

# Archaeological Monitoring of Tree Plantings at Selected San Antonio Parks, Bexar County, Texas

by

Cathy A. Stacy, Antonia L. Figueroa, and Justin Blomquist



Texas Antiquities Permit No. 5786  
and  
Texas Historic Commission  
Historic Structures Permit No. 790

Principal Investigator  
Raymond Mauldin

*Prepared for:*  
City of San Antonio  
Parks and Recreation Department  
5800 Enrique M. Barrera Parkway  
San Antonio, Texas 78227



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Center for Archaeological Research  
The University of Texas at San Antonio  
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San Antonio, Texas 78249-1644  
Technical Report, No. 44

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## **Abstract:**

From November 9, 2010, through March 13, 2016, the Center for Archaeological Research (CAR) of The University of Texas at San Antonio intermittently conducted archaeological monitoring for the City of San Antonio Tree Planting Initiative. This initiative was designed to improve San Antonio's tree canopy across all 10 City Council Districts. The archaeological project involved monitoring the excavation of holes for the planting of 1,085 trees within multiple parks and cemeteries throughout the city. Archaeologists targeted monitoring locations identified to have a moderate-to-high probability of containing buried cultural deposits. The project was sponsored by the City of San Antonio Parks and Recreation Department and was conducted under Texas Antiquities Permit No. 5786. Dr. Steve Tomka was the original permit holder. After Tomka's departure from CAR, the Texas Historical Commission (THC) permit was transferred to Dr. Raymond Mauldin in 2015. In addition, at the request of Sara Ludena (Project Reviewer, South Texas Region) of the Architecture Division of the THC, a historic structures permit (No. 790) was obtained for tree planting in Brackenridge Park due to the number (n=22) of trees to be planted at the historic park.

The first of the monitoring occurred from November 9, 2010, through March 5, 2011. Cathy A. Stacy served as the monitor during this phase of the investigations. Mechanical auger bores (n=848) were excavated to facilitate the planting of trees in Olmos Basin Park, Mahncke Park, San Pedro Springs Park, Crockett Park, City Cemetery No. 3, Roosevelt Park, San José Burial Park, Espada Park, and Stinson Park. Cultural material was encountered at City Cemetery No. 3, though it was not associated with intact deposits nor were the finds significant. The different types of material were documented, but not collected.

The second phase of monitoring took place on January 17, 2013. Justin Blomquist served as the monitor. Ninety-two mechanical auger bores were excavated for the planting of trees in City Cemetery No. 4, Confederate Cemetery, and City Cemetery No. 6. No historic or prehistoric deposits were identified during the excavations, and no temporally diagnostic artifacts were recovered during the monitoring.

The third phase of monitoring was conducted in 2016, and Antonia L. Figueroa served as the Project Archaeologist. Tree planting activities in Brackenridge Park Lambert Beach, City Cemetery No. 1, No. 3, No. 6, and the Independent Order of Odd Fellows Cemetery were monitored. During this phase, 145 auger bores were excavated. No intact historic or prehistoric deposits were identified during the excavations, and no temporally diagnostic artifacts were recovered during monitoring.

CAR recommends no additional work at this time, though additional excavations in high probability areas could require monitoring. All project-related documentation are permanently curated at the CAR facility.

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## **Acknowledgements:**

The authors would like to thank several individuals for their involvement in this project. Michael Rubanka, San Antonio Parks and Recreation Senior Horticulturist, and Trudy Bahr (formerly with the San Antonio Parks and Recreation Department) worked with CAR staff to coordinate the project and the excavation of the auger holes. Special thanks go to Kay Hindes, City Archaeologist, for her assistance throughout this long project. Thanks to the Texas Historical Commission, including Mark Denton and Sara Ludena.

Rick Young aided with some figures for the earlier portions of the report. Jessica Nowlin produced the maps. Kelly Harris edited the report. Dr. Paul Shawn Marceaux and Dr. Raymond Mauldin offered guidance during the course of the project and made it possible to complete the work.

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# Chapter 1: Introduction and Areas of Potential Effect

From November 9, 2010, through March 13, 2016, the Center for Archaeological Research (CAR) at The University of Texas at San Antonio monitored the excavation of 1,085 planting holes for trees on property owned by the City of San Antonio (COSA). The monitoring was conducted under contract between COSA and the CAR. During the project, CAR staff monitored excavations at 10 COSA-owned locations within San Antonio, Bexar County, Texas (Figures 1-1 and 1-2).

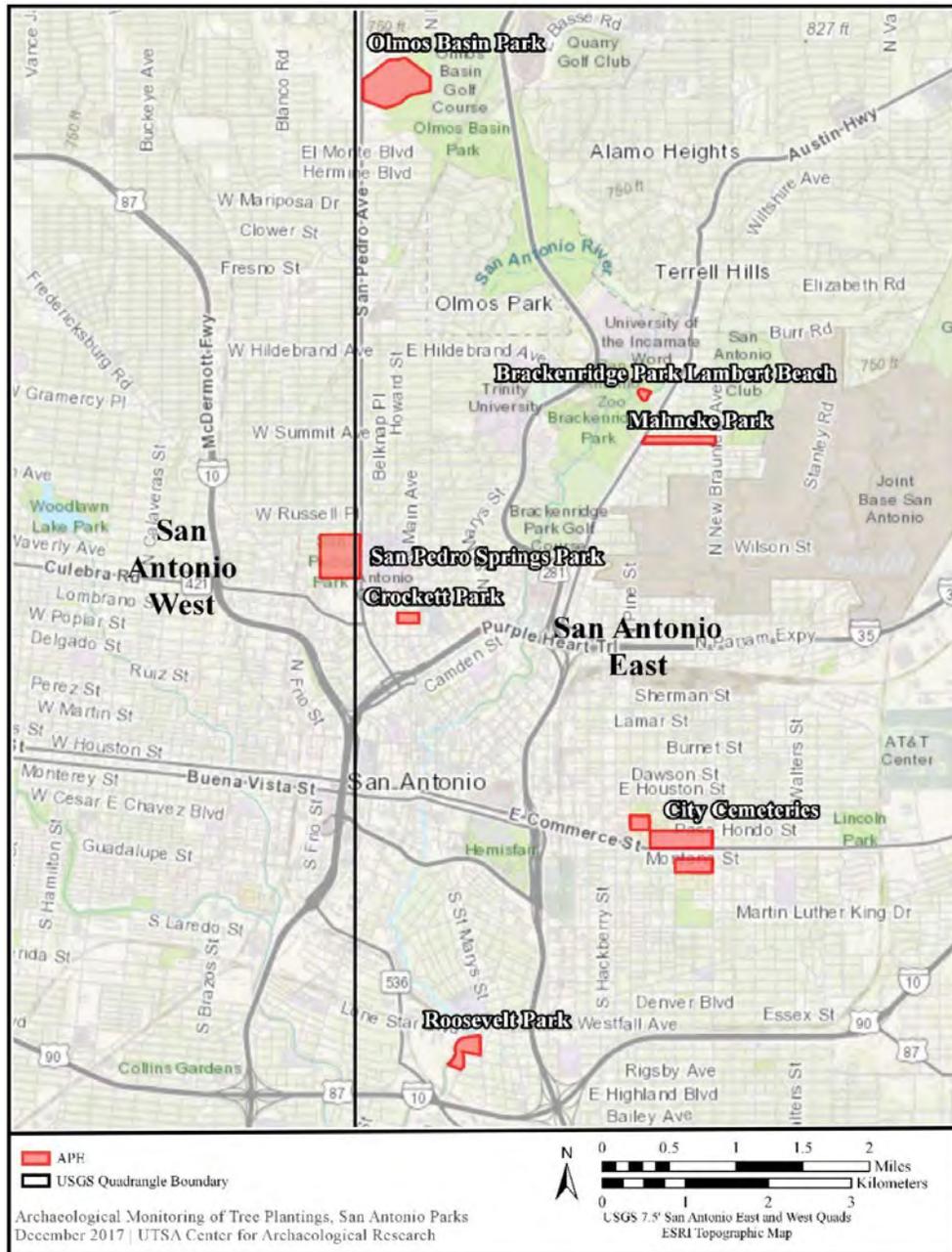
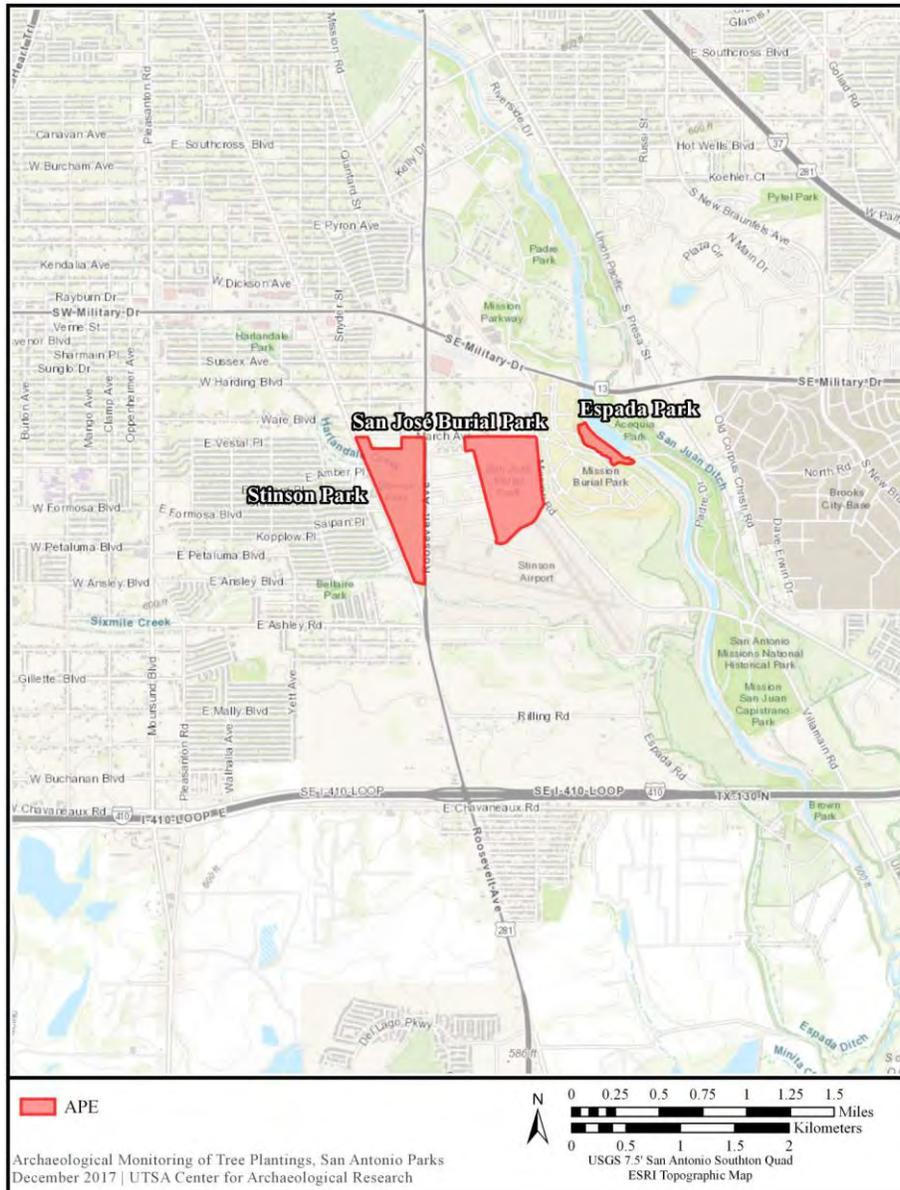


Figure 1-1. Locations of seven of the Areas of Potential Effect (APEs) on a composite of the San Antonio East (2998-133) and San Antonio West (2998-244) USGS 7.5-minute quadrangle maps.



*Figure 1-2. Three locations of the APEs on the Southton (2998-132) USGS 7.5-minute quadrangle map.*

Based on an agreement between the COSA Office of Historic Preservation (COSA-OHP) and the Parks and Recreation Department (COSA-PRD), CAR staff monitored the planting of trees in areas where there was a moderate-to-high probability of encountering buried cultural artifacts. CAR performed the work under the Antiquities Code of Texas (Title 9, Chapter 191 Texas Natural Resource Code) and the regulations and requirements of the Archeology Division of the Texas Historical Commission (THC). The project fell under COSA Unified Development Code (Article 635-630 to 35-634) and was conducted under the Texas Antiquities Permit No. 5786. Antonia L. Figueroa served as the Project Archaeologist, taking over for Kathy C. Stacy and Justin Blomquist. Dr. Steve Tomka was the original Principal Investigator, and the THC permit

hold was transferred to Dr. Raymond Mauldin in 2015. In 2015, THC Historic Buildings and Structures Permit No. 790 was obtained for the work at Brackenridge Park due to the number (n=22) of trees that were to be planted in the park. CAR staff monitored the mechanical excavation of 1,085 auger bores to facilitate the planting of trees in 10 locations around the city. Although cultural material was encountered at City Cemetery No. 3, the deposits were not intact nor significant. Further work was not recommended in the APEs, and the tree planting proceeded. No artifacts were collected, and all project-related documentation is permanently curated at the CAR facility.

### **Areas of Potential Effect**

There are 10 Areas of Potential Effect (APEs) depicted on three USGS 7.5-minute quadrangle maps (see Figures 1-1 and 1-2). The 10 APEs covered approximately 149.5 hectares (369.2 acres) in 15 parks (Table 1-1). The City Cemeteries APE included six distinct cemetery areas (No. 1, No. 3, No. 4, No. 6, the Independent Order of the Odd Fellows Cemetery, and the Confederate Cemetery). The discussion of the APEs is organized by the quad maps, beginning with San Antonio East and San Antonio West. The remaining APEs are located on the Southton quad map.

Table 1-1. List of Park APEs and Their Associated Areas

<b>Park APE</b>	<b>Hectares</b>	<b>Acres</b>
Olmos Basin Park	25.1	62.0
Brackenridge Park Lambert Beach	1.1	2.6
Mahncke Park	5.5	13.5
Crockett Park	2.4	6.0
City Cemeteries (combination of all 6 cemeteries)	20.4	50.4
Roosevelt Park	6.0	14.9
San Pedro Springs Park	18.6	46.0
San José Burial Park	35.7	88.2
Espada Park	4.3	10.6
Stinson Park	30.4	75

### **San Antonio East Quad**

#### **Olmos Basin Park**

The northernmost of the parks identified for tree planting is Olmos Basin Park. The park is situated along Olmos Creek just upstream of Olmos Dam (Figure 1-3). The APE is bounded to the northeast by Jackson Keller Road, to the northwest by commercial buildings, to the east by North McCullough Avenue, to the south by other portions of the park, and to the west by San Pedro Avenue. After the completion of the Olmos Dam in 1928, the need to preserve the surrounding area led to the creation of Olmos Basin Park

(Allen 2011). While some park amenities were constructed immediately after the completion of the dam, more extensive facilities were added in the early 1940s after the project received federal funding, and the park was designated as a Civilian Conservation Corps Camp (Allen 2011). At present, there are multiple athletic fields, a picnic area, and 2.2 km (1.37 mi.) of trails within the park (COSA-PRD 2018a).



Figure 1-3. Aerial photograph showing the Olmos Basin Park APE (outlined in red).

### **Brackenridge Park Lambert Beach**

Brackenridge Park Lambert Beach is bound by the San Antonio River to the west, south, and east (Figure 1-4). The northern boundary is marked by the baseball field fence line. The Witte Museum is southeast of the APE on the opposite bank of the San Antonio River. Brackenridge Park encompasses portions of the San Antonio River and includes tourist attractions such as the Japanese Tea Garden, the Sunken Garden Theater, the San Antonio Zoo, and several ballparks (COSA-PRD 2018b). The park was founded in 1899 and named after George Brackenridge, who donated the land to the City of San Antonio (Pfieffer et al. 2011).

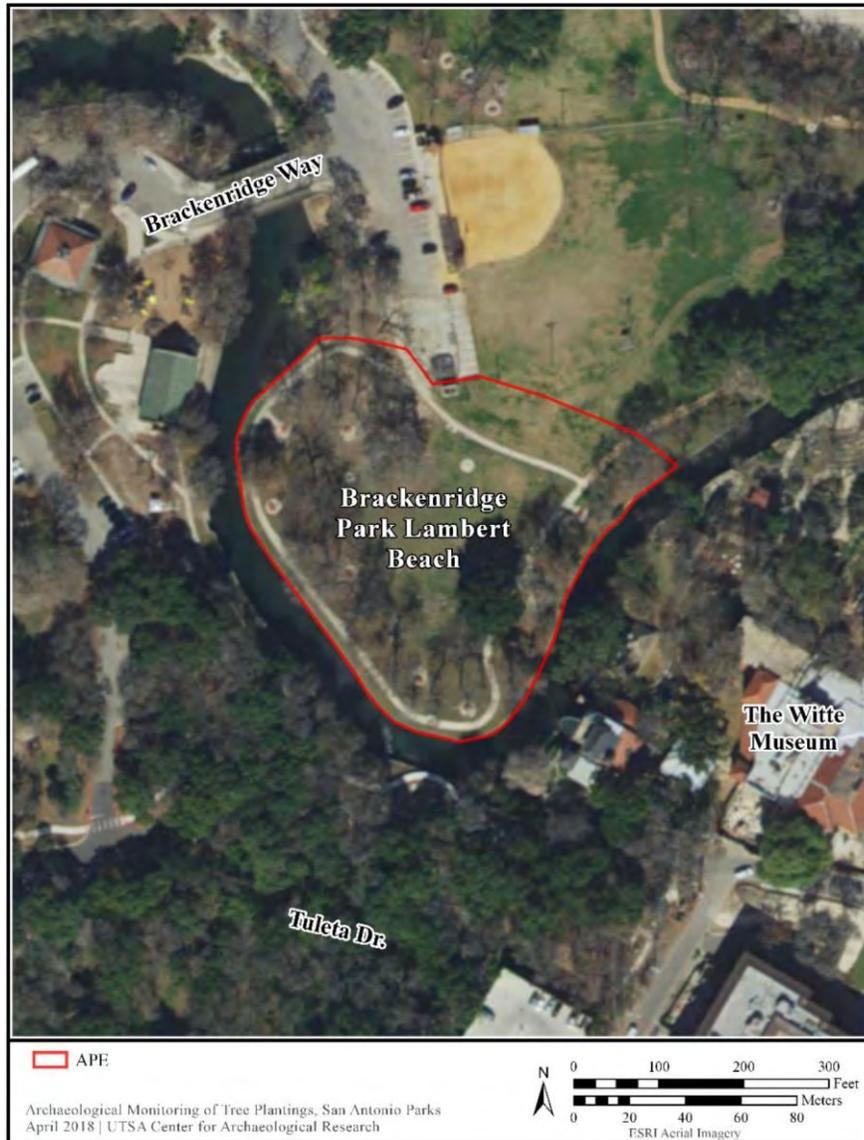


Figure 1-4. Aerial photograph showing the Brackenridge Park Lambert Beach APE (outlined in red).

### Mahncke Park

Mahncke Park is a long, narrow strip of mostly undeveloped green space laid out on an east/west axis between Parland Place and Funston Place (Figure 1-5). The east end is bounded by North New Braunfels Avenue and the Botanical Gardens, and Broadway Street and Brackenridge Park provide the boundary for the west end of the park. Brackenridge donated the land for use as “a continuous drive from the City through Brackenridge Park to the Reservoir” with the stipulation that the park be named after City Park Commissioner Ludwig Mahncke (COSA-PRD 2018c). As one of the smaller parks in San Antonio, Mahncke does not have many amenities; however, it does offer its visitors a 0.8-km (0.5-mi.) trail and ornamental water fountains (COSA-PRD 2018c).



Figure 1-5. Aerial photograph showing the Mahncke Park APE (outlined in red).

### Crockett Park

Crockett Park, or the “Twin Parks,” is located in Crockett Square. The park is bounded by West and East Laurel streets to the north, Ogden Street to the east, West and East Cypress streets to the south, and Howard Street to the west. North Main Avenue runs through the middle of the park, dividing it in two sections (Figure 1-6). The small size of the park allowed for the construction of a sidewalk on the perimeter of the park and the placement of “internal walks radiating from a central, circular sidewalk to the corners of the square” within the park grounds (COSA-PRD 2018d). Named after Davy Crocket, the flowers planted within the park are intended to represent different parts of his life: “an iris from his home state of Tennessee, the bluebonnet for Texas, the state he helped liberate, and a dahlia, representing Mexico, to which he intended to immigrate and where he ended up during the revolution” (COSA-PRD 2018d).

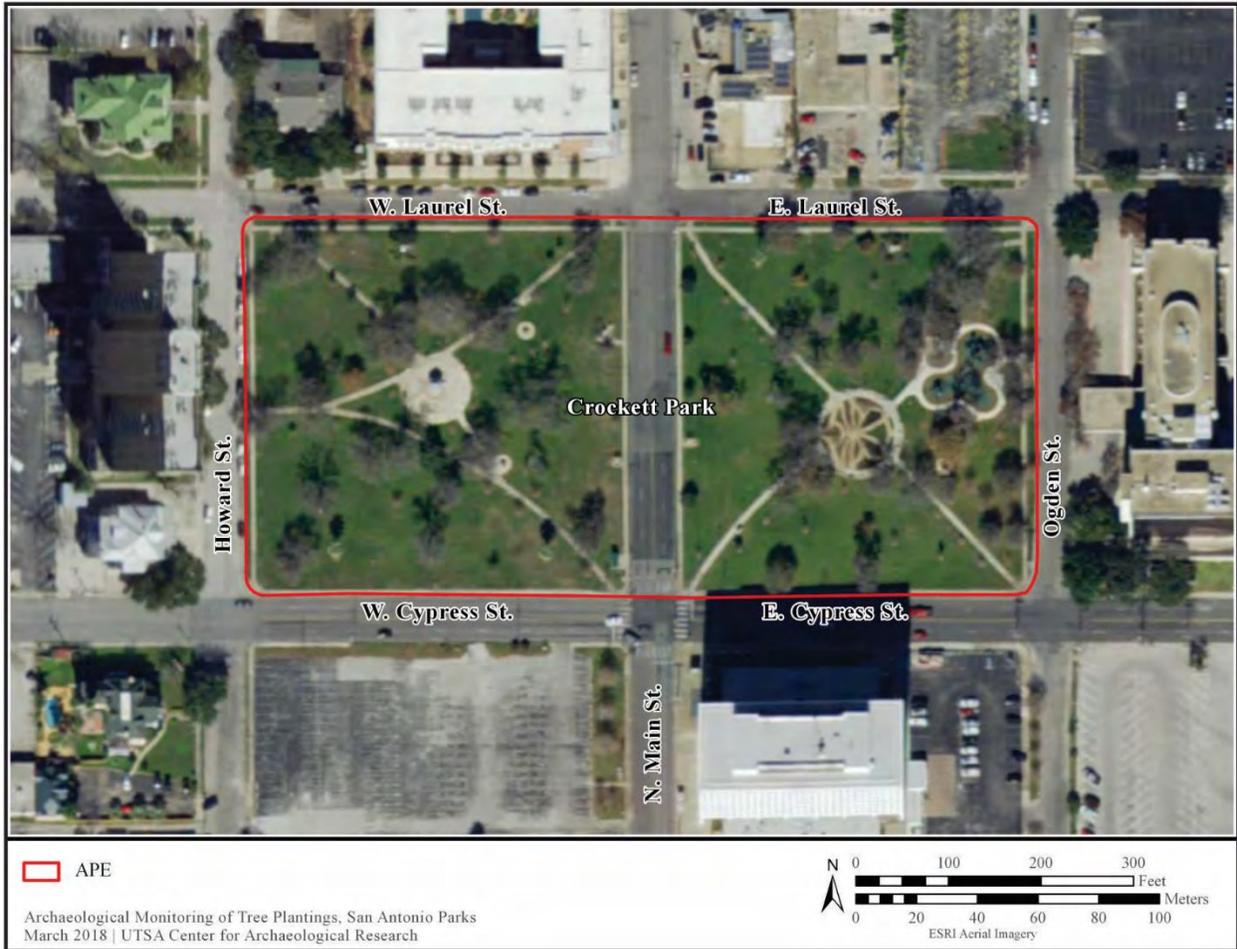


Figure 1-6. Aerial photograph showing the Crockett Park APE (outlined in red).

### City Cemeteries

Six City Cemeteries were part of the project, including Nos. 1, 3, 4, 6, the Independent Order of the Odd Fellows, and the Confederate Cemetery. The properties are located within the Old San Antonio City Cemeteries Historic District and make up the Eastside Cemetery Historic District (THC 2018). Figure 1-7 depicts the locations of the cemeteries and the areas that make up the APE.

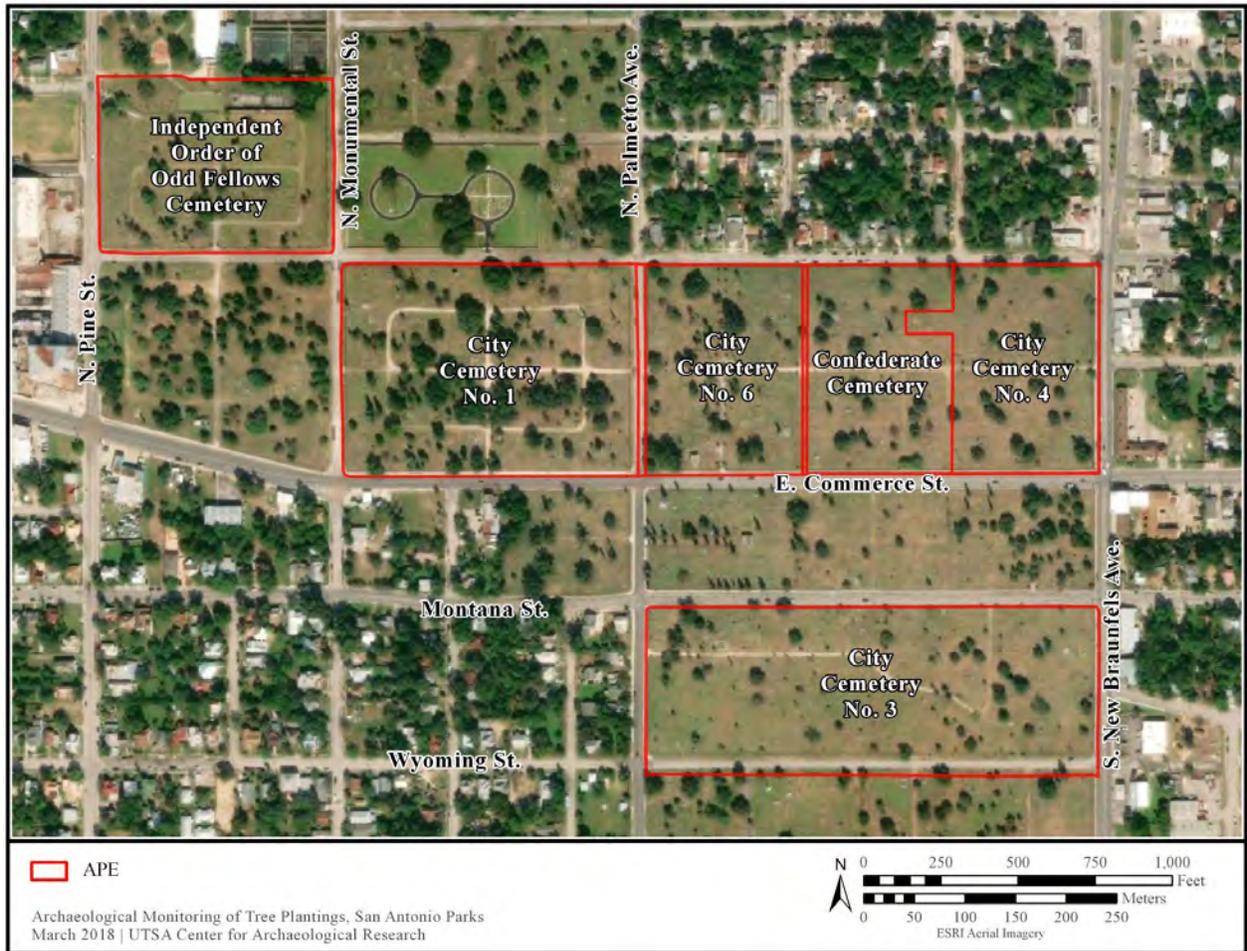


Figure 1-7. Aerial photograph showing the City Cemeteries APE (outlined in red).

The Independent Order of Odd Fellows Cemetery is located on the northwest boundaries of the Eastside Cemetery District (see Figure 1-7). This cemetery was established in 1854 (COSA-PRD 2018e). The cemetery is bound to the west by North Pine Street and to the east by Monumental Street.

City Cemetery No. 3 is a rectangular property bounded by Montana Street to the north, South New Braunfels Avenue to the east, Wyoming Street to the south, and South Palmetto Street to the west (Figure 1-7). The cemetery was established in 1889, and although people of multiple races and ethnicities have been buried in this location, the property was deeded to various African-American fraternal orders throughout the years (COSA Office of Cultural Affairs 2012).

## Roosevelt Park

Roosevelt Park is bounded by South St. Mary's Street to the east and the San Antonio River to the west (Figure 1-8). The park was originally a gravel pit and was established in 1920 (COSA-PRD 2018f). The park has been renovated to provide visitors with access to a swimming pool, playground area, picnic area, and basketball court as well as a community building and two pavilions that can be used for larger gatherings (COSA-PRD 2018f).

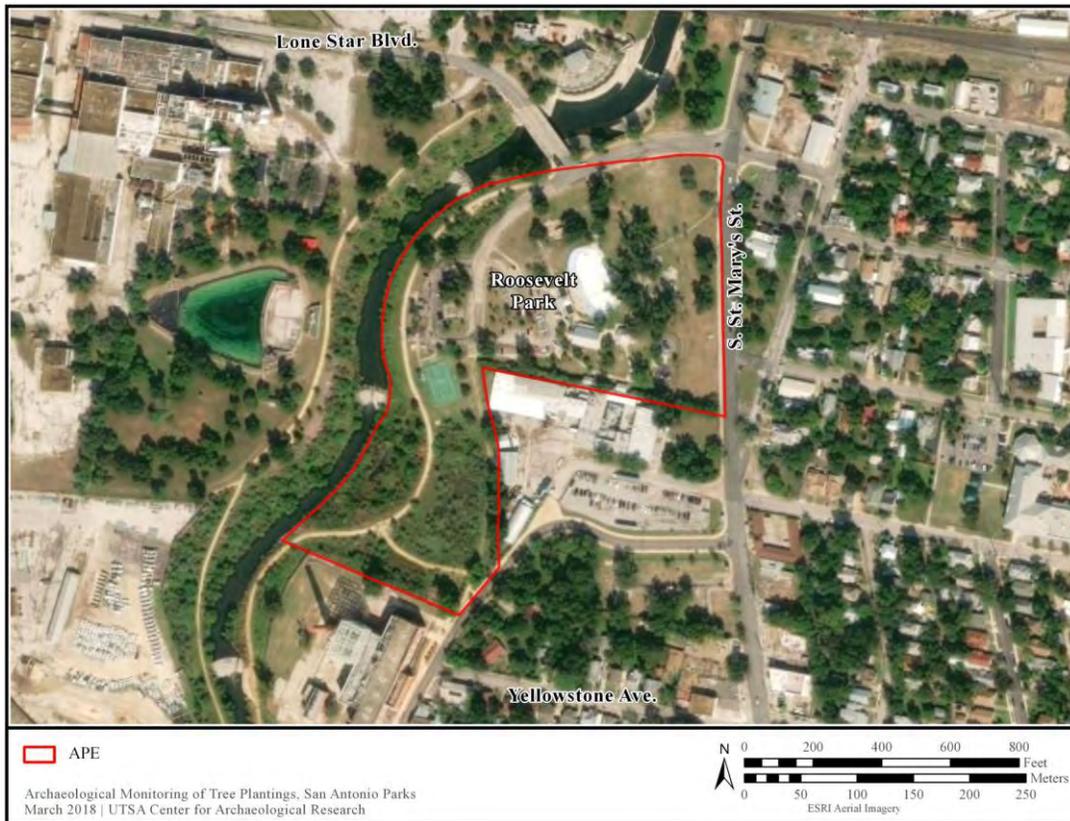


Figure 1-8. Aerial photograph showing the Roosevelt Park APE (outlined in red).

## San Antonio West and East Quad

### San Pedro Springs Park

This park is located in midtown San Antonio, about 2.6 km (1.6 mi.) north of downtown. It is bounded by West Ashby Place to the north, San Pedro Avenue to the east, West Myrtle Street to the south, and North Flores Street to the west (Figure 1-9). Although San Pedro Springs Park encompasses an area of 18.6 hectares (46 acres), the name originates from the springs named by Fathers Antonio de San Buenaventura and Isidro Félix de Espinosa in 1709 (COSA-PRD 2018g). Since then, the park has been the location for military encampments, a political venue for Sam Houston in 1860, a Civil War prison, a small zoo, and the Museum of Natural History (COSA-PRD 2018g).



Figure 1-9. Aerial photograph showing the San Pedro Springs APE (outlined in red).

## Southton Quad

### San José Burial Park

San José Burial Park is bounded by Mission Road to the east, March Avenue to the north, Cadmus Street and 99th Street to the south, and Echo Street and Damon Street to the west (Figure 1-10). The park is part of the Mission Parkway National Register District. Established in March of 1922 as City Cemetery No. 8, the City Council renamed it San José Burial Park in January of 1923 (COSA Municipal Archives and Records 2012).



Figure 1-10. Aerial photograph showing the San José Burial Park APE (outlined in red).

### Espada Park

The APE within Espada Park is bound by the the Espada *Acequia* on the southwest and Mission Parkway to the northeast (Figure 1-11). Espada Park is part of the Mission Parkway National Historic District. The San Antonio River and Espada Dam are located on the opposite sides of Mission Parkway (Figure 1-11).



Figure 1-11. Aerial photograph showing the Espada Park APE (outlined in red).

### Stinson Park

Stinson Park is a long, wedge-shaped park bounded by March Avenue to the north, Roosevelt Avenue to the east, and South Flores Street to the west (Figure 1-12). The 30.4-hectare (75-acre) park offers visitors the use of four baseball fields and one softball field (COSA-PRD 2018h). Harlandale Creek separates the baseball fields from the main park, which has walking trails.



*Figure 1-12. Aerial photograph showing the Stinson Park APE (outlined in red).*

Following this introductory chapter and its review of the 10 APEs, Chapter 2 discusses the general environmental setting of San Antonio and the previous archaeology conducted at the APE locations. Chapter 3 outlines the field and laboratory methods used for the project. In Chapter 4, the results of the tree planting are presented, and Chapter 5 provides a summary and recommendations of the project.

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## Chapter 2: Project Background and Previous Archaeology

This chapter gives a brief overview of the environment and previous archaeological investigations associated with the APEs.

### Environmental Setting

This section presents a brief overview of the San Antonio physical environment. The San Antonio region is described as a moderate, subtropical, humid climate with generally cool winters and hot summers (Norwine 1995; Taylor et al. 1991). Between 1980 and 2010, monthly average temperatures in San Antonio varied between 51°F and 83°F. The average annual temperature in San Antonio for this period was 69.5°F (National Oceanic and Atmospheric Association [NOAA] 2016). The warmest months are July and August, while the coolest are December and January. Annual rainfall peaks (32.5 cm; 12.8 in.) in May and June with smaller peaks occurring in the fall months of September and October. The driest period occurs from winter to early spring in the months of December, January, February, and March with an average of 6.4 cm (2.5 in.) of precipitation (NOAA 2016) each month.

Soils for the 10 different APEs are listed in Table 2-1. Further information on soils can be obtained on the USDA Natural Resources Conservation Service Soils website (NRCS 2018).

Table 2-1. Soil Series/Types for the APEs

<b>Location</b>	<b>Soil Series</b>
Olmos Basin Park	Branyon Clay
Brackenridge Park Lambert Beach	Tinn and Frio
Mahncke Park	Heiden-Ferris/Lewisville/Houston Black
Crockett Park	Branyon Clay
City Cemeteries	Olmos/Houston Black
Roosevelt Park	Loire Clay Loam
San Pedro Springs Park	Branyon/Eckrant
San José Burial Park	Lewisville
Espada Park	Loire
Stinson Park	Branyon

### Previous Archaeology

Site 41BX1 has been the most extensively investigated archaeological site at Olmos Basin Park. The site was discovered and impacted during construction of the Olmos Dam in 1925 (Orchard and Campbell 1954). In 1979, several Late Archaic human burials were encountered (Lukowski et al. 1988). Numerous archaeological investigations at the Olmos Basin Park were conducted by CAR during the 1970s (Assad

1979; Brown 1977; Fox 1975; Kelly and Eaton 1979; Luke 1974). CAR conducted additional archaeological work more recently at the park in 2014 (Wigley et al. 2014). The 2014 investigations identified two new prehistoric sites (41BX2008 and 41BX2009), and the previously recorded prehistoric site, 41BX1426, was revisited (Wigley et al. 2014).

The first archaeological work performed within Brackenridge Park was conducted in 1976 by CAR (Katz and Fox 1979). Results of the 1976 survey identified 27 historic buildings or features within the park (Katz and Fox 1979:12-22). Contemporary archaeological investigations at the park were performed by CAR (McKenzie 2017) in 2013 and 2014. This work included investigations at the Alamo Dam (41BX2056) and the Upper Labor Dam (41BX1273).

Roosevelt Park is part of the Mission Parkway National Register District (THC 2018). Two significant historic properties (41BX278 and 41BX1665) are found within or very near the bounds of the park. Abasolo Archaeology recorded site 41BX1665 within the park boundaries in 2006 during the Roosevelt Park Archeological Survey (Shafter and Hester 2006).

San Pedro Springs Park (41BX19), a multicomponent site, is listed on the National Register of Historic Places and is a State Antiquities Landmark. Previous archaeological investigations have indicated the site was used from prehistoric to Spanish Colonial times (Houk 1999; Meissner et al. 2000). Testing of the site by CAR in 2013 indicated use of the area from the Late Archaic to the Proto-historic/Spanish Colonial period (Mauldin et al. 2015). Spanish Colonial period features at the park include the San Pedro *Acequia* and the Upper Labor *Acequia*.

Espada Park also is part of the Mission Parkway National Register Historic District. Two significant historic properties are found within the bounds of Espada Park. They are the Espada Dam (41BX280) and Espada *Acequia* (41BX269). The acequia begins at the dam, passes Mission Espada, and reenters the San Antonio River near Cassin Lake. Espada Park is located next to the Espada Aqueduct and Espada Dam, both National Historic Landmarks built during the first half of the eighteenth century, and each continue to provide water for irrigating the surrounding area (Eckhardt 2012).

## Chapter 3: Field and Laboratory Methods

The specific locations and species (e.g., cedar, elm, oak, and pine) of the trees to be planted within each APE were determined by the Senior Horticulturist of the San Antonio Parks and Recreation Department. Within the cemeteries, general locations, such as areas adjacent to internal and external roadways, areas outside the fenced cemetery boundaries, and areas outside marked burial plots, were coordinated with the City Archaeologist with the purpose of avoiding areas that might potentially contain burials or human remains. A CAR staff archaeologist was present during the mechanical excavation of the auger bores needed for the planting of all 1,085 trees.

### Field Methods

The planting holes were excavated using a Hertz 185 Turbo Auger Drill (Figure 3-1). The excavated holes were approximately 61 cm (24 in.) in diameter and extended to a depth of 20.4-40.6 cm (8-16 in.; Figure 3-2). The depth of the holes varied by tree size, i.e., the larger the tree the greater the depth. After the holes were excavated, the trees (Figure 3-3) were placed in them, and the dirt from the excavation was used to fill in the hole around the roots and trunk of the tree. CAR staff monitored and inspected the soil while each auger hole was excavated.



*Figure 3-1. Bobcat mounted auger used to drill the planting holes.*



*Figure 3-2. Typical auger hole for tree planting.*



*Figure 3-3. Auger boring at the City Cemeteries in 2015.*

Prior to the commencement of the project, it was determined that should prehistoric or historic cultural remains and/or features be encountered during the course of the monitoring, the CAR archaeologists would halt the excavations, and tree placement would be relocated. The archaeological material encountered during the monitoring was documented using digital photography, sketch drawings, and GPS recording.

## **Laboratory Methods**

Throughout the project, the analysis and organization of records and daily logs were ongoing. All records generated during the project were prepared in accordance with federal regulations 36 CFR Part 79 and THC requirements for State Held-in-Trust collections. Field forms were printed on acid-free paper and completed with pencil.

All field notes, forms, photographs, and drawings were placed in labeled archival folders. Digital photographs were printed on acid-free paper and placed in archival-quality page protectors. All project related materials, including the final report, will be permanently stored at the CAR curation facility.

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## Chapter 4: Results of Monitoring

CAR staff conducted archaeological monitoring of tree plantings as part of the City of San Antonio Tree Planting Initiative intermittently from 2010 to 2016. In total, 1,085 auger holes were excavated for tree planting (Table 4-1). The only cultural materials observed were at City Cemetery City No. 3 monitoring in 2011. The materials (brick fragments, ceramics, glass, and metal) were documented, but not collected. No human remains were encountered during excavations.

Table 4-1. Auger Holes Excavated During Tree Planting Monitoring

<b>Location</b>	<b>No. of Auger Holes</b>
Olmos Basin Park	92
Brackenridge Park Lambert Beach	22
Mahncke	75
Crockett Park	51
City Cemetery No. 1, 6, and Odd Fellows	61
City Cemetery No. 3 (2011)	150
City Cemetery No. 3 (2016)	62
City Cemetery No. 4, 6, and Confederate	92
Roosevelt Park	105
San Pedro Springs Park	16
San José Burial Park	150
Espada Park	40
Stinson Park	169
<b>Total No. of Auger Holes</b>	<b>1,085</b>

### Olmos Basin Park

The excavations of 92 auger holes were monitored at Olmos Basin Park on December 12, 2010. The soil varied from a light brown loam to a black clay. The general location of the trees planted within the APE is shown in Figure 4-1. No cultural material was observed or collected, and tree planting proceeded as planned.



Figure 4-1. General location of trees planted (highlighted in yellow) within the APE at Olmos Basin Park.

### **Brackenridge Park Lambert Beach**

Twenty-two trees were planted at Brackenridge Park on the Lambert Beach area, near the baseball diamond, on July 12, 2015 (Figure 4-2). Gravels were present in most augered areas. A small irrigation line was encountered in Auger Hole 18, and the hole was relocated 2 m (6.6 ft.) to the east. No cultural material was observed or collected, and tree planting proceeded as planned.



*Figure 4-2. General location of trees planted (highlighted in yellow) within the APE at Brackenridge Lambert Beach.*

### **Mahncke Park**

Seventy-five auger holes were drilled at Mahncke Park on November 19, 2010. The soils in the north-central portion of the project area consisted of dark brown clay loam with medium- to large-size gravels. In contrast, in the extreme east and west ends of the park the soil consisted of gray-to-white caliche with medium- to large-size gravels. The locations of the tree plantings are shown in Figure 4-3. No cultural material was observed or collected, and tree planting proceeded as planned.



*Figure 4-3. General locations of trees planted (highlighted in yellow) within the APE at Mahncke Park.*

### **Crockett Park**

In Crockett Park, 50 auger holes were bored on December 12, 2010, and one additional auger hole was drilled on December 16 to replace a tree that had died before the planting of new trees (making the total 51 auger holes). The general locations of the trees are shown on Figure 4-4. No cultural material was observed or collected, and tree planting proceeded as planned.



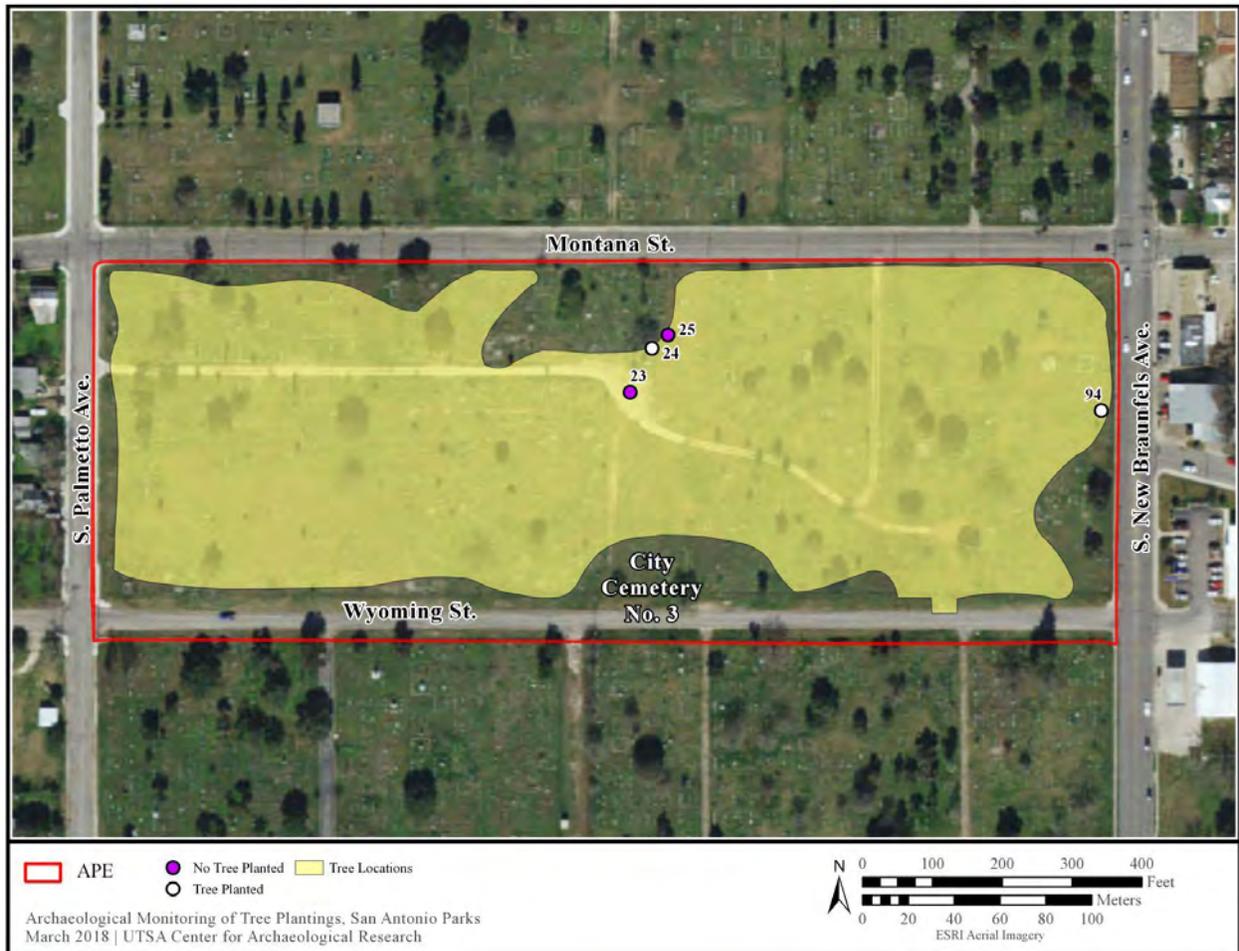
*Figure 4-4. General locations of trees planted (highlighted in yellow) within the APE at Crockett Park.*

## **City Cemeteries**

The following section covers monitoring results from six City Cemeteries over the course of six years. With the exception of City Cemetery No. 3, the discussions of monitoring activities are presented in chronological order.

### **City Cemetery No. 3 (2011)**

A total of 150 auger bores were drilled between April 26 and 27, 2011. Locations of areas subjected to the augering during the project are shown on Figure 4-6. Soils across the project area consisted of dark brown clay loam with little to no gravels. Soft limestone bedrock was present across much of the project area.



*Figure 4-5. General location of trees planted (highlighted in yellow), along with auger holes positive for cultural material, at City Cemetery No. 3 in 2011.*

Brick fragments (Figure 4-6) were observed in Auger Hole 23. It was decided that the planting hole be abandoned, and a new one was excavated a few feet away. Auger Hole 23 was backfilled after the photo documentation.



*Figure 4-6. Close-up of Auger Hole 23, note brick fragments in backdirt.*

Auger Hole 24 yielded a cut nail and a decorative hinge that may have been originally associated with a coffin. The materials came from an approximate depth of 30.5-40.6 cm (12-16 in.) below the surface near the very bottom of the auger bore. During the inspection of the auger boring and resulting backdirt, no other cultural materials were observed nor were any bones noted. An inspection of the deposits suggested the possible coffin hardware was likely previously disturbed and dislocated from its original association, and monitoring proceeded with caution. No other cultural items were found as the boring excavation was completed, and the planting was allowed to move forward.

Auger Hole 25 (see Figure 4-5) yielded fragments of broken red sewer pipe, flat glass of varying thickness, colored milk glass, bottle glass, and a piece of white earthenware. After photographs were taken to document the material, the hole was closed, and a new location was chosen. Auger Hole 94 yielded an intact 1881 Listerine bottle. Since no other artifacts were apparent, the boring was completed, and the tree was planted in the designated area. All artifacts were reburied.

### **City Cemetery No. 3 (2016)**

On March 13, 2016, CAR staff monitored the excavation of 62 auger holes for tree planting within City Cemetery No. 3 (see Figure 4-7). Soils were a clay loam, and no cultural material was observed or collected. Tree planting proceeded as planned. Figure 4-7 shows the general location of where the trees were placed.

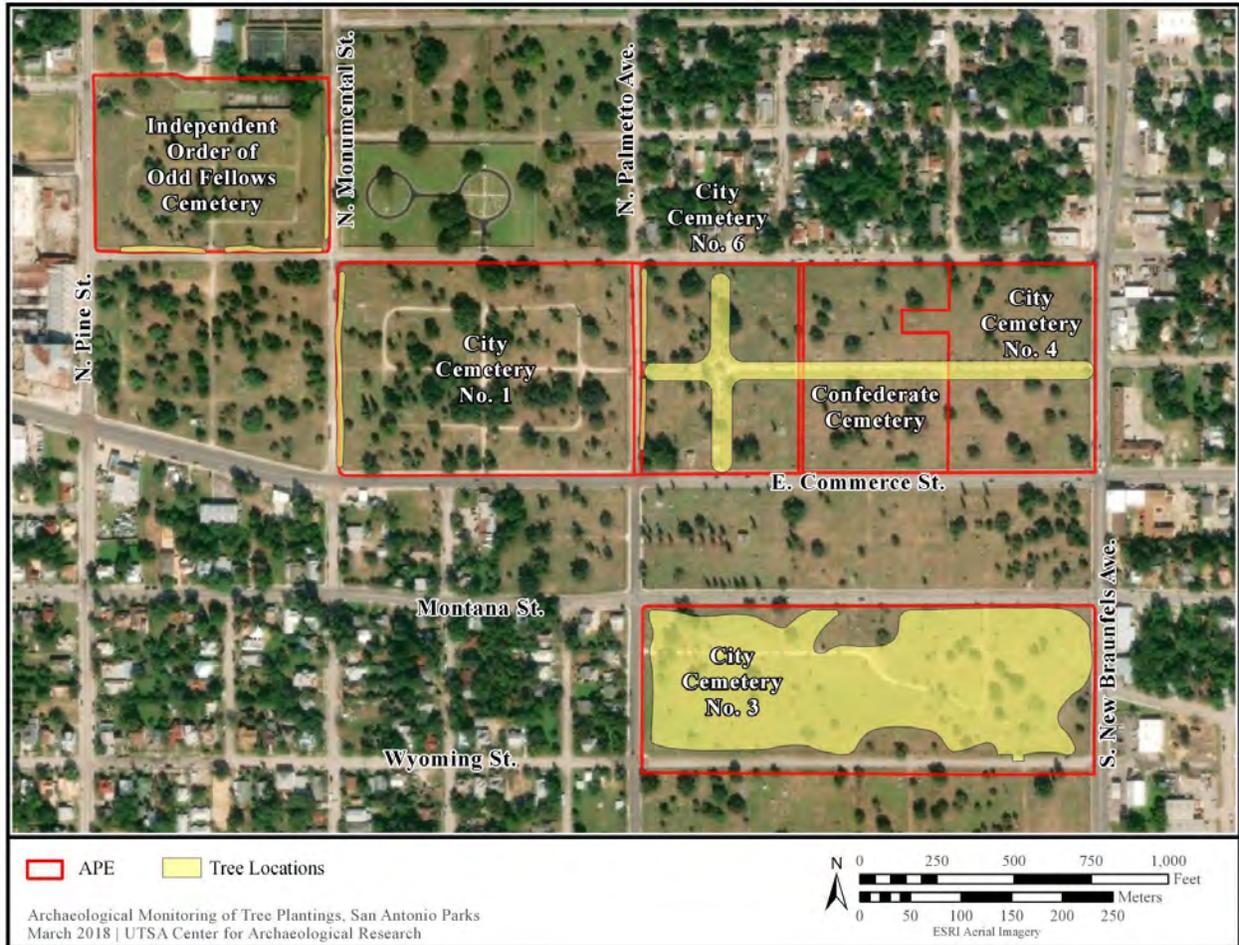


Figure 4-7. General locations of planted trees (highlighted in yellow) at City Cemetery No. 1, No. 3, No. 4, No. 6, the Confederate Cemetery and the Independent Order of the Odd Fellows Cemetery.

**City Cemetery No. 1, No. 6, and the Independent Order of Odd Fellows Cemetery (2015)**

On April 8, 2015, CAR staff monitored the excavations for the planting of 61 trees at City Cemetery No. 1, No. 6, and the Independent Order of Odd Fellows Cemetery. The general locations of the tree plantings are shown in Figure 4-7. No cultural material was observed or collected, and tree planting proceeded as planned.

**City Cemetery No. 4, No. 6, and the Confederate Cemetery (2013)**

On January 17, 2013, CAR staff monitored the excavation of 92 auger holes for tree planting within City Cemetery No. 4, No. 6, and the Confederate Cemetery. The top layer of soil was a hard, brown/gray clay with gravel and pebbles. Figure 4-8 shows the general locations of where trees were planted within the cemeteries. No cultural material was observed or collected, and tree planting proceeded as planned.



Figure 4-8. General locations of planted trees (highlighted in yellow) at City Cemeteries No. 4, No. 6, and the Confederate Cemetery.

### Roosevelt Park

Within the Roosevelt Park APE, 105 auger holes were excavated. Seventy-eight auger holes were bored on December 16, 2010, followed by another 27 on March 5, 2011. The soils consisted of light brown, silty clay across the project area. The general locations of trees planted are shown on Figure 4-9. No cultural material was observed or collected, and tree planting proceeded as planned.

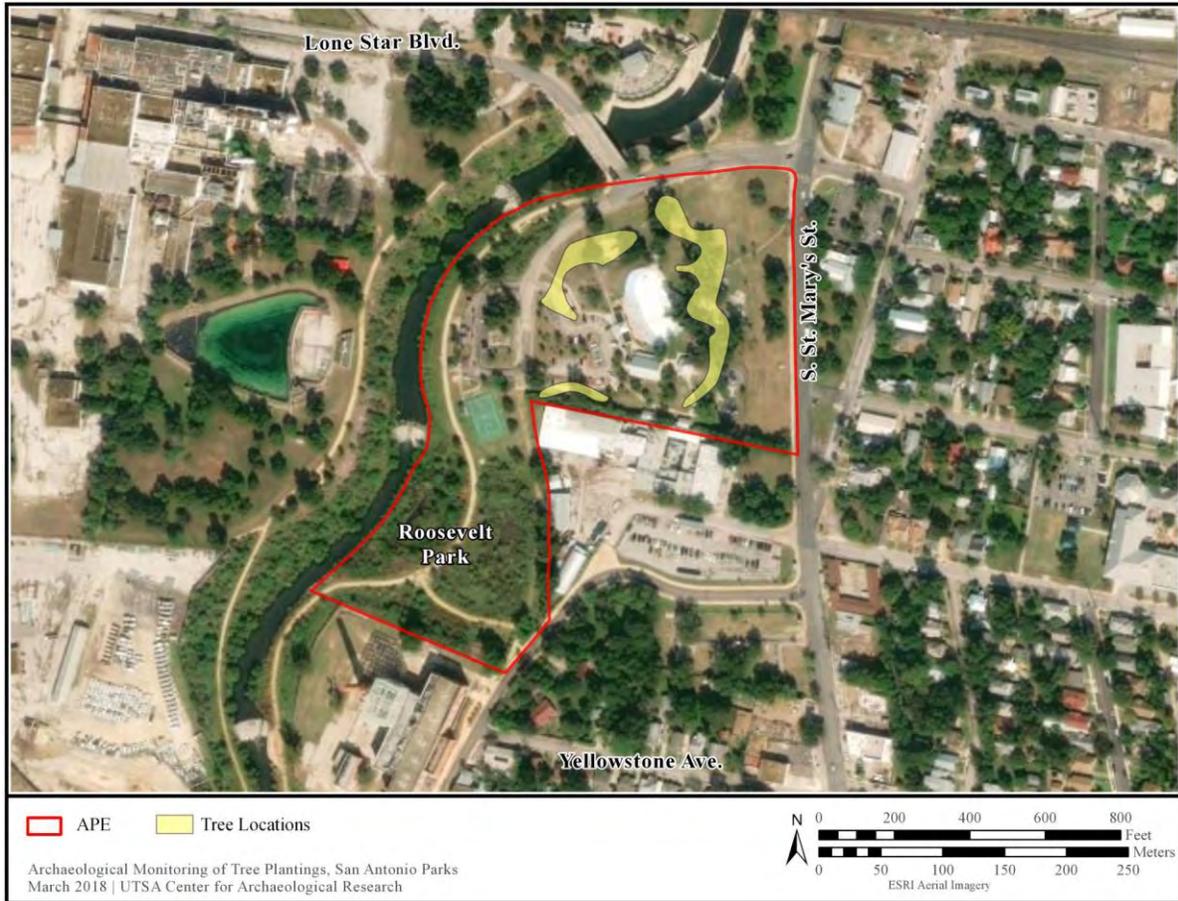


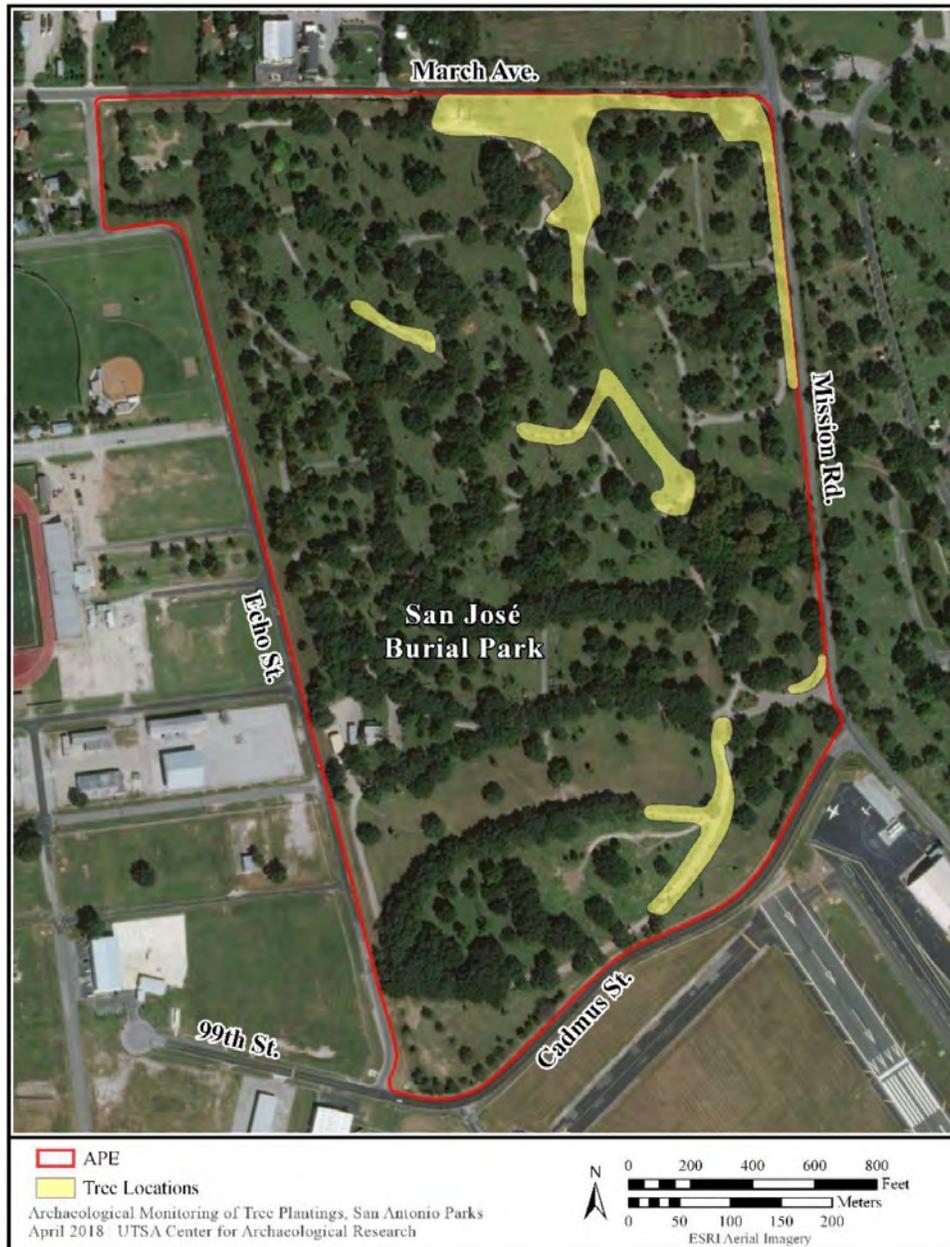
Figure 4-9. General locations of trees planted (highlighted in yellow) within the APE at Roosevelt Park.

### San Pedro Springs Park

At San Pedro Springs Park, 16 auger holes were excavated on November 9, 2010. The soils throughout the project area consisted of light to dark brown clay loam. No map is available showing the specific locations of the trees planted in the park. No cultural material was observed or collected, and tree planting proceeded as planned.

### San José Burial Park

One hundred and fifty auger bores were drilled at San José Burial Park on January 19, 2011. The soil was consistently a rich brown clay loam with little or no gravels. The general locations of the tree plantings are shown on Figure 4-10. No cultural material was observed or collected, and tree planting proceeded as planned.



*Figure 4-10. General locations of planted trees (highlighted in yellow) at San José Burial Park.*

### **Espada Park**

Forty auger bores were mechanically excavated at Espada Park on February 14, 2011. The soil consisted of silty, light brown, clay loam with small- to medium-size gravels. The general locations of the tree plantings are shown on Figure 4-11. No cultural material was observed or collected, and tree planting proceeded as planned.



Figure 4-11. General locations of trees planted (highlighted in yellow) within the APE at Espada Park.

### Stinson Park

In the APE at Stinson Park, 169 auger holes were bored between April 7 (n=150) and April 8 (n=19), 2011. The general location of the trees planted is shown on Figure 4-12. No cultural materials were identified in any of the planting holes during the monitoring.



*Figure 4-12. General location of trees planted (highlighted in yellow) within the APE at Stinson Park.*

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## **Chapter 5: Summary and Conclusions**

From November 9, 2010, through March 13, 2016, the Center for Archaeological Research (CAR) intermittently conducted archaeological monitoring of the City of San Antonio (COSA) Tree Planting Initiative that encompassed multiple COSA-owned parks and cemeteries. A total of 1,085 auger holes were excavated during the project, which was conducted under the Texas Antiquities Permit No. 5786. Dr. Raymond Mauldin as Principal Investigator, and Antonia Figueroa served as the Project Archaeologist. Due to the number of trees (n=22) to be planted in Brackenridge Park and the park's history, the work at the Lambert Beach area of Brackenridge Park required a THC Historic Structures Permit No. 790.

Of the 10 locations where trees were planted, only City Cemetery No. 3 proved to have any cultural materials during the 2011 investigations. During this time one hundred and fifty auger holes were excavated within this APE.

No further investigations were recommended for the parks in which the trees had been planted. CAR does recommend that if any future improvements are made in the parks an archaeologist should be on hand to monitor and to ensure that no archaeological deposits are impacted.

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