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Intensive Archeological Survey for Proposed Improvements to Onion Creek Metro Park, Travis County, Texas

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INTENSIVE ARCHEOLOGICAL SURVEY FOR PROPOSED IMPROVEMENTS TO ONION CREEK METRO PARK, TRAVIS COUNTY, TEXAS

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Management Summary

In September 2017, an intensive archeological survey was completed in order to inventory and evaluate any archeological materials within the project footprint for proposed improvements to the Onion Creek Metro Park in Travis County, Texas. The work was performed for the City of Austin under Texas Antiquities Permit 8159 by David Sandrock (Principal Investigator) of Cox|McLain Environmental Consulting, Inc. (CMEC).

Much of the 30-acre archeological area of potential effects (APE) exists as a wooded, brushy area along the southern/eastern banks of Onion Creek, northwest of the intersection of Nuckols Crossing Road and Thaxton Road. Areas along the bordering roadways were disturbed by the existing roadway construction, utility installation, and drainage modifications. Ground surface visibility in the APE was moderate, generally between 30 and 50 percent. A pedestrian survey augmented with the excavation of shovel test units was conducted on the entire APE. In all, 21 shovel test units were excavated in the APE, none of which yielded potentially archeological material. No new archeological sites were recorded during this survey.

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 (36 CFR 60.4; 13 TAC 26.8). If any archeological materials are inadvertently uncovered during the proposed construction activities, construction should cease and Texas Historical Commission personnel should be notified immediately.

No materials were collected during the investigation; therefore, this project generated no archeological materials to be curated. Notes, forms, and other project data will be made permanently available to future researchers at the Center for Archaeological Studies at Texas State University per TAC 26.16 and 26.17.

The THC concurred with the findings of this report on November 27, 2017.

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1. Introduction

Overview of the Project

The City of Austin proposes to improve the existing Onion Creek Metro Park, located west of the intersection of Nuckols Crossing Road and Thaxton Road, as shown in **Figure 1**. The proposed work consists of the Phase 1 construction of new park development. Phase I improvements include, but are not limited to, a new parking lot (21 inches [in] in depth), park roads (24 in deep), decomposed granite trails (10 in deep), concrete trails (8 in deep), structural footing that ranges between 2 and 3 feet (ft) in depth, storm water improvements, a domestic water line for a drinking fountain and a future restroom building, a reclaimed water line (4 to 5 ft below existing grade, with a pipe size of 8 in), lighting, planting, and irrigation (18 to 24 in below existing grade). Trails meeting Americans with Disabilities Act requirements will be located throughout the park. Other work includes but is not limited to: electrical wiring, electrical enclosures, electric and water meters, water valves, tree removal, and site concrete containment bands. These proposed improvements will take place within a 30-acre (ac) section of the larger 555 ac park. This 30 ac area represents the project's archeological area of potential effects (APE), which is bounded to the south and east by Nuckols Crossing Road, and to the west by Onion Creek.

The project is owned and funded entirely by the City of Austin, a subdivision of the State of Texas, rendering it subject to the Antiquities Code of Texas (contained within the Texas Natural Resource Code at 9 TNRC 191). No federal nexus is currently known, so the project is not subject to Section 106 of the National Historic Preservation Act, as amended.

Methodological and Logistical Considerations

David Sandrock (Principal Investigator) of Cox | McLain Environmental Consulting, Inc. (CMEC) performed the fieldwork for this project in September 2017. The weather was partly cloudy and humid during the survey. No major access problems or other logistical difficulties were encountered. All shovel tests were placed judgmentally within the APE based on observed disturbance levels as well as ground visibility guidelines established by the Council of Texas Archeologists (CTA) and approved by the Texas Historical Commission (THC). The methods employed during this study are discussed further in Section Four.

Structure of the Report

Following this introduction, Section Two presents environmental parameters for the study area and a brief cultural context and summary of previous archeological research in and near the APE; Section Three discusses research goals, relevant methods, and the regulatory considerations underlying them; Section Four presents the results of the survey; and Section Five summarizes the recommendations of the investigations. Figures are found in Section Six and references in Section Seven.

2. Environmental and Cultural Context

Topography, Geology, and Soils

The APE is located at elevations ranging from approximately 159.7 meters (m) or 524 ft above mean sea level (amsl) to 179.8 m (590 ft) amsl. The closest waterway is a branch of Onion Creek, which is located immediately west of the APE. Geologically, the APE is underlain by Quaternary-age fluviatile terrace deposits (USGS 2017). According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Survey data for Travis County, three soil series are mapped within the project area. These soils include Lewisville silty clay on 1 to 3 percent slopes, Altoga silty clay on 3 to 6 percent slopes, and Patrick soils on 2 to 5 slopes (NRCS 2017). None of the project area soils are listed as hydric or as having hydric inclusions, and the potential for deeply buried deposits in the APE is very low.

Vegetation and Land Use

The project is located in the Blackland Prairie ecoregion, according to the Texas Parks and Wildlife (TPWD) Ecoregion Map, following Gould et al. 1960 (TPWD 2011). According to the TPWD's Vegetation Types of Texas map and accompanying descriptions, the APE is contained within an area mapped as "Live Oak-Mesquite-Ashe Juniper Parks" (TPWD 2011). Vegetation noted during the survey included various small trees, as well as a few types of native, planted, and invasive grasses. The proposed APE is located in a less-developed portion of southwest Travis County. Land uses adjacent to the APE's bordering roadways are typically residential or cleared lots.

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 2017). 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**).

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).

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 et al., 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 et al.1998; Collins 2004; Prewitt 1981).

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 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).

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, et al., 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.

Previous Investigations and Previously Identified Resources

A data search of the Texas Archeological Sites Atlas maintained by the THC and Texas Archeological Research Laboratory (TARL) revealed no previously documented archeological sites within the APE. There are no historical markers, cemeteries, or other resources recorded within the APE, and no known surveys cross the APE. In all, 8 surveys and 4 archeological sites are mapped within 1 mile of the APE. The results of the data search are presented below in list form (THC 2017).

Previous surveys within 1 mile of the APE:

- A 1979 areal survey located north of William Cannon Drive for the U.S. Environmental Protection Agency (EPA)
- A 1987 areal survey located east of the APE for EPA and the Texas Parks and Wildlife Department
- A 1993 linear survey located west of Bluff Springs Drive; no other information available
- A 2001 areal reconnaissance survey located north of and along Onion Creek for the U.S. Army Corps of Engineers-Fort Worth District, by Prewitt and Associates, Inc.
- A 2003 areal survey located east of the APE for the U.S. Department of Housing and Urban Development, by SWCA Environmental Consultants
- A 2009 linear survey located south of the APE for Travis County Transportation and Natural Resources, by EComm, Inc. (now AmaTerra Environmental, Inc.)
- A 2010 linear survey for City of Austin, by EComm, Inc.
- A 2017 areal survey located south of the APE for the U.S. Department of Housing and Urban Development, by Horizon Environmental Service, Inc.

Documented cultural resources within 1 mile of the APE:

- OMITTED
- OMITTED

- OMITTED
- OMITTED
- OMITTED

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 in the NRHP and/or for designation as a SAL (typically performed concurrently)
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

The Antiquities Code of Texas

Because the project is currently owned and funded by the City of Austin, a political subdivision 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)

Guidelines 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 in 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:

1. 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;
2. 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;
3. the site possesses unique or rare attributes concerning Texas prehistory and/or history;
4. the study of the site offers the opportunity to test theories and methods of preservation, thereby contributing to new scientific knowledge;
5. the high likelihood that vandalism and relic collecting has occurred or could occur, and official landmark designation is needed to ensure 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 goals and guidelines above in mind, CMEC personnel conducted an intensive survey in September 2017, per category 6 under 13 TAC 26.15 and using the definitions in 13 TAC 26.3. CMEC personnel searched for previously identified and unidentified archeological sites. Field methods complied with the coverage requirements of 13 TAC 26.15, as elaborated by the THC and CTA.

Shovel test units (**Figure 2**) were to be generally placed at 100 m intervals throughout the entire APE and excavated in natural levels to major color/texture changes or restrictive features, as allowed by compaction and hardness of the deposits and as prescribed by local ground surface conditions. Excavated matrix was screened through 0.635-centimeter (cm) or 0.25-inch (in) hardware cloth as allowed by moisture and clay content, which often required that the removed sediment be 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. The testing protocol detailed in the approved scope for Texas Antiquities Permit 8159 called for radial shovel tests to be placed at 5 m (16 ft) intervals around each shovel test positive for cultural material until two negative units were established in each cardinal direction. None of the excavated shovel tests were positive.

No artifacts were collected, as no materials of archeological interest were found. Project records will be curated per 13 TAC 26.16 and 26.17 at the Center for Archaeological Studies (CAS) at Texas State University.

4. Results

In September 2017, CMEC personnel conducted an intensive survey of the APE (see **Figure 2**). The condition of the APE was fairly consistent; vegetation consisted of small trees underlain by grasses (**Figures 3, 4,** and **5**). The 30 ac APE is bounded to the south and east by Nuckols Crossing Road (**Figures 2** and **6**), and to the west by Onion Creek (**Figures 7** and **8**). Generally, ground surface visibility in the APE was moderate (between 30 and 50 percent) and was obscured by the sparse grasses and leaf litter present throughout the APE (see **Figures 3, 4,** and **5**) Several cleared two-track roads run through the APE (**Figures 3** and **9**), and a single, small, culverted drainage was observed in the APE (**Figure 10**). Other than the two-track roads present in the APE and the soils along Nuckols Crossing Road that were likely disturbed by roadway construction and buried utility installation (**Figure 11**), the APE was found to be generally undisturbed.

In all, 21 shovel test units were placed in the APE; none contained any cultural material other than modern debris (**Figure 12**). All shovel test units contained one of three profiles: friable, brown (10YR4/3) silty clay loam from 0 to 35 cmbs, underlain by degraded bedrock; brown (10YR4/3) silty clay loam from 0 to 40 cmbs, underlain by firm, dark yellowish brown (10YR4/6) clay loam with increasing density; and disturbed silty clay loam that appears to be a mixture of the two previously mentioned soil types, as well as many gravels. These profiles were found near the banks of Onion Creek, throughout the central portion of the APE, and along the park's interface with Nuckols Crossing Road, respectively, with thinner soils present in the northern and western ends of the APE.

No archeological materials, features, or sites were recorded during this survey. 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 (36 CFR 60.4; 13 TAC 26.8).

5. Summary and Recommendations

In September 2017, a full-coverage archeological survey was completed across a 30 ac APE within the larger 555 ac Onion Creek Metro Park in Travis County, Texas. The APE exists as a relatively flat, treed lot with moderate ground surface visibility (30 to 50 percent). Areas flanking the APE include the Nuckols Crossing Road roadway to the east and south, as well as Onion Creek to the west and north. Roadway construction and buried utility installation has left the soils in the APE adjacent to the roadway heavily disturbed. In all, 21 shovel test units were excavated across the APE; none of the units yielded materials or deposits of archeological interest. No archeological materials, features, or sites were recorded during this survey.

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 (36 CFR 60.4; 13 TAC 26.8). Thus, the proposed construction activities can proceed as planned. If any archeological materials are inadvertently uncovered during the proposed construction activities, construction should cease and THC personnel should be notified immediately.

No materials were collected during the investigation; therefore, this project generated no archeological materials to be curated. Notes, forms, and other project data will be made permanently available to future researchers at CAS, per TAC 26.16 and 26.17.

The THC concurred with the findings of this report on November 27, 2017.

6. Figures

- Figure 1: OMITTED

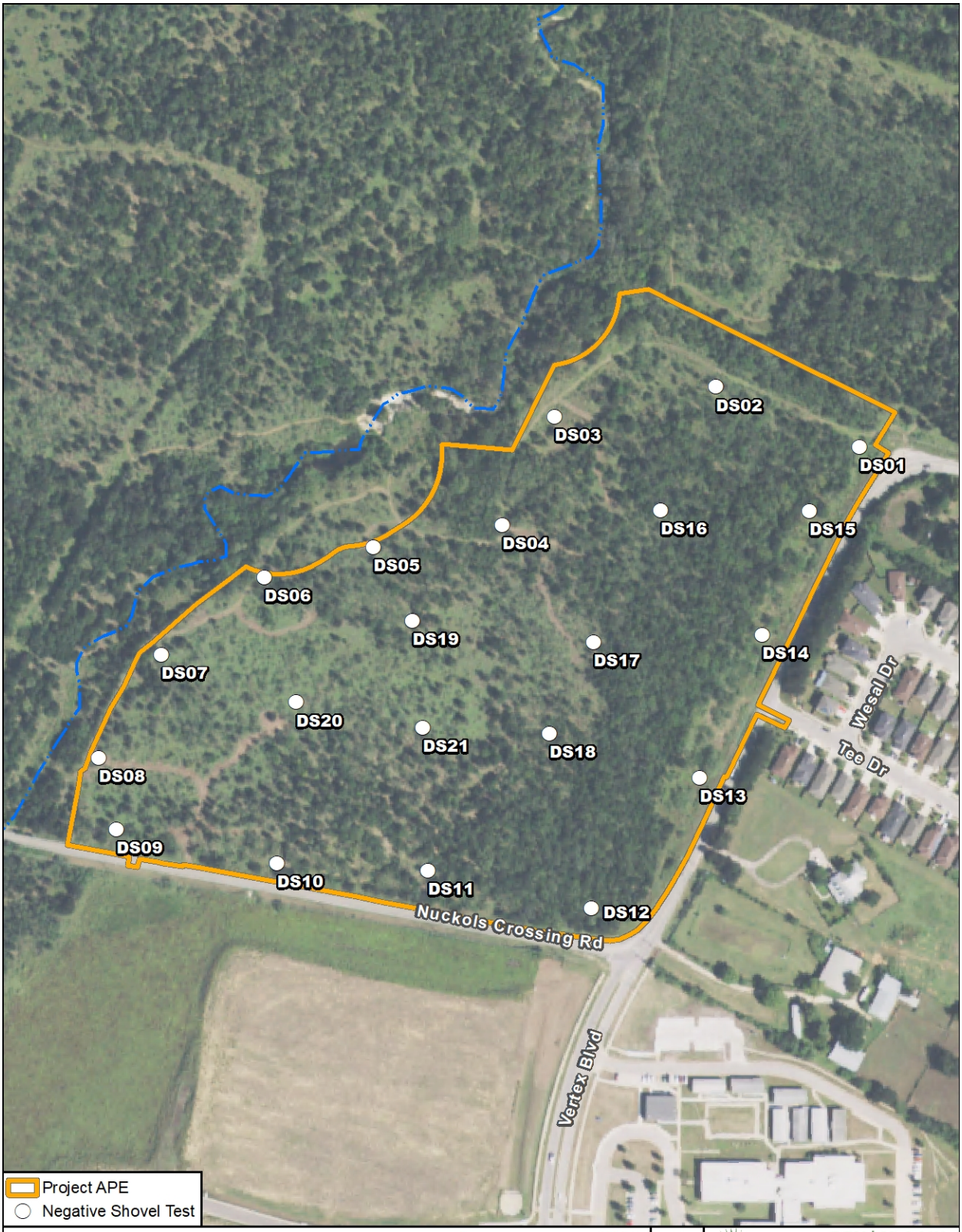

Figure 2
Survey Results
Onion Creek Metro Park

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Figure 3: View of vegetation and cleared road in APE. Facing west.

Figure 4: View of vegetation and small clearing in APE. Facing southwest.

Figure 5: View of vegetation and small clearing in APE. Facing north.

Figure 6: View of Nuckols Crossing Road at southeast end of APE. Facing west.

Figure 7: View of Nuckols Crossing Road and bridge over Onion Creek. Facing southwest.

Figure 8: View of the east bank of Onion Creek. Facing north.

Figure 9: View of two-track roads in APE. Facing west.

Figure 10: View of small culverted drainage in APE. Facing northwest.

Figure 11: View of buried utilities in APE, along Nuckols Crossing Road. Facing northeast.

Figure 12: View of modern refuse in APE.

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