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Assessment Of Archaeological Sites 41WB160 And 41WB358 In The Row Of The Proposed 24-Inch Water Transmission Line Laredo, Webb County, Texas

David M. Yelacic

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Cultural Resources Survey

ASSESSMENT OF ARCHAEOLOGICAL SITES 41WB160 AND 41WB358 IN THE ROW OF THE PROPOSED 24-INCH WATER TRANSMISSION LINE LAREDO, WEBB COUNTY, TEXAS

August 7, 2015

Terracon Project No. 90157032
David M. Yelacic, RPA, Principal Investigator
Antiquities Permit Number 7214

Prepared for:
City of Laredo Utilities Department
Laredo, Texas

Prepared by:
Terracon Consultants, Inc.
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ABSTRACT

Intensive pedestrian survey approximately 1,000 linear feet in the vicinity of 41WB160 and 2,000 linear feet in the vicinity of 41WB358 was conducted on behalf of the City of Laredo Utilities Department in advance of the installation of a 24-inch water transmission line. Funds for the project are from the Texas Water Development Board, and Terracon is preparing an Environmental Information Document in support of the project. Accordingly, the archaeological survey and assessment was carried out in coordination with the Texas Historical Commission and under Antiquities Permit Number 7214, issued to David Yelacic.

Pedestrian survey and four shovel test excavations at each of the locations elucidated disturbances of the landscape. No cultural materials were observed on the surface or in shovel tests in proximity to 41WB160. A single chert flake observed on the surface at the boundary of 41WB358 weakly confirmed the presence of the site within its mapped boundaries, but much of the landscape in the area was clearly altered in relatively recent times. We therefore conclude that the portions of 41WB160 and 41WB358 within the current APE have been compromised by relatively recent activities. As such, we recommend that 41WB160 and 41WB358 should not be considered eligible for NRHP listing within the APE and that the proposed project be granted permission to proceed as planned.

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ASSESSMENT OF ARCHAEOLOGICAL SITES 41WB160 AND 41WB358 IN THE ROW OF THE PROPOSED 24-INCH WATER TRANSMISSION LAREDO, WEBB COUNTY, TEXAS

Texas Antiquities Permit Number 7214
Terracon Project No. 90157032
August 7, 2015

1.0 INTRODUCTION

The following report presents the results of an intensive pedestrian survey of 3000 cumulative feet in the vicinity of two known archaeological sites, 41WB160 and 41WB358, in association with the development of a water transmission line in western Laredo, Webb County, Texas. Funding for the project comes from the Texas Water Development Board (TWDB) through the City of Laredo Utilities Department. Therefore, the proposed water transmission line project is subject to compliance with the Antiquities Code of Texas (Title 13, Part 2, Chapter 26) under the supervision of the Texas Historical Commission (THC). Under Antiquities Permit Number 7214, issued to David Yelacic, archaeological investigations were carried out according to request from the regulatory archaeologist and per Minimum Survey Standards set forth by the THC.

Overall, pedestrian survey and eight total shovel test excavations in March of 2015 assessed the two existing archaeological sites and portions of the APE in their vicinities. Results of the investigations will follow presentations of the project history, natural and cultural contexts, and methodology according to guidelines for short reports established by the Council of Texas Archeologists and adopted by the THC. Conclusions and recommendations are provided after results, and appendices that include, previous correspondence, maps, photos, and a log of shovel tests are attached at the end of the document.

2.0 PROJECT HISTORY

Terracon completed a Desktop Cultural Resources Assessment for the proposed 24-inch water transmission main from Del mar Boulevard to Loop 20 primarily alongside Casa Verde Road in early 2015 to support an Environmental Information Document (EID) prepared for the TWDB on behalf of the City of Laredo. The total proposed area of potential effect (APE) is a 16,640-linear foot right-of-way (ROW) that begins at Del Mar near its intersection with Loop 20 and travels southwards to Casa Verde Road, at which point it travels southwesterly to Sinatra Parkway. From Sinatra Parkway, the ROW turns west along Manuel Ponce Drive and then south on to Polaris Drive. Polaris Drive terminates at a baseball diamond, and the proposed ROW follows the perimeter of the diamond's parking lot to the west and south. From the southwest corner of the baseball diamond tract, the proposed ROW continues south through vacant property and then east to Loop 20 near F. Zuniga US Customs Brokers. For all except an approximately 2,000-foot stretch at its beginning and 1,000 linear feet passed the baseball diamond, the

proposed pipeline ROW follows existing road ROWs. Near these spans of undeveloped terrain at the northerly and southerly terminations of the line are recorded archaeological sites—identified in the desktop review.

In response to the initial consultation, the Texas Historical Commission (THC) noted that the two archaeological sites identified within the APE, 41WB160 and 41WB358, had not been evaluated within the footprint of the currently proposed project. Therefore, recommendations of intensive pedestrian survey along the 1,000-foot and 2,000-foot lengths of undeveloped and vacant property, in proximity to 41WB160 and 41WB358, respectively, were made by the THC in a letter issued on December 9, 2014.

3.0 DEFINITION AND CONTEXT OF STUDY AREA

2.1 Natural Setting

The proposed pipeline APE is situated along a ridge that overlooks Lake Casa Blanca to the southeast. The United States Geological Survey (USGS) Laredo East, Texas 7.5 Minute Series Topographic Map indicates that the APE ranges in elevation from approximately 490 to 545 feet above sea level (asl), and the normal water level of Lake Casa Blanca is approximately 440 feet asl. No stream channels intersect the APE according to the Laredo East map. The southern area of interest, 41WB160, is closest to the lake and ranges in elevation from approximately 505 to 485 feet asl. At the northern end of the water line, 41WB358 is located near the summit of a hill and ranges in elevation from approximately 535 to 545 feet asl—though field observations would suggest more elevation change.

The natural environment of the APE consists of the hydrology mentioned above, a climate classified as subtropical with warm or hot summers (Swanson 1995), Texas-Tamaulipan Thornscrub vegetation of the Southern Texas Plains (Griffith et al. 2004), soils, and bedrock geology. As mapped by the Natural Resources Conservation Service (Sanders and Gabriel 1985), soils in the APE consist of Catarina clay (CaB), Copita fine sandy loam (CpB), Jimenez-Quemado complex (JQD), Mogila clay loam (MgC), and Verick fine sandy loam (VkC). Catarina clay and Mogila clay loam are the deepest of the soils, and they each have profiles measuring approximately two meters deep. Copita loams comprise a majority of the APE, and they overlie bedrock at a depth of approximately one meter or less. Jimenez-Quemado and Verick loams have relatively shallow profiles (i.e., less than 35 centimeters thick). Bedrock geology of the APE mapped by the Bureau of Economic Geology is Middle-Eocene Laredo Formation (El) sand and clay (Barnes 1976).

Using the natural environment to evaluate the APE for its potential to contain intact cultural resources, the general upland setting and the relatively thin nature of most of the soils suggests that cultural materials would be limited to the surface and near-surface environments. In some places, such as upland valleys or toe slopes, deeper deposits could potentially contain buried cultural material.

2.2 Cultural Setting

The APE is located in the South Texas archaeological region, which was not terribly different from the Central Texas archaeological region early in time. Very generally, the cultural chronology of Central and South Texas can be divided into two periods, prehistoric and historic. The boundary between the two periods is marked by the introduction of Europeans into the Western Hemisphere. The following description of cultural history is a gross compilation of a vast suite of data and interpretations (cf. Collins 1995; Hester 1995).

The prehistoric people of were primarily hunter-gatherers. Through the last 75-plus years of archaeological research in the region, identifiable and repeated patterns in artifact assemblages have indicated major shifts in subsistence strategies and technology through time. As a result, the prehistoric period now has three subdivisions: Paleoindian, Archaic, and Late Prehistoric.

The Paleoindian period (ca. 12,500-8800 years ago) includes the earliest human occupation of North America, which extends back into the late Pleistocene. During this period of time, people hunted large game, but they generally had a broad diet, which included small game and aquatic creatures to extant megafauna (i.e., mammoth, mastodon, bison, horse, camel, etc.). Technological traditions further subdivide the Paleoindian period into Early and Late.

The Archaic period (ca. 8800-1250 years ago) was the longest period in prehistory, and it is generally marked by the introduction of hot rock cooking in addition to the proliferation of a wide variety of diagnostic projectile points. Cooking with fire-heated rocks developed with increased reliance on plant foods, which may have been a response to diminishing game resources and ultimately climatic change/variation. This is not to say that human agency did not play an important role in the shift of economic and subsistence strategies. The Archaic period is subdivided into Early-, Middle-, and Late-Archaic periods, each with a slight variation in response to cultural shifts and ambient conditions.

The Late Prehistoric (ca. 1250-250 years ago) was a relatively brief period, but it was marked by a shift in weapon technology: the introduction of the bow-and-arrow. Like the Archaic, the Late Prehistoric people utilized hot rock cooking to process plants to edible forms. There also appeared to be increasing contact among groups, which resulted in increased trade of materials and evident competition over resources.

Sometimes referred to as *Protohistoric*, Spanish Entradas, or expeditions, mark the onset of western influence in the New World. These explorations effectively scouted the new land and resulted in the settlement and establishment of missions spread throughout what has become northern Mexico and Texas. Through the Historic period, European populations and influence steadily increased as native populations steadily diminished. Webb County follows this general pattern, as Colonial Spanish explorers and missionaries traversed the county on their way from northern Mexico to San Antonio and beyond (Leffler and Long 2010). Because of the county's location on the Rio Grande, it was long occupied and settled by Spanish and Mexican folks, and it was not until the middle of the nineteenth century that the county was clearly a part of Texas.

Farming and Anglo settlers did not make a big impact on the county's economy and population until the early twentieth century, at which time Laredo and Webb County began to grow considerably.

2.3 Previous Investigations

The Texas Archaeological Sites Atlas database (Atlas) as well as the National Register of Historic Places (NRHP) informed this records review. Data from each are presented below. Though not explicitly mapped, it can be inferred from the presence of sites within the currently proposed APE that portions of the pipeline ROW have been previously surveyed. The currently proposed APE intersects two recorded archaeological sites, and within a radius of approximately two kilometers there are 11 documented sites (Table 1).

The two sites that are intersected by the currently proposed APE are designated as 41WB160 and 41WB358. Situated near the north end of the proposed pipeline APE, 41WB358 is a scatter of prehistoric lithic debitage. Site 41WB358 encompasses an approximately 500-foot portion of APE where it joins Casa Verde Road. This scatter was primarily found on the surface, but five shovel test excavations yielded a total of three artifacts in total buried up to approximately 30 centimeters below the modern surface. This site was recorded as being extensively disturbed in recent history and accordingly containing little research value, and though it is not explicitly documented on the Atlas, this site is likely not eligible for inclusion on the NRHP or for status as a SAL. Site 41WB160, a prehistoric lithic scatter, is located at the southern end of the APE, and the site encompasses the length of APE between Manuel Ponce Drive and pipeline terminus. The

Table 1. Recorded archaeological sites within approximately two kilometers of the APE.

Site Trinomial	Description	NRHP/SAL Eligibility
41WB357	Site 41WB357 is located immediately and easterly adjacent to the center of the proposed pipeline APE between sites 41WB160 and 41WB358. It is also a prehistoric scatter of lithic debris and is recorded as limited to the surface, as confirmed by shovel tests. Like other nearby sites, 41WB357 too has been disturbed by recent land use, and it has little research value in its current state of preservation.	No
41WB359	To the north of the north end of the proposed pipeline APE, 41WB359 is a prehistoric lithic scatter typical of the area. It contained a light scatter of lithic debris when it was initially documented, and when a portion of the site was revisited on a subsequent project, no material was encountered.	No
41WB645	Near the southern terminus of the proposed pipeline APE, site 41WB645 is a very diffuse upland lithic scatter. Possible fire-cracked rock and other lithic debris comprises the site and is primarily found on or near the surface (i.e., less than 10 centimeters deep). Site 41WB645 is understood to have little research value.	No
41WB670	Site 41WB670 is a historic trash dump dating to the middle of the twentieth century. The cultural materials comprising the site included whole bottles, bottle glass fragments, asphalt, and cement, and these items were limited to the top 10 centimeters of the soil profile. Site 41WB670 was determined not to have research value.	No
41WB672	The prehistoric lithic material of 41WB672 was situated on the surface of an upland setting nearby 41WB670. No cultural features were observed, and the area was recorded as eroded. None of the artifacts encountered related the material to any particular prehistoric period.	No

Site Trinomial	Description	NRHP/SAL Eligibility
41WB367	Site 41WB367 is a Late Archaic and Late Prehistoric lithic workshop and campsite situated on a gentle slope overlooking the former Chacon Creek, now Lake Casa Blanca. As evaluated by surface survey and mechanical excavations, the site contained cultural deposits approximately 25 centimeters thick. Erosion and modern disturbances left little of the site intact.	No
41WB366	Similar to 41WB367 in many ways, 41WB366 was a Middle Arcahic to Late Prehistoric and possibly Historic lithic workshop and campsite comprised of lithic debris and stone tools. Mechanical excavations revealed that the site was approximately 20 centimeters thick and that it had been severely disturbed.	No
41WB365	On a small hill overlooking the former Chacon Creek, 41WB365 was a Middle Archaic and Late Prehistoric lithic workshop and campsite comprised of lithic debris and stone tools. Mechanical excavation showed that the sites was limited to the upper approximately 20 centimeters of the soil column. Site 41WB365 had been completely disturbed by erosion and modern disturbances.	No
41WB364	In a similar setting to the other sites overlooking former Chacon Creek, 41WB364 was a small, shallow Middle Archaic and Late Prehistoric lithic workshop and campsite comprised of lithic debris and stone tools that had been extensively disturbed in modern times.	No
41WB363	Site 41WB363 is a relatively large Late Archaic to Late Prehistoric campsite situated in a cut bank profile exposure of an unnamed tributary of Chacon Creek upstream from the current Lake Casa Blanca. Great surface exposure and artifacts eroding at depth suggest the site is up to approximately 35 centimeters thick. Intact features and diagnostic stone tools, as well as the appearance of site integrity, contributed to the determination of this site as eligible for NRHP inclusion and SAL status.	Yes
41WB362	Situated along an unnamed tributary of Chacon Creek upstream from the modern Lake Casa Blanca, nearby 41WB363, site 41WB362 is a stratified multicomponent prehistoric campsite. Though gullying and natural erosion had destroyed a portion of the site, it was determined that much of the site remained intact. Several burned rock features, diagnostic stone tools, stratification, and good preservations contributed to the determination of 41WB362 as eligible for NRHP inclusion and SAL status.	Yes

site is characterized as extensive--it stretches across approximately two square-kilometers--and the cultural deposits vary from surficial to approaching approximately 70 centimeters deep. Despite its relatively great area, the majority of 41WB160 has been disturbed by natural erosion, agriculture/land-use, and recent bioturbation. Given the site's current state of preservation, it is determined not to be eligible for NRHP or State Antiquities Landmark (SAL) inclusion or status.

Many of the recorded archaeological sites of the general project area, and of the greater South Texas Plains cultural region, are situated in erosional (i.e., rather than depositional) environments. And as such, many of these surficial or thin sites have been disturbed by historical land use. Stratified and intact sites like 41WB362 and 41WB363, described in Table 1, are typically situated in near-channel settings, depositional environments.

Based on a review of the NRHP, there are 10 listed historic properties in Webb County, six of which are located in Laredo. The nearest such property is greater than six kilometers from the currently proposed APE.

2.4 Resources Review

Historical resources used to inform this review included US Army and USGS topographic maps as well as USGS, US Department of Agriculture (USDA), Texas Department of Transportation (TxDOT), Agricultural Stabilization and Conservation Service (ASCS) aerial imagery that cumulatively span 1942 to present. Additionally, Google Earth imagery was referenced for modern land cover/land use.

The roads and fence lines along which the entire proposed pipeline ROW is situated have largely been in place since 1942. The exception to this is approximately 2,000 linear feet connecting Del Mar Boulevard to Loop 20 at the northern end of the APE. This stretch of APE is also where 41WB358 is encountered, and also where a police station was built between 1996 and 2004. In historical times, this short stretch appears to have varied in land cover, and it is not clearly associated with row farming until 1996.

In addition to the above described maps from the twentieth century, an Augustus Koch map of Laredo, ca. 1892, was viewed; the general project area is too far from the early city to be illustrated on this map. In no topographic maps or aerial images does the currently proposed ROW overlay historic structures.

3.0 METHODS

As per recommendations of the THC, in a letter issued December 9, 2014, a qualified professional archaeologist carried out intensive pedestrian survey of 41WB160 and 41WB358 within the proposed pipeline ROW according to Minimum Survey Standards. This included survey along approximately 2,000 linear feet north of Casa Verde Road in and near 41WB358 at the northern end of the proposed line, as well as approximately 1,000 linear feet of ROW between the baseball stadium and Loop 20, within 41WB160, at the proposed southern extent.

Four shovel tests were excavated in each survey segment, and an opportunistic profile exposure was also examined in the southern segment, in the vicinity of 41WB160. Shovel tests were excavated in arbitrary 20-centimeter levels to the bottom of Holocene deposits. Excavated sediment was passed through ¼- inch hardware mesh. A Terracon archaeologist recorded each shovel test excavation with field notes, photograph, and GPS, and excavations were backfilled upon completion.

4.0 RESULTS

4.1 41WB160

In the southern area, south of the baseball stadium in the vicinity of 41WB160, pedestrian survey through vacant property revealed that much of the area had been disturbed by various actions. Immediately south of the stadium parking lot, two retention ponds had clearly been constructed and altered the surface of the site within the APE. Beyond the retention ponds, the current APE overlapped with a marked gas line through the southwestern corner and extent of

the APE. Towards the end of the APE along Loop 20, beyond the mapped area of 41WB160, prior development and alteration of the land clearly compromised the site if it extended into this area.

Despite the apparent landscape alterations in the vicinity of 41WB160 in the APE, four shovel tests were excavated along the APE. Each was terminated upon encountering a well-developed clayey subsoil approximately 40-50 centimeters below the surface. No cultural materials were encountered in the shovel tests, as well as at the surface. An opportunistic observation of approximately one meter of soil profile was made in a relatively small pit, but the sterile sand exposed was slightly different from sediments encountered in shovel testing. The pit's purpose was unclear, but no cultural materials were identified in the excavation's exposures or spoils.

4.2 41WB358

Pedestrian survey of the northern 2,000 linear feet in the vicinity of 41WB358 was conducted along a corridor that had previously been cleared. From Del Mar Blvd towards Casa Verde Rd the topographic cross-section of the corridor gently sloped towards a shallow, ephemeral drainage in the center and then up and over a hill. Surface visibility was generally great in the cleared corridor, and the surface had an abundance of cherty gravels clearly visible. At the crest and on the north side of the hill, beyond the mapped extent of 41WB358, no clear evidence of prehistoric or historic people was observed among the cherty gravel. On the south side of the hill, one flake fragment was observed among cherty gravel at the surface near the edge of the mapped site boundary. Much of what was mapped as the site, however, had recently been disturbed by land clearing and other preparations for development. Inspection of the surface within the site did not reveal any prehistoric materials.

Subsurface deposits in the vicinity of 41WB358 and corridor were explored through the excavation of four shovel tests. Two shovel tests were excavated within and at the edge of the mapped site boundary, and two shovel tests were excavated on the north side of the hill. One of the shovel test excavations north of the site focused on the shallow, ephemeral drainage, where colluvial and alluvial deposits could have buried cultural materials. Each of the shovel tests was terminated at relatively shallow depths upon encountering well-developed subsoils, and no cultural materials were encountered in these shovel tests.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Intensive pedestrian survey approximately 1,000 linear feet in the vicinity of 41WB160 and 2,000 linear feet in the vicinity of 41WB358 was conducted on behalf of the City of Laredo Utilities Department in advance of the installation of a 24-inch water transmission line. Funds for the project are from the Texas Water Development Board, and Terracon is preparing an Environmental Information Document in support of the project. Accordingly, the archaeological survey and assessment was carried out in coordination with the Texas Historical Commission and under Antiquities Permit Number 7214, issued to David Yelacic.

Pedestrian survey and four shovel test excavations at each of the locations elucidated disturbances of the landscape. No cultural materials were observed on the surface or in shovel tests in proximity to 41WB160. A single chert flake observed on the surface at the boundary of 41WB358 weakly confirmed the presence of the site within its mapped boundaries, but much of the landscape in the area was clearly altered in relatively recent times. **We therefore conclude that the portions of 41WB160 and 41WB358 within the current APE have been compromised by relatively recent activities. As such, we recommend that 41WB160 and 41WB358 should not be considered eligible for NRHP listing within the APE and that the proposed project be granted permission to proceed as planned.**

6.0 REFERENCES CITED

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APPENDIX A
Correspondence

TEXAS HISTORICAL COMMISSION
real places telling real stories

December 9, 2014

David Yelacic
Terracon Consultants
6911 Blanco Road
San Antonio, TX 78216

Re: Project review under the Antiquities Code of Texas: Proposed 24-Inch Water transmission Main Del Mar Blvd to Loop 20, Webb County (City of Laredo; Track # 201503311)

Dear Mr. Yelacic:

Thank you for your correspondence concerning the above referenced project. This letter presents the comments of the Executive Director of the Texas Historical Commission, the state agency responsible for administering the Antiquities Code of Texas.

The review staff, led by David Camarena Garcés, has reviewed your cultural resource assessment and examined our maps. Our records indicate that the majority of the proposed project area was previously surveyed and tested by TxDOT in 1992, and as noted in your letter, two prehistoric sites 41WB160 and 41WB358 are recorded within the project right-of-way (ROW). However, the sites listed above were tested for eligibility only within the confines of the ROW and were recommended as not eligible for inclusion to the NRHP or as a SAL. The areas of the sites not located within the previously tested ROW are considered undetermined at this time.

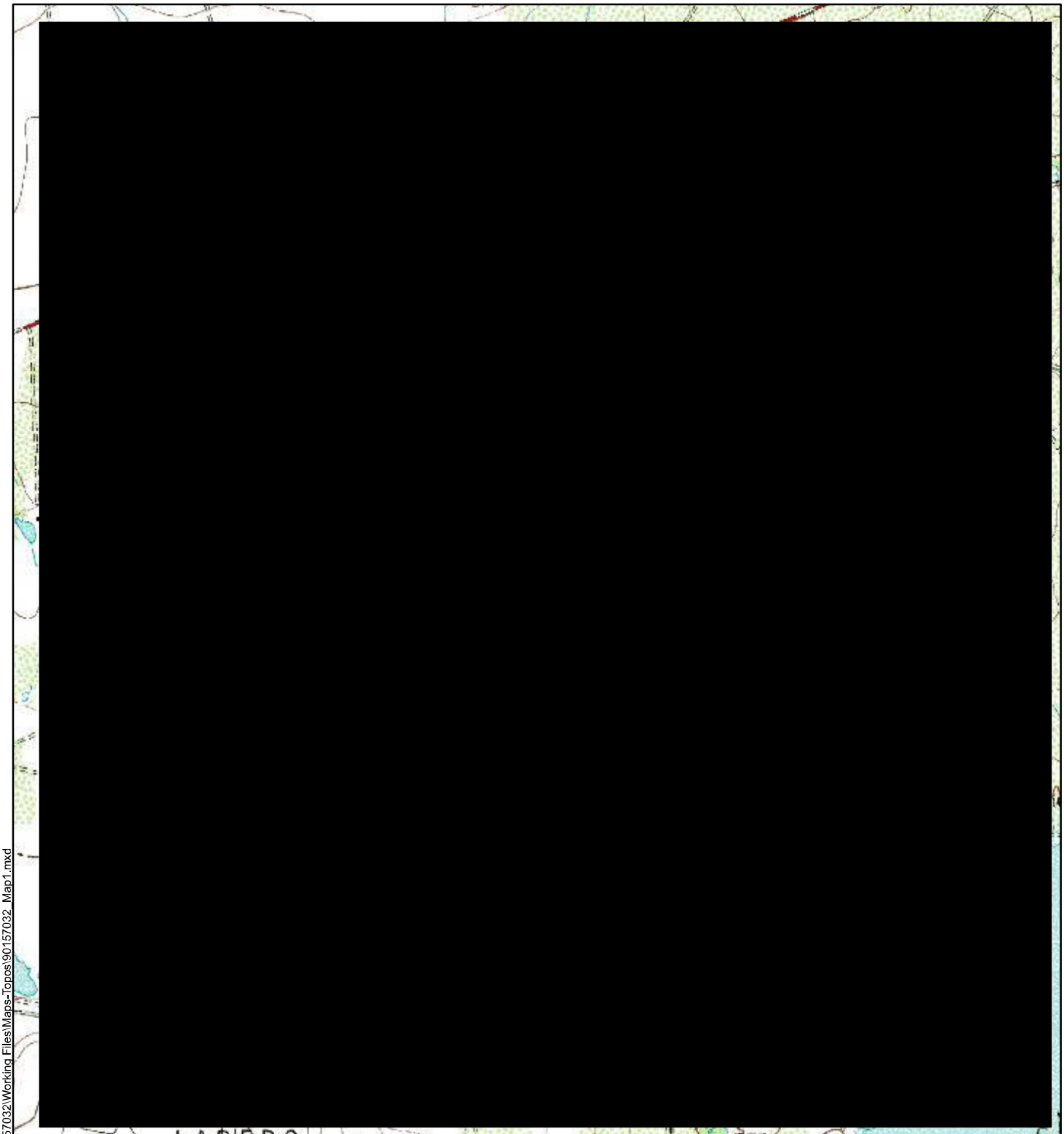
Therefore, a professional archeologist should survey the previously unevaluated areas were sites 41WB160 and 41WB358 overlap the proposed ROW for the new 24" water transmission main. This should include the 2,000-foot stretch in the beginning and the 1,000 feet past the baseball diamond. Backhoe trenching should also be considered to search for possible deeply buried deposits. This cultural resource survey should include a 100% pedestrian survey of the aforementioned areas, that conforms to the "Archeological Survey Standards for Texas" (available online at: http://www.thc.state.tx.us/project-review/statutes-regulations-rules), and your archeological principal investigator must contact us to obtain an Antiquities Permit for these investigations. An Antiquities Permit can be issued as soon as we have a completed permit application. Additionally, a report of the 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. Please also submit shapefiles showing the boundaries of the project area to: archeological_projects@thc.state.tx.us.

Thank you for your cooperation in this state 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 David Camarena Garcés at 512/463-6252 or david.camarena@thc.state.tx.us.**

Sincerely,

for
Mark Wolfe, State Historic Preservation Officer

APPENDIX B
Maps



Legend

- Shovel Tests
- 41WB160
- 41WB358
- 41WB160 Survey
- 41WB358 Survey
- 24" Water Line

1,650 825 0 1,650 Feet

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Drawn By:	DMY
Checked By:	JEH
Approved By:	JEH
Project No.	90157032
Scale:	1 in = 1,650 ft
TBPE Firm No.	F-3272
Date:	February 2015

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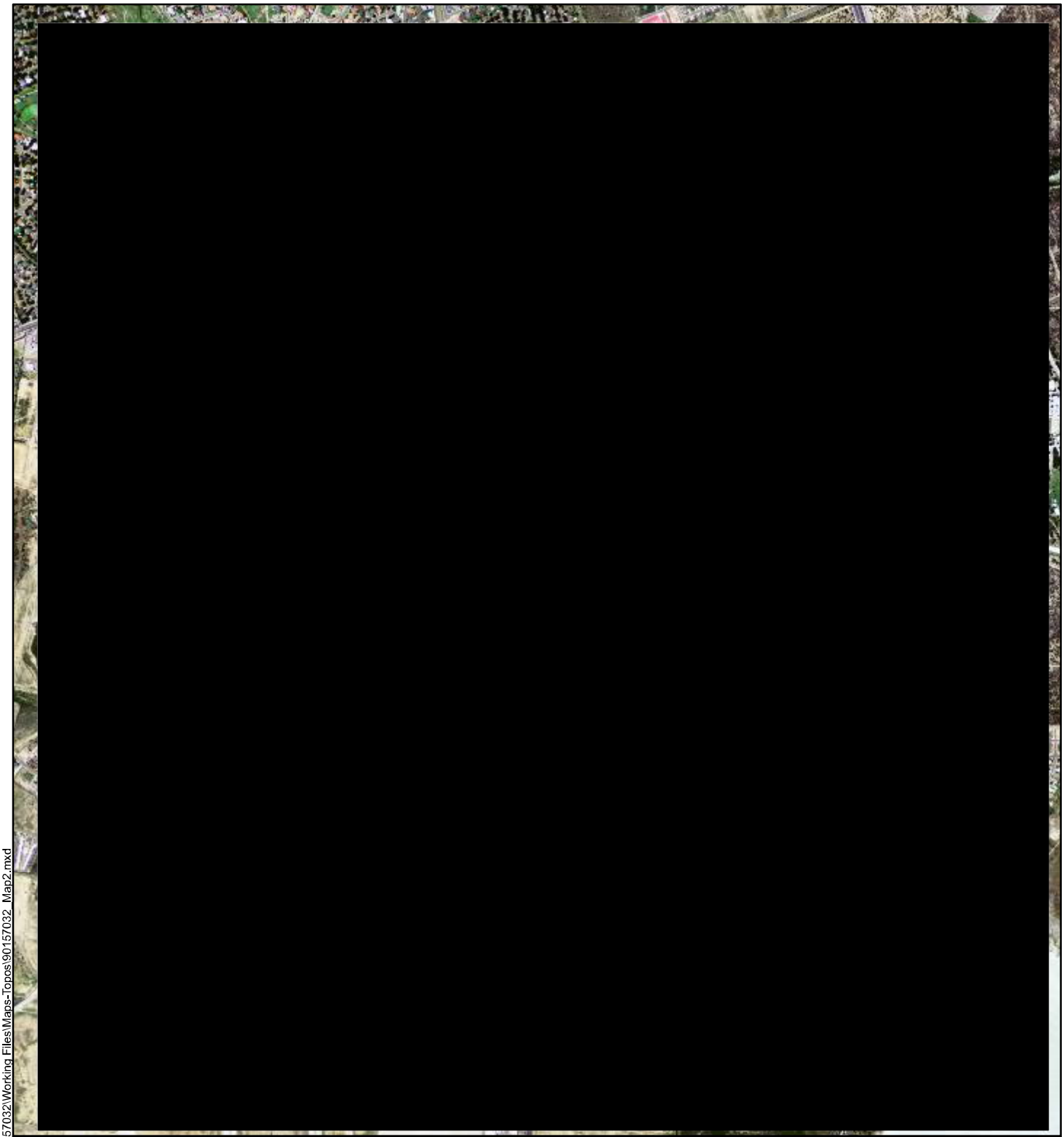
Sites and Surveys on Topographic Map

City of Laredo Utilities Department
24-inch Water Transmission Line
Laredo, Webb County, Texas

Map

1



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- Shovel Tests
- 41WB160
- 41WB358
- 41WB160 Survey
- 41WB358 Survey
- 24" Water Line

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Drawn By:	DMY
Checked By:	JEH
Approved By:	JEH
Project No.	90157032
Scale:	1 in = 1,650 ft
TBPE Firm No.	F-3272
Date:	February 2015

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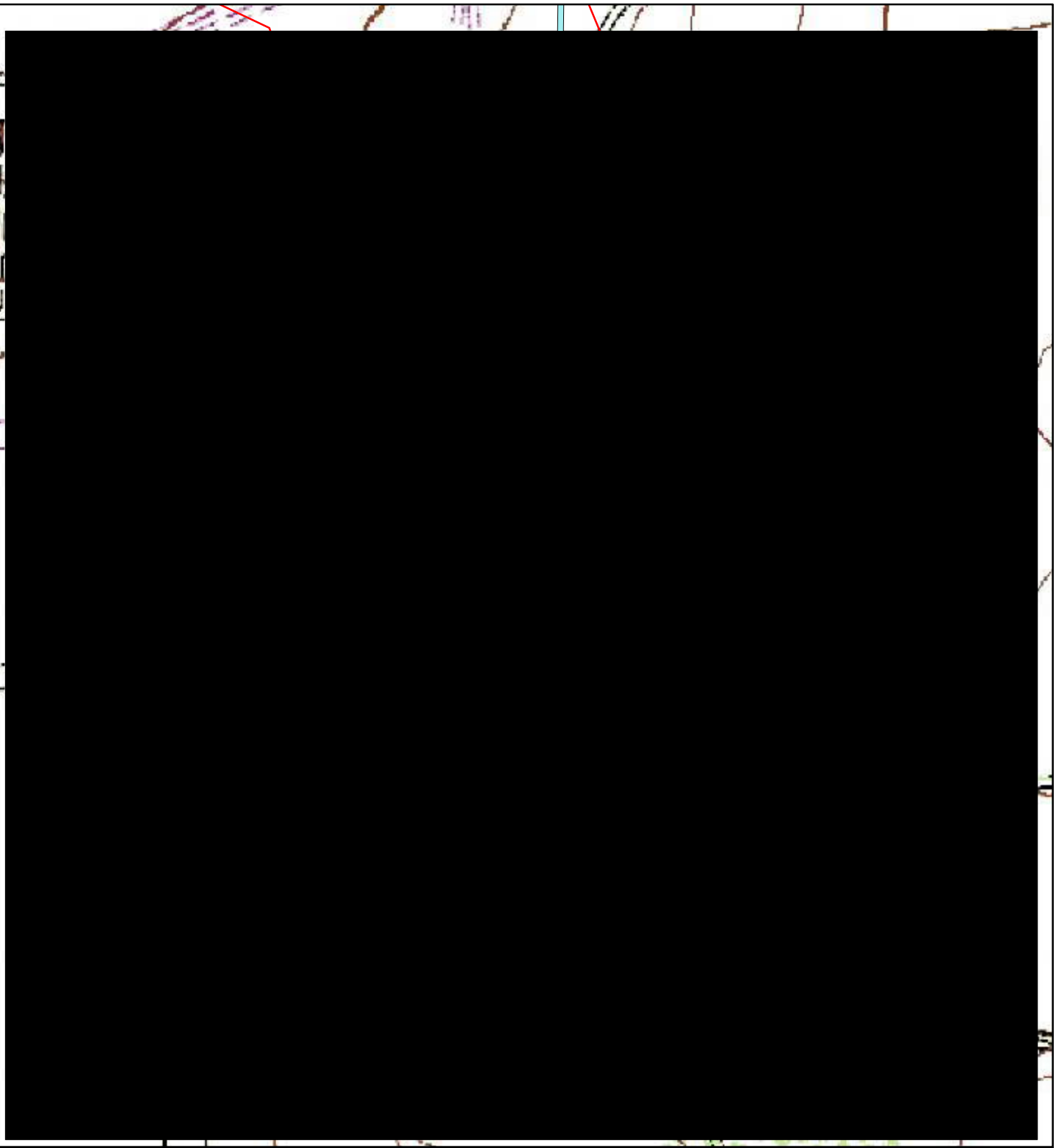
Sites and Surveys on Aerial Imagery

City of Laredo Utilities Department
24-inch Water Transmission Line
Laredo, Webb County, Texas

Map

2



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Shovel Tests
41WB160
41WB160 Survey
24" Water Line

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Feet

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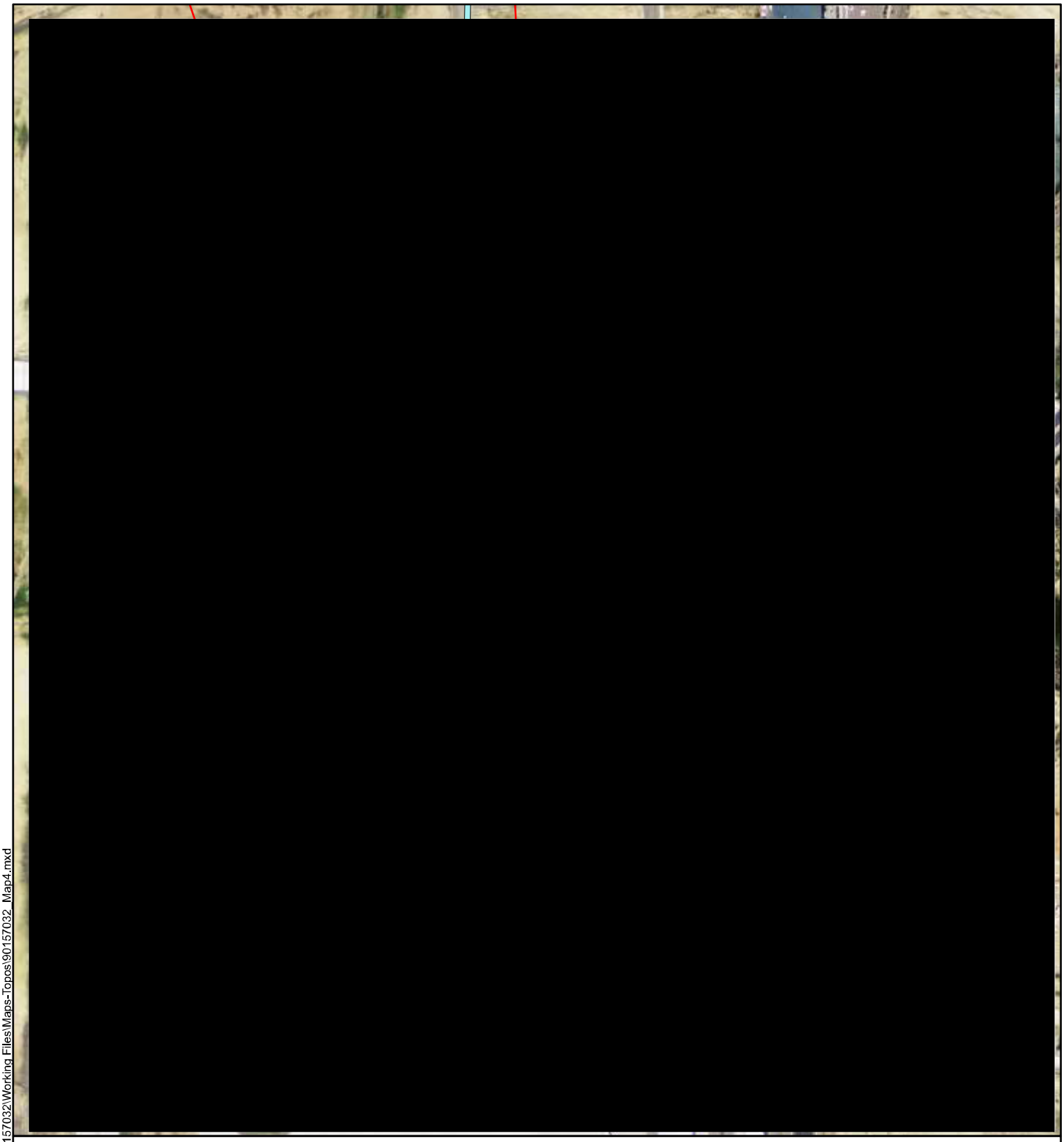
Project Mngr: DMY Drawn By: DMY Checked By: JEH Approved By: JEH	Project No. 90157032 Scale: 1 in = 500 feet TBPE Firm No. F-3272 Date: February 2015	Terracon Consulting Engineers & Scientists 6911 Blanco Road San Antonio, TX 78216 PH (210) 641-2112 Fax (210) 641-2124	41WB160 and Survey on Topographic Map **City of Laredo Utilities Department** **24-inch Water Transmission Line** **Laredo, Webb County, Texas**	Map 3



Legend

- Shovel Tests
- Disturbed Areas
- 41WB160
- 41WB160 Survey
- 24" Water Line

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Checked By:	JEH
Approved By:	JEH
Project No.	90157032
Scale:	1 in = 500 ft
TBPE Firm No.	F-3272
Date:	February 2015

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41WB160 and Survey on Aerial Imagery

City of Laredo Utilities Department
24-inch Water Transmission Line
Laredo, Webb County, Texas

Map

4

Legend

Shovel Tests
41WB358
41WB358 Survey
24" Water Line

500 250 0 500
Feet

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Drawn By:	DMY
Checked By:	JEH
Approved By:	JEH

Project No.	90157032
Scale:	1 in = 500 feet
TBPE Firm No.	F-3272
Date:	February 2015

Terracon
Consulting Engineers & Scientists
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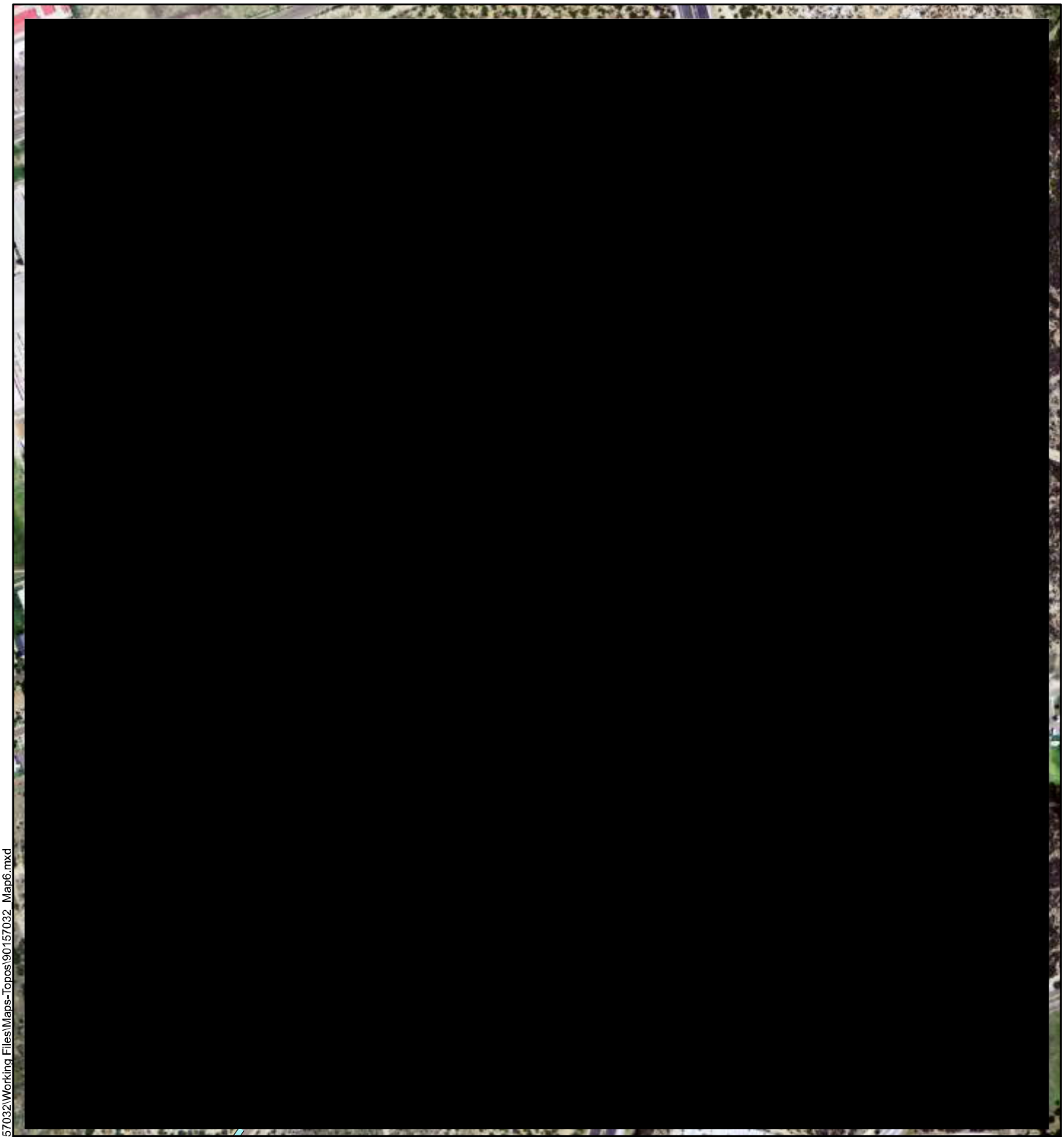
41WB358 and Survey on Topographic Map

City of Laredo Utilities Department
24-inch Water Transmission Line
Laredo, Webb County, Texas

Map
5



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Project Mngr: DMY	Project No. 90157032	Terracon Consulting Engineers & Scientists	41WB358 and Survey on Aerial Imagery	Map
Drawn By: DMY	Scale: 1 in = 500 feet	6911 Blanco Road San Antonio, TX 78216	**City of Laredo Utilities Department**	6
Checked By: JEH	TBPE Firm No. F-3272	PH (210) 641-2112 Fax (210) 641-2124	**24-inch Water Transmission Line**	
Approved By: JEH	Date: February 2015		**Laredo, Webb County, Texas**	

APPENDIX C
Photographs

Photo #1: View facing south from the northern end of the APE near 41WB358.

Photo #2: View of shovel test excavation (DY04) in ephemeral drainage/low spot near 41WB358.

Photo #3: View of shovel test excavation (DY03) on the north side of hill, north of 41WB358.

Photo #4: Cherty gravels at surface on the north side of hill, north of 41WB358.

Photo #5: View on south side of hill overlooking 41WB358.

Photo #6: Cherty gravels on the surface looking south across 41WB358.

Photo #7: Chert flake observed at the surface at 41WB358.

Photo #8: Overlooking 41WB358 and ground clearing development activities.

Photo #9: View across 41WB358 ground clearing to south towards Police Station.

Photo #10: View of shovel test excavation (DY02) in 41WB358 near flake found at the surface.

Photo #11: View of sediment spoil piles and Police Station within 41WB358.

Photo #12: View of sediment spoil pile near Police Station within 41WB358.

Photo #13: View of shovel tests excavation (DY01) in 41WB358 near Police Station.

Photo #14: View of southern extent of 41WB358 survey area. Overhead utility lines mark Casa Verde Road.

Photo #15: View of northern extent of survey segment at 41WB160.

Photo #16: View of earthen levee between retention ponds immediately south of baseball stadium parking lot.

Photo #17: View of retention pond retaining water within 41WB160.

Photo #18: View across empty retention pond towards the baseball stadium.

Photo #19: View of hummocky landscape, a result of prior (mechanical?) excavations.

Photo #20: Opportunistic profile exposure showing a sterile yellowish brown sand.

Photo #21: View south along 41WB160 survey segment, south of retention ponds. Note the stake and blue flagging, likely indicating a buried water line.

Photo #22: View north along the 41WB160 survey segment towards the baseball stadium in the background. Note the buried utility line marker mid-picture.

Photo #23: View east from southwest corner of the 41WB160 survey segment.

Photo #24: View along southern portion of the 41WB160 survey segment.

Photo #25: View of dumping, disturbance, and fence line near the eastern extent of the 41WB160 survey segment.

Photo #26: View to the west from east extent of the 41WB160 survey segment.

APPENDIX C
Shovel Test Log

Shovel Test Log for Pedestrian Survey of 41WB160 and 41WB358

Shovel Test	Depth (cmbs)	Munsell	Soil Texture	Comments
DY01	0-25, 25-40	10YR 4/3, 10YR 5/6	Sand	Located ~20m N of dirt road marking end of survey, >50% surface visibility, bunch grasses, no cultural materials, term @ subsoil
DY02	0-35	10 YR 5/6	Sand	N side of graded area (~10m N), small gravelly clearing among bunch grasses, overall ~30-40% SV, term @ sterility
DY03	0-20	10 YR 5/6	Sand	Excavated in area w/ concentration of cherty shatter, some obv. Burned, 100% surface vis, no clearly cultural, term@ subsoil
DY04	0-28, 28-40	10 YR 5/3, 10 YR 6/4	Clay Sand	Excavated near lowest point of survey, 100% surface vis
DY05	0-35, 35-52	10YR 4/4, 10YR 4/6	silty sand, clay	Excavated at SW corner of trucking business, at extent of WB 160 as mapped, >50% surface vis, term @ subsoil
DY06	0-31	10YR 4/4	Gravelly sand	~75m from WOP 20, South of trucking business, 40% surface vis, term @ sterile subsoil
DY07	0-45, 45-57	10YR 4/4, 7.5YR 5/6	Sand, clay sand	~100m from each SW corner and SW of trucks, 15% SV overall, 90% SV at location, term @ subsoil
DY08	0-40, 40-53	10YR 4/4, 10YR 5/6	Sand, Loamy clay	~30m N of SW corner, 20% surface vis, term @ subsoil