



INDEX OF TEXAS ARCHAEOLOGY

Open Access Gray Literature from the Lone Star State

Volume 2015

Article 234

2015

Backhoe Trenching In The Proposed Center Street Expansion Right-Of-Way Pasadena, Harris County, Texas

David M. Yelacic

Follow this and additional works at: <https://scholarworks.sfasu.edu/ita>

 Part of the [American Material Culture Commons](#), [Archaeological Anthropology Commons](#), [Environmental Studies Commons](#), [Other American Studies Commons](#), [Other Arts and Humanities Commons](#), [Other History of Art, Architecture, and Archaeology Commons](#), and the [United States History Commons](#)

[Tell us how this article helped you.](#)

Cite this Record

Yelacic, David M. (2015) "Backhoe Trenching In The Proposed Center Street Expansion Right-Of-Way Pasadena, Harris County, Texas," *Index of Texas Archaeology: Open Access Gray Literature from the Lone Star State*: Vol. 2015, Article 234. ISSN: 2475-9333

Available at: <https://scholarworks.sfasu.edu/ita/vol2015/iss1/234>

This Article is brought to you for free and open access by the Center for Regional Heritage Research at SFA ScholarWorks. It has been accepted for inclusion in Index of Texas Archaeology: Open Access Gray Literature from the Lone Star State by an authorized editor of SFA ScholarWorks. For more information, please contact cdsscholarworks@sfasu.edu.

Backhoe Trenching In The Proposed Center Street Expansion Right-Of-Way Pasadena, Harris County, Texas

Creative Commons License



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Cultural Resources Survey

BACKHOE TRENCHING IN THE PROPOSED CENTER STREET EXPANSION RIGHT-OF-WAY PASADENA, HARRIS COUNTY, TEXAS

January 9, 2015

Terracon Project No. 92147425
Harris County UPIN 14102MF09201

David M. Yelacic, RPA, Principal Investigator
Antiquities Permit Number 7067



Prepared for:
Landtech Consultants, Inc.
Houston, Texas

Prepared by:
Terracon Consultants, Inc.
Houston, Texas

terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials

January 9, 2015



Landtech Consultants, Inc.
2525 North Loop West, Suite 300
Houston, Texas

Attn: Mr. Mark W. Litzmann
713-861-7068
mlitzmann@LandTech-Inc.com

Re: Cultural Resources Survey: Backhoe Trenching
in the Center Street Expansion Right-of-Way
Pasadena, Harris County, Texas
Terracon Project No. 92147425
Harris County UPIN 14102MF90201

Dear Mr. Litzmann:

Terracon is pleased to submit this short report of findings from an intensive survey along the proposed Center Street expansion right-of-way on the north and south sides of Armand Bayou (Harris County Flood Control District Unit Number B100-00-00) in southeastern Pasadena, Harris County, Texas on behalf of Landtech Consultants, Inc.

Based on the results of the survey, **no further cultural resources investigation is recommended** for the proposed project (subject to concurrence from the Texas Historical Commission). Please contact me (dmyelacic@terracon.com) if you have any questions, comments, and/or concerns.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in blue ink, appearing to read "Dmyelacic", is positioned above the name of the sender.

David M. Yelacic, RPA
Archaeologist/Principal Investigator

A handwritten signature in blue ink, appearing to read "Carland G. Holstead", is positioned above the name of the sender.

Carland G. Holstead
Project Manager

A handwritten signature in blue ink, appearing to read "Ginger C. Horn", is positioned above the name of the sender.

Ginger C. Horn
Senior Project Manager

cc: Bill Martin, Archaeologist/Reviewer, Texas Historical Commission

Attachments

Terracon Consultants, Inc. 11555 Clay Road, Suite 100 Houston, Texas 77043
P (713) 690 8989 F (713) 690 8787 terracon.com

Environmental



Facilities



Geotechnical



Materials

ABSTRACT

Harris County plans to extend Center Street from its current position just south of the intersection at Fairmont Parkway to residential area across Armand Bayou. As a result of public funding and property involved with the proposed project, an intensive pedestrian survey of the proposed linear right-of-way was conducted to complete permitting requirements of the Antiquities Code of Texas, enforced by the Texas Historical Commission. The survey was performed under Antiquities Permit Number 7067, issued to David M. Yelacic, who also carried out fieldwork and subsequent reporting.

A total of four trenches, two on either side of Armand Bayou, were excavated by backhoe, and each was devoid of cultural material. The remainder of the APE was systematically surveyed for any surface expressions of cultural resources, but none were observed. Review of historical aerial imagery and maps also yield no evidence of historic properties within the APE in the last 70 years. As a result of negative findings, Terracon recommends that the project proceed with no further investigations of cultural resources.

TABLE OF CONTENTS

| | Page No. |
|--|----------|
| 1.0 Introduction..... | 1 |
| 2.0 Project History | 1 |
| 3.0 Definition and Context of Study Area | 2 |
| 4.0 Methods..... | 4 |
| 5.0 Results..... | 4 |
| 6.0 Conclusions and Recommendations | 6 |
| 7.0 References Cited..... | 7 |

CULTURAL RESOURCES SURVEY: BACKHOE TRENCHING IN THE PROPOSED CENTER STREET EXPANSION RIGHT-OF-WAY PASADENA, HARRIS COUNTY, TEXAS

Terracon Project No. 92147425
Harris County UPIN 14102MF09201
January 9, 2015

1.0 INTRODUCTION

The following report presents the results of an intensive cultural resources survey for the proposed southerly expansion of Center Street in eastern Pasadena, Harris County, Texas and sponsored by Harris County through Landtech Consultants, Inc. The area of potential effect (APE) is an approximately 400-meter (m) length of proposed right-of-way (ROW), where the road extension would span Armand Bayou, and of particular interest to the Texas Historical Commission (THC) is a portion of the proposed ROW extending 100 m on both sides of the Bayou (attachments: THC Letter and Map 1).

Because of the involvement of State property and funds, the proposed project is within purview of the Antiquities Code of Texas and therefore under the regulatory supervision of the THC. The survey was coordinated with Mr. Bill Martin, Archeologist and Reviewer, and conducted under Texas Antiquities Permit No. 7067, issued to Mr. David M. Yelacic. Below, descriptions of the APE and project area context will be followed by sections discussing methods, results, conclusions and recommendations, and finally attachments to include maps, photographs, and correspondence.

2.0 PROJECT HISTORY

Harris County plans to extend Center Street from just south of its intersection with Fairmont Parkway towards the residential neighborhoods across Armand Bayou. Harris County properly initiated consultation for the project with the THC, and in response, the THC required Harris County to perform an intensive pedestrian survey of the proposed ROW prior to initiation of ground disturbance. According to THC records, the ROW had never been surveyed previously and its location in proximity to Armand Bayou gave it an increased potential for impacting cultural resources. Further coordination with the THC by Terracon yielded a refined methodology and an Antiquities Permit (number 7067) through which fieldwork would be conducted.

3.0 DEFINITION AND CONTEXT OF STUDY AREA

As mentioned above that within the approximately 400 m APE for direct impacts, survey of cultural resources was concentrated on 100 m to the north and the south of Armand Bayou (attachments: Map 1 and Map 2). The width of the APE in this vicinity is approximately 20 m, and the depth of impact would be variable. As explained by the project engineer, the road would primarily be built up; there would certainly be some impact to the current surface and at least shallow subsurface, however.

The project site is located centrally in Harris County in Northern Humid Gulf Coastal Prairies (Griffith et al. 2004) on the upper Gulf Coastal Plain of Texas, where elevations range from 0 to 150 feet above sea level. Bedrock geology is mapped as Beaumont Formation (Qbc), which is primarily composed of clays and muds eroded from uplands and mountains to the west and deposited by stream systems (Barnes 1982). Soils mapped in the area, Lake Charles clay (LcA), are characterized as moderately deep and typical of fluvial environments (Wheeler 1976).

Armand Bayou, at the center of the proposed ROW, appears to begin approximately two miles northwest of where the proposed Center Street expansion would cross and flows about ten miles southeastwards to Mud Lake and then Clear Lake. The area immediately adjacent to Mud Lake and just upstream along Armand Bayou has been designated as Armand Bayou National Register Archaeological District, which would suggest that portions of the body of water were a significant resource for historic and prehistoric occupants.

Review of the Texas Archeological Sites Atlas (Atlas) indicated that the proposed APE had not previously been surveyed and did not contain any previously recorded archaeological sites. Further downstream, 12 archaeological sites are formally registered within the aforementioned Armand Bayou Archaeological District, and they were recorded in the late 1970s; though today there are additional sites recorded within the boundary of the District. Many of these sites are low mounds and middens comprised of faunal remains (i.e., bones and shell), lithic debris, and ceramics. There are scattered and poorly preserved historic remains too. These sites, as well as others, are briefly described from closest to farthest away from the APE in Table 1.

Cultural traditions of Southeast Texas, as understood through a relatively great number of recorded and investigated archaeological sites, is generally similar to adjacent regions in Central Texas, the Central and Lower Coastline, and East Texas. From Patterson (1995), we understand that the Paleoindian period (ca. 12,000 to 10,000 years before present [BP]) is identifiable by a variety of finely-crafted projectile points. The Archaic period represents the greatest period of time (ca. 10,000 to 1,900 BP), and as such, it contains a great variety of diagnostic projectile points and subsistence strategies, which include faunal and floral resources and the use of fired-clayball cooking. Following the Archaic period, the onset of the Early Ceramic period (ca. 1,900 to 1,400 BP) is marked by the appearance of pottery, and it closes with the introduction of bow-and-arrow technology, which is characteristic of the Late Prehistoric period (ca. 1,400 to 500 BP).

Table 1. Recorded sites near Center Street expansion ROW and along Armand Bayou.

| Trinomial | Age | Description |
|------------------|----------------------------------|---|
| 41HR144 | Archaic | Bulverde projectile point found on knoll overlooking Armand Bayou |
| *41HR145 | Prehistoric | Sand knoll midden situated on the left bank of Armand Bayou; site contains charcoal and Goose Creek pottery sherds; partly disturbed |
| *41HR146 | Neo-American | Sand knoll midden situated on the right bank of the Bayou |
| *41HR147 | Neo-American | Shell midden situated on the left bank of Armand Bayou; site contains Perdiz projectile point, pottery, and lithic debris |
| *41HR148 | Prehistoric | Shell midden situate atop sandy knoll on left bank of Armand Bayou; site contains pottery, lithic, and organic remains |
| *41HR319 | Historic | Historic farmstead poorly preserved |
| *41HR142 | Prehistoric | Shell midden situated on right bank of Armand Bayou; site contains lithic and organic debris |
| *41HR141 | Prehistoric | Shell midden situated on right bank of Armand Bayou; site contains Perdiz projectile point, as well as lithic and organic debris |
| *41HR143 | Prehistoric | Shell midden situated on right bank of Armand Bayou; site composed of thin lense of shell |
| 41HR728 | Prehistoric | Site composed of lithic debris and ceramics; situated in mound field on a low alluvial terrace of Armand Bayou |
| 41HR727 | Prehistoric | Site composed of lithic debris and ceramics; situated on low, linear mound near the confluence of Armand Bayou and Big Bland Slough [sic] |
| 41HR1135 | Late Archaic to Late Prehistoric | Site composed of lithic and organic debris and ceramics; situated on a slightly elevated area in the floodplain overlooking Big Island Slough near its confluence with Armand Bayou |
| 41HR1134 | Prehistoric and Historic | Large prehistoric shell midden and traces of a historic homestead; site is situated on Big Island Slough near its confluence with Armand Bayou |
| *41HR153 | Prehistoric | Large prehistoric shell midden with lithic debris and ceramics; site is situated on Big Island Slough near its confluence with Armand Bayou |
| *41HR88 | Prehistoric and Historic | Large prehistoric shell midden and a historic homestead (and possible cemetery); site is situated on Big Island Slough near its confluence with Armand Bayou |
| **HR-C212 | Historic | Henry Cemetery; one late 19 th century burial and marker |
| *41HR81 | Neo-American | Shell midden situated on the left bank of Armand Bayou; site contains ceramics and lithic and organic debris |
| *41HR82 | Neo-American | Shell midden situated on the left bank of Armand Bayou in the vicinity of Mud Lake; site consists primarily of ceramics with uncommon lithic debris |
| 41HR87 | Prehistoric | Shell midden situated on the eastern (left) bank of Mud Lake/Armand Bayou; site contains ceramics and organic material |
| *41HR152 | Neo-American | Shell midden situated on the western (right) bank of Mud Lake/Armand Bayou; site consists primarily of shell |

*Included as part of Armand Bayou National Register Archaeological District

**Designation other than site trinomial

History of Harris County begins with Spanish and French exploring the region in the sixteenth to eighteenth centuries (Henson 2010). United States pioneers and immigrants from Western Europe began settling the county in the nineteenth century, and the county was officially formed by the end of 1836. Many of the early settlers first populated areas along waterways and then spread inland along roads and railways. An oil boom at the turn of the century eclipsed the agricultural economy and was primarily responsible for influx of population and development of the county's current state.

4.0 METHODS

Prior to fieldwork, historical aerial photographs and maps of the proposed ROW were reviewed for information that would aid in identifying cultural resources. Such archival and spatial information could also help direct and focus field observations.

To explore the possibility of the proposed APE containing previously undocumented cultural resources, a modified intensive survey was carried out. A total of four backhoe-excavated trenches were used to probe the subsurface for cultural materials as well as to characterize the sediment and soil of the APE (attachment: Map 3). A secondary insight of the trenches was to ground truth the Houston Area Potential Archaeological Liability Map (PALM), which encompasses the area of the APE (attachment: Map 4). Each trench was excavated approximately five to seven meters in length, one to two meters wide, and down to two-and-a-quarter meters at deepest. The sticky clay sediment was not passed through ¼-inch hardware mesh but was thoroughly troweled through by arbitrary 50-centimeter (cm) level. Upon completion of excavation, each trench profile exposure was documented with photographs and notes, and then the excavated sediment was returned to the pit.

In addition to the intensive, mechanical excavation, pedestrian survey of the APE was carried out systematically, with two transects walked along the linear right-of-way. Cut banks and the area immediately adjacent to the Armand Bayou channel were also thoroughly observed for any evidence of surficial or buried cultural resources.

5.0 RESULTS

Review of historical aerial images show that the APE, including the area of interest and intensive survey, has been agricultural since 1944. Aerial images and topographic maps show no historic properties within or immediately neighboring the APE.

Two backhoe trenches (BHTs) were excavated on each side of Armand Bayou. Each excavation was devoid of cultural material. On the north side of the bayou, BHT 1 was excavated approximately 10 m from the channel, and BHT 2 was excavated approximately 75 m north of the channel. On the opposite side of the bayou, BHT 3 and BHT 4 were excavated

approximately 25 m and 75 m from the channel, respectively. All four trenches were excavated on a gently sloping terrace approximately three to five meters above the channel bottom.

5.1 Pedestrian Survey

The area adjoining the channel (i.e., banks and hummocky floodway) prohibited driving the heavy equipment any closer. Upon pedestrian inspection, the geomorphology of the near-channel environment was created less by deposition and more by mass wasting of the clayey sediment (attachment: Photolog). Multiple levels appeared to be sediment in the process of sloughing into the bayou and not depositional terraces. Pedestrian survey across the APE yielded no evidence of cultural materials, and on the north side of the bayou, a considerable portion of the APE had apparently been disturbed through by construction of a modern, channelized drainage. Trench profile exposures showed mostly well-developed and intact soil profiles, except for traces of disturbance elucidated in BHT 1.

5.2 BHT 1

BHT 1 was excavated as close to the near-channel topography as possible, and excavations at this location reached a depth of approximately 2.2 m (attachment: Map 5). The uppermost meter of the excavated material was found to be disturbed; upon further inspection of the general area, the disturbance was clearly linked to an approximately two-foot diameter drainage culvert exposed in a nearby cut bank. Clearly disturbed sediment in the trench profile exposure was composed of mixed material from the underlying zones. The homogenous nature of the three underlying zones was interpreted as evidence of their integrity, and it therefore appeared that the trench was not directly overlying the culvert but still within the area disturbed by its installation.

The lower, presumably intact sediments transitioned from very dark gray to brown to olive yellow, and each contained redoximorphic concretions. Transitions from horizon to horizon were gradual, and thus, the soil was interpreted as intact. This soil development, below the disturbed zone, was similar to what was encountered in each of the remaining three excavations.

5.3 BHT 2

BHT 2 was excavated approximately 65 m north of BHT 1 on approximately the same level. The trench was excavated to approximately two meters deep and revealed a soil profile that was similar to the undisturbed soil encountered in BHT 1 (attachment: Map 6). Horizons transitioned from very dark gray to brown to light brownish gray, and the lower two zones contained common redoximorphic concretions.

5.4 BHT 3

On the south side of Armand Bayou, BHT 3 was excavated approximately 25 m from the channel (attachment: Map 7). Equipment could get no closer due to a combination of vegetation

and terrain, but the elevation and geomorphic position of this location was comparable to the two trenches excavated on the north side of the bayou. On the south side of the channel, however, the soil profile was compressed.

BHT 3 was excavated to a depth of approximately 1.2 m and revealed a soil profile of dark grayish brown over light gray clays, with redoximorphic concretions common in the lower zone.

5.5 BHT 4

BHT 4 was excavated on the same terrace approximately 50 m south of BHT 3 on the south side of Armand Bayou. This trench was excavated to approximately one meter depth and yielded a nearly identical soil profile: dark grayish brown over light gray clays (attachment: Map 8). In addition to the common redoximorphic concretions in the lower zone, there were infrequent sandy coats on ped faces.

To summarize observations about backhoe trenches, each yielded at least a portion of an intact soil profile that was apparently stable and well-developed. It is likely that cultural resources in these locations would be situated at the surface or very close to it. In terms of verifying the Houston Area PALM (see attachments: Map 4), *no survey* was recommended for clearly disturbed portions of the APE and general area—this was accurate as these areas had been developed or clearly modified in modern times. The bayou channel environment had a designation of *surface survey recommended, no deep reconnaissance recommended*, and the area to the south of the channel had a slightly different designation of *surface survey of mounds only, no deep reconnaissance recommended*. Verification of these designations would appear accurate considering the nature of archaeological sites downstream in the Armand Bayou Archaeological District, but verification with the limited APE of this current project was not possible.

6.0 CONCLUSIONS AND RECOMMENDATIONS

No previously recorded historic properties are located within the current project's proposed ROW, and no new cultural resources were encountered through intensive pedestrian survey along the proposed Center Street right-of-way in the vicinity of Armand Bayou. Review of archival spatial data did not show any historic properties within the APE, either. As a result of these negative findings, **Terracon recommends that the project proceed along its currently proposed path without further investigation of cultural resources .**

7.0 REFERENCES CITED

Barnes, Virgil E.

1982 *Geologic Atlas of Texas, Houston Sheet*. Bureau of Economic Geology, The University of Texas, Austin.

Henson, Margaret Swett

2010 Harris County. *Handbook of Texas Online*
(<http://www.tshaonline.org/handbook/online/articales/hch07>), accessed December 2014.
Texas State Historical Association.

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

2004 *Ecoregions of Texas*. U. S. Environmental Protection Agency, Corvallis.

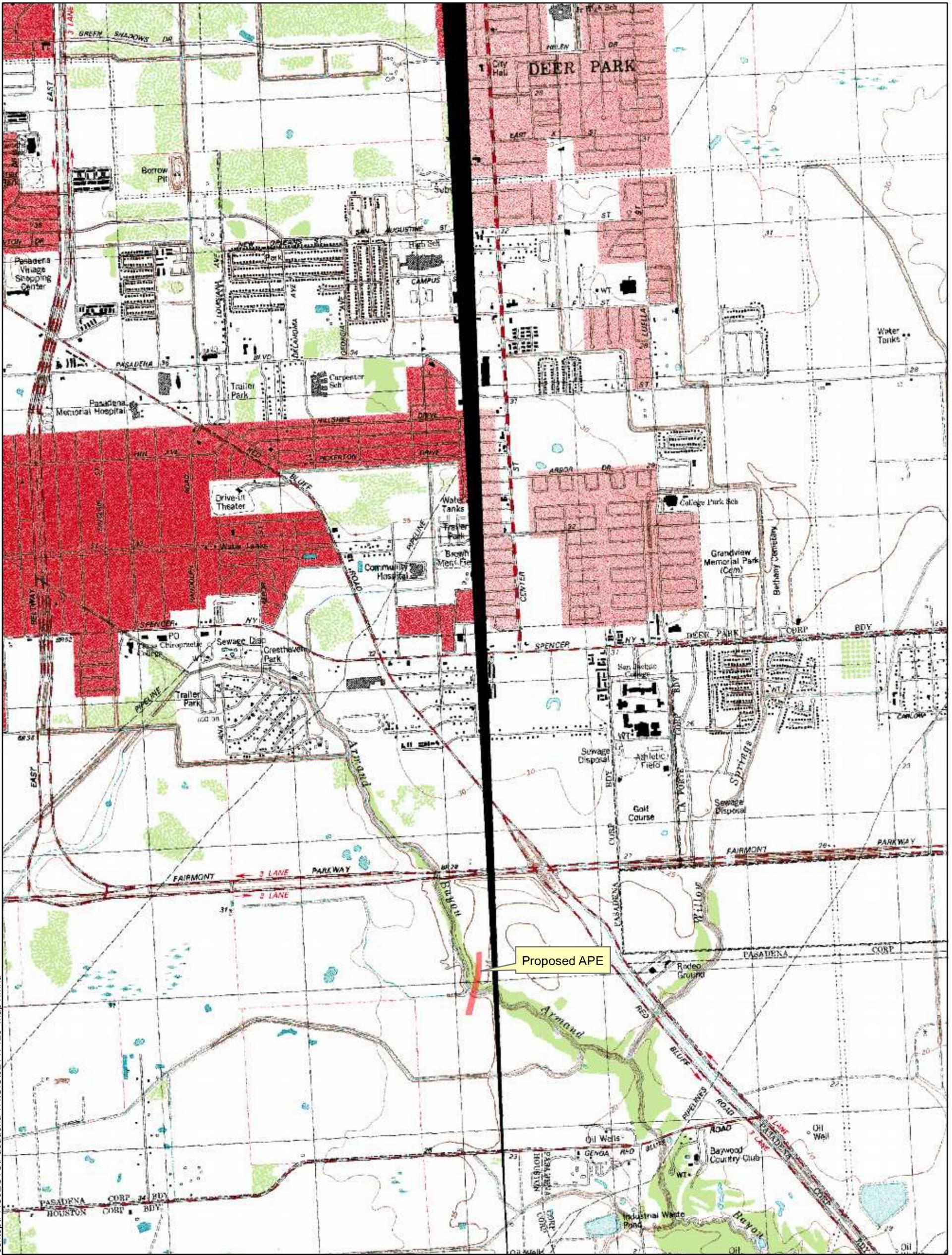
Patterson, Leland W.

1995 The Archeology of Southeast Texas. *Bulletin of the Texas Archeological Society* 66: 239-264.

Wheeler, Frankie F.

1976 *Soil Survey of Harris County Texas*. United States Department of Agriculture, Soil Conservation Service, Washinton, D. C.

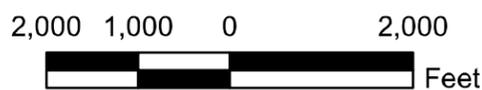
Path: C:\Users\dmvelacic\Desktop\PROJECTS\Pasadena TX\GIS\92147425_Map1.mxd



Legend

 APE

Pasadena, TX (west) and La Porte, TX (east)
7.5' USGS Topographic Quadrangle Maps



| | |
|---------------|-----|
| Project Mngr: | CH |
| Drawn By: | DMY |
| Checked By: | DMY |
| Approved By: | JEH |

| | |
|---------------|-----------------|
| Project No. | 92147425 |
| Scale: | 1 in = 2,000 ft |
| TBPE Firm No. | F-3272 |
| Date: | December 2014 |

Terracon
Consulting Engineers & Scientists

6911 Blanco Road San Antonio, TX 78216
PH (210) 641-2112 Fax (210) 641-2124

APE on Topographic Maps
Center Street Expansion Project Survey
Center Street at Armand Bayou
Pasadena, Harris County, Texas

| | |
|-----|---|
| Map | 1 |
|-----|---|

Path: C:\Users\dmvelacic\Desktop\PROJECTS\Pasadena TX\GIS\92147425_Map2.mxd

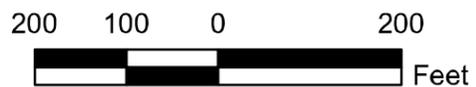


Legend



APE

2008-09 TOP 0.5M NC Imagery



| | |
|---------------|-----|
| Project Mngr: | CH |
| Drawn By: | DMY |
| Checked By: | DMY |
| Approved By: | JEH |

| | |
|---------------|---------------|
| Project No. | 92147425 |
| Scale: | 1 in = 200 ft |
| TBPE Firm No. | F-3272 |
| Date: | December 2014 |

Terracon
 Consulting Engineers & Scientists
 6911 Blanco Road San Antonio, TX 78216
 PH (210) 641-2112 Fax (210) 641-2124

APE on Aerial Imagery
Center Street Expansion Project Survey
Center Street at Armand Bayou
Pasadena, Harris County, Texas

| |
|-----|
| Map |
| 2 |

Path: C:\Users\dmvelacic\Desktop\PROJECTS\Pasadena TX\GIS\92147425_Map3.mxd



Legend

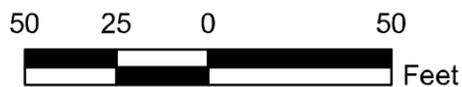


Backhoe Trench (BHT)

2008-09 TOP 0.5M NC Imagery



APE



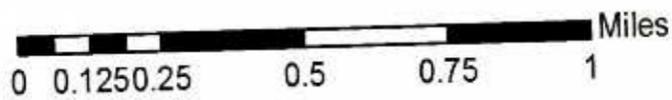
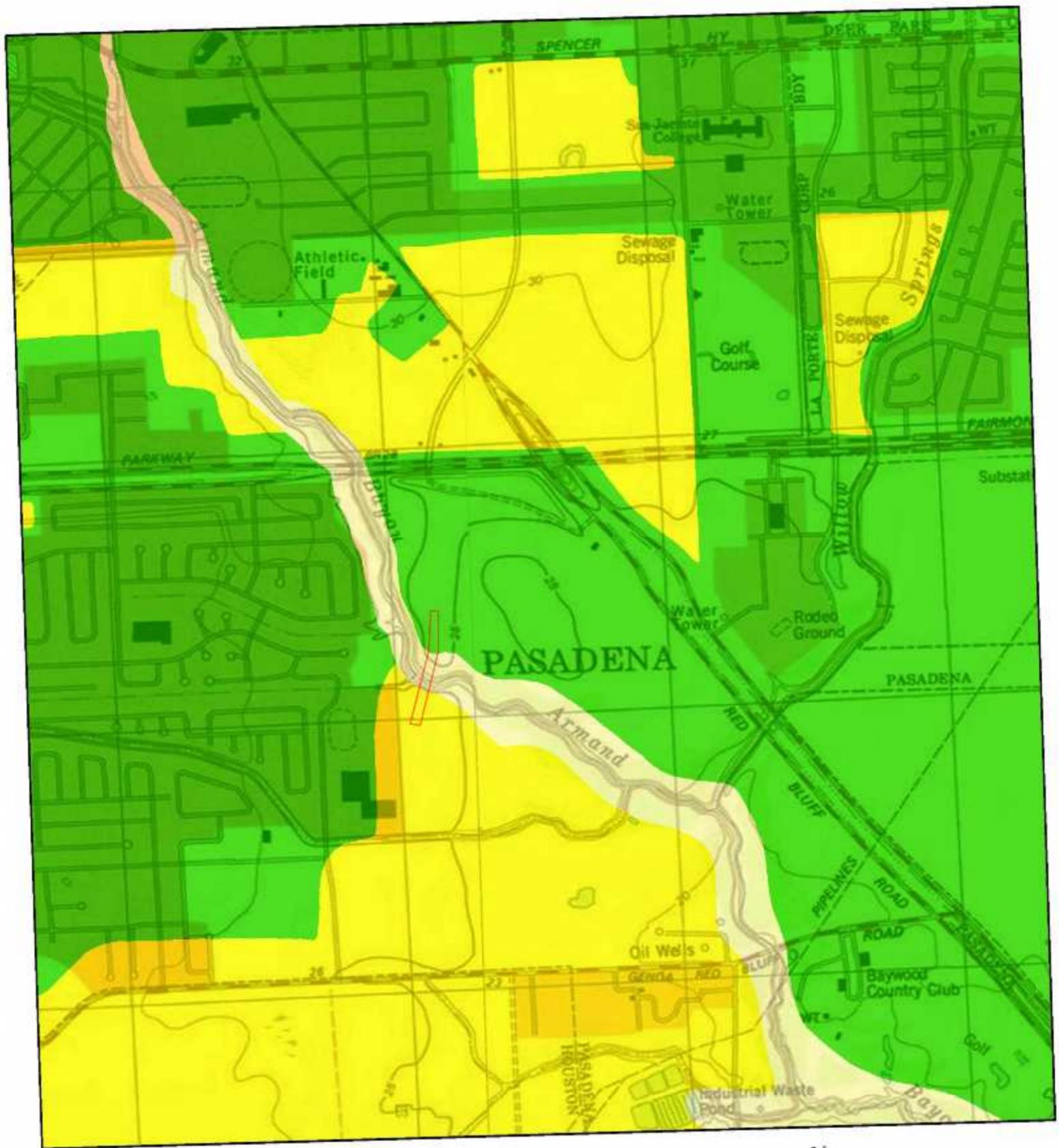
| | |
|---------------|-----|
| Project Mngr: | CH |
| Drawn By: | DMY |
| Checked By: | DMY |
| Approved By: | JEH |

| | |
|---------------|---------------|
| Project No. | 92147425 |
| Scale: | 1 in = 50 ft |
| TBPE Firm No. | F-3272 |
| Date: | December 2014 |

Terracon
 Consulting Engineers & Scientists
 6911 Blanco Road San Antonio, TX 78216
 PH (210) 641-2112 Fax (210) 641-2124

APE and Trenches on Aerial Imagery
Center Street Expansion Project Survey
Center Street at Armand Bayou
Pasadena, Harris County, Texas

| |
|-----|
| Map |
| 3 |



- 0 Water
- 1 Surface survey recommended, deep reconnaissance recommended if deep impacts are anticipated.
- 2 Surface survey recommended, no deep reconnaissance recommended.
- 2a Surface survey of mounds only; no deep reconnaissance recommended.
- 3 No surface survey recommended, deep reconnaissance recommended if deep impacts are anticipated.
- 3a No surface survey recommended, deep reconnaissance recommended only if severe deep impacts are anticipated.
- 4 No survey recommended.

Legend

APE

Pasadena, TX (west) and La Porte, TX (east)
7.5' USGS Topographic Quadrangle Maps



Path: C:\Users\dmvelacic\Desktop\PROJECTS\Pasadena TX\GIS\92147425_Map4.mxd

| | |
|---------------|-----|
| Project Mngr: | CH |
| Drawn By: | DMY |
| Checked By: | DMY |
| Approved By: | JEH |

| | |
|---------------|-----------------|
| Project No. | 92147425 |
| Scale: | 1 in = 1,500 ft |
| TBPE Firm No. | F-3272 |
| Date: | December 2014 |

Terracon
Consulting Engineers & Scientists

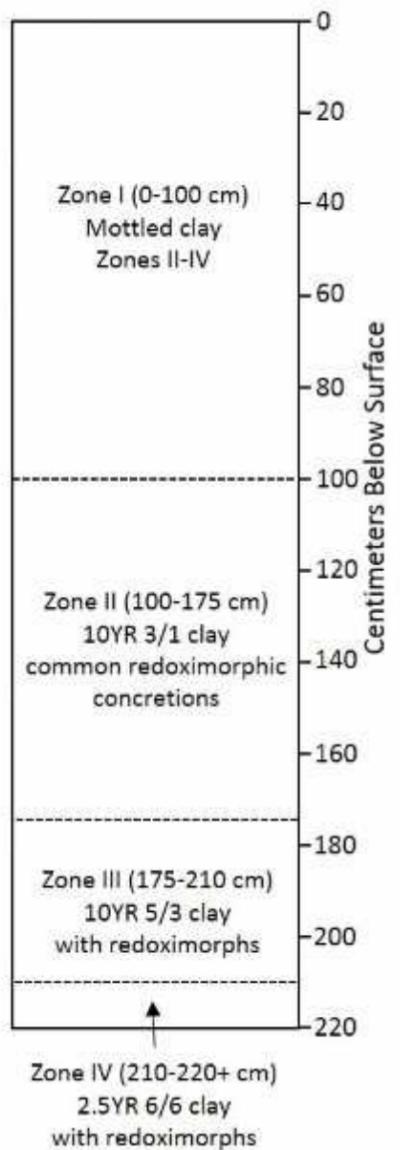
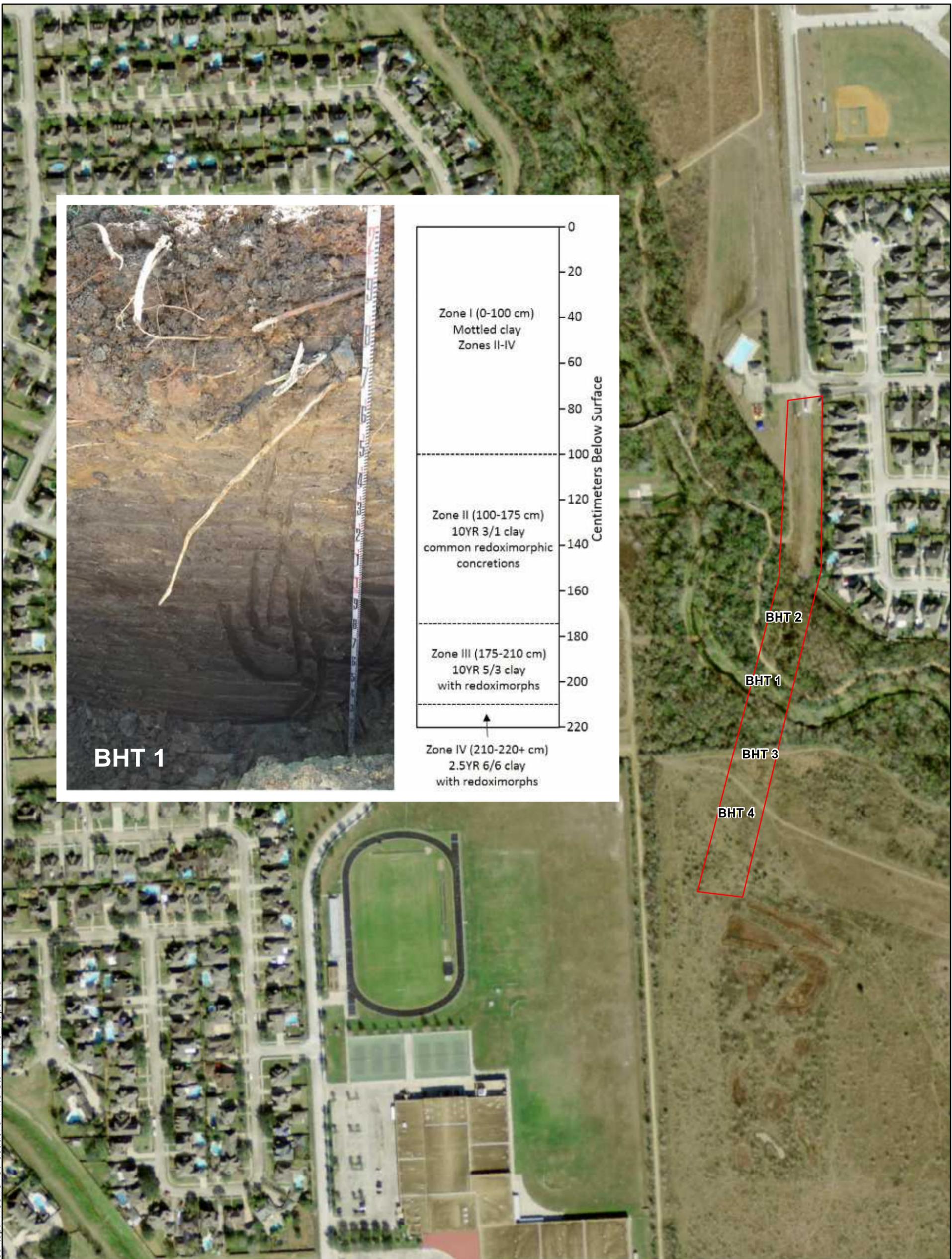
6911 Blanco Road San Antonio, TX 78216
PH (210) 641-2112 Fax (210) 641-2124

APE on Houston Area PALM

Center Street Expansion Project Survey
Center Street at Armand Bayou
Pasadena, Harris County, Texas

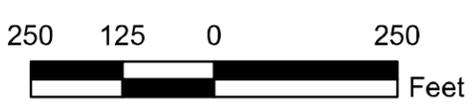
| | |
|-----|---|
| Map | 4 |
|-----|---|

Path: C:\Users\dmvelacic\Desktop\PROJECTS\Pasadena TX\GIS\92147425_Map5.mxd



Legend

- Backhoe Trench (BHT)
 - APE
- 2008-09 TOP 0.5M NC Imagery



| | |
|---------------|-----|
| Project Mngr: | CH |
| Drawn By: | DMY |
| Checked By: | DMY |
| Approved By: | JEH |

| | |
|---------------|---------------|
| Project No. | 92147425 |
| Scale: | 1 in = 250 ft |
| TBPE Firm No. | F-3272 |
| Date: | December 2014 |

Terracon
Consulting Engineers & Scientists

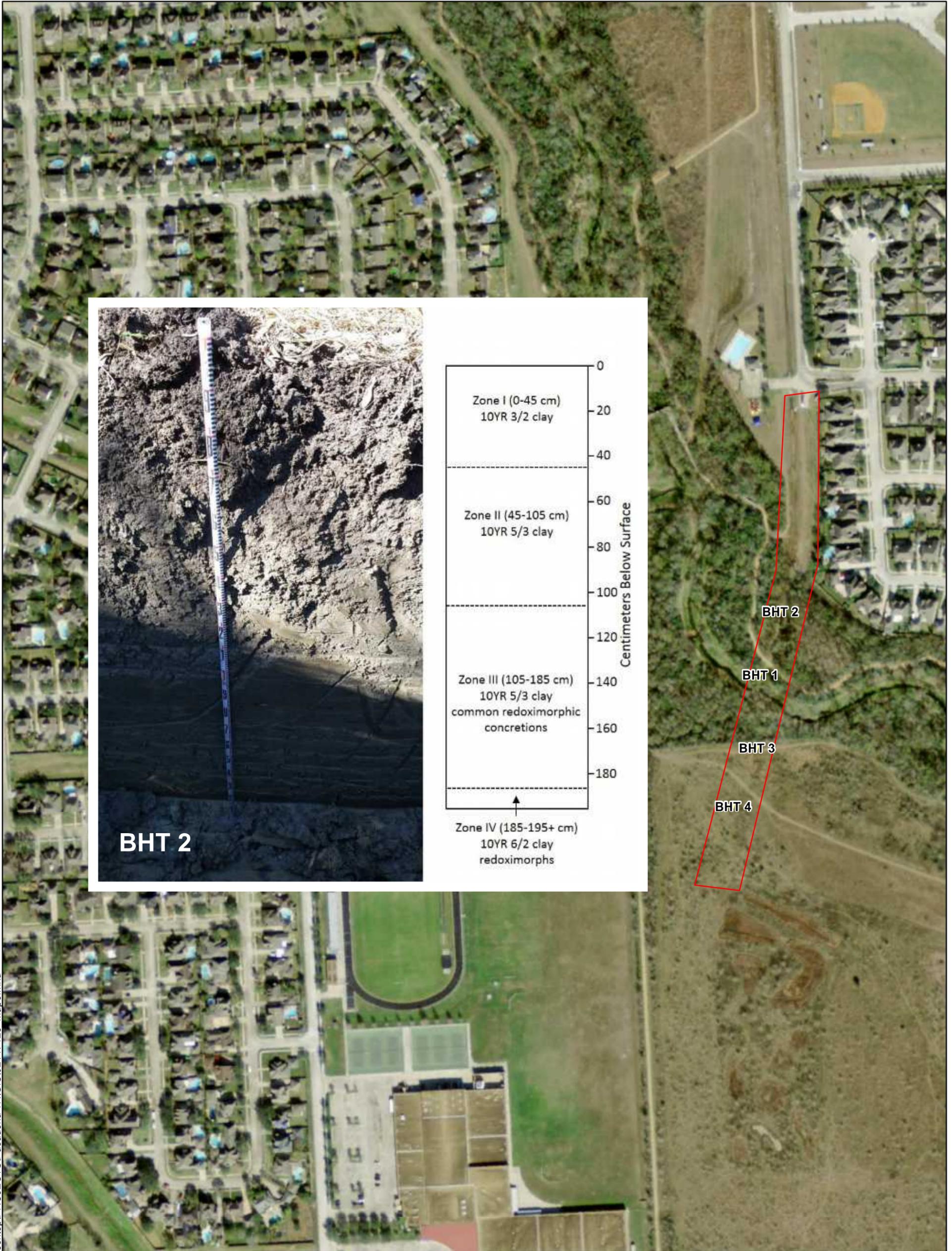
6911 Blanco Road San Antonio, TX 78216
PH (210) 641-2112 Fax (210) 641-2124

BHT 1 Annotated Photo with APE and Trenches

Center Street Expansion Project Survey
Center Street at Armand Bayou
Pasadena, Harris County, Texas

| |
|-----|
| Map |
| 5 |

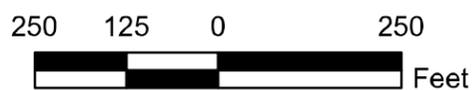
Path: C:\Users\ldmyelacic\Desktop\PROJECTS\Pasadena TX\GIS\92147425_Map6.mxd



Legend

- Backhoe Trench (BHT)
- APE

2008-09 TOP 0.5M NC Imagery



| | |
|---------------|-----|
| Project Mngr: | CH |
| Drawn By: | DMY |
| Checked By: | DMY |
| Approved By: | JEH |

| | |
|---------------|---------------|
| Project No. | 92147425 |
| Scale: | 1 in = 250 ft |
| TBPE Firm No. | F-3272 |
| Date: | December 2014 |

Terracon
Consulting Engineers & Scientists

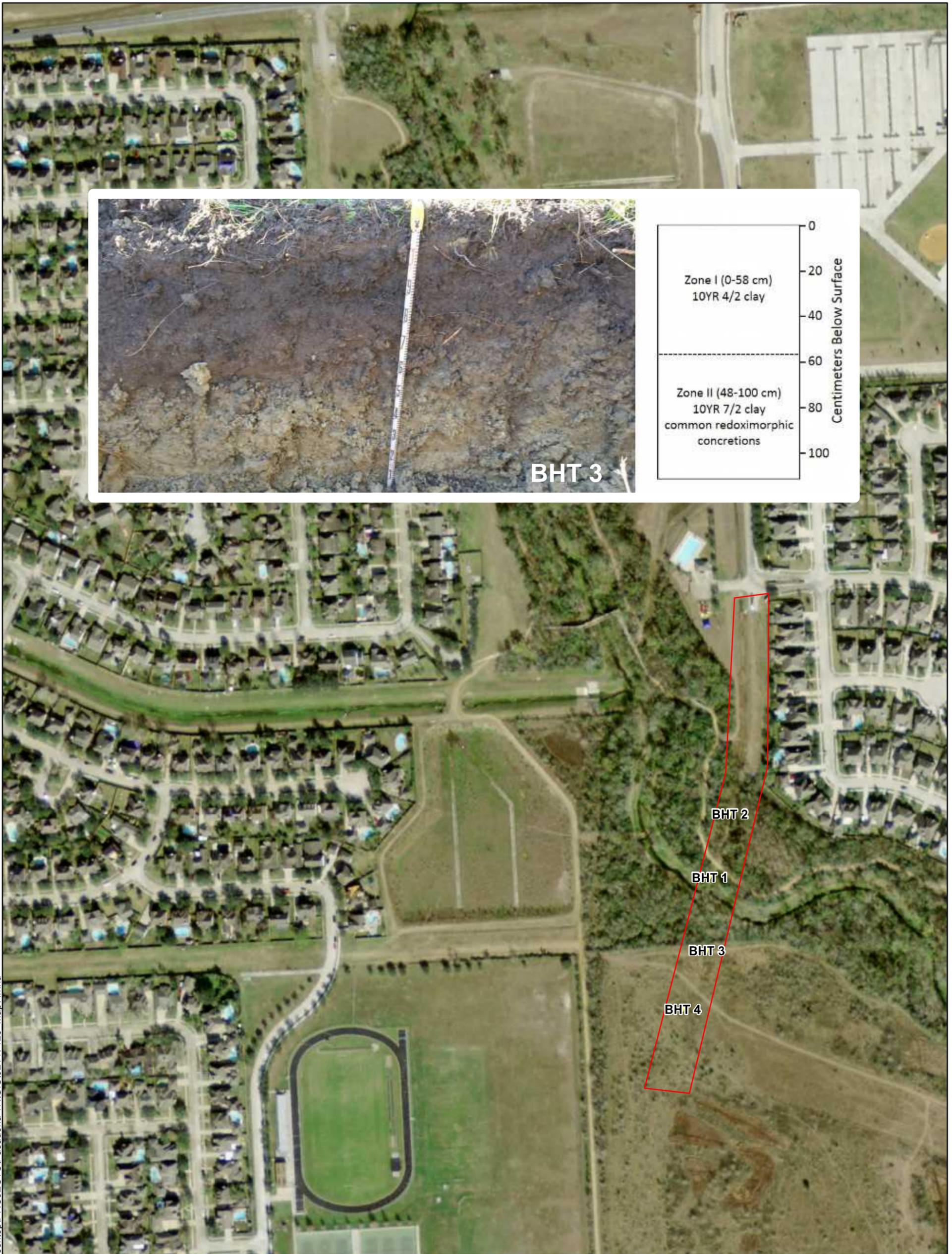
6911 Blanco Road San Antonio, TX 78216
PH (210) 641-2112 Fax (210) 641-2124

BHT 2 Annotated Photo with APE and Trenches

Center Street Expansion Project Survey
Center Street at Armand Bayou
Pasadena, Harris County, Texas

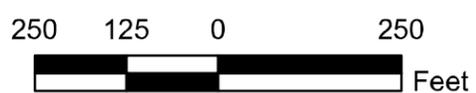
| |
|-----|
| Map |
| 6 |

Path: C:\Users\dmvelacic\Desktop\PROJECTS\Pasadena TX\GIS\92147425_Map7.mxd



Legend

- Backhoe Trench (BHT)
 - APE
- 2008-09 TOP 0.5M NC Imagery



| | |
|---------------|-----|
| Project Mngr: | CH |
| Drawn By: | DMY |
| Checked By: | DMY |
| Approved By: | JEH |

| | |
|---------------|---------------|
| Project No. | 92147425 |
| Scale: | 1 in = 250 ft |
| TBPE Firm No. | F-3272 |
| Date: | December 2014 |

Terracon
Consulting Engineers & Scientists

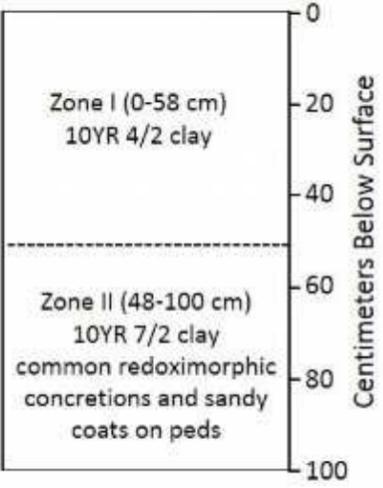
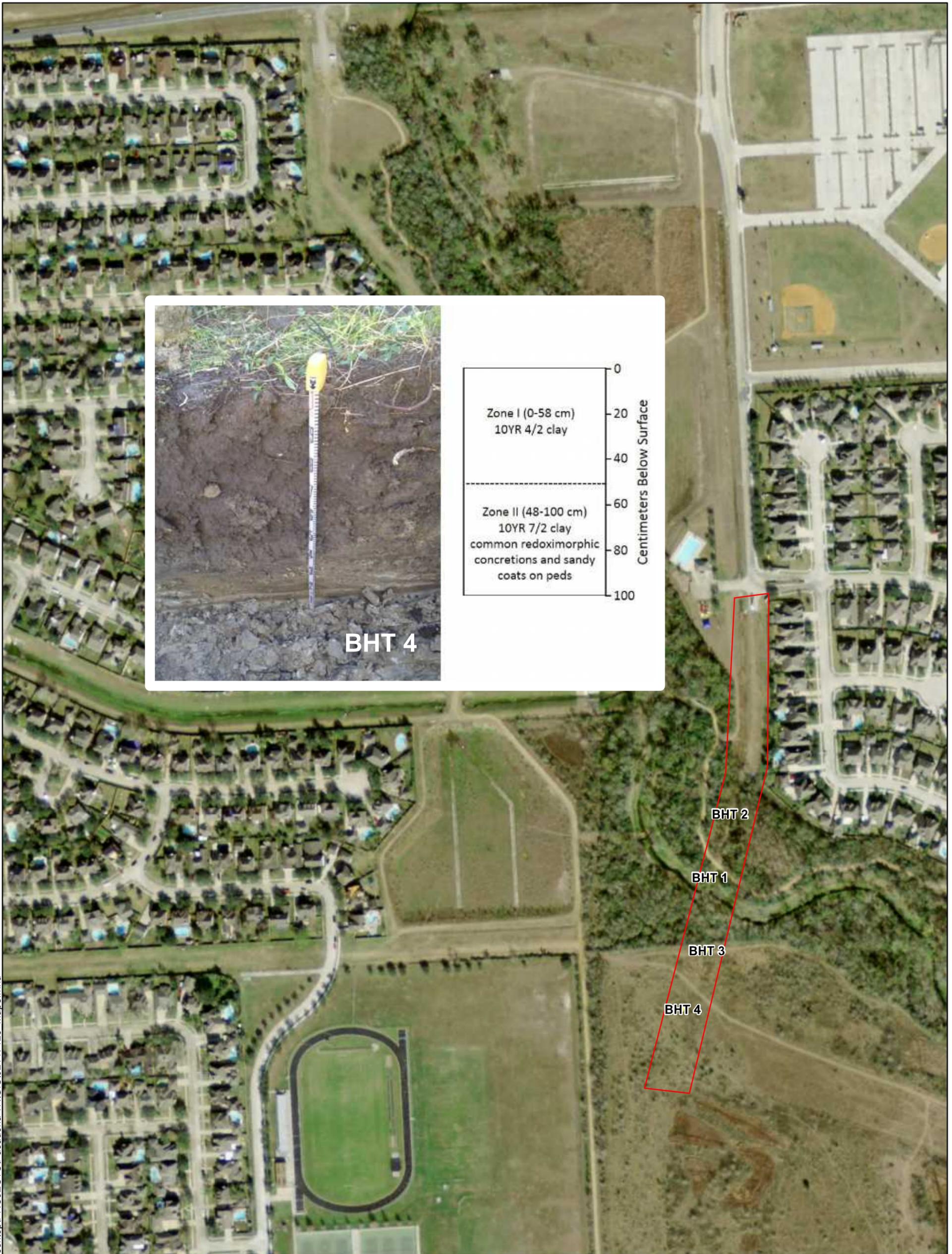
6911 Blanco Road San Antonio, TX 78216
PH (210) 641-2112 Fax (210) 641-2124

BHT 3 Annotated Photo with APE and Trenches

Center Street Expansion Project Survey
Center Street at Armand Bayou
Pasadena, Harris County, Texas

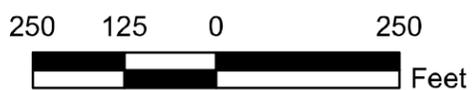
| |
|-----|
| Map |
| 7 |

Path: C:\Users\dmvelacic\Desktop\PROJECTS\Pasadena TX\GIS\92147425_Map8.mxd



Legend

- Backhoe Trench (BHT)
 - APE
- 2008-09 TOP 0.5M NC Imagery



| | |
|---------------|-----|
| Project Mngr: | CH |
| Drawn By: | DMY |
| Checked By: | DMY |
| Approved By: | JEH |

| | |
|---------------|---------------|
| Project No. | 92147425 |
| Scale: | 1 in = 250 ft |
| TBPE Firm No. | F-3272 |
| Date: | December 2014 |

Terracon
Consulting Engineers & Scientists

6911 Blanco Road San Antonio, TX 78216
PH (210) 641-2112 Fax (210) 641-2124

BHT 4 Annotated Photo with APE and Trenches

Center Street Expansion Project Survey
Center Street at Armand Bayou
Pasadena, Harris County, Texas

| |
|-----|
| Map |
| 8 |



Photo #1: The current (as of November 18, 2012) terminus of Center Street, and the channelized drainage on the west along the west side of the area of potential effect (APE) north of Armand Bayou.



Photo #2: Northerly view of the beginning of Backhoe Trench (BHT) 1 excavation.



Photo #3: Northerly view of ongoing BHT 1 excavation.



Photo #4: Northwesterly view of Armand Bayou picturing an approximately two-foot diameter culvert emerging from the left bank. BHT 1 was located approximately 25 m to the right (north) of the bayou.



Photo #5: Southerly view of BHT 2 at the onset of excavation.



Photo #6: Southerly view of BHT 2 excavation.



Photo #7: Oblique angle of BHT 2 upon completion of excavation.



Photo #8: South-facing view of the northern end of the APE.



Photo #9: South-facing view of the midsection of the APE on the north side of Armand Bayou.



Photo #10: West-facing view in the wooded midsection of the APE on the north side of Armand Bayou.



Photo #11: Easterly view of the wooded midsection of the APE on the north side of Armand Bayou.



Photo #12: North-facing view of BHT 3 at the onset of excavation. Please note the tree line just past the equipment and personnel; approximately 25 m beyond the tree line is Armand Bayou.



Photo #13: Southeasterly view along Armand Bayou in APE.



Photo #14: View of Armand Bayou near-channel topography.



Photo #15: Northwesterly view along Armand Bayou in APE.



Photo #16: Southerly view of BHT 4 with ongoing documentation.



Photo #17: Southern profile exposure within BHT 4.



Photo #18: Oblique view of BHT 4 at completion of excavation.



Photo #19: View of Armand Bayou channel with apparent mass wasting and self-organization in progress.



Photo #20: View northwest along Armand Bayou showing near-channel topography.

TEXAS HISTORICAL COMMISSION
real places telling real stories

September 17, 2014

Dwayne Rogers
Team Leader, Environmental Sciences
Harris County Public Infrastructure Department
1001 Preston, 7th Floor
Houston, Texas 77002

Re: Project review under Section 106 of the National Historic Preservation Act of 1966
and the Antiquities Code of Texas
Center Street from Fairmont Parkway
(COE-VD/Harris County Public Infrastructure Department)

UPIN#14102MF09201

*James
Mrs. V. G.
Tsal
Hepper
Smith
Jenson
Lusor
Beavers
William
Rogers
Thomas
Martinez
w/orig*

Dear Mr. Rogers:

Thank you for your correspondence describing the above referenced project. This letter serves as comment on the proposed federal undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission. As the state agency responsible for administering the Antiquities Code of Texas, these comments also provide recommendations on compliance with state antiquities laws and regulations.

The review staff, led by Bill Martin, has examined our records and finds that the proposed project area has never been surveyed by a professional archeologist. We believe that the project includes landforms that have the potential to contain intact archeological deposits, particularly with 100m on either side of Armand Bayou. The project area should be surveyed by a professional archeologist prior to initiation of ground disturbance.

The work should meet the minimum archeological survey standards posted on-line at www.thc.state.tx.us. A report of investigations should be produced in conformance with the Secretary of the Interior's Guidelines for Archaeology and Historic Preservation, and submitted to this office for review. In addition, any buildings 50 years old or older that are located on or adjacent to the tract should be documented with photographs and included in the report. You may obtain lists of most professional archeologists in Texas on-line at: www.c-tx-arch.org or www.rpanet.org. Please note that other potentially qualified archeologists not included on these lists may be used. Since the work will occur within county right-of-way, an Antiquities permit must be obtained from this office prior to conducting the fieldwork.

Thank you for your cooperation in this federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Bill Martin at 512/463-5867.**

Sincerely,



for
Mark Wolfe, State Historic Preservation Officer

22 2 PM 22 SEP 14
RECEIVED
STATE HISTORICAL COMMISSION

MW/wam

