas Historical Commission, Archeology Division
Principal Investigator:	Jesse Todd, MS, MA
Field Crew:	Lance K. Trask and Todd
Field Work Dates:	December 15, 2003
Area Surveyed:	5.5
Sites Recorded:	None

NATURAL SETTING

Denton County is located in North Central Texas. It is bisected by the sandy soil of the Eastern Cross Timbers. The western half of the county consists, on the surface, of the black soil of the Fort Worth Prairie and the eastern half consists of the rich, black soil of the Blackland Prairie. The county is drained by the Elm Fork of the Trinity River and several major creeks. Average rainfall is approximately 33 inches while the temperature average ranges from 34 degrees in January to a maximum of 96 degrees in July (Odom 2003).

The study area is described as being near the western edge of the Blackland Prairie (Diggs, Lipscomb, and O'Kennon 1999), and it is this setting that characterizes much of north-central Texas. For more than a century, parts of the area have been farmed extensively. The native vegetation exists today in only a few relict prairie and woodland habitats, the study area does not include any of these relict locations. The study area, however, is in the Eastern Cross Timbers which is known for its sandy soil and oak trees.

The placement of the geological formations adjacent to Timber Creek in the vicinity of the study area is interesting. North of the creek is the Upper Cretaceous-aged Eagle Ford Formation which consists of shale, while the underlying Upper Cretaceous-aged Woodbine Formation that consists of sandstone with ironstone (hematite) concretions is south of the creek (Bureau of Economic Geology 1967).

Bedrock decomposition and pedogenesis in the study area have resulted in creation of the soil association known as the Birome-Gasil-Callisburg Association (Ford and Pauls 1980: General Soil Map). Soils in this part of Denton County are described as being gently sloping to moderately steep upland savannah loams that are moderately deep to deep. Detailed mapping of the county soils (Ford and Pauls 1980: Map 47) shows that soils within the study area consist of Birome, Callisburg, Gasil, Justin and Konsil fine sandy loams, Wilson and Navo clay loams and frequently flooded Bunyan fine sandy loam. The deepest topsoils are the Konsil and Justin fine sandy loams where the Bt-horizon is usually found 12 inches (30 centimeters) below the ground surface. The rest range between 5 inches (12.5 centimeters) to 7 inches (17.5 centimeters) below the surface.

Timber Creek is mapped as an intermittent stream on the Soil Conservation Service, the Bureau of Economic Geology and the Lewisville West, TX 7.5' USGS maps. Timber Creek is a tributary to the Elm Fork of the Trinity River. Brune (1981) lists no springs in the study area.

The upland surface has been cleared of most trees and supports Johnson grass and other grasses that have been invaded by mesquites. The edge of the upland and the valley support numerous young and old trees including bois d'arc, American elm, cedar elm, hackberry and honey locust along with various weeds and masses of greenbriars. Certainly, deer inhabited the floodplain forests along Timber Creek, but this environment and deer are not present in the survey area today.

A consensus about the paleoenvironmental conditions of North Central Texas over the past 12,000 years has not been reached. Discussions by Prikryl (1993), Ferring and Yates (1997), Humphrey and Ferring (1994), and Brown (1998) offer disparate interpretations based on different analytical approaches. The following discussion relies heavily on Ferring's investigations and focuses upon the past two thousand years. Correlating periods of rapid alluviation with higher precipitation and slow alluviation with drier conditions, Ferring has concluded that the Late Holocene [5000 yr BP to the present] was a wet period with moderate alluviation, except for a dry period between 2000-1000 yr BP [AD 1-1000]. It was during this dry period that the West Fork Paleosol was established on the stable surfaces of the river meanders along the Upper Trinity and its tributaries. This interpretation is further supported by changing patterns seen in stable isotope analysis. Brown (1998) offers a differing interpretation based on isotopic analyses of mussel shells from a prehistoric site (41DL270) on Denton Creek. He concludes that the period from 1500-2500 yr BP was cooler and/or wetter and that before and after, the environment was warmer and drier, but he points out that this interpretation may only be applicable for the Elm Fork and not the region.

CULTURAL HISTORY

The history and prehistory of Denton County are summarized in several reports prepared by the University of North Texas (Lebo and Brown 1990; Brown and Lebo 1991; Ferring and Yates 1998). Prehistoric Native American settlement in Denton County began at least 10,000 years ago as attested to by the presence of distinctively shaped dart points (Crook and Harris 1957) at the Lewisville site and the Aubrey Clovis site (Ferring 2001). Moreover, artifact collectors report the presence of Clovis, Folsom, Scottsbluff and other Paleo-Indian points from the surface of sites in the region. The presence of exotic, i.e., non-local, lithic resources indicates that these early people traveled a territory where higher quality lithics were available or were involved in a system of raw material trading. These early people hunted now-extinct large game, but probably also foraged off the land.

The subsequent period, the Archaic, lasted from 7,000-6,000 B.C. to possibly as late as A.D. 700-800. The Archaic peoples lived throughout the counties but particularly along the major and minor stream valleys where they were able to hunt and gather native foods. Dart points, grinding stones, fire-cracked rock, and scrapers are common artifacts found on Archaic sites. The earliest Archaic peoples continued using exotic cherts for dart points, but as time passed, there was a shift toward the use of local lithics for chipped stone tools. These local materials are described as Uvalde Gravels (Menzer and Slaughter 1971). Large Archaic sites are generally located on terraces or ridges that overlook the Elm Fork of the Trinity. Smaller lithic scatters have been recorded in upland areas throughout the county. These sites appear to be Archaic in age, but none have been thoroughly studied.

Various authors, including Bruseth and Martin (1987) and Peter and McGregor (1988), have attempted to create a chronology for North Central Texas. The most commonly used chronology was established by Prikryl (1990) which divides the Late Prehistoric, the time from the use of the bow and pottery to the Historic Indian, into two periods: Late Prehistoric I (A.D. 700 to 1200) and Late Prehistoric II (A.D. 1200 to 1700).

During Late Prehistoric I times, a small amount of pottery appears at the Baggett Branch site, 41DL149 (Prikryl and Perttula 1995:189). Arrowheads appear about this same time and apparently the bow and arrow had been added to the hunting tools. From A.D. 1000 to 1300, pottery appears in North Central Texas that has similarities to Caddoan pottery as well as Caddoan and Jornada Mogollon ceramics occur on sites in North Central Texas (Prikryl and Perttula 1995). In addition houses were found at the Cobb-Pool site, site 41DL148, (Peter and McGregor 1988:140) and at Bird Point Island (Bruseth and Martin 1987:182). Prikryl (1990:77) mentions the use of corn for food in North Central Texas during this time and Todd (1999) suggests that the presence of mussel shell hoes in North Central Texas indicates some form of farming.

During Late Prehistoric II times, it is believed that the climate was drier. Bison may have been utilized more than in Late Prehistoric I times. The presence of bison-scapula hoes, especially in northern North Central Texas, suggests an increase in horticulture or, at

least, its first appearance. This concept is supported by the presence of sites being along sandy terraces instead of the floodplain area where Late Prehistoric I sites are found. There is also a marked Plains influence in North Central Texas during this time also (Prikryl 1990:80).

At the end of the Late Prehistoric period, there appears to have been a general abandonment of the North Central Texas area. Along Red River in Montague and Cooke Counties and across Red River in Oklahoma, there is both archaeological and ethnographic evidence of historic Taovayas, Wichitas and Yscanis Indians (Bell, Jelks and Newcomb 1967; John 1992:204; Lorrain 1969). Since the Spanish could not subdue the Indians, they made them their allies with promises of help against the Osages.

There is tantalizing evidence found on the Trinity River in Dallas County of a possible visit by Spanish explorer Hernando de Soto (Bruseth 1992). Artifacts consist of a chain-mail gauntlet, a halberd and a spur. Current research, however, seems to indicate that Anglo settlers were the first non-Indians to settle in North Central Texas.

The first established European settlement in Denton County began before the mid-1800 with the establishment of the Peter's Colony after Texas independence. These early settlers were farmers who selected bottomland along the Elm Fork of the Trinity (Bridges 1978). Commercial farming was not important until after the Civil War, and the early settlers were essentially self-sufficient. Besides the plants and animals they grew and raised, wild animals and plants were commonly consumed. Denton became the county seat in 1856. By 1875, cotton, corn, and wheat were the main cash crops. Up to half of these crops were grown by tenant farmers who either paid rent to the land owner for their house, tools, and seed or by tenants who gave the landowner a third of the grain and a quarter of the cotton or other cash crops. By the turn of the century, all of the major communities had been established and some had passed away.

Lewisville was originally part of Peters Colony. In 1840, the government of Texas gave a land grant to the Texas Immigration and Land Company to encourage settlement in what is now Lewisville. However, Lewisville was established by Basdeal W. Lewis after he bought properties in the area. The Lewisville post office was established in 1853 and a gristmill and several stores were established by 1862. In 1867, the first cotton gin in Denton County was built in Lewisville. The first church was established between 1868 and 1869 and the first Masonic Lodge was housed there. Lewisville grew rapidly after the establishment of the Dallas and Wichita Railway in 1881. The creation of Lake Lewisville and the construction of Interstate Highway 35E and the Dallas-Fort Worth airport has increased both the population and amount of businesses in Lewisville. The town is a home-rule city and is governed by a council-manager government (Byrd 2003:1).

Recent Investigations

A check of the Texas Archeological Sites Atlas (2003), the 1918 Denton County soils map (Carter 1918) and sites located by R. King Harris on the 1948 General Highway Map of Denton County failed to find any archaeological sites listed within the study area.

Timber Creek has several sites recorded on its banks. In the vicinity of the study area, however, information on only a few sites has been published. Northwest of the study area, two sites (41DN516 and 517) are listed on the Texas Archeological Sites Atlas (TASA). These sites are located approximately 50 meters south of Timber Creek and were discovered by Geo-Marine, Inc. during an archaeological survey for Centex Corporation. The sites consist of lithic scatters along with fire-cracked rock (FCR). These sites are probably Archaic in age although only one contained a dart point. Site 41DN 516 is located at the intersection of Valley Park Road and an unnamed street. Site 41DN331 is closer to the study area and southeast of sites 41DN516 and 517, but only a map was provided on the TASA internet site. The site is located north of Timber Creek in the Creek Estates Development. Southeast of the study area, site 41DN344 is located south of Timber Creek. The Late Prehistoric site consists of an open camp with lithics, projectile points, mussel shell, bone and FCR. There are a number of sites listed on Bakers Branch south of the study area, but only site locations are provided (TASA 2003).

RESEARCH DESIGN & METHODOLOGY

After examining the Texas Archeological Sites Atlas (2004) and previous investigations conducted in the area, the research design focused on discovering sites in the study area with particular attention being paid to the fact that previous surveys have found sites on ridges, toe slopes and terraces adjacent to Timber Creek. However, survey was conducted along the entire route which crossed the Timber Creek floodplain despite the fact that sites have not previously been found in buried floodplain contexts.

An even more basic, research problem also guided the survey; simply stated the question asks "How did past people use the land, and what record of this use did they leave behind such as location, type of materials used, tools and preferred soil types for occupation?" Most frequently, limited-area and linear surveys of this type gather information in response to this more open-ended research question, which guides almost all archaeological surveys.

Methodology

In order to address the above questions, the surveyors, armed with the USGS map, soil map, shovels, a camera and field notes, carefully inspected the ground surface and excavated shovel tests in the area-of-potential effect (APE) of the proposed Timber Creek Trail. The APE is to be 7,940 feet long and 30 feet wide. The trail was not flagged, but the provided aerial photograph enough markers for the surveyors to determine the route of the proposed trail.

It was the intention of the surveyors to place shovel tests every 100 meters or less as recommended by the Council of Texas Archeologists and accepted by the Texas Historical Commission, but due to disturbance in some areas, this was not done. Since the trail construction impact is to be only 12 inches (30 centimeters), shovel tests were excavated to that depth approximately. Shovel tests on the banks of Timber Creek were excavated deeper by using an 4-inch bucket auger due to the depth of the proposed impacts at the bridge location. Sandy matrices were screened through a ¼ inch hardware cloth and the pit walls were visually inspected. Clayey matrices were not screened but inspected manually for cultural resources as were the pit walls. The surveyors also made notes about the vegetation, soil and soil exposure and took photographs.

Since the impact was so shallow, 12 inches (30 centimeters), backhoe trenching was not used.

RESULTS

This chapter contains a discussion of the survey area, the field work and conclusions. Shovel tests are described generally in the text and specific information can be found in Table 1. Shovel test locations and areas discussed in the text are shown on Figure 1.

Survey area

The proposed trail route is adjacent to roads or behind residences in Timber Creek's floodplain and in the creek's floodplain in Central Park. Vegetation includes cedar, elm, hackberry, oaks, bur oak, sycamore and pecan trees as well as saw greenbriar, grape vine and native grasses.

The survey

The first portion of the proposed trail route begins west of and adjacent to Valley Parkway and ends at the intersection of Parkway and Corporate Drive. The proposed trail here is incorporated into an existing concrete sidewalk that parallels Valley Parkway. The concrete trail was walked and the ground on both sides of the walkway was inspected for cultural materials but none were found.

The proposed trail route then crosses Valley Parkway and continues southeast along both sides of Corporate Drive. The proposed trail route on the west side of Corporate Drive extends from Valley Parkway to Regency Road and on the east side, it extends from Corporate Drive to Briarcliff Road. The proposed trail is to be placed 15 feet (5 meters) from Corporate Drive on both sides of the road except for the area adjacent to the unnamed intermittent drainage and north of Regency Road (Figure 1). The proposed trail route on the east side of Corporate Drive follows an existing concrete walkway until approximately 150 meters north of Briarcliff Road. The ground, which had 100 percent visibility adjacent to the concrete walkway, was examined but no cultural materials were found. The area approximately 150 north of Briarcliff consists of loamy sand with bedrock exposed in places. No shovel tests were placed in the area due to the 90 percent ground visibility and probable disturbance from the construction of Corporate Drive. No significant cultural materials were noted.

The trail route that is to be placed west of Corporate Drive also consists of a concrete walkway and the concrete stops at the same place west of Corporate Drive as it does east of Corporate Drive. A white wooden fence is adjacent to the concrete walkway west of Corporate Drive and the ground between the walkway and fence was examined. No cultural materials were found. The part of the trail that was not concreted also had bedrock exposed with loamy sand present. Ground visibility was 80 percent, and no shovel tests were placed in the trail route because of the ground visibility and probable disturbance from construction of Corporate Drive. No significant cultural materials were discovered in this portion of the proposed trail route.

The route across from the Briarcliff Road intersection and north of Regency Road, however, was shovel tested. Ground visibility was only 10 percent except adjacent to the drainage where visibility was 90 percent. The two shovel tests (1 and 2) west of the drainage encountered sandy clay loam as did shovel test 4 which was placed east of the drainage and west of Regency Road. Shovel test 3, which was placed on the north bank of the unnamed drainage encountered two intermingled sandy clay loams, indicating prior disturbance. Disturbance in the area includes channelization and the placement of the concrete pipes and channel erosion guard closer to Corporate Drive as well as sewer lines as shown by the presence of sewer man holes in the area. The drainage is 10+ meters wide and 5+ meters deep. Water was flowing and the substrate consists of sand and clay. Based upon a dissected ridge of soil (Figure 2), dirt from this portion of the proposed trail may have been removed and used to construct the road which is elevated at least a meter above the proposed trail route. No cultural materials were discovered during the pedestrian survey or shovel testing in this area.



Figure 2. Dissected soil ridge north of unnamed drainage and east of Corporate Drive. View is to the north.

The second portion of the proposed trail runs from Kenney Lane southeast through a floodplain forest between residences and Timber Creek. The route exits the floodplain between two residences on the north side of Dallas Road and terminates at the sidewalk (Figure 1). Eye-height visibility was 10 meters or less along sections of the trail route. Ground visibility ranged between 50 and 70 percent. Shovel tests 5 through 7

encountered sandy clay but no cultural materials. No cultural materials were discovered during the pedestrian survey either.

The last portion of the proposed trail continues northeast from Stone Avenue across Timber Creek, its floodplain to Edmonds Road. After crossing the road, it turns southeast and parallels the road almost to Timber Creek before looping back north. It remains in the floodplain south of a cleared utility corridor until it terminates at an existing concrete trail (Figure 1). Eye-height visibility was excellent and ground visibility ranged from 20 to 50 percent at the creek crossing. Prior disturbance was noted on the southwest bank because gas lines and a concrete channel erosion guard are present (Figure 3). Across the creek, gas pipelines could be seen above ground (Figure 4). Shovel test 8 was placed approximately 3 meters away from the southwest bank of Timber Creek and encountered 63 centimeters of sterile sandy clay loam overlying laminae of silt and clay to a depth of 97 centimeters below the surface.

Timber Creek is 15+ meters wide and 6+ meters deep. Hematite sandstone boulders could be seen extending from the clay banks at approximately 3 meters below the ground surface. Water was flowing and the substrate consists of sand and limestone and sandstone pebbles, gravel, cobbles and boulders. No buried archaeological deposits were noted in either bank or in the creek.



Figure 3. Above ground gas pipeline and concrete erosion guard on the southwest bank of Timber Creek. Shovel test 8 was placed between the concrete guard and trees. View is to the southwest.



Figure 4. Gas pipeline extending above ground on the northeast bank of Timber Creek. An old pipe can be seen lying on the bank. Shovel test 9 was placed a meter away from creek channel in eastern portion of the picture adjacent to tree line.

Shovel test 9 was placed approximately a meter from the creek on the northeast bank. It uncovered laminae of brown colored silt and clay loam to a depth of 91 centimeters which overlay yellowish brown colored laminae of silt and clay to a depth of 125 centimeters below the surface. Shovel test 10 was placed on a ridge northeast of shovel test 9 and adjacent to an apartment complex to the north. It uncovered fine sandy clay loam. No cultural materials were discovered in the shovel tests or during the pedestrian survey between Stone Avenue to Edmonds Road.

The proposed trail route continues southeast of Edmonds Road into Central Park and terminates north of Timber Creek at a concrete trail. The route is to be placed in Timber Creek's floodplain across a mowed grass area into a forested area and then across mowed grass to the concrete trail (Figure 1). Ground visibility ranged from 20 to 80 percent throughout this portion of the trail whereas eye-height visibility was excellent. Shovel tests 11 through 13 uncovered fine sandy clay loam, but no significant cultural materials were found during the pedestrian survey. In addition, prior disturbance in the floodplain north of Timber Creek was noted because manholes for a sewer line extended above ground.

Conclusions

No cultural materials were discovered during the pedestrian survey of 7,940 feet of the proposed Timber Creek Trail route or in the shovel tests. The proposed trail route did not encounter any landforms that may have been occupied similar to where sites were discovered elsewhere along Timber Creek.

Table 1. Shovel test information.

ST No.	Depth (cm)	Description*
1	0 – 32+	Brown (7.5YR4/3) fine sandy clay loam
2	0 – 33+	Brown fine sandy clay loam
3	0 – 32+	Dark brown (7.5YR3/2) and brown fine sandy clay loam mixed
4	0 – 35+	Yellowish red (5YR4/6) medium sandy clay loam
5	0 – 27+	Dark brown (7.5YR3/2) medium sandy clay loam
6	0 – 35+	Dark brown medium sandy clay loam
7	0 – 21+	Brown (10YR4/3) fine sandy clay loam
8	0 – 63 63 – 97 97+	Dark yellowish brown (10YR4/4) fine sandy clay loam Laminae – layers of brown silt and clay Auger would not turn
9	0 – 91 91 – 125 125+	Laminae – layers of brown silt and clay loam Laminae – layers of dark yellowish brown silt and clay Auger would not turn
10	0 – 25+	Dark yellowish brown (10YR4/6) fine sandy clay loam
11	0 – 27+	Dark yellowish brown (10YR3/4) fine sandy clay loam
12	0 – 33+	Dark brown (10YR3/3) fine sandy clay loam
13	0 – 34+	Dark yellowish brown fine sandy clay loam

* Munsell chart numbers listed only first time used.

RECOMMENDATIONS

The purpose of this investigation was to determine if significant cultural resources are present within the proposed trail route. No evidence of historic or prehistoric occupation was found during the archaeological survey.

AR Consultants believes that the study area, which consists primarily of the Timber Creek floodplain, has low potential for containing cultural materials and recommends that further resource investigations are unwarranted. We further recommend if buried archaeological deposits are uncovered during construction, work should immediately cease in that area and the Archeology Division of the Texas Historical Commission should be advised of the discovery.

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