



INDEX OF TEXAS ARCHAEOLOGY

Open Access Gray Literature from the Lone Star State

Volume 2017

Article 175

2017

Cultural Resources Survey for the Proposed Memorial Park Eastern Glades Phase 2 Development Project, Memorial Park, City of Houston, Harris County, Texas

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Cultural Resources Survey for the Proposed Memorial Park Eastern Glades Phase 2 Development Project, Memorial Park, City of Houston, Harris County, Texas

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*Cultural Resources Survey
for the Proposed Memorial
Park Eastern Glades Phase 2
Development Project,
Memorial Park,
City of Houston,
Harris County, Texas*

Texas State Antiquities Permit Number:
7686

PREPARED FOR:

The City of Houston
and
Memorial Park Conservancy
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GRAY & PAPE
HERITAGE MANAGEMENT

AUGUST 24, 2017



GRAY & PAPE

HERITAGE MANAGEMENT

Project No. 16-72702.001

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August 24, 2017

ABSTRACT

On behalf of the City of Houston and the Memorial Park Conservancy, Gray & Pape, Inc. conducted an intensive pedestrian survey of approximately 16.6 hectares (41 acres) for the proposed Eastern Glades Phase 2 development project located in Memorial Park, a public park of the City of Houston, Harris County, Texas. As the proposed project is located within property of the City of Houston, a political subdivision of the state of Texas, and exceeds 2 hectares (5 acres) in area, the proposed undertaking requires the completion of an archaeological survey and due consideration of identified archaeological resources prior to project commencement, per the Antiquities Code of Texas. Fieldwork and reporting for the survey were conducted under Texas Antiquities Permit Number 7686, issued to Gray & Pape by the Texas Historical Commission (Archeology Division) on June 17, 2016. The goals of the intensive pedestrian survey were to assist the Memorial Park Conservancy in assessing the proposed project's Area of Potential Effects for the presence of cultural resources as they are defined by Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), and provide management recommendations for identified resources. Gray & Pape, Inc. focused particular attention on the State Antiquities Landmark-designated Camp Logan archaeological site (41HR614), which is intersected by the project area. Survey, site identification and delineation, and reporting were completed with reference to standards established by the Archeology Division of the Texas Historical Commission, the Council of Texas Archeologists, and the National Historic Preservation Act.

Background research for the project was conducted in May 2016 and fieldwork was completed in July and October 2016. Fieldwork encompassed the entire project area and involved pedestrian reconnaissance, subsurface investigation through shovel testing, and photographic documentation of existing conditions. Gray & Pape, Inc. focused attention on areas likely to contain surface and subsurface materials and deposits associated with Camp Logan. In particular, Camp Logan-period cartographic resources and narrative reports dating to 1918 and historic aerial imagery dating to the mid-1940s were consulted in planning and completing fieldwork.

The proposed project includes five separate areas (designated by Gray & Pape, Inc. as survey areas A through E for fieldwork) clustered together in the southeastern section of Memorial Park. Pedestrian reconnaissance identified a low-density surface brick scatter near Area A and four in situ pre-cast concrete park benches located in Areas A and B. Pedestrian reconnaissance also identified traces of former roadways likely associated with Camp Logan that could be identified through patterns in tree growth and understory vegetation. Subsurface investigation involved the completion of a total of 61 shovel tests across all five survey areas, including five shovel tests completed within the mapped surface brick scatter. Of these 61 shovel tests, three shovel tests yielded historic archaeological material (ferrous wire nail fragments in all three shovel tests) that may date in manufacture greater than 50 years before present; no other shovel tests yielded prehistoric or historic period archaeological materials pre-dating the mid-1960s.

Based on the results of the survey, Gray & Pape, Inc. recommends no further archaeological investigations with respect to the current design of the Memorial Park Eastern Glades Phase 2 project. The current plans for the project take into consideration the most distinct and visible of the roadways dating to the Camp Logan period. Gray & Pape, Inc. does recommend the adoption of an Unanticipated Discoveries Plan and Workforce Education Plan by the Memorial Park Conservancy prior to the commencement of construction to avoid adverse impacts to buried archaeological features and materials associated with the Camp Logan archaeological site. Gray & Pape, Inc. submitted project records to Texas Archeological Research Laboratory-

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1.0 INTRODUCTION

On behalf of the City of Houston and the Memorial Park Conservancy, Gray & Pape, Inc. (Gray & Pape) conducted an intensive pedestrian survey of approximately 16.6 hectares (41 acres) in July and October 2016 for the proposed Eastern Glades Phase 2 development project located in Memorial Park, a public park of the City of Houston, Harris County, Texas. The following report presents the results of site file and background research, survey methods, field results, and conclusions and recommendations.

1.1 Project Overview

The intensive pedestrian survey is intended to assist the Memorial Park Conservancy in assessing the proposed project's Area of Potential Effects (APE) for the presence of cultural resources as they are defined by Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (36 CFR 800), and provide management recommendations for identified resources. Gray & Pape focused attention on the State Antiquities Landmark-designated (#8200003264) Camp Logan archaeological site (41HR614) that is intersected by the project. Survey methods, site identification and delineation, and reporting were completed with reference to standards established by the Archeology Division of the Texas Historical Commission (THC), the Council of Texas Archeologists, and the National Historic Preservation Act (NHPA).

As the proposed project is located within property of the City of Houston, a political subdivision of the state of Texas, the project requires the completion of an archaeological survey and due consideration of identified archaeological resources prior to project commencement, per the Texas State Antiquities Code (1977). Fieldwork and reporting for the survey were conducted under Texas Antiquities Permit Number 7686, issued to Gray & Pape by

the THC (Archeology Division) on June 17, 2016.

The project is located on the *Houston Heights, T.X.* United States Geological Survey (USGS) 7.5-minute topographic quadrangle map in the City of Houston, Harris County, Texas (United States Geological Survey [USGS] 1998; Figure 1-1). The proposed project includes five, non-contiguous areas (designated by Gray & Pape as survey areas A through E for fieldwork organization) clustered together in the southeastern section of Memorial Park, and taken together constitute the project area and direct APE investigated for the intensive pedestrian survey.

As currently proposed, the Eastern Glades Phase 2 development project will entail the installation of impervious hardscapes, such as sidewalks, roadways, and parking areas, buried utilities, restrooms and comfort stations, signage, and tree and shrub plantings. These features will require significant grading and excavation of existing soils throughout the project area (Appendix A).

1.2 Report Organization

The following report is organized into seven chapters. Chapter 1.0 provides an overview of the project and personnel and Chapter 2.0 presents an overview of the environmental setting and geomorphology. Chapter 3.0 presents a discussion of the cultural context associated with the project area. Chapter 4.0 presents the methods developed for this investigation and the results of the intensive pedestrian survey are presented in Chapter 5.0. Chapter 6.0 presents a summary of the investigation and recommendations based on the results of the field survey. References cited in the body of the report are provided in Chapter 7.0. Appendix A presents the project plans and Hendrickson's 1918 map is provided in Appendix B with the project area.

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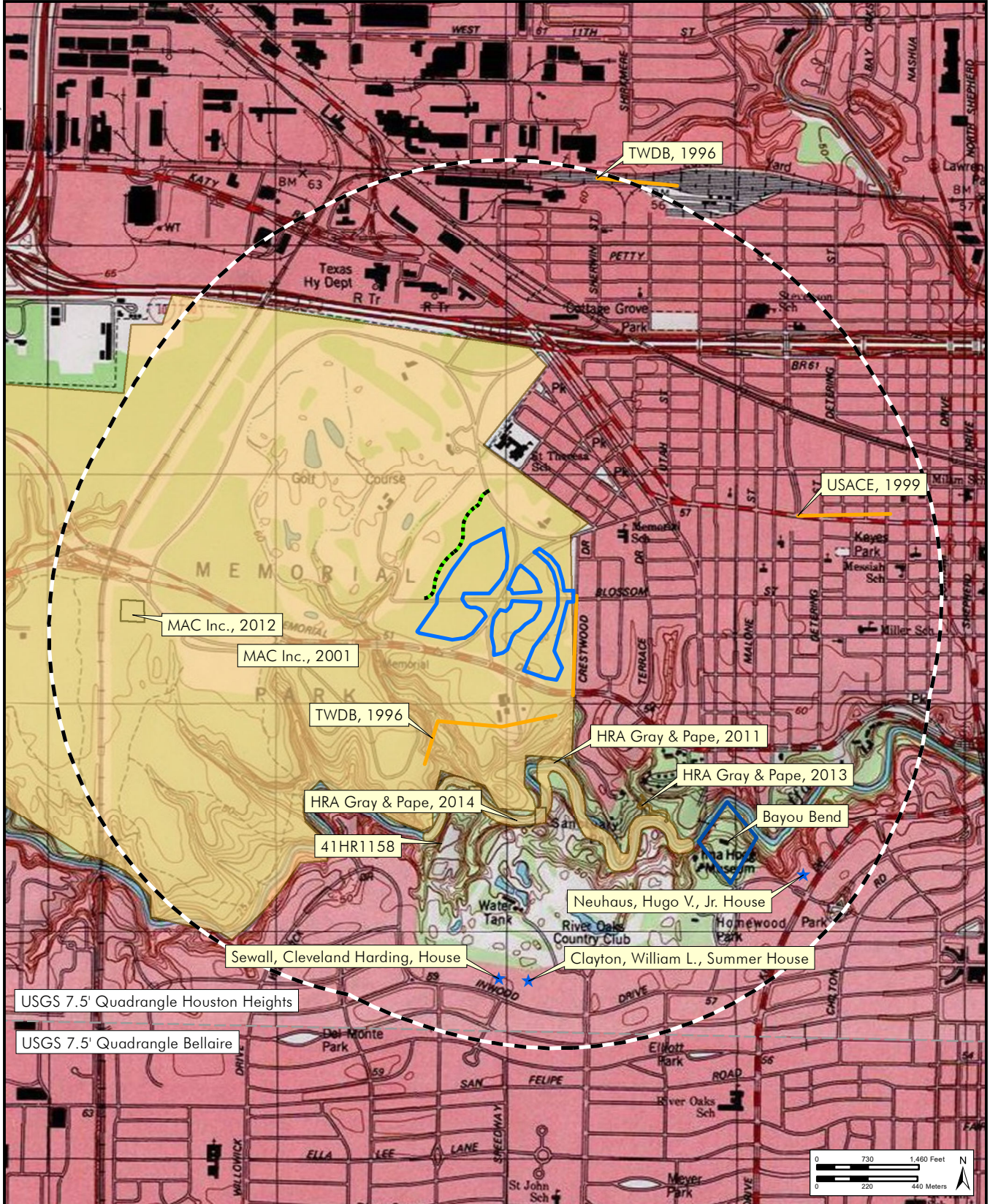
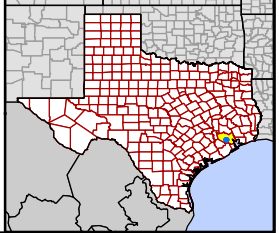


Figure 1-1
Project area location in
Harris County, Texas.



- Project Area
- Historic District
- Golf Course Access Road
- Previously Recorded Area Survey
- Study Radius (1.6-km/1-mi.)
- Previously Recorded Linear Survey
- ★ National Registered Property
- USGS Quadrangle Boundary



1.3 Acknowledgements

Archaeological Crew Chiefs Jacob Hilton and Michael Quennoz conducted site file and background research in June 2016 prior to fieldwork mobilization. Fieldwork was conducted from July 14 to July 19, 2016 and on October 24, 2016 by Mr. Hilton, Archaeological Field Technician Stephanie Bush, GIS Technician Duncan Hughey, Senior Archaeological Crew Chief Vince Valenti, and Principal Investigators T. Arron Kotlensky and Ryan VanDyke. Fieldwork required approximately 120 person-hours to complete. Mr. Quennoz and Mr. Valenti prepared the report with contributions from Mr. Hilton. Duncan Hughey prepared report graphics and the report was edited and produced by Technical Editor Jessica Bludau.

2.0 ENVIRONMENTAL CONTEXT

2.1 Physiography and Geomorphology

The Texas Coastal Plain makes up part of the larger Gulf Coastal Plain physiographic province, a low, level to gently sloping region extending from Florida to Mexico. The Texas Coastal Plain reaches as far north as the Ouachita uplift in Oklahoma, and as far west as the Balcones escarpment in central Texas. The basic geomorphological characteristics of the Texas coast and associated inland areas, which includes Harris County, resulted from depositional conditions influenced by the combined action of sea level changes from glacial advance in the northern regions of North America, and subsequent down cutting and variations in the sediment load capacity of the region's rivers. Locally, Harris County is underlain by relatively recent sedimentary bedrock and regolith as well as unconsolidated sediments ranging in age from the Miocene to Holocene (Abbott 2001; Van Siclen 1991).

2.2 Surface Geology

Although older geologic units have been identified in the region, units relevant to the study of long-term human occupation in modern-day Harris County include the Beaumont Formation, generally believed to predate human occupation in the region, and the so-called "Deweyville" terraces, positioned stratigraphically between the Beaumont and Recent deposits (Abbott 2001; Barnes 1992; Van Siclen 1991). These terraces are between one hundred thousand and four thousand years in age, and are characterized as consisting "of up to three inset fluvial terraces... (distinguished by the presence of) ...large looping meander scars..." indicative of watercourses capable of fluvial action and discharge markedly greater than that seen today (Abbot 2001;16). Overlaying these deposits may be relatively thick or thin Holocene deposits, laid down in the

Harris County area by alluvial or eolian factors, or potentially, marshy environments.

Topographic relief in the landscape of Harris County is the result of down cutting of sediments from fluvial action associated with the many rivers, bayous, and creeks within and around the region. Major drainages include the Brazos River to the west, the Colorado River to the north, and San Jacinto River to the east. Several creeks and bayous that border or dissect Harris County include Spring and Cypress creeks to the north, Cedar Bayou to the east, Buffalo Bayou in central Harris County, and Clear Creek, Brays Bayou, and Keegans Bayou to the south.

2.3 Soils

The project area is mapped entirely within the Bissonnet soils series. Bissonnet soils are very deep, poorly drained loamy soils derived from fluviomarine material of Pleistocene age. The uppermost layer typically extends 11 centimeters (4 inches) below surface and consist of a dark grayish brown (10YR 4/2) loam. From 11 to 31 centimeters (4 to 12 inches) below the surface there is a light brownish gray (10YR 6/2) loam with increasing clay and oxidized ferrous staining. This is underlain by a layer of gray (10YR 6/1) clay loam extending to 94 centimeters (37 inches) beneath the surface. This in turn is underlain by a gray (10YR 5/1) silty clay loam at 94-122 centimeters (37-48 inches) that transitions into a greenish gray (10Y 7/1) clay and continues to a depth of 203 centimeters (80 inches) (Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture [SSS NRCS USDA] 2016).

2.4 Natural Environment

2.4.1 Flora and Fauna

Present-day Harris County is located near the western edge of the Austroriparian biotic

province, and is situated in the Upland Prairies and Woods subregion of the Gulf Coast Prairies and Marshes Region (Abbott 2001). Evidence from pollen analysis in Central Texas suggests that, at least during the Late Pleistocene, the area may have been populated by vegetative species that were tolerant of a cold weather environment. Climatic fluctuations during the Holocene would eventually result in a gradual trend towards warmer weather, similar to that seen today (Abbott 2001).

Late Pleistocene flora may have included populations of spruce, poplar, maple, and pine (Holloway 1997), in an oak woodland environment that would eventually transition to an oak savanna in the late Holocene (Abbott 2001). Fauna during this time would include currently present species such as white-tailed deer and various smaller game, as well as bison, and, in localized areas, pronghorn sheep and the American alligator (Abbott 2001).

The modern vegetative community associated with this region consists of a diverse collection of primarily deciduous trees and undergrowth (Abbott 2001). Modern land alteration activities, especially those associated with agriculture, have resulted in the removal of native plant species from the area. Identified trees may include water oak, pecan, various elms, cedar, oaks, sweetgum, and mulberry, to name a few. Honeysuckle, dewberry, yaupon, and blackberry are common, as are indiagrass and bluegrasses (Abbott 2001).

The modern faunal community includes mammals such as deer, squirrel, opossum, raccoon, skunk and various small rodents, numerous bird species, and reptiles including the Texas rat snake, the western cottonmouth, the kingsnake, and turtle species. Black bear and bison were occasionally witnessed in the recent past (Abbott 2001).

2.4.2 Climate

Harris County's close proximity to the Gulf of Mexico and latitude influences the temperature,

rainfall, and relative humidity of the region, with a climate that is usually characterized as humid, subtropical. Winds trend from the southeast or east, except during winter months when high-pressure systems can bring in polar air from the Great Plains. In recent years, the average high temperature in the summer is 35 °Celsius (C) (95 °Fahrenheit [F]) and the average high temperature in the winter is 17 °C (63 °F), with relative humidity in the summer often reaching above 90 percent (National Centers for Environmental Information [NCEI] 2010). Rainfall in Harris County is generally even throughout the year, with an average annual accumulation of 126.4 centimeters (49.8 inches).

2.5 Land Use

The project area is located entirely within Memorial Park, a public park owned by the City of Houston that presently encloses approximately 590 hectares (1,460 acres). The park is situated along the north bank of Buffalo Bayou, with its northern and western edges defined by Interstate 610. Along its eastern boundary, Memorial Park is bordered by mixed light residential and commercial neighborhoods, most notably the Crestwood and Rice Military neighborhoods. Prior to its development as a public park and the period of Camp Logan (1917 to 1919), much of the area encompassing Memorial Park was owned by members of the Reinerman family, from 1835 to 1883. During their tenure, the area was largely held as a "homestead" and was not intensively developed. The City of Houston created the park in 1924, purchasing the initial property at near cost from Will Hogg, Mike Hogg, and Henry Stude. It has since been expanded significantly in size and amenities (Memorial Park Conservancy 2016).

3.0 CULTURAL CONTEXT

3.1 Prehistoric Context

Researchers of the prehistory of Southeastern Texas have used changes in projectile point technologies and the introduction of ceramics (or pottery) to characterize the chronology of the region into six distinct archeological time periods. In general, these include the Paleoindian, Archaic (with Early, Middle, and Late subdivisions), Ceramic, Late Prehistoric, Protohistoric, and Historic Indian periods. However, while archaeologists agree on the general framework of cultural time periods within the region, there is some disagreement on the temporal boundaries of these periods. For example, Patterson's (1996) chronology includes Early Paleoindian (10,000-8,000 Before Common Era [BCE]), Late Paleoindian (8,000-5,000 BCE), Early Archaic (5,000-3,000 BCE), Middle Archaic (3,000-1,500 BCE), Late Archaic (1,500 BCE-Common Era [CE] 100), Early Ceramic (CE 100-CE 600), Late Prehistoric (CE 600-1500), Protohistoric (CE 1500-1700), and the Historic Indian (CE 1700-1800) periods.

In contrast, Ensor (1990) offers a Southeast Texas chronology that includes Paleoindian (10,000-8,000 BCE), Early Archaic (8,000-5,000 BCE), Middle Archaic (5,000-1,000 BCE), Late Archaic (1,000 BCE-CE 400), Early Ceramic (CE 400-CE 800), and Late Ceramic (CE 800-CE 1750). Perttula's (2004: Table 1.1) and Ricklis (2004:Figure 6.1.1) provide a recent chronology for the Upper Texas Coast is also applicable to the project area and includes Early Paleoindian (10,000-8,000 BCE), Late Paleoindian (8,000-6,000 BCE), Early Archaic (6,000-4,000 BCE), Middle Archaic (4,000-1,500 BCE), Late Archaic (1,500-200 BCE); Tchula (200-0 BCE), Early Ceramic (CE 0-700), Initial Late Prehistoric (CE 700-1250), Final Late Prehistoric (CE 1250-1500), Protohistoric (CE 1500-1700), and the Early Historic (CE 1700-1800) periods.

Within this chronological context, the earliest identified prehistoric sites in Harris County can be found around Clear Lake, and date to approximately 4,000 BCE placing them in the latter part of the Early Archaic (Henson 2010). Unfortunately, it has proven difficult to date many sites in the county. Those near the coast are shell middens, which are difficult to radiocarbon date accurately and are largely Late Prehistoric in age (Ricklis 2004:201-202). In addition, numerous shell middens were destroyed by nineteenth century quarrying of shell for use in construction (Henson 2013). The evidence of inland human occupation is just as fragmentary, particularly in the uplands where archeological data are derived largely from multicomponent sites with mixed deposits, rather than stratified sites associated with river valleys draining the county (Abbott 2001; Ricklis 2004:201-202).

3.2 Historical Context

3.2.1 Development of Harris County

Harris County was formed as Harrisburg County on December 22, 1836. The county was renamed Harris in December 1839 to honor John Richardson Harris, an early pioneer who had established Harrisburgh in 1826, the first town site in the county. Harrisburgh was established at the confluence of Buffalo Bayou and Brays Bayou and by the 1830s had become the major port of entry for the region and a transportation hub. Roads ran northwest to the Brazos communities of San Felipe and Washington, east to the ferry landing that crossed the San Jacinto, and west paralleling Brays Bayou to the Oyster Creek Community near present day Stafford in Fort Bend County (Henson 2010).

Under Mexican authority the area surrounding Harrisburg (as it came to be spelled by 1832) was known as the San Jacinto District. The district stretched east from Lynchburg on the

San Jacinto River, west to the location of present day Richmond, and from Clear Creek in the south to Spring Creek in the north. Harrisburgh County encompassed this same territory with the addition of Galveston Island. The modern boundaries of Harris County were established in 1838 (Henson 2010).

The lands that would become Harris County comprised the southeastern border of Austin's Colony (McComb 1981). In July of 1824, 29 titles were granted to lands in future Harris County, with an additional 23 grants made between 1828 and 1833. These original grants concentrated mainly on the watercourses of the region. The early settlers in the region were mostly whites from the southern United States and slaves with African ancestry. In the 1840s, large numbers of white German and French immigrants settled in Harris County. The Hispanic presence in the region was relatively sparse prior to an influx of immigrants following the Mexican Revolution (Henson 2010).

3.2.2 History of the APE and its Immediate Vicinity

In 1834, Johann Gerhard (John) Reinermann, his wife, and two sons immigrated to Texas from Germany. In 1835, he applied for a land grant from Stephen F. Austin to settle "on Buffalo Bayou near John Austin's two leagues on N. side of bayou" (Aulbach et al. 2014:79). In 1838, Reinermann's land grant was confirmed by the Republic of Texas government and issued to John's widow and heirs. The land remained within the Reinermann family, largely intact until the late nineteenth century. The Reinermann homestead was located between present day T.C. Jester Boulevard and North Shepherd Drive, and north of the present Interstate 10 corridor, approximately 1.6 kilometers (1 mile) northeast of the APE. An 1847 survey described the Reinermann property as roughly divided between pasture and arable land (Aulbach et al. 2014:81).

Eventually three railroad lines passed through the Reinermann Survey: The Houston

and Texas Central Railway (1858), the Missouri, Kansas and Texas Railroad (1890), and the Galveston, Harrisburg and San Antonio Railway (1918). These lines met at what became known as Eureka Junction, located 1.6 kilometers (1 mile) northwest of the APE, and became the most active railroad depot for Camp Logan (Aulbach et al. 2014:82-83).

Camp Logan was one of 16 National Guard training camps established by the War Department after the United States entered World War I in April 1917. Each camp was constructed as quickly as possible and designed to accommodate and train a division of soldiers prior to deployment in Europe. A division typically numbered up to 28,000 personnel and consisted of two brigades of infantry, one brigade of field artillery, one regiment of engineers, three machine gun battalions, one field signal battalion, and miscellaneous support units (Thomas 2003).

Houston's only World War I-era training camp was named for Major General John A. Logan, a Union Civil War officer and politician from Illinois. In addition to serving in both the United States House of Representatives and Senate, Logan is credited with helping found the Grand Army of the Republic (or G.A.R.), a Union veterans' organization, and helping establish Memorial Day (initially known as "Decoration Day") as a national holiday (John A. Logan Museum 2014).

Land for the camp was leased from the Hogg family and tree and brush clearing began in July 1917 (Hazlewood 2010). Pressed by the urgency to get units to Europe as quickly as possible, emphasis was placed on speed. Within 13 days the camps roads and bridges were completed. Gravel was deemed too expensive so the roads were paved in crushed shell dredged from Galveston Bay and shipped by rail. Bridges for crossing Buffalo Bayou and smaller tributaries were constructed from timber cut during the clearing of the site. Drainage for the camp was a considerable dilemma and was addressed by the construction of surface

ditches. These ditches drained into nearby Buffalo Bayou, which ran along the southern edge of the camp. Initially, the disposal of human waste was done in latrine pits, which were occasionally emptied, and the waste discharged into the City of Houston's sewer system through manholes. In the hot and humid conditions around Houston this system of waste and runoff water disposal created sanitary problems. During the summer of 1918, a covered culvert was completed to remove hospital sewerage about a quarter mile away, where it connected to the surface ditches in a remote part of the camp.

By August 1917, over 1,300 buildings had been completed. Photographs accompanying the *Camp Logan Completion Report* depict these buildings as simple one- or two-story wood frame structures. Most were built on raised pier masonry foundations except for the latrine and shower buildings which rested on poured concrete foundations (Rothrock 1918). On August 18, 1917, the first troops arrived from the Illinois National Guard and began clearing and preparing additional ground for unit camps (Aulbach et al. 2014).

Completion of the camp was delayed by events that came to be known as the "Camp Logan Riot" or "Houston Riot of 1917." With construction of Camp Logan underway, the 3rd Battalion of the all African-American 24th U.S. Infantry Regiment was redeployed from New Mexico to Houston to guard the camp. There was immediate tension between the soldiers and some of Houston's white residents and the Houston Police Department. On August 23, 1917, a member of the 24th U.S. Infantry was arrested for interfering with police officers as they attempted to arrest an African-American woman. When a member of a military police (MP) unit from the 3rd Battalion questioned a Houston Police Department officer about the arrest, the MP was assaulted, fired upon, and taken into custody. At the 3rd Battalion camp, east of Camp Logan, rumors began to spread that the MP had been killed and that an armed white mob was approaching the camp. In

response, approximately 150 soldiers of the 3rd Battalion set out towards downtown Houston. Over the next several hours, 11 local residents were killed, as well as four policemen. A fifth officer later died of his wounds. In addition, four soldiers died, two of whom were accidentally killed by fellow soldiers, perhaps mistaken for police. After one of these incidents, the killing of Captain Mattes, the march dispersed and most of the men returned to the camp. The following morning martial law was declared and the 3rd Battalion was ordered to return to New Mexico. In the three military trials that followed, 118 soldiers were indicted of serious crimes and 110 were found guilty. Of those found guilty, 19 were hanged and 63 were given life sentences. The events of the riot helped delay the opening of Camp Logan (Haynes 2010).

At the end of August commanding officer Major General George Bell informed the War Department that Camp Logan was ready to receive the main body of troops. Throughout September and October soldiers of the Illinois National Guard arrived in the camp and by the end of October troop levels reached nearly 20,000. On October 10, 1917, the Illinois National Guard troops at Camp Logan were reconstituted into the 33rd U.S. Infantry Division. By the end of 1917, elements of the 78th Field Artillery, 79th Field Artillery, and the 5th U.S. Division brought Camp Logan to its peak occupancy of 33,000 troops. In the spring of 1918, the 33rd U.S. Division began its deployment to France and by that summer a second wave of troops began to arrive for training. However, with armistice on November 11, 1918, these units never completed training and the War Department began a program of demobilization and decommissioning the training centers, including Camp Logan. Troop numbers at Camp Logan had dropped to 11,000 in January 1919 and then to 5,000 in February. By March there were just over 500 troops remaining and the camp was officially closed March 20, 1919. Only a handful of troops remained to complete the liquidation of camp resources by May. With the exception of the camp hospital, which was transferred to the

United States Public Health Service, all other buildings were razed or moved elsewhere (Aulbach et al. 2014).

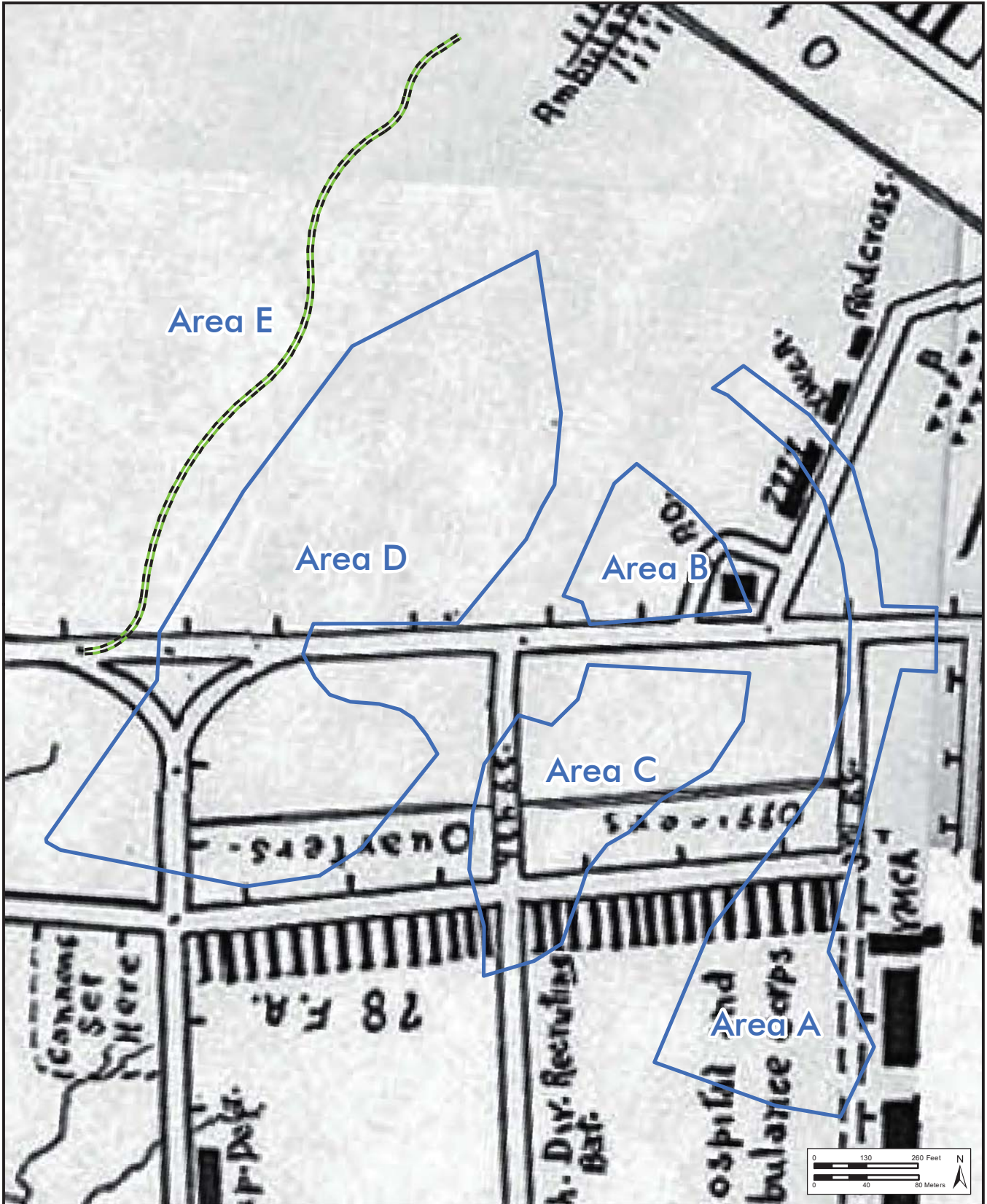
In addition to the camp completion report produced by Captain Rothrock (1918), the other primary source of information on the organization of Camp Logan comes from a map produced by Corporal Paul B. Hendrickson (1918). On the map he notes with an "X" the position of "the 14 ft square pyramid tent" that he lived in for eight months while serving at the camp. Corporal Hendrickson's map (Figure 3-1; see also Appendix B for the full map) depicts the relative locations of rail lines, roads, bridges, offices, and other buildings throughout the camp. The map also provides the location and layout of each regimental camp at the time he composed the map (Hendrickson 1918). The precision of the period map with reference to recent aerial imagery was deemed adequate for aiding in relocating former camp structures with an acceptable level of confidence.

The camp was laid out in a rough triangle with the main camp entrance at the eastern point near the current Washington Avenue. Six regiments were arranged along its south side, five regiments along the northeast side, and four regiments along the western side. The Camp Logan Division Headquarters, base hospital, and other administrative buildings were clustered at the eastern end of the camp where Washington Avenue and Blossom Street provided the primary entrances into the camp. Each regimental camp follows roughly the same layout: a line of officer's quarters separated from the rest of the camp by a road, across the road were company buildings such as mess halls, behind the company building the bulk of the camp was set aside for rows of tents for enlisted men, at the rear of camp were latrines and shower buildings, finally beyond these were corrals for regimental horses.

The APE overlaps with the southeastern corner of the camp. Hendrickson's map indicates that the majority of the APE coincides

with the large parade and drill ground in the center of camp. The southernmost portions of the APE overlap the 78th Field Artillery regimental camp as well as that of the 5th Division Recruiting Battalion and the Hospital and Ambulance Corps. The northeast portion of the APE is in the vicinity of the Camp Logan Post Office and a second, unlabeled, structure on Hendrickson's map. One possible identity for the unknown structure is that of the camp library. It is not labeled on Hendrickson's map but records maintained by the camp librarian, Malcolm G. Wyer (1918), indicate that it was located in the area of the Post Office.

Almost immediately after the closing of Camp Logan, locals began calling for the land to be set aside as a park in memory of the soldiers who had been stationed there and served during World War I. The most strident of these advocates was Catherine Mary Emmott. In 1924, Will and Mike Hogg, along with Henry Stude, purchased much of the property and then sold it to the City of Houston at cost, allowing for the formation of Memorial Park. Although plans were drawn up as early as 1924, the Great Depression delayed much of the work until the Works Progress Administration put 500 men to work constructing the existing golf course and other amenities.



Approximate Project location
on Hendrickson's 1918
Camp Logan map.

-  Project Area
-  Golf Course Access Road

4.0 FIELD METHODOLOGY

4.1 Site File and Literature Review

Gray & Pape completed site file research and literature review to identify previously recorded archaeological sites and previous archaeological investigations within 1.6 kilometers (1 mile) of the project area. This work was conducted by reviewing online data available on the Texas Online Archeological Sites Atlas. Historic maps and aerial imagery available through Google Earth (2016), National Environmental and Title Research (NETR) Online (2016), and online cartographic resources provided through the Perry-Castañeda Library Map Collection of the University of Texas at Austin (2016) and the *Portal to Texas History* database, sponsored by the University of North Texas (2016). In particular, project goals included historic research and cultural resources survey to determine whether or not remains of historic Camp Logan (Site 41HR614) are present within the project's APE; current information on the Texas Sites Atlas suggest that the mapped boundaries of this important archaeological site ("Area 1" of the Camp Logan State Antiquities Landmark) overlap with approximately half of the proposed Memorial Park Eastern Glades development area.

As part of these investigations, Gray & Pape identified previously identified cultural resources and previous investigations mapped within a background cultural review radius (see Table 1). This work was used to provide a historic context to the cultural resources survey, and additional documentary research was conducted in order to provide an understanding of the development and history of the surrounding area. This research then was used to prepare an overview history of the area and provided an understanding of the contextual framework of Harris County's prehistory and history. Additional documentary research was

conducted in order to provide an understanding of the development and history of the immediately surrounding area of Memorial Park, and to develop a regional context of the area and discuss the significance of previously identified National Register properties, particularly Camp Logan.

4.2 Field Methods

Gray & Pape implemented a survey strategy focusing foremost on areas that were known to contain previously recorded cultural resources. In order to complete this task more efficiently and accurately, Gray & Pape used a georeferenced overlay of Corporal Paul B. Hendrickson's 1918 map of Camp Logan. Historic maps and images, among other resources, were used to provide a detailed historic context used to guide the cultural resources survey. Particularly useful was the detailed history of Camp Logan prepared by Louis Aulbach, Linda Gorski, and Robbie Morin (2014). Finally, field observations and conditions guided additional testing efforts within the APE.

4.2.1 Intensive Pedestrian Survey

Survey of the project APE consisted of pedestrian walkover and photo-documentation, shovel testing, and a reconnaissance-level metal detecting survey. A handheld Global Positioning System (GPS) receiver capable of sub-meter accuracy data recording was used to assist in survey. Portions of the APE were subjected to both systematic and judgmental excavation of shovel tests. Shovel test placement was determined by making an assessment of the archaeological potential across the tract and in all cases met or exceeded the Texas Minimum standards. Survey transects were placed approximately 30 meters (100 feet) apart, while shovel test excavations and visual observation took place at 50-meter (160-foot) intervals.

Shovel testing consisted of 30 by 30-centimeter (11 by 11-inch) diameter tests excavated to a maximum depth of 100 centimeters (39.3 inches) into the underlying substratum. Vertical control was maintained by excavating each shovel test in 10-centimeter (4-inch) levels. One wall of each shovel test was profiled and the walls and floor of each shovel test were inspected for color or texture change potentially associated with the presence of cultural features. When possible, soils were screened through 0.64-centimeter (1/4-inch) wire mesh and descriptions of soil texture and color followed standard terminology and Munsell Soil Color Charts (Munsell 2005). Additional information concerning soils encountered was recorded on standardized shovel test forms for each excavation.

however, Gray & Pape submitted project records to Texas Archeological Research Laboratory (TARL)-

4.2.2 Site Definition

The project area intersects the boundaries of the previously-recorded Site 41HR614 (Camp Logan), thus site definition was primarily focused on the identification of architectural and archaeological deposits based on Camp Logan-period records (discussed previously in Section 3.2.2, above) and the results of previous investigations in adjacent areas of Memorial Park. Subsurface testing, combined with intensive pedestrian assessment, was utilized as a supplemental method to test the accuracy of this data as applied to the current project. Gray & Pape consulted the 1918 Hendrickson map prior to completing the intensive pedestrian survey, as the map suggests that several structures, buildings, and roadways associated with Camp Logan were formerly located within the southern margins of Areas A, C, and D (Figure 3-1).

4.3 Laboratory Analysis and Curation

No diagnostic or non-diagnostic artifacts were collected in the course of the current survey, therefore there no discussion of laboratory analysis and curation is included in this report. As a project permitted through the THC,

5.0 RESULTS OF INVESTIGATIONS

5.1 Result of Site File and Literature Review

5.1.1 Previously Recorded Surveys

Consultation with the Texas Archeological Sites Atlas revealed that there were seven cultural resource surveys previously conducted within a 1.6-kilometer (1-mile) buffer of the project area (Table 5-1). Of these, two of the surveys overlap with the project area. In 1989, Moore Archeological Consulting, Inc. (MAC, Inc.) conducted an extensive survey of Memorial Park, including the project area. This survey noted structural remains but did not include a complete mapping of every foundation (Moore et al. 1989). The portions of the 1989 MAC survey that overlaps with the current APE were designated areas C-4 and E-3. Only area C-4,

located west of East Memorial Loop Drive, was surveyed. Within area C-4 MAC recorded three features: a pile of concrete rubble pushed into a ravine, the extant remains of 26th Street, and a manhole (Moore et al. 1989). MAC conducted a second survey of Memorial Park in 2001, though this survey was focused on determining the relative potential of different areas of the park for producing prehistoric cultural remains. In regards to the current APE, Moore and Sanchez characterized the current project area as possessing a low probability for the presence of prehistoric materials and deposits (Moore and Sanchez 2002). Also of note, Gray & Pape recently performed a cultural resources survey of a portion of the western extent of the Camp Logan site within Memorial Park that is currently in the reporting phase (see Texas Antiquities Permit Number 7574).

Table 5-1. Previously Recorded Area and Linear Surveys within 1.6 Kilometers (1 Mile) of the Proposed Project Area, Harris County, Texas.

Survey Type	Investigating Firm/ Agency	Field Work Date	TAC Permit Number	Report Author	Sponsoring Agency	Report Published	Figure
Area	MAC, Inc.	2001	2695	Moore and Sanchez	City of Houston	2002	1-1
Area	MAC, Inc.	2012	6253	Magnum	City of Houston	2012	1-1
Area	HRA Gray & Pape	2011	NA	Nash and Spalding	Harris County Flood Control District	2015	1-1
Area	HRA Gray & Pape	2014	6744	Tuttle	Harris County Flood Control District	2015	1-1
Area	MAC, Inc.	1989	738	Moore et al	SLA Studioland	1989	Not shown
Area	HRA Gray & Pape	2012	6459	Balakirova and Bludau	United States Army Corps of Engineers	2015	1-1
Linear	Texas Water Development Board	1996	1641	Davis	Texas Water Development Board	1996	1-1
Linear	United States Army Corps of Engineers	1999	NA	NA	United States Army Corps of Engineers	NA	1-1

5.1.2 Previously Recorded Cultural Resources

The project APE is incorporated within the site boundaries of Camp Logan (41HR614). Furthermore, there are two additional sites within a 1.6-kilometer (1-mile) radius of the APE. The first (41HR1158) is a shell midden of unknown age, approximately 800 meters (2,600 feet) south of the APE, on the south bank of Buffalo Bayou. At the time of recording it had been heavily damaged by the construction of the River Oaks Golf Course (Beene 2015). The second is the Willowick Site (41HR791), a small prehistoric lithic site, approximately 1 kilometer (0.6 miles) south of the APE. Only two chert flakes were recovered (Huebner and Moore 1989). No additional work was recommended for either site.

One National Register District and four National Register Properties are located within the 1.6-kilometer (1-mile) research area of the APE. These include: Bayou Bend National Register District, Hugo V. Neuhaus, Jr. House National Register Property, William L. Clayton Summer House National Register Property, and Cleveland Harding Sewall House National Register Property. The Hugo Victor Neuhaus, Jr. House is also the location of a Texas State Historical Marker.

5.2 Results of Field Investigations

For fieldwork, the APE was organized into five areas based on the proposed development layout, corresponding to Areas A through D for the original four survey areas, and Area E representing the survey of a proposed access road for the nearby Memorial Park golf course. In total, 61 shovel tests were completed throughout the project area (Figure 5-1). A total of three shovel tests yielded non-recent (modern) historic-period cultural material, one near Area A and two within Area C; no prehistoric cultural material was identified in any shovel test.

5.2.1 Survey Area A

Survey began on the eastern margin of the APE in Area A, which borders Arnot Street to the north and runs roughly parallel to Crestwood Drive for a distance of approximately 600 meters (1,970 feet) (Figure 5-1). Area A subsumes an overall area of approximately 3.7 hectares (9.1 acres), oriented north-to-south. The environmental setting observed within Area A was predominantly low density mature pines interspersed with dense secondary growth and grasses, as well as tree and undergrowth debris from ground maintenance activities (Figure 5-2).

A total of 16 shovel tests were excavated across Area A, including five delineation tests excavated within a small brick scatter (less than four brick fragments were identified on the surface) immediately west of the APE boundary. The scatter was composed of incomplete glazed architectural brick, with one brick fragment featuring the intact maker's mark ["HOUST..."] on a bed face of the fragment (Figure 5-3). Delineation of the brick scatter was completed to characterize the horizontal extents and depth of the scatter. One shovel test was placed in the approximate center of the scatter (as visible on the surrounding ground surface) and was recorded as the only positive, while an additional four shovel tests were placed in cardinal compass directions, 10 meters (33 feet) from the brick scatter. The positive delineation test (Shovel Test J1) yielded a total of 11 corroded ferrous wire nail fragments between the ground surface and 30 centimeters (12 inches) below surface (Figure 5-4). The nail fragments were recovered in Stratum I, in dark grayish brown (10YR 4/2) compact sandy loam, and Stratum II, consisting of pale brown (10YR 6/3) compact silty loam. Research of the "HOUST..."-marked architectural brick suggests that the brick was manufactured by the Houston Brick & Tile Company, located in Houston, Texas and operated as early as 1894, remaining in operation through at least 1985 (Galveston Daily News 1894;

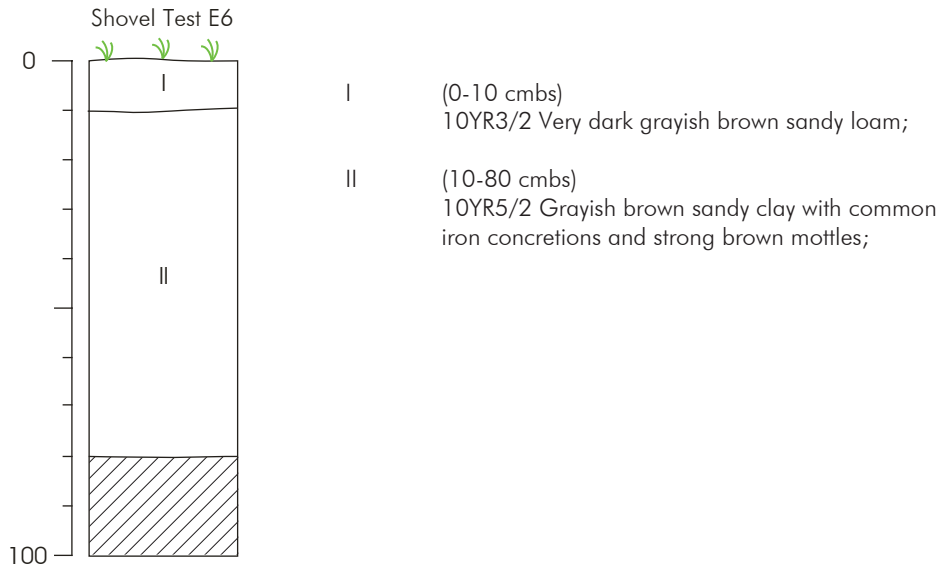
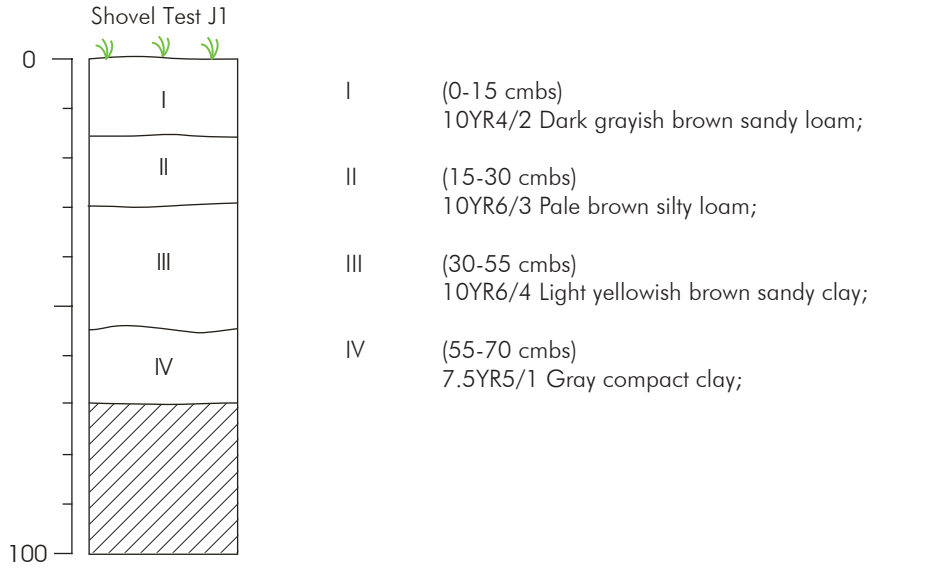
FIGURE REMOVED FROM PUBLIC COPY



Figure 5-2. Overview of Survey Area A. View is to the south.



Figure 5-3. Detail of partial brick identified in brick scatter near Area A.



Sample shovel test profiles from overall Project area.

Houston Chronicle 1985). No additional cultural materials were recovered near the brick scatter and no soil features were identified in the five shovel tests. Three intact, precast concrete park benches were also documented in Area A. Two of the park benches were identified at the northern end of Area A, while the third was identified immediately south of Shovel Test A6. The park benches likely date to an earlier period of Memorial Park and have not been regularly used in the recent past; no other extant park features or structures were identified in association with the benches, such as lighting fixtures or water fountains.

Field survey of Area A also visually identified the trace of an historic roadway in the low density of tree and understory growth along an east-west linear alignment (see Figure 5-1). Shovel testing in this area did not identify any historic roadway surfaces (such as crushed oyster shell, gravel, or asphalt) but the lack of dense vegetation approximately matches the alignment of a former roadway as depicted in the 1918 Hendrickson map of Camp Logan

(see Figure 3-1). No other roadway or other transportation-related features were identified along this alignment.

5.2.2 Survey Area B

Area B lies approximately 75 meters (246 feet) west of Area A, and subsumes a small space of 1 hectare (2.5 acres) (Figure 5-1). The environmental setting observed in Area B was consistent with Area A. Four shovel tests were excavated within Area B along two transects, none of which contained archaeological material. An additional precast concrete park bench was identified immediately south of Area B, near the approximate path of the primary east-to-west camp roadway (Figure 5-5).

5.2.3 Survey Area C

Area C is situated approximately 30 meters (98 feet) to the south of Area B and 75 meters (246 feet) to the west of Area A. It encompasses 2.7 hectares (6.7 acres) directly east of the intersection of East Memorial Loop Drive and Memorial Drive. Area C contains an



Figure 5-5. Detail of pre-cast concrete park bench. View is to the north.

environment consistent with Areas A and B, though the western boundary is impacted by park development, including manicured lawn and running paths (Figure 5-1). Survey of Area C included seven shovel tests arranged along three transects. Shovel Test C7 was recorded as positive and contained a total of seven corroded ferrous wire nail fragments. These materials were recovered from a depth ranging between 30 to 50 centimeters (12 to 20 inches) below surface, in very compact light yellowish brown (10YR 6/4) silty loam. Indications of disturbance, such as common ferrous staining and concretions, were evident throughout the test, which was located on the boundary between undeveloped brush and woods and the manicured park lawn and running path along East Memorial Loop Drive (Figure 5-6). Four delineation tests were excavated in close proximity (10 meters [33 feet]) to Shovel Test C7, with Shovel Test C7-South containing two additional ferrous wire nail fragments within the

top 10 centimeters (4 inches) of the shovel test. No additional cultural material or features were recovered or observed near Shovel Test C7.

5.2.4 Survey Area D

Area D encompasses approximately 9 hectares (22 acres) of undeveloped wooded area, oriented north-to-south immediately to the west of East Memorial Loop Drive (Figure 5-1). This more central portion of Memorial Park features mature pine growth with dense underbrush and several areas of minor ground depressions and hollows that were generally inundated at the time of the survey. The northeast corner of the APE is notably lower in overall elevation and was not subjected to excavation due to expansive inundation during the initial mobilization. A total of 19 shovel tests were excavated within Area D, while six were recorded as unexcavated within the inundated northeastern extent of the project area.



Figure 5-6. Overview of Area C, near positive Shovel Test C7. View is to the north.



Figure 5-7. Overview of proposed golf course access road. View is to the south.

5.2.5 Survey Area E (Golf Course Access Road)

An additional mobilization was undertaken to survey a proposed access road for the Memorial Park Golf Course, located between East Memorial Loop Drive and the eastern extent of the golf course grounds (Survey Area E) (Figure 5-1). The proposed road is oriented generally north to south along a 0.6 kilometers (0.4 miles) alignment, approximately 10 meters (33 feet) in width, beginning at East Memorial Loop Drive and ending at an existing park maintenance pathway to the south. The survey crew noted disturbance in this specific area, in the form of several refuse piles of discarded asphalt. To the north, the APE traverses an environment consisting of flat, maintained urban woods of beech and pine (Figure 5-7). Excavation within the APE for the proposed road was administered along a single transect within a corridor of approximately 3.5 meters (11.5 feet) in width.

Testing was initiated at the northern end of the project area and continued along the proposed path at an interval ranging between 40 and 60 meters (131 and 197 feet). A total of

11 shovel tests were completed along the proposed access road alignment, none of which yielded cultural material; one shovel test at the southern end of the access road alignment was not excavated due to large quantities of discarded asphalt adjacent to and north of the existing park maintenance road. In general, excavation along the access road alignment revealed a surface stratum of approximately 10 centimeters (4 inches) of very dark grayish brown (10YR 3/2) sandy loam. Underlain by grayish brown (10YR 5/2) sandy clay throughout the soil profile of the access road area, as observed in Shovel Test E6 (Figure 5-4). Small ferrous concretions were commonly encountered in the clay-rich soils, as well as both brown (10YR 5/3) and strong brown (7.5YR 5/6) mottles. The lower limits of most tests featured a noticeable amount of moisture.

6.0 CONCLUSIONS AND RECOMMENDATIONS

This report presents the findings of an intensive pedestrian archaeological survey of 16.6 hectares (41 acres) of property proposed for improvements for the Memorial Park Eastern Glades Phase 2 project within Memorial Park, City of Houston, Harris County, Texas. The primary goals of the investigation were identification of archaeological features and materials associated with the State Antiquities Landmark-designated Camp Logan archaeological site (41HR614) within the project APE and identify additional prehistoric- or historic-period archaeological materials and deposits predating the establishment of Camp Logan. Fieldwork and reporting for the survey were conducted under Texas Antiquities Permit Number 7686, issued to Gray & Pape by the Texas Historical Commission (Archeology Division) on June 17, 2016.

Prior to undertaking the field investigation, Gray & Pape completed background literature and site file research to identify the presence of recorded sites within or near to the project area. The project area intersects the Camp Logan (41HR614) archaeological site while no other archaeological sites have been previously mapped within the project area. There are two archaeological sites within a 1.6-kilometer (1-mile) radius of the project area (41HR1158, 41HR791). Additional historical research of Camp Logan and geo-referencing of the Hendrickson 1918 survey map of Camp Logan (Figure 3-1; Appendix B) with respect to recent aerial imagery allowed for approximate mapping of Camp Logan-period features that aided the field investigation.

Field investigation consisted of pedestrian reconnaissance, shovel testing, and photo-documentation completed in July and October 2016. A total of 68 shovel tests were mapped within five survey areas encompassing the project area. Of these, a total of seven shovel tests were recorded as unexcavated due to inundation or obstruction from asphalt refuse.

Three shovel tests, one near Area A and two in Area C, yielded ferrous wire nails less than 50 centimeters (20 inches) from the surface. A surface scatter of architectural brick fragments was also mapped adjacent to Area A, and four concrete park benches were mapped within or near to Areas A and B.

There are several factors that have likely contributed to the low density of cultural material recovered during the intensive pedestrian survey. Based on a review of period photography of Camp Logan, most camp structures appear to have been built without substantial masonry foundations or footings, and were instead constructed directly on the ground surface or set on wooden or masonry piles (Aulbach et al. 2014). The camp structures were largely designed for short-term use and were completely removed from the site within 10 years of the closure of the camp as a military post. Given these conditions, few structural remains were expected to be identified. Furthermore, a review of the 1918 Hendrickson map suggests that much of the project area was dedicated to open parade and drill grounds in the approximate center of the military post. This area would likely have been regularly subjected to refuse removal and "policing," leading to the removal of at least some amount of refuse and casually-dropped materials from the exposed ground surface of the camp.

With respect to the brick scatter identified adjacent to Area A, shovel testing yielded no definitive evidence (such as traces of brick mortar or concrete) of the bricks originating from a nearby foundation, footing, or other architectural feature, and therefore likely represents discard activity that cannot be directly associated with the Camp Logan archaeological site. The ferrous wire nail fragments recovered from Shovel Tests J1, C7, and C7-South were not recovered from an archaeological feature or deposit and cannot as well be directly associated with the Camp

Logan archaeological site. The four identified pre-cast concrete park benches are likely associated with an earlier design of Memorial Park and not the World War I-era occupation of the Camp Logan archaeological site.

Based on the results of the survey, Gray & Pape recommends no further archaeological investigations with respect to the ferrous wire nail artifacts and architectural brick fragments identified in the course of the recent survey. The current plans for the project take into consideration the most distinct and visible of the roadways dating to the Camp Logan period, as identified in Area A of the recent survey. Therefore, Gray & Pape is of the opinion that the proposed project meets in design the obligations of the Memorial Park Conservancy to the Texas Antiquities Code (Figure 5-1; Appendix A). Gray & Pape does recommend the adoption of an Unanticipated Discoveries Plan and Workforce Education Plan by the Memorial Park Conservancy prior to the commencement of construction to avoid adverse impacts to buried archaeological features and materials associated with the Camp Logan archaeological site. In support of this recommendation, Gray & Pape has prepared a coordination document that would provide continuing understanding and communication between the Memorial Park Conservancy and the THC with respect to the management of archaeological resources associated with Camp Logan.

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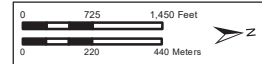
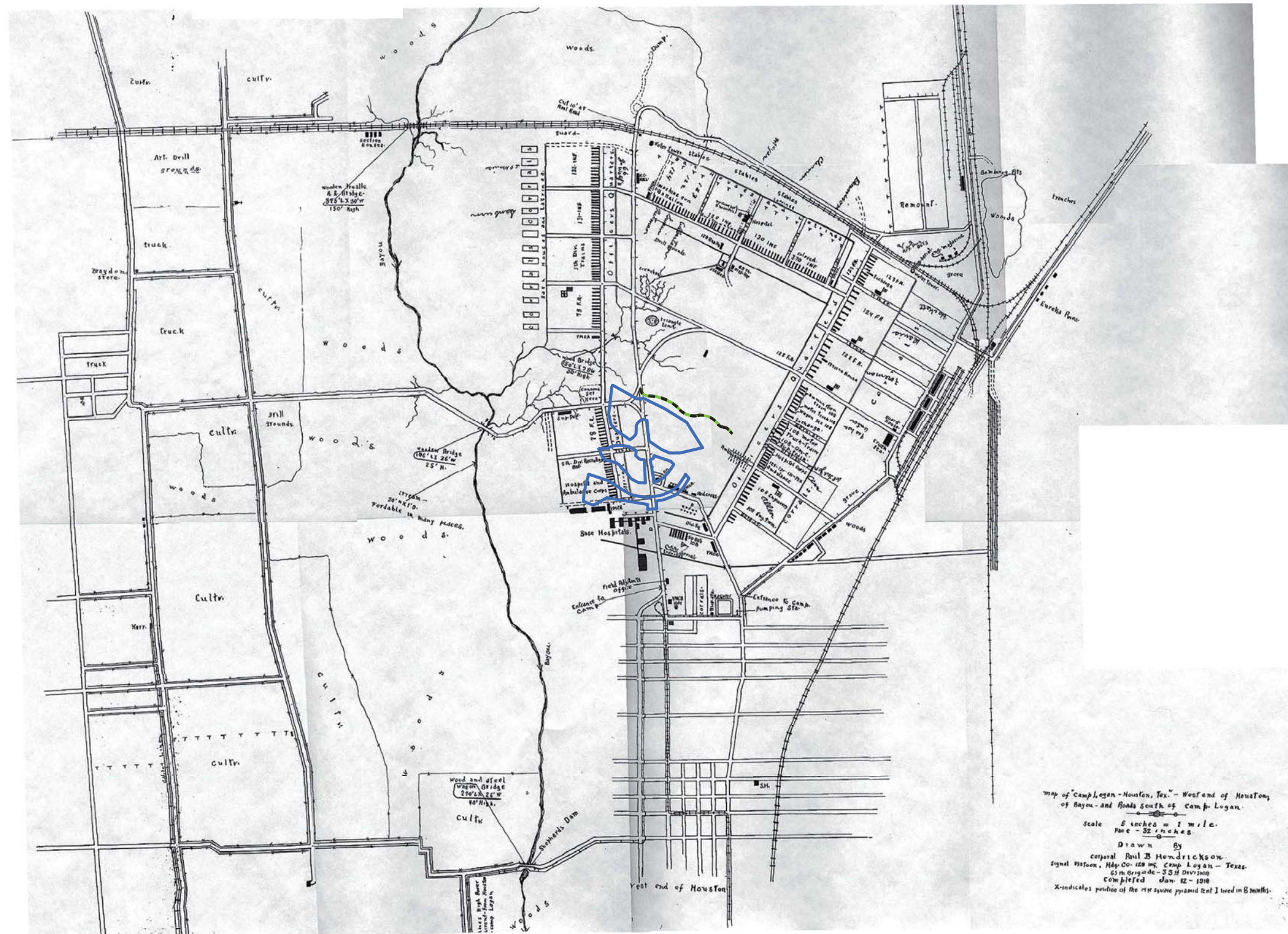
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APPENDIX A

**MEMORIAL PARK EASTERN GLADES PHASE 2
PROPOSED PROJECT PLANS**

APPENDIX B


APPROXIMATE PROJECT LOCATION ON HENDRICKON'S 1918 CAMP LOGAN MAP



map of Camp Logan - Houston, Tex. - West end of Houston, of Bayou - and roads south of Camp Logan.
 Scale 5 inches = 1 mile.
 Pace - 32 inches
 Drawn by
 Corporal Paul B. Hendrickson
 Signal Station, Hdq. Co. 128th Signal Battalion, Camp Logan - Texas.
 Completed Jan. 12 - 1918
 X indicates position of the 1st square pyramid set I used in 8 months.

▭ Project Area
— Golf Course Access Road

Appendix B
 Approximate Project location
 on Hendrickson's 1918
 Camp Logan map.


GRAY & PAPE
 HERITAGE MANAGEMENT