
Cultural Resources

Technical Report



OAK HILL

PARKWAY

U.S. Highway 290 (US 290) / State Highway (SH)
71 West from State Loop 1 (MoPAC) to
Ranch-to-Market (RM) 1826 and SH 71 to
Silvermine Drive
Travis County, Texas
CSJ # 0113-08-060 and 0700-03-077
January 2017



The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

Intensive Archeological Survey for the Proposed Oak Hill Parkway: US 290 W and SH 71
Travis County, Texas
(CSJs: 0113-08-060 and 0700-03-077)

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Under
Texas Antiquities Permit 7661

Cox|McLain Environmental Consulting, Inc.
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Abstract

On behalf of the Texas Department of Transportation (TxDOT), Cox|Mclain Environmental Consulting, Inc. (CMEC) conducted an intensive archeological survey of proposed widening improvements at the intersection of US Highway (US) 290 and State Highway (SH) 71, locally known as “The Y”, in southwestern Travis County, Texas. The project extends approximately 6.16 miles (mi) (9.90 kilometers [km]) along US 290 and 1.26 mi (2.00 km) along SH 71, and includes two isolated detention pond locations on either side of SH 71. At this time two build alternatives are being considered, Alternative A and Alternative C. Both alternatives are conventional controlled-access highways with frontage roads. The combined project footprint including both Alternatives A and C covers 385.58 acres (ac) (156.04 hectares [ha]). The footprint is considered the archeological area of potential effects (APE). The APE includes 313.64 ac (126.93 ha) of existing right-of-way, 70.39 ac (28.49 ha) of proposed right-of-way, 1.14 ac (0.46 ha) of proposed construction easements, and a 0.41-ac (0.17-ha) mixed-use path easement that has not yet been fully defined.

A review of the Austin District Hybrid Potential Archeological Liability Maps (HPALM) reveals that the majority of the APE (211.25 ac [85.49 ha] or 54.8 percent) has low potential for archeological resources, either shallow or deep. Archival review also determined that the majority of the existing TxDOT right-of-way has been subject to previous investigation, resulting in the documentation of four sites (41TV122, 41TV274, 41TV279, and 41TV2194) within the APE. An additional 50 archeological sites, two historical markers (Recorded Texas Historic Landmarks or RTHLs), and six cemeteries, were identified within one kilometer of the project area. None of the resources identified within one kilometer of the APE are known to be recommended for listing as State Antiquities Landmarks (SALs) or on the National Register of Historic Places (NRHP).

Based on the results of background review and coordination with TxDOT, only the proposed right-of-way and easements, totaling 70.39 ac (28.49 ha), were subjected to intensive survey under Texas Antiquities Permit (TAP) 7661. Fieldwork was conducted on June 1-3 and July 14-15, 2016, at which time right-of-entry was available for 11.30 ac of the 70.39 ac, or 16.05 percent. A total of 65 shovel tests were excavated and two new archeological sites (41TV2516 and 41TV2517) were identified during the survey. Both sites are defined as sparse prehistoric lithic scatters in a heavily disturbed, surficial context. No buried cultural material was encountered and the sites are not recommended for additional work or as eligible for listing on the NRHP or as SALs.

Right-of-entry was not available for the property adjacent to site 41TV2516 at the time of survey. Therefore, survey is recommended for this tract when permission is obtained in order to document any extension of cultural material or confirm the current site boundary.

CMEC recommends that no further work is necessary within the existing right-of-way (313.64 ac or 126.93 ha) or evaluated portions of proposed right-of-way (24.00 ac or 9.71 ha) prior to construction. The evaluated total includes many narrow slivers of proposed ROW for which right-of-entry was not permitted (cumulatively 12.70 ac or 5.14 ha). Although not entered, these parcels were fully visible from the edge of the existing right-of-way, and no cultural material was observed. Pedestrian inspection with judgmental shovel testing is recommended once right-of-entry is obtained for the



remaining 46.39 ac (18.77 ha) of proposed right-of-way that was not accessible or visible from the existing right-of-way.

Project records will be curated at the Center for Archaeological Studies (CAS) at Texas State University-San Marcos.

The Texas Historical Commission (THC) concurred with the findings of this report on January 12, 2017.

Management Summary

On June 1-3 and July 14-15, 2016, Cox|Mclain Environmental Consulting, Inc. (CMEC) conducted an intensive archeological survey on behalf of the Texas Department of Transportation (TxDOT) of proposed widening improvements at the intersection of US Highway (US) 290 and State Highway (SH) 71. This survey was conducted to identify archeological resources within the footprint of proposed improvements at the intersection of US Highway (US) 290 and State Highway (SH) 71, in southwestern Travis County, Texas (**Figures 1** and **2a-f**). The project is owned by the Texas Department of Transportation (TxDOT) and includes both federal and state funds, rendering the project subject to the Antiquities Code of Texas (9 TNRC 191) as well as Section 106 of the National Historic Preservation Act (NHPA), as amended (16 USC 470; 36 CFR 800). Fieldwork was carried out under Texas Antiquities Permit (TAP) 7661 by David Sandrock, Shannon Smith, and Matthew Stotts of CMEC.

The project extends approximately 6.16 miles (mi) (9.90 kilometers (km)) along US 290 and 1.26 mi (2.00 km) along SH 71, and includes two isolated detention pond locations on either side of SH 71. The width of the project along US 290 is typically 400 feet (ft) (122 meters [m]), although it varies between 160 ft (48.8 m) and 600 ft (182.9 m). The typical width along SH 71 is 150 ft (45.7 m) but extends up to 300 ft (91.4 m). The overall maximum width of the project is located at the US 290/Mopac intersection, where it extends up to 1,295 ft (394.7 m) in width. The depth of impact is anticipated to be approximately 2 ft (0.6 m) for typical roadway improvements and up to 40 ft (12.2 m) for bridge supports and/or depressed lanes. The maximum depth within the proposed detention ponds has not yet been determined, but is anticipated to be no greater than 15 ft (4.6 m).

At this time, two build alternatives are being considered: Alternative A and Alternative C. Both alternatives are conventional controlled-access highways with frontage roads. Alternative A includes main lanes and frontage roads located on each side of Williamson Creek west of William Cannon Drive, depressed US 290 lanes beneath SH 71, direct connector ramps at "The Y", and a single-point flying-T intersection for frontage roads at "The Y". Alternative C includes frontage roads located south of Williamson Creek and main lanes located north of Williamson Creek west of William Cannon Drive, US 290 lanes over SH 71, direct connector ramps at "The Y", and a single-point flying-T intersection for frontage roads at "The Y". The continuous flow intersection at William Cannon and US 290 would not remain for Alternative C. Two detention ponds are also proposed as part of the designs for both Alternative A and C; one pond is located southwest of SH 71 and the other to the north of SH 71, off Old Bee Caves Road.

Overall, considering both alternatives together, the project footprint, and therefore the archeological area of potential effects (APE), covers 385.58 acres (ac) (156.04 hectares [ha]). This total includes 313.64 ac (126.93 ha) of existing right-of-way, 70.39 acres (28.49 ha) of proposed right-of-way, 1.14 ac (0.46 ha) of proposed construction easements, and a 0.41-ac (0.17-ha) mixed-use path easement that has not yet been fully defined. The APE considered here represents a maximal approximation of the project extent. Per previous coordination with TxDOT via an Archeological Background Study, only the proposed right-of-way and easements were subjected to intensive survey. Subsequent to initial coordination, the proposed detention pond locations were refined within the previously considered, buffered locations.

Ground surface visibility within the APE was fair to high (20 to 80 percent) due to sparse ground cover. The majority of the APE has been severely impacted by previous roadway construction, maintenance, and utility installations (electric, gas, telecommunication) that follow and/or cross the right-of-way.

Shovel tests were only excavated in areas where previous impacts were not apparent, ground visibility was less than 30 percent, and where the Hybrid Potential Archeological Liability Map (HPALM) units suggest intact soils that could contain intact archeological deposits. A total of 65 shovel tests were excavated across the APE. Typical shovel tests revealed thin, gravelly clay loam deposits (up to 20 centimeters below surface [cmbs]) over limestone bedrock. All shovel tests were negative for cultural material.

Two new archeological sites (41TV2516, 41TV2517) were documented as a result of the investigation. Both sites are sparse, surficial prehistoric lithic scatters of unknown antiquity. Neither site is recommended as eligible for listing on the National Register of Historic Places (NRHP) or for designation as a State Antiquities Landmark (SAL). Relevant field observations for all new sites were transferred to TexSite forms and submitted to TARL for official recording and integration into the trinomial system.

No artifacts were collected; therefore, only project records will be curated at the Center for Archeological Studies at Texas State University-San Marcos, in accordance with TAC 26.16 and 26.17.

The Texas Historical Commission (THC) concurred with the findings of this report on January 12, 2017.



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1. INTRODUCTION

Overview of the Project

On behalf of the Texas Department of Transportation (TxDOT), Cox|Mclain Environmental Consulting, Inc. (CMEC) conducted an intensive archeological survey of proposed widening improvements at the intersection of US Highway (US 290) and State Highway (SH) 71, locally known as “The Y”, in southwestern Travis County, Texas (**Figures 1** and **2a-f**). The project extends approximately 6.16 miles (mi) (9.90 kilometers [km]) along US 290 and 1.26 mi (2.00 km) along SH 71, and includes two isolated detention pond locations on either side of SH 71. At this time two build alternatives are being considered: Alternative A and Alternative C. The combined project footprint, and therefore the archeological area of potential effects (APE), covers 385.58 acres (ac) (156.04 hectares [ha]). This total includes of 313.64 ac (126.93 ha) of existing right-of-way, 70.39 ac (28.49 ha) of proposed right-of-way, 1.14 ac (0.46 ha) of proposed construction easements, and a 0.41-ac (0.17-ha) mixed-use path easement that has not yet been fully defined.

Both alternatives, A and C, are conventional controlled-access highways with frontage roads. Alternative A includes main lanes and frontage roads located on each side of Williamson Creek west of William Cannon Drive, depressed US 290 lanes beneath SH 71, direct connector ramps at "The Y", and a single-point flying-T intersection for frontage roads at "The Y". Alternative C includes frontage roads located south of Williamson Creek and main lanes located north of Williamson Creek west of William Cannon Drive, US 290 lanes over SH 71, direct connector ramps at "The Y", and a single-point flying-T intersection for frontage roads at "The Y". The continuous flow intersection at William Cannon and US 290 would not remain for Alternative C. Two detention ponds are also proposed as part of the design for Alternatives A and C. One pond is located southwest of SH 71 and the other to the north of SH 71, off Old Bee Caves Road (**Figures 1** and **2e**).

David Sandrock, Shannon Smith, and Matthew Stotts of CMEC performed intensive survey with shovel testing on June 1-3 and July 14-15, 2016. 65 shovel tests were placed judgmentally within areas of the APE based on observed disturbance levels, and ground surface visibility (**Figures 3a-3i, 4a-g**). Two new prehistoric lithic scatters (41TV2516 and 41TV2517) were documented as a result of the investigations (**Figures 5** and **6**). Neither site is recommended for additional work, inclusion on the National Register of Historic Places (NRHP), or as a State Antiquities Landmark (SAL) due to extensive disturbance and sparse artifacts in a surficial context.

Regulatory Context

As the project is overseen by TxDOT, a State agency, and includes federal funding, it is therefore subject to the Antiquities Code of Texas (9 TNRC 191) and Section 106 of the National Historic Preservation Act (NHPA), as amended (16 USC 470; 36 CFR 800). All work was conducted under Texas Antiquities Permit (TAP) 7661 in accordance with the guidelines and minimum survey standards developed by the Council of Texas Archeologists (CTA) and approved by the Texas Historical Commission (THC).

Structure of the Report

Following this introduction, Chapter 2 presents environmental parameters, a brief cultural context, and a summary of previous archeological research near the APE; Chapter 3 discusses research goals, relevant methods, and the underlying regulatory considerations; Chapter 4 presents the results of the survey and summarizes the implications of the investigations; figures are in Chapter 5; and references are in Chapter 6.

2. ENVIRONMENTAL AND CULTURAL CONTEXT

Topography, Geology, and Soils

Southwestern Travis County is located within the Hill Country portion of the Edwards Plateau of the Great Plains physiographic province, which is characterized by rugged hills with relatively steep slopes and thin soils overlying limestone bedrock (**Figure 7**). High gradient streams combine with these steep hillslopes and occasionally heavy precipitation to produce an area with a significant flash-flood hazard (Texas Almanac 2016). The APE is located at elevations ranging from 786 to 991 ft (239.6 to 302.0 m) above mean sea level (amsl) in southwestern Travis County (**Figures 2a-2f**). The APE includes areas of proposed improvements along US 290 and SH 71 and the footprints of the two proposed detention ponds (one located south of SH 71 and one located north of SH 71). Much of the roadway alignment parallels Williamson Creek, with the US 290/SH 71 roadway crossing the creek just east of “The Y”. Other waterways in the area include tributaries to Williamson Creek south of US 290/SH 71 and tributaries to Barton Creek north of US 290/SH 71. The APE is underlain by the Cretaceous-age Fredericksburg Group (undivided) in the east and Upper Glen Rose Limestone to the west, with some occurrences of Holocene-age alluvium along Williamson Creek (U.S. Geological Survey [USGS] 2016). Fredericksburg Group is composed of limestone (e.g., Edwards Limestone), dolomite, and chert; Upper Glen Rose Limestone is composed of limestone, dolomite, and marl; and alluvium consists of floodplain deposits with some low terrace accumulations clay, silt, sand, and gravel (USGS 2016). The chert deposits found in the Fredericksburg Group presented a good source of high-quality raw material for prehistoric tool production.

According to Natural Resources Conservation Service (NRCS) data, mapped soils are primarily in the Brackett-Rock outcrop complex (1 to 30 percent slopes), which is comprised of extremely shallow soils with limestone bedrock at or near the surface (NRCS 2016). Other soils in the APE include:

- San Saba clay on 1 to 2 percent slopes; moderately deep soils that form over limestone
- Purves silty clay on 1 to 5 percent slopes; shallow soils that form in limestone
- Volente silty clay loam on 1 to 8 percent slopes; technically deep soils that form in calcareous clayey sediments
- Crawford clay on 1 to 3 percent slopes; moderately deep soils that form in clayey sediments and are underlain by limestone bedrock
- Speck stony clay loam on 1 to 5 percent slopes; shallow soils that form in colluvium from limestone

Vegetation, Physiography, and Land use

The project is located in the Edwards Plateau ecoregion, according to the Texas Parks and Wildlife (TPWD) Ecoregion Map (TPWD 2011), derived from Gould et al. (1960). According to the TPWD’s *Vegetation Types of Texas* map and accompanying descriptions, the APE contains areas mapped as

“Live Oak-Ashe Juniper Parks” and “Live Oak-Mesquite-Ashe Juniper Parks” (Types 26a and 26b according to McMahan et al. 1984). Vegetation noted during the survey included various scrub types of native, planted, and invasive grasses, as well as juniper, oak and other hardwood trees (**Figure 8**). The proposed APE is located in the suburban area of southwest Austin known as Oak Hill. Land uses adjacent to the roadway are typically retail and commercial, interspersed with educational and religious centers and professional office buildings.

Archeological Chronology for Central Texas

The APE lies within the Central Texas archeological region, which is based on a combination of archeological patterns and geologic, geographic, climatic, pedologic, and other environmental factors (Perttula 2004). The Central Texas region is understood to include the eastern half of the Edwards Plateau, the Llano Uplift, and the portion of the Blackland Prairie that borders the Balcones Escarpment (Black 1989; Collins 2004; Prewitt 1981). As with all archeological regions, which are interpretive devices, the applicability of these boundaries may vary across periods.

Central Texas is generally considered to have a high probability for prehistoric archeological sites and materials, due in large part to the suitability and availability of native Edwards Plateau chert. This toolmaking material is typically found as large cobbles within limestone beds. The region contains thousands of chert quarrying and tool-production sites, some hundreds of acres in size (THC 2016). In addition to a rich expression of chipped stone toolmaking, the region is characterized by the near ubiquity of burned rock middens (Black 1989; Collins 2004).

Despite the distinctiveness of Central Texas burned rock middens and lithic technology, the archeological chronology typically used in the region is broadly similar to that used in the rest of Texas, and indeed throughout North America, with the first well-established human occupations occurring in the Paleoindian Period approximately 11,500 radiocarbon years before present (BP), or approximately 13,000 calendar years ago (**Table 1**).

Paleoindian artifacts and sites are common in Central Texas. The association of Paleoindian artifacts (i.e., Folsom and Clovis points) with mammoth remains led to the characterization of these people as big game hunters (Collins 2004). However, that notion is rapidly changing to a more nuanced view that Paleoindian people were more generalized hunter-gatherers with specialized technology at their disposal to allow for the hunting of big game. Central and South Texas form the southernmost extent of the Great Plains, which at times supported large herds of bison (Foster 2012; Kenmotsu and Boyd 2012a; Mauldin 2012). In addition, the Blackland Prairie supported many other mammals, including deer and antelope (Mauldin 2012).

The bulk of the prehistoric record is contained within a long Archaic Period, with recently proposed Archaic sub-periods given in **Table 2** (from Lohse et al. 2014). The Archaic is differentiated from the Paleoindian Period by increased hunting and gathering of locally available resources, diversity of material culture, and the widespread use of heated rocks for cooking, creating the classic Central Texas burned rock midden (Black 1989; Black 1998; Collins 2004; Prewitt 1981).

Table 1: Archeological Chronology for Central Texas*	
Period	Years Before Present (BP)**
Paleoindian	11,500 – 8,800
Early	11,500 – 10,000
Late	10,000 – 8,800
Archaic	8,800 – 1,200
Early	8,800 – 6,000
Middle	6,000 – 4,000
Late	4,000 – 1,200
Late Prehistoric	1,200 – 400
Early (Austin Phase)	1,200 – 800
Late (Toyah Phase)	800 – 400
Historic	400 – 50

* After Collins 2004: 113, Figure 3.9a.
 ** Based on uncalibrated radiocarbon dates, typically used in earlier archeological chronology building in Texas (see Perttula 2004:14, Note 1).

Table 2: Revised Archaic Chronology for Central Texas*	
Archaic Sub-Period	Years Before Present (BP)**
Calf Creek (Terminal Early Archaic)	5955 – 5815
Middle Archaic	5800 – 4200/4100
Late Archaic 1	4200/4100 – 3100
Late Archaic 2	3100 – 2150
Late Archaic 3	2150 – 1270
Late Archaic 4 (Terminal Late Archaic or Austin Phase)	1270 – 650

* After Lohse, Black, and Cholak 2014
 ** Based on calibrated radiocarbon dates from wood charcoal and treated bison remains; only assays that are reliably associated with diagnostic projectile points were used

During the Late Prehistoric Period (termed Terminal Late Archaic by Lohse et al. 2014), hunting and gathering continued. During the latter portion of the Late Prehistoric, a distinct shift in material culture occurs. This assemblage has been dubbed Toyah (Arnn 2012; Kenmostu and Boyd 2012b).

Documented changes in material culture include Perdiz arrow points, beveled bifacial knives, unifacial scrapers, pottery (the first time ceramics appear in Central Texas), and bison remains. The change in lithic technology at this time and the presence of bison remains at many archeological sites suggest that the material culture change was brought about by the appearance (or increased presence, or perhaps merely increased utilization) of bison, possibly indicating a focus on this particularly high-ranking resource. However, others suggest this notion is untrue, as evidenced by the utilization of other technologies (i.e., hot-rock cooking) and resources (i.e., deer, small mammal, plants, and seeds). This suggests Toyah people continued to exploit the rich environment of Central Texas, while adapting their technology to take advantage of a resource available in greater density than the preceding Early Late Prehistoric Period (Arnn 2012; Black 1989; Dering 2008; Kenmotsu and Boyd 2012b; Rush 2013).

Historic Context

The first European known to have crossed the region was Domingo Terán de los Ríos, who made an inspection tour to East Texas in 1691. When the Spanish moved their missions out of East Texas in 1730, they relocated the missions of San Francisco de los Neches, Nuestra Señora de la Purísima Concepción de los Hasinai, and San José de los Nazonis near Barton Springs. In 1827 the Mexican government granted Stephen F. Austin his "Little Colony," which was located east of the Colorado River and north and west of the Old San Antonio Road. Mina (Bastrop) became the headquarters of the colony, and Travis County developed as an offshoot of Mina. Settlers moving into the area in the early 1830s included Josiah and Mathias Wilbarger, Reuben Hornsby, Jacob M. Harrell, and John F. Webber (Smyrl 2016).

The proposed project area is located in Oak Hill, an area of southwest Travis County now incorporated into the City of Austin. Settlement of the area began as early as the mid-1830s when William Cannon obtained a large land grant from the Mexican government. However, it was not until after Texas became the 28th state that the settlement of what would become Oak Hill began. The William D. Glasscock family moved to the area in the mid-1840s. They were soon followed by other families, and by 1856 a community was established. The settlement had several names, including Live Oak Springs and Oatmanville, but it was permanently named Oak Hill before 1900 (Smyrl 2010).

The community's early economy was largely based on agriculture, focused primarily on the principal crops of pecans, cotton, and wool. Sheep and cattle ranching were also an important part of the economic base. Located along the route between Austin, Dripping Springs, and other towns to the west and southwest, the community served as an overnight stop for cattle drives going through Austin and farmers taking their products to market in Austin (Smyrl 2010).

Previous Investigations and Previously Identified Resources

A review of the Austin District PALM (Abbott and Pletka 2015) reveals that the majority (211.25 ac [85.49 ha] or 54.8 percent) of the APE falls within Map Unit 1, which has low potential for archeological resources, either shallow or deep. Approximately one quarter of the APE (107.19 ac or 27.8 percent) falls within Map Unit 2, which has low shallow potential and moderate deep potential for archeological resources. The remainder of the units have variable levels of shallow and deep

potential. A detailed breakdown of the acreage that falls into each Map Unit is included below in **Table 3** and the areas are depicted in **Figures 3a-i**.

Table 3: HPALM Units by Acreage		
Map Unit No.	Description of Potential	Acreage
0	Negligible Potential	0.86
1	Low Potential	211.25
2	Low Shallow Potential, Moderate Deep Potential	107.19
3	Low Shallow Potential, High Deep Potential	0.20
4	Moderate Shallow Potential, Low Deep Potential	9.03
5	Moderate Potential	33.10
6	Moderate Shallow Potential, High Deep Potential	7.27
7	High Shallow Potential, Low Deep Potential	0.14
8	High Shallow Potential, Moderate Deep Potential	5.88
9	High Potential	10.57

A search of the *Texas Archeological Sites Atlas* (Atlas) maintained by the THC and the Texas Archeological Research Laboratory (TARL) was conducted in order to identify archeological sites, historical markers (Recorded Texas Historic Landmarks or RTHLs), properties or districts listed on the NRHP, SALs, cemeteries, or other cultural resources that may have been previously recorded in or near the APE, as well as previous surveys undertaken in the area. A one-kilometer search radius around the project APE was included to provide insight into the types of known and potential historic properties that may be impacted by the project (**Figures 2a-f**).

According to Atlas survey coverage data (THC 2016), US 290 was surveyed for TxDOT (at that time known as the Texas Department of Highways and Public Transportation or TDHPT) in the 1980s. More recent follow-up work was conducted in 2006 by GTI Environmental and PBS&J (now Atkins North America) for additional right-of-way at “The Y” (Ellis et al. 2009). Not all portions of the APE that are known to have been surveyed are depicted in Atlas data; this includes portions of SH 71 and US 290 that were surveyed in the mid-1980s (Budd 2005).

There are many other surveys adjacent to the APE and within the 1-km (0.62-mi) study area; these surveys include:

- A survey performed in 2007 by Geo Marine, Inc. (GMI; now Versar, Inc.) of SH 71 just west of the current terminus of the APE on SH 71
- Multiple surveys carried out for the U.S. Department of Housing and Urban Development (HUD) in the 1970s and 1980s (not all are mapped on the Atlas; some are discussed in site forms only)
- Multiple small area surveys along US 290 and SH 71 intersection (e.g., small GTI Environmental projects presented in Ellis et al. 2009)

There are 54 archeological sites within the 1-km (0.62-mi) study area (including four within the APE, which are highlighted in gray below in **Table 4**), 6 cemeteries, and 1 historical marker (THC 2016). All 61 resources are listed below in **Table 4** and depicted in **Figures 2a-2f**; resources that fall into multiple categories (e.g., a cemetery may also have a trinomial) are listed on one line with all corresponding categories included for clarity.

Table 4: Archeological Sites Within 1 km Buffer Zone			
Resource Type	Trinomial and/or Name	Description / Additional Information	Eligibility Determination
Archeological Site	41TV122	Lithic scatter (surface only?) consisting of flakes and cores; no diagnostics	Unknown
Archeological Site	41TV123	Four burned rock middens and lithic scatter including projectile points	Unknown
Archeological Site	41TV170	Reported to be a rockshelter; TARL Key Site Card states site is 500 feet from Lake Travis; presumed to be mis-mapped	Unknown/Outside Study Area
Archeological Site	41TV263	Burned rock midden and sparse lithic scatter	Unknown
Archeological Site	41TV264	Two burned rock middens and sparse lithic scatter	Ineligible within right-of-way
Archeological Site	41TV267	Limestone quarry for interior sections of Capitol building and other buildings; lithic scatter also present	Unknown
Archeological Site	41TV274	Burned rock midden and sparse lithic scatter; Archaic Period; site adjacent to spring	Unknown
Archeological Site	41TV279	Burned rock and lithic scatter, primarily on surface	Unknown
Archeological Site	41TV354	Possible lithic quarry; lithic scatter with no diagnostics	Unknown
Archeological Site	41TV355	Possible lithic quarry; lithic scatter with no diagnostics	Unknown
Archeological Site	41TV356	Possible lithic quarry; lithic scatter with no diagnostics	Unknown
Archeological Site	41TV649	Burned rock midden, lithic scatter, and historic artifact scatter	Unknown

Table 4: Archeological Sites Within 1 km Buffer Zone			
Resource Type	Trinomial and/or Name	Description / Additional Information	Eligibility Determination
Archeological Site	41TV659	Burned rock midden and lithic scatter including projectile points	Unknown
Archeological Site	41TV662	Remnants of historic-age limestone-constructed residence; includes chimney	Unknown
Archeological Site	41TV685/Jim Gaines House	Limestone house constructed ca. 1930; intact at time of survey	Unknown
Archeological Site	41TV686/Perry Ranch Building Site	Remnants of historic-age ranch complex; many of the structures/buildings were not intact; residence was reportedly moved from Lake Austin in 1920	Ineligible within right-of-way
Archeological Site	41TV782/The Real Estate Site	Remnants of historic-age residence; includes stone fence, well, and fruit trees	Unknown
Archeological Site	41TV785/Hoot Owl Site	Sparse lithic scatter (primarily on surface) and "primitive" roadway	Unknown
Archeological Site	41TV787/Entre Site	Lithic scatter (primarily surface) including projectile points; Archaic Period	Unknown
Archeological Site	41TV788/Palo Alto Site	Lithic scatter including one Nolan projectile point; Archaic Period	Unknown
Archeological Site	41TV789/The Trip Site	Lithic scatter with possible remains of prehistoric structures; unknown if limestone placement was purposeful or when limestone was moved	Unknown
Archeological Site	41TV790/High Water Site	Sparse lithic scatter (primarily on surface)	Unknown
Archeological Site	41TV791	Roberts family cemetery; granite and limestone headstones	Unknown
Archeological Site	41TV846/The Last Laugh Site	Burned rock midden and lithic scatter including projectile points	Unknown

Table 4: Archeological Sites Within 1 km Buffer Zone			
Resource Type	Trinomial and/or Name	Description / Additional Information	Eligibility Determination
Archeological Site	41TV889/Double Plane Tree Site	Lithic scatter, primarily on surface	Unknown
Archeological Site	41TV890	None available	Unknown
Archeological Site	41TV903	Prehistoric lithic procurement site	Unknown
Archeological Site	41TV904	Prehistoric lithic scatter, primarily on surface	Unknown
Archeological Site	41TV905	Sparse prehistoric lithic scatter on surface	Unknown
Archeological Site	41TV906	Sparse prehistoric lithic scatter on surface	Unknown
Archeological Site	41TV907	Prehistoric lithic scatter, primarily on surface	Unknown
Archeological Site	41TV908	Prehistoric lithic scatter, primarily on surface	Unknown
Archeological Site	41TV986	Prehistoric lithic scatter, primarily on surface	Unknown
Archeological Site	41TV1046/Canyon Spring Site	Prehistoric lithic scatter, primarily on surface; spring at site lined with concrete suggesting historic use	Unknown
Archeological Site	41TV1047/Deer Skull Site	Sparse prehistoric lithic scatter on surface; three historic farmsteads included during later revisit	Unknown
Archeological Site	41TV1048/Stone Wall	Historic rock wall	Unknown
Archeological Site	41TV1078	Sparse prehistoric lithic scatter on surface	Unknown
Archeological Site	41TV1170/Travis County #1	Sparse prehistoric lithic scatter on surface	Unknown
Archeological Site	41TV1171/Travis County #2	Sparse prehistoric lithic scatter on surface	Unknown
Archeological Site	41TV1203	Prehistoric lithic scatter on surface	Unknown
Archeological Site	41TV1204/Buaas House	Historic home with outbuildings	Unknown
Archeological Site	41TV1295	Historic tenant house	Unknown
Archeological Site	41TV1296	Historic home and artifact scatter	Unknown
Archeological Site	41TV1297	Possible historic age concrete machinery mounts	Unknown

Table 4: Archeological Sites Within 1 km Buffer Zone			
Resource Type	Trinomial and/or Name	Description / Additional Information	Eligibility Determination
Archeological Site	41TV1336	Isolated projectile point (Pedernales)	Unknown
Archeological Site	41TV1594	Prehistoric lithic scatter and historic artifact scatter	Unknown
Archeological Site	41TV1602	Historic artifact scatter, primarily on surface	Unknown
Archeological Site	41TV1620	Burned rock midden and lithic scatter; site had evidence of looting	Unknown
Archeological Site	41TV1686	None available; this trinomial may correspond with the Dittmore-Bell-Springs Bassford Cemetery (listed below)	Unknown
Archeological Site	41TV1728	Prehistoric site (only description available)	Ineligible within right-of-way
Archeological Site	41TV2194	Prehistoric lithic scatter, primarily on surface	Ineligible within right-of-way
Archeological Site	41TV2678	None available	Unknown
Cemetery	Dittmore-Bell-Springs Bassford or Old Bee Caves Road Cemetery (TV-C043)	In use from late nineteenth to early twentieth century; nearly 30 burials; headstones are present on some burials	This cemetery may correspond with trinomial 41TV1686
Cemetery	Forest Oaks Memorial Park (TV-C035)	Perpetual care cemetery maintained by Cook Walden	Unknown
Archeological Site / (Historic Texas) Cemetery	41TV1678/ Glasscock II (TV-C002)	In use from late nineteenth to early twentieth century; approximately 10 burials; fence and grounds well maintained by current property owner	Unknown
Cemetery	Grumbles-Fowler IV (TV-C131)	In use from late nineteenth to early twentieth century; approximately 10 burials; fence and grounds well maintained by current property owner	Unknown
Archeological Site / Cemetery	41TV1677/Oak Hill (TV-C036)	In use from late nineteenth to present; approximately 370 burials; fence and grounds well maintained	Unknown

Table 4: Archeological Sites Within 1 km Buffer Zone			
Resource Type	Trinomial and/or Name	Description / Additional Information	Eligibility Determination
Cemetery	Unknown (TV-0195)	Little information available; mapped in area now in use as baseball fields	Unknown
Official Texas Historical Marker	Oak Hill	First settlers arrived in 1840s and founded Live Oak Springs; town known as Oak Hill since 1900; early industries were focused on limestone quarrying	N/A

According to Atlas data, two historical markers are located within the study area: Oak Hill and Old Rock Store (THC 2016). The Oak Hill marker is located immediately south of the US 290 and SH 71 intersection, approximately 1,200 ft (365.8 m) east of the westernmost point of “The Y” of US 290/SH 71. The marker commemorates the establishment of the founding of Live Oak Springs/Oak Hill, and is associated with the concrete and brick improvements in the surrounding area (**Figures 9, 10**).

The Old Rock Store marker is located immediately north of US 290/SH 71, approximately 390 ft (118.9 m) east of the intersection of US 290/SH 71 and Williamson Creek. The marker commemorates the construction of the stonework building in 1898 by James Andrew Patton, a local civic leader and postmaster. The structure is currently occupied by Austin Pizza Garden (**Figure 11**).

A review of the available historic aerials (from Nationwide Environmental Title Research or NETR) as well as more recent Google Earth images (viewed through Google Earth Pro) along with historic topographic maps was conducted. The earliest available topographic map (1896) indicates a structure just west of “The Y.” This structure does not appear on topographic maps after 1943 and, therefore, appears to have been moved or destroyed (NETR 2016). The 1896 map also shows the alignments of roadways that roughly follow the footprints of US 290, SH 71, and Old Bee Caves Road. Forest Oaks Memorial Park and the Oak Hill Cemetery first appear on the 1956 topographic map (NETR 2016). The 1960 USGS topographic map indicates a race track and multiple structures just east of “The Y” as well as numerous structures along Old Bee Caves Road. Historic aerial photographs of “The Y” show the structures that may correspond to those on the topographic map (years reviewed, 1954, 1964, 1973, 1995, 2004, and 2012). In addition to potential historic resources at “The Y”, a few structures were noted along SH 71 on the 1960 topographic map, but recent commercial development shown in aerials from 2008, 2010, 2012, and 2015 appears to have removed or impacted these structures.

3. RESEARCH GOALS AND METHODS

Purpose of the Research

The present study was carried out to accomplish three major goals:

1. To identify all historic and prehistoric archeological resources located within the APE defined in Chapter One;
2. To perform a preliminary evaluation of the identified resources' potential for inclusion on the NRHP and/or for designation as a SAL (typically performed concurrently); and
3. To make recommendations about the need for further research concerning the identified resources based on the preliminary NRHP/SAL evaluation and with guidance on methodology and ethics from the THC and CTA.

Section 106 of the National Historic Preservation Act

Section 106 of the NHPA of 1966, as amended (16 USC 470; 36 CFR 800), directs federal agencies and entities using federal funds to “take into account the effect of their undertakings on historic properties” (36 CFR 800.1a), with “historic property” defined as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places [NRHP] maintained by the Secretary of the Interior” (36 CFR 800.16).

In order to determine the presence of historic properties (with this phrase understood in its broad Section 106 sense) an APE is first delineated. The APE is the area in which direct impacts (and in a federal context, indirect impacts as well) to historic properties may occur. Within the APE, resources are evaluated to determine whether they are eligible for inclusion on the NRHP, and to determine the presence of any properties that are already listed on the NRHP. To determine whether a property is significant, cultural resource professionals and regulators evaluate the resource using these criteria:

- . . . The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association and
- that are associated with events that have made a significant contribution to the broad patterns of our history; or
- that are associated with the lives of persons significant in our past; or
- that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- that have yielded or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Note that significance and NRHP eligibility are determined by two primary components: integrity *and* one of the four types of association and data potential listed under 36 CFR 60.4(a-d). The criterion

most often applied to archeological sites is the last—and arguably the broadest—of the four; its phrasing allows regulators to consider a broad range of research questions and analytical techniques that may be brought to bear (36 CFR 60.4[d]).

Occasionally, certain resources fall into categories which require further evaluation using one or more of the following Criteria Considerations. If a resource is identified and falls into one of these categories, the Criteria Considerations listed below may be applied in conjunction with one or more of the four National Register criteria listed above:

- A religious property deriving primary significance from architectural or artistic distinction or historical importance, or
- A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or
- A birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life, or
- A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or
- A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or
- A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance, or
- A property achieving significance within the past 50 years if it is of exceptional importance (36 CFR 60.4).

Resources that are listed on the NRHP or are recommended eligible are treated the same under Section 106, and are generally treated the same at the state level as well.

After cultural resources within the APE are identified and evaluated, effects evaluations are completed to determine whether the proposed project has no effect, no adverse effect, or an adverse effect on these resources. Effects are determined by assessing the impacts that the proposed project will have on the characteristics that make the property eligible for listing on the NRHP as well as its integrity. Types of potential adverse effects considered include physical impacts, such as the destruction of all or part of a resource; property acquisitions that adversely impact the historic setting of a resource, even if built resources are not directly impacted; noise and vibration impacts evaluated according to accepted professional standards; changes to significant viewsheds; and cumulative effects that may occur later in time. If the project will have an adverse effect on cultural resources, measures can be taken to avoid, minimize, or mitigate this adverse effect. In some instances, changes to the proposed project can be made to avoid adverse effects. In other cases, adverse effects may be unavoidable, and mitigation to compensate for these impacts will be proposed and agreed upon by consulting parties.

Antiquities Code of Texas

Because the project is currently owned and funded by TxDOT, an agency of the State of Texas, the project is subject to the Antiquities Code of Texas (9 TNRC 191), which requires consideration of effects on properties designated as—or eligible to be designated as—SALs, which are defined as:

... sites, objects, buildings, structures and historic shipwrecks, and locations of historical, archeological, educational, or scientific interest including, but not limited to, prehistoric American Indian or aboriginal campsites, dwellings, and habitation sites, aboriginal paintings, petroglyphs, and other marks or carvings on rock or elsewhere which pertain to early American Indian or other archeological sites of every character, treasure imbedded in the earth, sunken or abandoned ships and wrecks of the sea or any part of their contents, maps, records, documents, books, artifacts, and implements of culture in any way related to the inhabitants, prehistory, history, government, or culture in, on, or under any of the lands of the State of Texas, including the tidelands, submerged land, and the bed of the sea within the jurisdiction of the State of Texas. (13 TAC 26.2)

Rules of practice and procedure for the evaluation of cultural resources as SALs and/or for listing on the NRHP, which is also explicitly referenced at the state level, are detailed at 13 TAC 26. An archeological site identified on lands owned or controlled by the State of Texas may be of sufficient significance to allow designation as a SAL if at least one of the following criteria applies:

- the site has the potential to contribute to a better understanding of the prehistory and/or history of Texas by the addition of new and important information;
- the site's archeological deposits and the artifacts within the site are preserved and intact, thereby supporting the research potential or preservation interests of the site;
- the site possesses unique or rare attributes concerning Texas prehistory and/or history;
- the study of the site offers the opportunity to test theories and methods of preservation, thereby contributing to new scientific knowledge;
- the high likelihood that vandalism and relic collecting has occurred or could occur, and official landmark designation is needed to insure [sic] maximum legal protection, or alternatively further investigations are needed to mitigate the effects of vandalism and relic collecting when the site cannot be protected (13 TAC 26.10).

For archeological resources, the state-level process requires securing and maintaining a valid Texas Antiquities Permit from the THC, the lead State agency for Antiquities Code compliance, throughout all stages of investigation, analysis, and reporting.

Survey Methods and Protocols

With the above goals and guidelines in mind, CMEC personnel conducted an intensive survey on June 1-3 and July 14-15, 2016, per Category 2 under 13 TAC 26.20 and using the definitions in 13 TAC 26.5. Field methods and strategies comply with the requirements of 13 TAC 26.20, as elaborated by the THC and the CTA.

Only the proposed new right-of-way and easements (as defined in June 2016) were walked and shovel tested, since the existing right-of-way has been previously surveyed and received THC concurrence on recommendations for no additional investigation (TxDOT 2016). The new right-of-way and easements (respectively displayed in neon green and purple) are depicted in **Figures 2a-f**.

Shovel tests were excavated in areas identified as Map Units 1 and 2a, where ground surface visibility was below 30 percent, soils appeared to be of sufficient depth to contain subsurface cultural materials, and/or previous disturbance appeared minimal. All shovel tests were excavated in natural levels to subsoil or 60 cm (23.6 in), whichever was encountered first. All excavated matrix was screened through 0.635-centimeter (cm) or 0.25-inch (in) hardware cloth as allowed by moisture and clay content. Compact and clayey soil was crumbled/sorted by hand, trowel, and/or shovel point. Deposits were described using conventional texture classifications and Munsell color designations, and all observations were recorded on standard CMEC shovel test forms.

Artifacts observed on the ground surface were noted, described, photographed, and returned to their original contexts. At the time of the survey, a majority of landowner permission was denied. In these areas, a reasonable and good-faith effort was made to document the proposed right-of-way from the edge of the existing right-of-way. Relevant field observations for all new sites discovered and previously identified sites revisited were transferred to TexSite forms and submitted to TARL for official recording and integration into the trinomial system. All other materials (notes, photographs, administrative documents, and other project data) generated from this work will be curated at the Center for Archaeological Studies (CAS) at Texas State University where they will be made permanently available to future researchers as per 13 TAC 26.16-17.

4. RESULTS AND RECOMMENDATIONS

General Field Results

On June 1-3 and July 14-15, 2016, CMEC personnel conducted an intensive archeological survey of all proposed right-of-way for which right-of-entry was permitted. At the time of survey, this included approximately 11.30 ac or 16.05 percent of the proposed 70.39-ac right-of-way and easements. The existing right-of-way was subject to investigation as well, primarily resulting in photographic and written documentation of extensive modern disturbance. Pedestrian inspection was supplemented with shovel test excavation in all areas that exhibited minimal surface disturbance (**Figures 4a-g** and **Table 5**). An additional 12.70 ac (5.14 ha) of proposed right-of-way for which right-of-entry was not permitted was visible from the edge of the existing right-of-way.

In general, the APE consists of a heavily disturbed roadway, which traverses rolling limestone hills. Ground surface visibility was frequently high (greater than 50% percent) due to sparse vegetation, recent construction-related disturbance, and exposed limestone bedrock (**Figures 7, 8, 12, and 13**). Much of the proposed right-of-way has been severely impacted by modern commercial development, paved and gravel driveways, drainage ditches and culverts, previous roadway construction, maintenance, and utility installations (electric, gas, telecommunication) that parallel and/or cross the right-of-way (**Figures 14 and 15**). Significant portions of the existing US 290 roadway are cut below grade (**Figure 12**) into the limestone bedrock, precluding the possibility of encountering in situ cultural material.

A total of 65 shovel tests were excavated where no obvious impacts and disturbances were observed (**Table 5**).

ST #	Depth (cmbs)	Description/ Notes
1	0-15	Very dark gray (10YR 3/1) clay loam with 1% root and 5% limestone and chert gravel inclusions
	15-20	Dark grayish brown (10YR 4/2) clay loam with 10% limestone gravel inclusions
2	0-15	Very dark gray (10YR 3/1) gravel clay loam with 1% rootlets and 5-10% limestone and chert gravel inclusions
	15-20	Dark grayish brown (10YR 4/2) clay loam with 10% limestone gravel inclusions
3	0-15	Very dark gray (10YR 3/1) gravel clay loam with 1% rootlets and 5-10% limestone and chert gravel inclusions
	15-20	Dark grayish brown (10YR 4/2) clay loam with 10% limestone gravel inclusions

4	0-15	Very dark gray (10YR 3/1) gravel clay loam with 1% rootlets and 5-10% limestone and chert gravel inclusions
	15-20	Dark grayish brown (10YR 4/2) clay loam with 10% limestone gravel inclusions; modern green glass and trash were observed in this level
5	0-20	Very dark grayish brown (10YR 3/2) clay loam with 5-10% degrading limestone gravel inclusions
6	0-20	Very dark grayish brown (10YR 3/2) clay loam with 5-10% degrading limestone gravel inclusions
7	0-20	Very dark gray (10YR 3/1) gravel clay loam with 5-10% limestone gravel inclusions
8	0-15	Brown (10YR 4/3) clay loam with 5% limestone gravel inclusions
9	0-25	Brown (10YR 4/3) clay loam with 25% limestone gravel inclusions
10	0-20	Brown (10YR 4/3) clay loam with 10% limestone gravel inclusions
11	0-20	Brown (10YR 4/3) clay loam with 10% limestone gravel inclusions
12	0-15	Dark yellowish brown (10YR 4/4) clay loam with 10% limestone gravel inclusions
13	0-30	Brown (10YR 4/3) clay loam with 10% limestone gravel inclusions
14	0-15	Brown (10YR 4/3) clay loam with 10% limestone gravel inclusions
15	0-15	Brown (10YR 4/3) clay loam with 25% limestone gravel inclusions
16	0-15	Brown (10YR 4/3) clay loam with 10% limestone gravel inclusions
17	0-20	Brown (10YR 4/3) clay loam with 25% limestone gravel inclusions
18	0-15	Brown (10YR 4/3) clay loam with 10% limestone gravel inclusions
	15-20	Strong brown (7.5YR 4/6) clay loam with 25% limestone gravel inclusions
19	0-15	Brown (10YR 4/3) clay loam with 15% limestone gravel inclusions
20	0-10	Very dark grayish brown (10YR 3/2) clay loam with 15% limestone gravel inclusions
21	0-27	Brown (10YR 4/3) clay loam with 25-30% limestone gravel inclusions

22	0-15	Brown (10YR 4/3) clay loam with 15% limestone gravel inclusions
23	0-15	Brown (10YR 4/3) clay loam with 5% limestone gravel inclusions
24	0-10	Dark yellowish brown (10YR 4/4) clay loam with 10% limestone gravel inclusions
25	0-10	Very dark grayish brown (10YR 3/2) clay loam with 10% limestone gravel inclusions
26	0-10	Dark yellowish brown (10YR 4/4) clay loam with 5% limestone gravel inclusions
27	0-10	Dark yellowish brown (10YR 4/4) clay loam with 5% limestone gravel inclusions
28	0-35	Brown (10YR 4/3) silty clay loam with 5% limestone gravel inclusions
	35-55	Brown (7.5YR 5/4) silty clay loam; water table observed at 55 cmbs
29	0-10	Dark gray (10YR 4/1) clay loam with 25% limestone gravel inclusions
30	0-30	Dark yellowish brown (10YR 4/4) clay loam with 25% limestone gravel inclusions
31	0-15	Dark yellowish brown (10YR 4/4) clay loam with 5% limestone gravel inclusions
32	0-30	Dark grayish brown (10YR 4/2) silty clay loam with 25% limestone gravel inclusions
33	0-5	Dark grayish brown (10YR 4/2) silty clay loam with 50% calcium carbonate inclusions
34	0-30	Dark grayish brown (10YR 4/2) clay loam with 35% limestone gravel inclusions
35	0-15	Dark grayish brown (10YR 4/2) clay loam with 5% limestone gravel inclusions
	15-30	Dark grayish brown (10YR 4/2) silty clay loam with 50% limestone gravel inclusions
36	0-10	Very dark grayish brown (10YR 4/2) clay loam with 50% limestone gravel inclusions

37	0-10	Very brown (10YR 5/3) clay loam with 60% limestone gravel inclusions
38	0-15	Very brown (10YR 5/3) clay loam with 50% limestone gravel inclusions
39	0-15	Very dark gray (10YR 3/1) clay loam with 40% limestone gravel inclusions
40	0-20+	Firm/friable very dark grayish brown (10YR 3/2) clay loam with degraded limestone that increase with depth
41	0-30+	Very dark grayish brown (10YR 3/2) compact sticky clay with 3% root and 10-20% limestone gravel inclusions
42	0-15	Firm/friable very dark grayish brown (10YR 3/2) clay with 25% root and 30% limestone gravel inclusions
43	0-25	Firm/friable very dark gray (10YR 3/1) clay loam; moderate to weak grade with 5% root and 5% limestone gravel inclusions
44	0-10	Friable very dark gray (10YR 3/1) clay loam with many roots and less than 50% limestone gravel inclusion
45	0-10	Friable very dark gray (10YR 3/1) clay loam with many roots and less than 50% limestone gravel- degrading bedrock inclusion
46	0-10	Friable very dark gray (10YR 3/1) clay loam with many roots and less than 50% limestone gravel-degrading bedrock inclusion
47	0-15	Very dark grayish brown (10YR 3/2) clay loam with a 10-15% limestone gravel-degrading bedrock inclusion
48	0-15	Very dark grayish brown (10YR 3/2) clay loam with a 10-15% limestone gravel-degrading bedrock inclusion
49	0-15	Very dark grayish brown (10YR 3/2) clay loam with a 10-15% limestone gravel -degrading bedrock inclusion
50	0-15	Friable, weak grade, very dark grayish brown (10YR 3/2) clay loam with a 10-15% limestone gravel-degrading bedrock inclusion
51	0-15	Friable, weak grade, very dark grayish brown (10YR 3/2) clay loam with a 10-15% limestone gravel-degrading bedrock inclusion
52	0-10	Friable, weak grade, very dark grayish brown (10YR 3/2) clay loam with a 20% limestone gravel-degrading bedrock inclusion
53	0-15	Friable, weak grade, very dark grayish brown (10YR 3/2) clay loam with a 40% limestone gravel-degrading bedrock inclusion

54	0-5	Friable, weak grade, very dark grayish brown (10YR 3/2) clay loam with a 40% limestone gravel-degrading bedrock inclusion
55	0-10	Friable, moderate grade, light gray (10YR 7/2) silty clay loam with a 20% limestone gravel inclusion
56	0-10	Friable light gray (10YR 7/2) silty clay loam with a 30% limestone gravel inclusion
57	0-7	Friable light gray (10YR 7/2) clay loam with few roots, and a 20% limestone gravel inclusion
58	0-10	Very dark gray (10YR 3/1) clay loam with a less than 30% limestone gravel inclusion
59	0-15	Friable, weak grade, very dark grayish brown (10YR 3/2) clay loam with a 30% limestone gravel-degrading bedrock inclusion
60	0-10	Friable, weak grade, very dark grayish brown (10YR 3/2) clay loam with a 30% limestone gravel-degrading bedrock inclusion
61	0-8	Very dark grayish brown (10YR 3/2) clay loam with a 30% limestone gravel-degrading bedrock inclusion. Asphalt gravels cover the surrounding area
62	0-5	Friable, weak grade, light gray (10YR 7/2) silty loam with a less than 50% limestone gravel inclusion. Imported gravels cover the surrounding ground surface.
63	0-5	Friable, weak grade, light gray (10YR 7/2) silty loam with a less than 50% limestone gravel inclusion. Imported gravels cover the surrounding ground surface
64	0-15	Friable, weak grade, light gray (10YR 7/2) silty loam with a less than 50% limestone gravel inclusion. Imported gravels cover the surrounding ground surface
65	0-10	Friable, moderate grade, very dark gray (10YR 3/1) clay loam with a less than 30% limestone gravel inclusion.

Soils were relatively similar in all tested areas, consisting of friable, moderate grade, very dark gray (10YR 3/1) clay loam with high limestone gravel content. Most shovel tests terminated at limestone bedrock at a depth of approximately 20 cmbs (**Figure 16** and **Table 5**).

The vegetation and soils in the area immediately north of Williamson Creek and northwest of the intersection of William Cannon and US 290/SH 71 are markedly different than the remainder of the APE. This area is still relatively undeveloped and remains covered in tall grasses with mixed oaks and

brush, permitting less than 20 percent ground surface visibility at the time of survey (**Figure 17**). All shovel tests located in this area contained firm, moderate grade, very dark grayish brown (10YR 3.2) clay from 0-30 cmbs, underlain by degraded limestone bedrock. No cultural material was encountered.

In addition to the proposed roadway construction, project designs include two detention pond locations to the north and south of SH 71 (**Figure 4g**). Right-of-entry was permitted to a portion of the southwestern detention pond located on the south side of SH 71, north of the LifeAustin Church. This proposed pond area has a small, bridged drainage running through the central portion, and the surrounding area has been partially cleared and converted into a disc golf course (**Figures 18, 19**). All shovel tests excavated in this area were negative for cultural material, and contained friable, moderate grade, very dark gray (10YR 3/1) clay loam with high gravel content from 0-12 cmbs, terminating at limestone bedrock.

Two new archeological sites (41TV2516, 41TV2517) were documented as a result of the investigation. Site 41TV2516 is a sparse prehistoric lithic scatter that was encountered on the sloping and modified north shoulder of US 290, approximately 550 m (1,800 ft) west of “The Y” and 70 m (230 ft) east of Convict Hill Road (**Figures 4c, 5, and 19**). The site consists of five chert flakes and one chert core that were encountered on the ground surface between the paved roadway and a small, unnamed tributary to Williamson Creek (**Figures 20 and 21**). None of the artifacts encountered are temporally diagnostic and no cultural features were observed. Vegetation in the site area is limited to short grasses that were planted subsequent to recent shoulder modification (visible in 2016 Google Earth imagery). Due to extensive modification of the general area and high surface visibility, two shovel tests were excavated, both of which were negative for buried cultural material and encountered limestone bedrock at a depth of 20 cmbs (**Table 5**). As defined by the extent of the surface scatter, the site measures 50 m E/W by 15 m N/S and the portion of site 41TV2516 documented within the existing right-of-way is not considered eligible for listing as a SAL or on the NRHP based on the paucity of cultural material, absence of temporally diagnostic artifacts or cultural features, shallow bedrock, and extensive disturbance noted. Right-of-entry was not available for the property adjacent to site 41TV2516 at the time of survey. Investigation of this portion of proposed right-of-way is recommended when permission is obtained in order to document any extension of cultural material or confirm the current site boundary.

Site 41TV2517 is another prehistoric lithic scatter, identified on the south side of US 290 roughly 300 m (980 ft) west of “The Y” and directly across from Oak Meadow Drive (**Figures 4c, 6, and 21**). Approximately 10 artifacts were observed on the ground surface, including include broken chert cobbles and cores, none of which were temporally diagnostic (**Figures 22 and 23**). The site surface is primarily barren of vegetation and covered in limestone gravel. A total of nine shovel tests were excavated across site 41TV2517, all of which were negative for buried cultural material and terminated at limestone bedrock at depths of 10–15 cmbs. As defined by the extent of surface artifacts, the site measures 44 m E/W by 56 m N/S (144.3 ft by 183.7 ft). No additional investigation is recommended and site 41TV2517 is not considered eligible for listing as a SAL or on the NRHP based on the paucity of cultural material, absence of temporally diagnostic artifacts or cultural features, shallow bedrock, and extensive disturbance noted.

No cultural material was observed within the existing right-of-way at the locations of previously documented sites 41TV122, 41TV279, and 41TV2194 (**Figures 4c, and 4e**). Right-of-entry was not

permitted to the parcel within which site 41TV274 is plotted, however, the location specified in the site form is inconsistent with the mapped location (**Figure 4c**). Specifically, the site form places the site location at Convict Hill Road, near an old spring. The plotted location is on a limestone ridgetop which has been truncated by the deep US 290 road cut, west of William Cannon Road (**Figure 24**). The existing right-of-way at site 41TV2194 is also cut below grade and no artifacts were noted, however, most of the site area was inaccessible at the time of survey. Additional investigation commensurate with the level of integrity and/or disturbance since initial documentation is recommended in these areas when right-of-entry is obtained.

Summary and Recommendations

On behalf of TxDOT and in accordance with Antiquities Code of Texas (9 TNRC 191) and Section 106 of the National Historic Preservation Act (NHPA), as amended (16 USC 470; 36 CFR 800), CMEC conducted intensive archeological investigation of proposed improvements to US 290 and SH 71 roughly centered on “The Y” in Oak Hill. CMEC’s intensive investigations indicate little to no potential for encountering intact archeological deposits within the existing right-of-way or accessible portions of proposed right-of-way as a result of extensive modern disturbance. Disturbances caused by roadway construction and maintenance activities, utility installation, commercial, and residential development were noted throughout the APE.

Two new archeological sites, 41TV2516 and 41TV2517, were documented within the existing US 290 right-of-way. Both sites are sparse scatters of non-diagnostic lithic artifacts that are limited to the ground surface in heavily disturbed areas immediately adjacent to the US 290 roadway. No cultural features were encountered on either site. No evidence was found of preserved deposits with a high degree of integrity; associations with distinctive architectural and material culture styles; rare materials and assemblages; the potential to yield data important to the study of preservation techniques and the past in general; or potential attractiveness to relic hunters (13 TAC 26.10; 36 CFR 60.4). Neither 41TV2516 nor 41TV2517 is recommended as eligible for listing as a SAL or on the NRHP as documented within the existing TxDOT right-of-way. Based on the extensive disturbance noted, no additional archeological investigation is recommended for the existing TxDOT right-of-way (313.64 ac or 126.93 ha) or surveyed portions (24.00 ac or 9.71 ha) of proposed right-of-way prior to construction activities. However, CMEC does recommend the completion of pedestrian inspection with subsurface testing as needed for the 46.39 ac (18.77 ha) of proposed right-of-way that was not accessible or observable from the existing right-of-way at the time of survey (**Figures 23a-g**). This acreage includes the areas of previously documented sites 41TV274, 41TV2194, and adjacent to newly documented site 41TV2516.

No artifacts were collected, therefore, only project records will need to be curated per TAC 26.16 and 26.17. Project records will be curated at CAS, where they will be made permanently available to future researchers. If any unanticipated cultural materials or deposits are found at any stage of clearing, preparation, or construction, the work should cease in that area and TxDOT personnel should be notified immediately.

The Texas Historical Commission (THC) concurred with the findings of this report on January 12, 2017.



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5. FIGURES

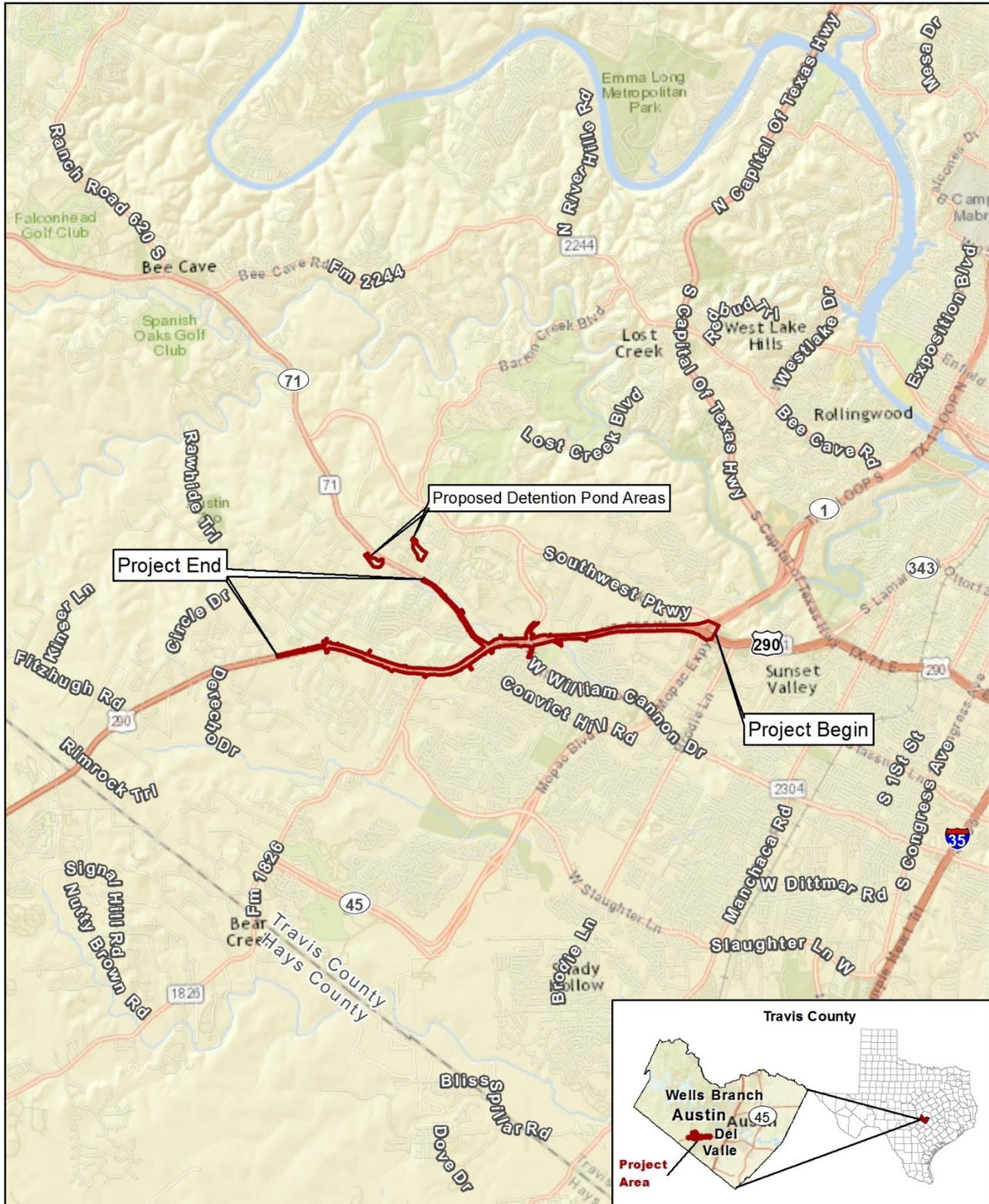


Figure 1. Project Location (Road Base)
 Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Project Location

	0 2 Miles 0 3 Kilometers
Prepared for: TxDOT	1 in = 2 miles
Basemap Source: ESRI (2016)	Scale: 1:126,720
CSJ: 0013-08-060 and 0700-03-077	Date: 11/10/2016

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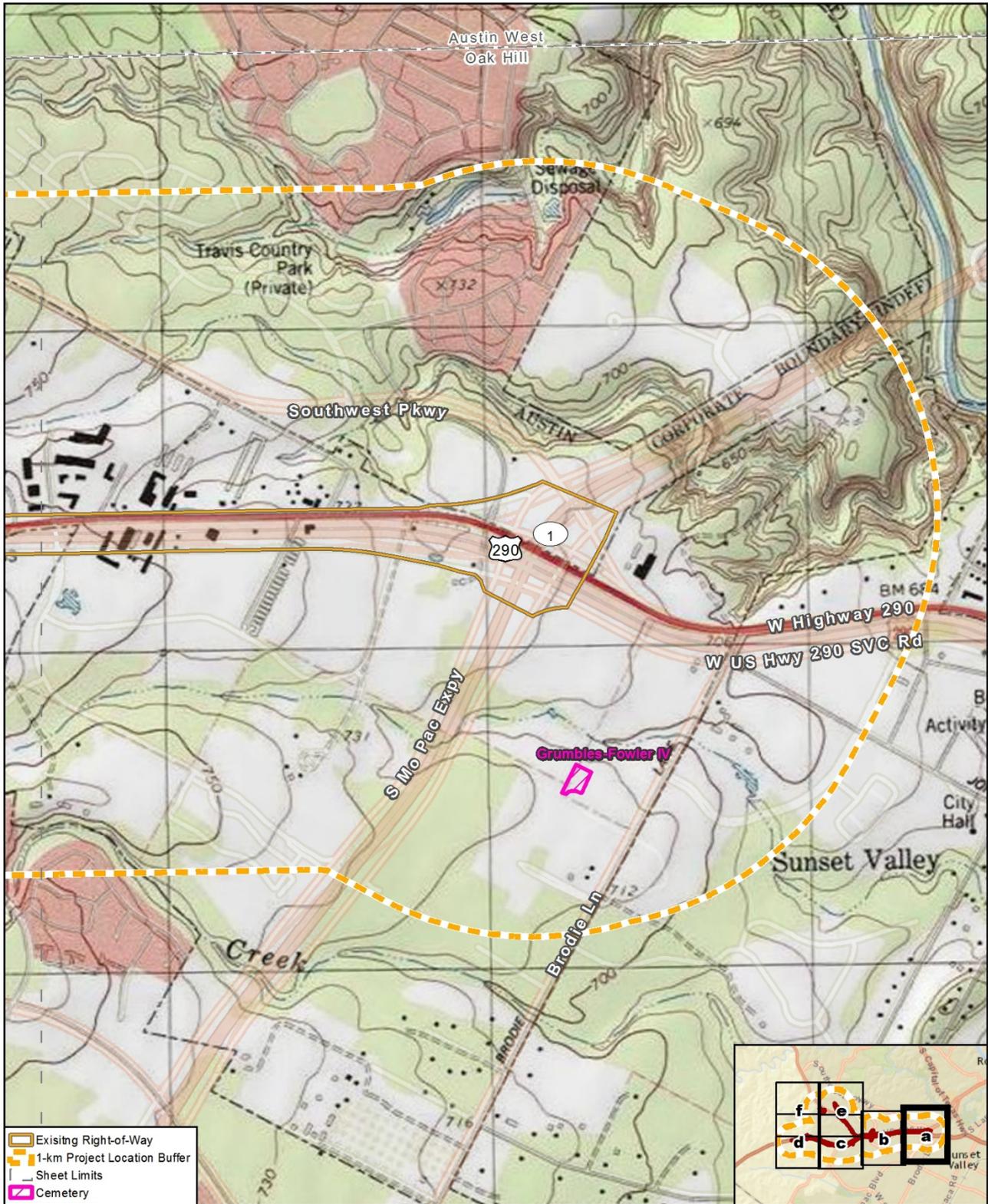


Figure 2a. Archeological APE

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Topographic Source: USGS Austin West (1988), Bee Cave (1986), Oak Hill (1988), and Signal Hill, Texas (1986) 7.5' Quadrangles
 Data Sources: THC (2015), TARL (2015)

	0	1,500 Feet
	0	400 Meters
Prepared for: TxDOT	1 in = 1,500 feet	
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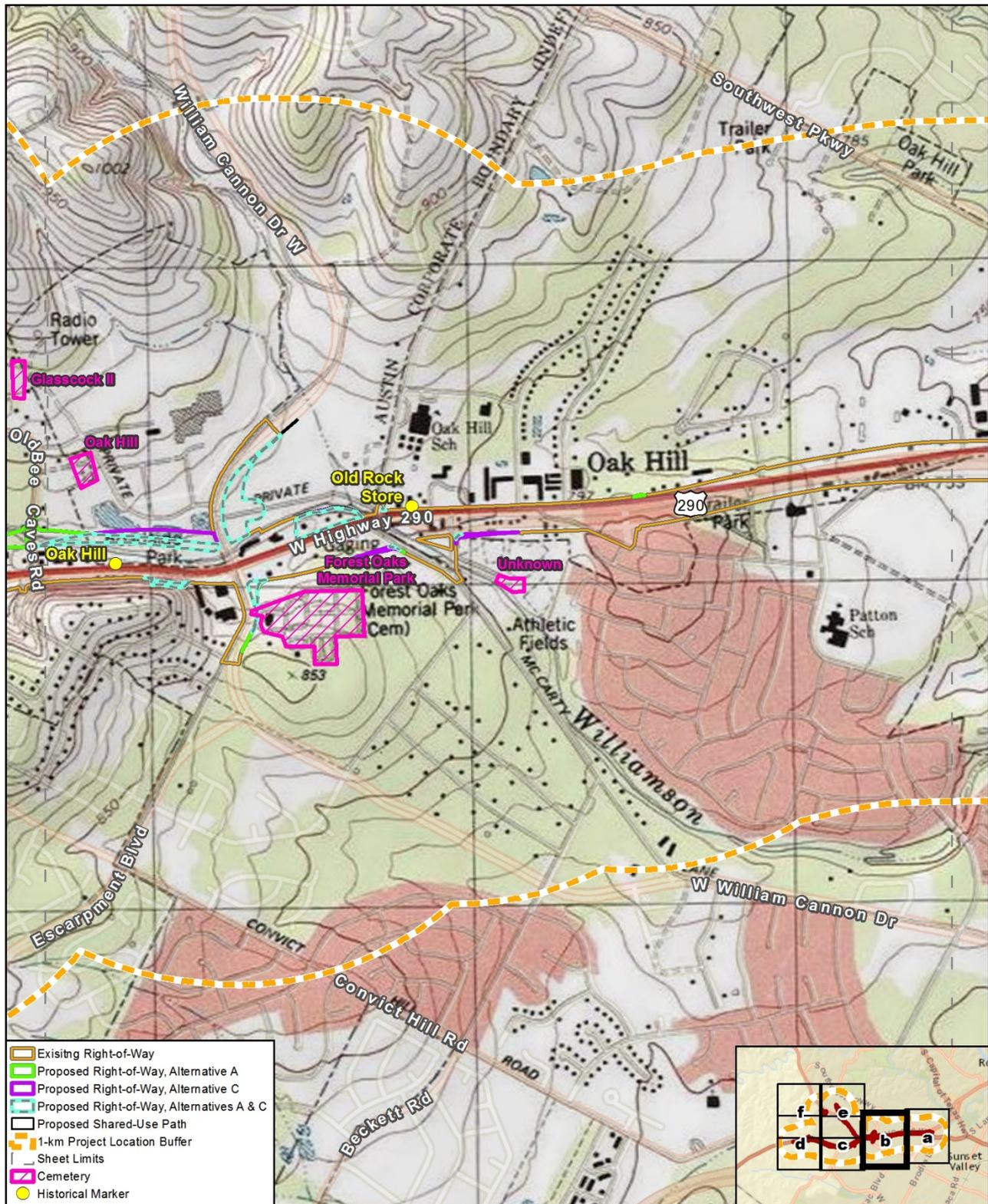


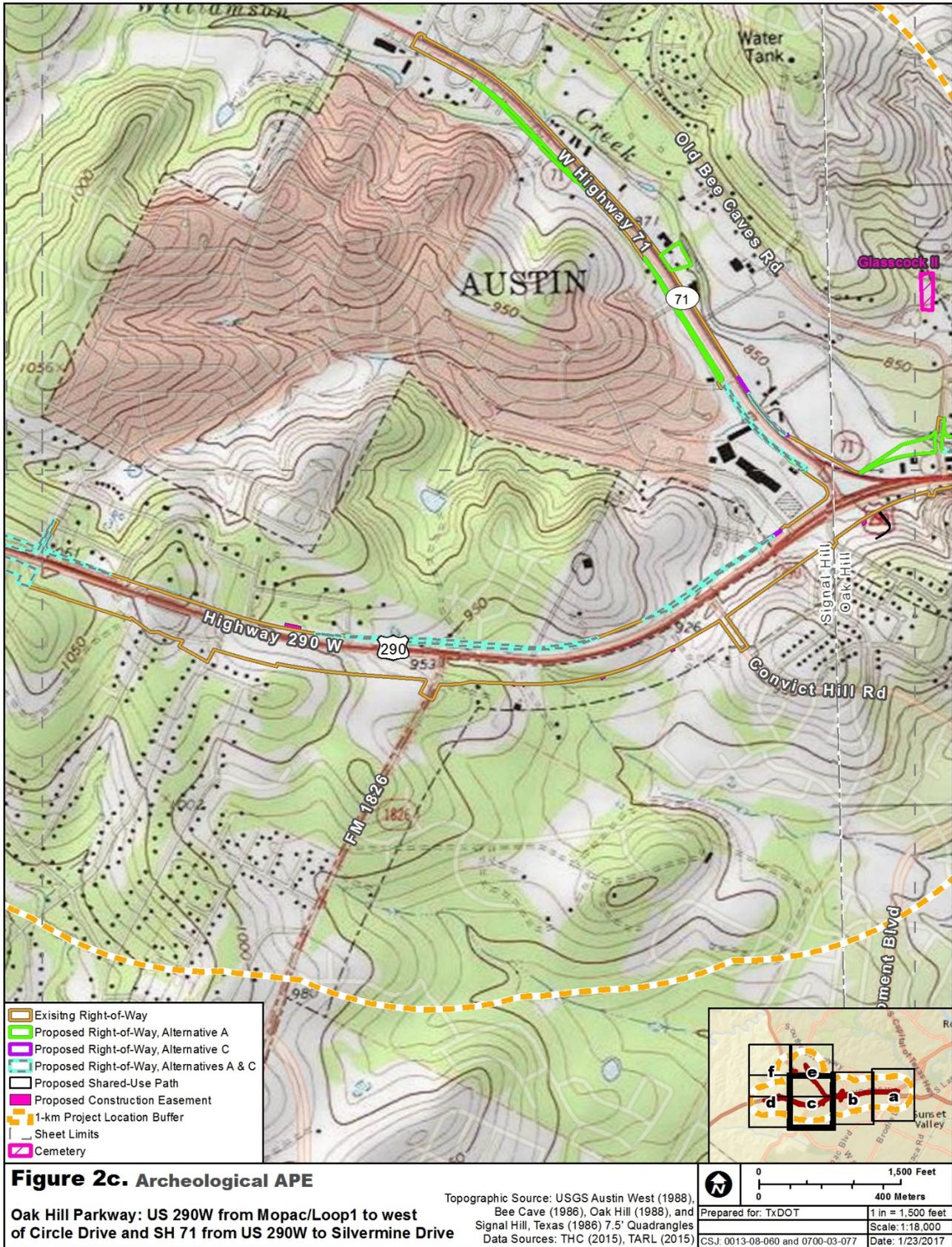
Figure 2b. Archeological APE

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Topographic Source: USGS Austin West (1988), Bee Cave (1986), Oak Hill (1988), and Signal Hill, Texas (1986) 7.5' Quadrangles
 Data Sources: THC (2015), TARL (2015)

	0	1,500 Feet
	0	400 Meters
Prepared for: TxDOT	1 in = 1,500 feet	
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:18,000	
	Date: 1/23/2017	

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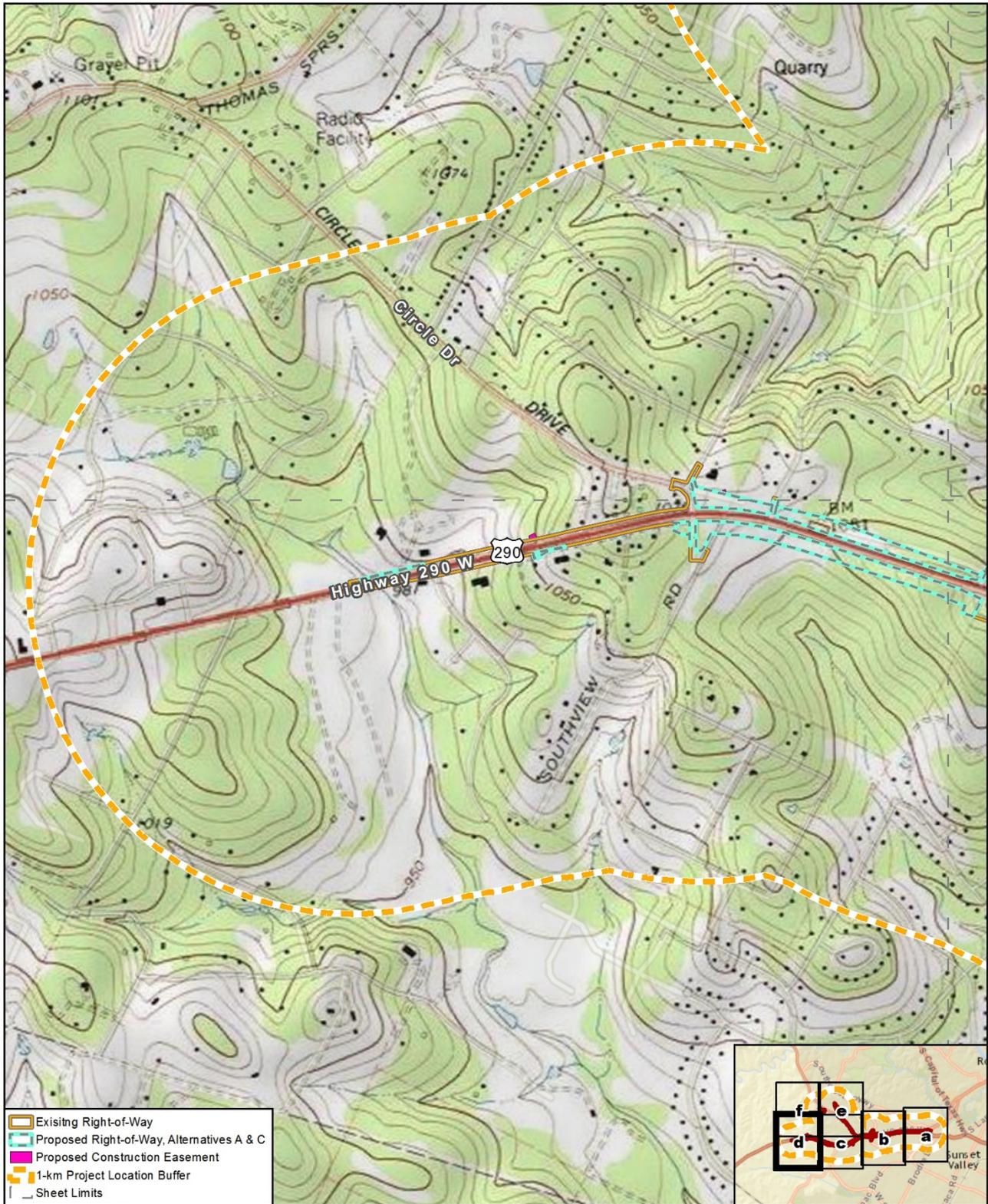


Figure 2d. Archeological APE

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Topographic Source: USGS Austin West (1988), Bee Cave (1986), Oak Hill (1988), and Signal Hill, Texas (1986) 7.5' Quadrangles
 Data Sources: THC (2015), TARL (2015)

	0	1,500 Feet
	0	400 Meters
Prepared for: TxDOT	1 in = 1,500 feet	
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:18,000	
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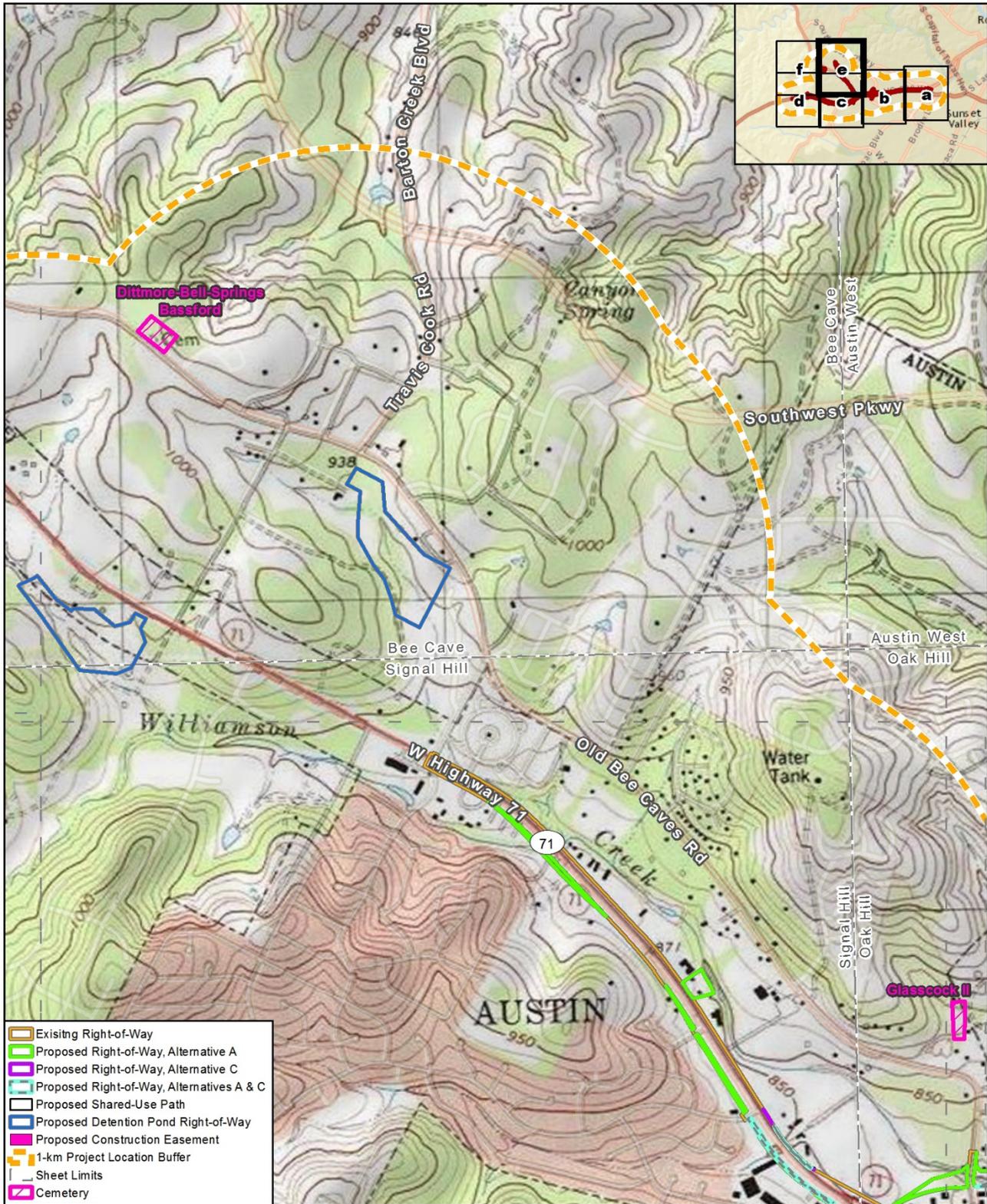


Figure 2e. Archeological APE

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Topographic Source: USGS Austin West (1988), Bee Cave (1986), Oak Hill (1988), and Signal Hill, Texas (1986) 7.5' Quadrangles
 Data Sources: THC (2015), TARL (2015)

	0	1,500 Feet
	0	400 Meters
Prepared for: TxDOT	1 in = 1,500 feet	
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:18,000	
	Date: 1/23/2017	

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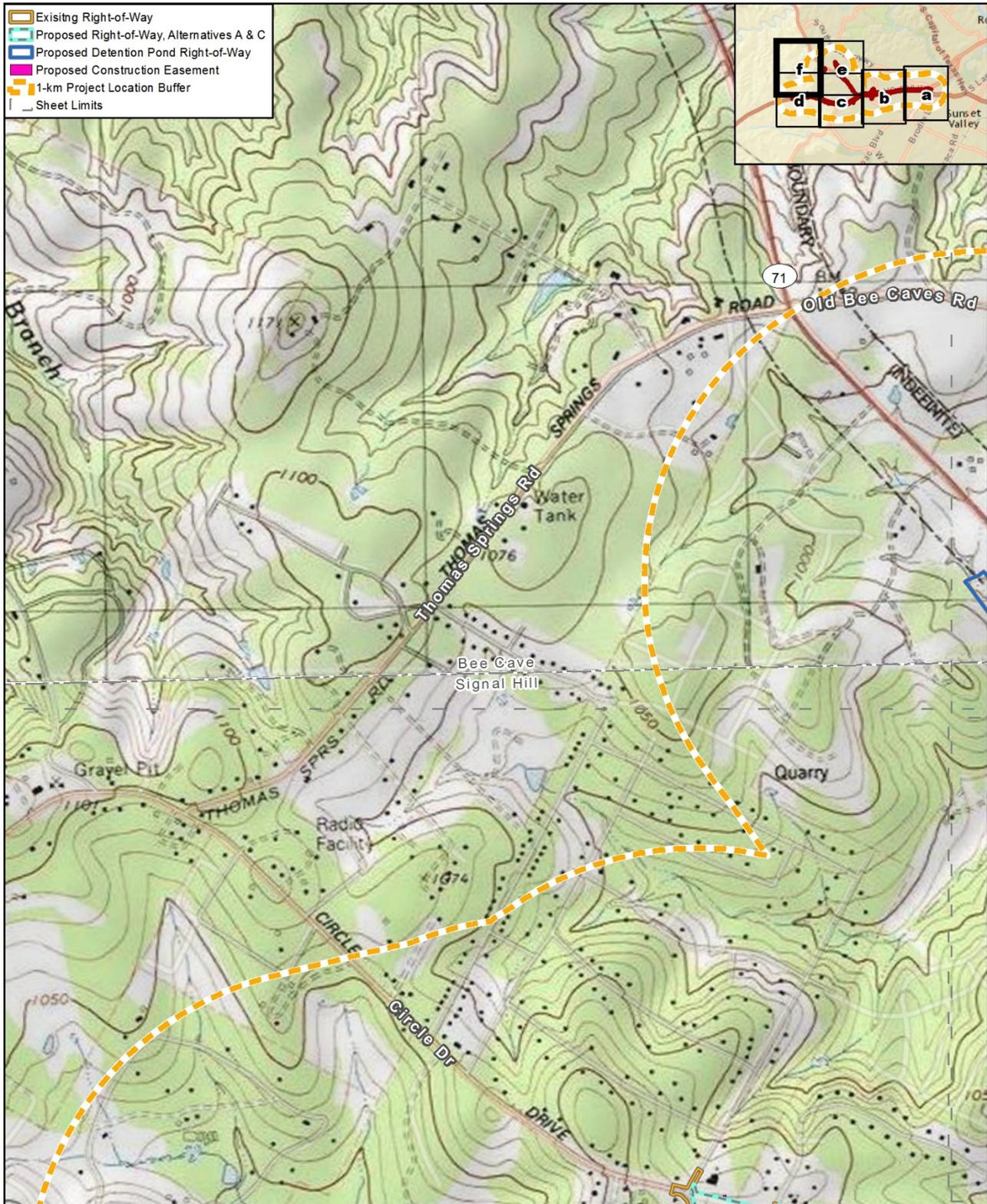


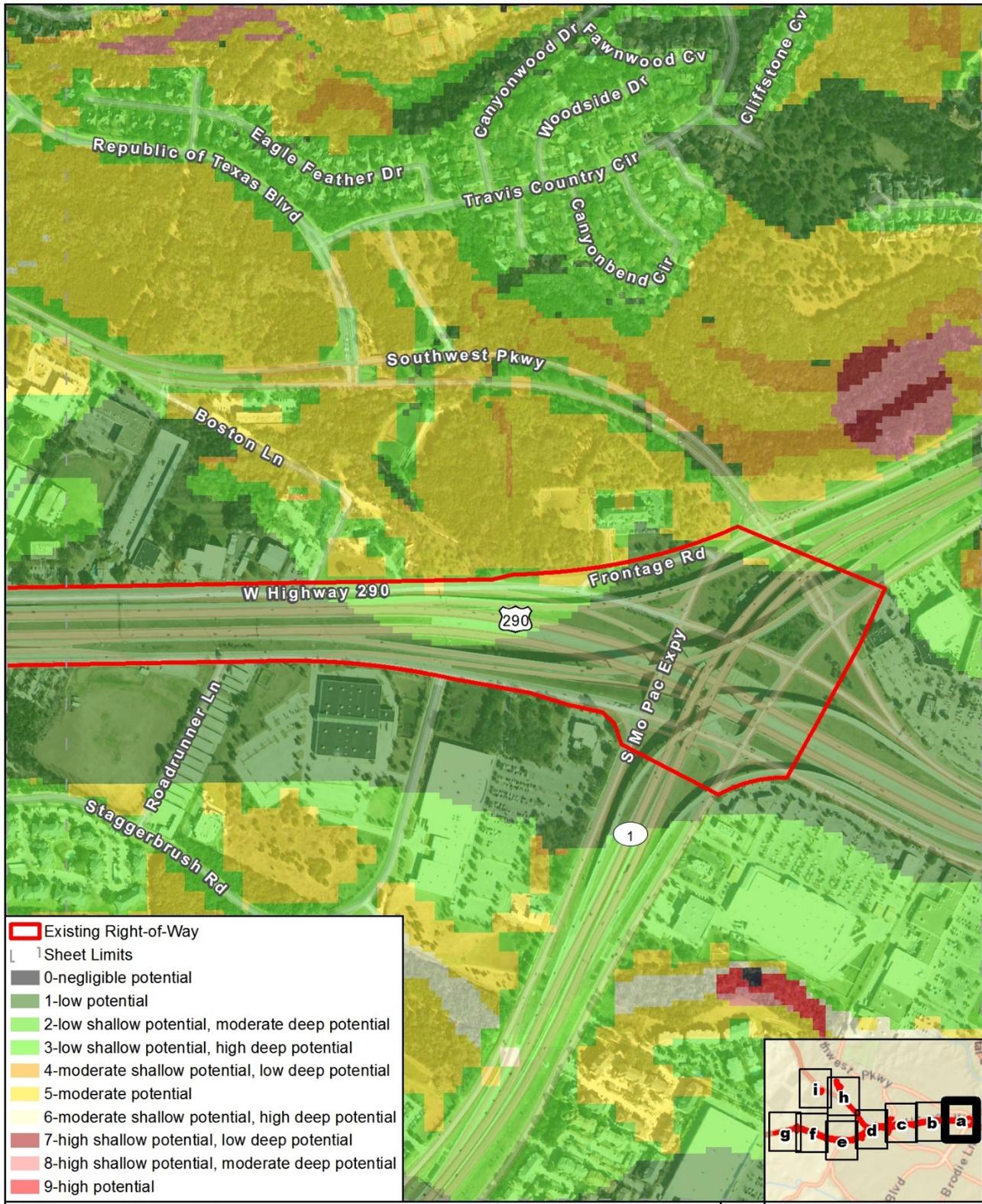
Figure 2f. Archeological APE

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Topographic Source: USGS Austin West (1988), Bee Cave (1986), Oak Hill (1988), and Signal Hill, Texas (1986) 7.5' Quadrangles
Data Sources: THC (2015), TARL (2015)

	0 1,500 Feet
	0 400 Meters
Prepared for: TxDOT	1 in = 1,500 feet
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:18,000
	Date: 1/23/2017

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- Existing Right-of-Way
- Sheet Limits
- 0-negligible potential
- 1-low potential
- 2-low shallow potential, moderate deep potential
- 3-low shallow potential, high deep potential
- 4-moderate shallow potential, low deep potential
- 5-moderate potential
- 6-moderate shallow potential, high deep potential
- 7-high shallow potential, low deep potential
- 8-high shallow potential, moderate deep potential
- 9-high potential

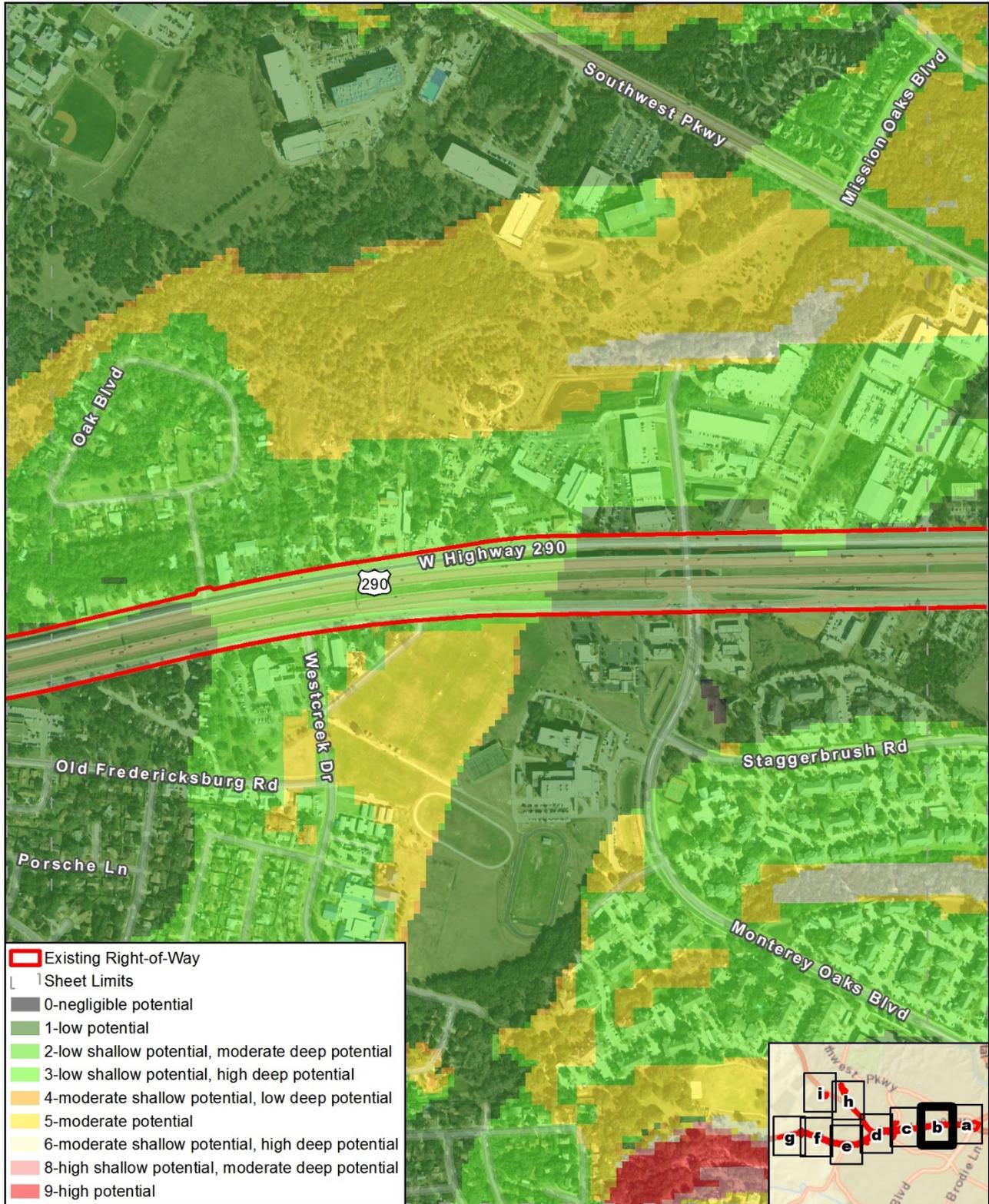
Figure 3a. PALM Map

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Source: TxDOT (2013)
 Basemap Source: TNRIS (2015)

	0 750 Feet
	0 250 Meters
Prepared for: TxDOT	1 in = 750 feet
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:9,000
	Date: 11/10/2016

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- Existing Right-of-Way
- Sheet Limits
- 0-negligible potential
- 1-low potential
- 2-low shallow potential, moderate deep potential
- 3-low shallow potential, high deep potential
- 4-moderate shallow potential, low deep potential
- 5-moderate potential
- 6-moderate shallow potential, high deep potential
- 8-high shallow potential, moderate deep potential
- 9-high potential

Figure 3b. PALM Map

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Source: TxDOT (2013)
 Basemap Source: TNRIS (2015)

	0 750 Feet
	0 250 Meters
Prepared for: TxDOT	1 in = 750 feet
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:9,000
Date: 11/10/2016	

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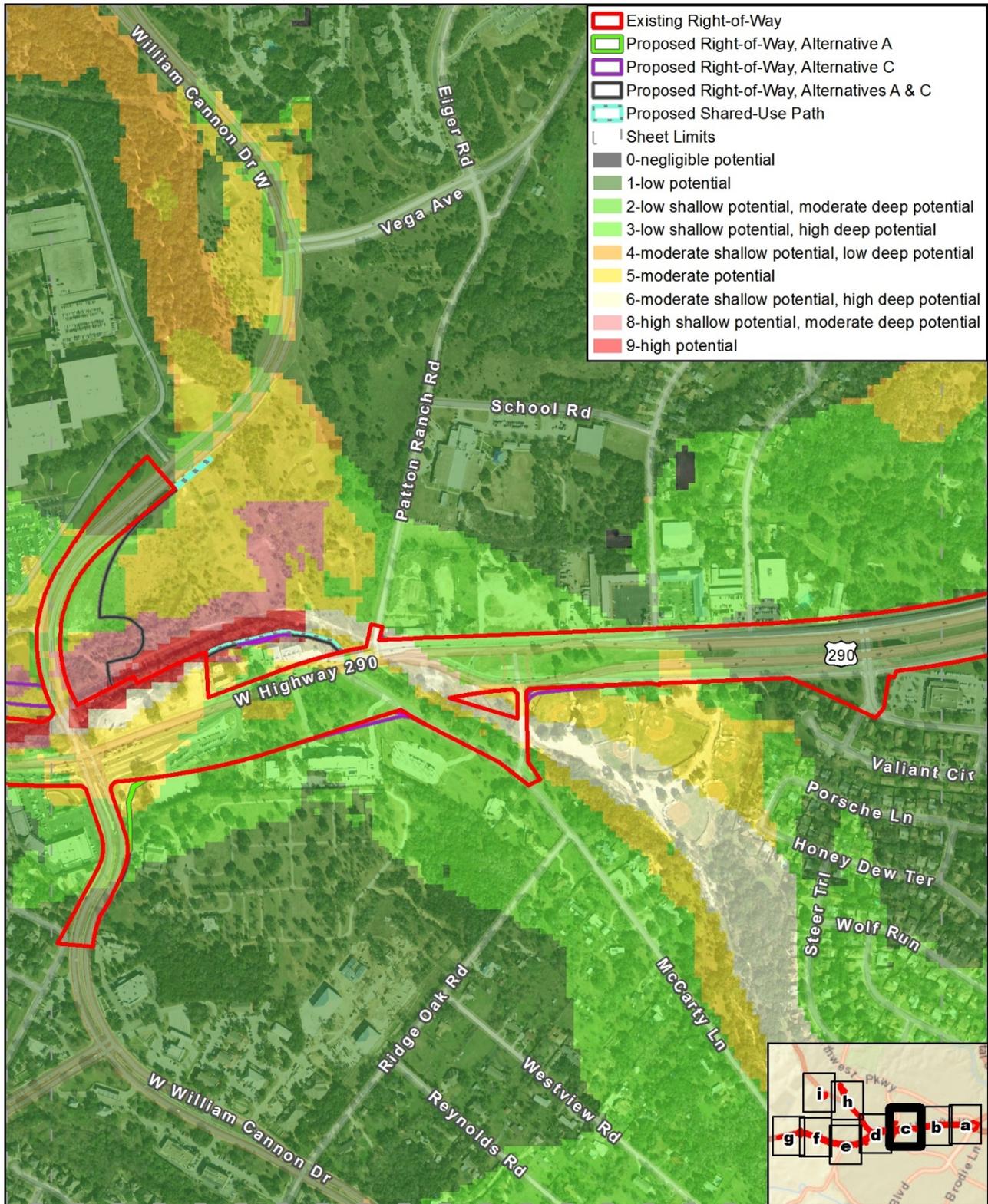


Figure 3c. PALM Map

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Source: TxDOT (2013)
 Basemap Source: TNRIS (2015)

	0	750 Feet
	0	250 Meters
Prepared for: TxDOT	1 in = 750 feet	
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:9,000	
	Date: 11/10/2016	

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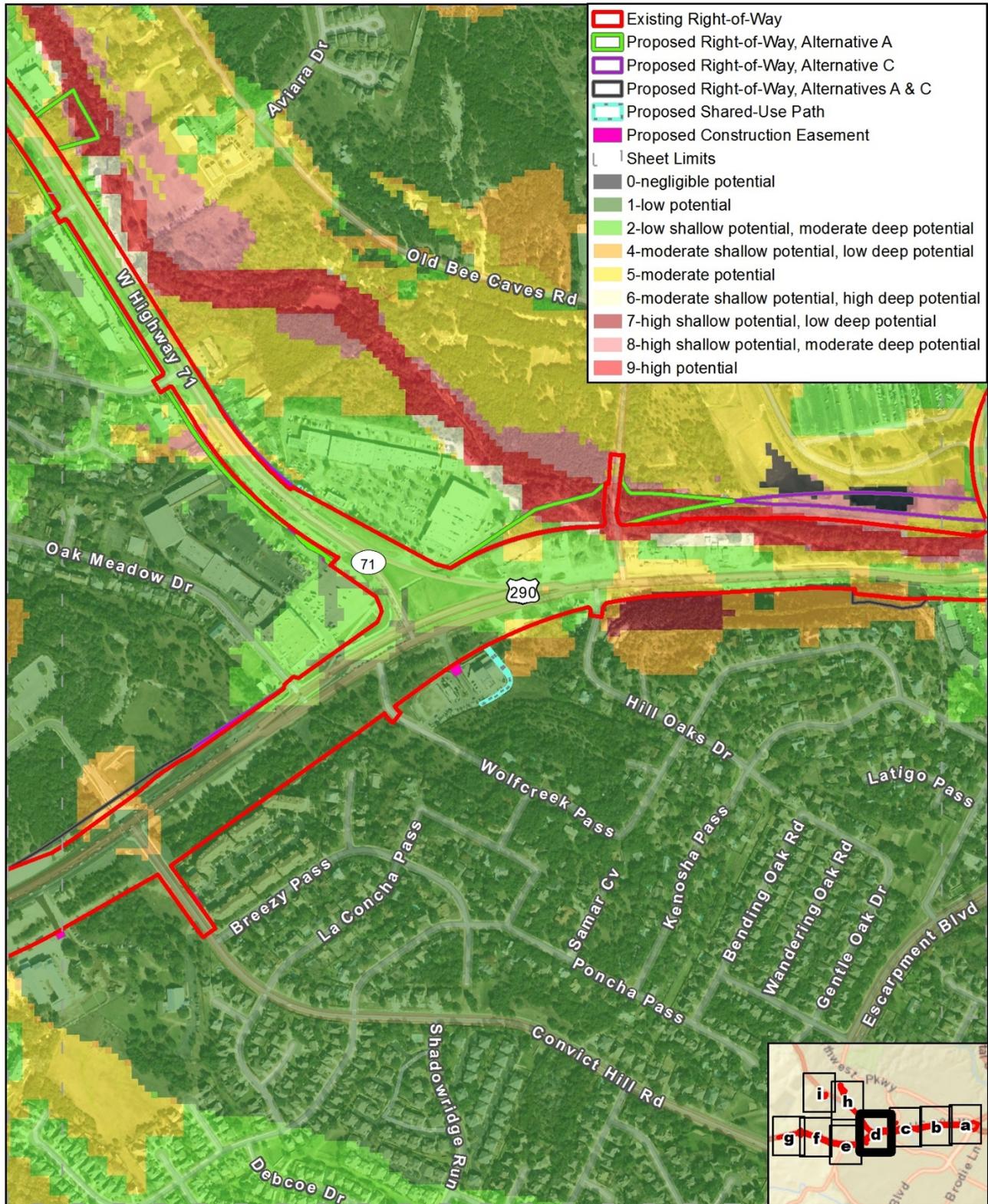


Figure 3d. PALM Map

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Source: TxDOT (2013)
Basemap Source: TNRIS (2015)

	0 750 Feet
	0 250 Meters
Prepared for: TxDOT	1 in = 750 feet
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:9,000
	Date: 11/10/2016

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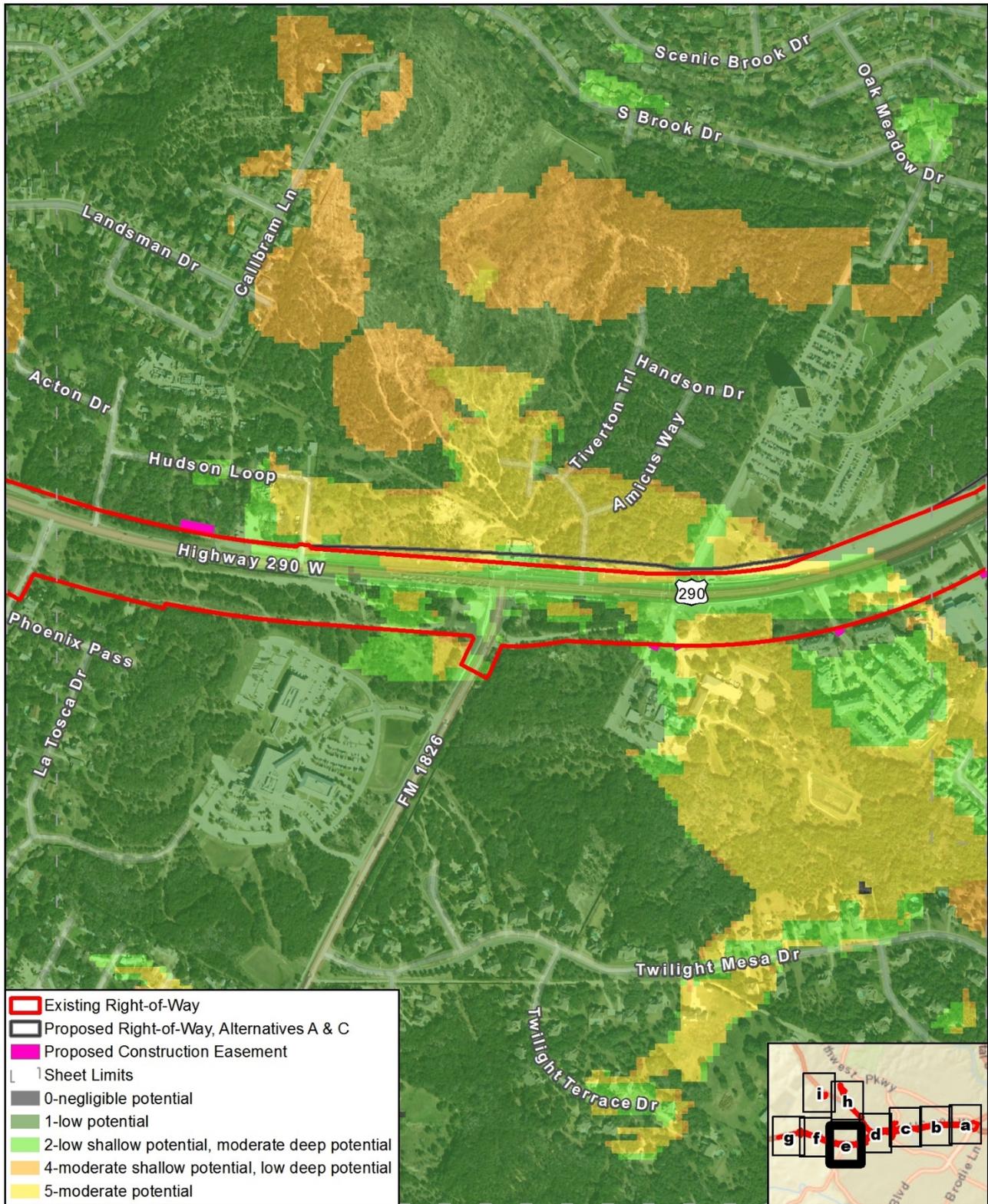


Figure 3e. PALM Map

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Source: TxDOT (2013)
 Basemap Source: TNRIS (2015)

	0	750 Feet
	0	250 Meters
Prepared for: TxDOT	1 in = 750 feet	
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:9,000	
	Date: 11/10/2016	

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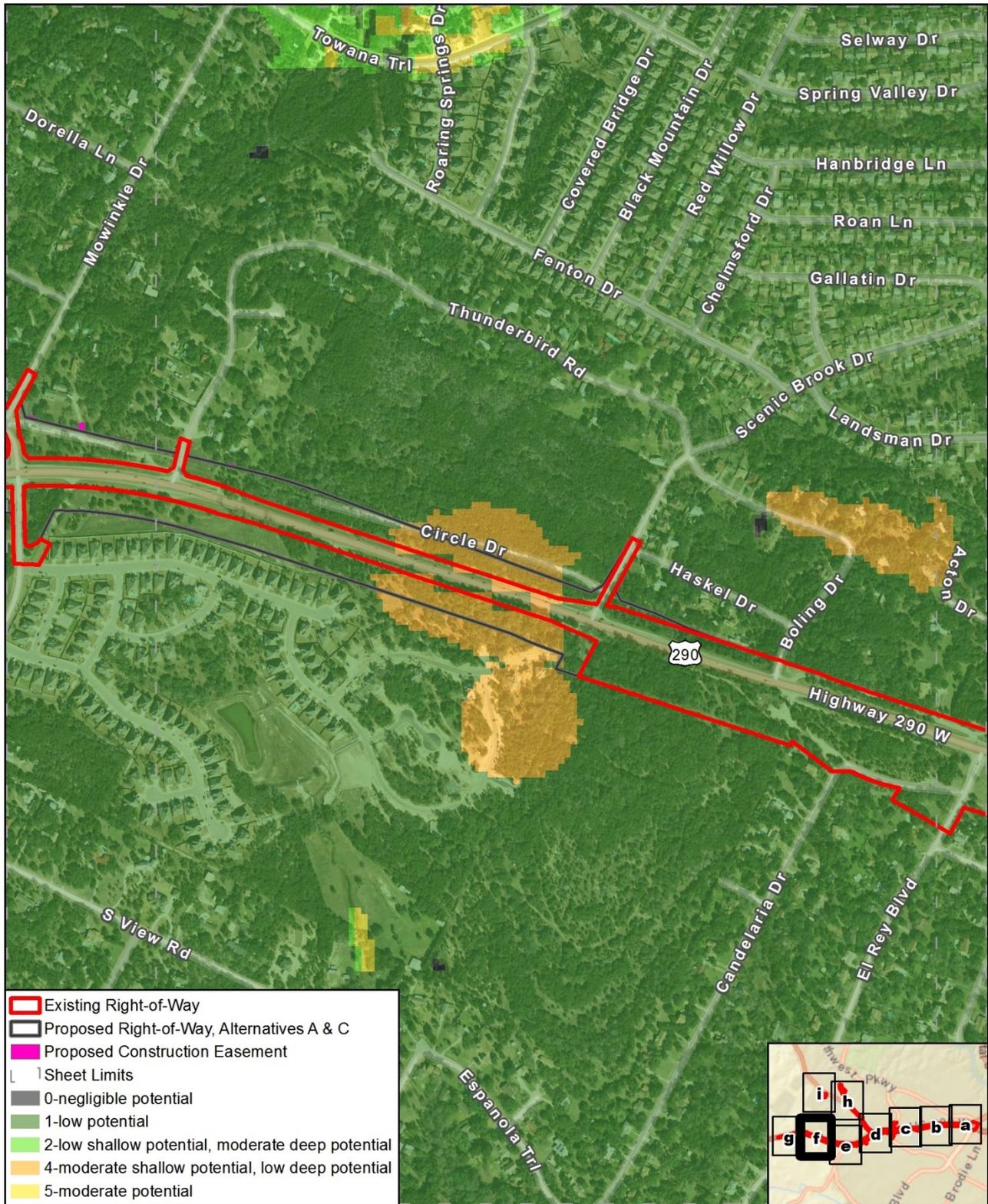


Figure 3f. PALM Map

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Source: TxDOT (2013)
 Basemap Source: TNRIS (2015)

	0	750 Feet
	0	250 Meters
Prepared for: TxDOT	1 in = 750 feet	
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:9,000	
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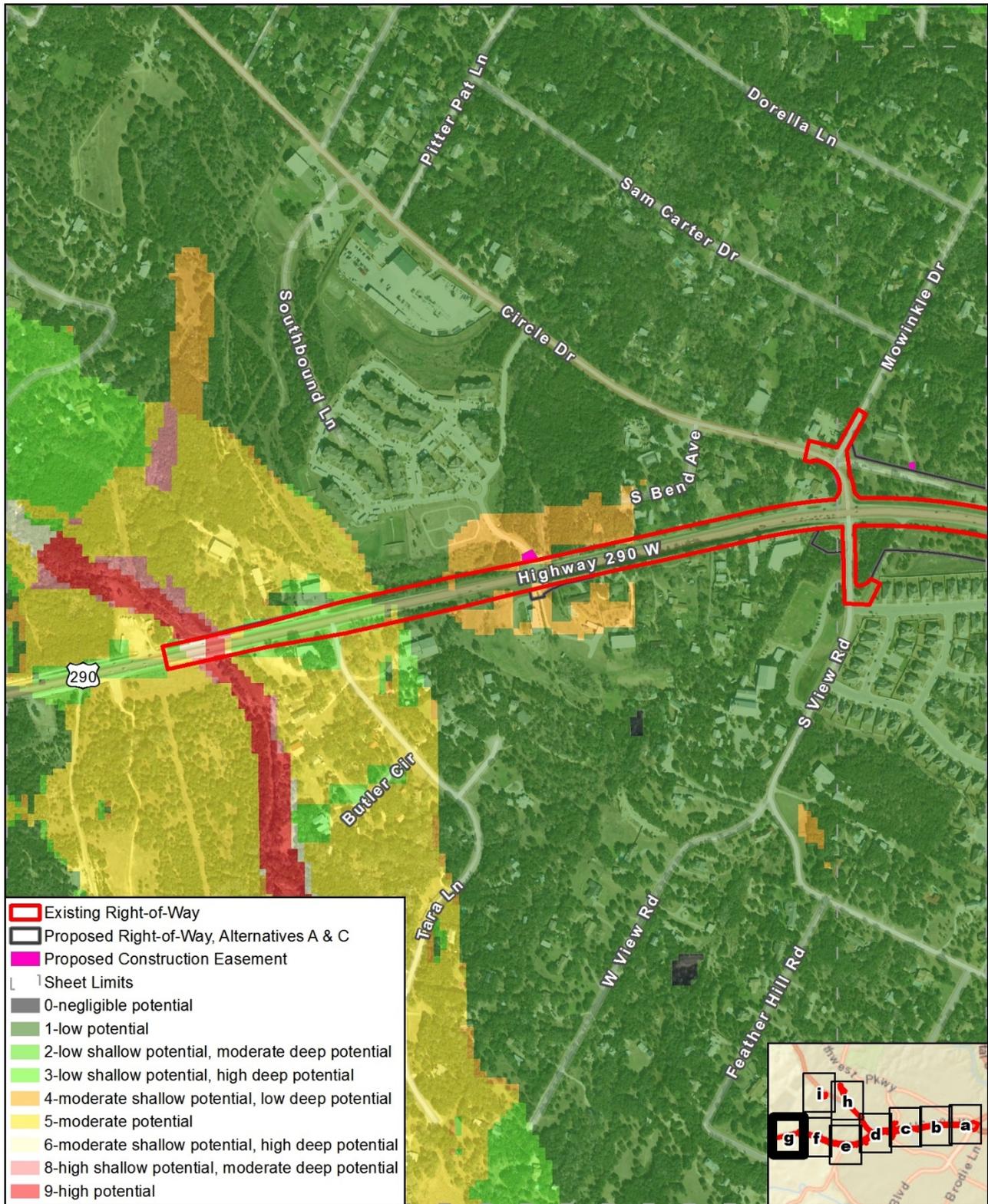


Figure 3g. PALM Map

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Source: TxDOT (2013)
 Basemap Source: TNRIS (2015)

	0	750 Feet
	0	250 Meters
Prepared for: TxDOT	1 in = 750 feet	
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:9,000	Date: 11/10/2016

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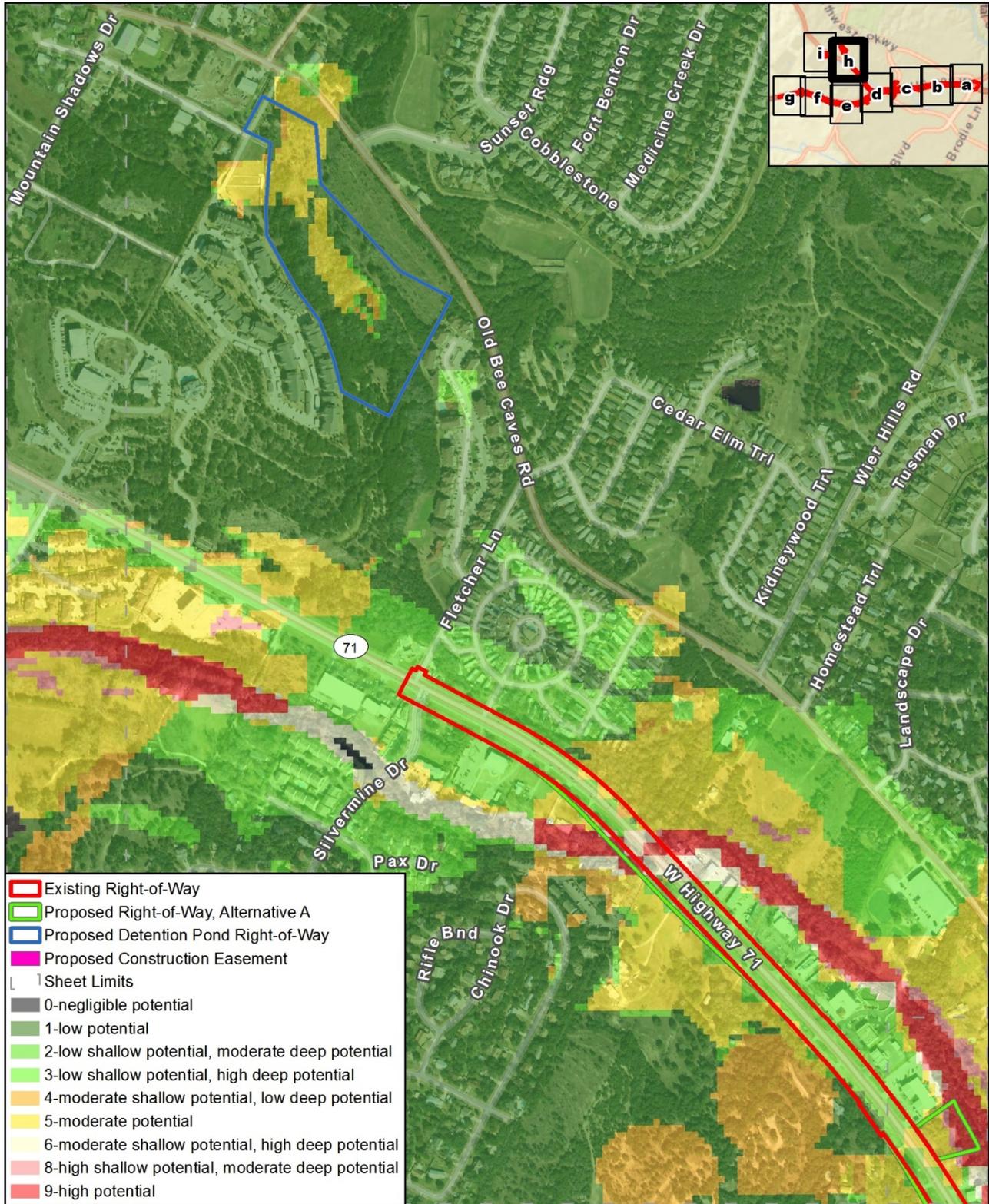


Figure 3h. PALM Map

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Source: TxDOT (2013)
 Basemap Source: TNRIS (2015)

	0 750 Feet	
	0 250 Meters	
Prepared for: TxDOT	1 in = 750 feet	
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:9,000	Date: 11/10/2016

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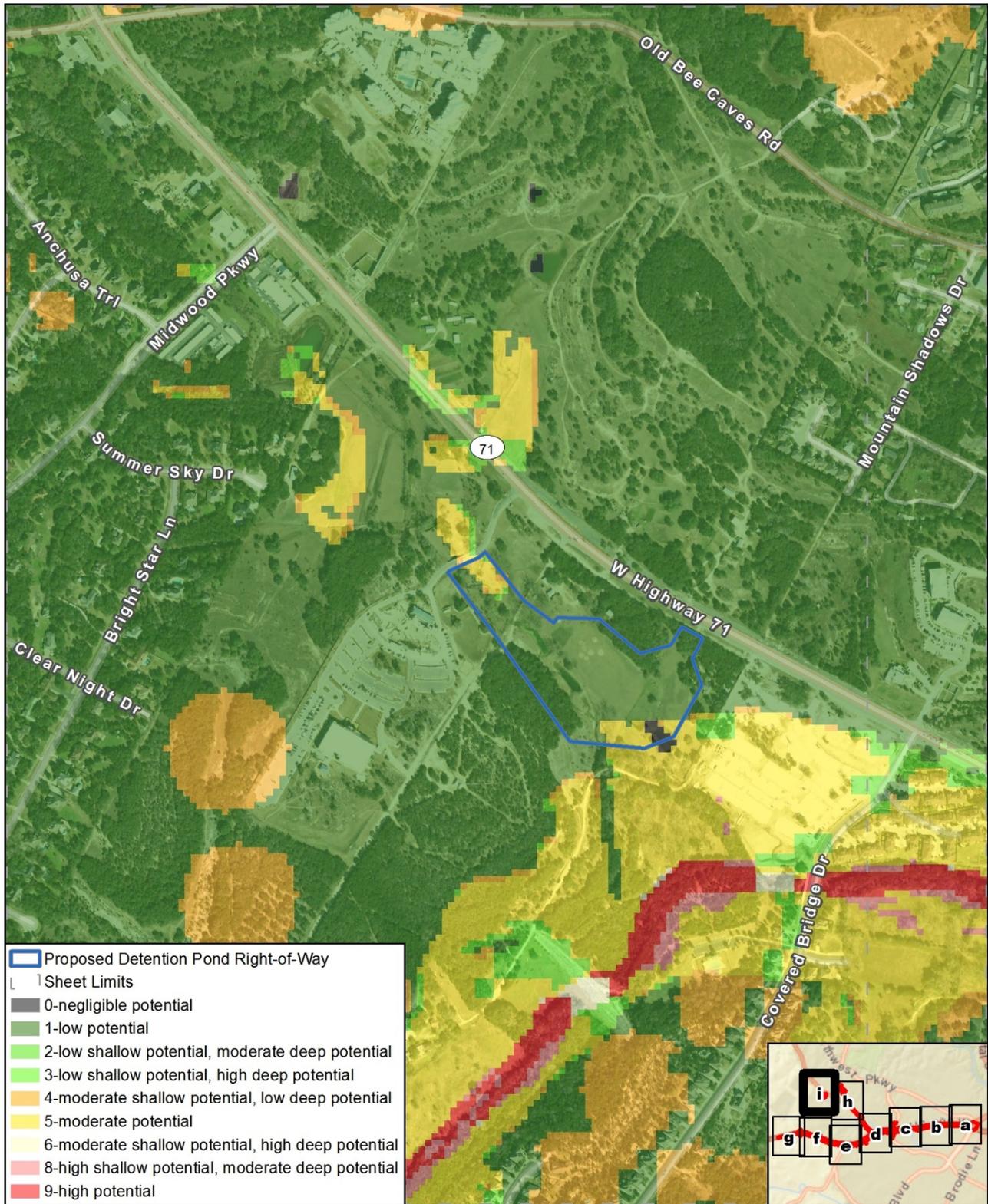


Figure 3i. PALM Map

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Source: TxDOT (2013)
 Basemap Source: TNRIS (2015)

	0	750 Feet
	0	250 Meters
Prepared for: TxDOT	1 in = 750 feet	
CSJ: 0013-08-060 and 0700-03-077	Scale: 1:9,000	
	Date: 11/10/2016	

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Figure 4a. Survey Results

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Sources: CMEC (2016), THC (2015), TARL (2016), NHD (2014)
 Prepared for: TXDOT
 Aerial Source: TNRIS (2015)

800 Feet	250 Meters
1 in = 800 feet	Scale: 1:9,600
CSJ: 0013-08-060 and 0700-03-077	Date: 1/23/2017



Figure 4b. Survey Results

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Sources: CMEC (2016), THC (2015), TARL (2016), NHD (2014)
 Prepared for: TxDOT
 Aerial Source: TNRIS (2015)

800 Feet	0
250 Meters	0
1 in = 800 feet	Scale: 1:9,600
CSJ: 0013-08-060 and 0700-03-077	Date: 1/23/2017

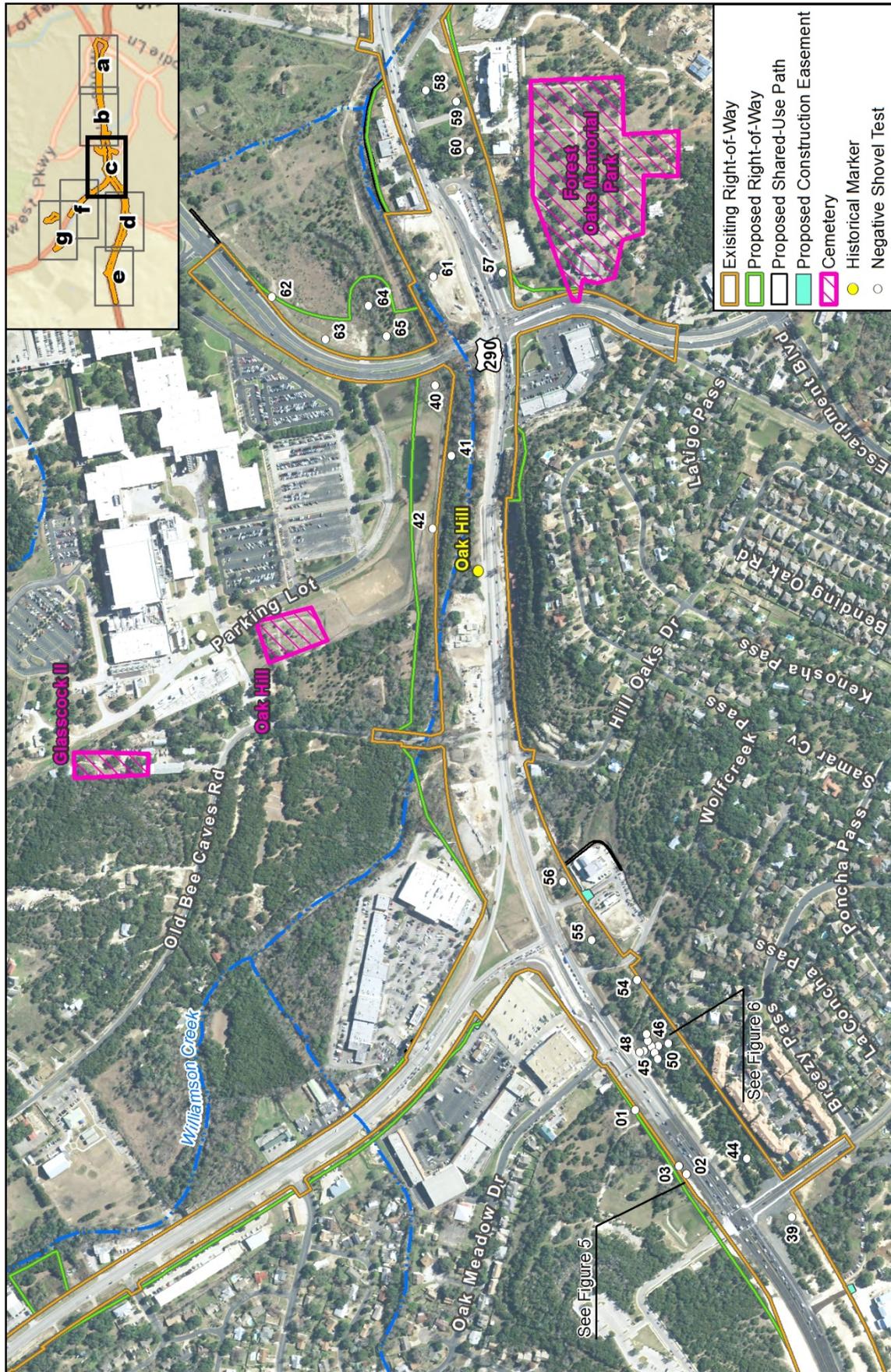


Figure 4c. Survey Results
Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Sources: CMEC (2016), THC (2015), TARL (2016), NHD (2014)
 Prepared for: TXDOT
 Scale: 1:9,600
 Aerial Source: TNRIS (2015)
 CSJ: 0013-08-060 and 0700-03-077 Date: 1/23/2017

800 Feet
 250 Meters
 1 in = 800 feet
 Scale: 1:9,600
 Date: 1/23/2017

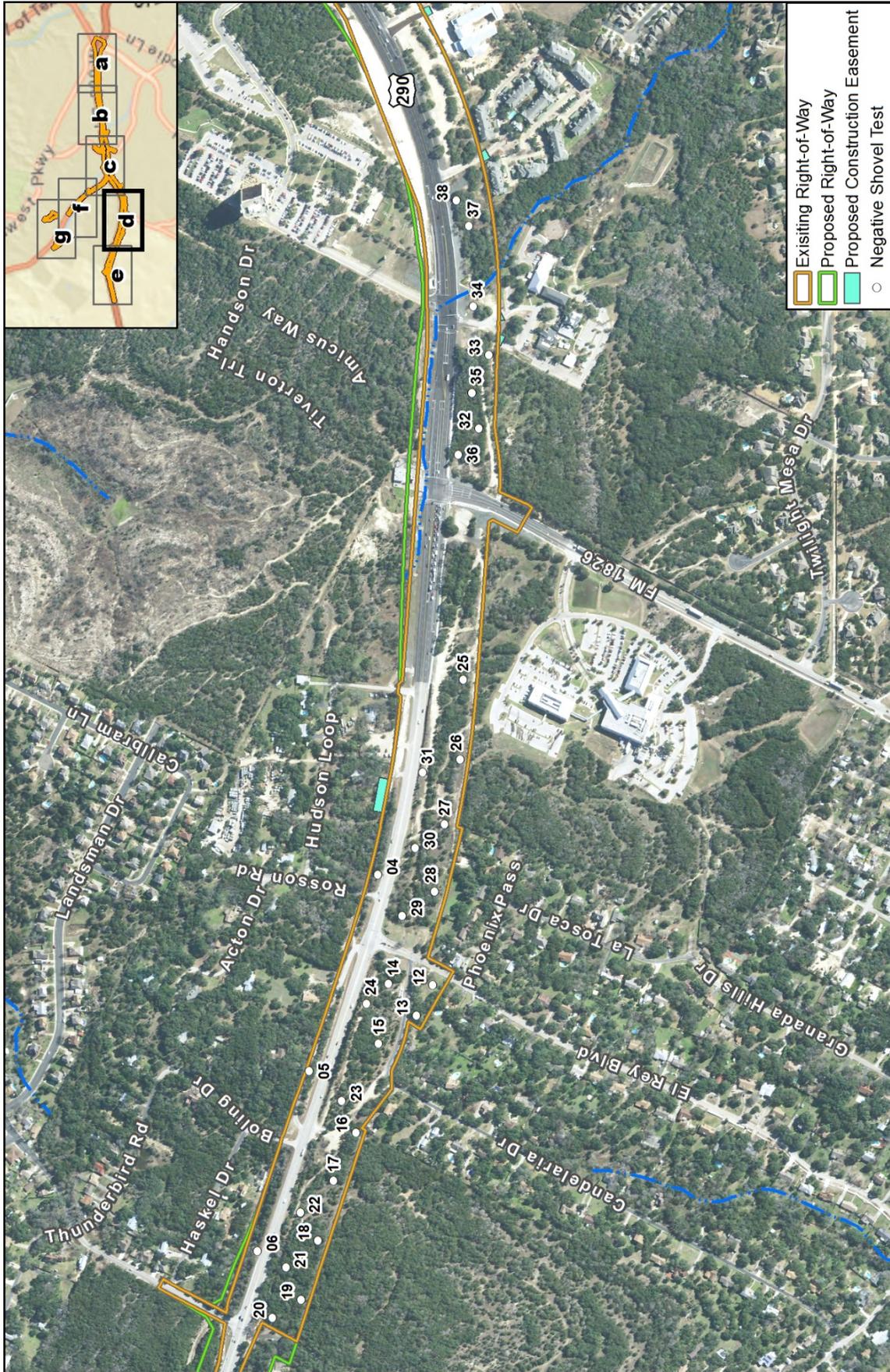


Figure 4d. Survey Results

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Sources: CMEC (2016), THC (2015), TARL (2016), NHD (2014)
 Prepared for: TxDOT
 Aerial Source: TNRIS (2015)

800 Feet	0
250 Meters	0
1 in = 800 feet	Scale: 1:9,600
CSJ: 0013-08-060 and 0700-03-077	Date: 1/23/2017

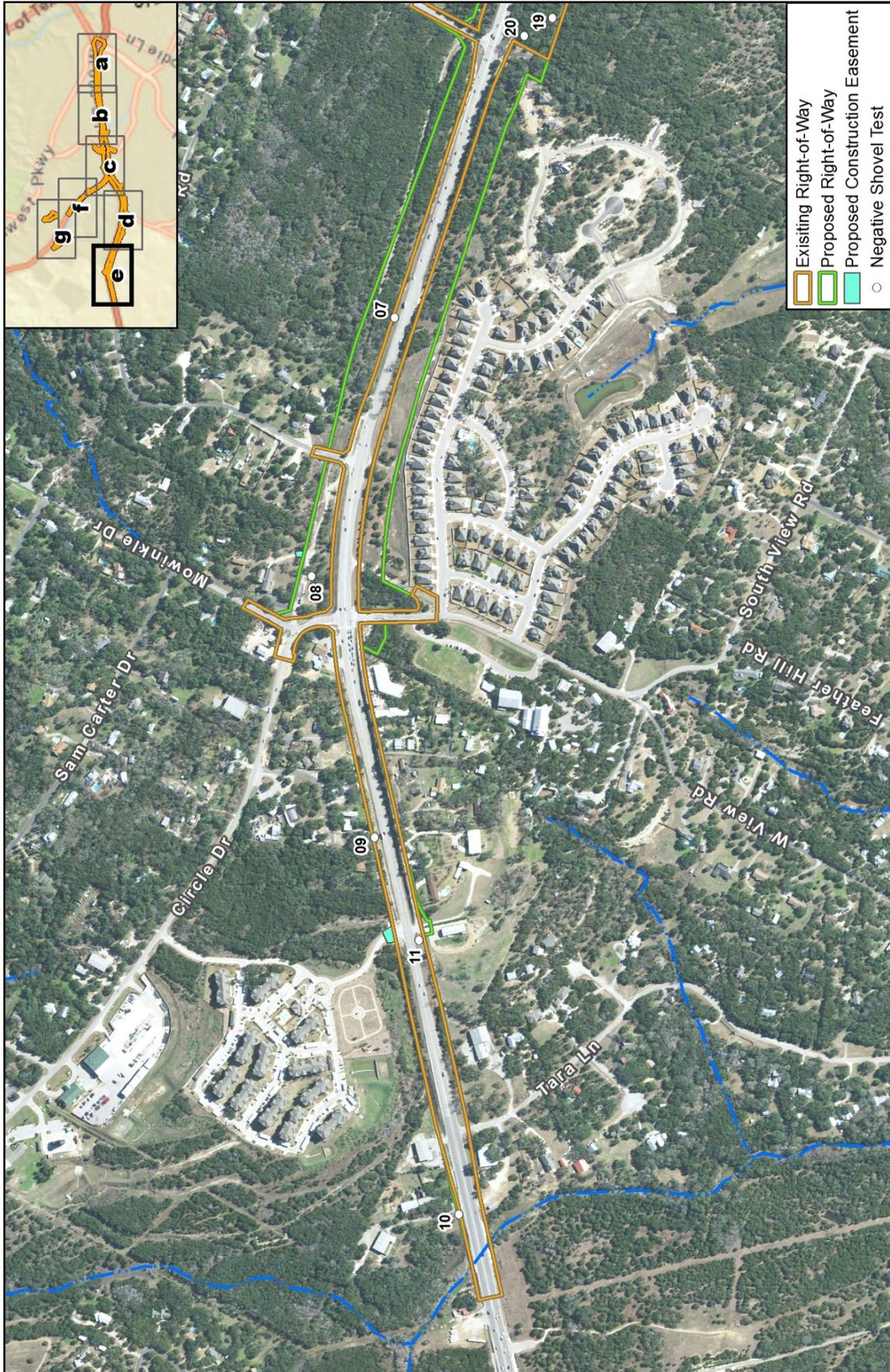


Figure 4e. Survey Results

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Sources: CMEC (2016), THC (2015), TARL (2016), NHD (2014)
 Aerial Source: TNRIS (2015)
 Prepared for: TxDOT
 Scale: 1:9,600
 Date: 1/23/2017

800 Feet
 250 Meters
 1 in = 800 feet
 CSJ: 0013-08-060 and 0700-03-077



800 Feet	250 Meters
1 in = 800 feet	Scale: 1:9,600
Prepared for: TXDOT	Date: 1/23/2017
CSJ: 0013-08-060 and 0700-03-077	

Data Sources: CMEC (2016), THC (2015), TARL (2016), NHD (2014)
 Aerial Source: TNRIS (2015)

Figure 4f. Survey Results
 Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive
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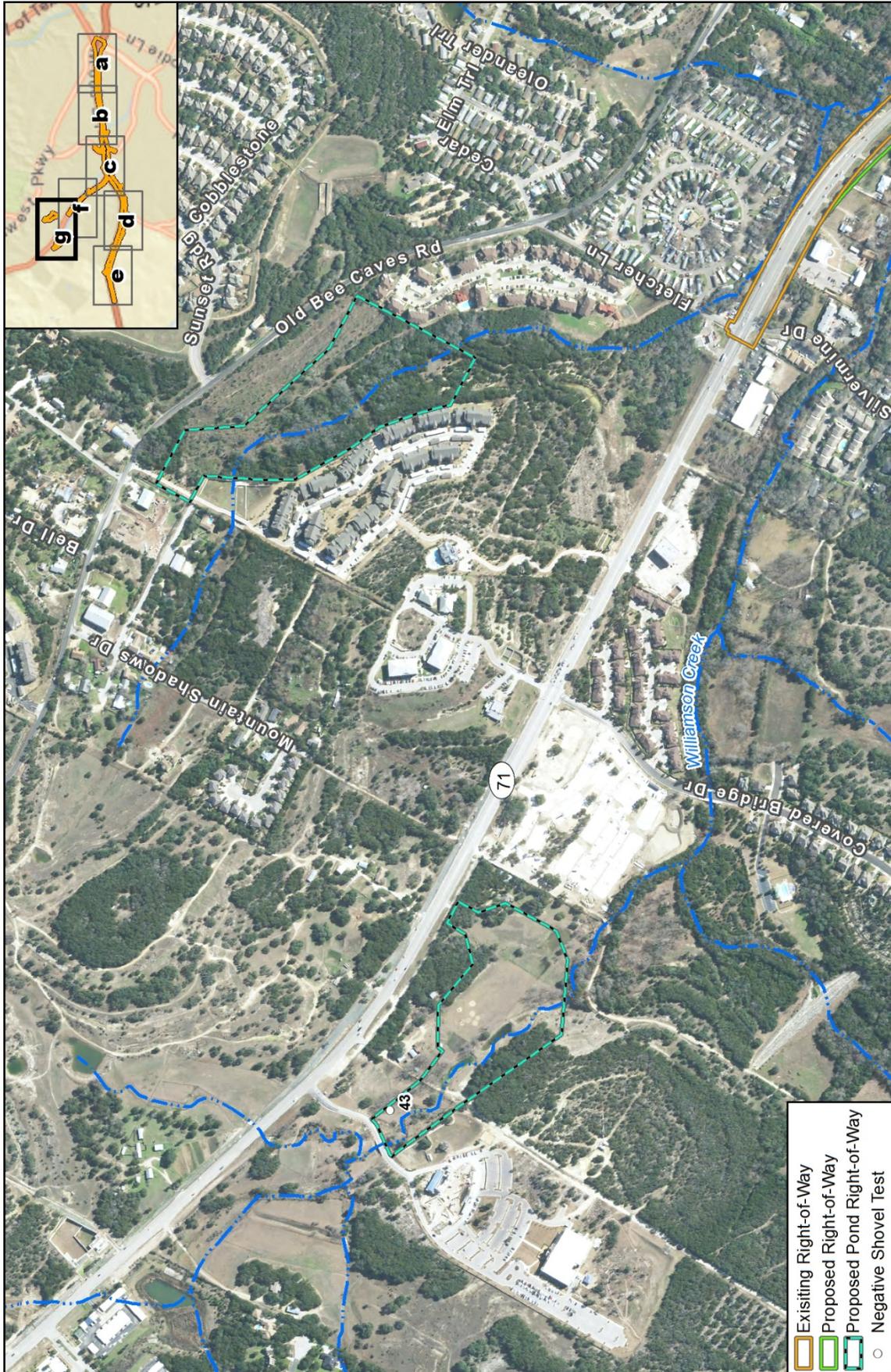


Figure 4g. Survey Results

Oak Hill Parkway: US 290W from Mopac/Loop1 to west of Circle Drive and SH 71 from US 290W to Silvermine Drive

Data Sources: CMEC (2016), THC (2015), TARL (2016), NHD (2014)
 Aerial Source: TNRIS (2015)

800 Feet
 250 Meters
 Prepared for: TXDOT
 Scale: 1:9,600
 Date: 1/23/2017

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