TEXAS HISTORICAL COMMISSION

ANTIQUITIES PERMIT APPLICATION FORM ARCHEOLOGY

GENERAL INFORMATION

I. PROPERTY TYPE AND LOCATION	
Project Name (and/or Site Trinomial) 41WM1535 Phase II Testing	
County (ies) Williamson County	
County (ies) Williamson County USGS Quadrangle Name and Number Hutto, TX	
UTM Coordinates Zone 14 E 640122 N 3375481	
Location Within new SE Loop ROW; between Brushy Creek and CR 163	
Federal Involvement ✓ Yes □ No	
Name of Federal Agency U.S. Army Corps of Engineers, Fort Worth District	
Agency Representative Arlo McKee	
II. OWNER (OR CONTROLLING AGENCY)	
Owner Williamson County	
Representative Bill Gravell Jr, (County Judge)	
Address 710 South Main Street, Suite 101	
City/State/Zip Georgetown, TX 78626	
Telephone (include area code) 512-943-1150 Email Address ctyjudge@wilco.org	
III. PROJECT SPONSOR (IF DIFFERENT FROM OWNER)	
Sponsor	
Representative	
Address	
City/State/Zip	
Telephone (include area code) Email Address	
	_
PROJECT INFORMATION	

I. PRINCIPAL INVESTIGATOR (ARCHEOLOGIST)

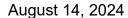
Name	Amy M. Goldstein				
Affiliation	Johnson, Mirmiran	& Thompson (JMT)			
Address	801 E. Old Settlers	Blvd. Ste. 102			
City/State/ZipRound Rock, TX 78664					
Telephone (include area code) 618-978-4064			Email Address _	agoldstein@jmt.com	

ANTIQUITIES PERMIT APPLICATION FORM (CONTINUED)

Texas Historical Commission Archeology Division		
-JPC 0.1 Offine Date Rece		
Permit Number Permit Ex	Permit Expiration Date Date Received for Data Entry	
Reviewer Date Perm	iit Issues	
FOR OFFICIAL USE	CONLY	
and any additional pertinent information. Curriculum vita mus	t be on the with the Archeology Division.	
Principal Investigator must attach a research design, a copy of the and any additional pertinent information. Curriculum vita must		
Signature Amy M. Llaston	Date August 14, 2024	
Historical Commission. Furthermore, I understand that the Prias well as the Owner and Sponsor, are responsible for completing	ncipal Investigator (and the Investigative Firm),	
(Investigative Firm), do certify t submitted plans and research design, and will not conduct any w	that I will execute this project according to the york prior to the issuance of a permit by the Texas	
I, <u>Amy M. Goldstein</u> , as Principal Investigator employe	d by JMT	
VI. INVESTIGATOR'S CERTIFICATION		
Signature	Date	
are responsible for completing the terms of this permit.		
Texas Historical Commission. Furthermore, I understand that	erformed prior to the issuance of a permit by the the Sponsor, Owner, and Principal Investigator	
Sponsor,plans and research design, and that no investigations will be pe	do certify that I have review the	
I,	, as legal representative of the	
V. SPONSOR'S CERTIFICATION		
Signature	Date	
Historical Commission. Furthermore, I understand that the responsible for completing the terms of the permit.	Owner, Sponsor, and Frincipal investigator are	
research design, and that no investigations will be performed	prior to the issuance of a permit by the Texas	
I, Bill Gravell Jr. Williamson County	do certify that I have reviewed the plans and	
IV. LAND OWNER'S CERTIFICATION	a land nonneautative of the Land Orman	
Permanent Curatorial Facility <u>Texas Archeological Research</u>	CII Laboratory	
Temporary Curatorial or Laboratory Facility JMT Austin		
III. CURATION & REPORT		
merading geophysical survey, mechanical trenening, and hand excava	uton.	
Scope of Work (Provided an Outline of Proposed Work) <u>NRI</u> including geophysical survey, mechanical trenching, and hand excava		
Proposed Starting Date of Fieldwork September 23, 2024 Requested Permit Duration 5 Years 0	Months (1 year minimum)	
Proposed Starting Date of Fieldwork September 23, 2024		

Archeology Division P.O. Box 12276, Austin, TX 78711-2276 Phone 512-463-6096 thc.texas.gov





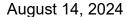
Research Design and Scope of Work for Eligibility Testing at Site 41WM1535

JMT Project # 16-1813-005

Submitted to:

HNTB Williamson County





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Introduction

Johnson, Mirmiran & Thompson (JMT) proposes National Register of Historic Places (NRHP)/State Antiquities Landmark (SAL) eligibility testing of site 41WM1535 near the City of Hutto, Williamson County, Texas. While working as a subconsultant for JMT, Stantec Consulting Services, Inc. (Stantec) first recorded this site in 2024 during archeological survey of the proposed Southeast Loop Segment 2 corridor (Figures 1 and 2). JMT also proposes limited additional survey where a design change at the intersection of FM 1660 has resulted in an additional 2.3 acres of proposed ROW that was not previously surveyed (Figure 3).

The Southeast Loop Segment 2 corridor extends for 4.09 miles (6.58 km) between CR 137 and FM 3349 (Figures 1 and 2). The proposed roadway would include four main lanes and six frontage road lanes, with turn lanes at intersections as needed. The proposed right-of-way (ROW) width varies from 100 to 560 feet (30.48 to 170.69 m). The depth of impacts throughout most of the project's area of potential effects (APE) is two feet (0.6 m) or less but will extend up to 41 feet (12.5 m) at the bridge location near Brushy Creek.

The project is sponsored by Williamson County and will be constructed on property owned by Williamson County. Since Williamson County is a political subdivision of the state, the project is required to comply with the Antiquities Code of Texas. Since the project will require permits from the United States Army Corps of Engineers (USACE), Fort Worth District, the project must also comply with Section 106 of the National Historic Preservation Act of 1966, as amended.

41WM1535

Stantec archeologists originally recorded site 41WM1535 in January 2024 approximately **REDACTED** (Figure 4). While excavating a backhoe trench, the archeologists encountered Feature 1 at approximately 50 cm below ground surface in the northwest wall of the trench. A 50 cm by 50 cm hand excavated unit was excavated off of the trench wall to better expose the feature in plan view. The feature consisted of at least 17 burned rocks and measured approximately 50 cm wide by 70 cm long and 15 cm thick, although the edges of the feature were not identified (Turner-Pearson et al. 2024). The feature also contained fragments of large mammal rib bone, two of which showed evidence of cutting or scraping. No other artifacts were found within or around the feature, which was described as "remarkably well preserved" (Turner-Pearson et al. 2024:65). Six shovel tests were placed around the feature in an attempt to delineate site boundaries. None of the shovel tests were positive; however, all terminated by a depth of only 45 cm below surface (Turner-Pearson et al. 2024). The backhoe trench in which Feature 1 was encountered was excavated to a depth of 1.5 m without encountering additional cultural material.

Stantec recommended additional archeological investigations at site 41WM1535 to determine its NRHP/SAL eligibility due to the excellent preservation and research potential of Feature 1. Stantec further recommended that work could proceed within the APE except for a buffer area around site 41WM1535 (Figure 5; Turner-Pearson et al. 2024). The Texas Historical Commission (THC) concurred with this recommendation in correspondence dated June 21, 2024.

Regional Cultural Background

The earliest evidence for human occupation in Central Texas comes from the Gault Site in Bell County. Optically stimulated luminescence (OSL) dates of alluvial sediments at the site that are associated with lithic artifacts in stratigraphically lower position than Clovis points date from approximately 16,000-20,000 years before present (BP; Williams et al. 2018). The nearby Debra L. Friedkin Site also contains cultural deposits found stratigraphically below



Clovis. This pre-Clovis lithic assemblage, named the Buttermilk Creek Complex, has been OSL dated to between 13,500 and 15,500 BP (Waters et al. 2018). While these sites present clear evidence for pre-Clovis occupation of Central Texas, little is still known about the lifeways of the people who used these lithic tools.

Both the Gault and Debra L. Friedkin sites also contain stratified deposits representing the rest of the precontact period in Central Texas: Early and Late Paleoindian Periods, the Early, Middle, and Late Archaic Periods, and the Late Prehistoric Period (Rodriguez et al. 2016; Waters et al. 2018). The beginning of the Paleoindian Period (ca. 15,000-8,500 BP) coincided with ameliorating climatic conditions following the close of the Pleistocene epoch that saw the extinction of megafauna such as mammoth and bison antiquus. Cultures dated to the Paleoindian Period are associated with relatively large, fluted, lanceolate projectile points. These points are frequently associated with spurred end scrapers, gravers, and bone foreshafts (Collins 2004). While Paleoindian cultures have historically been associated with hunting of extinct megafauna, evidence from nearly all Paleoindian sites in Texas suggests that Paleoindians exploited a diverse set of smaller taxa in addition to megafauna (Bousman et al. 2004). In Central Texas, the Paleoindian Period is typically divided into two sub-periods based on differences in projectile point styles. The Early Paleoindian Period is associated with large, fluted projectile points such as Clovis, Folsom, Dalton, Sand Patrice, and Big Sandy, while the Late Paleoindian Period is characterized by unfluted lanceolate points such as Plainview, Scottsbluff, Meserve, and Angostura (Collins 2004).

The onset of the Hypsithermal drying trend marks the beginning of the Archaic Period (ca. 8,500-1,150 BP; Collins 1995). Unlike much of the rest of North America, inhabitants of Central Texas seem to have been less affected by this climatic shift as they already practiced a subsistence strategy that used a diversified resource base composed of smaller game and wild plants. Archeologically, the Archaic Period is represented by a more diversified tool kit that included the development of an expanded groundstone assemblage, a general decrease in the size of projectile points, and the use of heated rocks in cooking (Collins 2004).

The Archaic Period is typically subdivided into Early (ca. 8,500-6,000 BP), Middle (6,000-4,000 BP), and Late (4,000-1,150 BP) subperiods based on changes in material culture, especially projectile points (Collins 2004; Johnson and Goode 1994). Other notable markers include the appearance of large burned rock middens during the Middle Archaic, which may indicate a shift in subsistence strategy toward xerophytes such as sotol (Collins 2004) and the appearance of large cemeteries in the Late Archaic, which is often interpreted as evidence of increasing population size (Prewitt 1981).

In Central Texas, the defining material culture marker of the Late Prehistoric Period (ca. 1,150-350 BP) was the adoption of the bow and arrow, which replaced the atlatl and larger lithic dart points. The Late Prehistoric Period in Texas is generally divided into the Austin and Toyah Phases. The Austin Phase lasted from ca. 1,150-800 B.P. and seems to have differed little from the Late Archaic Period other than the adoption of the bow and arrow (Collins 2004). Lohse et al. (2014) argue that the Austin Phase differed so little from the preceding Archaic Period, that it should simply be considered the last phase of the Archaic Period. The Toyah Phase (ca. 800-350 B.P.) represented a more distinct shift in material culture and behavior that was likely a response to the return of bison to Central Texas (Lohse et al. 2014). Toyah phase assemblages often include Perdiz arrow points, large, thin bifaces, prismatic blades, and both local and imported ceramics (Collins 2004).



Brushy Creek Archeological Sites

Dozens of precontact archeological sites have been recorded along Brushy Creek in Williamson County. Some of these sites warrant additional discussion here due to their potential similarity to 41WM1535.

The most well-known precontact site recorded on Brushy Creek is the Wilson-Leonard site (41WM235), which is approximately 15 miles west of 41WM1535. The Wilson-Leonard site boasts one of the most complete examples of human presence in Central Texas, with dates spanning 11,000 years within stratified alluvial deposits approximately six meters deep (Collins et al. 1998). Features recorded at the site included over 200 hearths and one of the oldest burials in North America, dated to 9,500 BP. Artifacts recovered from the site included projectile points dating from the Early Paleoindian Period through the Late Prehistoric Period, grinding tools for food processing, net sinkers, macro- and microfauna, and paleobotanical remains (Texas Beyond History 2024).

Site 41WM961, also known as the Dr. Johns Site, is located 1.8 miles (2.91 km) west of 41WM1535. Robert Stiba originally recorded this site in 1976 as a large open campsite with a burned rock midden. Artifacts recorded at the site (which had already been disturbed by looters) include Darl, Fairland, Ensor, Castorville, Marcos, Marshal, Montell, and Pedernales projectile points; drills, manos, knives, a scraper, and lithic flakes; snail shell, freshwater mussel, animal bone, and two conch shell pendants. The thickness of the deposit was estimated to be two feet (THC 2024).

Site 41WM962 is located approximately **REDACTED**, also on the north side of Brushy Creek. Recorded by Stiba in 1976, observed artifacts and features included chert debitage, exposed burned rock features, shells (unidentified gastropods and bivalves), blade fragments, a utilized chert core, and unidentifiable projectile point bases (THC 2024). Based on the Atlas site form, it appears that no shovel tests were excavated at the site; however, Stiba estimated that the cultural deposit was one to two feet deep, presumably based on stratigraphy visible in a gully that cuts through the site.

Site 41WM1028 is located approximately 11.4 miles (18.34 km) west of 41WM1535 on the south bank of Brushy Creek. The site was originally recorded in 2002 as a Middle Archaic midden with an associated lithic scatter (Lawrence et al. 2008). SWCA conducted testing excavations at the site from October 6-10, 2007, which included excavation of nine backhoe trenches and five one-by-one square meter test units. Two burned rock features were recorded at the site that were first encountered between 20 and 40 cm below surface. Lithic debitage as well as 46 formal and informal lithic tools were recovered from the site. Due to a lack of integrity from bioturbation and previous impacts, the site was recommended not eligible for listing in the NHRP or for listing as a SAL (Lawrence et al. 2008).

Potential Research Questions

Given that very little is currently known about site 41WM1535, Phase II testing will focus on general research questions related to the site's NRHP/SAL eligibility. Key research goals for determining the site's eligibility include:

- Understanding the site's full horizontal and vertical extent within the APE
- Determining the archeological integrity of Feature 1 and any other cultural materials identified
- Determining whether discrete, stratified cultural deposits are present
- Understanding site chronology through absolute dating techniques and/or relative dating methods



Predicting the site's likelihood of providing additional significant data

JMT proposes that for the site to be considered eligible for listing in the NRHP or as a SAL, it must contain one or more additional intact cultural features and/or clearly stratified cultural deposits. Further excavation of these features or deposits would have to be likely to produce data that could answer specific research questions about the pre-contact period in Central Texas.

Proposed Methods

Since little is known about the site, JMT proposes a flexible methodology that will allow for a variety of methodological choices depending on what is found as fieldwork proceeds. Overall, fieldwork will consist of three general methods: magnetometer survey, mechanical trenching, and hand excavation. Based on the dense clay soils and the depth of cultural material observed during survey (50 cm below surface), shovel tests will likely not be used as a part of the Phase II testing. Lab work will consist of identifying, sorting, and quantifying artifacts and zooarchaeological analysis of faunal material found in Feature 1 as well as any additional faunal material recovered. JMT will also send sediment samples to an outside analyst for flotation and radiocarbon samples to an outside laboratory for dating if such samples are found.

Magnetometer Survey

In order to identify potential features while causing the least amount of damage to the site, JMT proposes to first conduct magnetometer survey of approximately two acres in and around site 41WM1535. Magnetometers, which measure variations in the Earth's magnetic field, are particularly useful in identifying thermal features as burning alters the magnetic field of the objects or soil that were burned. Magnetometer survey has been used successfully to identify burned rock features at other sites in Texas (Jones et al. 2002; Maki and Fields 2010; Martin et al. 1991) and could be used to identify thermal features at 41WM1535. Prior to the magnetometer survey, the area will be mowed and cleared of large downed limbs, and an arbitrary grid will be marked for collection of data along evenly spaced transects. Magnetometer data will likely be collected using a 50-cm transverse interval and a sampling interval of 10 readings per second. The collected data will be processed within 24 hours and anomalies will be marked on the ground.

Mechanical Trenching

The results of the magnetometer survey will guide the placement of additional mechanical trenches and test units in and around the site. JMT will excavate eight to ten mechanical trenches during the Phase II testing. If the magnetometer survey does not indicate any additional anomalies, JMT will excavate eight mechanical trenches in a cruciform pattern approximately 10-15 meters apart around Feature 1. JMT will also excavate one to two trenches further (approximately 50-75 m) to the northeast and southwest of the current site boundary to check for additional cultural materials. If the magnetometer does indicate the presence of anomalies, trenches will be placed over the anomalies first and then placed randomly near the site boundary if less than eight anomalies are identified.

In accordance with the Council of Texas Archeologists' (2020) standards, each mechanical trench will be a minimum of one meter wide and four meters long and will be excavated to the lesser extent of: the project's vertical APE, bedrock, deposits beneath which archeological potential is minimal, deposits that substantially predate the Holocene, or to the maximum depth that can be reached by an appropriately scaled and powered machine. Trenches will be excavated with a smooth-bladed bucket by slowly peeling off thin (approximately 5 cm) layers under close supervision of an archeologist. Another archeologist will closely monitor and inspect the soil removed from the trenches. After trench



excavation is completed, the walls will be carefully inspected and at least a one-meter-wide section will be cleaned and photographed and profiled. If artifacts but no features are identified within a trench, a 30 cm by 30 cm column sample will be excavated off the trench wall to assess the potential for stratified artifact concentrations. Trench corners will be recorded with an RTK GPS device capable of 1-cm accuracy.

Hand Excavation

As mechanical trenching proceeds, other JMT archeologists will carefully uncover Feature 1, which was protected with a tarp before being reburied after survey. One-by-one meter test units will be placed over the unexcavated portions of Feature 1, and hand excavation will proceed in arbitrary 10-cm levels. The upper four to five levels may be expediently removed by shovel as survey data indicates this portion of the site is sterile. All hand-excavated sediment will be screened through ¼-inch hardware mesh. After Feature 1 has been fully uncovered in plan view, it will be bisected, and half of the feature will be excavated. After the profile of Feature 1 is drawn and photographed, the other half will be excavated.

Details of each level of each unit will be recorded on standardized level forms, and feature details will be recorded on feature forms. Photographs will be taken at the close of every level, 3D scans of some unit and feature levels will be recorded with the Scaniverse application as determined by the Field Director. Horizontal and vertical measurements of the test units will be recorded with an RTK GPS device capable of 1-cm accuracy.

If additional features are encountered during mechanical trenching, one-by-one meter test units will be placed over the features to further investigate them. Generally, features will be fully uncovered in plan view before being bisected and excavated one half at a time. JMT anticipates hand excavating up to four cubic meters of sediment. If several additional features are uncovered through trenching, it is possible that not all features will be excavated during the testing phase. Instead, the presence of many additional intact features at 41WM1535 would indicate that the site is eligible and some of the features would not be excavated until Phase III data recovery excavations.

ARTIFACT AND SAMPLE COLLECTION

All artifacts recovered from hand excavations will be collected for analysis and curation except for thermally altered rocks. Thermally altered rocks will be sorted by size (0-5 cm; 5-10 cm; 10-15 cm; >15 cm) and weighed by size and provenience before being discarded in the field. Only a small sample of thermally altered rock will be retained for curation. Diagnostic artifacts from all trenches will be collected. Non-diagnostic artifacts found in trench back dirt will be recorded but not collected due to their non-specific provenience.

A soil sample will be collected from each excavated feature for flotation. Burned material from feature contexts will be collected for radiocarbon dating. Burned material found outside of feature contexts will be noted but may not be collected.

Analyses

JMT will clean all recovered artifacts, after which they will be sorted into classes, quantified by provenience, and entered into an access database. JMT Archeologist Kevin McDaniel, Ph.D., RPA, will analyze all faunal material to identify all specimens to the most specific possible taxon. Where possible, individual elements will be recorded, and a minimum number of individuals (MNI) will be estimated. Any modifications to the faunal material such as cut marks or green breaks for possible bone marrow extraction will be recorded.



Soil samples collected from features will be sent to an outside analyst for flotation and analysis of any macrobotanical remains present. Up to four carbon samples will be sent to an outside laboratory for radiocarbon dating.

Human Remains Protocol

Human remains are not anticipated. However, if human remains are encountered during fieldwork, all work will cease in that area and the remains will be covered and protected. JMT will immediately notify Williamson County, the THC, and local law enforcement of the discovery. If it is determined that the remains are human and archeological, no further excavation will occur within that area of the site until a plan for their treatment can be developed in cooperation with Williamson County, the THC, and affiliated Native American tribes. JMT will follow all relevant consultation guidelines and laws in accordance with regulations in Chapters 711-715 of the Texas Health and Safety Code, the Antiquities Code of Texas, and 13 TAC 22.

Reporting and Curation

JMT will prepare a draft report in accordance with the CTA's Guidelines and Standards for CRM Reports (2024). The report will include environmental and cultural contexts for the region, methods used, and results of the Phase II excavations and analyses, including a recommendation for 41WM1535's NRHP/SAL eligibility. The draft report will be submitted to the THC for review and comment. Following acceptance of the draft report, JMT will prepare electronic and hard copies of the final report for submittal to the THC and distribution to local repositories in accordance with the terms of the Antiquities Permit.

Artifacts collected during the Phase II testing, as well as project-related records, will be prepared for curation and submitted to the Texas Archeological Research Laboratory (TARL) to fulfill the requirements of the Antiquities Permit.



References Cited

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 Archaeomagnetic Directional Studies as a Revolutionary Tool for Understanding Feature Form and Function: A Case Study of Two Burned Rock Features in a Multi-Component Site in East Texas, USA. Manuscript available through SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4028985.
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- Waters, Michael R., Joshua L. Keene, Steven L. Forman, Elton R. Prewitt, David L. Carlson, and James E. Wiederhold. 2018. Pre-Clovis projectile points at the Debra L. Friedkin site, Texas Implications for the Late Pleistocene peopling of the Americas. *Science Advances* 4(10):1-13.
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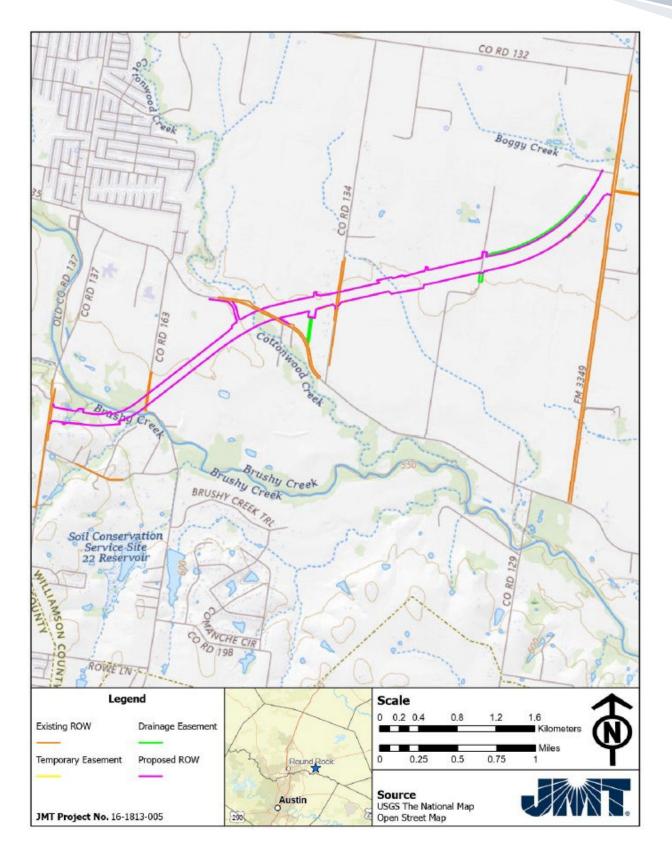


Figure 1. APE on a modern topographic map.



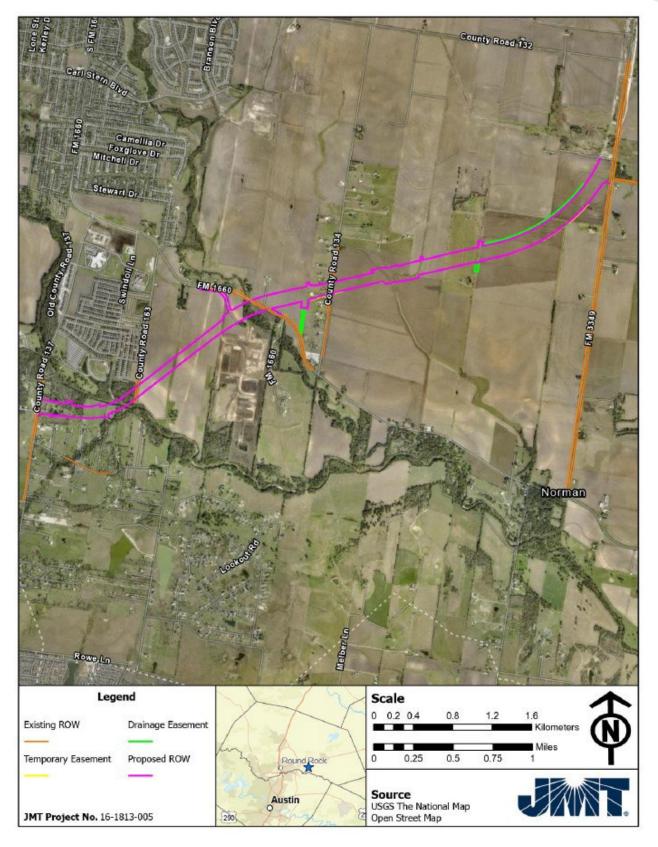


Figure 2. APE on a modern aerial image.



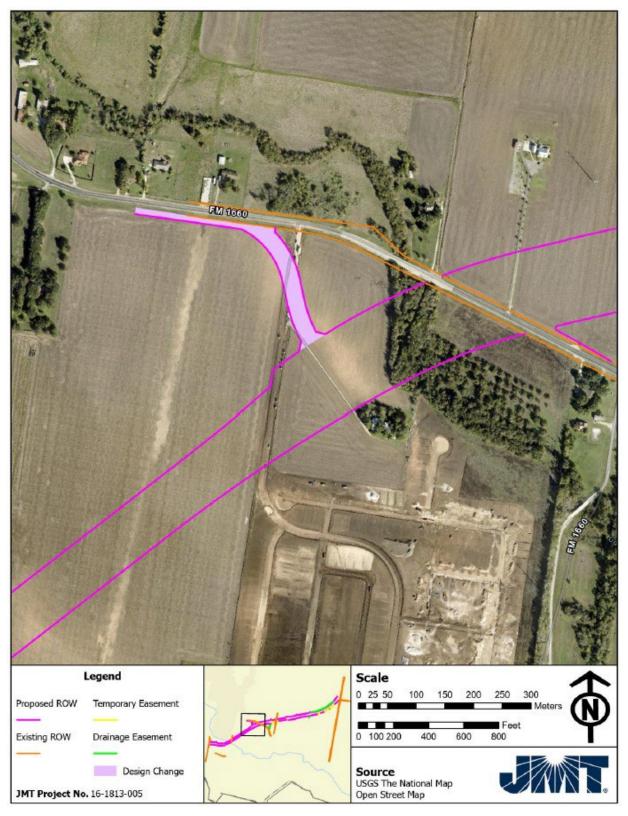


Figure 3. Design Change at the intersection of FM 1660.



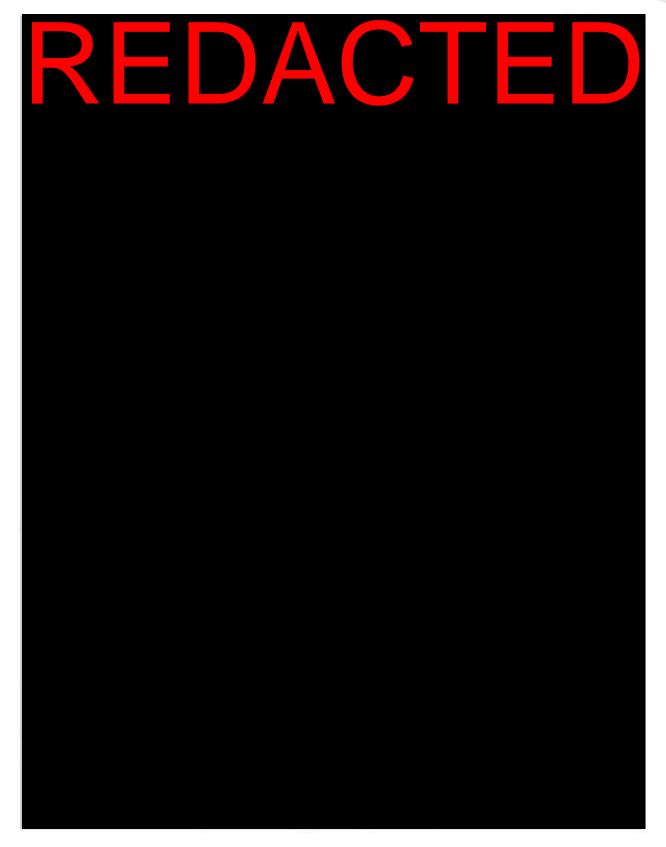


Figure 4. Map of site 41WM1535.



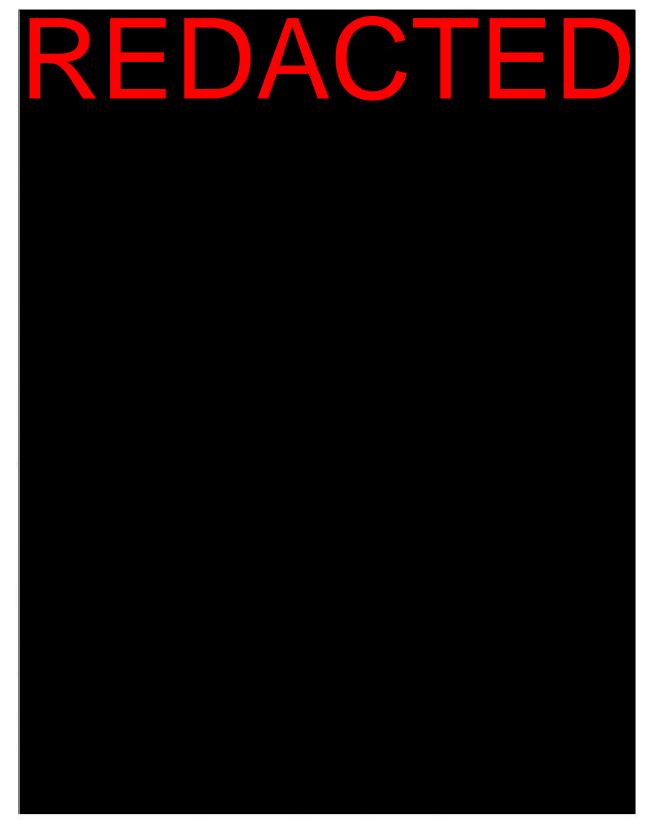


Figure 5. Construction buffer around site 41WM1535.

