

Archeological Survey of the Proposed
Marine Creek Corridor Linear Park
Improvements Project Area
Tarrant County, Texas



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Prepared for
City of Fort Worth Parks and
Community Services Department

March 2012
AVO 28179



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Linear Park Improvements Project Area
Tarrant County, Texas

Texas Antiquities Permit 6124

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March 8, 2012

Abstract

On behalf of the City of Fort Worth, Halff Associates, Inc. (Halff) conducted an intensive and reconnaissance archeological survey for the proposed Marine Creek Corridor Linear Park Improvements Project in Fort Worth, Tarrant County, Texas. The proposed project will connect five linear parks along Marine Creek in the northwest Fort Worth, which falls within the Haltom City (TX) and Lake Worth (TX) USGS 1:24,000 topographic quadrangles. The corridor will include five existing parks (Buck Sansom Park, Marine Creek Linear Park North, Marine Creek Linear Park, Lincoln Park, and Rodeo Park), and three city-owned lots that will be rededicated as parkland and incorporated into Marine Creek Linear Park North. The area of potential effects (APE) for the archeological survey correlates to the extent of the park properties and the three city-owned lots, which is approximately 230 acres with a maximum vertical APE of 3 feet (91 cm) at isolated locations. Proposed project improvements will include: construction of new trails, renovations to existing trails, new pedestrian bridge/embankment protection, and the renovation of existing park elements.

The archeological survey was conducted to comply with the Antiquities Code of Texas (13 TAC 26 and Title 9, Chapter 191, Subchapters A-F of the Texas Natural Resources Code, as amended) since the City of Fort Worth is a political subdivision of the State of Texas. The goal of the work was to locate all prehistoric and historic archeological sites and historic resources in the project APE, establish horizontal and vertical boundaries of those sites and resources within the project APE if found, and evaluate the significance and eligibility of any sites for listing in the National Register of Historic Places (NRHP) and/or designation as a State Archeological Landmark (SAL), if possible. A cursory historic structures investigation was also conducted to determine the necessity of a historic structures survey to complete the requirements of Section 106 of the National Historic Preservation Act, in the event that a U.S. Army Corps of Engineers Section 404 (Clean Water Act) Permit is required.

Based on the results of the survey, there is one archeological site within the proposed Marine Creek Corridor Linear Park Improvements Project APE. Site 41TR246 is the remnants of a historic bridge likely originally constructed in the early 1950's. The remnants do not display unique structural elements and have minimal historical value except providing the historical extent of NW 29th Street. Therefore, site 41TR246 does not appear eligible for inclusion in the NRHP and/or designation as a SAL. No further investigations are recommended at site 41TR246. Throughout the rest of the project APE, no properties listed on the NRHP, National Historic Landmarks, Registered Texas Historic Landmarks, or Official Texas Historic Markers were identified. The cursory historic standing structures investigation determined that no standing historic structures exist in the park boundaries and no properties would be adversely affected by the undertaking. Construction related to the Marine Creek Corridor Linear Park Improvements will not impact any archeological sites (including site 41TR246), significant cultural resources, or historic properties. Halff recommends that the City of Fort Worth be allowed to proceed with construction.

Management Summary

Project Title: Archeological Survey for the Proposed Marine Creek Corridor Linear Park Improvements Project Area, Tarrant County, Texas

Project Number: AVO 28179

Project Description: On behalf of the City of Fort Worth, Halff Associates, Inc. conducted a reconnaissance and intensive archeological survey of the proposed project area. The goal of the work was to locate all prehistoric and historic archeological sites and historic resources in the area of potential effects (APE), establish horizontal and vertical boundaries of those sites and resources within the project APE if found, and evaluate the significance and eligibility of any sites for listing in the National Register of Historic Places (NRHP) and/or designation as a State Archeological Landmark (SAL), if possible.

Purpose of Work: The archeological survey was conducted to comply with the Antiquities Code of Texas since the City of Fort Worth is a political subdivision of the State of Texas. A cursory historic structures investigation was also conducted to determine the necessity of a historic structures survey to complete the requirements of Section 106 of the National Historic Preservation Act in the event that a U.S. Army Corps of Engineers Section 404 Permit is required.

Location: Project area extends from just south of Loop 820 and west of Angle Avenue, south to Rodeo Park, located just west of the Fort Worth Stockyards.

Number of acres surveyed: Approximately 230 acres

Principal Investigator: Michael R. Chavez

Texas Antiquities Permit Number: 6124

Dates of Work: January 31 - February 2, 2012

Number of Sites: One historic site (41TR246)

Curation: Project records will be curated at the Texas Archeological Research Laboratory in Austin, Texas.

Comments: Site 41TR246 represents the remnants of a historic bridge likely originally constructed in the early 1950's. The remnants do not display unique structural elements and have minimal historical value besides providing the historical extent of NW 29th Street. Therefore, site 41TR246 does not appear eligible for inclusion in the NRHP or designated as a SAL. No further investigations are recommended at site 41TR246.

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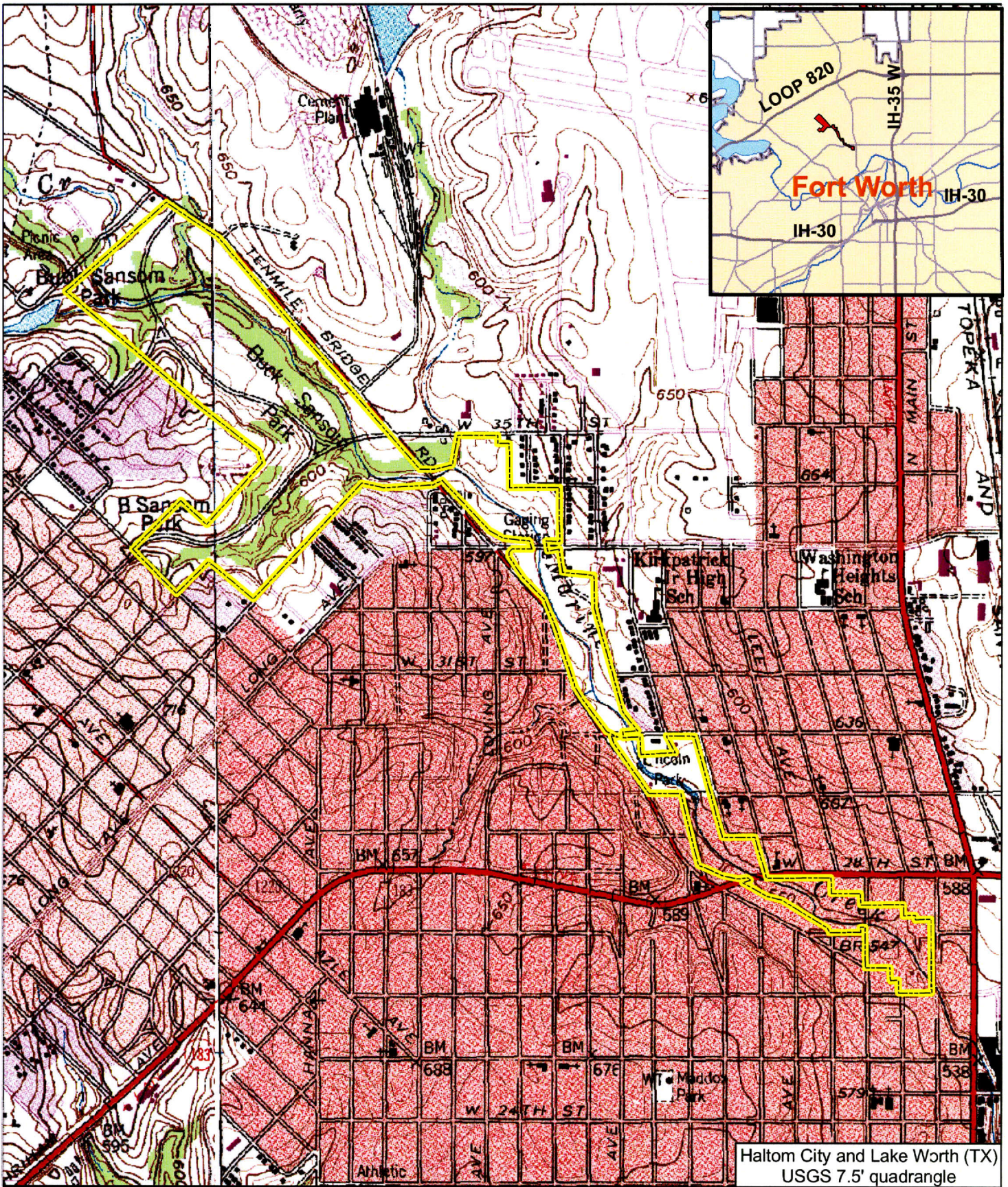
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I. Introduction

On behalf of the City of Fort Worth, Halff Associates, Inc. (Halff) conducted a reconnaissance and intensive archeological survey for the proposed Marine Creek Corridor Linear Park Improvements Project in Fort Worth, Tarrant County, Texas (**Figure 1**). The proposed project will connect five linear parks along Marine Creek in the northwest central portion of Fort Worth, which falls within the Haltom City (TX) and Lake Worth (TX) U.S. Geological Survey 7.5-minute (1:24,000 scale) topographic quadrangles (topographic map). The corridor will include Buck Sansom Park, Marine Creek Linear Park North, Marine Creek Linear Park, Lincoln Park, Rodeo Park, and three city-owned lots that will be rededicated as parkland and incorporated into Marine Creek Linear Park North. The limits of construction will be from Buck Sansom Park, located just south of Loop 820 and west of Angle Avenue, south to Rodeo Park, located just west of the Fort Worth Stockyards, along Ellis Avenue and NW 26th Street (**Figure 2**). Proposed project improvements will include: construction of new trails, renovations to existing trails, new pedestrian bridge/embankment protection, and the renovation of existing park elements.

The proposed project area correlates to the extent of the five park boundaries and the rededicated lots, which have a total acreage of approximately 230 acres. In turn, the area of potential effects (APE) for the archeological survey correlates to the extent of the park boundaries and city-owned lots. The proposed vertical impacts are projected to be minimal throughout the project area related to the installation of assorted park structures and elements, ranging from approximately six inches (15 cm) to one foot (30 cm), with isolated locations having a maximum depth of approximately three feet (91 cm). Therefore, the project APE for archeological resources is approximately 230 acres with a maximum vertical APE of three feet (91 cm) at isolated locations.

The archeological survey was conducted to comply with the Antiquities Code of Texas (13 TAC 26 and Title 9, Chapter 191, Subchapters A-F of the Texas Natural Resources Code, as amended) since the City of Fort Worth is a political subdivision of the State of Texas. The goal of the work was to locate all prehistoric and historic archeological sites and historic resources in the APE, establish horizontal and vertical boundaries of those sites and resources within the APE if found, and evaluate the significance and eligibility of any sites for listing in the National Register of Historic Places (NRHP) and/or designation as a State Archeological Landmark (SAL), if possible. All work was conducted in accordance with the standards and guidelines of the Antiquities Code of Texas and the Texas Historical Commission (THC). A cursory historic structures investigation was also conducted to determine the necessity of a historic structures survey to complete the requirements of Section 106 of the National Historic Preservation Act in the event that a U.S. Army Corps of Engineers Section 404 Permit is required. The fieldwork for the archeological survey was conducted from January 31 through February 2, 2012 by Crystal Hall and Michael R. Chavez under Texas Antiquities Permit 6124. Michael R. Chavez served as the Principal Investigator. Project records will be curated at the Texas Archeological Research Laboratory (TARL) in Austin, Texas.



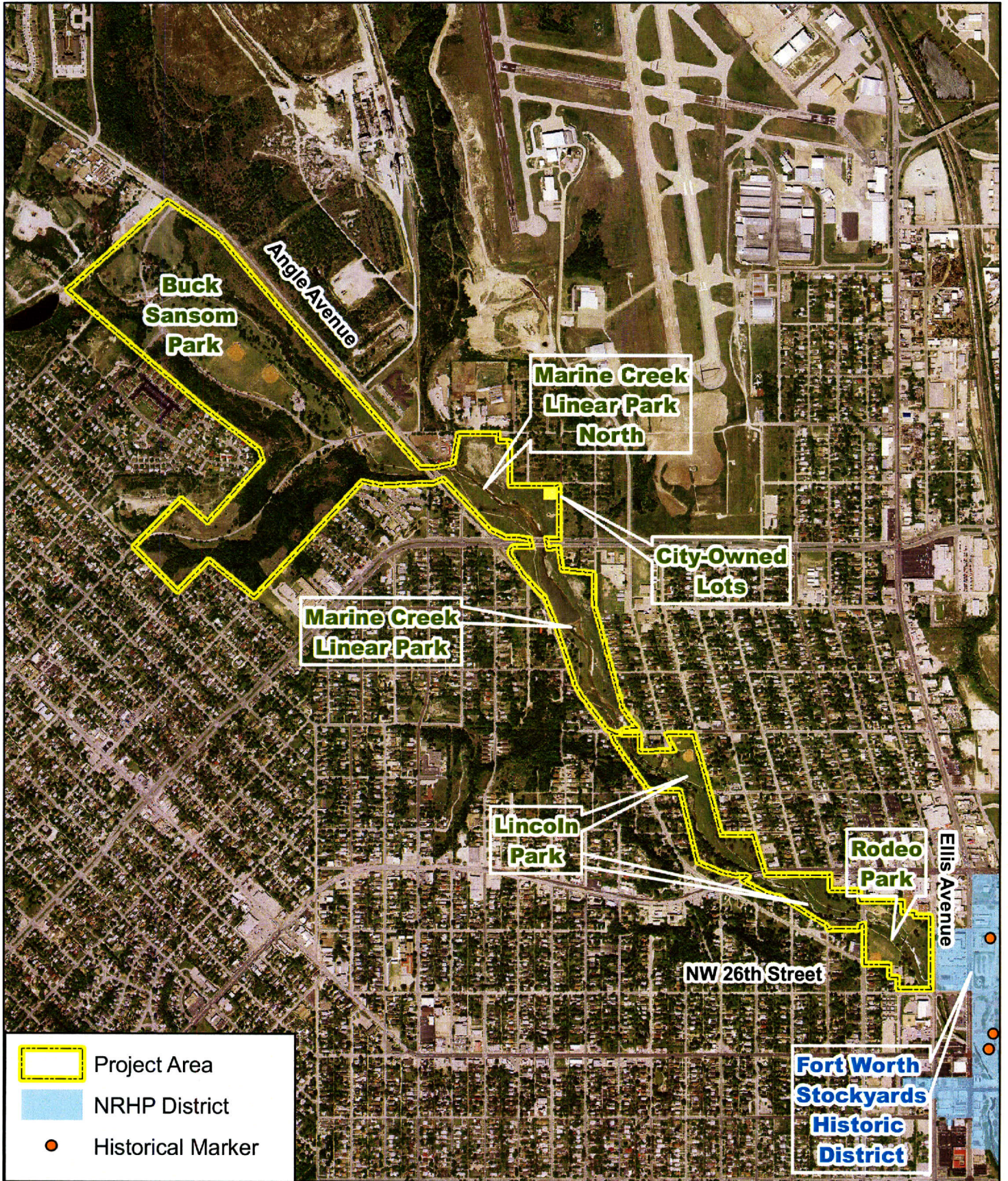
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Figure 1: Project Location Map
 Marine Creek Corridor Linear Park
 Improvements Project
 Tarrant County, Texas

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Figure 2: Project Area Map
Marine Creek Corridor Linear Park
Improvements Project
Tarrant County, Texas

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II. Environmental Setting

Physiographic provinces subdivide areas based on similar terrain texture, rock type, and geologic structure. According to the Bureau of Economic Geology Physiographic Map of Texas (Wermund 1996), the project APE lies in the Grand Prairie province. This province is described as having a low stairstep topography eroding flat to the east. The topography within and surrounding the project APE is consistent with this province description in that the eroding bedrock surfaces are gently sloping towards Marine Creek, which flows towards the southeast. These bedrock surfaces consist of limestone outcrops, which give way to eroded clay near Marine Creek. Elevations throughout the project APE range from approximately 540 feet to 670 feet above mean sea level.

In addition to physiographic descriptors of an area, ecoregions refer to areas of similar biotic and abiotic phenomena such as geology, physiography, vegetation, climate, soils, land use, wildlife, and hydrology (Griffith et al 2004). Physiographic descriptors provide a more concise depiction of the original natural setting of the project APE, which is mapped in the Grand Prairie division of the larger Cross Timbers ecoregion (Griffith et al 2004). The Cross Timbers ecoregion stretches from southern Kansas into central Texas, while the Grand Prairie division is a narrow swath from the Oklahoma border to Waco, Texas and includes the project APE. This ecoregion can best be described as an irregular plain of low hills and tablelands with a mosaic of forest, woodland, savanna, and prairie dominated by little bluestem grassland with scattered oaks (Griffith et al 2004).

The natural setting of the project APE has been slightly altered from the descriptions of the mapped ecoregion, due to the project APE being completely surrounded by urban development. This development is comprised of predominantly residential neighborhoods that sit adjacent to the project APE boundaries. Only Buck Sansom Park has relatively large parcels adjacent to its northern boundary with minimal development. However, as determined by the field survey, these adjacent areas display evidence of recent disturbance and modifications to the natural topography (**Figure 3 and 4**). Within the project APE, several areas have been modified by clearing, leveling, and general urban disturbances.

Geology

The project APE is predominantly mapped as Cretaceous-aged Kiamichi Formation, which is characterized by clay and limestone with occasional discontinuous beds and lenses of fossiliferous limestone and sandstone (Barnes 2000). The Kiamichi formation generally does not exceed five feet in thickness and is characterized by flaky clay shale that weathers to tan. Fossiliferous reefs of *Gryphea mucronata* tend to create resistant, cliff forming benches over the underlying Lower Cretaceous Walnut Clay (Scoggins 2011). The area immediately adjacent to Marine Creek from the central to the northern extent of the APE is mapped as Holocene aged-Quaternary Alluvium (Barnes 2000). Throughout Tarrant County, this Quaternary sediment ranges in age from three million years to the present day. Gravel, unconsolidated sand, silt, and clay from eroding adjacent bedrock make up this sediment. Based on observations during the survey, fluvial terrace deposits of Pleistocene age appear to be present. These deposits are the remnants of old stream floodplains that overlie the present day floodplains (Soil Survey Staff 1981).



Figure 3. Large soil embankment beyond northwestern boundary of Buck Sansom Park, facing west.



Figure 4. Spoils pile eroding into Marine Creek north of Buck Sansom Park. Beyond north/northwestern boundary of Buck Sansom Park, facing north/northwest.

Paleontological Features

Several exposed fossiliferous beds are located along and within the banks of Marine Creek throughout the project APE. Based on the geologic map of Tarrant County, the exposed beds are from the Kiamichi Formation, which is part of the larger Fredericksburg Group. Formations are rock units that have distinctive characteristics that make them easy to recognize and map. The Fredericksburg Group includes the Kiamichi, Goodland Limestone, and Walnut Formations and has a maximum thickness of 175 feet. Formations in this group are the second oldest in Tarrant County and consist of limestone, shell agglomerate, and clay shale. These formations trend northwest to southeast, becoming progressively younger to the south (Soil Survey Staff 1981). During the Cretaceous, a time period that spanned from 144 to 66 million years ago, a shallow inland sea inundated most of Texas. These seas were filled with calcareous-shelled organisms, which lead to the formation of thick deposits of limestone (Spearing 1991). Within the project APE, these fossil beds exposed in limestone outcroppings include oyster reefs of *Gryphaea mucronata*, ammonites (*Mortonicerias sp.*), and some *Pecten sp.*, which is a variety of pelecypod (Soil Survey Staff 1981). These beds can typically be seen along Marine Creek in the project APE during dry periods of the year; however, under heavy rains and higher water table elevation, these fossils often lie under water within and immediately adjacent to Marine Creek (Figure 5).



Figure 5. Example of exposed fossil-bearing limestone formation along Marine Creek just south of Macie Avenue.

Soils

The Soil Survey of Tarrant County was used to identify and characterize the soils that occur in the project APE (Ressel 1981, Soil Survey Staff 2011). Taxonomic soil units that occur together in individual and characteristic patterns within the same geographical area can be described in general soil map units. The project APE is mapped completely within the Aledo-Bolar-Sanger general soil map unit, which consists of gently sloping to moderately steep, very shallow to deep, loamy and clayey soils, generally found on uplands (Ressel 1981). Within this general soil map unit, eight individual taxonomic soil units are present within the project APE (Table 1).

TABLE 1. MAPPED SOIL UNITS WITHIN THE APE

Soil Type Map Unit Number	Name	Total Approximate Area (acres)	Percent of Project APE
2	Aledo-Bolar Complex, 5 to 20 percent slopes	25	10.9
3	Aledo-Bolar-Urban land complex, 3 to 20 percent slopes	7	3.1
4	Aledo-Urban land complex, 1 to 8 percent slopes	15	6.4
20	Chatt silty clay, 1 to 3 percent slopes	60	26.0
26	Frio silty clay, 1 to 3 percent slopes	50	21.9
28	Frio-Urban land complex, occasionally flooded	63	27.5
67	Sanger-Urban land complex, 1 to 5 percent slopes	6	2.6
81	Urban land	4	1.6
Total Study Area		230	100
Notes: All acreage is approximate.			
Source: NRCS 2011.			

The most prevalent soil units within the project APE are from the Frio series soils (49.4 percent). The Frio series consist of well drained, deep, clayey soils mapped immediately adjacent to Marine Creek throughout the project APE. A large portion of the Frio series soils consist of the Urban Land complex unit, which are described as being disturbed by urban development. Next in prevalence is the Chatt silty clay soil unit found near the northern extent of the project APE. The soils are described as deep, gently sloping, clayey soils found on low terraces and foot slopes above floodplains. The third most prevalent soil type is complex soils from the Aledo and Bolar soil series. These soils are mapped in the portions of the project APE farthest from Marine Creek and are described as being shallow to very shallow soils on gently sloping to moderately steep ridges and side slopes. These soils are typically found on uplands having formed from fractured limestone. Approximately half of the Aledo and Bolar soils are from the urban land complex. The remaining mapped units are the Sanger urban land complex soils and general urban land areas. The Sanger soils are deep, gently sloping upland clayey soils found in valley fill areas and side slopes below limestone outcrops that have been disturbed by urban development. Overall, areas identified as a type of soil of either an urban land complex or as general urban land total approximately 95 acres (41 percent) of the total project APE.

Paleoenvironmental Conditions

Limited information is available regarding the past climatic conditions of the immediate region surrounding the project APE. However, a few investigations have summarized floral and faunal characteristics during human occupation in the upper Trinity region (Lynott 1977; Yates and Ferring 1986). These previous investigations characterize the region as having a high diversity of species of floral and faunal resources believed to be exploited by early hunter/gatherers. Yates and Ferring (1986) hypothesize that despite the intermittent presence of large mammal prairie species such as buffalo and pronghorn, faunal remains recovered from archeological contexts indicate that deer was the primary source of meat protein throughout the prehistoric period.

More expansive studies of the paleoenvironmental conditions of east Texas and the southeastern United States have been investigated by many researchers (e.g., Bryant and Holloway 1985; Cliff et al. 1996; Cliff and Peter 1992; Delcourt and Delcourt 1985; Peter and Journey 1988; Sundermeyer, Penman, and Perttula 2008). These investigations have used radiocarbon dating of paleosols (Cliff and Peter 1992), pollen records (Delcourt and Delcourt 1985), bog data (Albert 1981; Bryant and Holloway 1985), pollen fossil data (Albert 1981; Albert and Wyckoff 1984; Bousman 1998) and faunal remains (FAUNMAP 1994; Hemmings 1982; Johnson 1987; Kurten and Anderson 1980; Lundelius 1967, 1974; Semken 1961; Slaughter 1967) to explore late Pleistocene climate. Overall, the research postulates that the north Texas climate was cooler and moister during the last (Wisconsinan) glacial maximum, which marks the end of the Pleistocene and the beginning of the Early Holocene ($\approx 11,500$ years ago). The data indicated that the region was an ecotonal boundary between boreal forest similar to present eastern Canada and a narrow belt of mixed conifer northern hardwood forests (Delcourt and Delcourt 1985: Figure 7a, 16).

The Middle Holocene interval, also known as the Hypsithermal or Altithermal (8,500–4,000 years ago), is described as a period of warming and drying that resulted in the expansion of prairie and a decline of forests (Delcourt and Delcourt 1985:19). This is witnessed by an increase in nonarboreal pollen and decrease in tree or arboreal pollen (Sundermeyer et al. 2008). By the end of the Altithermal, the last surviving megafauna species, *Bison antiquus*, had become extinct (Hester 1960; Lundelius 1967:289). The post-Altithermal conditions in northeast Texas suggest a dry to moist to drying trend up to recent times (Peter and Journey 1988). The initial dry period extends from the end of the Altithermal to approximately 1,950 years ago. The subsequent moist period continues until around 950 years ago, with the last overall drying trend beginning to dominate between 950 and 700 years ago. This drying trend, recognized by prevalent episodes of drought conditions, continues today (Cliff et al. 1996). Despite these past studies, most researchers agree that more investigations and data are needed to determine the more recent paleoenvironmental conditions of the Late Holocene for north and east Texas (Cliff et al. 1996; Sundermeyer et al. 2008; Yates and Ferring 1986).

III. Cultural Setting

The cultural background of an area aids research in determining inter-site relationships and settlement patterns among distinct cultural groups. These characteristics in combination with an area's physical setting help in outlining archeological regions, which are described as ". . . spaces for which meaningful relationships can be defined between past human behavior, the material signatures people left behind, and/or the varied and dynamic physical and social contexts in which human activity occurred" (Kanter 2007:41). Analysis of a site's material remnants in comparison to other sites with similar temporal and regional affiliations helps to either further define that region or redefine a region's cultural characteristics. Often times, regions are summarized by several researchers with similar cultural chronologies yet differing period and subperiod names. With this in mind, the project APE is located within the North-central Texas Archeological region (Perttula 2004:7) and within the Prairie-Savanna Archeological Region (Prikryl 1993). These descriptions are based on prehistoric cultural characteristics and physical settings that were (and are) dynamic and often fluctuated by varying levels through time. Purely for ease, the following section will use the descriptions of the North-central Texas Archeological region as provided by *The Prehistory of Texas* (Perttula 2004).

The region surrounding the project APE is generally divided into three periods that include the Paleoindian (11,500–8,500 B. P.), the Archaic (8,500–1,200 B. P.), and the Late Prehistoric (1,200–250 B. P.). The Archaic period is further subdivided into Early (8,500–6,000 B. P.), Middle (6,000–3,500 B. P.), and Late Archaic (3,500–1,200 B. P.) (Perttula 2004:9). The historic period in central and south Texas usually begins with the arrival of the Spanish at the beginning of the seventeenth century. However, the northern area of Texas that contains the project APE was explored rarely by the Spanish and was generally solely inhabited by native groups until the 1830s. Therefore, this section will provide a brief summary of the history of Fort Worth and the immediate area near the project APE.

Paleoindian Period (pre-8,500 B. P.)

The Paleoindian period occurred as the Wisconsin glaciation began to decline and the climate began to transition from the moist, cool conditions of the Pleistocene to the warmer, dryer conditions of the Holocene. Culture and subsistence strategies during this period have traditionally been described as small bands of highly mobile foragers hunting Pleistocene megafauna. Several recent studies however, question the model of early Paleoindians as megafauna specialists, arguing rather that early foragers likely pursued a wide array of taxa that may have included the now extinct megafauna, as well as ungulates, smaller game, and plant exploitation (Collins 1995).

Archeologists typically divide the Paleoindian into an early and late component with the earliest consisting of the Clovis and Folsom cultures. General characteristics of the point types associated with these cultures include a lanceolate outline, ground basal and lateral margins, a base thinned by fluting or flaking, production from high quality raw material, and points

exhibiting extensive reworking. Clovis assemblages also include bifacial and unifacial tools, cores/choppers, and burin spalls suggesting a more generalized hunter-gatherer subsistence strategy, with the technology to hunt big game while not relying on it exclusively (Perttula 2004). Folsom tool kits consist primarily of fluted and unfluted points, bifaces, and scrapers, indicating a more specialized, big-game focused, hunting strategy (Collins 1995). Other point types reported in North-central Texas include Dalton and Plainview.

Very few sites in this area exhibit definitive contextual integrity; however, some Plainview material associated with a radiocarbon date of 7310 B. C. (approximately 9,300 B.P.) was found at the Horn Shelter (Hunt et al. 1989; Peter et al. 1990). In addition, the Lewisville and Aubrey sites in North-central Texas showed discrete Paleoindian components with the recovery of Clovis points (Owens 2007). The Lewisville site contained 27 hearth features in association with a Clovis point and other sparse lithics in a near-surface context (Crook and Harris 1957, 1958; Story 1990:182-184). The Aubrey Site contained a Clovis component in association with cultural features and concentrations of lithics and animal bones near the Elm Fork floodplain in Denton County (Ferring 2001).

Despite these sites, it is widely accepted that the Paleoindian period remains relatively poorly understood. What is known is mostly through the presence of diagnostic lithic projectile points in surface collections or from limited context. Examples of these additional Paleoindian sites in the North-Central Texas include the Ballew Site and the Acton Site, which generally represent either deflated late Paleoindian occupation or a mixed assemblage that includes projectile points typologically similar to other Paleoindian material in other areas (Peter et al. 1990). These points include Clovis, Folsom, Angostura, and Plainview. Overall, despite these sites, archeological data concerning the Paleoindian period in the North-Central Texas region is currently limited, and the ratio of big-game hunting to smaller plant and animal subsistence strategies is unknown.

Archaic Period (8,500–1,200 B. P.)

It is widely accepted that as the Paleoindian period came to an end, prehistoric groups began to more intensively harvest local floral and faunal resources. This is marked by a change in site composition and lithic technologies. Unfortunately, Archaic period sites in the North-Central Texas archeological region have not been easily located and excavated (Peter et al. 1990). In addition, distinguishing the early, middle, and late divisions of the Archaic period and developing a chronological sequence from recovered diagnostics has proven difficult because many of the investigations in the region have focused on surface manifestations (Owens 2007). It is likely that components of these periods have either been buried deeply within floodplain alluvium or destroyed by erosional processes. Thus, an adequate characterization of human occupation in North-Central Texas during this period has not been accomplished (Peter et al. 1990).

While no isolated Early Archaic components have been recorded in North-Central Texas, according to Prikryl (1987), 57 diagnostic Early Archaic projectile points have been identified at 22 sites in the area. From these few isolable components that have been identified and analyzed as well as diagnostics from adjacent regions, it can be postulated that slowly

increasing populations responded to warmer and drier environmental conditions by exploiting a broader range of resources, which may explain the overall archeological record of the various divisions of the Archaic period in North-Central Texas (Lynott 1981; Story 1990). Specifically, it is thought that these factors may have led Archaic populations of the eastern portions of North-Central Texas to develop a diversified hunting and gathering pattern based on bottomland resources of the rivers and major creeks, while populations to the west maintained a focus on bison hunting (Hofman 1989).

Based on the limited information from investigations on isolable components on the Archaic period of the region, the chronological sequence in the area can be derived from adjacent regions with similarly identified temporally diagnostic artifacts. These include such Central Texas sites as Landslide (Sorrow et al. 1966), Youngsport (Shafer 1963), Loeve-Fox, and Tombstone Bluff (Prewitt 1982). Some projectile points associated with the Early Archaic includes early split-stemmed varieties and possibly Angostura (Prikryl 1990). The Middle Archaic points included basal-notched forms such as Bell, Andice, and Calf Creek as well as Wells, Dawson, Carrollton, and Bulverde (Prikryl 1990). The Late Archaic projectile points included Castroville, Dallas, Edgewood, Elam, Ellis, Gary, Godley, Marshall, Palmillas, Trinity, and Yarbrough (Prikryl 1990). Some of this mixing and the generally low numbers of Early and Middle Archaic sites may be due to extensive erosion of mid-Holocene deposits. The burnt rock middens that define the Middle Archaic in Central Texas have not been identified in North-central Texas, nor are some of the common point types located in Central Texas. Prikryl (1990) also noted that Middle Archaic sites are usually located on river terraces.

The large number of artifacts and sites dating to the Late Archaic seemingly indicate a significant increase in population (Prikryl 1990). There are approximately three times as many Late Archaic sites in North-central Texas than Middle Archaic sites and more than half of them have no evidence of previous occupations. Many factors likely have contributed to this population expansion. Ferring (1986) argues that the development of the West Fork Paleosol during the Late Archaic is evidence of a wetter climate that would have facilitated the expansion of the Eastern Cross Timbers woodlands. While there is no evidence of horticulture or ceramics during this period, there is evidence for ritual burials (Bement 1994). Stone-lined hearths have also been uncovered at several sites and an increase in the use of local quartzite for tool making has also been recorded.

Late Prehistoric (1,200–250 B. P.)

Although in much of North America the Late Prehistoric period is characterized by the introduction of agriculture, in North-central Texas subsistence strategies did not change drastically from the Archaic to the Late Prehistoric, even with accepted technological innovations such as the bow and arrow (Lynott 1981). This time period is often divided into the Late Prehistoric I and II. The Late Prehistoric I is characterized by Scallorn, Catahoula, Steiner, Alba, and Bonham arrow points, as well as sand-and grog-tempered ceramics appearing around 950 B.P. (Prikryl 1990). There is some evidence of influences from other regions in that some locally manufactured wares display designs similar to those associated with east Texas Caddo ceramic types. Evidence for corn and structures has been found at sites at Mountain

Creek Lake in Dallas County and at Hubert Moss Lake near the Red River (Lorrain 1969; Martin 1994; Peter and McGregor 1988).

During the Late Prehistoric II in North-Central Texas, influences from the southern Plains became pronounced and coincided with an apparent increase in bison herd size (Lynott 1981; Prikryl 1990). Bison was important to subsistence, but presumably shrinking procurement territory sizes due to population increases continued the trend toward horticulture and settled village life (Harris and Harris 1970; Morris and Morris 1970). In terms of technology, a Plains Indian tool assemblage was common (Prikryl 1990). Items associated with this assemblage include calcareous-tempered ceramic vessels, some of which fit the description for the type Nocona Plain (shell tempered), and unstemmed triangular arrow points such as Maud, Fresno, Harrell, and Washita, as well as Perdiz points. Interpreted tools specific to bison processing include snub-nosed or thumbnail scrapers and edge-beveled Harahey knives. Bison scapula hoes, which also are common in Plains Indian sites, have been recovered from sites in the Lewisville Lake and Lavon Lake areas of Denton and Collin Counties (Barber 1969; Harris 1945).

Historic Occupation of Fort Worth (250 B. P. to Present)

The time period from A.D. 1700 to roughly 1850 in North-Central Texas has been designated the Historic Indian Period (Prikryl 1993). Although European contact became common place throughout the Southwest, the North-Central Texas region was dominated by Apachean groups prior to approximately 1725, then by the Comanche, Kiowa, and the even later Wichita Tribes (Bell et al. 1967; Hofman 1989). Historical documentation throughout the Dallas-Fort Worth area is sparse for this early historic time period (Tinsley and Forbes 2010). However, it is accepted that this early historic time period in North-Central Texas was a time of population, fluctuation, movement, and amalgamation (Newcomb 1993; Tinsley and Forbes 2010). Archeological sites attributed to this early historic period are rare compared to earlier periods. Within the upper Trinity River basin, little evidence of these historic Indian groups has been found, with the exception of a few Native American sites with European items (Tinsley and Forbes 2010; Sollberger 1953).

The first permanent Euro-American settlement in the Dallas-Fort Worth area was the settlement of Bird's Fort, established in 1840, by Captain Jonathan Bird (Tinsley and Forbes 2010). The settlement, along the West Fork of the Trinity River in present-day Arlington, was abandoned in 1842 and reoccupied briefly by Sam Houston in 1843, as then president of the Republic of Texas, to sign a peace treaty with local tribes (Garrett 1972; Sergeant 1953). On June 6, 1849, the United States Army established Camp Worth on the bluffs overlooking the Trinity River. The fort's location atop a high bluff provided an unobstructed view of the surrounding area, and an increased measure of security along the army's frontier defense line (Tinsley and Forbes 2010; Selcer 2004). Camp Worth, which was renamed "Fort Worth" in November 1849, consisted of a number of constructed buildings without a fortified wall as was common with fort of the era. As the frontier shifted west, Fort Worth was abandoned by the army in 1853 and turned over to a population of less than 100 civilian settlers, who moved into the abandoned structures and adapted them for their own use (Selcer 2004).

Fort Worth's location along several stage routes brought an increase in population, which aided in the town's eventual designation as the county seat in 1860. After a brief population decrease during the Civil War, the town continued to thrive with the help of the cattle industry and the northern state's demand for Texas beef (Campbell 2003). Fort Worth's location on the Chisholm Trail and the headwaters of the Trinity River placed the town in an ideal location for the booming cattle industry at the turn of the twentieth century. The Fort Worth Stockyards site was created in 1890, approximately three miles north of Fort Worth at the time, as a central location for the boarding and trading of livestock. After a slow beginning, the stockyards began its prominence in the livestock market throughout the early twentieth century. Changes in technology and the transportation industry caused a decline in the stockyards role in the livestock market in the mid-1950's. Recent restoration efforts have helped turn the district into a tourist attraction and have revived commercial activity to the area.

IV. Previous Investigations and Background Review

Previous Investigations

Several major reports concerning the archaeology of the upper Trinity River basin aptly summarize most of the archeological investigations within the upper Trinity River drainage and the cultural-historical framework for the area (Peter and McGregor 1988; Prikryl 1987, 1990; Yates and Ferring 1986). Tinsley and Forbes (2010) provide a recent and thorough summation of recent investigations throughout the Dallas-Fort Worth area, focusing on Tarrant County and northern Fort Worth. These investigations have provided much of the data summarized in the previous cultural setting section.

Background Review

A background review was conducted to determine if any previously conducted archeological surveys and recorded archeological sites are located in or near the project APE. According to the online Texas Archeological Sites Atlas (Atlas), there are no previous surveys or recorded site within or adjacent to the project APE. Within one km (0.62 mile) of the project area, there are two previously conducted archeological surveys. Both the previously conducted surveys are located to the southeast with small portions located just within one km (0.62 mile) of the project APE. Of the previous surveys, one was conducted for the replacement and construction of new rail lines within the Tower 55 Reliever study corridor (Tinsley and Forbes 2010). The other survey was conducted along US 183 by the Federal Highway Administration in 1999. No sites were recorded in the vicinity of the current proposed project area during the previous surveys.

In addition to the Atlas search, a review of the THC's Historic Sites Atlas was conducted to determine if any NRHP properties, SALs, National Historic Landmarks (NHLs), Registered Texas Historic Landmarks (RTHLs), or Official Texas Historic Markers (OTHMs) are within or adjacent to the project APE. The review determined that there are no NRHP properties, SALs, NHLs, RTHLs, or OTHMs within the project APE. However, there is one historic district listed on the NRHP and 11 OTHMs near the southern extent of the project APE (**Figure 2**).

The historic district is for the Fort Worth Stockyards. The 11 historic markers represent individual structures or activities related to the district. The historic markers consist of the following.

- Fort Worth Stockyards Hog and Sheep Markets
- Fort Worth Stockyards Horse and Mule Barns
- Saunders, Thomas B., Family
- Coliseum
- Cattle Brands
- Fort Worth Livestock Exchange
- Fort Worth Stock Yards Company
- Swift & Company
- Armour & Company
- Niles City
- Southwestern Exposition & Livestock Show

No other NRHP properties, SALs, NHLs, RTHLs, or OTHMs are within one km (0.62 mile) of the proposed project area

Historic Aerial Review

A review of historic aerial photographs of the project APE was conducted to determine previously disturbed areas and areas with moderate to high likelihood of containing intact cultural resources. The historic aerial review used photographs of the project APE dating back to 1956, with additional photographs reviewed from 1963, 1970, 1979, 1990, 2001, and 2004 (NETR Online 2012). The aerial photograph review revealed that in 1956, the majority of the project APE was surrounded by residential neighborhoods. Buck Sansom Park (the most northern portion of the project APE) appeared to be the northern extent of development associated with Fort Worth at this time, with the northern and western boundary appearing relatively undeveloped. Development occurred rapidly in eight years as the 1963 aerial photograph depicts development extending farther north than the project APE, much as it currently does today. Throughout the project APE, the historic aerial review shows heavy disturbances along the modern channel of Marine Creek including numerous dirt roads that no longer exist and a wider floodplain than is currently apparent. In addition, many of the flood control features that were observed during the current archeological survey are not depicted on the earlier aerial photographs. A more detailed description of the changing surroundings in each park is presented in **Section IV. Survey Results**.

V. Methods

Half archeologists conducted a preliminary reconnaissance survey of the entire project APE. The reconnaissance survey allowed for the entire project APE to be visually assessed and determined what areas had been disturbed by urban development. In addition, the reconnaissance survey allowed for an assessment of Marine Creek and the location of possible intact fluvial deposits with a likelihood of containing intact cultural deposits based on the observed disturbances and the results of the historic aerial research. The assessment of Marine Creek was accomplished through a cursory observation of the creek's bed, cutbanks, bank deposits, and modern flood control modifications. Noted disturbances located along Marine Creek throughout the project APE include modern roadways, bridges, existing concrete trails, assorted park elements (playgrounds, shelters, athletic fields, etc.), buried water and wastewater lines, assorted existing and overhead utilities, and flood control measures along the creek that includes dams and erosion control through the placement of large boulders and rip-rap (**Figure 6 and 7**). These disturbances were mainly from Macie Avenue in Buck Sansom Park to the southern extent of the project APE in Rodeo Park. Based on the results of the reconnaissance survey, the project APE was divided into two sections for the current archeological survey with Section 1 consisting of the central and southern portion of the project APE and Section 2 consisting of Buck Sansom Park (the northern portion of the project APE). The intensive archeological survey concentrated mainly on Section 2, or Buck Sansom Park.



Figure 6. Overview of typical modified topography along park corridor, notice buried culvert in foreground and leveled areas for roadways along both side of Marine Creek. Photo is facing north from NW 30th Street.



Figure 7. Overview of area south of Macie Avenue Bridge showing typical erosion control measures along Marine Creek, facing north.

Shovel testing was the primary means of subsurface exploration throughout the undisturbed portions of the project APE. Based on the review of historical and recent aerial photographs, the mapped soils and geology, and the results of the reconnaissance survey, the areas adjacent to Marine Creek in Buck Sansom Park were determined to be the only relatively undisturbed area that contained intact alluvial soils. The park measures approximately 140 acres in size, which according to the CTA survey standards, requires approximately 47 shovel tests with one shovel tests excavated every three acres. However, Marine Creek lies predominantly along the eastern boundary of Buck Sansom Park with a large portion of the park situated in areas with upland soils and topography. Therefore, 23 shovel tests were placed in Section 2 adjacent to Marine Creek and an unnamed tributary in areas displaying minimal disturbances and modern modifications. An additional eight shovel tests were placed in isolated relatively undisturbed areas throughout Section 1 in the central and southern portion of the project APE, mainly to confirm disturbances or to determine extent of gravels deposited in the modern floodplain. In all, 31 shovel tests were conducted throughout the project APE. The shovel tests were approximately 30 cm in diameter and excavated in 20 cm levels to depths ranging from 10 to 90 cm below surface (cmbs), depending on the depth of large gravel deposits or bedrock. Soil from all the shovel tests were either screened through ¼" hardware screen or hand sifted depending on the clay content of the excavated soils. Each shovel test was documented on a standardized form with its location recorded on a Global Positioning System (GPS) device and field maps. Overall, the survey was of sufficient intensity to identify any significant archeological deposits on the surface and subsurface throughout the project APE.

Historic Buildings and Structures

In addition to the archeological investigations, a cursory review of historic buildings and structures within or adjacent to the project APE was conducted. Should federal involvement occur, the review was conducted to determine the necessity of a formal historic property documentation survey to comply with the requirements of Section 106 of the NHPA. Although the project will not impact any standing structures, the review sought to identify any standing structures within the project APE, or any possible historic structures immediately adjacent to the project APE as due diligence.

The cursory historic building and structure review expanded on the results of the Historic Atlas examination by identifying structures with historic markers and determining their general proximity to the project APE. In addition, the project APE was examined for structures identified on the 1955 Halthom City topographic map and on aerial photographs (circa 1956 and 1963) provided by the NETR Online (2012).

VI. Survey Results

As previously stated, the project APE was initially investigated with a reconnaissance survey to identify the areas necessitating an intensive archeological survey and to confirm the initial assessment that portions of the project APE are disturbed. Based on the reconnaissance survey, the project APE was divided into two sections for the intensive archeological survey. Section 1 consists of the central and southern portion of the project APE from Marine Creek Linear Park North to Rodeo Park, which includes Marine Creek Linear Park, Lincoln Park, and the three city-owned lots that will be rededicated as parkland. Section 1 displayed high levels of disturbances and modifications with little to no areas of intact alluvial soils. Section 2 consists exclusively of Buck Sansom Park. This portion of the project APE initially displayed the least amount of recent modifications and large areas with relatively low levels of disturbances. The subsequent sections discuss the modified methods utilized in each section, the disturbances encountered, as well as, the results of the survey.

Regarding historic structures, the reconnaissance survey was able to determine that there are no standing historic structures within or adjacent to the project APE. Therefore, a formal historic property documentation survey to comply with the requirements of Section 106 of the NHPA is not recommended. The remnants of a historic bridge were observed within Lincoln Park and recorded as a site (41TR246). This site is discussed further below.

Section 1

The majority of Section 1, which contains the central and southern portion of the project APE, is located in a relatively narrow strip of park land immediately adjacent to Marine Creek. In Section 1, the creek consists of an incised channel with exposed bedrock and large gravel beds along the channel banks within the active floodplain. Limestone bedrock is also exposed throughout the majority of the creek bed (**Figure 8**). Terraces that sit immediately adjacent to the active floodplain appear heavily modified by recent improvements such as roadway cut and fill sections and areas flattened for current park elements and adjacent modern development (**Figure 9 and 10**). Each park displayed high levels of disturbance and was investigated with minimal shovel testing.



Figure 8. Overview of exposed limestone bedrock adjacent to Marine Creek in southern portion of Lincoln Park, facing north.



Figure 9. Overview of a typical modified area along Marine Creek. Photo is Lincoln Park facing north.



Figure 10. Overview of southern portion of Lincoln Park towards Rodeo Park near southern extent of project area, facing southeast.

Section 1 – Central Section

Marine Creek Linear Park North, located just south of Buck Sansom Park, was established in 1996 and is bound by Angle Avenue to the west, NW 35th Street to the north, Chestnut Avenue to the east, and Long Avenue to the south. The 1956 aerials of Marine Creek Linear Park North show a large eroded area that nearly encompasses the full limits of the current park boundaries. By 1970, adjacent roadways appear to resemble their current state with the park itself appearing relatively unchanged aside from the current trail in the park that appears in the 1979 aerial. Two shovel tests were placed in Marine Creek Linear Park North (ST 7 and 8) along the western side of Marine Creek on the terrace overlooking the creek (Table 2; Figure 11). Both shovel tests encountered large river-worn cobbles just below the surface at a depth of 10 cmbs. No cultural material was observed within Marine Creek Linear Park North.

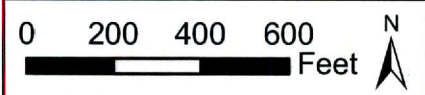
East of Marine Creek Linear Park North, and outside the project APE, are the remnants of a residential neighborhood, recognized only by a series of residential streets with driveway cut-outs along existing curbs. No houses or structures remain aside from the occasional low-lying retaining or property boundary rock wall. The neighborhood is the former northern portion of the Worth Hills Addition subdivision. This area represents approximately eight city blocks that was acquired by the City of Fort Worth as part of a noise mitigation program related to the Meacham International Airport. Although several residential structures appear on the 1955 Halthom City topographic map and aerial photographs from 1956 to 2005, none of the structures are depicted on a 2009 aerial photograph.

TABLE 2. REPRESENTATIVE SHOVEL TEST DESCRIPTIONS

Shovel Test #	Level	Depth (cm)	Soil Description	Inclusions	Positive/Negative
ST 1	1	0-20	Very dark brown (10YR 2/2) compact silt loam.	Minimal gravels and modern trash	Negative
	2	20-35	Very dark brown (10YR 2/2) very compact silt loam.	Limestone gravels Increasing with depth	Negative
ST 5	1	0-15	Dark brown (10YR 3/2) loam	Limestone gravels	Negative
ST 6	1	0-15	Dark brown (10YR 3/1) compact sandy loam with dark yellowish brown (10YR4/6) clay mottles (approx. 50 percent).	Limestone gravels, impenetrable at base of unit	Negative
ST 7 & 8	1	0-10	Brown (10YR 4/3) and very dark brown clay loam with gravels	Immediate gravels below surface	Negative
ST 12	1-3	0-60	Very dark grayish brown (10YR 3/2) compact clay loam.	Heavy roots, few gravels. Recent bone near surface	Negative
	4-5	60-90	Dark grayish brown (10YR 4/2) compact clay loam.	Roots and few gravels. Large rock at 90 cmbs.	Negative
ST 24	1	0-20	Very dark grayish brown (10YR 3/2) loose clay loam.	Few gravels	Negative
	2	20-25	Yellow (10YR 7/6) loam over shallow limestone parent material.	Degrading limestone parent material at base with gravels throughout.	Negative



- Shovel Tests
- Project Area
- NRHP District
- Historical Marker



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Figure 11: Section 1 Shovel Test Map
Central Section
 Marine Creek Corridor Linear Park
 Improvements Project
 Tarrant County, Texas

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Marine Creek Linear Park is located just south of Marine Creek Linear Park North and was established in 1984. The park is bound by Angle Avenue to the west, Long Avenue to the north, Gould Avenue to the east, and 30th Street to the south. The major modern feature within Marine Creek Linear Park is a stone check dam that has created a small reservoir that runs upstream to Long Avenue (**Figure 12**). Prior to the construction of the dam in the 1980s, the creek appears to have meandered greatly in a wider floodplain that nearly encompassed the whole current park area. Several dirt roads appear throughout the park on historic aerial photographs including a larger dirt road that appears to cross Marine Creek from Pearl Avenue to 32nd Street. The road is also depicted on the 1955 Halthom City topographic map. Due to the numerous previous disturbances and modifications, only one shovel test (ST 6) was conducted in Marine Creek Linear Park (**Table 2; Figure 11**). The shovel test encountered a thin layer of very dark gray (10YR3/1) to dark yellowish brown (10YR 4/6) sandy loam over heavy limestone gravels at approximately 15 cmbs. Overall, no cultural material was observed within Marine Creek Linear Park.



Figure 12. Check dam in Marine Creek Linear Park North, facing west.

Section 1 – Southern Section

Lincoln Park is located south of Marine Creek Linear Park and north of Rodeo Park and was established in 1934. Lincoln Park is depicted on city maps as being located south of 30th Street and north of 29th Street with Angle Avenue and Refugio Avenue marking the parks western and eastern boundaries. However, Lincoln Park actually extends south of 29th Street along Marine Creek as it flows eastward to its southeastern boundary near the intersection of Clinton Avenue and 27th Street. The northern portion of Lincoln Park has been designated a park since 1934 and is depicted as such on the historic and recent aerals. The park appears modified with a large flattened area. Historical aerals indicate that the portion of the park from 29th Street to Clinton Avenue appears to have undergone several episode of clearing, especially along the eastern side of Marine Creek adjacent to Refugio Drive and south of 28th Street. Remnants of an old bridge running east-west in-line with 29th Street are located within the park (**Figure 13**). The remnants include two concrete piers and two concrete abutments. The piers and abutments with no decking are visible on a 1956 aerial photograph. There is no evidence of the bridge being a roadway extension of 29th Street from the review of historic aerals and topographic maps. However, based on its proximity to the roadway and its location, the bridge likely represents a previous extension of 29th Street over Marine Creek. Despite the limited amount of information on the bridge remnants and their function, the remnants were recorded as a site and are described further below. The bridge piers and abutments will not be impacted by the current project.



Figure 13. Overview of historic bridge pilings (Site 41TR246) in Lincoln Park, facing northwest.






Overall, Lincoln Park is rather narrow with the greatest width being approximately 450 feet at its widest point. Additional disturbances within Lincoln Park include flood control measures that include rock embankments, concrete culverts, and evidence of a former check dam just below the bridge remnants (**Figure 14**). Only four shovel tests were placed in Lincoln Park due to disturbances and a minimal amount of the terrace within the park boundaries (ST 2-5) (**Table 2**; **Figure 15**). The shovel test typically encountered a thin deposit of dark brown (10YR 3/2) loamy soil over shallow gravel deposits.

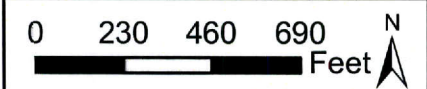
Rodeo Park is the southernmost park in the project APE. The park was dedicated in 1971 and has undergone the most modifications of any of the other parks in the project APE. The 1956 aerial photograph shows Houston Street extending through the center of the park running north-south and NW 27th Street running east-west from Ellis Avenue to Houston Street until the 1970's. In addition, a large corral or small rodeo arena appears in the southeastern section of the park in several aerial photographs prior to 1970 and the entire park appears to have undergone several episode of clearing until the late 1970's. Overall, the park appears heavily modified and disturbed from the previous roadways and overall modification related to adjacent development. Only one shovel test (ST 1) was conducted in Rodeo Park, mainly to confirm the presence of predominant gravel deposits within the active floodplain, which encompasses nearly the entire park (**Table 2**; **Figure 15**). No cultural material was noted within the park boundaries and any evidence of the former Houston and 27th Street extensions into the park or the corral have been completely removed.



Figure 14. Overview of large rock pilings along Marine Creek in Lincoln Park, facing north.



	Site
	Shovel Tests
	Project Area
	NRHP District
	Historical Marker




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Figure 15: Section 1 Shovel Test Map
Southern Section
 Marine Creek Corridor Linear Park
 Improvements Project
 Tarrant County, Texas



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Site 41TR246

Site 41TR246 represents the remains of a historic concrete bridge over Marine Creek, located just west of the intersection of Refugio Avenue and NW 29th Street in Lincoln Park (**Figure 15**). The remains consist of two concrete bridge piers and two concrete abutments (**Figure 16**). The bridge remains are at least 56 years old as indicated by their presence in a 1956 historic aerial photograph, which showed no visible decking. In addition, a 1955 topographic map does not depict NW 29th Street crossing Marine Creek. An inquiry was made to the city regarding the bridge structure; however, no information was available. Based solely on the feature alignments and relative location to existing streets, the bridge remains likely represent a roadway extension of NW 29th Street prior to its destruction. Historical accounts describe Marine Creek as the source of several early 20th century flood events affecting the Fort Worth Stockyard area before the construction of flood control measures in the 1950s and Marine Creek Reservoir in 1958. A significant flood affected a large portion of Fort Worth in 1949, which may have been the date of the bridges destruction.

Site 41TR246 was initially observed and recorded during the reconnaissance survey and confirmed to be over 50 years in age by reviewing the historic aerial photographs. The two piers are oblong rectangular structures approximately 20 feet apart and approximately 20 feet high x 15 feet long x 1 foot wide. One of the piers has a single cut lumber that resembles a railroad tie lying parallel with the top of the pier. The large railroad tie may have served as a bridge bearing for bridge decking. The concrete abutments are constructed of the same material as the piers in an open boxed shaped (C-pattern) pattern in plan with the open end facing away from creek. Several concrete fragments lie in the vicinity of the bridge; however, several seem to have been imported to serve as erosional deterrents along the east bank of the creek. The east bank of Marine Creek at the site location is maintained park and west bank is overgrown with native trees and vegetation that appears to be occasionally cleared. No shovel tests were conducted due to exposed gravels near the surface. Additionally, the topography in the immediate area of the Site 41TR246 displays modifications likely for the original construction of bridge. Site 41TR246 measures 175 feet (e-w) x 55 feet (n-s), which includes a 25-foot buffer around the bridge features. No additional historic features are present at the Site 41TR246.

The two bridge piers and two abutments do not display unique structural elements. In addition, Site 41TR246 has minimal historical value besides providing the historical extent of NW 29th Street. Due to the lack of additional features or artifacts, no additional information can be derived from the site. Additional information can only be derived from historic accounts and records. Due to the limited amount of information on the site and the lack of unique features associated with the bridge, site 41TR246 does not appear eligible for inclusion in the NRHP or designated as a SAL. No further investigations are recommended at site 41TR246.

Site location information is protected by the National Historic Preservation Act of 1966 (as amended), Title III §304 and by the Texas Antiquities Code §191.004, and is not intended for public distribution.



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**Figure 16: Site 41TR246
Sketch Map
Marine Creek Corridor Linear Park
Improvements Project
Tarrant County, Texas**



Section 2

Section 2 consists exclusively of Buck Sansom Park located at the northern end of the project APE. The park is bound by private property to the north, Angle Avenue to the east, 30th and 33rd Streets to the west, and Kearney Avenue to the south. Two roadways are within the park boundaries. Sansom Park Drive bisects the eastern portion of the park, paralleling Marine Creek, and Macie Avenue bisects the western portion of the park from west to east. Marine Creek runs parallel to the eastern park boundary, Sansom Park Drive, and Angle Avenue. An unnamed upland drainage runs parallel with Macie Avenue and Kearney Avenue. The park was designated in 1927, making it the oldest of the five parks in the project APE. Historic aerials reveal that the park was sparsely vegetated, besides riparian areas, up until fairly recent photographs (i.e. 2004). In addition, historic aerials depict several dirt roads throughout the park, especially along the western portion of the park and a larger dirt road crossing Marine Creek at its confluence with an unnamed tributary from the north.

As expected from the mapped soils, the western portion of the park consists of shallow uplands with areas of exposed and eroding bedrock (**Figure 17 and 18**). Several areas appear heavily modified and disturbed by road construction, earthworks, and modern trash dumps. The modern trash dumps appear throughout the western portion of the park with what appears to be construction materials such as concrete and cut wood (**Figure 19**). Surficial exposure was over 30 percent; therefore, no shovel tests were placed in the upland portions of the park. The eastern portion of the park appeared to contain areas with deeper alluvial soils. However, clearing, leveling, and excavations related to the current park elements appear to have disturbed this portion of the park as well as evidenced by recent drainage features and berms (**Figure 20 and 21**). Due to disturbances, shovel testing was concentrated along Marine Creek and an unnamed tributary flowing south from the north extent of the park. Overall, 23 shovel tests were conducted in Section 2 of the project APE (shovel test numbers 9-31) (**Table 2; Figure 22**). The shovel tests along the western portion of Marine Creek typically encountered modern trash up to 20 cmbs with impenetrable gravel lens encountered between 30 to 90 cmbs. The shovel tests along the eastern side of Marine Creek and the unnamed tributary encountered shallower soils with impenetrable gravels and bedrock at depths between 10 and 45 cmbs (**Figure 23**). No prehistoric or historic cultural material was encountered in any of the shovel tests. Marine Creek has incised the channel up to 10 to 20 feet throughout the park. An examination of the exposed cutbanks did not reveal any prehistoric or historic cultural material within the project APE. In all, the deposits along Marine Creek display evidence of scouring and depositional episodes. Modern disturbances related to park improvements appear to have modified a large portion of the park, likely removing any prehistoric or historic cultural material if it was ever present.



Figure 17. Bedrock exposure within upland area of Buck Sansom Park.



Figure 18. Degrading bedrock and upland gravels in upland portion of Buck Sansom Park.



Figure 19. Overview of typical modern trash found throughout upland portion of Buck Sansom Park.



Figure 20. Overview of modern disturbances in Buck Sansom Park. Photo is modified storm drainage features and culverts for adjacent athletic fields.

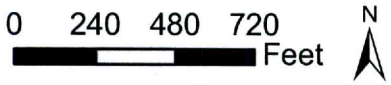


Figure 21. Overview of leveled area in central portion of Buck Sansom Park showing typical berms located throughout the leveled area.



Buck Sansom Park

- Shovel Tests
- Project Area
- NRHP District
- Historical Marker



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**Figure 22: Section 2
Shovel Test Map**
Marine Creek Corridor Linear Park
Improvements Project
Tarrant County, Texas

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Figure 23. Overview of unnamed tributary to Marine Creek in northern portion of Buck Sansom Park, facing north.

VII. Summary and Recommendations

The reconnaissance and intensive archeological survey of the proposed Marine Creek Corridor Linear Park Improvements project APE in Fort Worth, Tarrant County, Texas was conducted by Halff on behalf of the City of Fort Worth. The reconnaissance survey was conducted of the entire project area to confirm existing disturbances recognized during the background review and identify areas with the possibility of containing intact prehistoric or historic-aged archeological resources. Based on the reconnaissance survey, the project area was divided into two sections for the current archeological survey. Section 1 consists of the central and southern portion of the project APE from Marine Creek Linear Park North to Rodeo Park, and includes Marine Creek Linear Park, Lincoln Park, and the three city-owned lots that will be rededicated as parkland and incorporated into Marine Creek Linear Park North. Section 1 displayed high levels of disturbances and modifications with little to no areas of intact alluvial soils. Section 2 consists exclusively of Buck Sansom Park. Overall, Sections 1 and 2 were more disturbed by recent development and natural erosion than originally anticipated and no archeological sites, cultural features, or significant cultural material was observed. The modern disturbances are largely due to urbanization, modern development, previous park improvements, road construction, and flood control/drainage construction.

Based on the results of the survey, there is one archeological site within the proposed Marine Creek Corridor Linear Park Improvements project APE. Site 41TR246 is the remnants of a historic bridge likely originally constructed in the mid-20th century. The remnants do not display unique structural elements and have minimal historical value besides providing the historical extent of NW 29th Street. Therefore, site 41TR246 does not appear eligible for inclusion in the NRHP or designated as a SAL. No further investigations are recommended at site 41TR246. Throughout the rest of the project APE, no properties listed on the NRHP, NHL, RTHL, or OTHM were identified. The cursory historic structures investigation determined that no historic properties exist in the park boundaries and no properties would be adversely affected by the undertaking. Construction related to the Marine Creek Corridor Linear Park Improvements will not impact any archeological sites, significant cultural resources, or historic properties. Halff recommends that the City of Fort Worth be allowed to proceed with construction. In the event that unanticipated archeological deposits are encountered during construction, work in the immediate area should cease, and the THC should be contacted for further consultation.

VIII. References

- Albert, Lois E.
1981 *Ferndale Bog and Natural Lake: Five Thousand Years of Environmental Change in Southeastern Oklahoma*. Oklahoma Archeological Survey studies in Oklahoma's Past No. 7. University of Oklahoma, Norman.
- Barber, Byron L.
1969 The Hackberry Site. In *The Record* 25(3):18-24.
- Barnes, V. E.
1992 *Geologic Map of Texas*. University of Texas at Austin, Virgil E. Barnes, project supervisor, Hartmann, B.M. and Scranton, D.F., cartography, scale 1:500,000
2000 *Dallas Sheet*. Geologic Atlas of Texas, Bureau of Economic Geology, University of Texas at Austin.
- Bell, R. E., E. B. Jelks, and W. W. Newcomb (assemblers)
1967 *A Pilot Study of Wichita Indian Archaeology and Ethnohistory*. Submitted to the National Science Foundation.
- Bement, Leland C.
1994 *Hunter-Gatherer Mortuary Practices during the Central Texas Archaic*. University of Texas Press, Austin, Texas.
- Bousman, C. Britt
1998 Paleoenvironmental Change in Central Texas: the Palynological Evidence. *Plains Anthropologist* 43:201-219.
- Bryant, Vaughn M., Jr., and R. G. Holloway
1985 *A Late-Quaternary Paleoenvironmental Record of Texas: An Overview of the Pollen Evidence*. In *Pollen Records of Late-Quaternary North American Settlements*, edited by Vaughn M. Bryant, Jr., and Richard G. Holloway, pp. 46-66. American Association of Stratigraphic Palynologists Foundation, Dallas, Texas.
- Campbell, R. B.
2003 *Gone to Texas: A History of the Lone Star State*. Oxford University Press, New York.
- Cliff, Maynard B., Steven M. Hunt, Melissa M. Green, Duane E. Peter, and F.D. Kent
1996 *Cultural Resources Survey of 1,342 Hectares (3,317 Acres) Within the Red River Army Depot and Lone Star Army Ammunition Plant, Bowie County, Texas*. RRAD/LSAAP Archeological Technical Series, Report of Investigations Number 5. Geo-Marine, Inc., Plano, Texas.
- Cliff, Maynard B., and Duane E. Peter
1992 *Cultural Resources Survey of the Most Soils Management Area, White Oak Creek Mitigation Area (WOCMA), Cass County, Texas*. White Oak Creek Mitigation Area Archeological Technical Series, Report of Investigations Number 1. Geo-Marine, Inc., Plano, Texas.

Collins, M.B.

1995 Forty years of archeology in central Texas. *Bulletin of the Texas Archeological Society*. 66: 361-400.

Crook, W. W., Jr., and R. K. Harris

1957 Hearths and Artifacts of Early Man near Lewisville, Texas, and Associated Faunal Material. *Bulletin of the Texas Archeological Society* 28:7-79.

1958 A Pleistocene Campsite near Lewisville, Texas. *American Antiquity* 23:233-246.

Delcourt, Hazel R., and Paul L. Delcourt

1985 *Quaternary Palynology and Vegetational History of the Southeastern United States*. In *Pollen Records of Late-Quaternary North American Sediments*, edited by Vaughn M. Bryant, Jr. and Richard G. Holloway, 1-37. American Association of Stratigraphic Palynologists Foundation, Dallas.

FAUNMAP

1994 FAUNMAP: A Database Documenting Late Quaternary Distributions of Mammal Species in the United States. Scientific Papers 25. Illinois State Museum, Springfield.

Ferring, C. R.

1986 *Lake Ray Roberts Archaeological Mitigation Plan*. Institute of Applied Science, North Texas State University. Report submitted to the USACE, Fort Worth district.

2001 *The Archaeology and Paleoeology of the Aubrey Clovis Site (41DN479), Denton County, Texas*. Center for Environmental Archaeology, Department of Geography, University of North Texas, Denton.

Garrett, J. K.

1972 *Fort Worth: A Frontier Triumph*. Encino Press, Austin.

Griffith, G.E., S.A. Bryce, J.M. Omernik, J.A. Comstock, A.C. Rogers, B. Harrison, S.L. Hatch, and D. Bezanson

2004 Ecoregions of Texas (color poster with map, descriptive text, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:2,500,000).

Harris, R. K.

1945 Bone Implement Burial, Collin County, Texas. *Bulletin of the Texas Archaeological and Paleontological Society* 16:84-89.

Harris, R. K., and I. M. Harris

1970 A Bison Kill on Dixon's Branch, Site 27A2-5, Dallas County, Texas. *The Record* 27(1):1-2.

Hemmings, Thomas E.

1982 Vertebrate Fossils from Recent Red River Point Bar and Channel Bar Deposits in the Great Bend Region. In *Contributions to the Archeology of the Great Bend Region*, edited by Frank F. Schambach and Frank Rackerby, pp. 30-38. Research Series 22. Arkansas Archeological Survey, Fayetteville.

Hester, Jim J.

1960 Late Pleistocene Extinction and Radiocarbon Dating. *American Antiquity* 26:58-77.

Hofman, J. L.

1989 Prehistoric Culture History—Hunters and Gatherers in the Southern Great Plains. In *From Clovis to Comanchero: Archeological Overview of the Southern Great Plains*, by J. L. Hofman, R. L. Brooks, J. S. Hays, D. W. Owsley, R. L. Jantz, M. K. Marks, and M. H. Manhein, pp. 25–60. Research Series No. 35. Arkansas Archeological Survey, Fayetteville.

1989 Protohistoric Culture History on the Southern Great Plains. In *From Clovis to Comanchero: Archeological Overview of the Southern Great Plains*, by J. L. Hofman, R. L. Brooks, J. S. Hays, D. W. Owsley, R. L. Jantz, M. K. Marks, and M. H. Manhein, pp. 91–100. Research Series No. 35. Arkansas Archeological Survey, Fayetteville.

Hunt, S. M., D. E. Peter, and M. B. Cliff

1989 Survey of the Proposed Emergency Spillway for Possum Kingdom Dam, Palo Pinto County, Texas. Miscellaneous Report of Investigations No. 5. Geo Marine, Inc., Plano, Texas.

Johnson, Eileen

1987 Vertebrate Remains. In *Lubbock Lake: Late Quaternary Studies on the Southern High Plains*, edited by Eileen Johnson pp. 48-89. Texas A&M University Press, College Station.

Kanter,

2007 The Archaeology of Regions: From Discrete Analytical Toolkit to Ubiquitous Spatial Perspective. *Journal of Archaeological Research* 16 (4):37-81.

Kurten, Björn, and Elaine Anderson

1980 *Pleistocene Mammals of North America*. Columbia University Press, New York.

Lorrain, D.

1969 *Archaeological Excavations in the Fish Creek Reservoir*. Contributions in Anthropology No. 4. Department of Anthropology, Southern Methodist University, Dallas.

Lundelius, Ernest L., Jr.

1967 Late-Pleistocene and Holocene Faunal History of Central Texas. In *Pleistocene Extinctions: the Search for a Cause*, edited by Paul S. Martin and H. E. Wright, Jr., pp. 287-319. Yale University Press, New Haven, Connecticut.

1974 The Last Fifteen Thousand years of Faunal Change in North America. In *History and Prehistory of the Lubbock Lake Site*, edited by Craig C. Black. Museum Journal No. 15:141-160.

- Lynott, M. J.
 1977 A Regional Model for Archaeological Research in Northcentral Texas. Ph.D. dissertation, Department of Anthropology, Southern Methodist University, Dallas, Texas.
- 1981 A Model of Prehistoric Adaptation in Northern Texas. *Plains Anthropologist* 26(92):97-110.
- Martin, E. R.
 1994 The Dillard Site, a Late Prehistoric Village on the Red River in Cooke County, Texas. *Bulletin of the Texas Archaeological Society* 62:105-200.
- Morris, V., and B. Morris
 1970 Excavation of Bison Remains in Northwest Dallas County. *The Record* 27(1):2-5.
- Nationwide Environmental Title Research, LLC (NETR) Online
 2012 Historic Aerials. Nationwide Environmental Title Research (NETR), Real Estate Research and Information, LLC, Tempe AZ. Available online at <http://www.historicaerials.com/>, accessed 1/16/2012 and 2/20/2012.
- Newcomb, W. W., Jr.
 1993 Historic Indians of Central Texas. *Bulletin of the Texas Archeological Society* 64:1-63.
- NRCS
 2011 Tarrant County, Texas. Soil Survey Geographic (SSURGO) Database, United States Department of Agriculture.
- Owens, J. D.
 2007 *Intensive Cultural Resources Survey of the Possum Kingdom Lake Hike & Bike Trail, Phase II, Palo Pinto County, Texas*. Prepared for the Brazos River Authority. Report Number HJN 070148 AR. Horizon Environmental Services, Inc., Austin, Texas.
- Perttula, Timothy K.
 2004 *The Prehistory of Texas*. Texas A&M University Press, College Station, Texas.
- Peter, D. E., M. B. Cliff, S. M. Hunt, S. N. Allday
 1990 *Test Excavation of Site 41PP319, Possum Kingdom Dam, Palo Pinto County, Texas*. Prepared for the Brazos River Authority. Miscellaneous Report of Investigations, No. 13. Geo-Marine, Inc., Plano, Texas.
- Peter, Duane, and David Journey
 1988 Environmental Background. In *Late Holocene Prehistory of the Mountain Creek Drainage*, edited by D. E. Peter and D. E. McGregor, pp. 5-26. Joe Poole Lake Archaeological Project Volume 1. Archaeological Research Program, Southern Methodist University, Dallas, Texas.

Peter, D. E., and D. E. McGregor (editors)

1988 *Late Holocene Prehistory of the Mountain Creek Drainage*. Joe Pool Lake Archaeological Project, vol. I. Archaeology Research Program, Southern Methodist University, Dallas, Texas.

Prikryl, D. J.

1987 A Synthesis of Prehistory on the Lower Elm Fork of the Trinity River. Unpublished Master's thesis, University of Texas, Austin.

1990 *Lower Elm Fork Prehistory: A Redefinition of Cultural Concepts and Chronologies along the Trinity River, North Central Texas*. Report 37. Office of the State Archeologist, Texas Historical Commission, Austin.

1993 Introduction to Section III: Regional Preservation Plan for Archeological Resources, Prairie-Savanna Archeological Region. In *Archeology in the Eastern Planning Region, Texas: A Planning Document*, edited by N. A. Kenmotsu and T. K. Perttula, pp. 191–204. Cultural Resource Management Report 3. Department of Antiquities Protection, Texas Historical Commission, Austin.

Ressel, Dennis D.

1981 *Soil Survey of Tarrant County, Texas*. Soil Conservation Service, United States Department of Agriculture, Washington, DC.

Scoggins, Philip

2011 Surface Geology of Dallas and Tarrant Counties, Texas. Dallas Paleontological Society. Available online at http://www.dallaspaleo.org/details/surface_geology.htm, accessed 11/22/2011.

Selcer, R. F.

2004 *Fort Worth: A Texas Original!* Texas State Historical Association, Austin.

Semken, Holmes A. Jr.

1961 Fossil Vertebrates from Longhorn Cavern Burnet County, Texas. *The Texas Journal of Science* 13:290–310.

Sergeant, G. W.

1953 Early History of Tarrant County. Master's thesis, University of Texas, Austin.

Slaughter, Bob H.

1967 *Animal Ranges as a Clue to Late Pleistocene Extinctions*. In *Pleistocene Extinctions: the Search for a Cause*, edited by Paul S. Martin and H. E. Wright, Jr., pp. 155–167. Yale University Press, New Haven, Connecticut.

Soil Survey Staff

1981 *Land Resource Regions and Major Land Resource Areas of the United States*. Agriculture Handbook 296. Rev. Ed. United States Department of Agriculture, Soil Conservation Service. Washington, DC. 156 p.

2011 Tarrant County, Texas. Web Soil Survey, NRCS, United States Department of Agriculture. Available online at <http://websoilsurvey.nrcs.usda.gov/>, accessed 11/18/2011.

Sollberger, J. B.

1953 The Humphrey Site. In *The Record* 11(3):11–14.

Spearing, D.

1991 *Roadside Geology Series: Roadside Geology of Texas*. Mountain Press Publishing Company. Missoula, MT.

Story, D. A.

1990 Cultural History of the Native Americans. In *The Archeology and Bioarcheology of the Gulf Coastal Plain*, 2 vols., by D. A. Story, J. A. Guy, B. A. Burnett, M. D. Freeman, J. C. Rose, D. G. Steele, B. W. Olive, and K. J. Reinhard, pp. 1:163–1:366. Research Series No. 38. Arkansas Archeological Survey, Fayetteville.

Sundermeyer, Scott A., John T. Penman, and Timothy K. Perttula

2008 *Integrated Cultural Resources Investigations for the Bowie County Levee Realignment Project, Bowie County, Texas and Little River County, Arkansas*. LopezGarcia Group, Misc. Reports, Reports of Investigation # 29, Dallas, Texas. Prepared for the USACE, Tulsa District.

Tinsley, Clayton M., and Jessica M. Forbes

2010 *Intensive Archaeological Survey of the Tower 55 Reliever Study Corridor, Fort Worth, Tarrant County, Texas*. Misc. Reports of Investigation # 471, Geo-Marine, Plano, Texas. Prepared for Jacobs Engineering, Dallas, Texas.

Wermund, E.G.

1996 *Physiography of Texas (Map and Text)*. Bureau of Economic Geology, University of Texas at Austin.

Yates, B. C., and C. R. Ferring

1986 *An Assessment of the Cultural Resources in the Trinity River Basin, Dallas, Tarrant, and Denton Counties, Texas*. Institute of Applied Sciences, North Texas State University, Denton. Submitted to the U.S. Army Corps of Engineers, Fort Worth District.

