ARCHAEOLOGICAL SURVEY OF THE GOSLING ROAD EXTENSION PROJECT IN NORTH CENTRAL HARRIS COUNTY TEXAS

Texas Antiquities Permit 1205

By

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Brazos Valley Research Associates

Contract Report Number 23

1993

ARCHAEOLOGICAL SURVEY OF THE GOSLING ROAD EXTENSION PROJECT IN NORTH CENTRAL HARRIS COUNTY, TEXAS

Brazos Valley Research Associates
Project Number 93-2

by

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ABSTRACT

A cultural resources investigation of the Gosling Road Extension project in north-central Harris County was conducted by Brazos Valley Research Associates on June 8 and 12, 1993 for the environmental firm, W. K. Berg & Associates of Houston, Texas. William E. Moore acted as Principal Investigator, and the project was regulated by the Texas Antiquities Committee under permit number 1205. The fieldwork was preceded by a literature search of past work in the county and supported by shovel testing and probing. Total length of the area examined was 4.13 miles with a right-of-way of 60 to 180 feet. No prehistoric or historic sites were recorded as a result of this study. All records and documents pertaining to this project are curated at the Texas Archeological Research Laboratory (TARL) in Austin, Texas.

ACKNOWLEDGMENTS

I would like to thank everyone whose cooperation made the completion of this project possible. At the management level I am grateful to W. K. Berg & Associates, Inc. for providing the necessary maps and other data relevant to the project. Geologist David S. Pettus of Southwest Geoservices in Houston, Texas visited the site and interpreted the geology and geomorphology of the project area. Carolyn Spock, Head of Records at the Texas Archeological Research Laboratory in Austin, Texas and her assistant, Rosario Casarez, are thanked for assisting my efforts during my visit to their office to review the site records. I am also indebted to Mark H. Denton of the Texas Antiquities Committee for his advice regarding the proper field methods to be employed and for helping with the permit application process.

CONTENTS

APPENDICES

FIGURES

INTRODUCTION

Harris County plans to improve an approximate 4.13 mile segment of Gosling Road by increasing the existing right-of-way (ROW) of 60 feet to 180 feet. In addition, this section of Gosling Road will be changed from two lanes to four lanes. In one area the road will be extended from the northern limits of Gosling Road to cross Spring Creek. Specific distances are (south to north) from Spring Stuebner Road to Willow Creek (11,000 feet) and Willow Creek to Spring Creek (10,800 feet). Figure 1 depicts the existing section of Gosling Road and proposed extensions with new right-of-way. Topographic coverage is provided by USGS 7.5' maps Oklahoma and Tomball (Figures 2-3).

Plans for the proposed project were sent to the Texas Historical Commission for review prior to commencement of construction. This project is on land under the control of Harris County and is, therefore, subject to regulation by the Texas Antiquities Committee (TAC). Because of the possibility of significant cultural resources in the area proposed for construction, an archaeological assessment was required by TAC. W. K. Berg & Associates, Inc. contracted with Brazos Valley Research Associates (BVRA) to perform the archaeological survey and prepare a report that documents the results of this project. This work was conducted in June of 1993 under TAC permit 1205. The project number assigned by BVRA is 93-2.

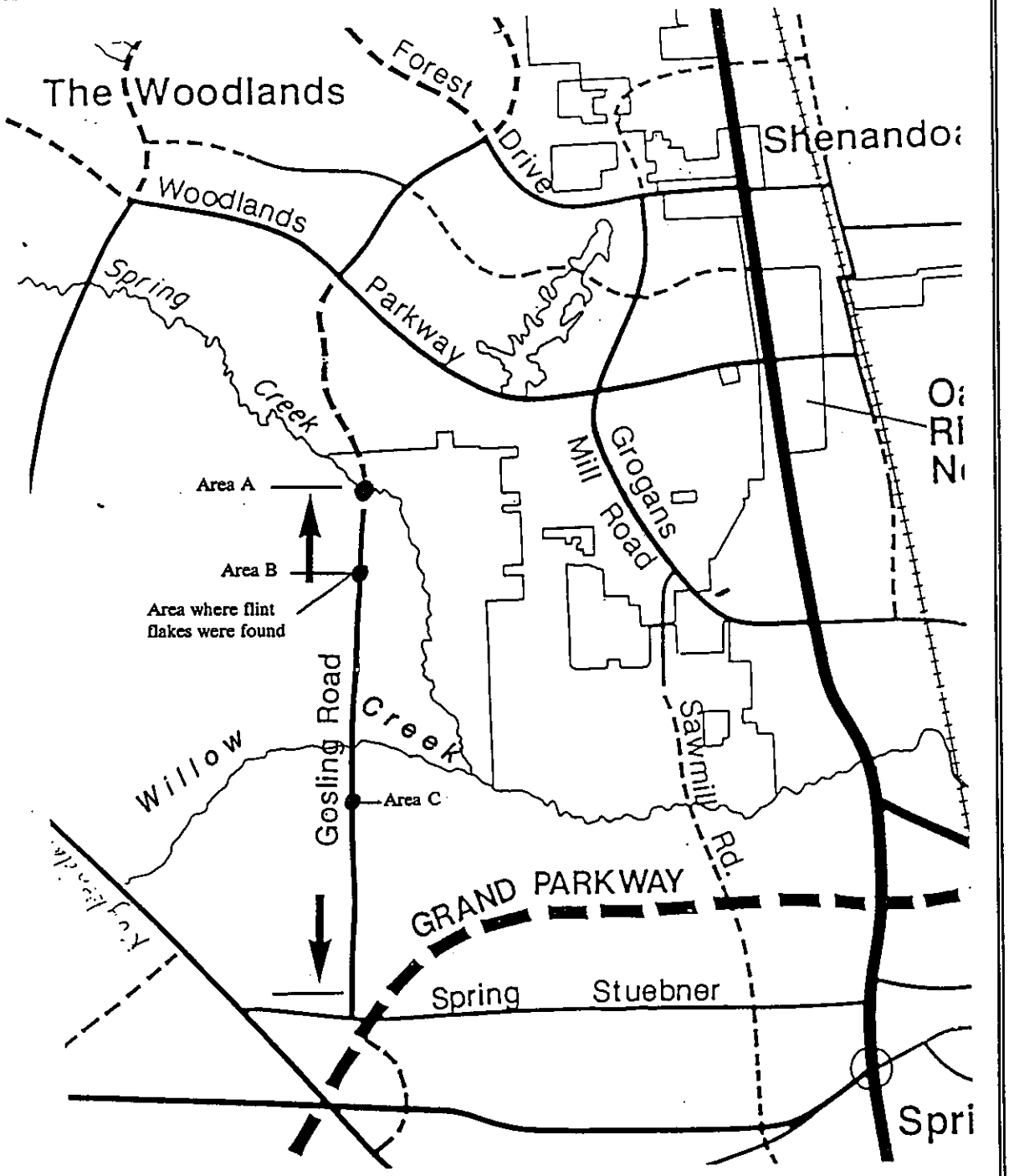

FIGURE 1

PROJECT AREA
SPRING STUEBNER ROAD TO SPRING CREEK

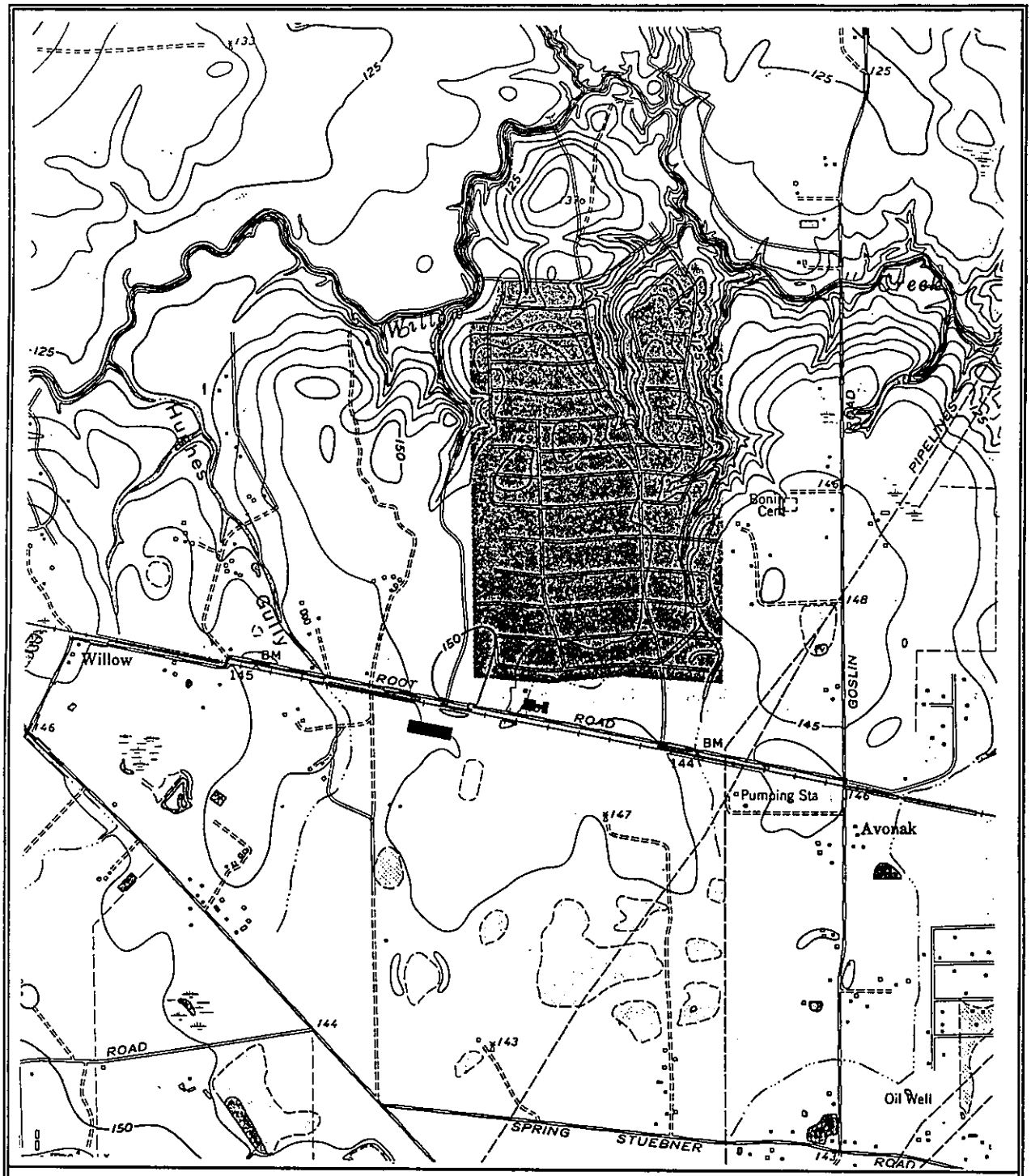

FIGURE 2

Scale 1:24000

U.S. DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
FROM OKLAHOMA QUADRANGLE TEXAS-HARRIS COUNTY

7.5 MINUTE SERIES (TOPOGRAPHIC)

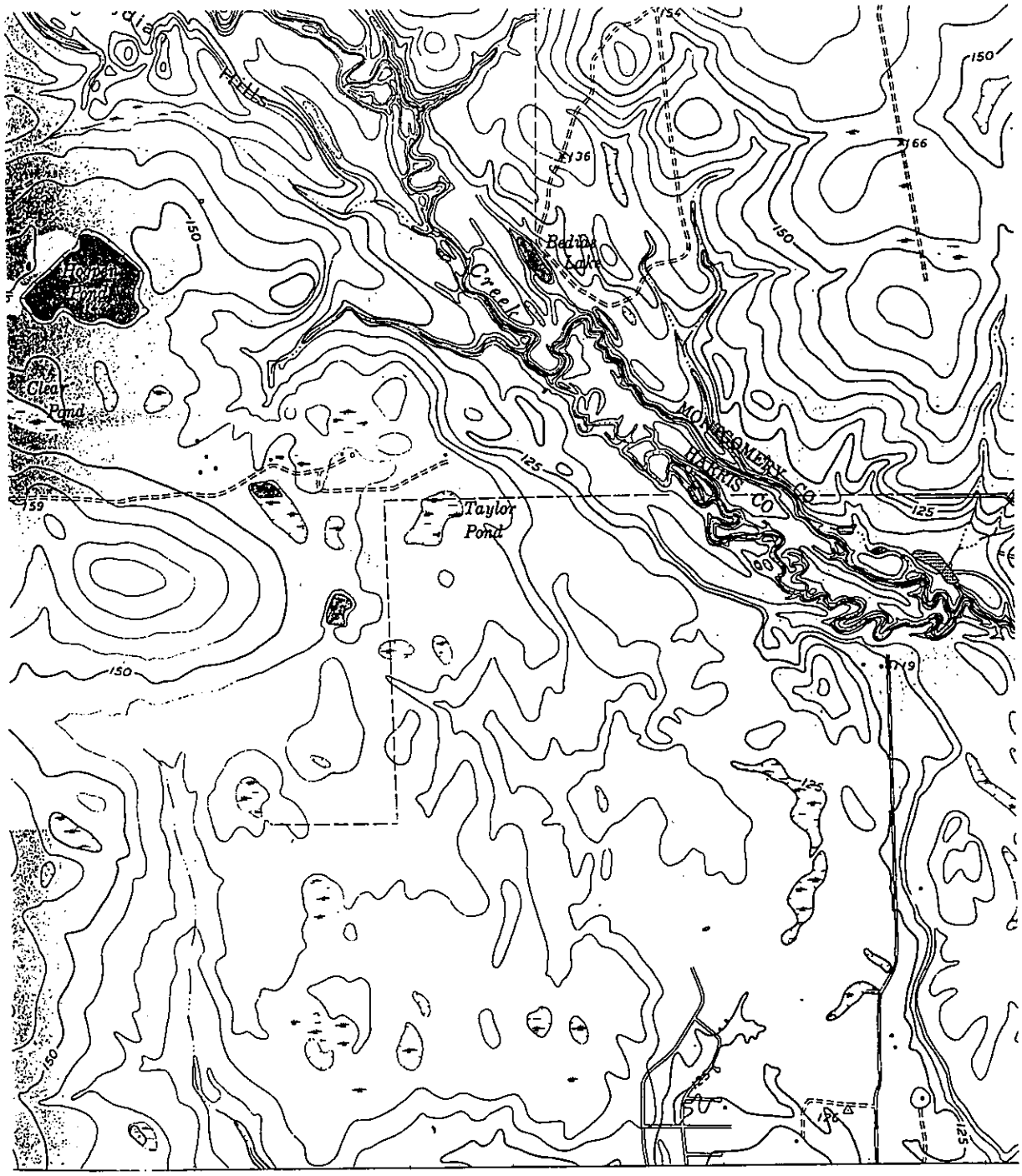

FIGURE 3

Scale 1:24000

U.S. DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY
FROM TOMABLL QUADRANGLE TEXAS-HARRIS COUNTY

7.5 MINUTE SERIES (TOPOGRAPHIC)

ENVIRONMENTAL SETTING

Vegetation

The project area is located within the Austroriparian biotic province as defined by Blair (1950:98-101) near its western boundary with the Texan province. This boundary is marked by the western edge of the pine-hardwood forests of the eastern Gulf Coastal plain, a boundary set by available moisture levels. More specifically, the project area is found within the pine-oak forest subdivision of the Austroriparian province. Dominant floral species include loblolly pine (*Pinus taeda*), yellow pine (*Pinus echinata*), red oak (*Quercus rubra*), post oak (*Quercus stellata*), and blackjack oak (*Quercus marilandica*). According to Braun (1950), the vegetation of the area belongs to the Oak-Pine Forest Region with influence from the nearby Southeastern Evergreen Forest Region. Correll and Johnston (1970) refer to it as the Pineywoods or Timber Belt.

Fauna

A census of faunal types of the area was prepared by Richard M. Poche (1973) specifically for the Woodlands Development project. His study revealed that animal life in the Woodlands is, for the most part, characteristic of the Deep South. He (Poche 1973:44-45) lists three mammals as abundant. These are the raccoon, armadillo, and hispid cotton rat. Common mammals include such man-utilized species as white-tailed deer, eastern cottontail rabbit, and swamp rabbit. Numerous species of birds, reptiles, amphibians, and fish are reported from the area (Poche 1973:51-66).

Climate

The following climatic data were taken from the soils book for Harris County (Wheeler 1976). The climate of Harris County is predominantly marine. Numerous small streams and bayous, because of their proximity to Galveston Bay, favor the development of fogs. The prevailing winds are from the southeast and south except in January when frequent high pressure areas support invasions of polar air and prevailing northerly winds.

Temperatures are moderated by the influence of winds from the Gulf. This results in mild winters and relatively cool summer nights. Abundant rainfall is another effect of the nearness of the Gulf, although rare extended dry periods do occur. The average number of days with minimum temperatures of 32 degrees Fahrenheit or lower is only about seven per year in Houston. Monthly rainfall is evenly distributed throughout the year. On an annual basis rainfall varied from 72.86 inches in 1900 to 17.66 inches in 1917. Total precipitation of 30-60 inches is considered normal. The average date of the last temperature of 32 degrees Fahrenheit or lower in the spring is March 2, while the average date of the first 32 degrees Fahrenheit in the fall is November 28.

Soils

Soil data were taken from the Harris County soils book (Wheeler 1976). Three soil associations are present in the project area. They are the Nahatche-Voss-Kaman association, Segno-Hockley association, and the Wockley-Gessner association. The project area passes through six specific soil types. They are Gessner loam (Ge) as described in Wheeler (1976:14), Kenney loamy fine sand (Kn) as described in Wheeler (1976:18), Nahatche Loam (Na) as described in Wheeler (1976:20), Segno fine sandy loam, 0-1 percent slopes (SeA) as described in Wheeler (1976:21), Segno fine sandy loam, 1-3 percent slopes as described in Wheeler (1976:21-22), and Wockley fine sandy loam (Wo) as described in Wheeler (1976:23).

PREVIOUS INVESTIGATIONS

A check of the site records at the Texas Archeological Research Laboratory (TARL) in Austin, Texas revealed that there are no previously recorded archaeological sites in the project area. Several studies, however, have been conducted along Spring Creek and in the vicinity and are considered revelant to this investigation. These efforts indicate that the archaeological potential of this major first-order drainage is significant. The background and archival phase of this project revealed that at least seven projects have been conducted by professional archaeologists along Spring Creek. These area specific projects as well as those of regional interest are discussed below in chronological order.

One of the earlier surveys in the region was conducted by the Texas Archeological Survey in 1977 and 1978 along Cypress Creek, a major second-order drainage south of Spring Creek (Hale and Freeman 1978). This project consisted of a systematic, stratified sampling of 20% of the 100 year floodplain and contiguous uplands of Cypress Creek for the Galveston District of the United States Army Corps of Engineers (Hale and Freeman 1978). In all, 58 prehistoric sites and 43 historic sites were identified. Most important, this effort indicated that prehistoric sites were fairly dense in the project area, being concentrated especially in the floodplain. More specifically, the researchers concluded that sites in the area are usually found on high ground next to, or near, permanent or semi- permanent water sources, past or present. They (Hale and Freeman 1978:52) observed that:

> Sites found some distance from a water supply are usually associated with large rivers with wide floodplains and high terraces far from the river channels. In areas where elevation fluctuates substantially, sites may be found on rises set back from the creek, but close enough to permit exploitation of water-associated resources.

Data obtained from the Cypress Creek survey revealed that the interfluvial areas are virtually lacking in prehistoric sites. According to Hale and Freeman (1978:52), "sites have seldom been isolated on the prairies or in the woodlands with no water reserves at hand." The large interfluvial areas of The Woodlands are described by Greiner Engineering Sciences, Inc. (1980:27) as "monotonously flat, damp, heavily vegetated, and - wherever tested - archaeologically sterile."

The first project to directly involve Spring Creek was a survey of the 140.708 acre Welker Unit of the Cypress Creek Park system (now Jesse H. Jones Park) by Heartfield, Price & Greene, Inc. (1980). Ironically, the fieldwork was performed by Roger G. Moore who was later to become actively involved in several projects along this drainage. This project was restricted to areas of proposed development with an intensive program of shovel testing conducted in areas of high probability. The report, however, does not state the number of acres examined in this manner. Although no sites were located, Roger Moore (personal communication, June 11, 1993) believes that sites are undoubtedly present in the unsurveyed areas.

Immediately north of the project area is a 23,000 acre tract of land, The Woodlands, that was examined in 1979 by Coastal Zone Resources Division of Ocean Data Systems, Inc. under subcontract with Greiner Engineering Sciences, Inc. (1980) of Tampa, Florida. This project recorded twelve prehistoric sites (41MQ63 - 41MQ74), seven of which (41MQ63, 41MQ64-41MQ69) are the nearest documented prehistoric sites to the current project area. Site 41MQ63 is about 2.8 miles to the southeast, while sites 41MQ64 - 41MQ69 are located in a cluster about 2.6 miles to the northest. No sites have been recorded on the north bank of Spring Creek in the five miles between these two locations.

Six of the sites found at The Woodlands are associated with the Neo-American or Late Prehistoric period, two sites contained both Neo-American and Archaic components, and four sites were classified by the authors as "undifferentiated" prehistoric. No historic sites or standing structures were encountered.

Not one of the twelve sites were eligible for nomination to the National Register of Historic Places. Except for sites 41MQ70 and 41MQ73, no further work was recommended. The majority of sites are described as small and unproductive, possibly short-term or transitory habitation localities.

It is interesting to note the environmental criteria associated with the twelve prehistoric sites. Prior to the field survey a reconnaisance was conducted that identified areas of high probabilty for prehistoric sites within the project area. The criteria for these areas included proximity to a water source, association with a permeable fine sandy soil, and elevated areas above the surrounding terrain. The validity of this separation of high and low probability areas (according to the authors) appears to be supported by the results of this project as ten of the twelve sites were found in the area identified during the initial reconnaissance as high probability.

That only twelve sites were found in an area of 23,000 acres may be answered, in part (according to the authors), by the large percentage of the project area lying in low probability areas as defined in their report. Unfortunately, the report does not clearly state the level of effort expended during the field survey in terms of area coverage. According to the surveyors (Greiner Engineering Sciences, Inc. 1980:23), the reconnaissance phase evaluated the "entire study area" but it is not stated if, in fact, the surveyors actually walked the entire 23,000 acres. The field survey was divided with 75% of the project time used for inspecting the areas of high probability and the remaining 25% surveying the low probability areas. This, and a statement that the survey methodology was limited, strongly suggests this was a survey that examined selected areas rather than 100% coverage. Additionally, the number and depth of shovel tests was not found in the report. No field notes were available in the files at TARL, therefore, the details regarding the methods of this study are not available.

The results of the Woodlands survey are consistent with the Cypress Creek project conducted by Hale and Freeman (1978) in terms of site locational data, although the earlier study recorded a larger number and percentage of sites according to acres examined. At the Woodlands, sites along Spring Creek exhibited four characteristics enumerated earlier in the Cypress Creek survey

report. According to the survey report, sites are (1) are associated with wide floodplains, (2) in areas where elevation fluctuates substantially, (3) found on rises set back from the creek, and (4) close enough to permit exploitation of water-associated resources (Greiner Engineering Sciences, Inc. 1980:27). The sites found along Spring Creek were notably within a defined elevational zone of 135-150 feet or approximately 30-45 feet above the level of the creek.

Of particular interest, is the field observation that most of the sites found during the Woodlands survey contained cultural material that was deeply deposited. Regarding site 41MQ64, for example, the site card states that the depth of cultural material and amount of overburden indicate an unusual degree of water borne deposition on the site. The streams in the Woodlands are described as dynamic with active processes of alluviation and erosion. These forces, along with migrating stream channels, are viewed as making the presence of deeply buried archaeological sites very likely in the Woodlands area (Greiner Engineering Sciences, Inc. 1980:28). The possibility of buried sites is echoed by the Cypress Creek project (Hale and Freeman 1978:174) in the following:

> Also, the probabilities of active alluviation on former land surfaces in near-stream positions must be considered as high. Deep overbank sediments of Holocene age are characteristic of the modern flood plain and undoubtedly have buried many traces of prehistoric human activity.

In 1981, sites 41MQ70 and 41MQ73, found during the Woodlands survey, were tested by Greiner Engineering Sciences, Inc. (1981) in order to determine their eligibility for the National Register of Historic Places. Both sites are located on Panther Branch. Site 41MQ73 was determined to be potentially eligibile for nomination to the National Register of Historic Places while site 41MQ70 was determined to be not eligible.

The methods employed included a clearing of the site area by mechanical means and by hand. One test unit, 1 x 2 meters in size, was excavated at each site. These units were dug in arbitrary 10 centimeter levels due to a lack of natural stratigraphy. After reaching levels 8 (41MQ70) and 10 (41MQ73), the arbitrary levels were increased to 20 centimeters. The depth of each site exceeded two meters with site 41MQ70 reaching 2.38 meters and site 41MQ73 extending to 2.7 meters. The results of this testing suggest that the sandy loam mantle may have been deposited in the recent past. At 41MQ73, for example, the presence of evenly distributed cultural materials throughout the various excavated levels were viewed by the excavators as an indicator of a fairly even rate of deposition. They also noted that the lack of features or occupation levels suggested that cultural activities at 41MQ73 were short term and not affected by periods of flooding. The investigators hypothesized that the successive occupation, flooding, and deposition of sediments at 41MQ73 appear to have occurred over a period of a few hundered years.

In 1982, the environmental firm, Espey, Huston & Associates, Inc. investigated the Spring Creek Tower Easements in Harris and Montgomery counties (Voellinger and Sundborg 1982). No new sites were recorded. Two previously recorded sites (41HR411 and 41MQ52) were

reported to be in the project area, but no evidence of these sites was found. In a letter dated August 31, 1982 from LaVerne Herrington of the Texas Historical Commission to Houston Lightning and Power regarding these two sites, she states that 41HR411 is not in this area but on another topographic map, and 41MQ52 may not have been correctly plotted (Her letter contains a typographical error that lists site 41HR411 as 41HR41.). Efforts to obtain current data for these two sites from the original recorder, Lewis Fullen, were unsuccessful.

Roger G. Moore of Moore Archeological Consulting examined a 72 acre tract of the proposed Jesse Jones Park expansion project in 1986 (Moore 1993). The Jesse Jones Park expansion survey located eight prehistoric sites (41HR597 - 41HR603, 41HR606) and two historic sites (41HR604 - 41HR605). All of the prehistoric sites were found to be associated with an abandoned meander of Spring Creek.

In 1989, Moore Archeological Consulting examined 334 acres in north Harris County known as the Burroughs Park Tract (Moore 1990). The project area is bounded on the north by Spring Creek. Three prehistoric sites (41HR625 - 41HR627) were recorded along this drainage.

Site 41HR625 was classified as a possible semi-permanent, seasonally occupied campsite located at the edge of the bluff demarking the boundary between the uplands and the Spring Creek terrace (Moore 1990:39). The recovery of ceramics and a possible *Perdiz* arrow point date this site to the Ceramic period. The nearest water source to 41HR625 is a bog at the edge or margin of the bluff and Spring Creek, about 550 meters to the north. Sites 41HR626 and 41HR627 have been classified as low artifact density sites, probably ephemeral in nature. Site 41HR627 is located at the foot of the bluff, almost directly below 41HR625. Moore (1990:43) hypothesizes that this site may be an outlier of 41HR625. The results of the work by Moore Archeological Consulting and scattered surveys along Spring Creek suggest to Moore (1990:44) that "site density comparable to that on Cypress Creek can be expected along Spring Creek."

The Archeological Research Laboratory, Texas A&M University, conducted a survey in 1989 along a 13.5 mile segment of Cypress Creek beginning at Kuykendahl Road and ending at Spring Creek (Ensor 1991). This project combined geomorphic research with a pedestrian survey which also attempted to evaluate twelve sites previously recorded by Freeman and Hale (1978). Three new prehistoric sites (41HR629 - 41HR631) and one historic site (41HR628) were found and recorded.

Two preliminary assessments of areas on Spring Creek were carried out in 1991 by Moore Archeological Consulting. The 10,000 acre Bahr-Kirkpatrick Tract in Montgomery County was evaluated by archival investigation, brief field reconnaissance, and archaeological evaluation of landforms (Moore 1991b). Two previously unrecorded sites (TS-1 and TS-2) were located. These sites have not been recorded at TARL. Site TS-1 was dated to the Late Prehistoric period based on the presence of ceramics, but no diagnostic artifacts were found at TS-2.

Within the project area were two previously recorded prehistoric sites 41MQ51 and 41MQ52. The assessment visited 41MQ52 and found little additional cultural material with nothing in three shovel tests. An intensive survey accompanied by shovel testing was recommended prior to development.

An in-house study, with no field work performed, of the proposed Spring Lake Reservoir was also performed by Moore Archeological Consulting in 1991. The assessment and recommendations resulted from a comparision of settlement pattern data for recorded sites on Spring Creek with topographic data obtained from USGS maps (Moore 1991a). The area that will be inundated is approximately 1000 acres in size and will affect both Harris and Montgomery counties.

Concurrent with the current study is a survey of the proposed Gosling Road extension on the Montgomery County side of Spring Creek being conducted by Moore Archeological Consulting. Three prehistoric sites (41MQ126-41MQ128) were located as a result of this project (Roger G. Moore, personal communication, June 10, 1993). Of special interest to this project is the buried nature of the cultural resources found by Moore. No cultural materials were observed at depths of less than 50 cm, and at two sites the first appearance of cultural materials was at 67 cm (41MQ127), 75 cm (41MQ128), and between 50 and 70-75 cm (41MQ126). The sites were found to occur on the uplands and its adjacent slopes. Only one contained diagnostic artifacts (ceramics) and was dated to the Ceramic or Late Prehistoric period. The presence of the three sites in this area suggest that the previous survey of the Woodlands (Greiner Engineering Sciences, Inc. 1980) may not have been as thorough as possible.

PREHISTORIC CHRONOLOGY

A detailed discussion of the culture sequence of the project area is beyond the scope of this report. Detailed summaries of Southeast Texas prehistory have been prepared by various researchers with the most notable examples being the scholarly works by Lawrence E. Aten (1983) and Dee Ann Story et al. (1990). One researcher, Leland W. Patterson (1976, 1979, 1983, 1989) has been prominent in documenting and discussing Harris County prehistory. In Ensor's (1991:5) prehistoric overview prepared for the Cypress Creek study, he states that the best chronological and stratigraphic data currently available for interpreting the successive cultural adapations in Southeast Texas are found in the following sources: Wheat (1953), Aten (1983), Hall (1981), Shafer (1968, 1975, 1988), Patterson (1980), Patterson et al. (1987), and Ensor and Carlson (1988, 1989). Lesser efforts, although region specific and more current, have resulted from the numerous contract or salvage projects that have been conducted in the area. The most germane of these works were written by Ensor (1991), Moore (1980, 1990, 1993), Hale and Freeman (1978), and Greiner Engineering Sciences, Inc. (1980, 1981). The reader is referred to these reports and their bibliographies for reference to additional discussions of Southeast Texas prehistory.

It is generally accepted by most archaeologists that Southeast Texas prehistory is divided into three basic periods, Paleo-Indian, Archaic, and Neo-American or Late Prehistoric. The following discussion was excerpted from those works mentioned above.

Paleo-Indian

The common conception of the Paleoindian period is the time following the last ice age (Pleistocene) in North America when man wandered about the continent in pursuit of megafauna such as mammoth, mastodon, and earlier species of bison. Although not much is known about their diet, plants and other smaller animals probably were as important to the Paleoindian as an occasional mammoth or other large animal. Sites with *in situ* deposits dating to the Paleo-Indian period are few in number with no examples in Harris County.

Paleo-Indians are also noted for the manufacture of unique and distinctive projectile points. In Harris County a variety of Paleo-Indian point types has been found. Most of these specimens have been surface collected. The two best known types associated with this period in Southeast Texas are *Clovis* and *Folsom.* Descriptions of these and other types discussed in this report are described in Turner and Hester (1985) and Suhm and Jelks (1962). In Southeast Texas the Paleo-Indian period is thought to have lasted about 2000 years, from 10,000 B.C. to 8000 B.C. (Ensor 1991:8). Recent evidence of intact deposits dating to the the Late Paleo-Indian or Early Archaic periods has been found in nearby Grimes County where an ongoing testing program by Espey, Huston & Associates, Inc. has recovered dart point types *Angostura*, *Dalton*, and *Lerma* (Rogers 1993:123).

Archaic Period

The Archaic period is generally defined as the time following the extinction of Pleistocene megafauna during which small bands of hunters and gatherers roamed the countryside in search of food in the form of plants and animals. During this time the overall population gradually increased as evidenced by a greater number of sites.

EARLY ARCHAIC

The early Archaic is viewed by Kotter (1981) as a period of transition from the big-game hunting tradtions of Paleoindians to a broader based economy. He believes that during the early stages of this period groups of people were utilizing Paleoindian technology while practicing an Archaic economy. According to Ensor (1991:8), the Early Archaic lasted for 3000 years from 8000 B.C. to 5000 B.C. and is characterized by point types *Angostura*, *Plainview*, *Golondrina*, and *San Patrice* as well as early side-notched and corner-notched forms. Sites of this period are also uncommon, with one of the few examples in adjacent Montgomery County. At the Scotts Ridge site (41MQ41) materials dating from the Early and Middle Lithic periods (8000 B.C. - 1000 B.C.) were excavated by Texas A&M University (Shafer and Baxter 1975, Shafer and Stearns 1975). Most diagnostic of the period was a fragmented *San Patrice* point in combination with an absence of ceramics.

MIDDLE ARCHAIC

This period appears to be simply a continuation of those adaptive strategies employed during the late Archaic discussed above. Kotter (1981:32) believes that no significant changes in the basic exploitive strategies occurred from those noted in the early Archaic.. According to Ensor (1991:8), this period lasted for 4000 years from 5000 B.C. to 1000 B.C. Point types considered to be diagnostic of this period include *Yarbrough, Trinity, Carrollton, Palmillas, Gary, Kent,* and *Dawson.*

The region defined by Kotter (1981) is situated on the western edge of the geographical extent of the La Harpe Aspect as defined by Johnson (1962). Tool types are comparable to those found in East Texas and, according to Kotter (1981:32), "may lend some credence to the validity of the La Harpe Aspect as a generalized adaptive system during the middle Archaic."

LATE ARCHAIC

The late Archaic is marked by changes in subsistence orientation and an increase in the intensity of influence from other cultural areas. For the first time there was a marked exploitation of major river tributaries and other areas away from the mainstream river channels. Prewitt and Grombacher (1974) believe the use of tributary streams may be indicative of sporadic or seasonal exploitation and not semipermanent camps.

This period lasted for about 1400 years from 1000 B.C. to A.D. 400 (Ensor 1991:8). The projectile point assemblage is characterized by a contracting stem tradition, primarily the *Gary* type with continued use of *Kent* and *Dawson* points (Ensor 1991:8). According to Kotter (1981), other diagnostic tools include *Godley, Woden, Ensor, Refugio,* and *Edgewood* projectile points; *Bristol* and *Erath* bifaces; *Bronson* knives; and *Perkin* pikes. Sandy paste ceramics associated with *Gary* points are thought to occur throughout the area as well.

NEO-ARCHAIC (LATE PREHISTORIC)

This period is marked by the addition of arrow points and the use of ceramics. Kotter (1981:33) believes few, if any, changes in subsistence strategies occured during this time. This argument is strengthened by the association of *Gary* points and ceramics. No direct evidence of horticulture is known from this region. He also states that the Neo-Archaic period probably continued to the time of historic contact. Ensor (1991:8) separates the Neo-Archaic into the Early and Late Ceramic periods with the Early Ceramic Period dating from A.D. 400 to A.D. 800 and the Late Ceramic Period dating from A.D. 800 to A.D. 1750.

Cultural materials diagnostic of this period are common in the region. Neo-Archaic sites are found along both mainstream river and tributary environments indicating the same localities exploited during the Late Archaic were utilized. Most of the sites found to occur on Spring Creek have been classified as Neo-Archaic or Late Prehistoric on the basis of ceramics and/or arrow points. According to Ensor (1991:8), the Early Ceramic Period combines ceramics with *Godley, Gary,* and *Kent* dart points. Arrow points appeared during the latter part of the Early Ceramic Period or at the beginning of the Late Ceramic Period, beginning with *Catahoula* and *Frilley* types. Later, other types (in order from oldest to youngest) such as *Alba, Bonham, Scallorn, Perdiz,* and *Cliffton* were utilized.

Pottery found at Late Prehistoric sites in the Spring Creek area usually consists of sandy paste sherds of undecorated vessels. Recent discussions of Southeast Texas pottery types can be found in excellent overviews by Linda Wootan Ellis (1989, 1990, 1991, 1992).

During the Neo-Archaic, there is a demonstrable relationship between this region and adjacent cultural areas. Trade and cultural borrowing with groups in East, North-central, Southeast, and Coastal Texas is believed to have been present.

Formative Period

This stage is viewed by Kotter (1981:34) as a time when changes in social and economic organization, accompanying a dependence on agriculture, occurred. This can be identified by the presence of mound and village sites. However, if agriculture was practiced in the region it was probably not intensive or widespread. Sorrow and Cox (1973) believe evidence of this stage in the region may exist due to the large number of sites within their project area containing ceramics.

HISTORIC CHRONOLOGY

Historic Indians

Very little evidence of historic Indian groups has been found in the region. Mallouf (1979) reported the presence of *Poyner Engraved* ceramics at some sites. This type has been found at historic Indian sites in East Texas and may date from A.D. 1200 to A.D. 1700 (Suhm and Jelks 1962:123-125). The possibility of metal arrow points in this region has been noted by Duffield (1960). The two historic Indian groups most likely to have camped along Spring Creek are the Akokisa (Orcoquiza) and Bidais (Aten 1983, Newcomb 1961). Other groups in the region were the Patiri in the San Jacinto River valley and the Deadose to the north (Shafer 1968:2).

Spring Creek is noteworthy because of the early European activity by explorers in the 18th century. According to Bolton (1970:334), a major concentration of Akokisa were living in the vicinity of Spring Creek in historic times. They were observed to travel to and from the coast and the interior on a seasonal cycle. Two Akokisa villages were reported on Spring Creek in 1746 by the Spanish explorer Orobio. One village was located near the confluence of Spring Creek and the San Jacinto River and was called Canos after its chief. To the west and also on Spring Creek was the village of El Gordo. Other villages were reported in the area.

The Bidais were also in the area with Spring Creek recognized as the southern boundary of their territory. The southeast boundary was at the confluence of Spring Creek and the San Jacinto River. In the mid-1800s there was a small band of Bidais living about 12 miles from the town of Montgomery (Shafer 1968:3).

Kotter (1981:34) believes archaeological sites with evidence of historic contact may exist in all portions of this area. The scarcity of such sites, he believes, is due to the short time span of occupation and the limited sample of cultural materials available from surface examinations. Site records at TARL do not list any sites in Harris County as Historic Indian.

Euro-American Settlement

Early settlement of the Spring Creek region has been summarized in detail by Freeman and Hale (1978) and has been summarized by Moore (1990). The following discussion is taken from these two sources. Three important temporal phases occurred regarding the Euro-American settlement of the project area and vicinity. These are 1719-1820, 1820-1846, and 1846-1940. The first period reflects that of exploration which is characterized by sporadic incursions of French and Spanish explorers for the purpose of establishing trade with the native populations and obtaining territorial claims of European colonial powers. Of special note is the Spanish camp *Puesto de San Rafael* which is believed to have been located on Spring Creek north of the confluence with Cypress Creek.

The second period (1820-1846) was a time when Anglo-American colonists, primarily from the Deep South (1820s) and German pioneers who followed them (1830s) moved to this part of

Texas. Early attempts at settlment included members of Stephen F. Austin's Second Colony on Spring Creek whose grants were awarded in 1831. The settlement of New Kentucky, also on Spring Creek, was established about 1826 by Arbram Roberts, an Austin Second Colony land grantee and cattle rancher and businessman. This served as a stopping point for travelers but was abandoned in 1840. Today the townsite is a county park on F.M. 2920 (Moore 1990:32).

Following the Texas Revolution in 1836 the remaining land in the Spring Creek area was available for settlement through headright and bounty and donation grants. Most of the land was quickly claimed. Regulations at that time, however, did not require immediate settlement and the area remained sparsely settled. The primary occupation of early settlers in the region was farming and cattle.

The last period (1846-1940) is concerned with changes occurring after statehood in 1846. German settlers constituted the main group who moved to the area at that time. In addition to agricultural pursuits industries such as sawmills were active. According to Freeman and Hale (1978:129), the German settlers seldom built in what is known today as the 100 year floodplain.

Tomball is the closest major community to the project area in recent historic times. It began in 1906 as a railroad town and enjoyed great prosperity during its early years. Local industry included a stock pen and cotton gin. A general store was established by G. W. Brautigam in 1910 and is still standing, although no longer in operation.

In 1933, the discovery of oil brought new prosperity to the area and the population of Tomball tripled. As the City of Houston grew and expanded to the north the phenomenon of large subdivisions began with great success. The first of these, Champions, opened in 1958. The entire area grew rapidly due to the growth of Houston, the oil boom, and an influx of newcomers. Today, Tomball is totally surrounded by development. The population of its trade region, which encompasses a much larger area, swelled to 75,000 in 1980.

METHODS

The project was divided into three phases - background and archival research, field survey, and report writing. The first phase consisted of a review of site records, reports, and other relevant data at the Texas Archeological Research Laboratory (TARL). Specific materials used during this project include the Harris County soil survey (Wheeler 1976), and 7.5' topographic maps Oklahoma and Tomball (1963, photorevised 1979) and earlier versions of these maps prepared in 1916.

The field survey was performed by the Principal Investigator on June 8 and 12, 1993. The pedestrian survey method was employed. The right-of-way was walked in undeveloped areas in an effort to detect traces of early historic occupation. Three areas were considered to be areas of high probability for prehistoric site occurrence. These are a sandy formation (possibly relict dune) overlooking Spring Creek (Area A), the upland margin above Spring Creek and a cutoff channel of this drainage (Area B), and the uplands above Willow Creek on its south bank (Area C). It is in these areas where shovel testing was concentrated.

Shovel testing and probing was conducted at high probability areas and randomly throughout the project area. All excavated matrix was screened through 1/4 inch hardware cloth with the results documented on a shovel test log (Appendix I). Soil color readings were taken using a rock color chart (Goddard et al. 1984). Shovel tests (ST) are routinely excavated to sterile clay; however, this was not possible in many of the shovel tests because of deep sandy loam. In all, 18 tests were excavated. Geologist David S. Pettus visited the site and interpreted the geology and geomorphology of the project area. The ROW was examined as accurately as possible given that it was not flagged. Additionally, the project was documented through project notes (Appendix II). As required by TAC, 12 copies of the final report have been submitted to that agency for distribution and permanent curation. An additional two copies have been submitted to TARL along with project notes and other records. These materials are on acid-free paper.

RESULTS AND CONCLUSIONS

The pedestrian survey did not locate any prehistoric sites in the project area. As stated above, three locations were considered by the Principal Investigator to be high probability areas for prehistoric site occurrence.

Shovel testing produced negative results in all three areas. However, evidence of prehistoric activity was found when two small, quartzite flakes were observed on the ground surface in a sandy area at the end of the pavement of Gosling Road along the margin of the upland ridge. A careful search in the area failed to locate additional materials exposed on the surface. Since the current study was not able to confirm the presence of a site in this area, the possibility of these flakes being deposited in the road bed with fill brought in from somewhere else must be considered. Therefore, this location was not assigned an official site number with TARL. The area of the find is shown on the general project map (Figure 1).

Seven shovel tests (ST 1-6, 15) were excavated on the sandy ridge and terrace immediately adjacent to Spring Creek (Area A). These tests varied in depth with the deepest (ST 15) reaching 126 cm without producing cultural materials or reaching sterile clay. After passing through an upper layer of moderate brown humus (5 YR 3/4), the Nahatche loam soil in this area was observed to be yellowish-brown (10 YR 4/2) in color. This soil is found chiefly on the floodplains of major streams and is subject to flooding several times each year. Nahatche loams are poorly drained with slow surface runoff and moderate permeability. In a few places buried soils are present at depths of below 40 inches.

Seven shovel tests (ST 7-11, 16-17) were excavated along the upland margin in the vicinity of the area where the two quartzite flakes were found (Area B). One shovel test (ST 11) was excavated in the road bed with the remaining six on the east side of the road and across the fence. The test dug in the road grade revealed a grayish-orange (10 YR 7/4) sandy loam that is different in appearance from the soils in the rest of the project area suggesting it may be fill that was brought in to build the road. The test was terminated at 90 cm and clay was not reached. This area is obviously disturbed, at least to the bottom of the road bed.

Across the fence on the east side of Gosling Road is a wooded area where typical upland flora were observed to include Loblolly pine, Sweetgum, and Water Oak with an understory of Yaupon, Blackberry, and American Beauty Berry. The forest floor was covered with leaf litter. On the west side of the road the area has been cleared of forest and is covered in a short grass. Of major importance to this study is the possibility of ground disturbance, especially since two pieces of debitage were found nearby. The presence of several large pine trees in the forested area suggests this portion of the right-of-way may be relatively undisturbed, at least in recent times. The soil in this area is Nahatache loam and was determined to be a fine sandy loam and yellowish-brown (10 YR 4/2) in color. Depths of the shovel tests in this area varied, but two (ST 16-17) were excavated to 108 cm and 133 cm, respectively without producing cultural materials or reaching clay.

Four shovel tests (ST 12-14, 18) were dug on the upland ridge above Willow Creek (Area C). Shovel test 12 was placed on the west side of Gosling Road and was excavated to a depth of 65 cm in a yellowish-brown fine sandy loam (10 YR 4/2). Clay was not reached. The remaining tests were dug on the east side of the road with a sterile clay encountered at depths of 30-35 cm. Two of these tests (ST 14 and ST 18) were unsual in that numerous unidentifed concretions were present from the surface and into the sterile clay. The banks of the creek were cleared of vegetation and appeared to have been disturbed through some form of water control effort, possibly a form of channelization. Although this stream may have been a reliable source of water in prehistoric times, shovel testing failed to locate cultural materials. Based on the shallow soils encountered, Area C is viewed as an area of lower probability for prehistoric site occurrence than Areas A and B.

The possibility of buried sites along the first terrace and upland margin of Spring Creek must be considered. Clay was not encountered and it is not known just how deep these sandy soils are. It is also possible that the terrace adjacent to Spring Creek is recent in origin, being formed completely from sand deposited during the many flooding episodes that have probably occurred in this area. The same may be said for the upland margin, as it is possible that some of the sandy deposits may be alluvial in origin or washed down from the uplands above. Based on the depth of recorded sites in the vicinity of the project area and the depth of sandy soil in the project area, it is believed that additional shovel tests are not necessary. More shovel testing would probably result in negative findings. In order to adequately evaluate Areas A and B for buried prehistoric sites mechanical excavation must be employed.

In terms of historic utilization of the project area, no significant cultural resources were observed to be present within that portion of the ROW examined. Numerous houses are situated along both sides of Gosling Road with a few examples dating to the early to middle twentieth century. However, since the proposed construction is not supposed to affect these structures the project area is viewed as sterile in terms of historic sites.

RECOMMENDATIONS

No significant cultural resources were found during the archaeological survey of the 4.13 mile long project area in Harris County, Texas by Brazos Valley Research Associates. The usual procedure of shovel testing was not adequate in terms of reaching a sterile clay base beneath the fine sandy loam in Areas A and B. Therefore, additional shovel tests are not recommended. Since, however, clay was not encountered a final statement regarding the presence or absence of sites in these two areas is not possible. In order to resolve the situation and avoid destruction of a potentially significant site it is recommended that the client be allowed to proceed with construction as planned with the stipulation the geotechnical testing be monitored by a professional archaeologist prior to bridge construction.

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APPENDIX I

SHOVEL TEST LOG

Test	Area	Date	Depth	Diameter	Results
01	A	06-08-93	70 cm	30 cm	sterile
02	A	06-08-93	70 cm	30 cm	sterile
03	A	06-08-93	80 cm	30 cm	sterile
04	A	06-08-93	80 cm	30 cm	sterile
05	A	06-08-93	50 cm	30 cm	sterile
06	A	06-08-93	70 cm	30 cm	sterile
07	B	06-08-93	60 cm	30 cm	sterile
08	B	06-08-93	50 cm	30 cm	sterile
09	B	06-08-93	55 cm	30 cm	sterile
10	B	06-08-93	50 cm	30 cm	sterile
11	B	06-08-93	90 cm	30 cm	sterile
12	C	06-08-93	65 cm	30 cm	sterile
13	C	06-08-93	40 cm	30 cm	sterile*
14	C	06-08-93	35 cm	30 cm	sterile*
15	A	06-12-93	126 cm	30 cm	sterile
16	B	06-12-93	108 cm	30 cm	sterile
17	B	06-12-93	133 cm	30 cm	sterile
18	C	06-12-93	35 cm	30 cm	sterile*

* dug to clay

APPENDIX II

GOSLING ROAD EXTENSION PROJECT
PROJECT NOTES

by

William E. Moore

June 7, 1993 (Monday)

On this day I drove to Houston to meet with Ken Berg to discuss the project that will begin tomorrow. At his office I obtained copies of topographic maps and an aerial photograph which did not provide coverage to Spring Creek. It stopped at Willow Creek. We discussed how the survey will be conducted and when to meet in the morning. I stayed overnight in Houston.

June 8, 1993 (Tuesday)

Left about 6:30 a.m. for the project area and arrived just before 8:00 a.m. The day was cool but will be hot later. No chance of rain predicted. At the end of Gosling Road where it will be extended to cross Spring Creek I found two flakes in a sandy area that contained rock and other indications of fill that was brought in to construct the road bed. The flakes are made of quartzite and are rather small. I walked over the area carefully but saw no additional cultural materials. At the time I thought I was at the bank of Spring Creek but found out later this was just a cutoff channel or overflow of the main stream channel. In the vicinity of the flakes I dug one shovel test to 90 cm without finding any cultural material. The soil was fine sandy loam that did not change in color except for the initial layer of humus which was considerably darker.

Mr. Berg arrived and we entered the woods on the east side of the road and across a barbed wire fence. The vegetation was fairly thick and contained a typical upland plant community consisting of Loblolly pine, Sweetgum and Water oak with an understory of Yaupon, Blackberry, and American Beauty berry. The forest floor was covered with leaf litter. It was difficult to determine if this area had been disturbed, but the presence of fairly large trees suggested it had not been in recent times. Perhaps the road was made using fill from another location. At the very end of the road just before entering the cuttoff channel it is obvious that the area had been built up.

Five shovel tests were excavated in this setting. Depths ranged from 50-60 cm. Roots were present in every hole and made digging past this depth difficult. Every test was sterile. This landform is described in this report as an upland margin or edge. It is significant as sites have been found on Spring Creek in this topographical setting.

David S. Pettus, a geologist, arrived to assist with the project. As we were discussing our progress on the road the resident of the nearby house told us that the creek was another 150 feet to the north. Mr. Berg had to leave to attend a meeting so the three of us drove to the south end of the project area so we would know where the proposed road will cross a now

undeveloped area. Once there, we discovered this area had not been flagged. It was decided to continue with the project and do this at a later date. Mr. Berg left and David and I returned to the north end of Gosling Road. There, we walked through the woods until we stood on the south bank of Spring Creek. It was an impressive sight as the water was quite a few feet below us in a deeply incised channel.

We dug our first shovel test on the bank of the creek in what appears to be a floodplain. It was excavated to 70 cm and was also sterile. I had not numbered the shovel tests to this point and decided to begin the numbering with this test. Therefore, it became Shovel Test (ST) 1.

Next we worked to the south and up a fairly prominent hill that overlooked this floodplain and Spring Creek. This appeared to be a very good area for a site and it was given the designation of Area A. In all, five tests (ST 1 - ST 6) were excavated on this landform with one (ST 6) being to the west across the barbed wire fence and in an open area. Depths ranged from 50-80 cm and all tests were sterile. We were surprised not to find a prehistoric site in this area. The soils along the creek are alluvial and flood several times annually. It is possible that there is a very deep layer of recent sandy loam above an older surface on which a site may be present. It is quite possible that shovel testing will not reach this older surface. Each test was flagged and marked for future reference. Soil colors were identified using a color chart and these colors are mentioned in the results section of this report. All excavated matrix was screened through 1/4 inch hardware cloth.

One problem we encountered was the lack of flagging in Area A. The right-of-way is 120 feet but it was not possible to be sure we were within this area at all times. We used the barbed wire fence on the west as a reference point. The six tests in this area are more than adequate to sample the area horizontally but may not be sufficient to test it vertically.

The area above the cutoff channel was now designated as Area B with the five shovel tests numbered ST 7 - ST 11. All tests were left open until David Pettus could look at the soil and make a determination regarding color. Once this was done they were backfilled.

After lunch I returned and walked undeveloped sections of the road. Much of the right-of-way has been developed and houses from modern to middle 20th century were seen as well as the ubiquitous mobile home. Since the right-of-way was not flagged I could only estimate where the proposed development would occur but it does not appear that it will encroach on any houses that are architecturally significant. Given the existing utility lines and other routine construction associated with building a road and houses, it seems to me that virtually all of the area within the 120 foot right-of-way (60 feet on either side of the road) has been disturbed.

The last area considered good for prehistoric sites is on the south bank of Willow Creek (Area C). Here the landscape slopes rather gently until its apex is rather high above the creek bank. Willow Creek has been disturbed, possibilty through the destructive process of channelization. No cultural materials were seen along the bank. Three shovel tests (ST 12 - ST 14) were excavated on the top of the landform. Older sites have been found in Southeast Texas in similar

settings. The three tests were all sterile and shallow with the deepest dug to 65 cm before reaching clay or clay loam. One test contained numerous small and large concretions that were found from the surface to the clay. This area was abandoned and I drove slowly along Gosling Road to look for historic features or houses that may be affected by the road expansion. Afterwards, I left for Bryan to work on the report.

June 12, 1993 (Saturday)

On this day I was in the Houston area so I returned to the project area to dig a few more shovel tests. I had been reading the works of others and decided that I needed some deeper tests in Areas A and B. I returned first to Area A where I dug ST 15 to a depth of 126 cm. It was sterile. The cutoff channel connects with the creek just to the east of the right-of-way creating what appears to me to be a very good environmental setting for a prehistoric site.

In Area B two tests (ST 16 - ST 17) were excavated farther up the slope of the upland margin. These tests were dug to depths of 108 and 133 cm and were sterile.

Only one test was dug in Area C, which I consider to be the least likely for a prehistoric site. This test was terminated at 35 cm when clay was reached. The large number of unidentified concretions were present here as well.