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CPS Energy 2014 Annual Permit: Final Report For Eight CPS Energy Projects Under Antiquities Permit Number 6851, Bexar County, Texas

Laura I. Acuña

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CPS Energy 2014 Annual Permit: Final Report For Eight CPS Energy Projects Under Antiquities Permit Number 6851, Bexar County, Texas

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**CPS ENERGY 2014 ANNUAL PERMIT:
FINAL REPORT FOR EIGHT CPS ENERGY PROJECTS UNDER ANTIQUITIES PERMIT
NUMBER 6851, BEXAR COUNTY, TEXAS**

Prepared for

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Texas Antiquities Annual Permit No. 6851

Principal Investigator

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SWCA Project Number 33236-SA
SWCA Cultural Resources Report No. 15-669

February 18, 2016

ABSTRACT

On behalf of CPS Energy, SWCA Environmental Consultants (SWCA) conducted cultural resources investigations of eight CPS Energy projects within Bexar County, Texas. The eight cultural resources investigations conducted under the annual permit include background records review and file searches, archaeological investigations such as surface reconnaissance and intensive cultural resources surveys and construction monitoring. The investigations were conducted to identify all historic or prehistoric cultural resources located within CPS Energy projects, establish vertical and horizontal site boundaries as appropriate within the project areas, and evaluate the significance and eligibility of all sites recorded for designation as a State Antiquities Landmark. All work was done in accordance with the standards and guidelines of the Antiquities Code of Texas under CPS Energy's annual permit 6851.

In coordination with the Texas Historical Commission (THC) and the San Antonio Office of Historic Preservation (SA-OHP), CPS Energy and SWCA applied existing Categorical Exclusions (CEs) from the THC regulations and developed new CEs specific to CPS Energy projects. Projects were reviewed under the defined CEs and some CEs are conditional upon their location within or outside of the original 36-square-mile city limit (herein referred to as City Limit) for the City of San Antonio. CPS Energy's projects were primarily within an urban setting in downtown San Antonio and surrounding suburbs. Most of the projects occurred within the existing rights-of-way of previous utilities and roads. The CPS Energy projects consisted of new electric and gas transmission and distribution projects; upgrading and maintaining existing electric and gas infrastructure; and a variety of construction and maintenance activities for substations. The investigations consisted of two intensive pedestrian surveys and six monitoring investigations. Of the eight, five were within City Limit as defined by the CEs. The remaining three were outside of the City Limit but did not qualify under a CE.

Overall, none of the projects encountered significant cultural resources and no further work was recommended. SWCA made a reasonable and good faith effort to identify cultural resource properties within the project areas. Based on the results of these investigations, the undertaking did not have any effect on any significant cultural resources. SWCA recommended no further archaeological investigations within the APEs and the THC/SA-OHP concurred with each of the project's findings. No artifacts were collected; thus, only field records and photographs will be curated at the Center for Archaeological Research at The University of Texas at San Antonio.

ACKNOWLEDGEMENTS

Laura I. Acuña served as Principal Investigator and Project Manager for the duration of the project, ably overseeing overall logistics and organization, and managing field work, reporting, and agency consultation. The investigations were completed by several key staff members including Rhiana D. Ward, Katie Sloan, Christina Nielsen, Matthew Stotts, Mercedes C. Cody, Aly N. Young, and Matthew Carter. Carole Carpenter expertly produced all field and report maps for the project. Brandon Young conducted an editorial review, while Lauri Logan provided a technical review and formatted the report.

ABBREVIATIONS

AMS	Army Map Service
APE	area of potential effects
Atlas	Texas Archeological Sites Atlas
CAR-UTSA	Center for Archaeological Research at the University of Texas at San Antonio
CEs	Categorical Exclusions
cm	centimeter
cmbs	centimeters below ground surface
COSA	City of San Antonio
CPS	City Public Service
CTA	Council of Texas Archeologists
DAR	Daughters of the American Revolution
FM	Farm-to-Market
GIS	geographic information system
GPS	Global Positioning System
I&GNRR	International and Great Northern Railroad
I-35	Interstate Highway 35
ISD	Independent School District
m	meter
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PVC	polyvinyl chloride
RIO	San Antonio Rio Improvement Overlay
ROW	right-of-way
RTHLs	Recorded Texas Historic Landmarks
SA&AP Railroad	San Antonio and Aransas Pass Railroad
SA&APRR	San Antonio and Aransas Pass Railroad
SAG&E	San Antonio Gas & Electric Company
SAL	State Antiquities Landmark
SA-OHP	City of San Antonio's Office of Historic Preservation
SCS	Soil Conservation Service
ST	shovel test
SWCA	SWCA Environmental Consultants
THC	Texas Historical Commission
TxDOT	Texas Department of Transportation
UNESCO	United Nations Educational, Science, and Cul-tural Organization
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

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CHAPTER 1

INTRODUCTION

Laura I. Acuña

On behalf of City Public Service (CPS) Energy, SWCA Environmental Consultants (SWCA) conducted cultural resources investigations of several CPS Energy projects within their service area. CPS Energy conducts a variety of electric and gas projects within a service area that includes all of Bexar County and portions of Guadalupe, Medina, Wilson, Atascosa, Comal, and Bandera Counties (Figure 1.1). CPS Energy and SWCA coordinated with the Texas Historical Commission (THC) and the City of San Antonio's Office of Historic Preservation (SA-OHP) to develop a blanket annual permit that includes a number of Categorical Exclusions to be utilized in the CPS Energy cultural resources compliance process.

The cultural resources investigations conducted under the annual permit include background records review and file searches, archaeological investigations such as surface reconnaissance and intensive cultural resources surveys, backhoe trenching, construction monitoring and historic resource surveys. The investigations were conducted to identify all historic or prehistoric cultural resources located within CPS Energy projects, establish vertical and horizontal site boundaries as appropriate within the project areas, and evaluate the significance and eligibility of any site recorded for designation as State Antiquities Landmark (SAL). All work was done in accordance with the standards and guidelines of the Antiquities Code of Texas under CPS Energy's annual permit 6851.

CATEGORICAL EXCLUSIONS

For every CPS Energy project, a background literature review and file search was the first task conducted to determine the cultural resources potential of the project area (if any) and was used to develop the scope of work if additional cultural resources investigations were required. Some projects did not require additional investigations due to the level of existing disturbances and previous work. These projects as well as coordination criteria with the SA-OHP are addressed in the Categorical Exclusions (CEs) outlined below.

Many CPS Energy projects and activities occur on non-federal, public lands and often include routine small-scale ground-disturbing activities in areas that have been previously disturbed by construction. These projects have little potential to have adverse impacts to cultural resources. Accordingly, the following activities are defined as CEs and did not require notification to the THC. This list is composed of CEs (underlined) from the Title 13 Cultural Resources Part 2 THC Chapter 26 Rules of Practice and Procedures Section 26.7 (2) as well those specific to the projects and activities of CPS Energy. The CEs did not apply to joint-bid projects with the City of San Antonio (COSA). In addition, some CEs are conditional upon their location within or outside of the original 36-square-mile city limit (herein referred to as City Limit) for COSA (Figure 1.2).

CATEGORICAL EXCLUSIONS CURRENTLY EXISTING IN THE THC REGULATIONS:

- (1) water injection into existing oil and gas wells (THC Chapter 26, Section 26.7);
- (2) upgrading of electrical transmission, when there will be no new disturbance of the existing easement (THC Chapter 26, Section 26.7), this shall also apply to electrical distribution lines and natural gas lines as well;
- (3) building and repairing fences that do not require construction or modification of associated roads, fire breaks, or previously disturbed ground (THC Chapter 26, Section 26.7);
- (4) road maintenance that does not involve widening or lengthening the road; [access roads to existing CPS utilities such as grading] (THC Chapter 26, Section 26.7);
- (5) installation or replacement of meter taps (THC Chapter 26, Section 26.7);

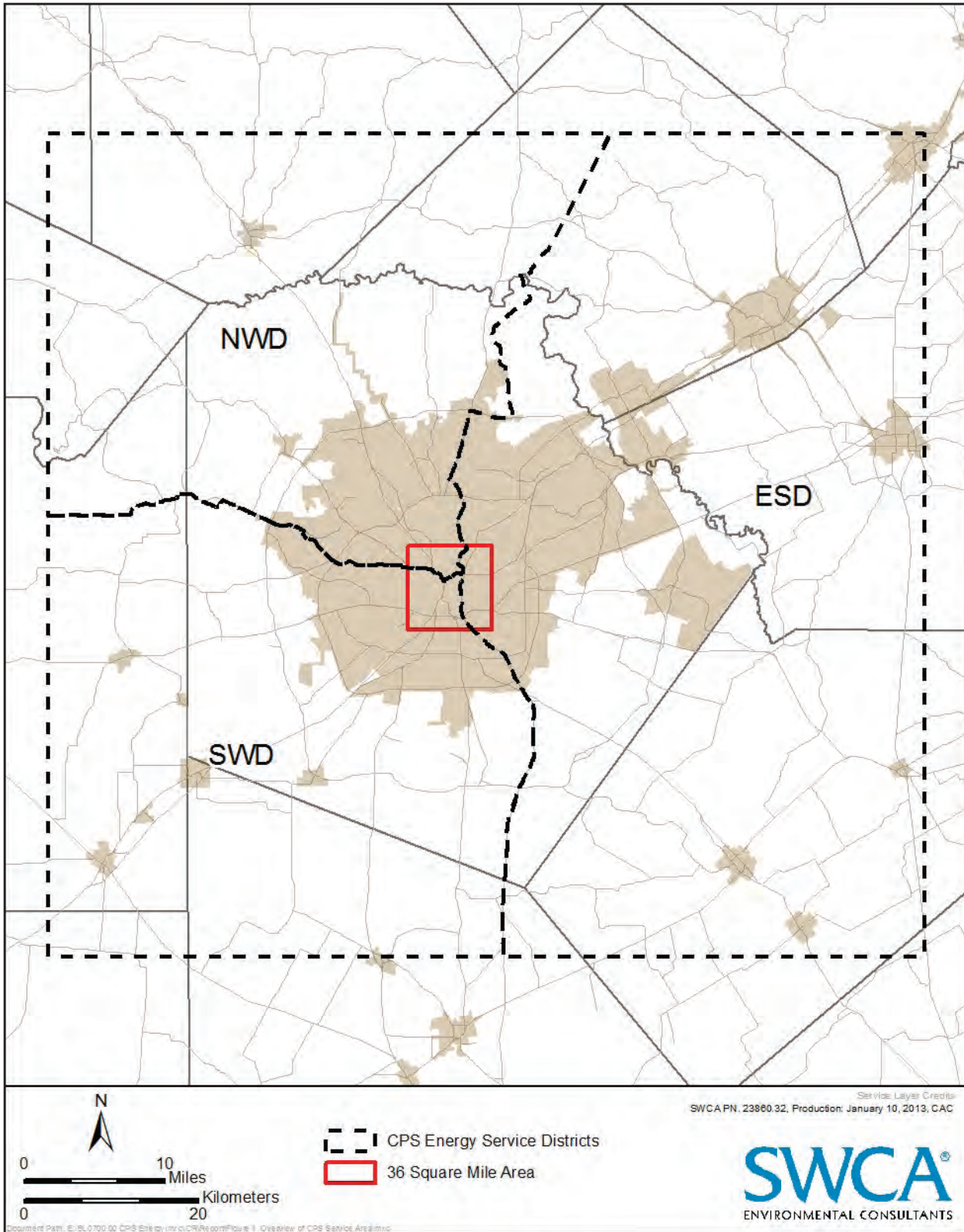


Figure 1.1. CPS Energy service area.

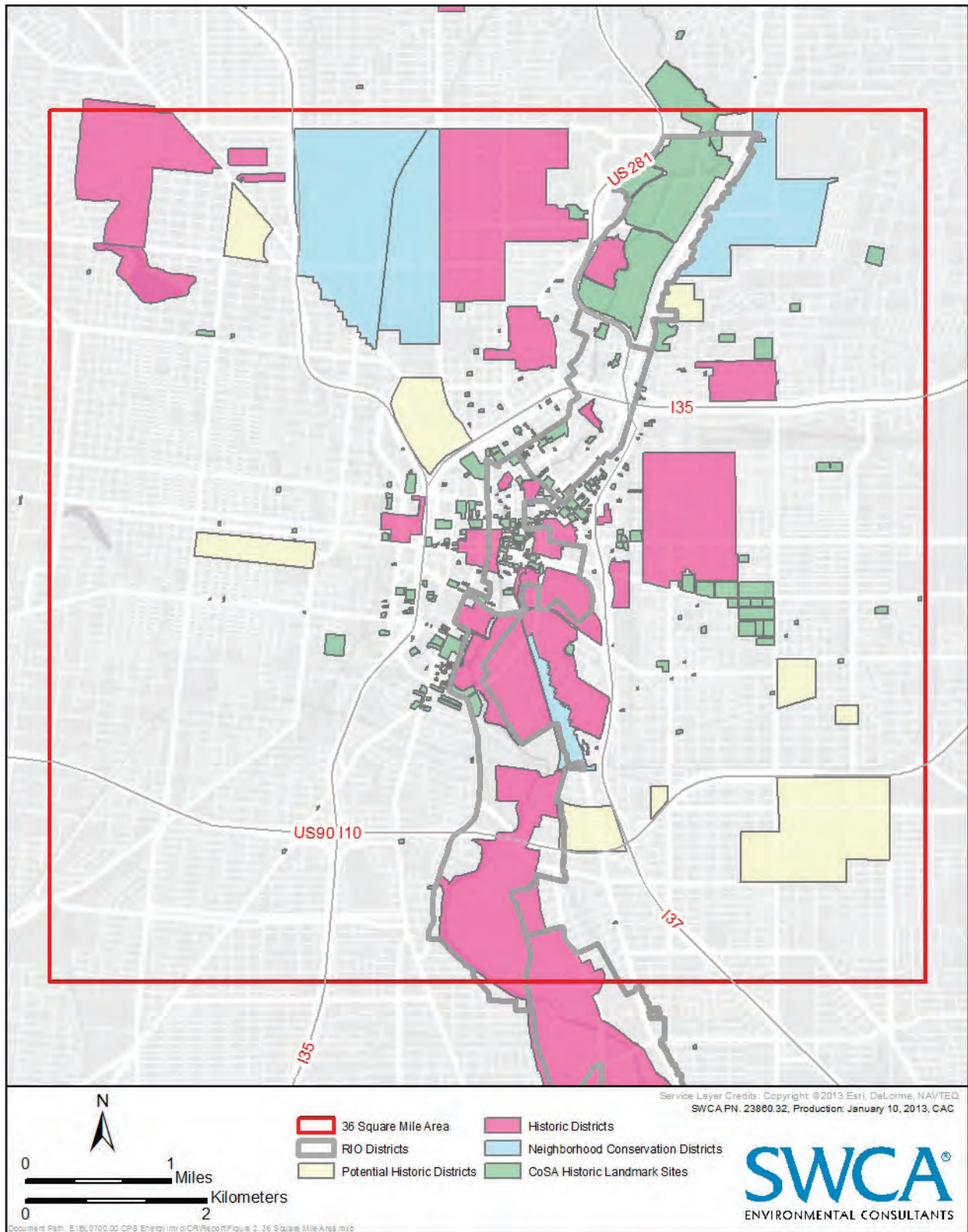


Figure 1.2. Original San Antonio 36-square-mile city limit.

ADDITIONAL EXCLUSIONS SPECIFIC TO CPS ENERGY CONSTRUCTION ACTIVITIES:

- (6) Electric and Gas Projects with **NEW disturbances**, that are **outside** of the City Limit and:
- a. are **NOT** in cultural-sensitive areas such as:
 - i. previously recorded sites
 - ii. National Register of Historic Places (NRHP) properties/districts
 - iii. State Antiquities Landmarks
 - iv. COSA Historic Landmark Sites
 - v. COSA Historic Districts
 - vi. COSA Neighborhood Conservation Districts
 - vii. River Improvement Overlay districts;
 - b. are within disturbed areas previously impacted by development; such as existing CPS Energy easements, road construction, other utility easements, residential and commercial construction;
- (7) Electric and Gas Projects with **NEW disturbances**, that are **within** the City Limit:
- a. All projects within the City Limit will be reviewed via email by the City Archaeologist at SA-OHP for community and cultural concerns.
- (8) Construction and Maintenance Activities within the boundaries of existing CPS Energy facilities such as: power plants, service centers, natural gas sites/metering stations, and electric substation sites outside of the City Limit and that do not contain existing cultural resources. The following are some examples:
- a. Structural maintenance of existing CPS Energy electric transmission poles and lattice structures.
 - b. Repairs needed as a result of an event, natural or man-made, which causes

damage to an existing CPS Energy facility, resulting in an imminent threat to life, electric reliability, or property of the public or which substantially disrupts or may disrupt the orderly delivery of electric and gas services.

- c. Replacement, upgrade, and repair of existing safety barriers, ditches, storm drains, and culverts.
- d. New excavation for ditches, temporary stormwater/erosion control measures such as silt fence installation; storm drains and other flowlines in introduced fill above the original ground surface.
- e. Grading of fire lanes and prescription burning.

CPS ENERGY PROJECTS

CPS Energy projects were primarily within downtown San Antonio and surrounding suburbs. Most of the projects occurred within the existing rights-of-way (ROWs) of utilities and roads. The project areas consisted of new electric and gas transmission and distribution projects; upgrading and maintaining existing electric and gas infrastructure; and a variety of construction and maintenance activities for substations. In all, a total of eight projects were conducted under the annual permit. The investigations consisted of two intensive pedestrian surveys and six monitoring investigations (Figure 1.3). Of the eight, five were within City Limit as defined by the CEs. The remaining three were outside of the City Limit but did not qualify under a CE.

This report reviews projects that did not fall under the CEs and were submitted by CPS Energy to the SA-OHP for initial review (Table 1.1). The SA-OHP conducted a preliminary desktop research and determined cultural resources investigations were required. CPS Energy contracted SWCA to complete the cultural resources investigations under the existing on-call services agreement. Upon notice to proceed, SWCA completed notification to the THC of the project via email and proceeded with initial background reviews (if not already completed) and investigations. The results of each project were submitted as an individual interim report for review by the THC and SA-OHP. The reports

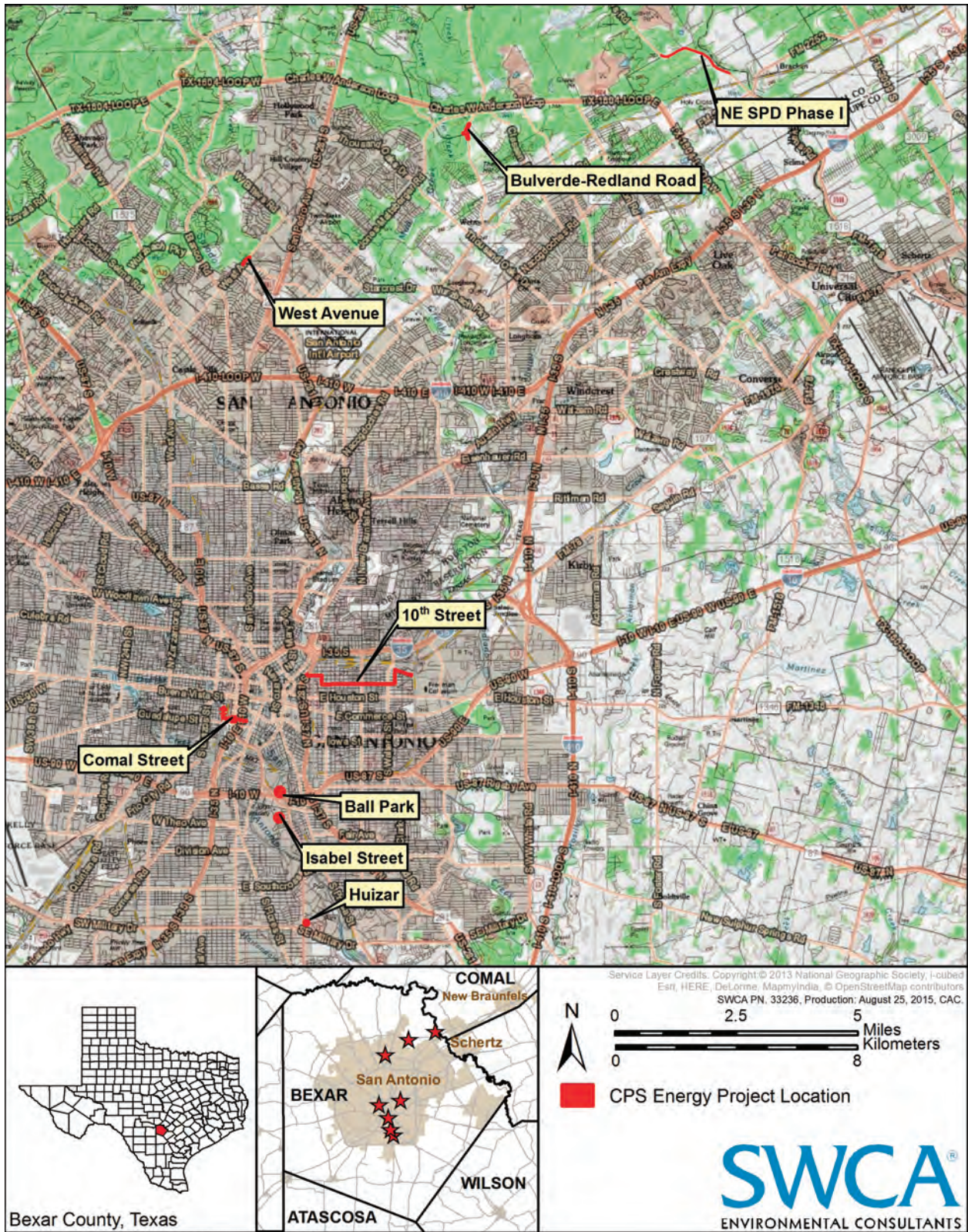


Figure 1.3. CPS Energy 2014 Annual Permit Projects Location Overview

were concurred with and the following is a compilation of the results in one final report.

REPORT STRUCTURE

This report is organized to facilitate the presentation and review of the numerous projects conducted under the Annual Permit. Chapter 2 provides an overview of the environmental setting of the project area, discussing the geology and soils of each individual project. In addition, the general vegetation and fauna of the region specific to Bexar County are presented. Chapter 3 provides an in-depth cultural setting for the project and cultural history specific to San Antonio. Chapter 4 presents the basic methods SWCA used in the cultural resources investigations of the various projects. Chapters 5 through 12 present the results of the background research and investigations for each of the individual projects. Chapter 13 provides a summary of the investigations with the recommendations. Since each of the individual reports were submitted to the THC as interim drafts, the concurrence letters of each project are included in Appendix A.

Table 1.1. CPS Energy 2014 Annual Permit Project List

Interim Report No.	Work Request No.	SWCA Project No.	Project Name	Investigation TYPE	Work type (gas-electric) description	Location/ Address	Acreage	Topographic/ Geologic Setting	Soils	Land Use/ Vegetation
1	1752969	27290	NE SPD Expansion Project	Survey	Gas-main extension	Outside City Limit: ROW of Evans Road, starting at the intersection of Evans and Green Mountain Road.	4.94 (1.63 linear miles)	Gently rolling topography shaped by Cibolo Creek and its associated unnamed tributaries. The western 4,812 feet of the project area is mapped within the Buda Limestone and Del Rio Clay geological formations, while the remaining 3,734 feet of project area is mapped as Terrace deposits.	42 percent Crawford and Bexar stony soils, 35 percent Patrick soils with 3 to 5 percent slopes, 14 percent Krum clay with 1 to 5 percent slopes, and 9 percent Lewisville silty clay with 1 to 3 percent slopes.	The project area is exclusively within a rural setting. The APE consists of maintained ROW for Evans Road. Land beyond the ROW consists of moderately dense juniper forests with soratic residential and small business houses and structures.
2	1873173	30542	Bulverde Road and Redland Road Project	Survey	Electric - Pole Replacement Project	Outside City Limit: Intersection of Bulverde Road and Redland road.	0.43 (2,480 cubic yards)	On upland ridge overlooking Elm Waterhole to the east. The project area is mapped within the Buda Limestone and Del Rio Clay geological formations.	90 percent Eckrant cobbly clay with 5 to 15 percent slopes, and 10 percent Patrick soils with 3 to 5 percent slopes, rarely flooded.	The project area is within a rural setting rapidly transitioning into residential development. The APE is entirely within the existing ROW of Bulverde and Redland Roads. The vegetation consists mixed short grasses, landscaping, and moderate shrubs and trees along the edge of the ROW.

Table 1.1. Continued

Interim Report No.	Work Request No.	SWCA Project No.	Project Name	Investigation TYPE	Work type (gas-electric) description	Location/ Address	Acreage	Topographic/ Geologic Setting	Soils	Land Use/ Vegetation
3	1896172	31292	Huizar Street Gas Service Line Project	Monitoring	Gas-service line installation	Within City Limit: 112 Huizar Street	1 acre (7 cubic yards)	On gently rolling topography shaped by the San Antonio River and San Pedro Creek. The underlying geology is 100 percent Quaternary-age Fluvialite terrace deposits.	100 percent Patrick soils, 3 to 5 percent slopes.	Residential neighborhood in southern San Antonio, Texas
4	Network No. 8034093-0010	31342	West Avenue Tower Relocation	Monitoring	Electric - Tower Relocation	Outside City Limit: ROW of West Avenue, near the intersection of West Avenue and North Loop Road	0.47 (146.5 cubic yards)	On the floodplain and an upland landform of Salado Creek and Panther Springs Creek.	100 percent Tin and Frio soils, 0 to 1 percent slopes.	City of San Antonio Walkers Ranch Historic Landmark Park within residential and commercial area.
5	1856482	30829	Isabel Street Pole Relocation	Monitoring	Electric - Pole Replacement Project	Within City Limit: 226 Isabel Street (alley way)	0.01 (15.7 cubic yards)	On the broad, upper terraces of the San Antonio River. Underlying geology is mapped as Terrace deposits.	100 percent Lewisville silty clays with 1 to 3 percent slopes.	Ally way within residential neighborhood in southern San Antonio, Texas
6	N/A	28608	Ball Park Substation	Monitoring	Electric - ductbank work	Within City Limit: 306 Mission Road, San Antonio, Texas	0.03 (337 cubic yards)	On upper terrace, east of San Antonio River. Located within highly developed commercial and urban setting of downtown San Antonio. The project area is located within 100 percent Terrace deposits.	95 percent Sunev clay loam with 1 to 3 percent slopes and 5 percent Lewisville silty clay with 1 to 3 percent slopes.	Highly urbanized area of downtown San Antonio.
7	Phase I (1838071) Phase II (1866167)	30286	Comal Street Substation	Monitoring	Electric - ductbank work and alignments; substation switch gear and transformers	Within City Limit: 0.64-mile stretch down the ROW of El Paso Street and S. Comal Street, beginning at the intersection of S. San Saba Street and El Paso Street and heading west.	3 (2,480 cubic yards)	Situated east of the San Pedro Creek and West of the Alazan Creek drainages in a highly urbanized area of downtown San Antonio. The project area is located within 100 percent Quaternary-age Fluvialite terrace deposits	100 percent Houston Black clay terrace deposits with 1 to 3 percent slopes.	Highly urbanized area of downtown San Antonio.
8	N/A	29223	Tenth Street to Coliseum Transmission Line Rebuild	Monitoring	Electric - Transmission line rebuild	Within City Limit: ROWs of several city streets.	6.6-acres (2,566 cubic yards)	The underlying geology of the project area is mapped almost entirely as Uvalde Gravel with the western most terminus at Ninth Street is mapped as Quaternary-age Fluvialite terrace deposits .	The project area soils are mapped as 44 percent Houston Black gravelly clay with 1 to 3 percent slopes, 25 percent Houston Black clay gravelly clay with 3 to 5 percent slopes, 21 percent Branyon clay with 1 to 3 percent slopes; and 10 percent Loife clay loam with 0 to 2 percent slopes, occasionally flooded	Highly urbanized area of downtown San Antonio.

CHAPTER 2

ENVIRONMENTAL SETTING

Laura I. Acuña

INTRODUCTION

The CPS Energy project areas are underlain by various geologic formations and contain multiple soil types supporting varied flora and fauna. The following is a general overview of the environmental setting in San Antonio. Specific geologic and soil data for the individual CPS Energy projects follows in subsequent chapters. Information on the local geology and soils was obtained from the *Bureau of Economic Geology of Texas* series and the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) website, respectively. Additional data derived from U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps, and aerial photography.

GEOLOGY

The San Antonio area has complex surface geology, the effect of Miocene uplifting that formed the Edwards Plateau and Balcones Escarpment. The Edwards Plateau is a fairly undissected area overlying flat-lying Cretaceous Edwards Limestone. Trending southwest to northeast through San Antonio, the escarpment is a fault system that divides the Hill Country to the west and north from the Blackland Prairie and coastal plains to the east and south. Faulting has juxtaposed various formations, creating fissures where springs such as the San Antonio, Comal, Barton, and San Marcos have tapped into the Edwards Aquifer (Spearing 1992).

The project areas are within three specific geologic settings consisting of Buda Limestone and Del Rio Clay Formation, Uvalde Gravel deposits, and Quaternary Alluvium and Fluvial terrace deposits (Figure 2.1). Five of the eight projects are mapped as Quaternary Holocene-age alluvium floodplain deposits. These deposits transition into Quaternary Pleistocene-age fluvial terrace deposits along the southern portion of the San Antonio River composed of gravel, sand, silt, and clay (Barnes 1983). The two northernmost projects are mapped as Buda Limestone and Del Rio Clay. The deposits are described as fine grained, massive-to-thin-bedded with limestone, dolostone, and chert (Barnes

1983). One project is mapped as Uvalde Gravel, which consist of sand and fine- to medium-grained quartz with some caliche nodules approximately 85 feet thick (Barnes 1983).

SOILS

The CPS Energy projects are mapped within the four different soil associations which are comprised of several soil series (Figure 2.2). The soils for each project are discussed in the individual project chapters and were obtained from the NRCS website and the *Soil Survey of Bexar County* (Taylor et al. 1966).

The NE SPD Phase I project and the Bulverde-Redland project are within the Crawford-Bexar association. However, the eastern portion of the NE SPD Phase I project is within the Lewisville-Houston Black, terrace association. Both the Tenth Street to Coliseum project and the Huizar Street project are also within the Lewisville-Houston Black association. The West Avenue project is within the Austin-Tarrant association. Finally, the Comal Street Substation project, the Ball Park Substation project, and the Huizar Street project are all within the Venus-Frio-Trinity association (Taylor et al. 1966).

VEGETATION

The CPS Energy project areas fall within two distinct ecoregions defined for Texas (Figure 2.3) (Griffith et al. 2004). Two projects fall within the Edwards Plateau or Balcones Canyon lands and six fall within the Blackland Prairie lands. The Edwards Plateau forms a sharp boundary in floral distribution between the thin-soiled limestone uplands and the wide coastal plains. Upland areas are dominated by a mixed live oak and Ashe juniper (*Juniperus ashei*) woodland with an understory of agrito (*Berberis trifoliata*) and redbud (*Cercis canadensis*) interspersed with occasional grassy openings (Kricher and Morrison 1993; Peterson 1977). Other tree species present in low densities throughout these areas include cedar elm (*Ulmus crassifolia*) and Texas oak. Shrub density varies between low to dense in upland areas. Species occurring in low densities

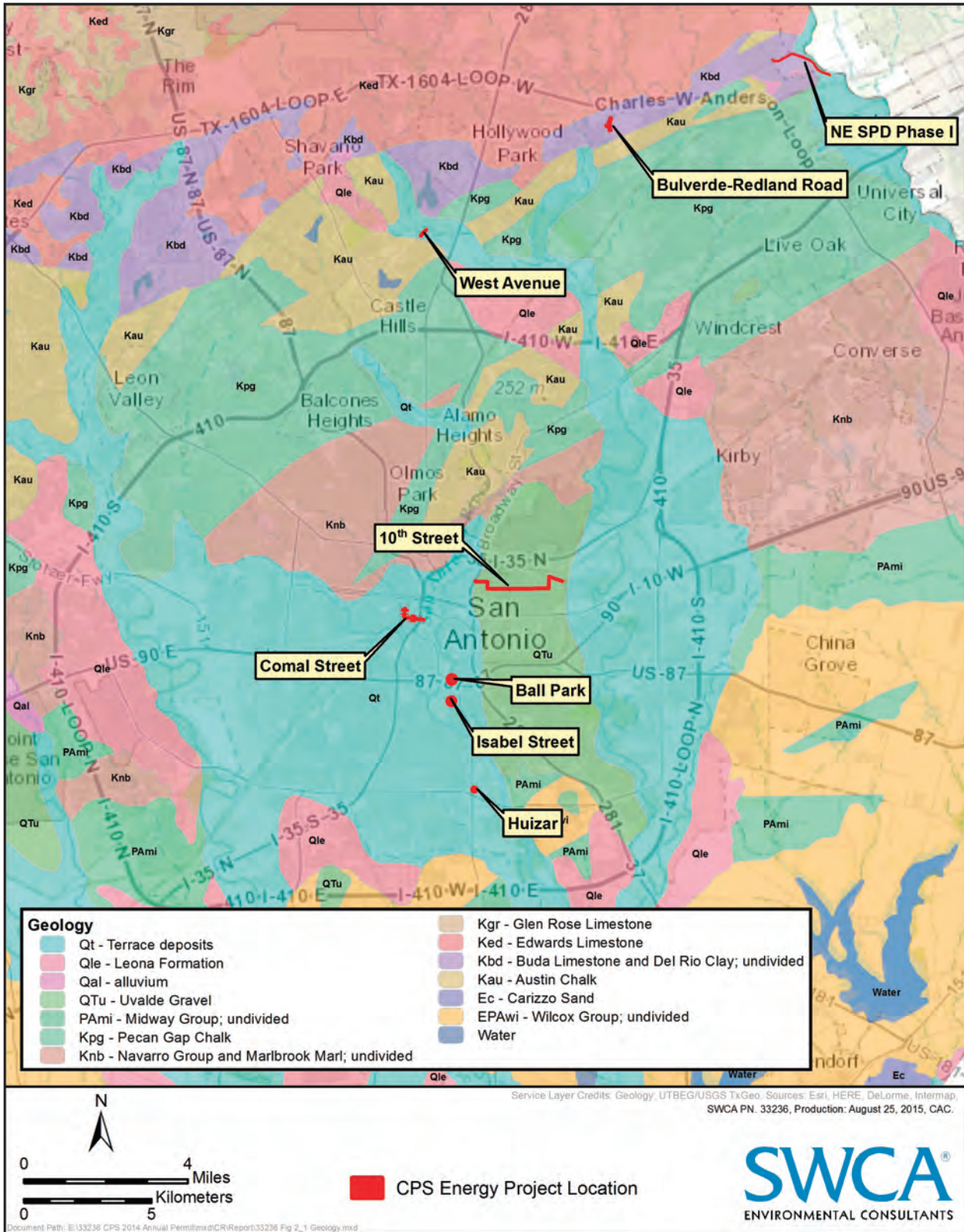


Figure 2.1. Overview of general geological setting of projects within Bexar County.

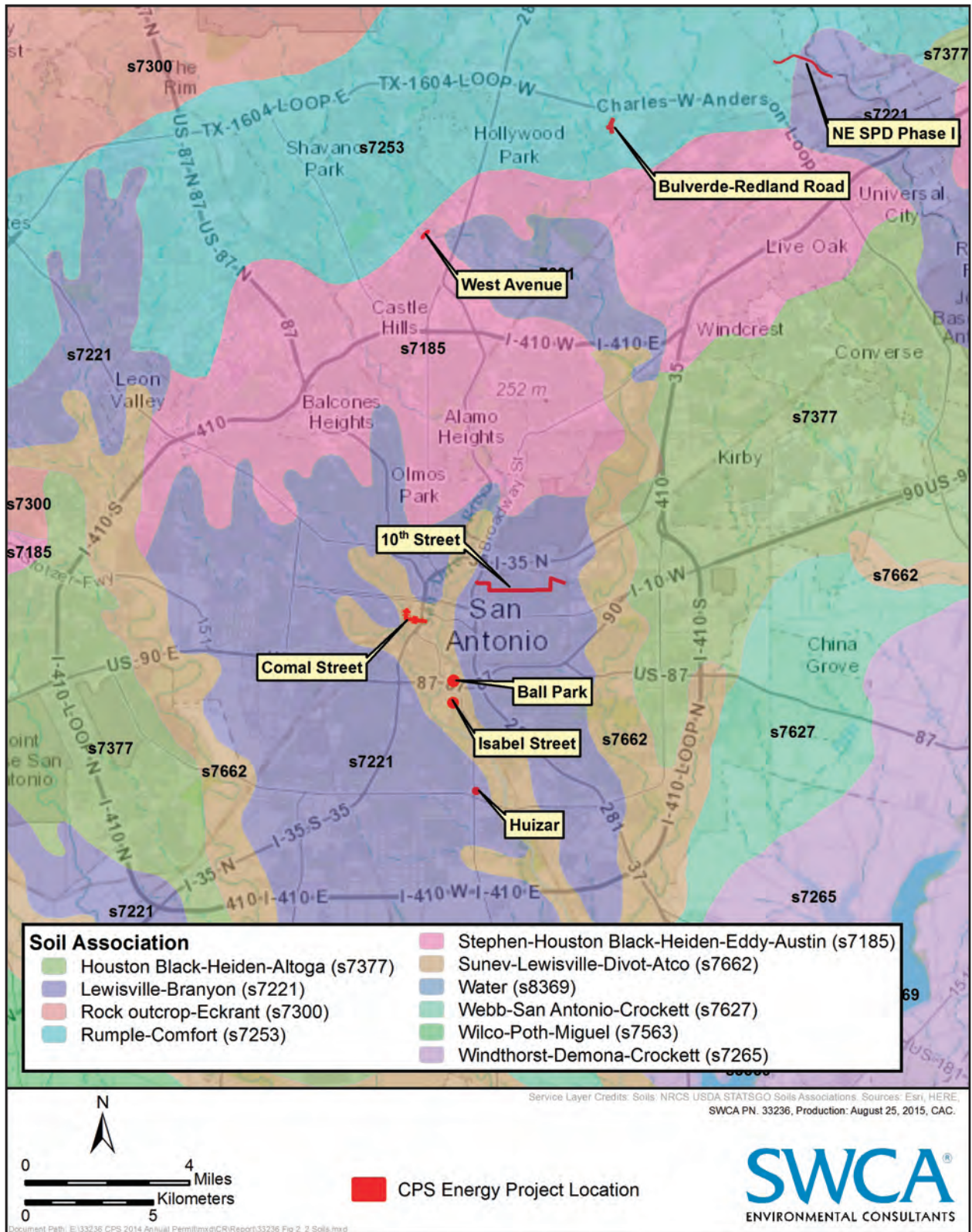


Figure 2.2. Overview of general soil setting of projects within Bexar County.

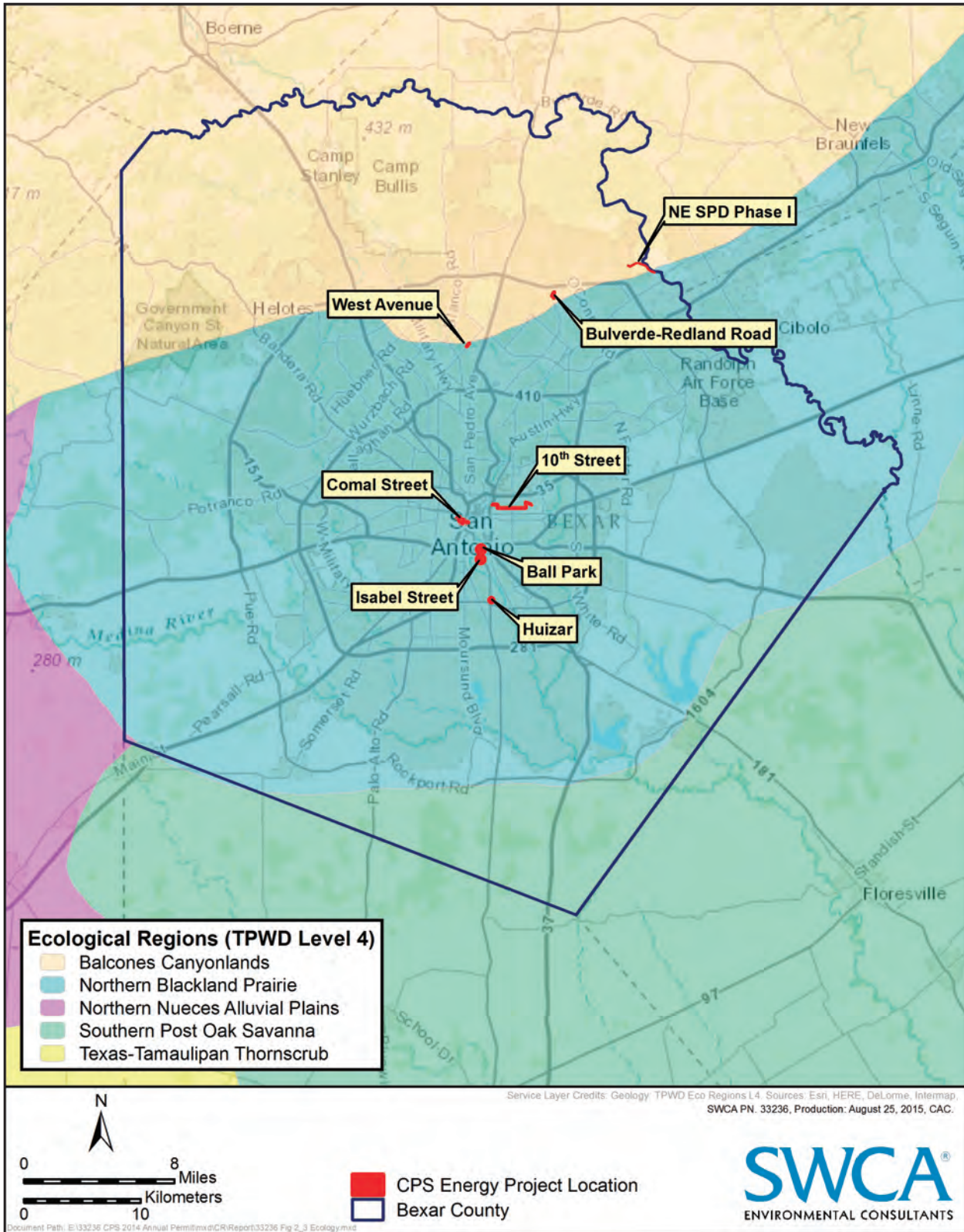


Figure 2.3. Overview of ecological setting of projects within Bexar County.

include Texas persimmon (*Diospyros texana*) and prickly pear with thick, mixed grasses in areas (Van Auken 1988). Originally, the uplands of the Edwards Plateau sustained short grasses and the alluvial valleys had deciduous forests (Black 1989:12). The lower elevation areas along the riparian zone often include a dense understory of acacia, prickly pear, and other brushy species (Petrides 1988; Simpson 1988).

The Blackland Prairie has rolling topography that supports a diverse assemblage including southern hackberry (*Celtis laevigata*), cedar elm (*Ulmus crassifolia*), bur oak (*Quercus macrocarpa*), post oak (*Quercus stellata*), blackjack oak (*Quercus marilandica*) with an understory of bunch grasses, shrubs, laurel greenbrier (*Smilax laurifolia*), yaupon holly (*Ilex vomitoria*), American beautyberry (*Callicarpa Americana*), and coralbean (*Erythrina herbacea*) (Kutac and Caran 1994; Petrides 1988; Simpson 1988). Originally, the Blackland Prairie region supported a tall grass prairie (Gould 1969).

FAUNA

The CPS Energy projects are entirely within the Tamaulipan biotic region of Texas as defined by Blair (1950). The Tamaulipan zone extends into southern Texas from eastern Mexico (Blair 1950). A wide variety of species of mammals, birds, reptiles, and amphibians occupy, or historically occupied, this biotic province. Their distribution and densities vary considerably and are mainly dependent upon the local vegetation community and available resources.

According to Davis and Schmidly (1994), some common small mammals found within the Tamaulipan biotic region include the pocket mouse (*Perognathus hispidus*), white-footed mouse (*Peromyscus leucopus*), southern plains woodrat (*Neotoma micropus*), desert cottontail (*Sylvilagus audubonii*), white-tailed deer, and black-tailed jackrabbit. Large mammal species that occur or have the potential to occur within the project area include white-tailed deer, coyote (*Canis latrans*), bobcat (*Lynx rufus*), and javelina (*Tayassu tajacu*) (Burt and Grossenheider 1976; Schmidly 1983). In addition, bison, mountain lion (*Felis concolor*), and black bear would have been prehistorically present (Davis and Schmidly 1994).

Bird species present in the Tamaulipan biotic region are typical of the brush and scrub vegetation community. Common resident species include the mourning dove,

northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), olive sparrow (*Arremonops rufivigatus*), the northern bobwhite, red-tailed hawk, and the long-billed thrasher (*Toxostoma longirostre*) (Kutac and Caran 1994).

Various species of amphibians within the Tamaulipan biotic region include smallmouth salamander, Couch's spadefoot, Hurter's spadefoot (*Scaphiopus holbrookii hurterii*), Blanchard's cricket frog (*Acris crepitans blanchardi*), eastern green toad (*Bufo debilis debilis*), Texas toad (*Bufo speciosus*), bullfrog, and the southern leopard frog (*Rana utricularia utricularia*) (Kutac and Caran 1994).

The reptiles of Tamaulipan biotic region include yellow mud turtle (*Kinosternon flavescens flavescens*), common mush turtle (*Sternotherus odoratus*), Texas river cooter (*Pseudemys texana*), ornate box turtle, red-eared slider (*Trachemys scripta elegans*), Guadalupe spiny softshell (*Apalone spinifera guadalupensis*), Texas glossy snake (*Arizona elegans arenicola*), eastern yellowbelly racer, Great Plains rat snake (*Elaphe guttata emoryi*), Texas rat snake, Texas corral snake (*Micrurus fulvius tener*), broad banded copperhead (*Agkistrodon contortrix contortrix*), western cottonmouth, and the western diamondback rattlesnake (Kutac and Caran 1994).

HYDROLOGY

The majority of the projects are within upland terraces outside of the major floodplains. The NE SPD Phase 1 project and the Bulverde-Redland Road projects are adjacent to Cibolo Creek and Elm Creek, respectively. The West Avenue project intersects Salado Creek, and further south the Tenth Street to Coliseum project is adjacent to an unnamed drainage that empties into Salado Creek. The Comal Street Substation project begins adjacent to the Alazan Creek, which empties into San Pedro Creek south near the intersection of Interstate Highway 10 and South Laredo Street. The Huizar Street, Isabel Street, and Ball Park Substation projects are within the floodplain terraces of the San Antonio River.

The steam channels are all part of the San Antonio River drainage basin. The San Antonio River headwaters are a cluster of three springs known as the San Antonio Springs in north central San Antonio in and around the Incarnate Word University campus. At one time, there were over 100 springs in this area (Brune

1981). Today, the largest spring in this complex of three springs is the Blue Hole. Olmos Creek empties into the river just below its head, and other springs continue to join as the river flows through the southern part of the city (Donecker 2008).

The springs at the headwaters of the San Antonio River have long been a historical landmark recorded by the early settlers of the area. In 1857, Frederick Olmsted (1857) described the Blue Hole as:

...The San Antonio Spring may be classed as the first water among the gems of the natural world. The whole river gushes up in one sparkling burst from the earth. It has all the beautiful accompaniments of a smaller spring, moss, pebbles, seclusion, sparkling sunbeams, and dense overhanging luxuriant foliage. The effect is overpowering. It is beyond your possible conceptions of a spring. You cannot believe your eyes, and almost shrink from sudden metamorphosis by invaded nymphdom.

A couple years later, Richard Everett (1859) described the San Antonio and San Pedro springs in their natural setting:

Two rivers wind through the city [San Antonio], flowing from the living springs only a short distance beyond the suburbs. One, the San Antonio, boils in a vast volume from a rocky basin, which, environed by mossy stones and overhanging foliage, seems devised for the especial dwelling-place of nymphs and naiads. The other, the San Pedro, runs from a little pond, formed by the outgushing of five sparkling springs, which bear the same name. This miniature lake, embowered in a grove of stately elm and pecan trees, is one of the most beautiful natural sheets of pure water in the Union - so clear, that even the delicate roots of the water-lilies and the smallest pebbles may be distinctly seen.

From San Antonio, the river flows southeast 180 miles before emptying into the Guadalupe River four miles north of Tivoli at the intersection of the Calhoun, Refugio, and Victoria County lines. Along its course, the river traverses flat to gently rolling terrain surfaced by clay and sandy loams that support mesquite, live oak, cacti, and grasses (Donecker 2008). Principal tributaries of the San Antonio River include the Medina River and Cibolo Creek, which in combination with several

springs, makes the river one the steadiest rivers, in terms of volume, throughout Texas. The San Antonio River is dammed forming two artificial reservoirs in the San Antonio area. One near the head of the stream, impounded by Olmos Dam, is used solely for flood control and the other, Lake Blue Wing, 10 miles south of San Antonio, is used for irrigation (Donecker 2008).

CHAPTER 3

CULTURAL CONTEXT

Steve Carpenter, Ken Lawrence, and Laura I. Acuña

INTRODUCTION

Humans have occupied San Antonio for over 11,000 years. Previous archaeological investigations document almost a continuous record of human habitation within the region, in particular along the many natural waterways that flow through this transitional area between the Balcones Escarpment limestone hills and the vast South Texas plains. During the historic period, the events occurring in San Antonio and the surrounding region were central to the foundation of what is now modern Texas. The following is a brief cultural history of the project area, providing a framework of the past from the prehistoric through the historic.

CULTURAL HISTORY OF CENTRAL TEXAS AND THE SAN ANTONIO REGION

The project area lies at the intersection of two archaeological regions, the Central Texas Region and South Texas. These regions are recent analytical constructs but they do contain a measure of distinct, spatial, cultural information (see Prewitt 1981; Collins 2004). In this study, the project area is included with the Central Texas Archeological Region.

Following Collins (2004), the archaeological periods in Central and South Texas are Paleoindian, Archaic, Prehistoric and Historic. Subperiods of the Paleoindian period are Early and Late. The Archaic subperiods are Early, Middle, and Late Archaic. The date ranges for archaeological periods uses radiocarbon years B.P., following the convention of Collins (1995).

Significant archaeological deposits representing all archaeological periods are within the San Antonio area. Significant archaeological sites include Richard Beene (41BX831) which contained discrete Early Archaic deposits of Angostura and split-stemmed points (Thoms et al. 1996) and Pavo Real (41BX52), which contains Early Paleoindian Clovis and Folsom deposits (Collins et al. 2003).

The Historic period begins with the first European documentation from the exploits of Cabeza de Vaca in

the 1530s. Further exploration and conquest of Texas by the Spanish occurred, in part, because of accounts of fabled riches suggested by de Vaca, and the expectations of riches fueled by earlier conquests of Mexico and Peru. The Historic period is divided into eras corresponding to political and social change.

PALEOINDIAN PERIOD

Paleoindian sites occur in a variety of topographic settings and include both surface and deeply buried sites, rockshelter sites, and isolated artifacts spanning over 2500 years of occupations (ca. 11,500–8800 B.P.) in the Central Texas region (Collins 2004:116). The period is often described as having been characterized by small but highly mobile bands of foragers who were specialized hunters of Pleistocene megafauna. But Paleoindians probably used a much wider array of resources (Meltzer and Bever 1995:59), including small fauna and plant foods. Faunal remains from the Kincaid Rockshelter and the Wilson-Leonard site (41WM235) support this view (Bousman 1998, 2004; Collins 1998; Collins et al. 1989).

Collins (1995, 2004) divides the Paleoindian period into early and late subperiods. Two main projectile point styles, Clovis and Folsom, are included in the early subperiod. A third type, Plainview may be contemporary with Folsom. Clovis chipped stone artifact assemblages, including the diagnostic fluted lanceolate Clovis point, were produced by bifacial, flake, and prismatic-blade techniques on high-quality and oftentimes exotic lithic materials (Collins 1990). Along with chipped stone artifacts, Clovis assemblages include engraved stones, bone and ivory points, stone bolas, and ochre (Collins 2004:116; Collins et al. 1992). Clovis points are found evenly distributed along the eastern edge of the Edwards Plateau, where the presence of springs and outcrops of chert-bearing limestone are common (Meltzer and Bever 1995:58). Analyses of Clovis artifacts and site types suggest that Clovis peoples were well-adapted, generalized hunter-gatherers with the technology to hunt larger game but not solely rely on it.

In contrast, Folsom tool kits—consisting of fluted Folsom points, thin unfluted (Midland) points, large thin bifaces, and end scrapers—are more indicative of specialized hunting, particularly of bison (Collins 2004:117). Folsom points have been recovered from Kincaid Rockshelter (Collins et al. 1989) and Pavo Real (Collins et al. 2003; Henderson and Goode 1991). Folsom point distributions, both the frequency and spatial patterning, differ from the Clovis patterns, suggesting a shift in adaptation patterns (Bever and Meltzer 2007; Meltzer and Bever 1995:60 and 74).

Postdating Clovis and Folsom points in the archaeological record are a series of dart point styles (primarily unfluted lanceolate darts) for which the temporal, technological, or cultural significance is unclear. Often, the Plainview type name is assigned these dart points, but Collins (2004:117) has noted that many of these points typed as Plainview do not parallel Plainview type-site points in thinness and flaking technology. At Wilson-Leonard, the Paleoindian projectile point sequence includes an expanding-stem dart point termed Wilson, which dates to ca. 10,000–9500 B.P. Postdating the Wilson component is a series of unfluted lanceolate points referred to as Golondrina-Barber, St. Mary's Hall, and Angostura, but their chronological sequence is poorly understood.

By the Late Paleoindian subperiod, aspects of Archaic lifeways became increasingly entrenched, and in many ways, the Late Paleoindian subperiod is a transition between the early Paleoindian and succeeding Archaic periods (Collins 2004:118). During this period there is evidence of a diverse subsistence practice, a variety of lithic tools and ritualized burial practices (Bousman 1998, 2004).

ARCHAIC PERIOD

The longest period is the Archaic, beginning between 8800 B.P. and 8000 B.P. and extending until approximately 1200 B.P. when the widespread use of the bow and arrow occurs. Collins (1995, 2004) and Collins et al. (1998) use 8800 B.P. as the approximate starting date for the Early Archaic where there is a shift toward hunting and gathering of a wider array of animal and plant resources and a decrease in group mobility (Willey and Phillips 1958:107–108).

In the eastern and southwestern United States and on the Great Plains, development of horticultural-based, semi-sedentary to sedentary societies succeeds the

Archaic period. In these areas, the Archaic truly represents a developmental stage of adaptation as Willey and Phillips (1958) define it. For Central Texas, this manifestation of the Archaic is somewhat problematic. An increasing amount of evidence suggests that Archaic-like adaptations were in place before the Archaic (see Collins 2004:118, 1998; Collins et al. 1989) and these practices continued into the succeeding Late Prehistoric period (Collins 1995:385; Prewitt 1981:74).

EARLY ARCHAIC

The use of 8800 B.P. as a beginning date for the Early Archaic appears to be at the extreme older date range. It is just as probable that the date is closer to 8000 B.P., which is closer to the beginning date of the Early Archaic for South Texas, according to Hester (2004).

Early Archaic (8800–6000 B.P.) lithic assemblages can be diverse, with a greater variety of stone tool types than during the previous Paleoindian period (Weir 1976:115–122), suggesting that populations were highly mobile and population densities were probably low (Houk et al 2008). It has been noted that there is a concentration Early Archaic sites are concentrated along the eastern and southern margins of the Edwards Plateau (Johnson and Goode 1994; McKinney 1981; Story 1985). This distribution may indicate drier and/or more extreme climatic conditions at the time, given that these environments have more reliable water sources and a more diverse resource base than other parts of the region. Early Archaic projectile point styles include Hoxie, Gower, Wells, Martindale, and Uvalde. Clear Fork and Guadalupe bifaces and a variety of other bifacial and unifacial tools are common to Early Archaic assemblages. The increasing regional variation in tool styles also suggests increasing territorialism that reduced exchanges of technology and interaction between distant and possibly local groups (Oksanen 2008).

Construction and use of rock hearths and ovens, which had been limited during late Paleoindian times, became commonplace. Such a practice probably was related to cooking plant foods, particularly roots and bulbs, many of which must be subjected to prolonged periods of cooking to render them consumable and digestible (Black et al. 1997:257; Wandsnider 1997; Wilson 1930).

Significant Early Archaic sites include the Richard Beene site in Bexar County (Thoms 2005; Thoms and Mandel 1992), the Gatlin site in Kerr County (Houk et

al. 2008), Wilson-Leonard (Collins et al. 1998), the Ice-house site (41HY161) in San Marcos (Oksanen 2008) and the Youngsfort site in Bell County (Shafer 1963). The end of the Early Archaic is a poorly documented transition. The convention of 6000 B.P. intends to mark the appearance of both a changing environment and the appearance of specialized technology associated with bison hunting.

MIDDLE ARCHAIC

During the Middle Archaic period (6000–4000 B.P.), the number and distribution of sites, as well as their size, probably increased as population densities grew (Prewitt 1981:73; Weir 1976:124, 135). Macrobands may have formed at least seasonally, or more small groups may have used the same sites for longer periods (Weir 1976:130–131). Development of burned rock middens toward the end of the Middle Archaic suggest a greater reliance on plant foods, although tool kits still imply a considerable dependence on hunting (Prewitt 1985:222–226). Middle Archaic projectile point styles include Bell, Andice, Taylor, Baird, Nolan, and Travis. Bell and Andice points reflect a shift in lithic technology from the preceding Early Archaic Martindale and Uvalde point styles (Collins 2004:119). Johnson and Goode (1994:25) suggest that the Bell and Andice darts are parts of a specialized bison-hunting tool kit. They also believe that an influx of bison and bison-hunting groups from the Eastern Woodland margins during a slightly more mesic period marked the beginning of the Middle Archaic.

Although no bison remains were detected, Bell and Andice points were recovered from the Cibolo Crossing (Kibler and Scott 2000), Panther Springs Creek, and Granberg II (Black and McGraw 1985) sites in Bexar County. Bison were either absent or decreased drastically in number as more-xeric conditions returned during the late part of the Middle Archaic. Later Middle Archaic projectile point styles represent another shift in lithic technology (Collins 2004:120; Johnson and Goode 1994:27). At the same time, a shift to more-xeric conditions saw the burned rock middens develop, probably because intensified use of a specific resource (geophytic or xerophytic plants) or resource patches meant the debris of multiple rock ovens and hearths accumulated as middens on stable to slowly aggrading surfaces, as Kelley and Campbell (1942) suggested many years ago. Johnson and Goode (1994:26) believe that the dry conditions promoted the spread of yuccas

and sotols, and that it was these plants that Middle Archaic peoples collected and cooked in large rock ovens.

LATE ARCHAIC

During the succeeding Late Archaic period (4000 to 1300–1200 B.P.), populations continued to increase (Prewitt 1985:217). Within stratified Archaic sites such as Loeve-Fox, Cibolo Crossing, and Panther Springs Creek, the Late Archaic components contain the densest concentrations of cultural materials. Establishment of large cemeteries along drainages suggests certain groups had strong territorial ties (Story 1985:40). A variety of projectile point styles appeared throughout the Late Archaic period. Middle Archaic subsistence technology, including the use of rock and earth ovens, continued into the Late Archaic period. Collins (2004:121) states that, at the beginning of the Late Archaic period, the use of rock ovens and the resultant formation of burned rock middens reached its zenith and that the use of rock and earth ovens declined during the latter half of the Late Archaic. There is, however, mounting chronological data that midden formation culminated much later and that this high level of rock and earth oven use continued into the early Late Prehistoric period (Black et al. 1997:270–284; Kleinbach et al. 1995:795).

The use of rock and earth ovens (and the formation of burned rock middens) for processing and cooking plant foods suggests that this technology was part of a generalized foraging strategy. However, at times during the Late Archaic, this generalized foraging strategy appears to have been marked by shifts to a specialized economy focused on bison hunting (Kibler and Scott 2000:125–137). Castroville, Montell, and Marcos dart points are elements of tool kits often associated with bison hunting (Collins 1968). Archaeological evidence of this association is seen at Bonfire Shelter in Val Verde County (Dibble and Lorrain 1968), Jonas Terrace (Johnson 1995), Oblate Rockshelter (Johnson et al. 1962:116), John Ischy (Sorrow 1969), and Panther Springs Creek (Black and McGraw 1985).

The Archaic period represents a hunting and gathering way of life that was successful and that remained virtually unchanged for more than 7,500 years. This notion is based in part on fairly consistent artifact and tool assemblages through time and place and on resource patches that were used continually for several millennia, as the formation of burned rock middens shows. This pattern of generalized foraging, though

marked by brief shifts to a heavy reliance on bison, continued almost unchanged into the succeeding Late Prehistoric period.

LATE PREHISTORIC PERIOD

Introduction of the bow and arrow and, later, ceramics into Central Texas marked the Late Prehistoric period. Population densities dropped considerably from their Late Archaic peak (Prewitt 1985:217). Subsistence strategies did not differ greatly from the preceding period, although bison again became an important economic resource during the late part of the Late Prehistoric period (Prewitt 1981:74). Use of rock and earth ovens for plant food processing and the subsequent development of burned rock middens continued throughout the Late Prehistoric period (Black et al. 1997; Kleinbach et al. 1995:795). Horticulture came into play very late in the region but was of minor importance to overall subsistence strategies (Collins 2004:122).

In central Texas, the Late Prehistoric period generally is associated with the Austin and Toyah phases (Jelks 1962; Prewitt 1981:82–84). Austin and Toyah phase horizon markers, Scallorn-Edwards and Perdiz arrow points, respectively, are distributed across most of the state. Violence and conflict often marked introduction of Scallorn and Edwards arrow points into central Texas—many excavated burials contain these point tips in contexts indicating they were the cause of death (Prewitt 1981:83). Subsistence strategies and technologies (other than arrow points) did not change much from the preceding Late Archaic period. Prewitt's (1981) use of the term "Neoarchaic" recognizes this continuity. In fact, Johnson and Goode (1994:39–40) and Collins (2004:122) state that the break between the Austin and Toyah phases could easily and appropriately represent the break between the Late Archaic and the Late Prehistoric.

Around 1000–750 B.P., slightly more-xeric or drought-prone climatic conditions returned to the region, and bison came back in large numbers (Huebner 1991; Toomey et al. 1993). Using this vast resource, Toyah peoples were equipped with Perdiz point-tipped arrows, end scrapers, four-beveled-edge knives, and plain bone-tempered ceramics. Toyah technology and subsistence strategies represent a completely different tradition from the preceding Austin phase. Collins (1995:388) states that formation of burned rock middens ceased as bison hunting and group mobility

obtained a level of importance not witnessed since Folsom times. Although the importance of bison hunting and high group mobility hardly can be disputed, the argument that burned rock midden development ceased during the Toyah phase is tenuous. Black et al. (1997) claim that burned rock midden formation, although not as prevalent as in earlier periods, was part of the adaptive strategies of Toyah peoples.

HISTORIC PERIOD

The Historic period in central Texas theoretically begins with the arrival of Alvar Nuñez Cabeza de Vaca and the survivors of the Narváez expedition along the Texas coast in 1528 (Krieger 2002). European incursions, however, into south-central Texas were initially rare, and the first Europeans did not settle in this region until around A.D. 1700. Spanish incursions into the region from the late seventeenth century on, left valuable information on native groups and tribes. Several scholars, including Hester (1989) and Newcomb (2002), have provided historical accounts of Native Americans and their interactions with the Spanish, the Republic of Mexico, the Texas Republic, and the United States throughout the region.

The San Antonio area was first explored in 1691 by the Governor of the Spanish Province of Texas, Domingo Terán de los Ríos, and Father Damián Massenet. The pair traveled to San Pedro Springs where they encountered a hunter-gather tribe named Payaya. In their village named Yanaguana, the Payaya lived in simple huts made of brushwood and grass. The river and village were renamed after San Antonio de Padua by Terán and Massenet (Johnston 1947).

Further Spanish exploration was conducted in 1709 by Father Antonio de San Buenaventura y Olivares. Father Olivares was the first to express interest in setting up a mission in the San Antonio area (Fehrenbach 2012; Johnston 1947).

SPANISH MISSIONS

After a series of missions had been established in what would become eastern Texas, the Spanish government in the New World decided to begin settlement in 1718 at a bend in the San Antonio River. Mission San Antonio de Valero was founded on May 1, 1718, and followed four days later by the nearby San Antonio de Béxar Presidio and the civil settlement, Villa de Béxar. The location was a convenient stopping point on the Camino Real, the newly established highway founded

in 1691 by the previously mentioned Domingo Terán de Los Ríos and Father Damián Massenet to connect Mexico to the East Texas missions. However, in 1719 war between France and Spain resulted in the withdrawal of the Spanish from the east Texas missions, who reestablished their mission communities near the settlement along the San Antonio River.

Mission San Antonio de Valero, originally located west of San Pedro Springs, survived three moves and numerous setbacks during its early years (Schoelwer 2012). The mission was moved to the west side of the San Antonio River around 1730. After a disastrous epidemic in 1739, the mission was moved to its present location on higher ground (Cruz 2012). Mission San Antonio de Valero is now known as The Alamo.

There is little available information on aboriginal groups and their ways of life except for the fragmentary data Spanish missionaries gathered. The areas north of the city center near present-day Brackenridge Park were reportedly inhabited by several aboriginal groups, which included Tonkawa, Lipan Apache, Comanche, Jumano, Catqueza, and Karankawa (Cecil and Greene 2012; Foster 1995; Newcomb 2002). In the San Antonio area and areas to the south, these groups have been referred to collectively as Coahuiltecan because of an assumed similarity in way of life, but many individual groups may have existed (Campbell 1988). Particular Coahuiltecan groups, such as the Payaya and Juanca, have been identified as occupying the San Antonio area (Campbell 1988).

Some native groups made contact with the Spanish in San Antonio seeking protection from the Apache at newly established Spanish missions, settlements, and presidios like the Mission San Antonio de Valero and the Presidio San Antonio de Bexar (Chipman 1992:117). The Spanish in turn, actively recruited the Native Americans to help bolster their settlements on this northern frontier in response to a perceived increase of French influence in Louisiana and east Texas. The other four missions included Mission Nuestra Señora de la Purísima Concepción de Acuña (1731), Mission San José y San Miguel de Aguayo (1720), Mission San Juan Capistrano (1731), and Mission San Francisco de la Espada (1741) (Figure 3.1)

The Spanish presence around San Antonio is best seen as part of the complex European political picture of the time. The beginning of the late seventeenth and early eighteenth centuries was an era of more-permanent

contact between Europeans and Native Americans. Specifically, an increasing numbers of Spanish moved northward out of Mexico establishing settlements and missions on their northern frontier (see Castañeda [1936–1958] and Bolton [1970] for extended discussions of the mission system and Indian relations in Texas and the San Antonio area).

The Spanish Missions also served as a point of contact between the southward-advancing Apaches and the Spanish, with native groups often caught in between. Disease and hostile encounters with Europeans and intruding groups such as the Apache were already wreaking their inevitable and disastrous havoc on native social structures and economic systems by this time.

Establishment of the mission system in the first half of the eighteenth century to its ultimate demise around 1800 brought the peaceful movement of some indigenous groups into mission life, but others were forced or moved in to escape the increasing hostilities of southward-moving Apaches and Comanches. Many of the Payaya and Juanca lived at Mission San Antonio de Valero, but so many died there that their numbers declined rapidly (Campbell 1988:106, 121–123). By the end of the mission period, European expansion, disease, and intrusions by other Native American peoples had decimated many Native American groups. The small numbers of surviving Payaya and Juanca were acculturated into mission life. The last references to the Juanca and Payaya were recorded in 1754 and 1789, respectively, in the waning days of the mission (Campbell 1988:98, 123). By that time, intrusive groups such as the Tonkawa, Apache, and Comanche had moved into the region to fill the void. Outside of the missions, few sites attributable to these groups have been investigated. To complicate matters, many aboriginal ways of life endured even after contact with the Spanish. For example, manufacture of stone tools continued even for many groups settling in the missions (Fox 1979).

San Antonio became the capital of Spanish Texas in 1773. By 1778, the settlement had a population of 2,060 including those Indians living in the missions. However, conditions within the settlement were often described as poor, resulting from its location at the edge of Spanish-controlled Texas. The population was comprised of a mix of Europeans, mestizos, and a few slaves. By 1795, all the missions in San Antonio were secularized and Mission San Antonio de Valero, later

used them to dispose of waste (Porter 2009:96). The canals also required constant maintenance to keep them functioning properly. The Espada Acequia is the only acequia that still flows today. Four CPS Energy projects (Comal Street Substation project, Tenth Street to Coliseum project, Ball Park Substation project, and Huizar Street project) are within or adjacent to mapped acequia locations. The projects' locations in relation to the resources are detailed within the background review section of the project's individual chapter.

Between 1718 and 1724, the first canal was dug at the San Antonio Springs, the Acequia Madre (also known as Alamo Madre and Alamo Ditch) with other acequias completed concurrently or soon thereafter. The Acequia Madre diverted water from the east side of the headwaters of the San Antonio River, just below San Antonio Springs, in present-day Brackenridge Park. The acequia begins at the headwaters of the San Antonio River, with its diversion dam (the Alamo dam) being located within the grounds of the present day Witte Museum (Cox 1985; Ulrich 2011). The purpose of the Acequia Madre was to provide water to the Alamo and its associated farm lands during the mission era. The acequia branches approximately 0.2 mile northeast of the mission, with one branch flowing southwest onto the mission grounds, and one branch flowing south (Cox 1985). The two branches then re-join in the area known as HemisFair Park and continue flowing southwest before reconnecting to the largest bend of the San Antonio River, just southeast of the King Williams District (Cox 1985, 2005). Over time multiple lateral ditches, extensions, and *desagues*—or back channels—were connected to the acequia, but the majority of the Alamo Ditch was completed by 1744. Most of the laterals and extensions were severely disturbed or destroyed by subsequent development. The Acequia Madre is estimated to span 6 to 10 total miles, irrigating approximately 900 acres of land (Arneson 1921; Cox 2005).

The San Pedro Acequia (also Principal Acequia or San Pedro Ditch) is also one of the earlier irrigation ditches in San Antonio. Although the precise start and completion date is unknown, historical documentation indicates that an irrigation ditch was ordered to be constructed to provide water to one of the earlier locations of the Mission San Antonio de Valero and Villa de San Fernando de Bexar in 1719 (Cox 1986). At this point in time, the mission and villa were situated on the west side of the San Antonio River, just south

of San Pedro Springs. It is likely that the ditch ordered to be constructed was the beginnings of what would become the San Pedro Acequia (Cox 1986). Further historic documentation indicates that the acequia was in full operation by 1734, when official land titles were granted to the Canary Islanders that settled the villa (Cox 1993, Cox 1995, Nickels et al. 1996).

The Pajalache Acequia (also Concepción Acequia) was initially constructed prior to 1727 to serve the founding location of the San José y San Miguel de Aguayo (Mission San José) Mission, which was later relocated to the west bank of the San Antonio River further south (current location). William Corner (Corner 1890) states the acequia dates to 1729 based on a court testimony in 1858. However, trial records do not include the date of the acequia but do indicate the acequia was granted “previous to the foundation of the Alamo Church” (Cox 1995:2, 2005:27). Father Miguel Nuñez de Haro, one of the fathers entrusted by Father Antonio Margil de Jesús to care for the native population of the San José Mission, states the acequia was completed by 1724 (Cox 2005). Mission Nuestra Señora de la Purísima Concepción de Acuña (Mission Concepción) was then established at the founding location of Mission San José in 1731 with the acequia was already constructed.

The construction for the San José acequia started around 1729, near the time that the third and final location for the mission was established (Arneson 1921; Cox 1988, 2005). The purpose of the San José Acequia was to provide water to Mission San José and its associated farm lands during the mission era. The San José wing dam is located 1 mile southeast of the confluence of the San Pedro Creek and the San Antonio River (Cox 2005). The acequia begins just south of Mission Concepción, on the west side of the San Antonio River and flows south towards Mission San José. From its headwaters to its re-entry to the river, the San José Acequia transverses approximately 3 miles of farmland, but additional *desagues* and lateral ditches expand the acequia waters to over 600 acres of farmland (Arneson 1921; Cox 1988). The acequia was described in 1768 as being filled with an “abundant amount of water such that it seems a small river and it contains many fish” (Henderson and Clark 1984:6). Another example of expansion for the acequia is a 1790 branch constructed from the acequia to power the mill located on the east side of Mission San José (Cox 2005).

Unlike the other acequias in San Antonio, the Espada Acequia (Espada Ditch) and its associated Espada Dam and aqueduct, is the only one still functioning today (Cox 2005; Porter 2009). The exact date of start of construction is unknown. The acequia began on the western bank of the San Antonio River between Mission San Jose and Mission San Juan Capistrano at a dam that spanned the river (Cox 2005). From its head-gate near the Espada Dam, the acequia runs through Mission Espada and reenters the San Antonio River farther south and is approximately 3.25 miles in length. One of the astounding aspects of the Espada Acequia is the accuracy of its grade to maintain flow and prevent erosion that was developed and planned without the aid of modern equipment (Porter 2009). The Espada Dam, also serving as a diversion dam or weir, is the only still-functioning Spanish Colonial era dam in San Antonio with arches and constructed of limestone and lime mortar. The dam continues to lift water into the head gate of the acequia (Cox 2005; Porter 2009). During the 1730s, a stone aqueduct was constructed 1.49 miles down the acequia to carry water over Piedras (Six-Mile) Creek (Cox 2005). Considered one of the finest examples of Spanish colonial engineering and construction, the aqueduct is still in use and constructed of stone and ground limestone mortar (Porter 2009). The “diamond point” feature within the central pier is a pointed projection that diverts pressure from the stream away from the support of the two adjacent arches (Cox 2005). Approximately 15 feet above the creek bed, the aqueduct has survived multiple flood episodes, including those that have submerged the structure to a depth of 6 feet (Porter 2009).

As the first huts, or *jacales*, were built for Mission San Juan Capistrano in May 1731, construction for the San Juan Acequia likely began at the same time. However, frequent Apache raids, interference from the viceroy, and an epidemic in 1739, delayed the completion of both the mission and the acequia. The acequia did not become fully operational until February 1740 (Cox 2005). Constructed along the western bank of the San Antonio River, the San Juan dam was directly east of the present day site of Mission San Jose (Cox 2005). Constructed of large river cobble with lime and caliche mortar, the structure served as a weir. The San Juan dam was 300 feet in length and branched out from the western bank of the San Antonio River impounding a large pool of water to raise the water level within the channel. The dam allowed the raised water level to direct water flow to the start of the San Juan Acequia

ditch on the eastern bank. The acequia extended southward, east of the San Antonio River toward Mission San Juan Capistrano for approximately 3 miles. A stone head gate was also constructed approximately 550 feet from its eastern intake to control the flow. The acequia extended an additional 2.6 miles eastward to irrigate additional *labores*. Archaeological evidence from 1988 indicated.

The Spanish missions consumed spring water exclusively until 1761 when a well was dug at the Alamo in anticipation that hostile Indians would block access to the river. Around 1776 a dam was built to divert spring water into a second canal, the Upper Labor ditch, which was associated with the San Pedro Springs. The Upper Labor Acequia was one of two major canals that were excavated to transport water to early settlements between the San Antonio River and San Pedro Creek in the 1770s (Cox et al. 1999). A dam was built in 1776 to divert spring water into the Upper Labor Acequia and provide irrigation to 600 acres land between the old quarries and San Antonio River (Arneson 1921; Cox et al. 1999). In July of 1776 construction on the earliest routes of the acequia began and were later completed on March 10, 1778. One of the earliest routes of the Upper Labor originated at San Pedro Creek south of San Pedro Springs and flowed southeast for 1,308 feet, then turned slightly east continuing southeast following Richmond Avenue and discharging into the San Antonio River. Another main segment of the acequia split around Euclid Avenue heading northeast generally paralleling St. Mary’s Street extending north towards Brackenridge Park. Several desagues deviated from the main channel as it traversed north (Cox 2005).

The success of the mission acequias prompted late-nineteenth-century San Antonio officials to construct additional ditches to accommodate the water demands of a growing population (Nickels and Cox 1996). In 1874 engineers began construction on the Alazán Acequia, which extends from the Upper Labor Acequia near its beginning at San Pedro Springs, and travels north-northwest for a distance of 0.75 mile before momentarily redirecting west then south for the majority of its span. In total, the Alazán Acequia spanned approximately 4 miles and was completed by 1875. It was soon evident, however, that the acequia was not structurally sufficient for its purpose, failing to follow the traditional methods of utilizing contour lines to direct water flow (Cox 2005). In an attempt to salvage the project, the acequia was deepened in November of

1876 and lined with a smooth concrete finish to promote water flow. The result was a 10-foot-deep ditch that extended 2 feet into natural bedrock (Cox 2005). Unfortunately, the Alazán Acequia was still considered to be a structural failure and a “waste of public funds” (Cox 2005:71). The Alazán ditch was closed and filled in by 1900 (Cox 2005).

The San Antonio Valley Ditch was also constructed in 1874 due to the growing demand. An extension of the ditch was made at a later, unknown date by William H. Young, whom acted as secretary for the initial construction of the ditch. Young negotiated the construction of a spur that would water his personal lands to the south near Mission Concepción (Cox 2005). Ultimately, the ditch spans a total of 2.63 miles. Aside from its construction date and trajectory, very little is known about the San Antonio Valley Ditch.

The purpose of the acequias was to provide water to the missions and their associated farm lands during the mission era. As the population grew in the 1800s, the acequias became the main source of drinking water for San Antonio residents. However, sanitation soon became an issue with the ditches and in 1834 a cholera epidemic struck San Antonio.

Unfortunately, the epidemic was not immediately linked to the use of the acequias, but plans to improve the ditches were soon proposed. In 1878, the Waterworks Company was established to provide clean drinking water to the city after the acequias were deemed unsanitary for the ever-growing population (Cox 1993, 1995; Nickels et al. 1996). By 1900, most of the city’s acequias were abandoned and filled in (Cox 1993, 1995; Nickels et al. 1996).

SPANISH TEXAS REBELLIONS

The beginning of the nineteenth century was a turbulent time of numerous insurrections and conflicts within New Spain and Spanish Texas (Campbell 2003). These conflicts, in part, arose over internal political struggles between the *peninsulares* (natives of Spain) and the *criollos* (those of Spanish blood born in America) (Campbell 2003:89).

One of these revolutions occurred in San Antonio on January 21, 1811, when retired militia captain Juan Bautista de las Casas and some co-conspirators captured Governor Salcedo (Campbell 2003:90; Richardson et al. 1981:41). Las Casas proclaimed himself leader of the revolutionary government and then set

about arresting royalists and confiscating their property (Campbell 2003:90). This revolution lasted 39 days when a royalist counterrevolutionary force led by Juan Manuel Zambrano overthrew Las Casas and returned control of San Antonio over to Governor Salcedo (Campbell 2003:91). Las Casas was arrested and sent to Mexico for trial. In Monclova, he was found guilty of treason and executed. His head was sent back to San Antonio to be displayed on Military Plaza (Caldwell 2012; Ramsdell 1968).

The residents of San Antonio supported Mexican independence in 1813 but the town was recaptured by Royalist forces in the battles of Alazán Creek and Medina. During this period of unrest, conditions in Texas worsened. Inadequate provisions and neglected agricultural fields along with the fear of political and military upheavals forced many settlers to abandon their homes and move elsewhere (Fehrenbach 2012; Heusinger 1951).

Other concerns at this time for New Spain and Spanish Texas were the ‘filibusters’ or Anglo-American intruders with political designs (e.g., Philip Nolan in 1801, Louis Aury in 1816, and James Long in 1821) (Campbell 2003; Richardson et al. 1981). The filibuster incursion with the most notoriety was the Gutiérrez-Magee expedition in 1812 (Campbell 2003; Richardson et al. 1981). José Bernardo Gutiérrez de Lara and Augustus William Magee led an expedition into Texas from Louisiana in order to forcibly take control of Texas. From August of 1812 to April of 1813, the Gutiérrez-Magee expedition traveled westward across Texas capturing Nacogdoches, Trinidad de Salcedo, and La Bahía. On March 28, 1813, near the juncture of Salado Creek and the San Antonio River, the Battle of Salado was fought between Spanish royalists and the republican army of the Gutiérrez-Magee expedition (Campbell 2003:91–92; Richardson et al. 1981:42). The republican army defeated the Spanish royalist army and Gutiérrez entered San Antonio on April 1, 1813. Governor Salcedo and about a dozen officers surrendered (Campbell 2003:91–92; Richardson et al. 1981:42).

On April 6, 1813, in San Antonio, Gutiérrez proclaimed a declaration of independence, forming the first Republic of Texas with Gutiérrez as “President Protector of the State of Texas” (Campbell 2003:93). However, for a variety of reasons Gutiérrez’s reign was short, lasting about three months when General José Álvarez de Toledo y Dubois deposed him (Campbell

2003:93; McGraw et al. 1998; Richardson et al. 1981; Thonhoff 2012).

New Spain responded to the rebellion by sending General Joaquín de Arredondo and his army to San Antonio in order to crush the rebels. Arredondo and his army left Laredo in early August and marched to San Antonio along the Laredo Road. Toledo and the republican army intercepted the Spanish army south of the Medina River in order to spare San Antonio from the impending conflict (Schwarz and Thonhoff 1985). Thus, on August 18, 1813, the two armies met and fought the Battle of the Medina, which is sometimes referred to as the bloodiest battle ever fought on Texas soil (Campbell 2003:93; Thonhoff 2012). General Arredondo's forces consisted of 1,830 soldiers while Toledo's republican army contained 1,400 Anglos, Tejanos, Indians, and former royalists (Campbell 2003; Thonhoff 2012).

After four hours of heavy fighting, the Spanish army overwhelmingly defeated the republican army by killing all but about 100 soldiers, who escaped. General Arredondo and his troops followed up their victory by traveling to San Antonio and subsequently eastward toward Nacogdoches executing, imprisoning, and confiscating the property of anyone associated with the rebellion (Campbell 2003; Richardson et al. 1981). Arredondo's eradication of all Texas Anglo-Americans and liberal Mexicans left the province uninhabited with the exception of San Antonio (Richardson et al. 1981:43). Not until the 1820s, was any effort again expended to attract settlement into the province (Richardson et al. 1981).

As part of the fearsome lesson of rebellion, General Arredondo left the bodies of the republican soldiers from the Battle of the Medina unburied (Campbell 2003; Thonhoff 2012). It was not until 1822 (nine years after the battle) when the first governor of Texas, José Félix Trespalacios, in the newly formed Republic of Mexico had the bones collected and buried at the battlefield (Thonhoff 2012).

The devastating defeat of the republican army at the Battle of the Medina ended the Gutiérrez-Magee expedition and Texas' first republic (Thonhoff 2012). This battle is notable in that it was one of the largest in North America prior to the Civil War, which had consequences that affected the demography and economic development of the region for years after the conflict (McGraw et al. 1998:285). However, possibly due to

the tumultuous times of the era and the outcome of the battle, it has largely been forgotten and the exact location of the battle and the burial site lost (McGraw et al. 1998; Thonhoff 2012).

Although rebellion and revolt had been suppressed, the feelings of discontent between the upper and lower classes and the dissatisfaction with Old Spain remained (Richardson et al. 1981). Finally, in early 1821, the conservative upper classes of Mexico represented by Agustín de Iturbide met with rebel leader Vicente Guerrero and negotiated the Plan of Iguala on February 24, 1821. This plan, in part, proclaimed New Spain independent from Old Spain and was to be governed by a constitutional monarchy that protected the Catholic Church and racial equality (Richardson et al. 1981:52). Sensing the inevitable, Viceroy Juan O'Donojú signed the Treaty of Córdoba that recognized the Plan of Iguala and Spanish Texas became Mexican Texas (Campbell 2003:97; Richardson et al. 1981:52).

TEXAS SETTLEMENT AND INDEPENDENCE

After Mexico gained independence from Spain, the newly formed country used a policy of land grants to attract settlers into the area, including Anglos from the United States, to help settle the sparsely populated northern regions of Mexico. During the 1820s, Empresario (or colonization agent) Green DeWitt obtained grants from the Mexican government to settle 400 families along the Guadalupe, San Marcos, and Lavaca rivers (Baumgartner and Vollentine 2012; Campbell 2003; Richardson et al. 1981). Early settlers of DeWitt's Colony migrated between Gonzales and Lavaca, finally settling around Gonzales, due to harassment from Comanches and property boundary disputes with settlers of the De León grant (Richardson et al. 1981). Subsequent settlement in the area centered on waterways.

Because of a request from an increasing population seeking assistance from Indian raids, the Mexican government sent a 6-pound cannon to Gonzales in 1831 for their protection (Baumgartner and Vollentine 2012). Subsequently, the attendance by delegates of DeWitt's Colony at the conventions discussing a separation in statehood from Coahuila in 1832 and 1833 and the Consultation of 1835 were viewed as disloyalty and the Mexican government sent forces to retrieve the cannon (Baumgartner and Vollentine 2012; Campbell 2003; Richardson et al. 1981).

On October 2, 1835, Lieutenant Francisco Castañeda and 100 dragoons converged with about 150 Texians about a mile east of present day Cost, Texas (Baumgartner and Vollentine 2012; Campbell 2003; Richardson et al. 1981). This conflict was brief, resulting in one shot from the Gonzales “come and take it” cannon, but it did signal the beginning of the Texas Revolution (Baumgartner and Vollentine 2012; Campbell 2003; Hardin 1994; Metz 2001; Richardson et al. 1981).

Emboldened by their success at Gonzales, the Texian volunteers headed for San Antonio. In response, General Martín Perfecto de Cós, along with 650 men, fortified the plaza of San Antonio de Béxar west of the San Antonio River and the Alamo to the east. Texian volunteers arrived in San Antonio on October 12, 1835, to set up camp. Several small skirmishes occurred over the next few months while reinforcements and supplies were acquired and attack plans were debated.

The Battle of Concepción was the opening engagement in the siege of Bexár and a successful one for the Texians (Barr 2015). Stephen F. Austin ordered James Bowie and James W. Fannin, Jr. to scout a protected position closer to town with 90 men from Mission San Francisco de la Espada. Additional companies were scouting the other mission locations and all converged and camped near a wooded bend along the San Antonio River. General Cós sent out Colonel Domingo de Ugartechea with two cannons and approximately 275 men to attack the Texians before dawn. Although the Mexican cavalry and infantry attacked from the west and east, the Texians drove back the charges with rifle fire killing or wounding most of the infantry and artillerymen in thirty minutes. As the Texians counterattacked, they seized one of the cannons and the Mexican cavalry aided their surviving infantry and cannons in retreat (Barr 2015).

A Mexican deserter informed the Texians that the Mexican army’s morale and rations were low. Upon receiving this news, a council was held to decide on whether to attack. Commanding Officer, Edward Burleson and most of the other officers voted to end the siege. One man spoke up and asked “Who will go with Old Ben Milam into San Antonio?” (House 1949:47). Approximately 300 men joined Milam and the battle finally began on December 5, 1835.

The Texians dug trenches between houses they occupied for cover and destroyed the other buildings around them preventing cover for the Mexican troops. General

Cós split his troops between San Antonio de Béxar and the Alamo but was unsuccessful at defeating the Texians. When he tried to then focus the majority of his troops at the Alamo, some of his men deserted realizing the battle was lost. By the morning of December 9, 1835, Cós surrendered San Antonio to Burleson and the Texian troops (Barr 2015; House 1949).

On February 23, 1836, nearly 150 Texian volunteers took refuge from the approaching Mexican Army in the Alamo Mission in San Antonio under orders from Colonel William B. Travis (Hatch 1999). A standoff between the Texian Revolutionary Army and the Mexican Army, lasting 13 days, ended in complete annihilation of the Alamo defenders and a victory for the Mexican General Antonio Lopez de Santa Anna (Hardin 1994; Huffines 1999).

BATTLE OF THE ALAMO

The Alamo Garrison had been acquired following the defeat of Mexican General Martín Perfecto de Cós’ army in the December 1835 Battle of San Antonio. The subsequent formation of the Matamoros Expedition cost the Alamo much needed supplies and men. This expedition was created with the intentions of invading Mexico through the city of Matamoros; however, the plan was never executed due to political turmoil in the Texas government. Some relief came over the next few months with the arrivals of Colonel Jim Bowie, Colonel William B. Travis, and David Crockett (Hatch 1999).

General Santa Anna arrived in San Antonio with between 1,800 and 2,100 men on February 23, 1836. Upon their arrival Colonel Travis ordered his men to retreat into the Alamo (Hatch 1999). General Santa Anna raised a red flag signifying “no quarter—no mercy” and received a cannon shot from the Texians in defiance (Hatch 1999:20). In a letter sent February 24, 1836, addressed to the “People of Texas and all Americans in the World,” Colonel Travis pleas for assistance and states “if this call is neglected, I am determined to sustain myself as long as possible & die like a soldier who never forgets what is due his own honor & that of his country. Victory or Death” (Groneman 2001:6).

On March 2, 1836, General Santa Anna located a covered bridge to the northeast of the Alamo giving them a sheltered area within “pistol shot” (Huffines 1999:97) of the Alamo and posted Jiménez’ Battalion at the new location. The conjectural location of this “covered road” has been plotted by some, but its locale cannot

be conclusively proven (Huffines 1999:99). General Santa Anna ordered many small attacks in an attempt to breach the Alamo's walls. Many Mexicans lost their lives in the process; however, no Texians were killed in the 12-day siege before the final battle (Hatch 1999; Huffines 1999).

On March 4, 1836, General Santa Anna held a Council of War to decide plans of attack and the fate of prisoners. Despite objections from some of the Mexican officers, Santa Anna's decision to take no prisoners was reaffirmed. Meanwhile, Travis informed the Alamo defenders that James B. Bonham would no longer be sending reinforcements. He gave a speech to the men and asked them to choose between surrender, escaping, or fighting to the death.

As the Mexicans finalized their attack strategies and battle preparations commenced, Colonel Travis was entertaining the idea of surrender. He sent a Mexican woman from San Antonio to seek the terms of a possible surrender with the Mexican General. Upon learning about the poor state of the Texians and their garrison, Santa Anna's desire for battle increased. According to Mexican Lt. José de la Peña, Santa Anna "wanted to cause a sensation and would have regretted taking the Alamo without clamor and without bloodshed, for some believed that without these there is no glory" (Hatch 1999:36). The final decision to attack the Alamo with full force was made the following day, March 5, 1836 (Hatch 1999).

The Mexican army moved into position just after midnight on March 6, 1836, and waited for the signal to attack. This call came around five o'clock in the morning when a soldier cried out "Viva Santa Anna!" (Huffines 1999:134). With the element of surprise lost, Santa Anna ordered his troops to begin the attack on the Alamo garrison (Huffines 1999).

The Texians awoke to the sound of the approaching army and rushed to their posts. Santa Anna's troops began their march in columns but became disorganized before reaching the Alamo walls. The constant fire from the eastern Texian battery caused many of the Mexican troops to corner themselves under the north wall. This confusion made them easy targets for the Texians stationed above. An impatient Santa Anna then released the reserve battalions who eventually breached the north wall and southwest corner of the Alamo. Once inside the garrison, no mercy was given to the Alamo defenders (Hatch 1999).

This gruesome battle, lasting only 90 minutes, left every Texian combatant dead. The number of Mexican dead is a matter of debate, with numbers ranging from 70–1,600; uncounted more were wounded. The Texian's bodies were burned on funeral pyres on either side of the Alameda. Santa Anna won the battle at the Alamo but victory and independence was won by the Texians two weeks later in the Battle of San Jacinto (Hatch 1999; Huffines 1999).

REPUBLIC OF TEXAS ERA

After the events that transpired during the War of Texas Independence, San Antonio and central Texas continued to grow. Population estimates drawn from tax rolls suggest that the population in Texas from 1836–1846 increased by 269 percent (Campbell 2003:159). It was during this time that the phrase Gone to Texas became legendary and the initials G.T.T. were chalked on doors across the southern United States (Campbell 2003:159; Handbook of Texas Online 2012).

Among those to move into central Texas were German immigrants who came in to the area as a result of the Society for the Protection of German Immigrants in Texas. This society, founded in 1845 by Prince Carl of Solms-Braunfels, brought a massive influx of German immigrants into central Texas (Fox et al. 1997a:2).

UNITED STATES PERIOD (1845–1900)

After Texas entered the Union in 1845, San Antonio's already diverse population grew dramatically. The Irish came to Texas between the late 1830s and early 1840s and established a community called Irish Flat. They built houses of rock in this area that resembled cottages found in Ireland. It was bounded by 6th Street to the north, Commerce Street to the south, Bowie Street to the east, and Avenue C (present-day Broadway) to the west.

Germans also settled in San Antonio in the 1850s introducing the Bier Halle (Butterfield 1968:21) to the area. The rapid increase in population had been a direct result of the influx of German-speaking settlers. Until 1877, German-speaking people outnumbered both Hispanics and Anglos. French immigrants added artists and artisans to the culture of the city. Later immigrants to the area included the Polish, Italian, Greek, Syrian and in 1910, the Chinese, all of which formed small communities within the city of San Antonio. The first Polish group, led by the Rev. Leopold Moczygamba, arrived in San Antonio in 1854 and built St. Michael's

Parish in 1866 (Rybczyk 2000). The church was rebuilt in the 1920s, but was later demolished by construction of the Hemisphere.

Culture and architecture from each immigrant community has seeped into San Antonio and merged together, forming a rich cultural community. This diverse culture is evident in downtown San Antonio with historic missions and Victorian mansions built next to modern offices and homes (Butterfield 1968; Fehrenbach 2012).

On March 2, 1861, Texas seceded from the Union and soon after the Civil War began. San Antonio became a Confederate storage area as well as a location where military units could be organized; however, the city kept its distance from most of the actual fighting (Fehrenbach 2012).

After the Civil War, San Antonio continued to grow larger, spurred on by the arrival of the railroad in 1877 (Fehrenbach 2012; House 1949). Industries such as

cattle, distribution, ranching, mercantile, gas, oil, and military centers in San Antonio prospered. The city served as the distribution point for the Mexico-U.S. border as well as the rest of the southwest. At the turn of the twentieth century, San Antonio was the largest city in Texas with a population of more than 53,000 (Figure 3.2). Much of the city's growth after the Civil War was a result of an influx of southerners fleeing the decimated, reconstruction-era south. An additional population increase came after 1910, when large numbers of Mexicans began moving into Texas to escape the Mexican Revolution (Fehrenbach 1978).

Modernization increased dramatically between the 1880s and the 1890s, compared to the rest of the United States. Civic government, utilities, electric lights and street railways, street paving and maintenance, water supply, telephones, hospitals, and a city power plant were all built or planned around this time (Butterfield 1968; Fehrenbach 2012).



Figure 3.2. Birdseye view of San Antonio 1873 by Porter Loring (Foster et al. 2006).

MODERN PERIOD (1900–PRESENT)

According to one source, a few city events occurred in or around the project area in the early 1900s, although the project area itself was not the focus of these activities and remained an outlying property. In May of 1903, the second Annual Horse Show was held on Alamo Plaza. In 1924, a 13-story Medical Arts Building was built on the corner of Houston Street and Avenue E. In addition, the San Antonio Express dedicated a new building located on the corner of Avenue E and 3rd Street (Heusinger 1951).

In 1921, a disastrous flood engulfed Houston and St. Mary's streets with approximately 2.7 meters of water. The Olmos Dam was built in response to this event to prevent further flooding. Sections of the San Antonio River were straightened and widened in areas to control the water flow. Another recommendation was to construct an underground channel in downtown San Antonio and to cover portions of the river with concrete. This last idea upset some people, but a compromise was eventually agreed upon to create a Riverwalk with shops and restaurants along the water channel. Construction of this Riverwalk was completed in 1941 (House 1949; Long 2012).

As the United States entered World War II, San Antonio became an important military center and other city activities and construction ceased for nearly five years (Heusinger 1951). Although Fort Sam Houston was established in 1876, and Kelly, Randolph, and Brooks Air Force bases were established prior to 1930, all area military facilities experienced growth during World War II. Lackland Air Force Base was created from a portion of Kelly in 1942. With the exception of Kelly, all remain active military training centers.

Tourism is one of San Antonio's most important industries, drawing tens of thousands of visitors every year (Figure 3.3). More recent features include theme parks, zoos, museums, gardens, parks, and sporting attractions. The Riverwalk, also known as the Paseo del Rio, consists of over 2.5 miles of shops and is probably one of San Antonio's most visited attractions. The missions in San Antonio are another huge tourist attraction and with its recent UNESCO World Heritage Site designation, will continue to promote the cultural heritage of San Antonio. Visitors also enjoy other architecturally important historic structures like San Fernando Cathedral (1758), the Spanish Governor's Palace (1749), the Quadrangle at Fort Sam Houston (1878), and the Bexar County Courthouse (1891) (Fehrenbach 2012).

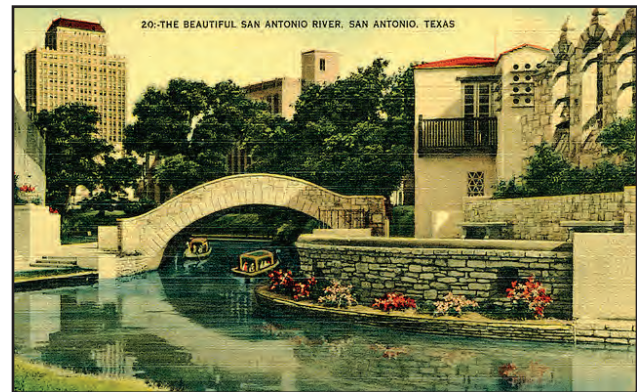


Figure 3.3. A circa 1920 postcard showing the San Antonio Riverwalk.

CHAPTER 4

METHODS

Laura I. Acuña

INTRODUCTION

The projects conducted under the annual permit were completed using a combination of methods, such as surface reconnaissance and intensive survey or mechanical excavations or monitoring. The investigations were of sufficient intensity to determine the nature, extent, and if possible, significance of any cultural resources located within the project areas. All projects began with a background archaeological literature review and archival search of the project areas.

BACKGROUND LITERATURE REVIEW

SWCA performed a cultural resources records review to determine if all the project areas have been previously surveyed for cultural resources or if any archaeological sites have been recorded within or near the project areas. To conduct this review, an SWCA archaeologist reviewed the Schertz, Texas USGS 7.5-minute topographic quadrangle maps on the THC's Texas Archeological Sites Atlas (Atlas). This source provided information on the nature and location of previously conducted archaeological surveys, previously recorded cultural resources, locations of NRHP properties, sites designated as State Antiquities Landmarks, Official Texas Historical Markers, Recorded Texas Historic Landmarks (RTHLs), cemeteries, and local neighborhood surveys. As a part of the review, an SWCA archaeologist also reviewed the Texas Department of Transportation (TxDOT) Historic Overlay, a mapping/geographic information system database with historic maps and resource information covering most portions of the state. In addition to these sources, SWCA also examined data sources specific to Bexar County and the City of San Antonio (Stoner System Maps, Sanborn Fire Insurance Maps, and historic aerial photography) to review the general history of development in the project areas.

FIELD METHODS

ARCHAEOLOGICAL SURVEYS

Two CPS Energy projects consisted of intensive pedestrian surveys. The intensive surveys included surface inspection augmented by subsurface inspection in the form of shovel tests and/or mechanical excavations (backhoe trenching). The surveys complied with applicable standards as defined in 13 TAC 26.10 and met all THC-minimum archaeological survey standards with exceptions thoroughly documented. Archaeologists examined the ground surface and extensive erosional profiles and exposures for cultural resources. Subsurface investigations involved shovel testing in settings with the potential to contain buried cultural materials. The THC's survey standards require 16 shovel tests for every 1 mile when the project area is equal to or greater than 100 feet (30 meters [m]) in size. Areas selected for shovel testing were dependent upon variables such as previous disturbances and the presence of soils. The shovel tests were approximately 30 centimeters (cm) in diameter and excavated in arbitrary 20-cm levels to 100 cm below surface (cmb) or culturally sterile deposits, whichever came first. The matrix from each shovel test was screened through ¼-inch mesh, and the location of each excavation was plotted using a hand-held Global Positioning System (GPS) receiver. Each shovel test was recorded on a standardized form to document the excavations.

Any existing standing structures or above-ground resources within the project area were photo-documented. A review of historic aerial maps and county records were conducted as needed to determine the significance and age of any historic-age resources located within the project area. If the significance of the historic-age resources were not adequately assessed under these limited methods, a historic resource survey was conducted. However, no historic-age resources were encountered that required a historic resources survey.

CULTURAL RESOURCE MONITORING INVESTIGATIONS

SWCA's investigations of six CPS Energy projects consisted of cultural resource monitoring of the project area during construction activities. The goal of the monitoring was to gather information on the nature and types of cultural resources possibly buried in the project area with a focus on potentially significant resources related to surrounding cultural resource areas such as the Mission Parkway NRHP Historic District and acequias.

The archaeologists coordinated all field activities with appropriate personnel and any on-site construction foreman regarding scheduling and safety. The archaeologist complied with all applicable Occupational Safety and Health Administration safety regulations and wore all required safety equipment (e.g. hardhat, safety glasses, and steel-toed boots). Monitoring consisted of a qualified archaeologist observing the excavation process, examining sediment as it was removed from each trench, and examining the side walls for cultural materials. Artifacts, if encountered, were to be examined, quantified, and assessed as to age and origin, and not collected. Temporally diagnostic artifacts, if present, were to be described in detail and photographed in the field.

Although no intact cultural resources were revealed in the construction process, protocols stipulated the archaeologist was to attempt to make a determination as to potential significance of the findings. If such a discovery was made, construction was to be temporarily halted so that the archaeologist could better examine the cultural materials or features, take photographs, and thoroughly document the finds. Once the materials were assessed, construction was to recommence and continue as planned.

Only if the materials were assessed as extremely significant (mainly human remains or burials) was construction in the immediate area to be halted. If a localized work stoppage was required, the monitoring archaeologist would immediately call all involved parties (CPS Energy, THC, SA-OHP, etc.) to discuss the find and formulate a plan of action. However, over the course of the project it was not necessary to implement this emergency contingency plan.

CHAPTER 5

INTERIM REPORT I: CULTURAL RESOURCES INVESTIGATIONS OF THE CPS ENERGY NE SPD EXPANSION PHASE 1 GAS MAIN PROJECT, BEXAR COUNTY, TEXAS

Rhiana D. Ward

INTRODUCTION

On behalf of CPS Energy, SWCA conducted a cultural resources survey of the Northeast (NE) SPD Expansion Phase 1 Gas Main Project (NE SPD Project, Work Request 1752969) in Bexar County, Texas (Figure 5.1). The investigations included a background and archival review and an intensive pedestrian survey with subsurface investigations for the installation of a new 8-inch gas main. All work was done in accordance with the standards and guidelines of the THC and the Council of Texas Archeologists (CTA) under CPS Energy's annual permit, Texas Antiquities Permit No. 6851.

The purpose of the work was to locate and identify all prehistoric and historic archaeological sites in the project area, establish vertical and horizontal site boundaries as appropriate with regard to the project area, and evaluate the significance of any site recorded within the property. SWCA archaeologists Rhiana D. Ward and Allyson Walsh conducted the field work on June 10, 2014.

PROJECT AREA DESCRIPTION

The project area is a linear segment that parallels Evans Road for approximately 1.63 miles (Figure 5.2). The line begins within the northern ROW at the intersection of Evans Road and Green Mountain Road. The line extends southeast for approximately 700 feet before crossing over to the southern ROW of Evans Road and further extending 1.5 miles to the southeast. The project area terminates at the junction of the Evans Road ROW and the southeastern corner of the new Judson Independent School District (ISD) property easement and Wheeler Cemetery.

Based on a general review of recent aerial photography, the western end of the project area is abutted to the north by a large quarry. The central and eastern portions of the project area are bordered to the north and south by a moderately dense forest and sporadic residential and commercial structures. Private drives

that transect the project area are also associated with the residential and commercial buildings.

The area of potential effects (APE) for the NE SPD Project is 8,606 feet long (1.63 miles), 3 feet wide, and maximally 5 feet deep within the 25-foot-wide existing ROW of Evans Road. The APE encompasses a total area of 4.94 acres. The majority of the project will be open trenched within the 25-foot-wide ROW which includes temporary construction impacts, except for boring under driveways, natural and artificial drainages, and possibly some trees. The bore will be approximately 1 foot in diameter and at least 600 feet in length. Thus, the APE encompasses 4.94 acres and potentially involves 4,465 cubic yards of disturbance. The investigations proposed below are designed to comply with the requirements of the Antiquities Code of Texas.

The project area landscape is characterized by gently rolling topography shaped by Cibolo Creek and its associated unnamed tributaries. Cibolo Creek parallels the eastern half of the project area at a distance of 300 feet to the north. An unnamed tributary of Cibolo Creek transects the project line southwest to northeast at approximately 2,000 feet from the western end of the project area. Multiple erosional drainages also likely transect the project area sporadically.

ENVIRONMENTAL SETTING

GEOLOGY

The western 4,812 feet of the project area is mapped within the Buda Limestone and Del Rio Clay geological formations, while the remaining 3,734 feet of project area is mapped as Terrace deposits (Barnes 1983). The Buda Limestone and Del Rio Clay Formation are described as fine grained, massive to thin-bedded with limestone, dolostone, and chert. Terrace deposits consist of sand, silt, clay, and gravel in various proportions with gravel more predominant in older, higher terrace deposits (Barnes 1983).

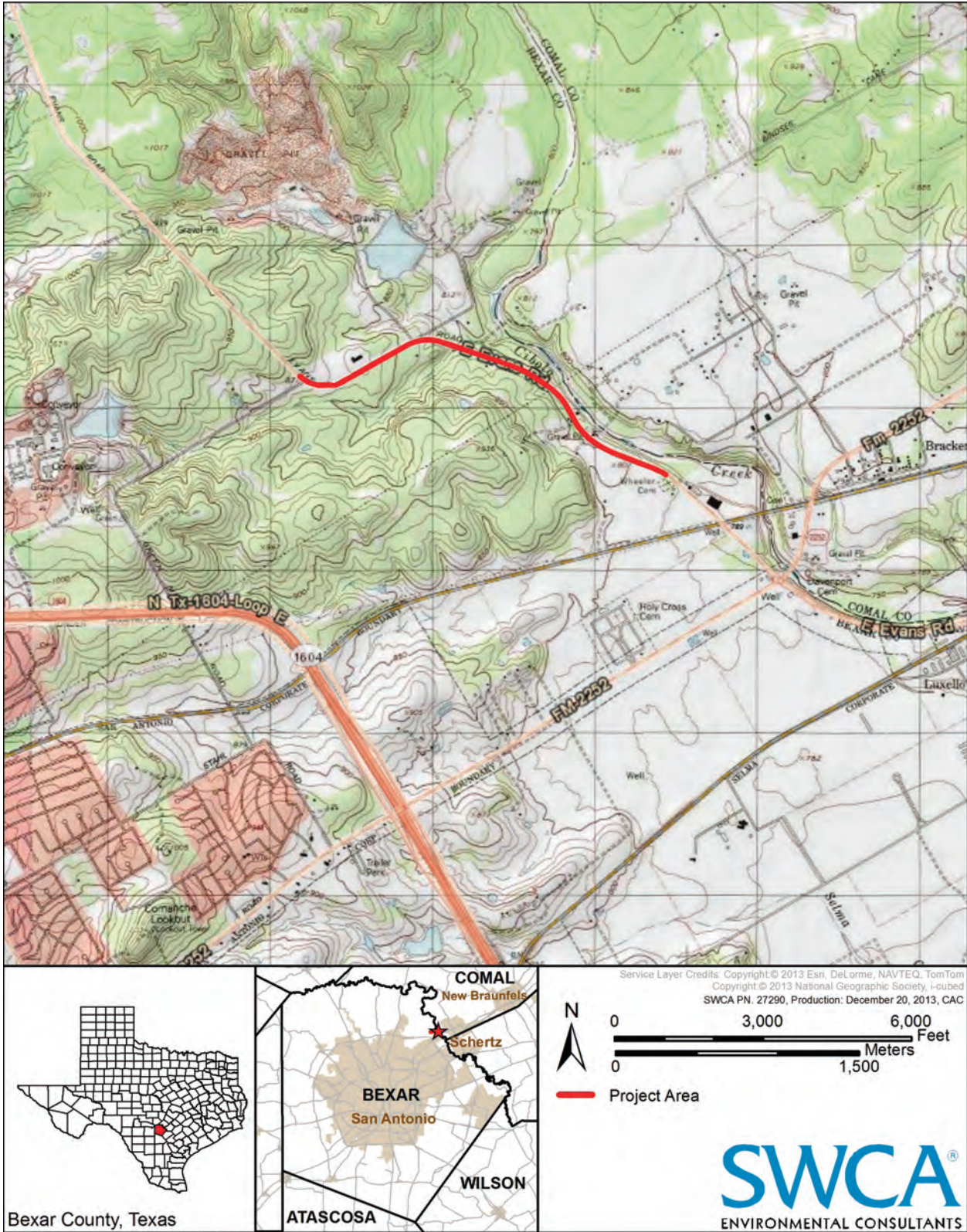


Figure 5.1. Project location map.



Figure 5.2. Project area map.

SOILS

The project area soils are comprised of 42 percent Crawford and Bexar stony soils, 35 percent Patrick soils with 3 to 5 percent slopes, 14 percent Krum clay with 1 to 5 percent slopes, and 9 percent Lewisville silty clay with 1 to 3 percent slopes (NRCS 2014). The Krum series is described as very deep, well drained, moderately slowly permeable soils that formed in calcareous clayey sediments on moderately sloping terraces and lower slopes of the valleys. The Lewisville series consists of very deep, well drained, moderately permeable soils that formed in ancient loamy and calcareous sediments. The Crawford series is characterized by moderately deep, well drained, very slowly permeable soils that formed in clayey sediments that are underlain by indurated limestone bedrock. The Bexar series consists of moderately deep, well drained, slowly permeable soils on upland plains. Lastly, the Patrick series is described as moderately deep, well drained, moderately permeable soils that formed in clayey over gravelly sediments (NRCS 2014).

RESULTS OF BACKGROUND REVIEW

ATLAS BACKGROUND REVIEW

The background review determined that the majority of the project area was not previously surveyed for cultural resources. A short segment, approximately 0.43 mile of the project area, was previously surveyed, specifically within Judson ISD property. The review also found one RTHL site and one cemetery adjacent to the southern end of the project area. In addition, there are four previously conducted surveys, 13 previously recorded sites, two cemeteries, and a local historic marker within a 1-mile radius of the project area. The project area is just northwest of Nacogdoches Road, part of the El Camino Real de los Tejas National Historic Trail. The local historic marker commemorates the road and was erected by the Texas Society of the Daughters of the American Revolution (DAR) in 1918 (Eisenhour and Cilley 2005).

Wheeler Cemetery and site 41BX1746, also known as the Robert B. Evans House, are located adjacent to the southern terminus of the Phase I project area. Details on the cemetery were not available on Atlas, but the location and boundary are evident on the current USGS 7.5-minute topographic map. The Robert B. Evans House is located adjacent to the cemetery and consists of a residential building ca. 1865–1882

(Atlas 2014). Additional information on the resource or historic landmark designation was not available on Atlas. However, the property is included in the Historic Farms and Ranches of Bexar County, Texas, NRHP Multiple Property Documentation Form (Atlas 2014).

A segment of the project area, roughly 0.43 mile in length, was previously surveyed in 2001 on behalf of Judson ISD on property southwest of Evans Road (Schroeder 2001). The investigations recorded nine sites consisting of prehistoric lithic scatters (41BX1379, 41BX1380, 41BX1384, and 41BX1385), prehistoric open campsites (41BX1378, 41BX1381, 41BX1382, and 41BX1386), and one historic farmstead (41BX1383). All sites but one were recommended as ineligible for NRHP listing (Schroeder 2001). The eligibility status of 41BX1381 remained undetermined. The THC concurred with the recommendations (Atlas 2014; Schroeder 2001).

Previously conducted surveys within a 1-mile radius of the project area include a project for TxDOT along Nacogdoches Road, Farm-to-Market (FM) Road 2252, a historic reconnaissance survey conducted on behalf of TxDOT for the same project in 2005, and a transmission line survey in 2004 (Atlas 2014). An early State Department of Highways and Public Transportation survey was conducted along FM 2252 in 1981 and encountered two sites, 41CM121 and 41CM122, within a 1-mile radius of the project area. Site 41CM122 is located along FM 2252 and Cibolo Creek and was recommended for further testing (Atlas 2014).

The TxDOT survey investigations identified the Davenport cemetery (designated as 41BX934), the Holy Cross Cemetery, a DAR granite marker commemorating the “King’s Highway” (the Camino Real), and an agricultural complex of buildings (Eisenhour and Cilley 2005). The Davenport Cemetery and the DAR marker were recommended as eligible for listing on the NRHP. The Davenport Cemetery is located at the southeast corner of the Nacogdoches and Evans Road intersection. The marker is located at the southwest corner of the same intersection. Nacogdoches Road is part of a network of Spanish colonial roads that originated in Mexico and connected colonial cities and outposts across Texas and North America (Eisenhour and Cilley 2005). The roads and trails are collectively called the Caminos Reales or King’s Highways (Eisenhour and Cilley 2005; Texas State Historical Association 2013). Nacogdoches Road, also known as the San Antonio to Nacogdoches Road, was ultimately designated as

the El Camino Real de los Tejas National Historic Trail and added to the National Trails System in 2004 (Gonzales 2013).

HISTORIC MAP REVIEW

A review of the TxDOT historic overlay maps from 1846, 1850, 1867, 1871, 1887, 1938, and 1953 did not reveal any historic-age resources within the project area (Foster et al. 2006). An 1871 Bexar County General Land Office map and an 1887 Bexar County Rullmann map depict the project area in the Vincent Michelli Original Survey No. 114 land parcel. The maps also depict a historic road that parallels Cibolo Creek that is likely the earliest manifestation of Evans Road. A 1938 U.S. Army Corps of Engineers (USACE) map and a Shertz 1953 Army Map Service (AMS) topographic map depicts Green Mountain Road and Evans Road at their current location. The Evans Road and Classen Road intersection is also depicted but deviates slightly from the current location. Both maps also depict the Robert B. Evans House near the terminus of the project area. However, the Wheeler Cemetery is not depicted on either map.

Historic aerial photography from 1955 to 1973 indicates the project area is within and surrounded by undeveloped land and agricultural fields. A 1955 historic aerial depicts Evans Road, the Robert B. Evans House, and a fenced-in parcel just north of the Evans House that likely represents the Wheeler Cemetery. The 1963 historic aerial also depicts the house and cemetery as well as the adjusted route of Evans Road. A curve was constructed along the road near the unnamed tributary 500 feet southeast of Classen Road to deviate from a 90-degree bend at the Classen and Evans Road intersection. By 1973, the Wheeler Cemetery is depicted on a Schertz USGS topographic map. The Stoner System map sheet 1043 (ca. 1930–1940s) indicates that the project area is within properties belonging to the Stoepler family, Kretzmier family, and Wheeler family (Figure 5.3). The southern terminus of the project area is within the Carlos Wheeler parcel which depicts a building and windmill adjacent to the project area. Recent aerial photography indicates that the location of building and windmill correlates with the current location of Wheeler Cemetery.

FIELD SURVEY

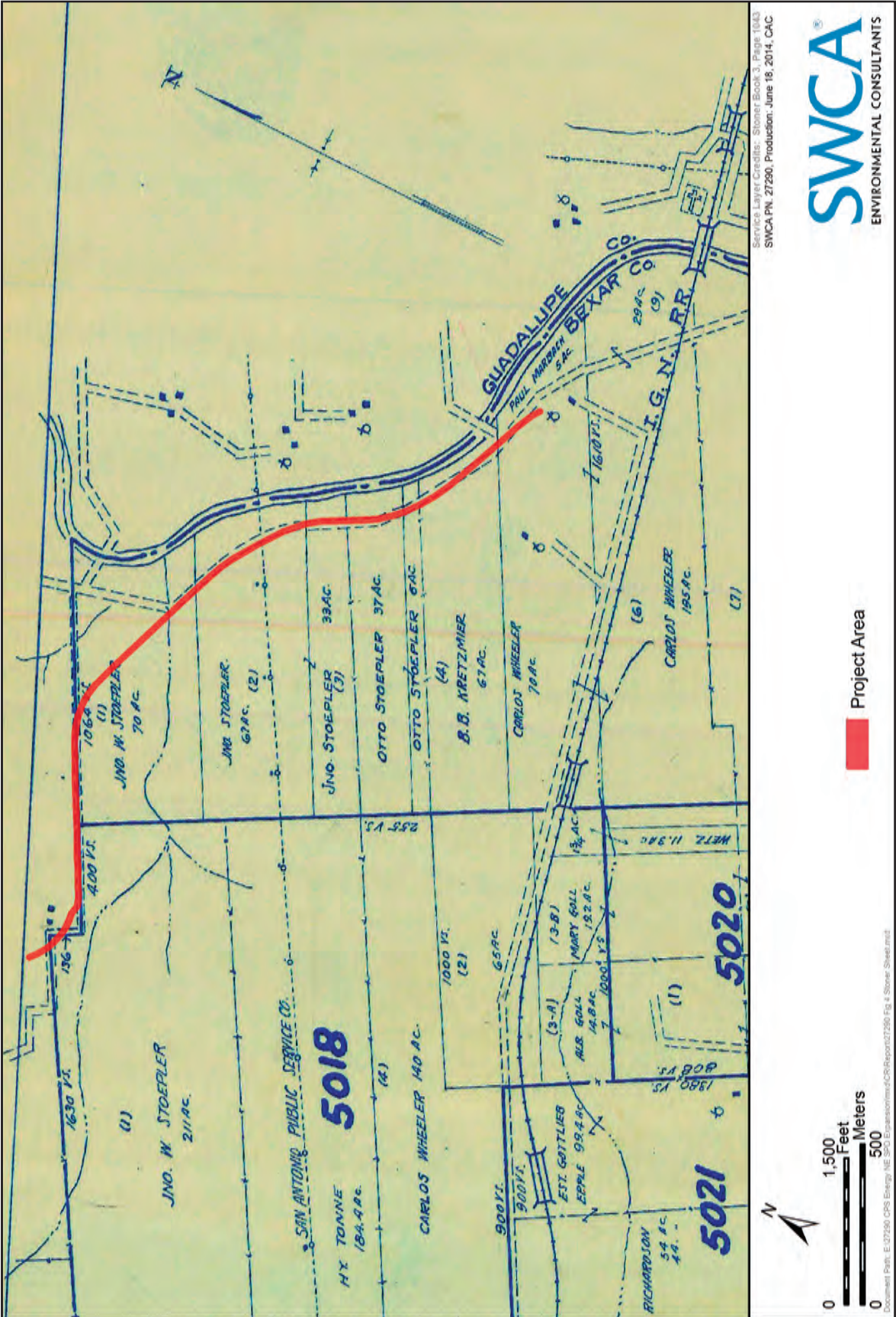
On June 10, 2014, two SWCA archaeologists conducted an intensive pedestrian survey with subsurface testing of the proposed 1.63-mile NE SPD project area. A total of 20 shovel tests were conducted throughout the APE (Figure 5.4 and Table 5.1), and no cultural resources were identified. The investigations determined that the entire APE had been heavily disturbed by road and utility construction, property fence lines, and the new Judson ISD property easement.

Vegetation of the project area consists of low, manicured grasses and weeds with sporadic shrubs and sapling trees. The northern and southern areas that border the project area consist of moderately dense juniper forests with a mix of low-lying shrubs (Figure 5.5). The topography of the project area consists of gently rolling hills flanked by shallow erosional drainages (Figure 5.6) that flow towards Cibolo Creek to the north.

One unnamed tributary of Cibolo Creek transects the project area at the western end of the project line (Figure 5.7). The drainage is characterized by an angular-block channel bed flanked by a 70-cm high-cut bank on the east side and a 40-cm high-cut bank on the west side (Figures 5.8 and 5.9). A concrete bridge has been constructed on Evans Road in order to accommodate the flow of the unnamed tributary.

A total of 20 shovel tests were excavated within the project area, below the THC's minimum survey standard requirement of 26 due to the existing disturbances from road construction, property fence lines, and the new Judson ISD property easement. Shovel tests were excavated in 150-m intervals, when a well-defined drainage was encountered, one shovel test was placed 20 m on each side of the drainage. Shovel test depths ranged from 0 to 40 cm below ground surface and were terminated due to disturbed soils, thick gravel and cobble lenses, sterile basal clay, or bedrock. Two shovel test locations were not excavated due to extreme soil disturbance. All shovel tests were negative for cultural material.

The soils of the project area were found to be highly disturbed within the Evans Road ROW. Disturbed soils were characterized by yellow, brown, and red mottled clays mixed with high volumes (50–90 percent) of calcium carbonates, gravels, and cobbles. Patches of base gravel and asphalt were also observed on the ground surface throughout the project area (Figure



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SWCA PN. 27290, Production: June 18, 2014, CAC



Figure 5.3. Project area shown on 1930–1940s Stoner map.

Table 5.1. Shovel Test Log

ST #	Depth (cmb)	Munsell	Soil Color	Soil Texture	Inclusions	Positive/Negative	Comments/Reason For Termination
RW01	0-20	2.5YR6/4 w 8/1 Mottle	Light Reddish Brown with White Mottles	Clay	20% CaCo3	Negative	In ROW of Evans Road, asphalt and gravels on surface. Termination due to disturbed clay.
RW02	0-10	2.5YR4/4	Reddish Brown	Silt Clay Loam	30% cobbles	Negative	Approximately 20 m west of erosional drainage, in ROW on edge of brush line. Termination due to basal clay and thick gravels.
	10-20	2.5YR5/4	Reddish Brown	Sandy Clay	90% gravels and cobbles	Negative	
RW03	0-10	2.5YR4/4	Reddish Brown	Silt Clay Loam	30% cobbles	Negative	Approximately 20 m east of erosional drainage in ROW on the line. Termination due to disturbed clay.
	10-20	2.5YR5/4	Reddish Brown	Clay Loam Mottle	90% gravels	Negative	
RW04	0-40	10YR2/2	Very Dark Brown	Clay	30% gravels	Negative	In ROW on tree line. Termination due to basal clay.
RW05	0-10	7.5YR2.5/3	Very Dark Brown	Silt Clay Loam	50% limestone gravels	Negative	In erosional wash of ROW, in ROW on tree line. Termination due to disturbed soils.
RW06	0-15	7.5YR3/3	Dark Brown	Clay Loam	50% limestone gravels	Negative	Cobbles and exposed bedrock on ground surface. Termination due to bedrock
RW07	0-10	7.5YR4/4	Brown	Clay Loam	30% cobbles and CaCo3	Negative	Cobbles and exposed bedrock on ground surface. Termination due to bedrock
RW08	0-35	10YR3/4	Dark Brown	Clay Loam	None	Negative	20 m west of erosional drainage. Termination due to basal clay.
	35-40	10YR3/4	Dark Brown	Clay	2% CaCo3	Negative	
RW09	0-20	2.5YR6/4 w 8/1 Mottle	Light Reddish Brown with White Mottles	Hydric Clay	10% gravels	Negative	On slope next to gate, drive, rock pile and utility pole/ disturbed soils. Termination due to disturbed soils.
RW10	0-30	10YR6/6	Brownish Yellow	Silt Clay Loam	None	Negative	On steep slope into ROW erosional drainage.
	30-35	10YR6/6	Brownish Yellow	Compact Clay Loam	10% CaCo3	Negative	Termination due to compact soils and CaCO3.
RW11	N/A	N/A	N/A	N/A	N/A	N/A	No Dig - Built up fill for school construction pad.
RW12	0-20	N/A	N/A	N/A	gravel and sand fill	Negative	In between road and bank in erosional drainage. Termination due to disturbed sand fill and base gravel.
AW01	0-12	10YR4/3	Brown	Silt Clay Loam	gravels 20%, cobbles 5%	Negative	Previously disturbed, approximately 20 m from ROW.
	12-30	10YR4/3	Brown	Silt Clay Loam	15 % gravels	Negative	Termination due to compact soils.
AW02	0-10	10YR3/2	Very Dark Grayish Brown	Silt Clay Loam	gravels 30%, cobbles 15%	Negative	Termination due to degrading limestone bedrock
AW03	0-5	5YR3/2	Dark Reddish Brown	Silt Clay Loam	gravels 20%, cobbles 10%	Negative	Metal wire found at 0-5 cm, 25 cm long x .02 cm wide, high % cobbles, disturbed soils, ROW erosional drainage. Termination due to disturbed soils.
	5-17	5YR3/2 with 5/1 Mottle	Dark Reddish Brown with Gray Mottles	Silt Clay Loam	cobbles 20%, gravel 30%	Negative	
AW04	0-5	10YR4/4	Dark Yellowish Brown	Silt Clay Loam	gravel 40%, cobbles 50%	Negative	Blue and clear modern glass on surface. Termination due to bedrock.
AW05	0-30	10YR2/2	Very Dark Brown	Silt Clay Loam	cobbles, gravel 1-5%	Negative	10 m from ROW. Termination due to bedrock
AW06	0-10	10YR4/2	Dark Grayish Brown	Silt Clay Loam	Rootlets, Less than 1% gravel	Negative	Termination due to bedrock
	10-16	10YR6/4	Light Yellowish Brown	Silt Clay Loam	CaCo3, gravel and cobbles 1-5%	Negative	
AW07	N/A	N/A	N/A	N/A	N/A	N/A	No Dig - Built up fill for school construction pad.
AW08	0-5	10YR5/4	Yellowish Brown	Silt Clay Loam	Roots, 10% gravel	Negative	Termination due to disturbed soils.
	5-23	10YR5/6	Yellowish Brown	Silt Clay Loam	10% gravel	Negative	

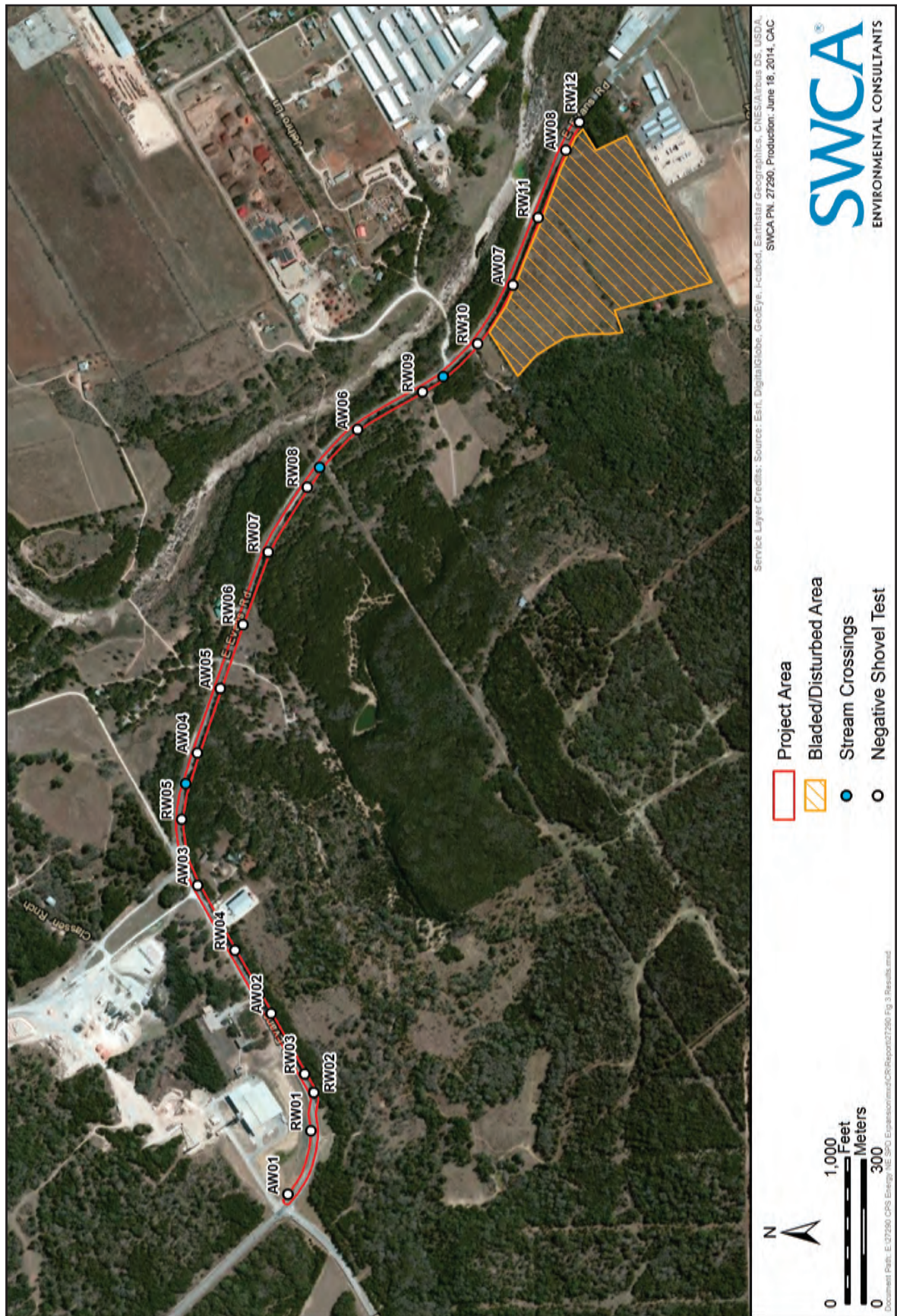


Figure 5.4. Survey results for the NE SPD project area.



Figure 5.5. Grass and juniper vegetation of project area, facing east.



Figure 5.8. Eastern cut bank of unnamed tributary of Cibolo Creek, facing east.



Figure 5.6. Example of erosional drainages that transect the project area, facing southwest.



Figure 5.9. Western cut bank of unnamed tributary of Cibolo Creek, facing west.



Figure 5.7. Unnamed tributary of Cibolo Creek, facing south-southwest.



Figure 5.10. Example of asphalt and gravel patches, facing east.

5.10). Shovel tests placed on the edges of the ROW sometimes encountered intact soil deposits consisting of dark gray brown silty clay loams mixed with 30 to 90 percent gravels and cobbles. Intact soil deposits ranged from 10 to 40 cm in depth before terminating at bedrock or sterile basal clay. Outcrops of dense limestone cobbles and exposed limestone bedrock were often observed on the ground surface throughout the project area (Figure 5.11).

The project area has been heavily disturbed by a number of impacts, including road construction, overhead utility lines, property fence lines, private drives, and construction activity for the Judson ISD property easement. The utility line which parallels the ROW of Evans Road consists of a series of large metal utility poles spaced, more or less, evenly throughout the project area (Figure 5.12). Property fence lines also parallel the ROW at various distances from the road, and are typically constructed of metal or wood posts with barbed wire (see Figure 5.12). Multiple gravel-based private drives constructed of culvert pipes transect the project area (Figure 5.13). Lastly, the Judson ISD property easement overlaps the last 1,400 feet of the eastern end of the project area. This easement has recently been bladed and built up using approximately 2 to 3 m of dirt fill (Figure 5.14).

Overall the NE SPD contain areas of minimal intact soil deposition, and no cultural materials were identified during cultural investigations. Due to the high volume of disturbance, no further work or avoidance strategy is recommended for the NE SPD project area.

SUMMARY AND RECOMMENDATIONS

On behalf of CPS Energy, SWCA conducted a cultural resources survey of the NE SPD Expansion Phase 1 Project in Bexar County, Texas. The investigations included a background and archival review and an intensive pedestrian survey with subsurface investigations. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's annual permit, Texas Antiquities Permit No. 6851.

The APE for the NE SPD Project encompasses 4.94 acres and potentially involves 4,465 cubic yards of disturbance. The project is 8,606 feet long (1.63 miles), 3 feet wide, and maximally 5 feet deep within the 25-foot-wide existing ROW of Evans Road. The majority of the project will be open trenched within



Figure 5.11. Example of limestone bedrock outcrop, facing west.



Figure 5.12. Overview of overhead utility lines and property fence line, facing east.



Figure 5.13. Example of private drives and culvert bridges, facing east.



Figure 5.14. Overview of Judson ISD easement.

SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources, and SWCA recommends no further archaeological investigations within the APE. No artifacts were collected; thus, nothing was curated.

the 25-foot-wide ROW which includes temporary construction impacts, except for boring under driveways, natural and artificial drainages, and possibly some trees. The bore will be approximately 1 foot in diameter and at least 600 feet in length.

The background review determined that the majority of the project area was not previously surveyed for cultural resources. A short segment, approximately 0.43 mile of the project area, was previously surveyed, specifically within Judson ISD property. Also, one RTHL site and one cemetery are located adjacent to the southern end of the project area. In addition, there are four previously conducted surveys, 13 previously recorded sites, two cemeteries, and a local historic marker within a 1-mile radius of the project area. The project area is just northwest of Nacogdoches Road, part of the El Camino Real de los Tejas National Historic Trail.

On June 10, 2014, two SWCA archaeologists conducted an intensive pedestrian survey with subsurface testing of the proposed 1.63 mile NE SPD project area. A total of 20 shovel tests were conducted throughout the APE, and no cultural resources were identified. The THC's minimum survey standards require 16 shovel tests for every 1 mile, or 26 shovel tests for the project area. The frequency of shovel tests was reduced due to the existing disturbances within the project area and high ground surface visibility. The investigations determined that the entire APE had been heavily disturbed by road and utility construction, property fence lines, and the new Judson ISD property easement.

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CHAPTER 6

INTERIM REPORT II: CULTURAL RESOURCES INVESTIGATIONS OF THE CPS ENERGY BULVERDE ROAD AND REDLAND ROAD POLE REPLACEMENT PROJECT, BEXAR COUNTY, TEXAS

Laura I. Acuña

INTRODUCTION

On behalf of CPS Energy, SWCA conducted a cultural resources survey of the Bulverde Road and Redland Road Pole Replacement Project (Work Request No. 1873173) in Bexar County, Texas (Figure 6.1). The investigations included a background and archival review and an intensive pedestrian survey with subsurface investigations for the proposed installation of six new pole replacements and four anchors. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's annual Texas Antiquities Permit No. 6851.

The excavations for the pole replacement will be approximately 24 inches in diameter and approximately 10 feet deep. The work will consist of the removal of five existing poles and the installation of six new pole replacements and four anchor locations within new, previously undisturbed areas. The construction activities will be completed within a temporary construction easement (for machinery and vehicles) that is 31 foot wide and approximately 500 to 600 feet long. Thus, the APE is less than 1 acre in size, with an expected excavation of 2,480 cubic yards of soil. Subsurface impacts will extend approximately 10 feet below the existing ground surface.

The purpose of the work was to locate and identify all prehistoric and historic archaeological sites in the project area, establish vertical and horizontal site boundaries as appropriate with regard to the project area, and evaluate the significance of any site recorded within the property. SWCA archaeologist Laura I. Acuña conducted the field work on August 25, 2014.

PROJECT AREA DESCRIPTION

The project area is at the intersection of Bulverde Road and Redland Road approximately 0.66 mile south of State Highway Loop 1604 (Loop 1604) (Figure 6.2). The proposed installations will be within the western ROW of Bulverde Road beginning at the intersection

and extending north for approximately 500 feet. Two of the installations will be within the southern ROW of Redland Road approximately 130 feet west of the intersection.

Based on a general review of recent aerial photography, the project area is within an upland setting with minimal to moderate vegetation. Portions of the project area have been cleared of vegetation, primarily along the intersection of Bulverde and Redland Roads. The surrounding area consists of moderate forest and residential neighborhoods to the west and undeveloped pasture land to the east.

The project area landscape is characterized by upland ridge topography along an ephemeral drainage named Elm Waterhole. The project is primarily along the ridge overlooking the drainage that drains into Elm Creek, approximately 0.88 mile south of the project area. The drainage intersects Redland Road 144 feet west of the Bulverde Road and Redland Road intersection. The upland setting suggests shallow soils limiting archaeological potential to the surface. As such, an intensive pedestrian survey was conducted to comply with the requirements of the Antiquities Code of Texas.

ENVIRONMENTAL SETTING

GEOLOGY

The entire project area is within Buda Limestone and Del Rio Clay Formation, undivided. The deposits are described as fine grained, massive-to-thin-bedded with limestone, dolostone, and chert (Barnes 1983).

SOILS

The project area soils are comprised of 90 percent Eckrant cobbly clay with 5 to 15 percent slopes, and 10 percent Patrick soils with 3 to 5 percent slopes, rarely flooded (Figure 6.3; NRCS 2014). The Eckrant series consist of very shallow to shallow soils over undurated limestone bedrock and interbedded quartz,

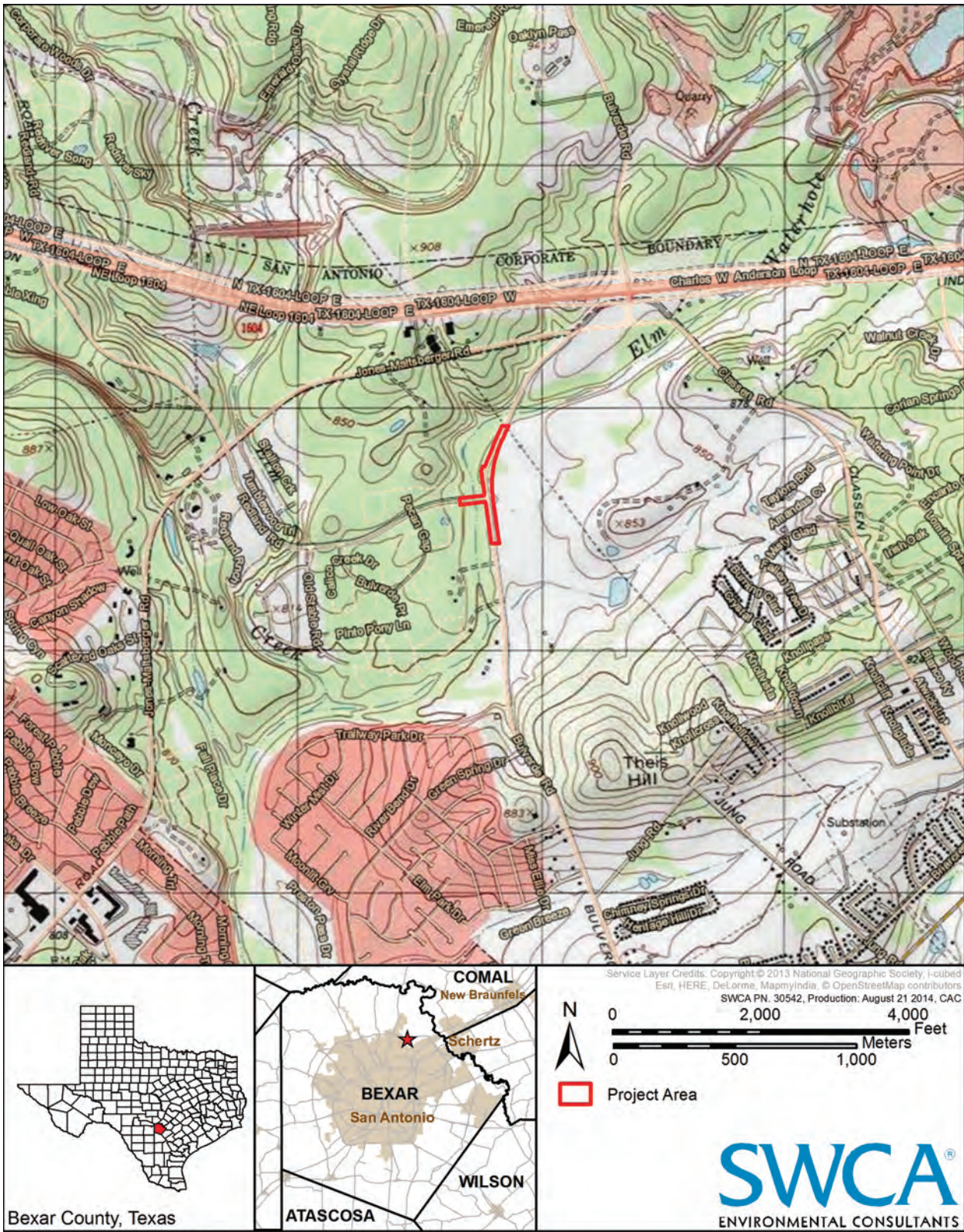


Figure 6.1. Project area location.



Figure 6.2. Project area map.

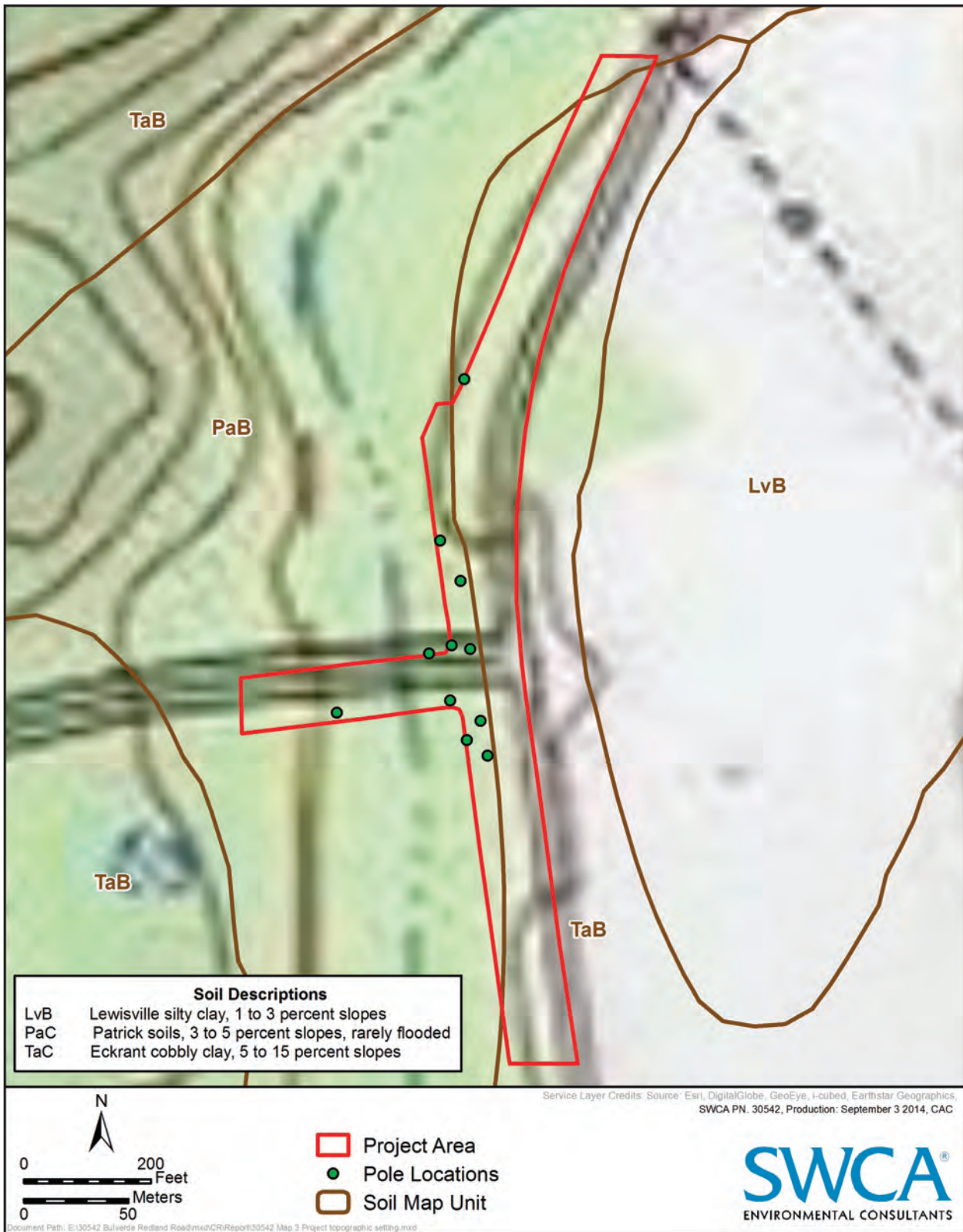


Figure 6.3. Project soils.

chert, marl, and chalk. Soils consist of very cobbly clay 0 to 12 inches below surface followed by bedrock. The Lewisville series consists of very deep, well drained, moderately permeable soils that formed in ancient loamy and calcareous sediments. The Patrick series is described as moderately deep, well drained, moderately permeable soils that formed in clayey over gravelly sediments (NRCS 2014). Specifically, soils consist of clay with pebbles 0 to 22 inches below surface followed by gravelly loam sand.

RESULTS OF BACKGROUND REVIEW

ATLAS BACKGROUND REVIEW

The background review determined that the APE was not previously surveyed for cultural resources and there are no previously recorded cultural resources within its boundaries. There are approximately 16 previously conducted survey investigations and 20 previously recorded sites within a 1-mile radius of the APE. The previous survey investigations were conducted for a variety of public entities including TxDOT, COSA, Soil Conservation Service (SCS), school districts, as well as private developers.

Four of the 16 previously conducted surveys were conducted on behalf of the SCS in 1974, 1977, 1978, and 1979 (Atlas 2014). The 1974, 1978, and 1979 investigations were conducted approximately 0.97 mile north of the project, along Salado Creek and its tributaries. Two sites within a 1-mile radius of the project, 41BX454 and 41BX452, were identified during the 1974 survey and one site, 41BX68, was revisited during the 1978 investigations (Atlas 2014). The 1977 survey was conducted approximately 0.95 mile south of the project area.

In 1982, investigations were conducted on behalf of SCS for the Salado Creek Flood Retardant Structure No. 10 located approximately 1.0 mile west of the project. Site 41BX570 was identified during the investigations. Approximately 0.66 mile north of the project area, TxDOT conducted investigations for the proposed Loop 1604 highway in 1984. In that same year, investigations on the Knollcreek Subdivision were conducted approximately 1.0 mile southeast of the project area on behalf of a private developer (Atlas 2014). Two sites were identified during the survey and one, 41BX624, is within 1.0 mile of the project area (Atlas 2014).

In 1990, survey investigations were conducted approximately 0.30 mile northwest of the project area on behalf of the Northeast Independent School District. Sites 41BX901 through 41BX905 were identified and recorded during the investigations. Additional survey investigations conducted within that same year for a private landowner identified sites 41BX906, 41BX907, 41BX909, and 41BX914 within the same general vicinity, approximately 0.25 mile northwest and west of the project area (Atlas 2014).

Survey investigations conducted on behalf of private developers for residential and commercial development were conducted in 2001, 2005, 2008, and 2014 (Atlas 2014). Additional information on the 2001 survey was unavailable on Atlas. Site 41BX1625, which is approximately 0.73 mile northwest of the project area, was identified and recorded during the 2005 survey conducted by SWCA (Houk and Acuña 2005). The 2008 survey investigations were completed by SWCA, approximately 0.30 mile northeast of the project area on behalf of a commercial development. Sites 41BX1786 and 41BX1787 were identified and recorded during the investigations (Atlas 2014). Approximately 0.97 mile northwest of the project area, another survey was conducted in 2014 and one site, 41BX1997, was identified and recorded (Atlas 2014).

In 2009, SWCA conducted survey investigations on behalf of COSA on two roadways, Jones Maltsberger and Bulverde Road (Atlas 2014). The Bulverde Road survey identified and recorded one site beyond a 1-mile radius of the project area (Atlas 2014). The Jones Maltsberger Road survey identified site 41BX1813 within .93 mile west of the project area (Lowe 2010).

Additional investigations were conducted on Loop 1604 in 2007 and 2011 (Atlas 2014). The 2007 survey investigations were conducted for TxDOT's Loop 1604 North Improvements Project (Atlas 2014). The 2011 survey consisted of investigations on select parts of Loop 1604. Sites 41BX66 and 41BX68 were revisited during both investigations. The sites were initially recorded in 1971 during the initial survey investigations for Loop 1604 when it was Farm-to-Market 1604 (Atlas 2014). Additional information on the survey was unavailable on Atlas.

As a result of the previously conducted surveys, approximately 20 previously recorded sites are within a 1-mile radius of the project area. Table 6.1 lists the sites and distance from the project area. Of the 20

sites, 17 are prehistoric sites consisting of eight identified as lithic quarry/procurement or chipping stations (41BX68, 41BX454, 41BX901, 41BX904, 41BX905, 41BX906, 41BX907, and 41BX1625), five lithic scatters (41BX909, 41BX1813, 41BX1786, 41BX1787, and 41BX1997), two rock shelters (41BX452 and 41BX570), once campsite (41BX66) and one burned rock midden (41BX901). The remaining three sites consist of historic structures (41BX624 and 41BX914) and one unknown site type (41BX1459).

HISTORIC MAP REVIEW

A review of the TxDOT historic overlay maps from 1871, 1887, 1938, and 1953 did not reveal any historic-age resources within the project area (Foster et al. 2006). An 1871 Bexar County General Land Office map and an 1887 Bexar County Rullmann map depict the project area in the J. Goll Survey No. 359 land parcel. The maps also depict a historic road that parallels Elm Waterhole that is likely the earliest manifestation of Bulverde Road. A 1938 USACE map and a Longhorn 1953 AMS topographic map depicts Bulverde Road at its current location.

Historic aerial photography from 1955 to 1973 indicates the project area is within and surrounded by undeveloped land and agricultural fields. The Stoner System map sheet 1045 (ca. 1930–1940s) indicates that the project area is within properties belonging to Jno. Eisenhauer.

FIELD SURVEY

On August 25, 2014, an SWCA Archaeologist conducted an intensive pedestrian survey with subsurface testing of the project area. A total of six shovel tests were excavated within the APE (Figure 6.4 and Table 6.2), and no cultural resources were identified during the investigations. The survey determined that the entire APE was previously disturbed by road construction, road maintenance, and underground utility installations.

The project is located on a narrow upland ridge between Elm Waterhole ephemeral drainage and the Bulverde Road ROW. Vegetation of the project area consists of a mixture of short grasses, landscaping, shrubs, and trees along the ROW of the roadways (Figure 6.5). The northwestern portion of the project area along the western ROW of Bulverde Road contained moderate vegetation that had been recently cleared and graded

(Figure 6.6). Evidence of modern debris or trash was dispersed across the ROW. The remaining areas were impacted by landscaping and road improvements along Redland Road (Figure 6.7).

The proposed pole replacements and installations will be primarily within the western ROW of Bulverde Road, with one pole located within the southern ROW of Redland Road. The pole replacement along Redland Road is adjacent to the Redland Road bridge over Elm Waterhole (Figure 6.8). The ROWs exhibited extensive disturbances related to the installation of buried utilities, landscaping, and bridge and road construction.

A total of six shovel tests were excavated within the project area, meeting the THC's minimum survey standard requirements (see Figure 6.4 and Table 6.2). The shovel tests were focused on the proposed locations of the new pole installations. The majority of shovel test depths ranged from 0 to 5 cm below surface consisting of gravelly clay loam with 80 percent chert gravels over bedrock (Figure 6.9). One shovel test was excavated to a depth of 35 cm below surface consisting of silty clay loam over gravelly clay loam, terminating at bedrock. The shovel tests confirmed the nature of the shallow soils and upland setting. All shovel tests were negative for cultural material. Modern trash was observed within one shovel test (ST 02) consisting of floor or wall tile fragments (see Table 6.2). One piece of ceramic whiteware was observed on the surface near ST 02, intermixed with other modern debris.

The project area contained exposed areas of high ground surface visibility and limestone/chert gravel on the surface. The APE contains underground utility lines such as water and sewer pipelines, and a buried electric box (Figure 6.10). The water and sewer lines are located along the ROWs near the intersection along with a water meter (Figure 6.11). A sewer manhole is located along the northwestern quadrant of the Bulverde Road and Redland Road intersection (Figure 6.12). The landscaped portions of the ROW contain private signage and associated electric lines from the box.

The project area contains minimal intact soils and no cultural materials were identified during cultural investigations. Due to the high volume of disturbance, no further work or avoidance is recommended for the Bulverde Road and Redland Road project area.

Table 6.1. Previously Recorded Sites within a 1-mile Radius

Site Trinomial	Distance from project in miles	Site Type	Time Period	Eligibility Status	Recommendations
41BX66	Northeast 0.93 mile	Campsite	Prehistoric	Destroyed	No further work
41BX68	North 0.65 mile	Quarry -chipping	Prehistoric	Undetermined	Further work outside APE
41BX452	Northwest 1.00 mile	Rockshelters	Prehistoric	Not reported	Not reported
41BX454	Northwest 0.97 mile	Stone chipping station	Prehistoric	Not reported	Not reported
41BX570	West 1.00 mile	Rockshelter	Prehistoric	Destroyed	No further work
41BX624	Southeast 1.00 mile	Limestone building	Historic; 19-20th century	Ineligible	No further work
41BX901	Northwest 0.54 mile	Quarry - lithic	Prehistoric	Ineligible	No further work
41BX903	Northwest 0.16 mile	Burned Rock Midden	Prehistoric	Undetermined	Further work recommended
41BX904	Northwest 0.34 mile	Lithic chipping area	Prehistoric	Not reported	Not reported
41BX905	Northwest 0.40	Quarry - lithic	Prehistoric	Undetermined	Further work recommended
41BX906	North-northwest 0.17 mile	Quarry - lithic	Prehistoric	Not reported	Not reported
41BX907	West 0.20 mile	Quarry - lithic	Prehistoric	Not reported	Not reported
41BX909	West 0.13 mile	Lithic scatter	Prehistoric	Not reported	Not reported
41BX914	Southeast 0.33 mile	Log Cabin	Historic; 19-20th century	Not reported	Not reported
41BX1459	North-northwest 0.55 mile	Unknown	Unknown	Ineligible within ROW	Report unavailable
41BX1625	Northwest 0.73 mile	Lithic procurement	Prehistoric	Ineligible	No further work
41BX1813	West 0.93 mile	Lithic scatter	Prehistoric	Ineligible	No further work
41BX1786	Northeast 0.41 mile	Lithic scatter	Prehistoric	Ineligible	No further work
41BX1787	Northeast 0.30 mile	Lithic scatter	Prehistoric	Ineligible	No further work
41BX1997	Northwest 0.94 mile	Lithic scatter	Prehistoric	Ineligible	No further work

Table 6.2. Shovel Test Data

ST #	Depth (cmbs)	Munsell Soil Color	Soil Texture	Inclusions	Positive/Negative	Comments/Reason For Termination
1	0-5	10YR3/4 Dark Yellowish Brown	Gravelly Clay Loam	80% gravel	Negative	Bedrock
2	0-5	10YR3/4 Dark Yellowish Brown	Gravelly Clay Loam	80% gravel	Negative	Bedrock
3	0-5	10YR3/4 Dark Yellowish Brown	Gravelly Clay Loam	80% gravel	Negative	Bedrock; Modern broken wall or floor tile with debris at 3 cm
4	0-5	10YR3/4 Dark Yellowish Brown mottled with 10YR7/4 Very Pale Brown	Gravelly Clay Loam	80% gravel	Negative	Bedrock
5	0-30	10YR4/6 Dark Yellowish Brown	Silty Clay Loam	2% gravel	Negative	Bedrock
	30-35	10YR3/4 Dark Yellowish Brown	Gravelly Clay Loam	60% gravel	Negative	Bedrock
6	0-5	10YR3/4 Dark Yellowish Brown	Gravelly Clay Loam	80% gravel	Negative	Bedrock

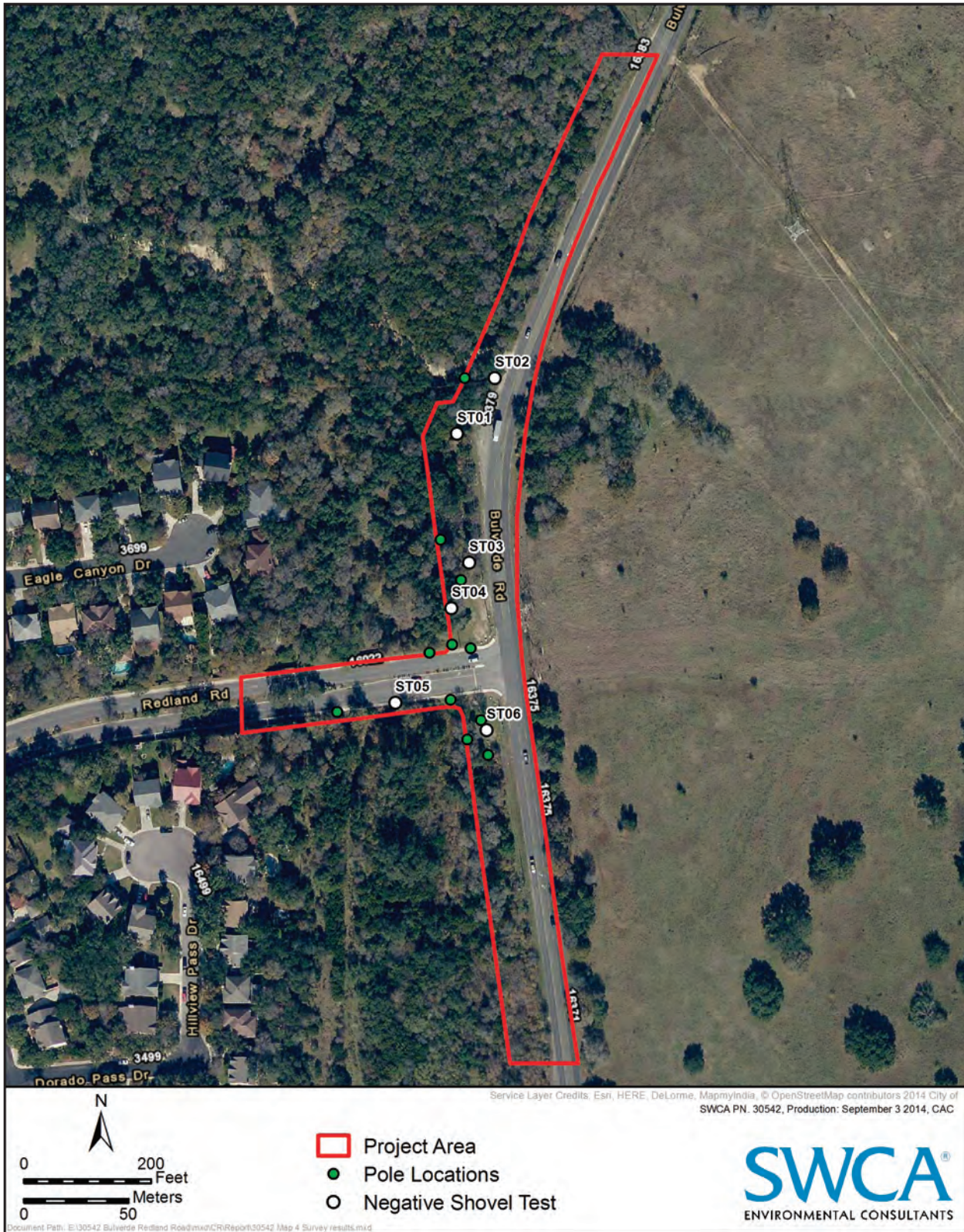


Figure 6.4. Survey investigations results.



Figure 6.5. Overview of project area within western right-of-way of Bulverde Road.



Figure 6.8. Redland Road with bridge and proposed utility replacement in far left of photograph.



Figure 6.6. Overview of graded and cleared area within area of potential effects.



Figure 6.9. Close up of Shovel Test 01, gravelly clay loam over bedrock.



Figure 6.7. Bulverde Road and Redland Road intersection and landscaping.



Figure 6.10. Overview of utilities within the project area at Bulverde Road and Redland Road intersection.



Figure 6.11. Overview of buried utilities within western right-of-way of Bulverde Road, north of Redland Road.



Figure 6.12. Overview of manhole within western right-of-way of Bulverde Road, north of Redland Road.

SUMMARY AND RECOMMENDATIONS

On behalf of CPS Energy, SWCA conducted a cultural resources survey of the Bulverde Road and Redland Road Pole Replacement Project in Bexar County, Texas. The investigations included a background and archival review and an intensive pedestrian survey with subsurface investigations. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's annual permit, Texas Antiquities Permit No. 6851.

The project involves the removal of five existing poles and the installation of six new pole replacements and four anchors within a 31-foot-wide temporary construction easement. The excavations for the pole replacements will be approximately 24 inches in diameter and approximately 10 feet deep. The APE for the project is less than 1 acre in size, with an expected excavation of 2,480 cubic yards of soil disturbance.

The background review determined that the project area was not previously surveyed for cultural resources and there are no previously recorded cultural resources within its boundaries. There are approximately 16 previously conducted survey investigations and 20 previously recorded sites within a 1-mile radius of the project area.

On August 25, 2014, an SWCA archaeologist conducted an intensive pedestrian survey with subsurface testing of the proposed project area. A total of six

shovel tests were excavated within the APE, meeting the THC's minimum survey standards, and no cultural resources were identified. The investigations determined that the entire APE had been heavily disturbed by road construction and maintenance, and buried utility installations.

SWCA made a reasonable and good faith effort to identify cultural resources within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources, and SWCA recommends no further archaeological investigations within the APE. No artifacts were collected; thus, nothing was curated.

CHAPTER 7

INTERIM REPORT III: CULTURAL RESOURCES MONITORING INVESTIGATIONS OF THE CPS ENERGY HUIZAR STREET GAS SERVICE LINE PROJECT, BEXAR COUNTY, TEXAS

Rhiana D. Ward and Laura I. Acuña

INTRODUCTION

On behalf of CPS Energy, SWCA conducted cultural resources monitoring investigations for the Huizar Street Gas Service Line Project (Huizar Street Project) in the City of San Antonio, Bexar County, Texas (Figure 7.1). The investigations included a background and archival review and cultural resources monitoring. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's current annual Texas Antiquities Permit (No. 6851).

The purpose of the work was to locate and identify all prehistoric and historic archaeological sites in the project area, establish vertical and horizontal site boundaries as appropriate with regard to the project area, and evaluate the significance of all sites recorded within the property. SWCA archaeologist Laura I. Acuña conducted the field work on October 27, 2014.

PROJECT AREA DESCRIPTION

The project area is located within the ROW of Huizar Street, approximately 0.06 mile northeast of its intersection with Roosevelt Avenue (State Highway 536) in downtown San Antonio. The project begins on the north side of the Huizar Street ROW and directs south-southeast, entering the lot at 112 Huizar Street and terminating at an existing building within the property (Figure 7.2). Based on a preliminary review by the SA-OHP, the project area is near the San José Acequia. Mission San José y San Miguel de Aguayo (Mission San José) is located 0.22 mile to the north. The project also has the potential to impact deeply buried cultural deposits as it is located within the flood plain of the San Antonio River. The San Antonio River is located 0.7 mile east of the project area.

The project involves the installation of a new 1¼-inch gas service line from a 2-inch gas main within Huizar Street to connect to a building at 112 Huizar Street. The project APE is entirely within the existing ROW

of Huizar Street and the trench within the property boundaries of 112 Huizar Street. The excavations associated with the project consist of a 3×3×3-foot block over the gas main for tie-in excavations. The pipeline trench for the service line will be 66 feet long, 1.5 foot wide, and 3 feet deep. As a result, the cumulative APE includes a disturbance area less than 1 acre in size, with expected excavation of 11 cubic yards of soil.

ENVIRONMENTAL SETTING

GEOLOGY

The underlying geology of the project area is 100 percent Quaternary-age Fluvial terrace deposits adjacent to the San Pedro Creek (Barnes 1983). These terrace deposits consist of predominately gravel, limestone, dolomite, and chert, with sand, silt, and clay. Most low terrace deposits along entrenched waterways like the San Antonio River and San Pedro Creek are above flood level (Barnes 1983).

SOILS

The project area soils are mapped as 100 percent Patrick soils, 3 to 5 percent slopes. These soils are rarely flooded and are moderately deep, well drained, and moderately permeable soils that formed in clay over gravelly sediments located on nearly level to strongly sloping ancient terraces of uplands (NRCS 2014).

RESULTS OF BACKGROUND REVIEW

ATLAS BACKGROUND REVIEW

The background review determined that the San José Acequia is located east-southeast of the project area, and the entire project area was previously surveyed in 1976. The review also found several previously investigated cultural resources project areas, seven archaeological sites, and two NRHP Districts within a 0.5-mile radius of the project area.

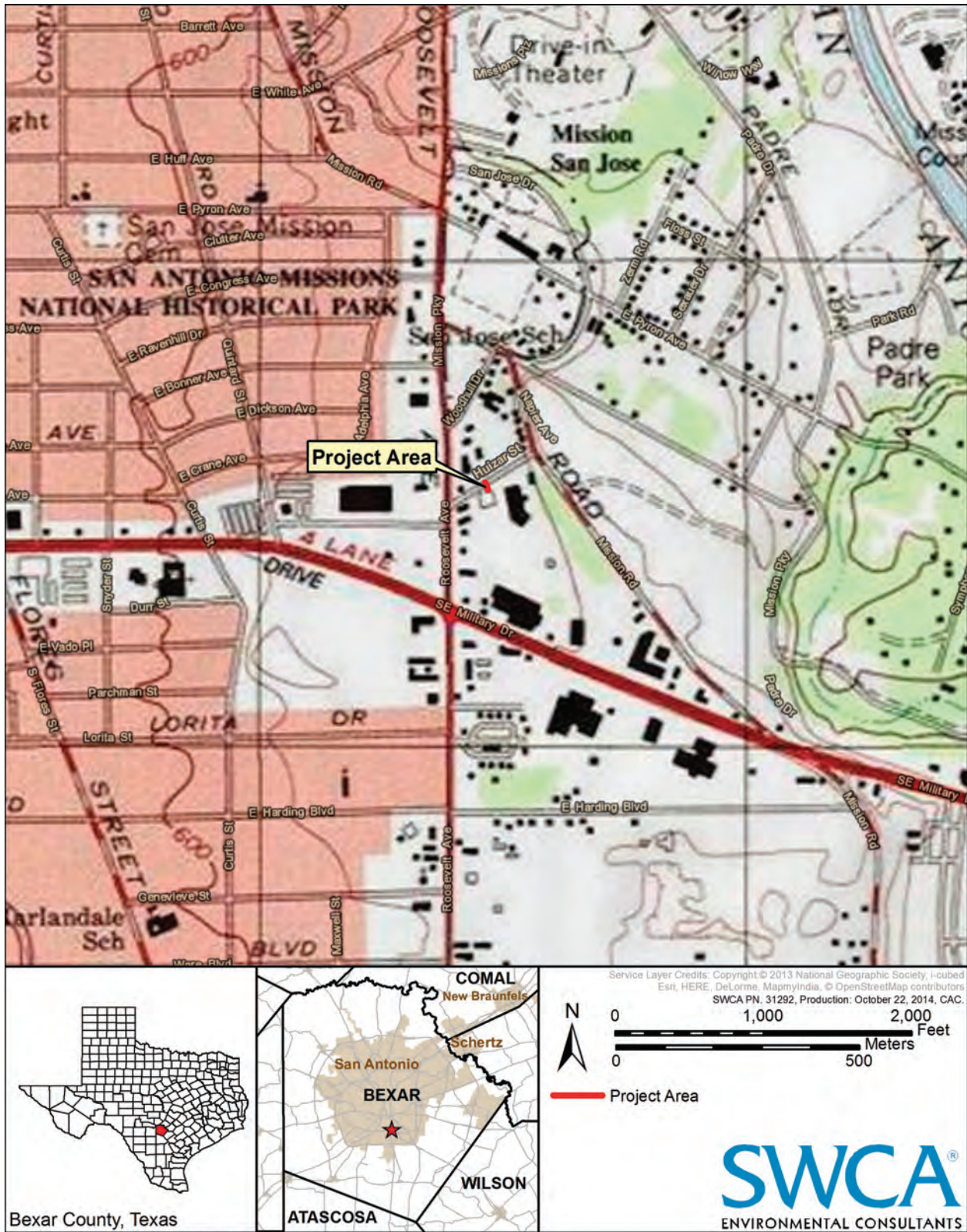


Figure 7.1. Project area location.



Figure 7.2. Project area overview.

In 1976, a large area survey was conducted by the Center for Archaeological Research at the University of Texas at San Antonio (CAR-UTSA) on behalf of the National Park Service (NPS). The survey was completed for the proposed Mission Parkway under Texas Antiquities Permit No. 62. The results of the survey were published in a comprehensive overview report that identified most of the archaeological and historical properties in Bexar County (the project study area). No further information on this report is available on Atlas (Atlas 2014; Scurlock et al. 1976). Several archaeological sites were recorded during these investigations including sites 41BX241, 41BX267, and 41BX279 that are within a 0.5-mile radius of the project area.

Numerous cultural resources investigations are located within a 0.5-mile radius of the current project area. A majority of the investigations are archival, excavation, testing, or monitoring projects associated with Mission San José or Mission Parkway. One of the earliest investigations was conducted in 1970 by the THC under Antiquities Permit 3 for an archaeological salvage project within Mission San José (Atlas 2014). Additional investigations were conducted in 1974 and 1975 within the Mission as part of a long-range preservation program (Clark 1978). Investigations within the mission grounds continued through the 1970s and into the early 1990s as rehabilitation projects and utility construction occurred within the park (Atlas 2014). In addition, comprehensive archival research with survey investigations was conducted between 1998 to 2007 for TxDOT's San Antonio Mission Trails Statewide Transportation Enhancement Project (Meissner et al. 2007).

Seven archaeological sites are located within a 0.5-mile radius of the current project area: 41BX3, 41BX241, 41BX267, 41BX279, 41BX531, 41BX1757, and 41BX1774. Archaeological site 41BX3 is the reconstructed Mission San José y San Miguel de Aguayo, located 0.32 mile to the northeast of the current project area. The mission was founded in 1720 and encompasses approximately 4.0 acres of land. The site was first recorded during the early investigations of the mission by the THC and is designated by the THC as eligible for inclusion on the NRHP. The site was designated as an SAL in 1983 (Atlas 2014).

Sites 41BX241, 41BX267, and 41BX279 were recorded during the Mission Parkway investigations on behalf of NPS. Site 41BX241, the Brown Site, is a historic site located 0.38 mile east of the current project area. The

site was recorded in 1974 and consists of a well or cistern located by local informants. The site measures 2 m by 2 m and a foundation was also documented nearby. Subsequent investigations associated with the Mission Trails project determined that the site was destroyed (Meissner et al. 2007). Detailed below, site 41BX267 is the San José Acequia that is mapped east of the project area. Site 41BX279, the Pyron Homestead, is located 0.48 mile northeast of the current project area. The site is an adobe structure located at the corner of Southeast Military and Mission Road. It was recommended that the site be preserved, but no recommendations for additional work were made (Atlas 2014). The structure has since been destroyed as reported in an archival report of the site 41BX279 (title with incorrect site number 41BX278) in 1992 (Cox 1992).

Site 41BX563 is an unidentified feature consisting of two trenches forming an unclosed right angle, approximately 50 m south of the Mission San José compound. The site was recorded by NPS in 1982 (Atlas 2014). Several artifacts, including a spike fragment, chipped stone, bone, and sheet metal were identified during the recording of the site, and post holes were found at each end of the trench. It was recommended that additional excavations be conducted (Atlas 2014).

Site 41BX1757 is located 0.49 mile east of the current project area and consists of a disturbed, subsurface historic debris field on the west bank of the old San Antonio River channel. The site was recorded during backhoe trench excavations along Pryon Avenue for a proposed lift station in 2008, but no diagnostic materials were encountered (Dowling 2008). Cultural material observed consisted of historic bottle glass, .22-caliber long rifle casings, bristol stoneware, a turkey femur bone fragment, and one wire nail. The site was determined to be highly disturbed with poor integrity, and a 2008 THC determination listed the site as ineligible for listing as an SAL or NRHP property (Atlas 2014).

The last site documented within a 0.5-mile radius of the current project area is 41BX1774. Site 41BX1774 is a historic residential site approximately 0.47 mile north of the current project area. No features were documented for the site, but cultural materials identified within a backhoe trench consisted of Depression-era glass, glass medicine bottles, whiteware, milk glass, cut bone, window glass, a railroad spike, and wire nails. Chunks of charcoal indicate that the site likely burned down and was then buried by fill (Bonine et

al. 2009). The site was recommended as not eligible for NRHP listing or SAL designation and the THC concurred (Atlas 2014).

Two NRHP Historic Districts are located within a 0.5-mile radius of the current project area: Mission Parkway Historic-Archeological District, and the San José Mission National Historic Site. Mission Parkway (NRHP No. 75001953) is composed of all designated sites associated with the Spanish Colonial Missions located along the San Antonio River. The parkway includes all archaeological sites, features, structures, and buildings of the lower four missions (Concepcion, San José, Espada, and San Juan), as well as their farmland and irrigation canal systems. The San José Mission National Historic Site NRHP District encompasses the grounds surrounding Mission San José y San Miguel de Aguayo, site 41BX3 (NRHP No. 66000810).

SAN JOSÉ ACEQUIA

The San José Acequia, also known as the San José Ditch or archaeological site 41BX267, is one of the earliest acequias to be constructed in the San Antonio area.

As the population grew in the 1800s, the San José Acequia and other area acequias became the main source of drinking water for San Antonio residents. However, sanitation soon became an issue with the ditches and in 1834 a cholera epidemic struck San Antonio. Unfortunately, the epidemic was not immediately linked to the usage of the acequias, but plans to improve the ditches were soon proposed. In 1852 the city sought to improve the major acequia channels by lining them with cut-limestone blocks (Cox 1993, 1995; Nickels et al. 1996). The placement of the block would control erosion of the acequia bank, increase water flow, and ultimately improve ditch sanitation. Unfortunately, in 1860 the San José Dam was destroyed during a torrential storm that caused the San Antonio River to rise 14 feet (Arneson 1921; Cox 1988, 2005). The destruction of the dam ultimately led to the abandonment of the San José Acequia by the end of the 1860s.

However, a portion of the acequia flowing through the middle of the Charles Pyron homestead tract was still operating in 1886 (Cox 1992). The Pyron homestead tract is located south of the San José Mission, east of what is now Roosevelt Avenue, and west of the San Antonio River (Cox 1992). A suit was filed against Octavia Pyron, wife of Charles Pyron by Charles Dignowity to allow a survey within acequia to clean and dredge

the ditch to a width of 9 feet (Cox 1992; Bexar County Deed Records Book 53 Page 32). The acequia was later reopened in 1894 under the Texas Water Act of 1889 and described as “four feet deep and 12 feet wide...” (Cox 1992; Water Board Records Volume 1 August 10, 1894:4). A replotting of the metes and bounds of a plat survey completed in September 1881 on the modern street pattern determined the acequia and an associated desague is located east of the Mission Road and Military Drive intersection and east of Roosevelt Avenue (Cox 1992).

The alignment traverses south of San José Mission intersecting Mission Road east of the Huizar Street/Mission Road intersection then proceeds south, intersecting Military Drive west of the Mission Road and Military Drive intersection (Figure 7.3; Cox 1992: Figure 1). A desague extends southeast from the main channel from a gate just south of the Huizar Street and Mission Road intersection. In 1878, the Waterworks Company was established to provide clean drinking water to the city, and by 1900 most of the city’s acequias were also abandoned (Cox 1993, 1995; Nickels et al. 1996).

Investigations conducted on the San José Acequia have contributed valuable information to the general understanding of the acequia within the archaeological record. For example, an investigation conducted approximately 0.75 mile northwest of the project in 1988 by the Center for Archaeological Research at CAR-UTSA for the San Antonio Wastewater Improvement Program encountered evidence of the acequia (Cox 1988). The monitoring investigations along Mission Road identified sections of the acequia at three locations where the feature was exposed during trenching excavations. A review of deed records indicated that the acequia paralleled Mission Road along its eastern boundary. One section revealed the acequia as an unlined ditch, 18 feet wide and 6 feet deep. The width was likely greater than the actual channel since the trenching was angled along the length of the acequia route. Early-to-mid-twentieth century artifacts were observed from the feature. Two other sections were encountered revealing a broad, unlined ditch approximately 6 feet wide and 5 feet deep (Cox 1988).

HISTORIC MAP REVIEW

A review of the TxDOT historic overlay maps from 1871, 1887, 1927, and 1953 was completed for the Huizar Street project area (Foster et al. 2006). An 1871 General Land Office Bexar County Map and an 1887

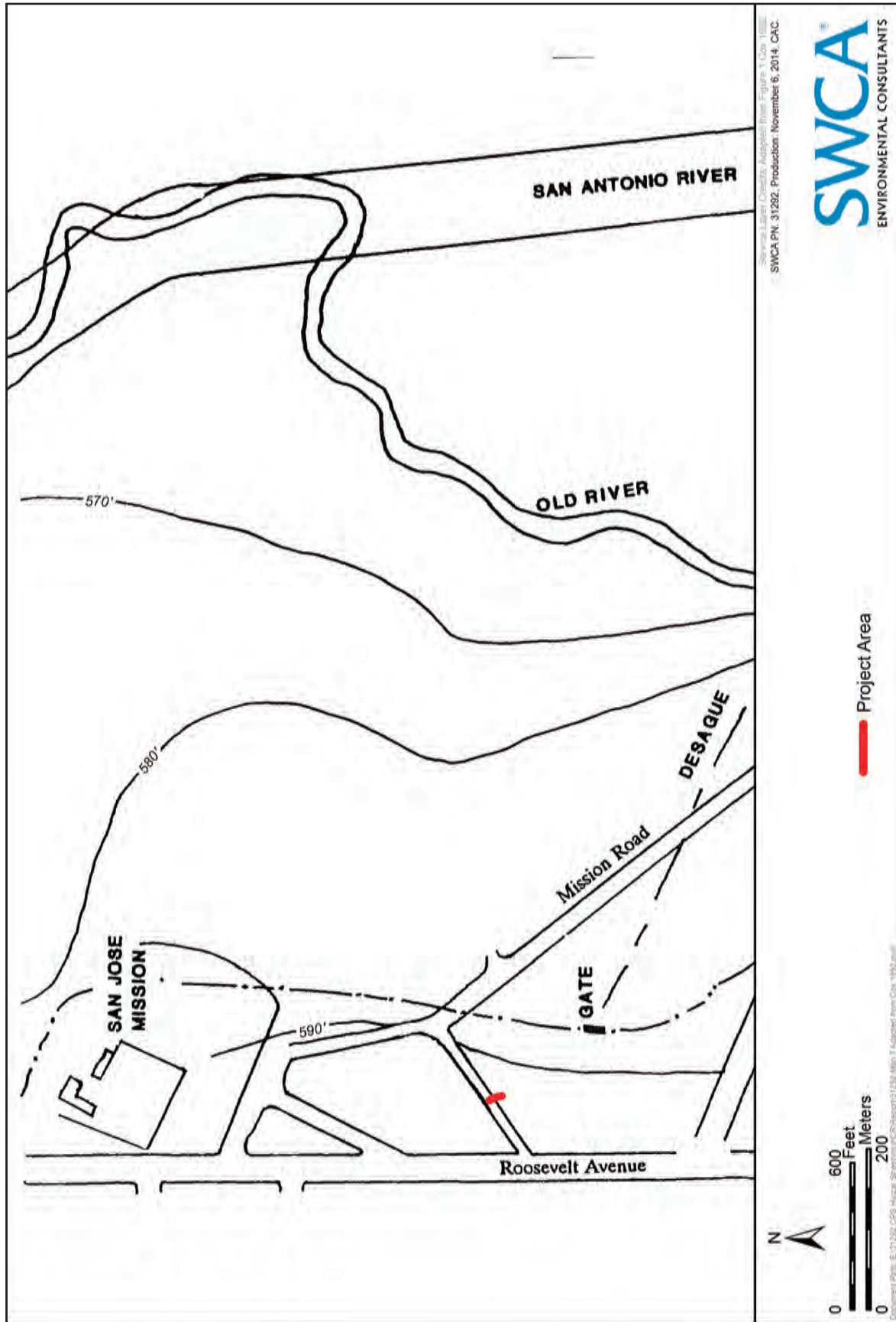


Figure 7.3. San Jose Acequia and San Antonio River east of project area adapted from Cox 1992: Figure 1.

Bexar County J.D. Rullmann Map shows the project area within the Manuel Leal No. 30 Original Land tract, south of Mission San José and within or near an early depiction of Mission Road and the San José Acequia. A 1927 E. San Antonio USACE Map depicts the project area along one of the early manifestations of Roosevelt Avenue and south of several buildings. The 1953 Southton AMS map depicts the project area across Huizar Street surrounded by residential and commercial buildings (Foster et al. 2006).

A J. W. Garreton March 1882 Survey for Plat of Division of Mission Jose Land, archived in the City of San Antonio City Archives (Volume 22 Page 248), depicts the project area within the Huizar Family lands. The map does not contain a scale for reference so the exact location of the project area within the different family tracts is uncertain. The map shows the division of Mission San José lands from where the Acequia Madre, likely San José Acequia, intersects the San Antonio River North of Mission San José. A lateral deviates east from the Acequia Madre towards the San Antonio River. Another channel, named Acequia Medio, extends southeast from the eastern lateral as previously reported in Cox 1992. The Stoner Map System Sheet 1006-C (ca. 1930s–1940s) depicts the project area within the Epifanio Hernandez parcel. The map also shows one of the laterals of the San José Acequia southeast of the project area forming the southeastern property boundary of several tracts along Huizar Street (Figure 7.4).

A review of historic aerial photography from 1938 depicts the project area within agricultural land (Figure 7.5). Between 1953 and 1963, warehouse buildings are shown along Huizar Street. The project is shown within the parking lot of a large warehouse. In 1985, the warehouse is expanded upon, developing into the current building at 112 Huizar Street and commercial development continues within the surrounding area.

MONITORING INVESTIGATIONS

SWCA conducted monitoring investigations for the CPS Energy gas installation trench of the Huizar Street Project on October 27, 2014. Excavations began at the base of an existing building at 112 Huizar Road and extended north towards the existing CPS Energy gas line on the north side of the Huizar Street ROW

(Figure 7.6 and 7.7). No significant cultural materials or features were observed during archaeological monitoring investigations.

The project area is located within a commercial district surrounded by warehouse buildings and complexes, commercial parking lots, and local businesses. Few trees and sporadic patches of overgrowth make up the vegetation of the project area. The topography is characterized by a flat terrace formation of the San Antonio River. The southern portion of the project area is located within a property boundary with 100 percent ground surface visibility. The project line extends north into an area of thin asphalt before transitioning into the Huizar Street ROW. Huizar Road is an asphalt-paved city street with no defined concrete curb or sidewalk. In addition to the existing building and the Huizar Street ROW, disturbances include a chain-link property fence line, overhead transmission lines, and underground water, gas, and sewer utility lines.

Backhoe trench excavations started at the base of an existing building and measured 1.5 feet (45.7 cm) wide and 2 feet (61 cm) deep (Figure 7.8). The typical soil profile of the trench (Figure 7.9) revealed:

- 0–10 cm: 10YR4/4 Silty Clay Loam with gravel and some asphalt inclusions.
- 10–30 cm: 10YR6/3 Construction fill consisting of 80 to 90 percent gravels.
- 30–72 cm: 10YR3/2 Clay loams with 10 percent calcium carbonate and root inclusions.
- 72 to 120 cm: 10YR4/4 Silty Clay Loam with 2 to 10 percent calcium carbonate inclusions.

Excavations continued north-northeast across the property lot for 40 feet, up to the property boundary's chain-link fence (Figure 7.10). The chain-link fence was not removed during trenching excavations, but was dug under by hand. A thin asphalt layer was observed within the property along the fence line which correlates with the former parking lot in the area as depicted on a 1963 historic aerial (see Figure 7.5).

Excavations continued into the ROW of Huizar Road for an additional 26 feet before terminating at the tie-in location for the new gas line (Figure 7.11). The segment of trench within the ROW was excavated to depths that ranged from 3 to 4 feet (91.4 to 121.9

cm) below ground surface. The soil profile within the ROW remained the same as the southern portion of the trench, with the exception of a 0- to 5-cm layer of paved asphalt.

An existing water line was encountered at 52 cm below surface at the southern edge of the Huizar Street ROW (Figure 7.12). Additionally, a concrete utility bank for an existing sewer line was also encountered near the center of the ROW (Figure 7.13). The utility bank was located just beneath the asphalt layer and measured 3 feet long, spanned the entire width of the trench, and extended to 1 foot (30.5 cm) below ground surface.

The trench was terminated on the north end of the Huizar Street ROW at the tie-in location for the new gas line. The existing CPS Energy gas line was located at 106 cm below ground surface, and a 3×3×3-foot block was excavated to accommodate the tie in process (Figure 7.14). Soils for the tie-in block were consistent with the soils from the excavation trench.

Cultural materials observed during trench excavations included a single metal fragment, one modern wire nail, and one shard of flat, clear glass (Figure 7.15). All three objects were located between 30 and 72 cm below ground surface, but were not found in association with a feature or concentration of artifacts. The materials are likely associated with construction fill set in place during the development of the Huizar Street ROW and surrounding area. No significant cultural materials were documented during the Huizar Street Project.

Overall the project area contains areas of minimal intact soil deposition, and no cultural materials were identified during cultural investigations. Due to the high volume of disturbance, no further work or avoidance strategy is recommended for the Huizar Street project area.

SUMMARY AND RECOMMENDATIONS

On behalf of CPS Energy, SWCA conducted a cultural resources monitoring investigations of the Huizar Street Project in Bexar County, Texas. The investigations included a background and archival review and monitoring investigations during construction. All work was done in accordance with the standards and

guidelines of the THC and the CTA under CPS Energy's annual permit, Texas Antiquities Permit No. 6851.

The project APE is entirely within the property boundaries of 112 Huizar Street and the existing ROW of Huizar Street. The excavations associated with the project consist of a 3×3×3-foot block over the gas main for tie-in excavations. The pipeline trench for the service line will be 66 feet long, 1.5 foot wide, and 3 feet deep. As a result, the cumulative APE includes a disturbance area less than 1 acre in size, with expected excavation of 11 cubic yards of soil.

The background review determined that the project area was previously surveyed in 1976 and the San Jose Acequia is located east-southeast of the APE. The review also found several cultural resources investigations, seven archaeological sites, and two NRHP Districts within a 0.5-mile radius of the project area.

On October 27, 2014, an SWCA archaeologist conducted monitoring investigations during construction activities of the Huizar Street project. The excavations encountered an existing water line, sewer line cap, and the gas line intersecting the project area within the ROW of Huizar Street. Early to mid-twentieth century materials were encountered during the excavations, consisting of a metal loop, wire nail, and one shard of clear flat glass. No significant cultural materials or features were encountered during the investigations. Based on the investigations, the project area is within a highly disturbed area with impacts related to development of the road, buried utilities, and surrounding commercial buildings.

SWCA made a reasonable and good faith effort to identify cultural resources within the project area. Based on the negative results of this investigation, the proposed undertaking will have no effect on any significant cultural resources, and SWCA recommends no further archaeological investigations within the project area. No artifacts were collected; thus, nothing was curated.



Figure 7.4. Project area on Stoner System Map Sheet 1006-C.



Figure 7.5. Project area on historic aerial photography 1938–1985.

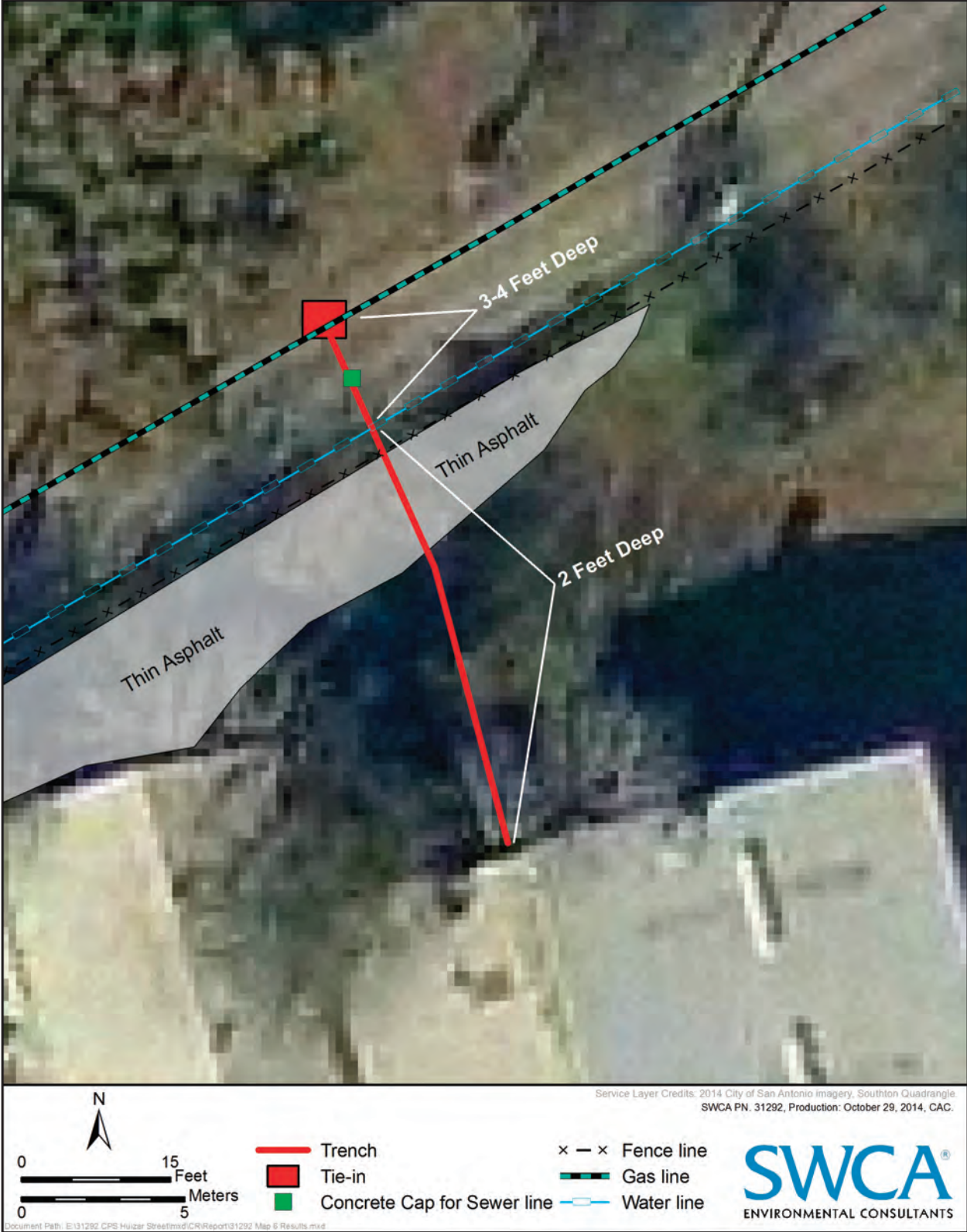


Figure 7.6. Monitoring results of the Huizar Road Project.



Figure 7.7. Overview of Huizar Road project area, facing south.



Figure 7.10. Portion of excavations within property boundary, facing north.



Figure 7.8. Trenching excavations on the south end of the project area, facing southeast.



Figure 7.11. Excavations within right-of-way of Huizar Road, facing south-southwest.



Figure 7.9. Spoil piles from trenching excavation.



Figure 7.12. Existing waterline at south end of Huizar Road right-of-way, facing north-northeast.



Figure 7.13. East profile of concrete utility bank, facing northwest.



Figure 7.14. Existing CPS Energy gas line at north end of project area, facing south-southeast.



Figure 7.15. Cultural materials observed during trenching excavations.

CHAPTER 8

INTERIM REPORT IV: ARCHAEOLOGICAL MONITORING INVESTIGATIONS OF THE CPS ENERGY WEST AVENUE TOWER RELOCATION PROJECT, BEXAR COUNTY, TEXAS

Rhiana D. Ward, Matthew R. Carter, and Alamea Young

INTRODUCTION

On behalf of CPS Energy, SWCA conducted archaeological monitoring investigations of the West Avenue Tower Relocation Project (West Ave. project) (Network No. 8034093–0010) in Bexar County, Texas (Figure 8.1). The investigations included a background and archival review and archaeological monitoring investigations. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy’s annual permit, Texas Antiquities Permit No. 6851.

The goal of the archaeological monitoring activities was to examine and assess any cultural deposits revealed in the excavation, adequately document the cultural resources, and provide sufficient information to make determinations on age and significance. SWCA archaeologists Matthew R. Carter and Alamea Young conducted the field work on November 3-7, 2014.

PROJECT AREA DESCRIPTION

The project area is approximately 0.20 mile in length within the existing ROW of West Avenue (Figure 8.2). The project is part of an existing transmission line that parallels West Avenue and a portion will be relocated for a proposed road expansion project. Beginning near a commercial drive-way on the northwestern ROW of West Avenue, the project area extends north across Salado Creek for 652 feet. The transmission line then crosses over to the northeastern ROW of West Avenue for 372 feet terminating approximately 468 feet north of the North Loop Road and West Avenue intersection.

Based on a general review of recent aerial photography, most of the project area will be within or adjacent to undeveloped portions of the City of San Antonio Walker Ranch Historic Landmark Park and Salado Creek Greenway. The project area, which consists of moderate vegetation, will shift northwest from the existing easement. The surrounding area consists of commercial and residential properties. Wurzbach

Parkway is located approximately 750 feet north of the project area.

The APE consists of a 20-foot-wide temporary construction easement that is approximately 1,024 feet long. The work was limited to the relocation and installation of four tower structures. The excavations for the tower locations were approximately 5–6 feet in diameter and up to 35 feet deep. As a result of these activities, the cumulative APE consists of a disturbance area that is less than 1 acre in size, with an expected excavation of up to 146.5 cubic yards of soil.

The project area landscape is characterized by the floodplain and an upland landform of Salado Creek and Panther Springs Creek. The main channel of Salado Creek intersects the southern portion of the project area. The northern terminus of the project ends at the edge of an upland landform that overlooks the floodplain of Panther Springs Creek to the northeast.

ENVIRONMENTAL SETTING

GEOLOGY

The project area is mapped as Fluvial terrace deposits which consist of sand, silt, clay and gravel. Gravel is predominant in older, higher terrace deposits (Barnes 1983).

SOILS

The project area soils are comprised of 100 percent Tin and Frio soils, 0 to 1 percent slopes, frequently flooded (NRCS 2014). These soils consist of very deep, moderately drained soils that form in calcareous clayey alluvium. The Tinn series consists of clay that occur on the floodplains of streams that drain the Blackland Prairies. The Frio series consists of silty clay that occur on floodplains (NRCS 2014).

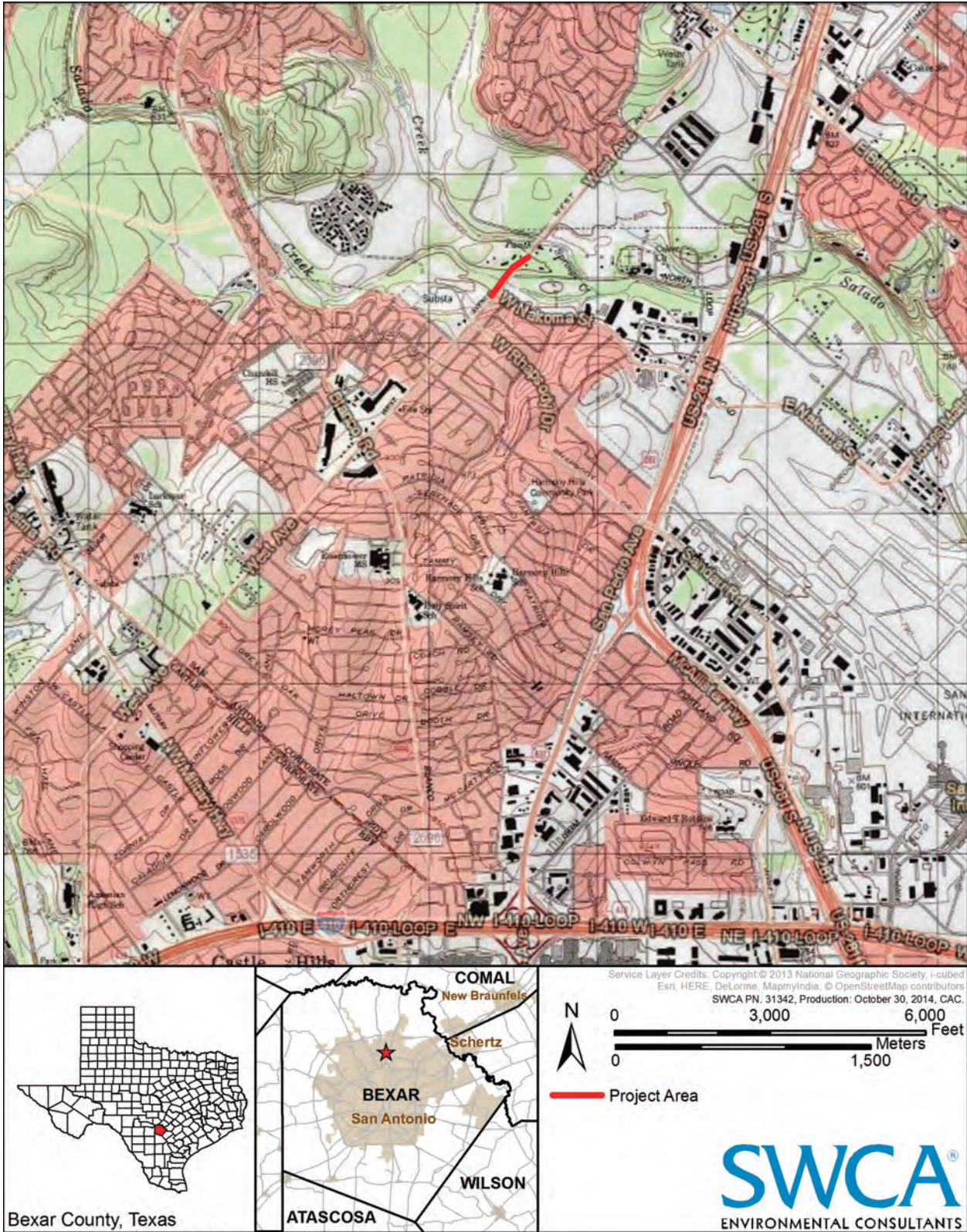


Figure 8.1. General location map.

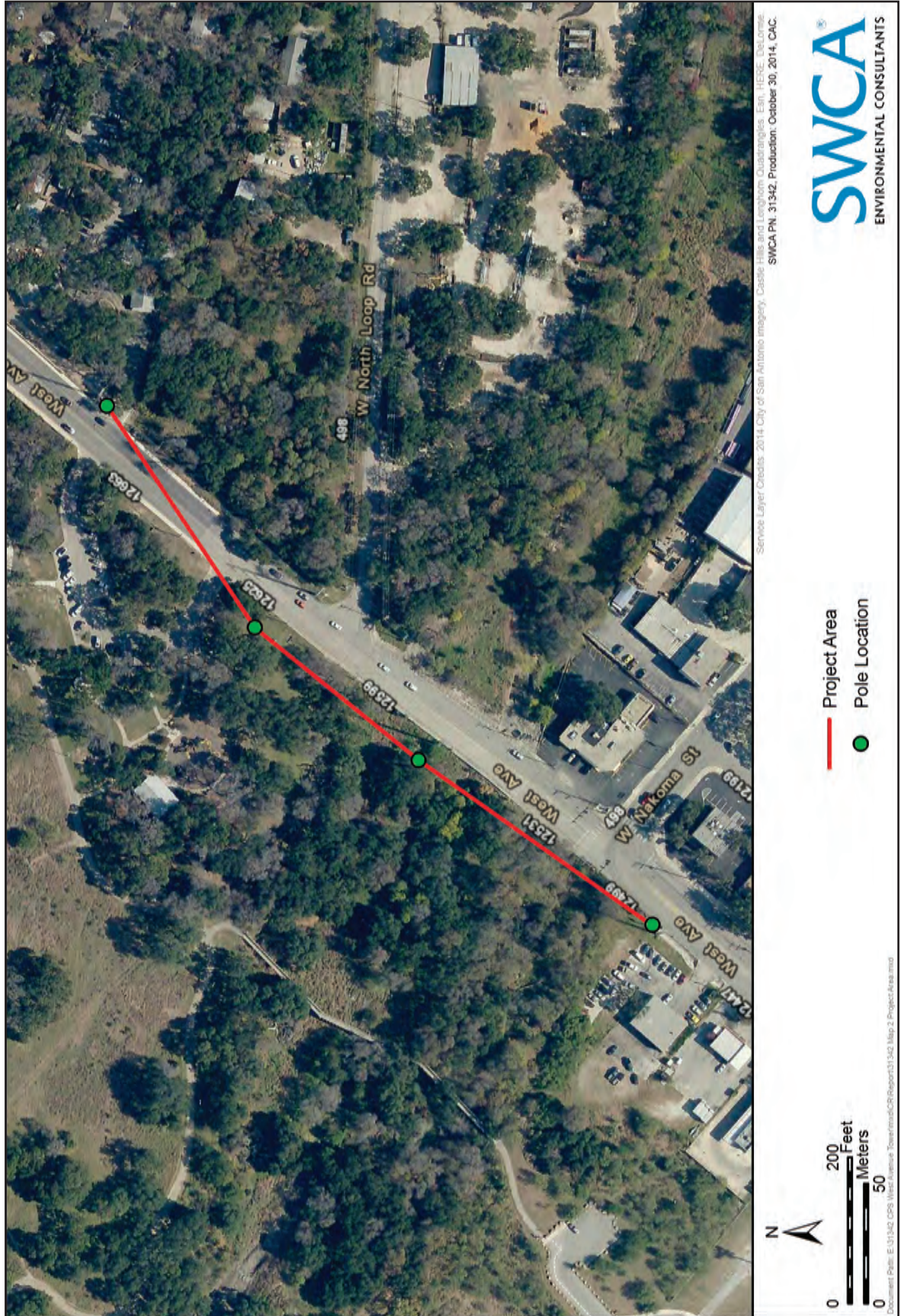


Figure 8.2. Project location detail map.

RESULTS OF BACKGROUND REVIEW

ATLAS BACKGROUND REVIEW

The background review determined that portions of the project area were previously surveyed for cultural resources and one previously recorded site is adjacent to its boundaries. Most of the previous work within the project area was conducted for the Walker Ranch Historic Landmark Park. In addition, seven previously conducted surveys, seven previously recorded sites, one NRHP District, two historic markers, and one cemetery are within a 0.5-mile radius of the project area.

The project area is intersected by Salado Creek and the earliest investigations along the creek channel and floodplain were conducted in 1977 on behalf of the U.S. Environmental Protection Agency. Additional information on the survey and its findings are not available on Atlas (2014). In 1997, a portion of the project area was investigated during the survey of Walker Ranch Historic Landmark Park (Tomka 1998). The investigations encountered a multi-component site, 41BX1271, which is adjacent to the project area. Site 41BX1271, consists of a prehistoric lithic scatter and late-nineteenth to early-twentieth century artifact material including quarried limestone blocks (Tomka 1998).

Subsequent investigations within the park in 2000 and 2003 consisted of monitoring within site 41BX1271 for a facility and geoarchaeological and survey investigations within the site, respectively (Meissner 2000; Weston 2003). In 2006, testing investigations were conducted within the park to determine if a pedestrian bridge across Salado Creek would impact significant archaeological deposits of the site (Meissner 2006). The investigations conducted in 2000, 2003, and 2006 determined that the projects would not impact significant portions of the site and no further work was recommended (Atlas 2014).

Other previously conducted surveys within the project area were conducted in 2007 and 2014 for Wurzbach Parkway and Salado Creek, respectively. The northern portion of the project area along West Avenue was surveyed in 2007 during investigations for the Wurzbach Parkway expansion project (Galindo et al. 2010). No cultural resources were encountered within the current project area during the investigations (Atlas 2014). In 2014, the southern portion of the project area along Salado Creek was surveyed during proposed improvements for a proposed low-water crossing at

West Avenue (Norment and Kibler 2014). No cultural resources were encountered during the investigations.

Approximately seven previously conducted surveys and seven archaeological sites were within a 0.5-mile radius of the project area. The earliest surveys were conducted in 1973 and 1974 by the THC northwest of the project within what was historically known as Walker Ranch (Hudson et al. 1974; Scurlock and Hudson 1973). In addition, survey investigations were conducted in 1974 along Salado Creek for the Salado Creek Watershed project that included portions of Walker Ranch (Hester et al. 1974). The Walker Ranch investigations encountered numerous sites approximately 0.3 to 0.4 miles northwest of the project area including sites 41BX207, 41BX216, 41BX222, 41BX223, and 41BX228. As a result of these investigations, Walker Ranch was designated as a NRHP Historic District in 1975 (Atlas 2014). Four of the sites, (41BX207, 41BX216, and 41BX222–223) are prehistoric lithic sites and site 41BX228 is a burned rock midden. Site 41BX228, also known as the Panther Springs site was intensively tested in 1985 for the Salado Creek Watershed project (Black and McGraw 1985). The site, along with sites 41BX222 and 41BX223 were revisited and tested during subsequent investigations during the 1990s for the Wurzbach Parkway project, discussed below. Most of the sites have since been destroyed or impacted by development (Atlas 2014).

Along Salado Creek, survey investigations were conducted in 1977, 2011, and 2012 (Atlas 2014). The creek was initially surveyed for the San Antonio Wastewater 201 project (Fox 1977). Subsequent surveys were later conducted for the Salado Creek Greenway project on behalf of the City of San Antonio (McWilliams and Kibler 2012; Oksanen 2012). No cultural resources were encountered during either of the investigations that are within a 0.5-mile radius of the current project area (Atlas 2014).

Finally, in 1990 and 1991 survey investigations were conducted along Wurzbach Road for the proposed Wurzbach Project that ultimately became Wurzbach Parkway which is north of the current project area (Atlas 2014). Details on the projects are not available on Atlas; however, two sites 41BX996 and 41BX1062 were recorded during testing investigations related to the Wurzbach Project on behalf of TxDOT (Atlas 2014). Site 41BX996 is a prehistoric campsite northwest of the project area located within the Walker Ranch Historic NRHP District. The site,

along with Walker Ranch sites 41BX222, 41BX223, and 41BX228, were tested in 1995 (Potter and Black 1995). The testing investigations determined that sites 41BX222 and 41BX223 are not eligible for listing on the NRHP or designation as an SAL. Site 41BX228 was determined eligible after the 1985 testing project; however, the 1995 investigations found the site no longer eligible for listing on the NRHP (Potter and Black 1995). The eligibility status for site 41BX996 was reported as undetermined and the site was revisited and tested in 1998. The 1998 testing investigations included 41BX996 and 41BX1062 along with other sites associated with the Wurzbach Parkway project (Atlas 2014; Black et al. 1998). The investigations determined that both sites were not eligible for listing on the NRHP or for SAL designation (Black et al. 1998).

In addition, to the previously recorded sites, two historic markers and one cemetery are within 0.5 mile east the project area. The historic markers are located within the Coker Cemetery and the Coker United Methodist Church. The historic markers commemorate the cemetery and John “Jack” Coker, a South Carolina native that fought in the Battle of San Jacinto. For his service, the Republic of Texas gave Coker a one-third league of land along Salado Creek that he settled with his brothers Joseph and James. James Coker remained on the land as Jack settled in Cherokee County. The cemetery was established when the six-year-old son of James died of a rattlesnake bite. He was buried on a prominent landform and a large limestone headstone was placed at the site and still remains. Joseph Coker established a neighborhood church and school house along with the cemetery around the 1870s and 1880s. The school was relocated but the church remains adjacent to the cemetery (Atlas 2014).

HISTORIC MAP REVIEW

A review of the TxDOT historic overlay maps from 1871, 1887, 1922, 1938, and 1953 indicates that historic-age resources were once adjacent to the project area (Foster et al. 2006). An 1871 Bexar County General Land Office map and an 1887 Bexar County Rullmann map depict the project area within John Coker’s Original Survey No. 72 (No. 12) land parcel. A 1922 USACE Leon Springs map and a 1938 USACE Bracken map depicts West Avenue as Coker Road and several buildings are depicted adjacent to the northwestern ROW of the alignment. Three buildings are depicted adjacent to the road and one is labeled as

Joske Memorial Home (Foster et al. 2006). The 1922 map depicts two buildings south of Salado Creek as S.A. Auto Club and B. Tomerlin. The 1938 map depicts the Joske Memorial Home north of Salado Creek. A 1953 AMS Longhorn map and a 1953 AMS Castle Hills map indicate only one building north of Salado Creek is adjacent to the roadway.

Historic aerial photography from 1952 to 1973 indicates the project area was generally surrounded by undeveloped land and agricultural fields. A building complex is depicted on the 1952 historic aerial northwest of the project area and just south of Spring Creek, within the area known as Walker Ranch. Buildings were added to the complex in 1963 and 1966. By 1973, residential development begins south of the project area and most of the buildings within the complex are removed or demolished. The Stoner System map sheet 1040 (ca. 1930s–1940s) depicts the project area within the Tomerlin family parcel and the Walker family parcel (Figure 8.3). The Ben Tomerlin parcel is 40 acres in size and depicts several buildings adjacent to the southern portion of the project area south of Salado Creek. North of Salado Creek, the Joske Memorial Home Live Oak Farm is depicted on a 20-acre parcel. The northern portion of the project is depicted within C. Ganahl Walker’s parcel northwest of the roadway and N. B. Coker’s parcel northeast of the roadway. The Coker parcels likely belong to descendants of the original Coker family that helped settled the area.

WALKER RANCH HISTORIC LANDMARK PARK

The West Ave. project area is located adjacent to the Walker Ranch Historic Landmark Park. The park, totaling approximately 90 acres, is located southeast of the much larger Walker Ranch National Historic District, established in 1975 (Atlas 2014). The first known owner of what is known today as Walker Ranch was Sterling N. Dobie (Cox 2006). The land was rumored to be occupied by Spanish settlers prior to Dobie’s acquisition as two stone pillars with Spanish brands dating to 1786 were reportedly located in the ranch (Fox 1979). However, no land records or references indicate Spanish occupation of Walker Ranch.

Archival research revealed Sterling N. Dobie as the owner of Survey No. 79, Walker Ranch, in 1838 (Cox 2006). The property was then transferred to Joseph Alexander Crews in 1842. Crews was serving as a Peace Officer for the District Court in 1842 during the sack of San Antonio. Crews was captured by Mexicans and



Figure 8.3. Project area on 1930s and 1940s Stoner System Maps

taken to Perote prison in Mexico where he later died in 1844 (Cox 2006). The land was passed on to his father and later sold at public auction in 1846 to Peter Odet. The land was sold again in 1858 to Edward Higgins. Higgins took out a \$2,000 mortgage on the property from Harriet Eliza Thompson in 1859 before his military career required him to leave Texas (Cox 2006). Higgins never repaid the debt, and by 1874 the land had been passed down to Harriet Eliza Thompson's daughter, Jennie W. de Ganahl, and her husband. The property was then sold to Chariss Ganahl Walker in 1897 where it remained in the ownership of the family until 1972 (Cox 2006).

Extensive archaeological work has been conducted within the Walker Ranch National Historic District resulting in the documentation of 26 archaeological sites within the boundaries and numerous sites in the surrounding area (Meissner 2006). The Walker Ranch Historic Landmark Park, a small portion of the greater Walker Ranch, was dedicated in 1999.

The archaeological sites date back as far as 9,500 years consisting of prehistoric midden sites, rock shelters, as well as historic-age occupations (Weston 2003).

RESULTS OF ARCHAEOLOGICAL MONITORING

Archaeological monitoring for the tower relocation within the West Avenue project area occurred from November 3–7, 2014. All four tower locations (numbered 7–10) were monitored during construction activities, and surface inspection for cultural materials and documentation of existing disturbances were conducted within the West Avenue ROW (Figure 8.4). The tower relocation holes were excavated with an industrial auger in no systematic order. The archaeologists monitored the construction activities from a minimum distance of 6 feet from the edge of construction due to safety regulations established by the contractor. The archaeologists assessed both the excavation profiles and the spoils for cultural remains. Each time the mechanical auger bit was withdrawn from the hole, the operator would spin it in reverse, releasing the matrix from the bit onto the ground for examination by the archaeologist. Each tower relocation was excavated to a width of 5–6 feet, with three holes (7, 9, and 10) excavated to a depth of 25 feet, and tower location 8 was excavated to a depth of 35 feet.

Prior to excavation, the West Avenue ROW was cleared of vegetation by heavy machinery, and ground disturbance was examined (Figure 8.5). Other disturbances noted include overhead power lines, buried electrical utilities, and buried water lines. The West Avenue ROW has also been extensively modified by activities associated with the construction of the roadway, park driveways, and bridges.

No distinct cultural features or artifacts were encountered during monitoring. Due to the differing topographic locations of the tower relocations, soil profiles and level of disturbance varied greatly. Soils encountered were mixtures of loam and clay loam with common and sometimes dense limestone gravel inclusions overlying clay, dense cobbles, or bedrock.

TOWER LOCATION 7

Tower Location 7 is located at the southwestern extent of the project area just southwest of the intersection of West Avenue and West Nakoma Street. The tower location is situated on a mostly level landform south of Salado Creek just northwest of a machine-cut drainage ditch that runs alongside West Avenue and southeast of an auto repair garage parking lot. An existing transmission line tower sits approximately 6 feet to the southwest of the excavation. Modern plastic bags and other trash were observed within the upper horizon of disturbance (Figure 8.6). The soil profile consists of:

- 0–2.5 feet: dark yellowish brown (10YR3/4) clay loam with limestone gravels, modern trash, and some reddish yellow (7.5YR6/6) mottling
- 2.5–10 feet: reddish yellow (7.5YR6/6) clay with 60 percent limestone cobbles
- 10 feet+: limestone bedrock

TOWER LOCATION 8

Tower Location 8, located approximately 820 feet northeast of pole replacement 7, is situated on a small knoll between two channels of Salado Creek on the west side of West Avenue. Fractured chert nodules were observed in the main channel of Salado Creek (just south of the pole location) intermixed with limestone cobbles; however, none appear culturally modified. In addition, an old asphalt roadbed was observed approximately 300 feet northwest of the tower location (Figure 8.7).



Figure 8.4. Results map.



Figure 8.5. Ground disturbance and existing utilities, facing southwest.



Figure 8.6. Disturbed upper horizon of Tower Location 7 with modern trash in foreground, facing northwest.



Figure 8.7. Old roadbed north of Tower Location 8, facing west

The surrounding area, previously subjected to minor ground disturbance by heavy machinery, was inspected; however, no prehistoric or historic-age artifacts were observed. Recent alluvium overlying limestone bedrock was observed with the soil profile consisting of (Figure 8.8):

- 0–0.5 feet: very dark brown (10YR2/2) loam with roots and organics
- 0.5–2 feet: dark grayish brown (10YR4/2) clay loam with many roots and organics
- 2–5.5 feet: dark grayish brown (10YR4/2) clay loam with 50 percent limestone gravels and cobbles
- 5.5–6 feet: brown (10YR4/3) clay loam with 75 percent limestone gravel and cobbles
- 6 feet+: limestone bedrock

TOWER LOCATION 9

Tower Location 9 is located on a somewhat prominent, mostly level knoll between Salado Creek to the south and Panther Springs Creek to the north. The existing pole is located east of West Avenue and will be moved to Tower Location 9 on the west side of West Avenue. The new location is southwest of the parking lot for the Walker Ranch Historic Landmark Park (Figure 8.9). Buried electric utilities are marked west and south of the replacement location. The soil profile for Tower Location 9 consists of (Figure 8.10):

- 0–13 feet: dark brown (10YR3/3) and dark reddish brown (5YR3/3) mixed loam and clay loam with 40 percent limestone gravel and modern debris noted at 5 feet below surface
- 13 feet+: limestone bedrock

TOWER LOCATION 10

Tower Location 10 is located at the northeastern extent of the project area. This location is situated on the east side of West Avenue on the edge of a landform overlooking Panther Springs Creek approximately 300 feet to the north. The existing pole is located 6 feet southwest of tower location 10. The upper horizons were found to be composed of construction fill with no native soil likely due to the construction of West Avenue, commercial driveways, and the construction of the bridge spanning Panther Springs Creek to the north (Figure 8.11). The soil profile consists of:

- 0–0.5 feet: construction fill
- 0.5–2.5 feet: dark brown (10YR3/3) loam with 20 percent limestone gravel
- 2.5–8 feet: dark brown (7.5YR3/4) clay loam with 20 percent limestone gravel
- 8–10 feet: grayish brown (10YR5/2) sandy loam with 70 percent limestone gravel
- 10–13 feet: strong brown (7.5YR5/8) sandy clay with 80 percent limestone gravel and cobbles
- 13–20 feet: 90 percent crushed limestone gravel and cobbles

- 20 feet+: limestone bedrock

SUMMARY AND RECOMMENDATIONS

On behalf of CPS Energy, SWCA conducted cultural resources monitoring of the West Avenue Tower Relocation Project in Bexar County, Texas. Construction activities consisted of the replacement of four electrical poles along West Avenue for a proposed road expansion project. The work performed by SWCA included an in-depth background review followed by intensive archaeological construction monitoring in an effort to identify, record, and characterize any cultural resources within the project area. All work was done in accordance with the standards and guidelines of the THC



Figure 8.8. Tower Location 8 at 20 feet below surface.



Figure 8.10. Upper horizon of Tower Location 9, facing northeast.



Figure 8.9. Tower Location 9 with entrance to the Walker Ranch Historic Park in background, facing northeast.



Figure 8.11. Upper horizon of Tower Location 10 disturbed from previous construction activities, facing east.

and the CTA under CPS Energy's annual permit, Texas Antiquities Permit No. 6851.

The APE consists of a 20-foot-wide temporary construction easement that is approximately 1,024 feet long. The work was limited to the relocation and installation of four tower structures. The excavations for the tower locations were approximately 5–6 feet in diameter and up to 35 feet deep. As a result of these activities, the cumulative APE consists of a disturbance area that is less than 1 acre in size, with an expected excavation of 146.5 cubic yards of soil.

The background review determined that portions of the project area were previously surveyed for cultural resources and one previously recorded site is adjacent to the project area boundaries. Most of the previous work within the project area was conducted for the Walker Ranch Historic Landmark Park. In addition, seven previously conducted surveys, seven previously recorded archaeological sites, one NRHP District, two historic markers, and one cemetery are within a 0.5-mile radius of the project area. The historic map review indicated that historic-age resources were once adjacent to the project area.

SWCA's intensive archaeological monitoring was performed from November 3–7, 2014. The excavations of the four tower locations revealed varying stratigraphy throughout the project area. Three of the locations (Tower Locations 7, 9, and 10) exhibited disturbed upper horizons overlying culturally sterile deposits. The disturbance can likely be attributed to the extensive urbanization of the area. The excavation of Tower Location 8 did not reveal extensive disturbance but rather recent alluvium overlying shallow limestone bedrock. No distinct cultural features or artifacts were encountered during monitoring.

SWCA made a reasonable and good faith effort to identify cultural resources properties within the pole replacement project area. Based on the results of the monitoring efforts, the excavations within the West Avenue Tower Relocation project had no effect on significant cultural properties and no further archaeological work is recommended.

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CHAPTER 9

INTERIM REPORT V: CULTURAL RESOURCES MONITORING INVESTIGATIONS OF THE CPS ENERGY ISABEL STREET POLE REPLACEMENT PROJECT, BEXAR COUNTY, TEXAS

Rhiana D. Ward

INTRODUCTION

On behalf of CPS Energy, SWCA conducted cultural resources monitoring investigations for the Isabel Street Pole Replacement Project (Isabel Street Project) in the City of San Antonio, Bexar County, Texas (Figure 9.1). The investigations included a background and archival review and cultural resources monitoring. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's annual 2014 Texas Antiquities Permit (No. 6851).

The purpose of the work was to locate and identify all prehistoric and historic archaeological sites in the project area, establish vertical and horizontal site boundaries as appropriate with regard to the project area, and evaluate the significance of all sites recorded within the property. SWCA archaeologist Rhiana D. Ward conducted the field work on February 5, 2015.

PROJECT AREA DESCRIPTION

The project area is located in the alleyway behind 226 Isabel Street east of the intersection of Mission Road in downtown San Antonio (Figure 9.2). Based on a preliminary review by the SA-OHP, the project area is near the Nuestra Señora de la Purísima Concepción de Acuña Mission (Mission Concepción) and the Pajalache Acequia (also known as the Concepción Acequia). The project also has the potential to impact deeply buried cultural deposits as it is located within the floodplain of the San Antonio River. The San Antonio River is located 0.6 mile west of the project area.

The project involves the replacement and installation of a new distribution pole. The project APE will be entirely within the alley, within existing utilities. The excavations for the pole will be 24 inches (61 cm) in diameter and up to 10 feet (3.0 m) deep. As a result of these activities, the cumulative APE includes a disturbance area less than 1 acre in size, with expected excavation of less than 2 cubic yards of soil.

ENVIRONMENTAL SETTING

GEOLOGY

The underlying geology of the project area is 100 percent Quaternary-age Fluvial terrace deposits adjacent to the San Antonio River (Barnes 1983). These terrace deposits consist of predominately gravel, limestone, dolomite, and chert, with sand, silt, and clay (Barnes 1983).

SOILS

The project area soils are mapped as 100 percent Lewisville silty clay soils, 1 to 3 percent slopes (NRCS 2014). These soils are very deep, well drained, moderately permeable soils that formed in ancient loamy and calcareous sediments (NRCS 2014; Taylor et al. 1991).

RESULTS OF BACKGROUND REVIEW

ATLAS BACKGROUND REVIEW

The background review determined that the Pajalache Acequia is located west of the project area, and the entire project area was previously surveyed in 1976. The project area is also located within the San Antonio Missions National Historical Park and Mission Concepción NRHP Historic Districts, as well as the locally designated San Antonio Missions District. The review also found several previously investigated cultural resources project areas, three archaeological sites, one NRHP District, and one NRHP property within a 0.5-mile radius of the project area.

In 1976, a large area survey was conducted by CAR-UTSA on behalf of the NPS. The survey was completed for the proposed Mission Parkway under Texas Antiquities Permit No. 62. The results of the survey were published in a comprehensive overview report that identified most of the archaeological and historical properties in Bexar County (the project study area). No further information on this report is available on Atlas,

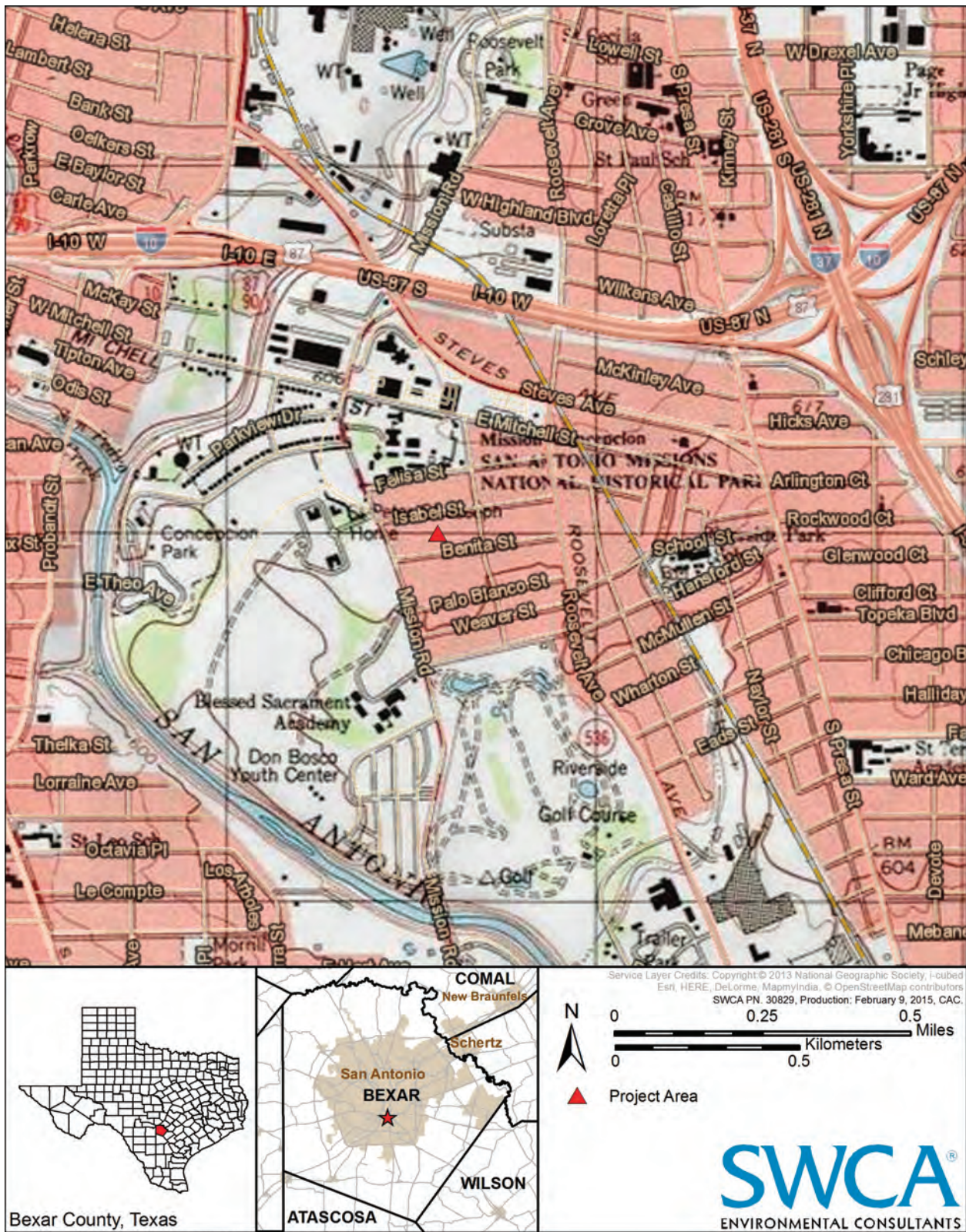


Figure 9.1. Project area location.

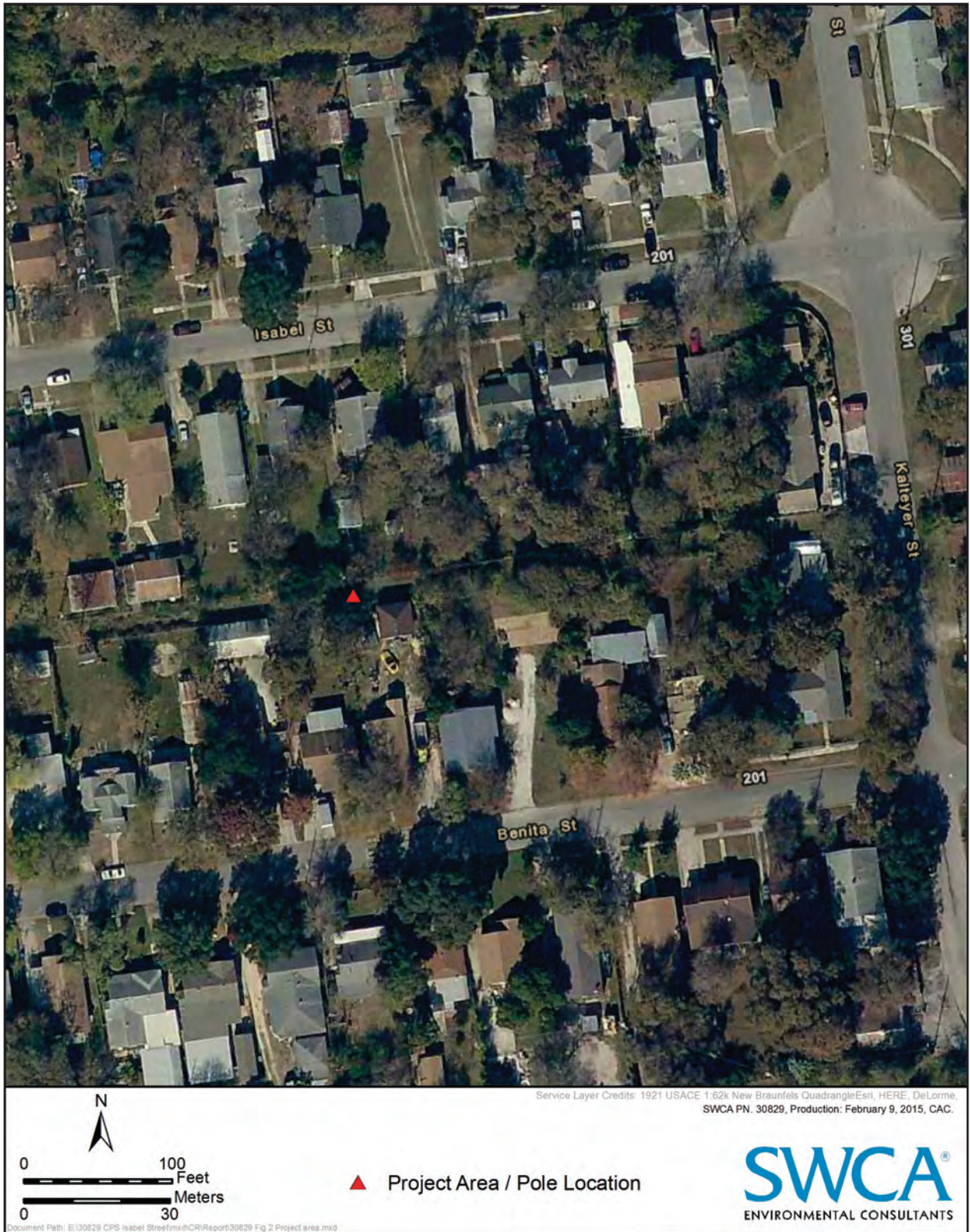


Figure 9.2. Project area overview.

and no sites associated with the effort were documented in the project area according to Atlas data. (Atlas 2014; Scurlock et al. 1976).

SAN ANTONIO MISSIONS NATIONAL HISTORICAL PARK NRHP HISTORIC DISTRICT

The project area is located within the San Antonio Missions National Historic Park NRHP District, which also includes, more or less, the locally designated San Antonio Missions Historic District. Approximately 475 acres in size, the park includes the four lower missions and associated 86 structures and an additional 21 archaeological and historical sites (NRHP Reference No. 78003147).

MISSION CONCEPCIÓN NRHP HISTORIC DISTRICT

The Mission Concepción NRHP Historic District is one of the missions within the San Antonio Missions National Historical Park. The district includes the building complex associated with the mission. The church at Mission Concepción is reported to be the oldest church in Texas, having been constructed in 1731 (NRHP Reference No. 70000740). The mission is recorded as archaeological site 41BX12, and is located approximately 0.1 mile north of the current project area. The mission was designated as a National Historic Landmark in 1970 and as an SAL in 1973. Mission Concepción was also considered eligible for NRHP listing in 1994.

Numerous cultural resources investigations are located within a 0.5-mile radius of the current project area. A majority of the investigations are archival, excavation, testing, or monitoring projects associated with Mission Concepción or Mission Parkway. The first, completed in 1980 on behalf of the NPS, was conducted in association with the San Antonio Missions and the San Antonio River. No information for this report is available on Atlas (Atlas 2014).

Beginning in December of 1980, archaeological mitigation and excavations were conducted at Mission Concepción by CAR-UTSA on behalf of the NPS (Ivey and Fox 1999). The goal of the work was to identify the original outline of the mission pueblo, the location of the mission granary, and to assess the state of preservation of the Indian quarters along the pueblo walls within a 20-acre area. The 1980s work area is located 0.31 mile to the south of the substation. Overall, the 1980s investigations at Mission Concepción identified intact adobe walls of the first permanent mission

buildings, well-preserved Indian quarters, the granary foundations, the foundations of possibly the first mission church with associated burials, and the original alignment of Mission Road. An additional archaeological survey was also conducted on a number of specific areas within the NRHP San Antonio Missions National Historic Park; four of the survey areas were located in the immediate vicinity of Mission Concepción. These survey areas contained 22 remote-sensing anomalies and four new archaeological sites (Ivey and Fox 1999).

In 1986, CAR-UTSA conducted eligibility testing at Mission Concepción on behalf of the NPS (Fox 1988). The testing area encompasses 20 acres, 0.1 mile north of the current project area. The aim of the 1986 investigations was to determine whether buried wall footings and occupation surfaces were preserved in a proposed drainage right-of-way. A total of 11 test units were excavated within the survey area, and only remnants of footings were located. No occupation surfaces were identified. The 1986 survey recommended that hand excavations take the place of industrial trenching for the proposed drainage ditch (Fox 1988). Another 1986 survey completed 0.1 mile north of the substation on behalf of the USACE Fort Worth-Dallas Division, is 3.5 acres in size. No information on this survey is available on Atlas (Atlas 2014).

INVESTIGATIONS AND RESOURCES WITHIN A 0.5-MILE RADIUS

In 2003 and 2008, CAR-UTSA conducted two surveys 0.1 and 0.2 mile west of the current project area. The two surveys were conducted on behalf of Seton Homes for private development. No information on the 2003 or 2008 surveys is available on Atlas (2014).

In 2009, Raba-Kistner Consultants, Inc. conducted a survey on 55 acres, 0.2 mile west of the current project area. The survey revisited site 41BX238 and determined it ineligible for listing as a NRHP property or SAL. No sites were recorded as a result of the survey, and no further work was recommended (Held 2009).

Also in 2009, SWCA conducted cultural resources investigations on behalf of COSA Golf Operations 0.2 mile south of the current project area. The 2009 investigations focused on 50 acres between Mission Road and Roosevelt Avenue. An archaeological survey with backhoe trenching and archaeological monitoring of construction trenching recorded eight new archaeological sites of historic-age (41BX1802–09). Only site

41BX1802 (discussed below) is located within a 0.5-mile radius of the current project area and was recommended for further testing. The remaining eight sites were determined to be ineligible for listing as SALs or as contributing elements to the Mission Parkway NRHP Historic District (Culotta et al. 2010).

In 2011, CAR-UTSA conducted an archaeological monitoring project approximately 0.2 mile northwest of the current project area. The project was completed on behalf of the San Antonio River Authority for a segment of the realignment of Theo Avenue between the San Antonio River and Mission Road. No cultural materials were observed during monitoring activities, and no cultural deposits were impacted by improvement (Dickey and Ulrich 2012).

Along with Mission Concepción, two archaeological sites, one NRHP property, and one NRHP Historic District are located within a 0.5-mile radius of the current project area. Site 41BX238 is a lithic and historic trash scatter located west of Mission Concepción. The site consists of a shallow deposit of flakes, modern ceramics, and modern trash associated with a dirt mound near the San Antonio River. Site 41BX238 was considered disturbed from land modification and no further work was recommended (Atlas 2014).

Site 41BX1802 is a historic-age site located 0.5 mile south of the current project area (Atlas 2014). The site was recorded in 2009 during monitoring investigations for the development of the Riverside Golf Course project (Culotta et al. 2010). The site consists of an exposed portion of the Pajalache Acequia within the profile walls of a backhoe trench. The acequia profile was clay lined and measured 2 m long by 60 cm tall, beginning 20 cm below ground surface. Historic-aged materials such as a fork, round nail, bailing-wire, and unidentified metal fragments were observed from a column sampling of the feature. Further testing and monitoring was recommended for any project that may impact the site, and a 2009 SA-OHP eligibility determination lists site 41BX1802 as undetermined for listing as a SAL, NRHP, or contributing element to the Mission Parkway NRHP Historic District (Atlas 2014; Culotta et al. 2010).

The only NRHP property located within a 0.5-mile radius of the Isabel Street project area is the L.T. Wright House. The house was designed and constructed by George Willis in 1917 and is a Prairie construction style with a low-pitched roof and projecting eaves, with

interior murals of San Antonio landscapes. The house has remained virtually unaltered since its construction date and is considered to be one of the few examples of the pure Prairie school construction style in Texas. The NRHP property was also part of a neighborhood survey evaluation and documented as a neighborhood survey property (Atlas 2014).

MISSION PARKWAY NRHP HISTORIC DISTRICT

One NRHP district is located within a 0.5-mile radius of the project area. The Mission Parkway District is located west of the project area and encompasses the lower four missions: Mission San Jose y San Miguel de Aguayo (41BX3), Mission San Francisco de la Espada (41BX4), Mission San Juan Capistrano (41BX5), and Mission Concepción. The boundaries of Mission Parkway are vast and include acequia segments that are still extant, the historic mission agricultural fields (or *labors*), historic and prehistoric archaeological sites, and other resources and buildings that do not contribute to the overall district. The boundaries were designed to include those areas with little urban development which include residential neighborhoods that developed around the missions and later nineteenth century occupations representing descendants of the original occupants. The Mission Parkway area consists of approximately 80 percent residential, 12 percent industrial, 7 percent commercial, and 1 percent miscellaneous structures (NRHP Reference No. 75001953). Portions of the southern end of the Mission Parkway consist of rural agricultural fields that are being utilized by Mission San Juan Capistrano and Mission San Francisco de la Espada (Atlas 2014).

HISTORIC MAP REVIEW

The review of the TxDOT Historic Overlay maps determined there are no historic-age structures within the Isabel Street project area (Foster et al. 2006). In addition, one of the historic overlay maps dating to 1837 (republished in 1912) depicts the Pajalache Acequia as lying immediately west of the project area. Other city maps archived at the city and available online also depict the acequia within the project area. The Acequia Map Sheets, housed at the City of San Antonio Office of Historic Preservation, were reviewed and depict the Pajalache Acequia 145 feet west of the project area (Figure 9.3; Sheet 16-56). The Acequia Map Sheets do not depict all of the acequia alignments and laterals accurately and merely serves as a general guideline for the purported locations. The map review also identified

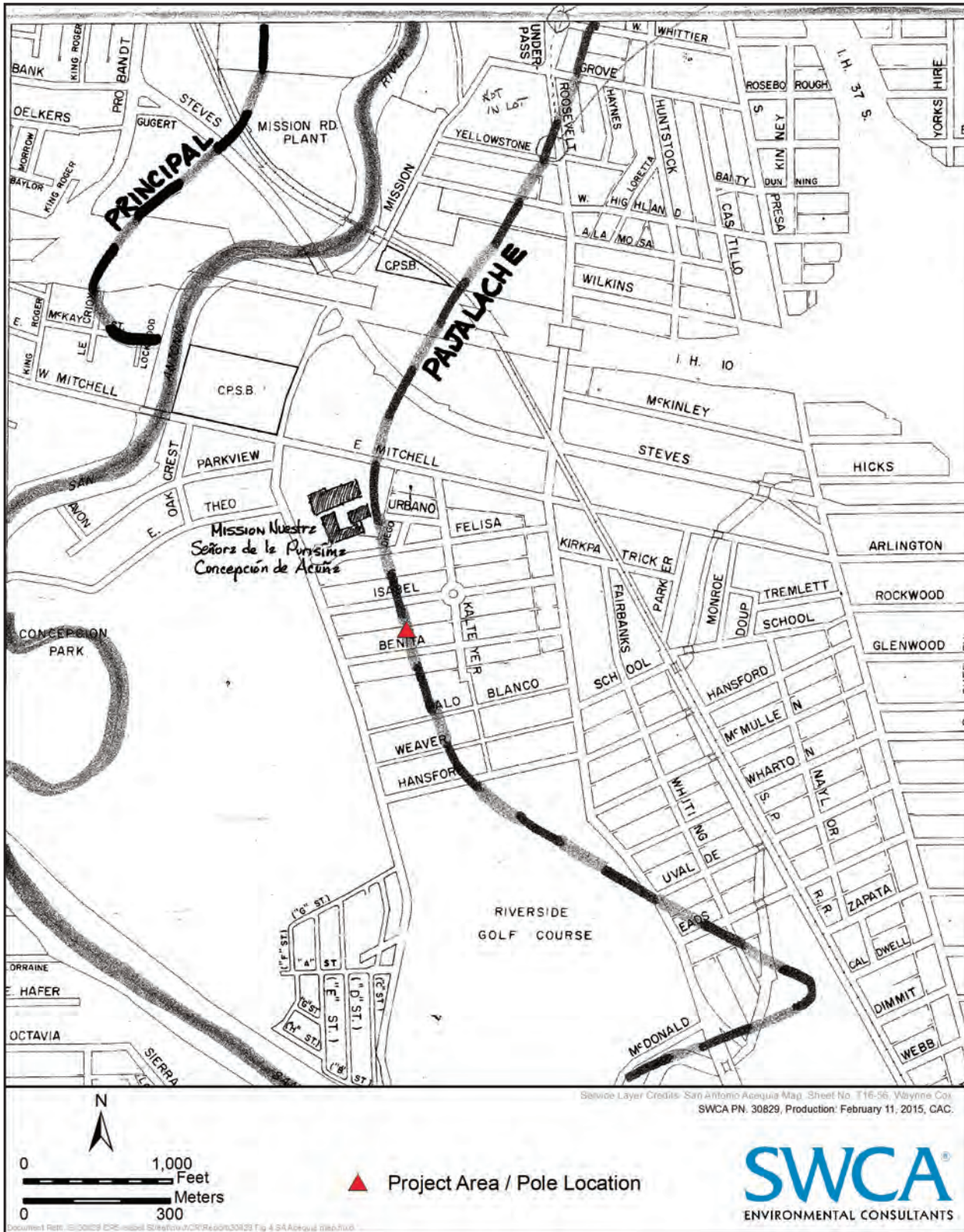


Figure 9.3. City of San Antonio Acequia Sheet showing project area.

land ownership of the project area and general development in the past 60 years. Additionally, the San Antonio Sanborn Fire Insurance (Sanborn) Maps, archived with the San Antonio Public Library, confirmed no historic-age structures as within the project area.

Five historic maps on the TxDOT Historic Overlay from 1871, 1887, 1912, 1927, and 1953 were reviewed. The 1871 General Land Office map of Bexar County identifies the project area as being situated within a land parcel granted to Thomas Thatcher, Grantee No. 24. The 1887 JD Rullman map of Bexar County depicts the project area as being within a land parcel granted to M. Yturri, Grantee No. 14. A 1912 Rullman San Antonio Officials Map, republished from an 1837 city engineer map, depicts the project area within a land parcel of Ramon Musquiz and within the general location of the “Labor de Concepción” or former agricultural lands of Mission Concepción (Figure 9.4). The Pajalache Acequia is depicted to the west of the project area, running northwest to southeast. The 1927 USACE Map of San Antonio and the 1953 AMS Map of San Antonio both depict the project area as within an urbanized, predominately residential setting.

The December 1927 Sanborn Map depicts the Isabel Street project area (Volume 4 Sheet 444) as being located within the alleyway between Isabel Street and Benita Street. Dwellings and garages are illustrated at 226 Isabel Street and 221 Benita Street, but are located closer to the street side of the lots. No evidence of the Pajalache Acequia is depicted on any of the Sanborn maps.

Historic aerial maps dating to 1955 and 1963 were reviewed on HistoricAerials.com. A residential neighborhood composed of dwellings, garages, and paved city streets are depicted on both maps. Modern aerial photography confirm that the project area is still located within a residential neighborhood.

PAJALACHE ACEQUIA (CONCEPCIÓN ACEQUIA)

The Pajalache, or Concepción, Acequia is considered one of the largest systems (Arneson 1921; Cox 1995, 2005). The Pajalache Acequia began on the east side of the San Antonio River at a large dam spanning a major ford at Presa Street, with its entry point at La Villita, one of the highest points of the area. Due to the height of the setting, it required a massive cut to initiate down flow and the width was reported to be 20 feet wide, wide enough for priests to use boats up and down the channel for maintenance and cleaning (Arneson 1921;

Cox 1995, 2005). The acequia flowed southward along the west side of Presa Street and along Garden and Roosevelt Streets (Arneson 1921) towards the Mission Concepción compound, then it shifts west, south of the confluence of the San Antonio River and San Pedro Creek to return back to the San Antonio River for a total length of 3.3 miles. Approximately 2,500 feet from its intake, at the modern day intersection of South Alamo Street and South St. Mary’s Street, a *canao*—or hallow log—transported a later extension of the Acequia Madre (Alamo) on its return channel to the San Antonio River (Cox 1995, 2005). The canoa was replaced in mid-1800 by a stone aqueduct that was extant in 1890, but is now likely buried by historic and modern development (Corner 1890; Cox 1995, 2005). A double gate was installed 1.4 miles from the intake and an eastern branch was constructed for adjacent farmlands. In all, before abandonment in 1869, the acequia encompassed approximately 10 miles of ditches and laterals (Cox 1995, 2005).

During its development, San Antonio experienced many flooding episodes that caused extensive damage within the city and havoc among its citizens. In 1828, a provincial governor declared the Concepción dam located at Mill Bridge as “ruinous to the town at times of heavy rains” and proposed for the waters of the San Antonio de Valero Acequia Madre be diverted into the Pajalache ditch to replace those waters diverted by the dam (Cox 2005). In 1830, the mayor stated the river above the damn was severely eroding the riverbank, which would threaten the road to the lower missions. The mayor went to landowners along the Pajalache Acequia to open their outlets. However, the issue was left unresolved after landowners countered asking where they should open the intake (Cox 1992, 2005).

In 1858, several landowners led by Thomas Whitehead had the old dam at the mouth of the acequia raised 3 feet, which was initially 5 feet high (Arneson 1921; Cox 1995, 2005). This caused flooding of lands east and south of the San Antonio River that belonged to C.K. Rhodes. Rhodes filed a suit against Whitehead and the city for the removal of the damn and subsequently lost. He later contested but no additional trial information was reported (Cox 1995, 2005). After a major flooding occurred in 1865, which devastated the downtown area and left many homeless, several engineers including Francois Giraud, were appointed to help prevent a similar disaster. It seemed that Mr. Rhodes was validated as the engineers determined that

one of the causes was “the stone dam built across the present head of the Concepción ditch” which held back floodwaters (Cox 1995, 2005:52). At first the council believed the city could not interfere due to the property rights of individuals along the acequia, but the dam was removed in 1869 and the Pajalache Acequia was closed (Arneson 1921; Cox 1995, 2005).

In addition to the 2009 Culotta investigations previously mentioned, archaeological confirmation of the Pajalache Acequia has been limited to a few investigations in southern San Antonio. In 2010, investigations conducted for the realignment of Theo Avenue, Mission Concepción Portal, and Mission Concepción park improvements, revealed a secondary lateral from the main ditch (Ulrich 2010). The lateral was utilized by St. Peter’s and St. Joseph’s Children’s Home during the 1900s for their agricultural lands. Although the main acequia was not encountered during investigations, the research for the area determined that a desague, or back channel, of the Pajalache Acequia is mapped underneath the present route of Theo Malone Street (Ulrich 2010).

Investigations in 2012 for a private developer encountered evidence of the Pajalache Acequia within two backhoe trenches. The project is located southeast of the Mission Concepción and the path of the acequia was vaguely evident in an aerial (Ulrich 2012). One of the backhoe trenches was excavated along the edge of a ridge that paralleled the path of the acequia. The acequia channel was observed within the eastern portion of the trench which cut into caliche. The fill contained twentieth-century materials consisting primarily of glass and metal. The western end of the trench revealed the acequia was disturbed by land grading activities, which truncated the west bank of the acequia and pushed it into the channel (Ulrich 2012:15). The acequia was approximately 3 to 4 feet deep and 22 feet wide. However, the trench was excavated at an angle and not perpendicular to the channel, which likely extended the length of the profile. The second backhoe trench was excavated into an obvious drainage ditch that empties into a concrete-lined channel of an unnamed tributary of the San Antonio River to the west. The excavation revealed the profile of the ditch, possibly an acequia segment, which contained metal fragments, an unidentified faunal bone, and glass. The feature was 3 feet deep and 5 to 6 feet wide. The evidence of the features within the trenches indicated that these were possible branches or laterals of the Pa-

jalache Acequia that re-entered the San Antonio River at different locations (Ulrich 2012).

Also in 2009, SWCA conducted cultural resources investigations on behalf of COSA Golf Operations 0.2 mile south of the current project area. The 2009 investigations focused on 50 acres between Mission Road and Roosevelt Avenue. An archaeological survey with backhoe trenching and archaeological monitoring of construction trenching recorded eight new archaeological sites of historic-age (41BX1802–09). Only site 41BX1802 (discussed below) is located within a 0.5-mile radius of the current project area and was recommended for further testing. The remaining eight sites were determined to be ineligible for listing as SALs or as contributing elements to the Mission Parkway NRHP Historic District (Culotta et al. 2010).

MONITORING INVESTIGATIONS

SWCA conducted monitoring investigations for the Isabel Street Project on February 5, 2015. The area for pole replacement was located at the base of an existing pole on the north side of the alleyway behind 226 Isabel Street (Figure 9.5 and 9.6). The pole location is 195 m east of the intersection of Mission Road and the alley entrance. No significant cultural materials or features were observed during archaeological monitoring investigations.

The project area is located within an established neighborhood consisting of residential houses, garage outbuildings, paved city streets, and underground and overhead utilities. Few trees and sporadic patches of overgrowth make up the vegetation of the project area. One medium sized oak tree is located adjacent to the pole replacement location. The topography is characterized by a flat terrace formation of the San Antonio River. Ground surface visibility for the pole location is 90 percent, with ground cover consisting of leaf litter and thin patches of grass and weeds. Disturbances include a narrow alley drive, a chain-link property fence line, overhead transmission lines, and underground water, gas, and sewer utility lines.

Drilling for the pole replacement was completed with a mechanized auger. Each time the auger bit was withdrawn from the hole, the operator would spin it in reverse, releasing the matrix from the bit onto the ground for inspection. The hole was excavated in 1-foot levels, with each level of spoils being deposited around

the rim of the auger hole opening (Figure 9.7). The hole measured 20 inches (50.8 cm) in diameter and was excavated to a depth of 9 feet (2.7 m). The soil profile of the auger hole (Figure 9.8) consisted of:

- 0 to 2 feet (0 to 0.6 m): 10YR4/3 Brown Clay Loam with organic materials, roots.
- 2 to 6 feet (0.6 to 1.8 m): 10YR6/3 Pale Brown Clay Loam with 10 percent angular gravels and root inclusions.
- 6 to 9 feet (1.8 to 2.7 m): 10YR6/4 Light Yellowish Brown Clay Loam with 40 percent well-rounded cobbles and gravels.

Overall, no cultural materials or features were observed during the excavation of the Isabel Street Project. Small

fragments from a single red brick were observed within the first layer of excavation, but were modern in age and considered to be discarded construction materials from the surrounding residential housing. Additionally, no indication of the Pajalache Acequia was observed. Due to a lack of cultural materials and features, no further work or avoidance strategy is recommended for the Isabel Street Project area.

SUMMARY AND RECOMMENDATIONS

On behalf of CPS Energy, SWCA conducted cultural resources monitoring investigations for the Isabel Street Pole Replacement Project in the City of San Antonio, Bexar County, Texas. The investigations included a background and archival review and cultural resources monitoring. All work was done in accordance



Figure 9.5. Pole replacement location within alleyway, facing west.



Figure 9.7. Example of spoil deposits around excavation opening, facing west.



Figure 9.6. Close up of pole replacement location, facing west.



Figure 9.8. Soil profile of pole replacement auger hole, facing west.

with the standards and guidelines of the THC and the CTA under CPS Energy's annual 2014 Texas Antiquities Permit 6851.

The project area was located in the alleyway behind 226 Isabel Street east of the intersection of Mission Road in downtown San Antonio. The project involved the replacement and installation of a new distribution pole. The project APE was entirely within the alley, within existing utilities. The excavations for the pole were 24 inches in diameter and up to 10 feet deep. As a result of these activities, the cumulative APE included a disturbance area less than 1 acre in size, with expected excavation of less than 2 cubic yards of soil.

The background review determined that the Pajalache Acequia is located west of the project area, and the entire project area was previously surveyed in 1976. The project area is also located within the San Antonio Missions National Historical Park and Mission Concepción NRHP Historic Districts, as well as the locally designated San Antonio Missions District. The review also found several previously investigated cultural resources project areas, three archaeological sites, one NRHP District, and one NRHP property within a 0.5-mile radius of the project area.

SWCA conducted monitoring investigations for the Isabel Street Project on February 5, 2015. The area for pole replacement was located at the base of an existing pole on the north side of the alleyway behind 226 Isabel Street. The pole location is 195 m east of the intersection of Mission Road and the alley entrance. No significant cultural materials or features were observed during archaeological monitoring investigations.

SWCA made a reasonable and good faith effort to identify cultural resources within the project area. Based on the negative results of this investigation, the proposed undertaking will have no effect on any significant cultural resources, and SWCA recommends no further archaeological investigations within the project area. No artifacts were collected; thus, nothing was curated.

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CHAPTER 10

INTERIM REPORT VI: CULTURAL RESOURCES MONITORING INVESTIGATIONS OF THE CPS ENERGY BALL PARK SUBSTATION PROJECT, BEXAR COUNTY, TEXAS

Rhiana D. Ward

INTRODUCTION

On behalf of CPS Energy, SWCA conducted cultural resources monitoring investigations of the Ball Park Substation Project (Ball Park Project) located at 307 Mission Road in Bexar County, Texas (Figure 10.1). The investigations included a background and archival review and cultural resources monitoring investigations of select construction activities. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's annual Texas Antiquities Permit, No. 6851.

The purpose of the work was to locate and identify all prehistoric and historic archaeological sites in the project area, establish vertical and horizontal site boundaries as appropriate with regard to the project area, and evaluate the significance of any site recorded within the property. Monitoring investigations were conducted by SWCA archaeologists Laura I. Acuña, Lenard Kemp, Christina Nielsen, Rhiana D. Ward and Aly N. Young in May, July, November, and December 2014, as well as in January and February 2015.

PROJECT AREA DESCRIPTION

The project area is within the CPS Energy Ball Park Substation located in the southeast quadrant of the intersection of Mission Road and West Highland Boulevard (Figure 10.2). The work involved the removal of eight existing concrete pier foundations, the installation of 13 new pier locations, the installation of a new manhole, and the installation of a new duct bank.

One above-ground oil tank and its concrete foundation were also removed during the Ball Park Project. The oil tank and other remaining buildings (control house, oil house, metal sheds, metal water tower, electrical equipment, and miscellaneous structures) within the substation are an extension of the Mission Road Power Plant, located on the west side of Mission Road (Figure 10.3). The Mission Road Power Plant was designated as eligible for listing as a City of San Antonio historic

landmark during the "Original City Limits Survey," and was designated in 2011 (Personal communication, City of San Antonio). The power plant was further designated as eligible for listing as a NRHP property in 2011 during the Mission Trails Enhancement Project (Henson 2011). However, an evaluation from the SA-OHP determined that the designation only applies to the red brick buildings and smokestack of the Mission Road Power Plant, and that the remaining resources within the Ball Park Substation were not contributing resources to the eligibility determination of the historic landmark. Therefore, removal of the oil tank and foundation did not require cultural resources monitoring (A. McGlone to M. M. Malone, letter, 4 January 2007, City of San Antonio Historic Preservation Office Planning Department).

Based on preliminary review of historic documents, the project area is intersected by the Pajalache Acequia (also known as the Concepción Acequia). Previous investigations in the surrounding area purport the substation is also a possible location for the Mission Concepción Mill and Battle of Concepción battlefield (Personal communication, SA-OHP). Additionally, the project area is to the east of the Mission Parkway NRHP Historic District. Lastly, the project has the potential to impact deeply buried cultural deposits as it is within the floodplain of the San Antonio River.

The projected APE will be entirely within the boundaries of the Ball Park Substation. The excavations for the concrete pier foundation removal will be 3 feet in depth. The 16 new pier locations will be approximately 30 inches in diameter and excavated down to a maximum of 20 feet. The proposed duct bank trench will be approximately 150 feet long, 3 feet wide, and 10 feet deep maximum. The manhole block will be 14×14 feet in size and excavated down to 17 feet deep. As a result of these activities, the proposed cumulative APE will include an approximately 1-acre disturbance area, with expected excavation of 400 cubic yards of soil.

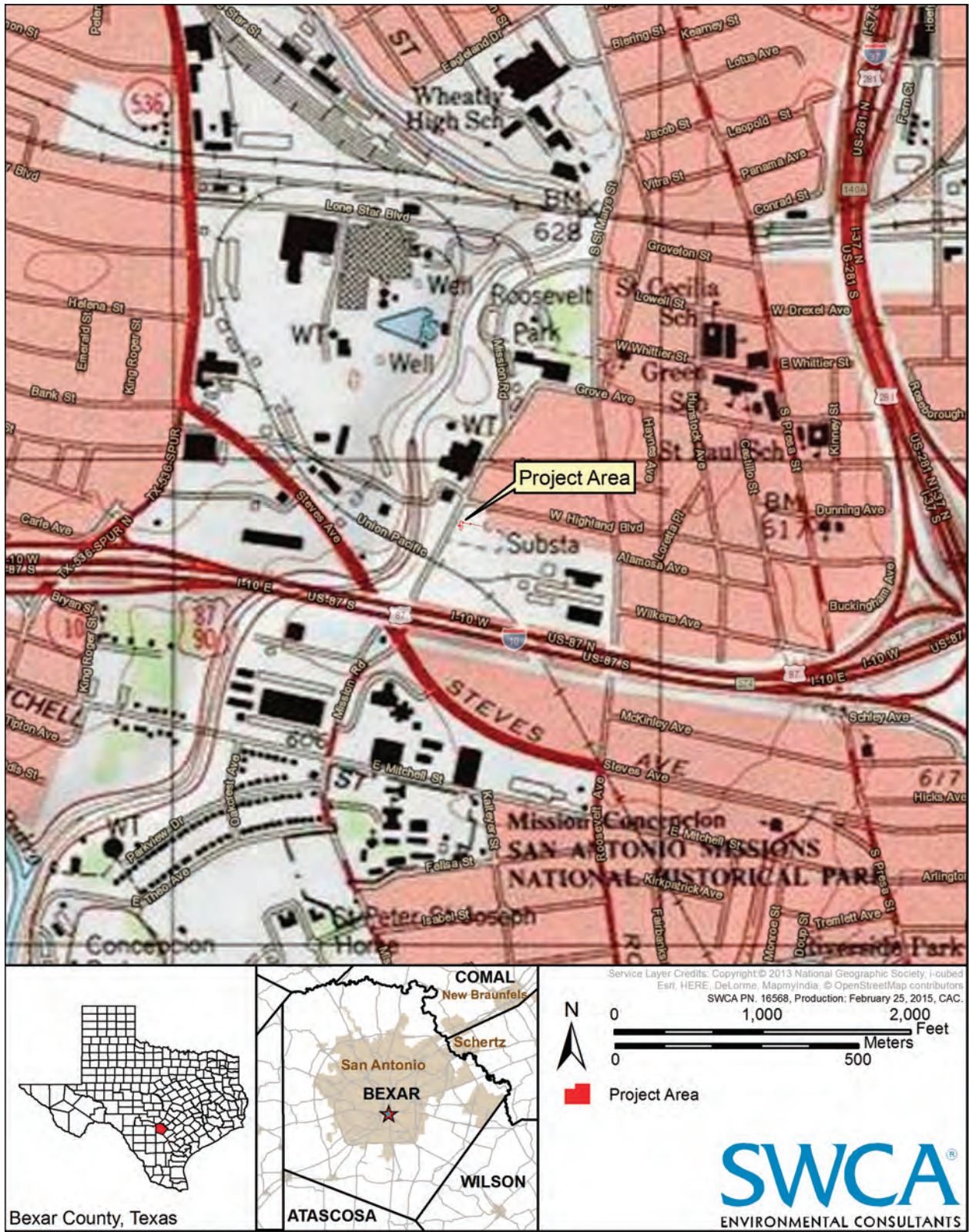


Figure 10.1. Project location map.

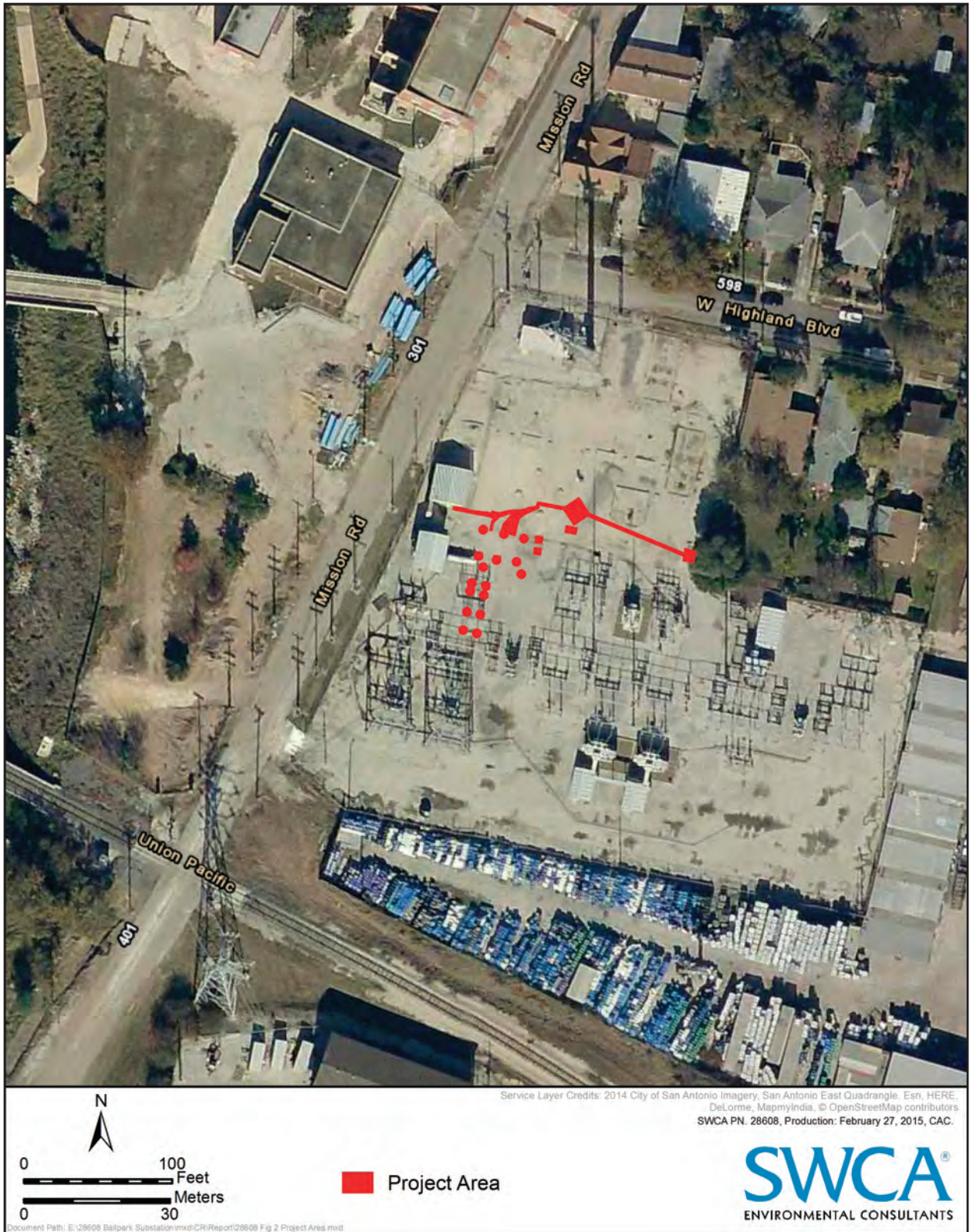


Figure 10.2. Project area overview.



Figure 10.3. Mission Road Power Plant located to the northwest of the Ball Park Project, facing northwest.

ENVIRONMENTAL SETTING

GEOLOGY

The underlying geology of the project area is 100 percent Quaternary-age Fluvial terrace deposits adjacent to the San Antonio River (Barnes 1983). These terrace deposits consist of predominately gravel, limestone, dolomite, and chert, with sand, silt, and clay (Barnes 1983).

SOILS

The western majority of the project area soils are mapped as 95 percent Sunev clay loam with 1 to 3 percent slopes, while the eastern edge of the project area is mapped as Lewisville silty clay with 1 to 3 percent slopes. The Sunev soil series is described as very deep, well-drained soils that formed in loamy alluvium on nearly level to moderately steep stream terraces or foot slopes of valleys and ridges. The Lewisville series is characterized as very deep, well-drained, moderately permeable soils that formed in ancient loamy and calcareous sediments (NRCS 2014; Taylor et al. 1991).

RESULTS

ATLAS BACKGROUND REVIEW

The background literature review determined that the Ball Park Project area has been previously surveyed, and no previously recorded cultural resources are within or adjacent to its boundaries. However, numerous

historic maps project the Pajalache Acequia (archaeological site 41BX1802) as potentially intersecting the center portion of the project area. Fifteen cultural resources surveys, four previously recorded archaeological sites, one NRHP property, three NRHP Districts, and three neighborhood surveys are within a 0.5-mile radius of the project area. The project is also within the locally designated San Antonio Mission Historic District and San Antonio River Improvement Overlay (RIO) District 4. The San Antonio Mission Historic District encompasses several NRHP Districts, including those mentioned above, and additional areas outside of the NRHP District boundaries. RIO District 4 extends from West Cesar Chavez Boulevard to Mission Road. The RIO Districts serve as a zoning overlay to establish regulations to protect, preserve, and enhance the San Antonio River and improvements establishing design standards and guidelines for development.

In 1976, an area survey was conducted on behalf of the NPS within the project boundary. The survey encompasses 5,000 acres of land associated with the San Antonio Missions and the San Antonio River. No information for this report is available on Atlas (2014); however, no sites associated with the effort were documented in the project area according to Atlas data.

Two surveys were conducted immediately adjacent to the western boundary of the project area in 2009 and 2011 (Henson 2011; Iruegas et al. 2009). The 2009 survey was conducted by GTI Environmental Consultants, and the 2011 survey was conducted by PBS&J. Both surveys were completed on behalf of the City of San Antonio and TxDOT for the Mission Trails Statewide Transportation Enhancement Project and Mission Road Realignment Project, Package IV. Archival research revealed five possible locations for the Mission Concepción Mill, one of which is located within the current project area. Archival research and justification for the five possible mill sites is described in Iruegas et al. 2009 and in a subsequent report of investigations for the Mission Road Alignment Project by PBS&J (Henson 2011). The 2011 report clearly describes one of the locations as "...east of Mission Road, a location that is highly disturbed by a utility tower and a power substation associated with the CPS Power Plant" (Henson 2011: 19).

In addition to the 2009 and 2011 surveys, a total of 13 previously conducted surveys are within a 0.5-mile radius of the project area. The first was completed in 1980 on behalf of the NPS in association with the

San Antonio Missions and the San Antonio River. No information for this report is available on Atlas (2014).

Beginning in December 1980, archaeological mitigation and excavations were conducted at Mission Nuestra Señora de la Purísima Concepción de Acuña (Mission Concepción; archaeological site 41BX12) by CAR-UTSA on behalf of the NPS. The goal of the work was to identify the original outline of the mission pueblo, the location of the mission granary, and to assess the state of preservation of the Indian quarters along the pueblo walls within a 20-acre area. The 1980s investigations identified intact adobe walls of the first permanent mission buildings, well-preserved Indian quarters, the granary foundations, the foundations of possibly the first mission church with associated burials, and the original alignment of Mission Road. An additional archaeological survey was conducted on a number of specific areas within the NRHP San Antonio Missions National Historic Park, four of which were in the immediate vicinity of Mission Concepción. These survey areas contained 22 remote-sensing anomalies and four new archaeological sites (Ivey and Fox 1999).

In 1986, CAR-UTSA conducted eligibility testing at Mission Concepción on behalf of the NPS. The testing area encompasses 20 acres, 0.38 mile south of the current project area. The aim of the 1986 investigations was to determine whether buried wall footings and occupation surfaces were preserved in a proposed drainage right-of-way. Eleven test units were excavated within the survey area, and only remnants of footings were identified. No occupation surfaces were identified. The 1986 survey recommended that hand excavations take the place of industrial trenching for the proposed drainage ditch (Fox 1988). Another 1986 survey completed 0.1 mile north of the substation on behalf of the USACE Fort Worth-Dallas Division, is 3.5 acres in size. No information on this survey is available on Atlas (Atlas 2014).

In 2001, CAR-UTSA conducted archaeological investigations and monitoring for the four missions for CPS Energy's Mission Trails Underground Conversion Project (Tennis et al. 2001). Several features associated with the various missions were encountered during the investigations and subsequent testing investigations were recommended. Between 2002 and 2005, CAR-UTSA conducted two field schools on the courtyard of Mission Concepción by the Legacy Public Outreach Program. The investigations included test units that uncovered several foundations or architectural alignments

that may have represented what historical documents identified as a granary and community store room. Additionally, a trash pit containing artifacts from the late nineteenth to early twentieth centuries was also identified during investigations (Figueroa and Tomka 2009).

In 2003, CAR-UTSA conducted a 35-acre survey approximately 0.38 mile to the southwest of the current project area. This survey was conducted on behalf of Seton Homes and is located within the Mission Parkway NRHP District. No information on this survey is available on Atlas (2014). In 2009, URS Corporation conducted a survey on behalf of the City of San Antonio for two alternative playground locations at Roosevelt Park 0.33 mile northeast of the current project area. The survey encompasses a total of 4 acres, and was surveyed in two sections using shovel testing and backhoe trenching techniques. One previously recorded site, 41BX1665, was revisited and expanded upon. The 2009 investigations recommended that site 41BX1665 be avoided during the proposed 2009 construction based on knowledge that the site had been recommended as an SAL in 2007. In addition to 41BX1665, one historic-age resource was documented during the 2009 survey. Site 41BX1665, now known as Roosevelt Park, contains 11 individual elements and was recommended as eligible for NRHP designation (Ahr and Emery 2010).

In 2005 and 2007, investigations were completed for the Mission Trails Statewide Transportation Enhancement Project. The 2005 report outlined investigations conducted in 1998 at Mission San Francisco de la Espada under Package I (Cargill et al. 2005). The 2007 report outlined the archaeological testing and monitoring for the Mission Trails Statewide Transportation Enhancement Project under Packages 2 and 3. The investigations were focused along the proposed hike and bike trails for the Mission Trails (Meissner et al. 2007). In conjunction with the overall Mission Trails investigations, survey investigations were also conducted in 2006 as part of the San Antonio River Authority's San Antonio River Improvement Project—Mission Reach (Peter et al. 2006).

In 2011, CAR-UTSA conducted an archaeological monitoring project 0.45 mile southwest of the current project area on behalf of the San Antonio River Authority for a segment of the realignment of Theo Avenue between the San Antonio River and Mission Road. No cultural materials were observed during monitoring activities and no cultural deposits were

impacted by improvement (Dickey and Ulrich 2012). CAR-UTSA completed another monitoring project in 2011, 0.1 mile north of the substation on behalf of the City of San Antonio. The 2011 project area is along the east bank of the San Antonio River and encompasses 14 acres. No information on this report is available on Atlas (Atlas 2014).

A total of four previously recorded archaeological sites, one NRHP property, three NRHP Districts, and three neighborhood survey properties are within a 0.5-mile radius of the project area. The first archaeological site, 41BX12, is Mission Concepción. Mission Concepción is approximately 0.35 mile south of the current project area. The mission is a part of the San Antonio Missions National Historic Park and was designated as a National Historic Landmark in 1970. The site was also designated as an SAL in 1973 and considered eligible for NRHP listing in 1994 (Atlas 2014).

Site 41BX278 is a historic site known as the Yturri–Edmonds (Edmonds) house and mill. The site is approximately 0.15 mile north of the current project area and is currently used as a tourist attraction by the San Antonio Conservation Society. The Edmonds (Edmonds) Yturri Mill, House, and Barn are also listed as a neighborhood survey property. However, the recorded location of the neighborhood survey shows it approximately 0.1 mile southeast of 41BX278 (Atlas 2014). This may be a locational error on Atlas (2014).

Site 41BX1665, known as the Roosevelt Park Site, is 0.38 miles northeast of the substation. The 2006 investigations by Abasolo Archaeological Consultants consisted of backhoe trenching that identified prehistoric deposits over 1 m deep in a 50-m by 100-m area. Site 41BX1665 was reported as a Late Prehistoric to Mission Indian occupation site, but further testing was recommended to determine a date of occupation and significance. Site 41BX1665 was revisited in 2010 using additional backhoe and shovel testing investigative techniques, and the site was expanded by an additional 30 m. In July of 2007, site 41BX1665 was designated as a SAL (Atlas 2014).

The last site within a 0.5-mile radius of the project area is a 41BX1887. The site is approximately 0.26 mile from the current project area, but the Atlas (2014) database provides no information for this site.

The only NRHP property within a 0.5-mile radius of the Ball Park Substation project area is the L.T. Wright House. The house was designed and constructed by

George Willis in 1917 and is a Prairie School construction style with a low-pitched roof and projecting eaves, with interior murals of San Antonio landscapes. The house has remained virtually unaltered since its construction date and is considered to be one of the few examples of the pure Prairie school construction style in Texas. The NRHP property was also part of a neighborhood survey evaluation and documented as a neighborhood survey property (Atlas 2014). The remaining two neighborhood survey properties within a 0.5-mile radius of the project area consist of the Edmonds (Edmonds) Yturri House Complex and the Wright house, as mentioned above.

MISSION PARKWAY NRHP HISTORIC DISTRICT

Three NRHP districts are within a 0.5-mile radius of the project area. The Mission Parkway District is west of the substation and the San Antonio River, and encompasses the lower four missions: Mission San Jose y San Miguel de Aguayo (41BX3), Mission San Francisco de la Espada (41BX4), Mission San Juan Capistrano (41BX5), and Mission Nuestra Señora de la Purísima Concepción de Acuña (41BX12). The boundaries of Mission Parkway NRHP Historic District are vast and include acequia segments that are still extant, the historic mission agricultural fields or *labores*, historic and prehistoric archaeological sites, and other resources and buildings that do not contribute to the overall district. The boundaries were designed to include those areas with little urban development which include residential neighborhoods that developed around the missions and later nineteenth century occupations representing descendants of the original occupants. The Mission Parkway area consists of approximately 80 percent residential, 12 percent industrial, 7 percent commercial, and one percent miscellaneous (NRHP Reference No. 75001953). Portions of the southern end of the Mission Parkway consist of rural agricultural fields that are being utilized by Mission San Juan Capistrano and Mission San Francisco de la Espada (Atlas 2014).

SAN ANTONIO MISSIONS NATIONAL HISTORICAL PARK

The San Antonio Missions National Historic Park is approximately 0.3 mile south of the project area, and is within the greater Mission Parkway NRHP Historic District. Approximately 475 acres in size, the park includes the four lower missions and associated 86

structures, and an additional 21 archaeological and historical sites (NRHP Reference No. 78003147).

MISSION CONCEPCIÓN NRHP HISTORIC DISTRICT

The Mission Concepción NRHP Historic District is one of the missions within the San Antonio Missions National Historical Park. The district includes the building complex associated with the mission. The church at Mission Concepción is reported to be the oldest church in Texas, having been constructed in 1731 (NRHP Reference No. 70000740). The mission is recorded as archaeological site 41BX12, and is approximately 0.4 mile south-southwest of the current project area. The mission was designated as a National Historic Landmark in 1970 and as an SAL in 1973. Mission Concepción was also considered eligible for NRHP listing in 1994.

HISTORIC MAP REVIEW

The review of the TxDOT Historic Overlay maps identified one historic-age structure within the Ball Park Project area (Foster et al. 2006). In addition, multiple historic maps depicted the Pajalache Acequia as intersecting the project area (Foster et al. 2006). Other historic maps archived at COSA and available online also depicted the acequia within the project area. The Acequia Map Sheets, housed at SA-OHP, were reviewed and depict the Pajalache Acequia 466 feet east of the project area (Figure 10.4; San Antonio Acequia Map, Sheet 16-56). The Acequia Map Sheets do not depict all of the acequia alignments and laterals accurately and merely serve as a general guideline for the purported locations. The Ball Park Project map review also identified land ownership of the project area and general development in the past 60 years. Lastly, the San Antonio Sanborn Fire Insurance (Sanborn) Maps confirmed the location of the historic-age structure within the substation.

SWCA reviewed seven TxDOT Historic Overlay maps from 1871, 1887, 1889, 1903, 1912, 1927, and 1953. The 1871 General Land Office Map of Bexar County identified the project area as being situated within a land parcel granted to Sam and Kenney, Grantee No. 23. The 1887 JD Rullman Map of Bexar County depicted the project area as being within a land parcel granted to Chavez, Grantee No. 12. The 1889 J.J. Olsen Map of San Antonio and 1903 USGS San Antonio map showed the project area next to Concepción (Mission) Road and north of the San Antonio and Aransas Pass (SA&AP)

Railroad. A 1912 Rullman San Antonio Officials Map, republished from an 1837 city engineer map, depicted the project area within the land parcel of Refugio de la Garza and within the general location of the “Labor de Concepción,” or former agricultural lands of Mission Concepción (Figure 10.5). The Pajalache Acequia is depicted transecting the project area from northeast to southwest. The 1927 USACE Map of San Antonio and the 1953 AMS Map of San Antonio both depicted the project area as within an urbanized, predominately industrial setting. The 1927 map illustrated multiple buildings and structures along developed city streets within the general project area, while the 1953 map depicted multiple industrial buildings and oil tanks within the nearby setting of the project area.

A review of maps archived at the COSA City Archives and available online depicted the acequia across several parcels of land within the former Mission Concepción *labores*. A Francois Giraud survey from 1848 depicts the parcel boundaries of Maria Josefa Rodriguez that includes Old Concepción Road (Mission Road), the Concepción Acequia, and another ditch labeled as “Desague or Cañada” that parallels the acequia farther east (City Engineer Book 1, Page 51–52). Another survey by Francois Giroud in 1849 depicts the same lands now belonging to the Heirs of Manuel Yturri Castillo and Asa Mitchell (Figure 10.6). The Mitchell lands are in between the Castillo lands and the acequia and its eastern lateral is also depicted (City Plat Book 2 Page 1; Book R No. 1 Page 42). Based on the city archive maps and those of the historic overlay, the project area is within lands that had several different periods of ownership.

The Ball Park project area is depicted on three sets of Sanborn Maps between 1924 and 1952. The 1911–1924 Sanborn Map (Volume 4, Sheet 349) depicts the San Antonio Gas & Electric Company (SAG&E) complex immediately adjacent to the northwestern corner of the project area. This complex appears to comprise four structures on the western side of Mission Road, and on the southern side of the San Antonio River. There are no structures or buildings yet depicted within the project area. The 1937 Sanborn Maps (1911–1952 Sanborn Map Volume 4, Sheet 438; 1911–March 1951 Sanborn Map Volume 4, Sheet 438) depict the project area within a “Transfer Yard” with two structures located in the northwestern corner (Figure 10.7). The transfer yard and two structures are associated with the larger SAG&E Company building located immediately

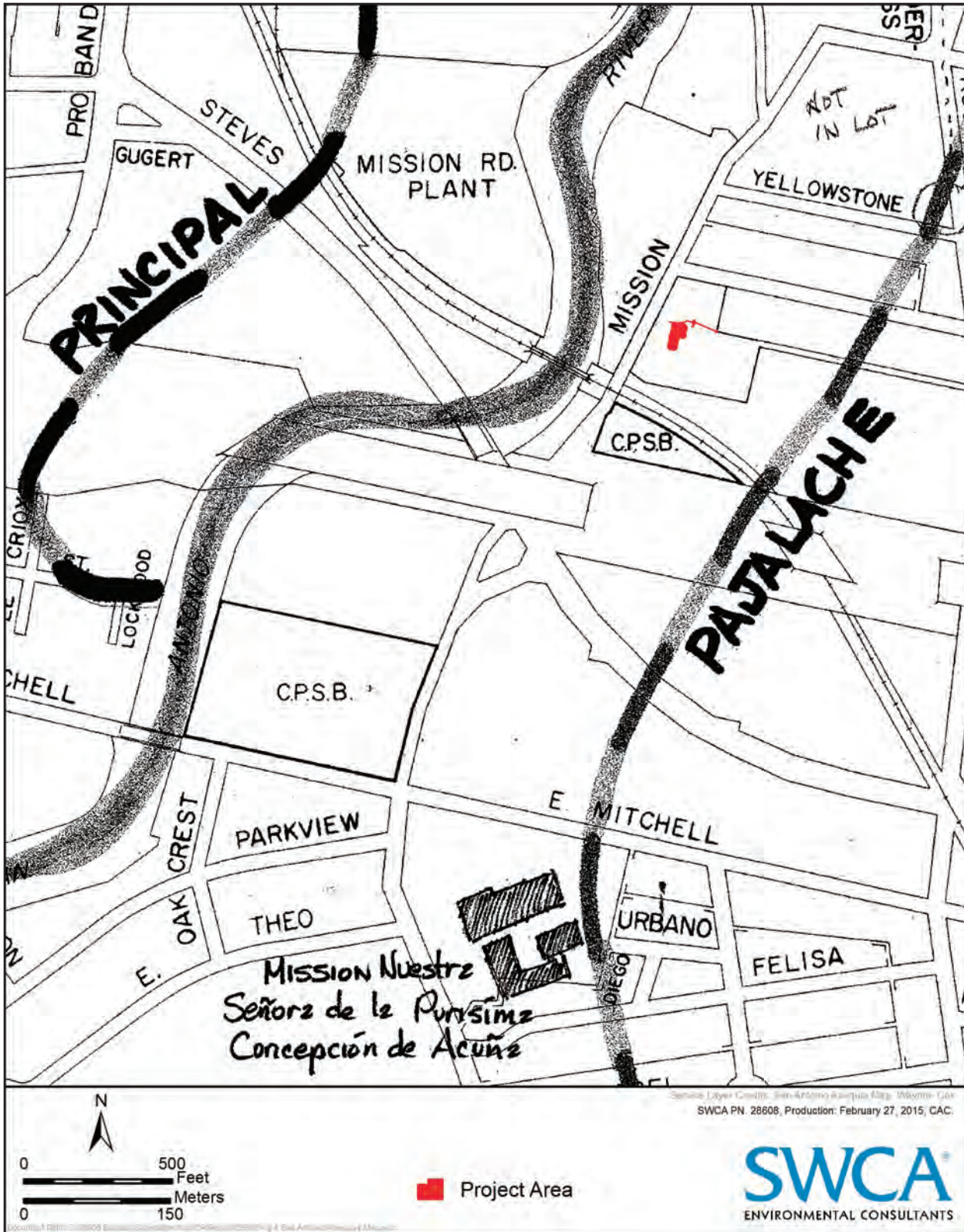


Figure 10.4. Project area on San Antonio Acequia Map, Sheet 16-56.

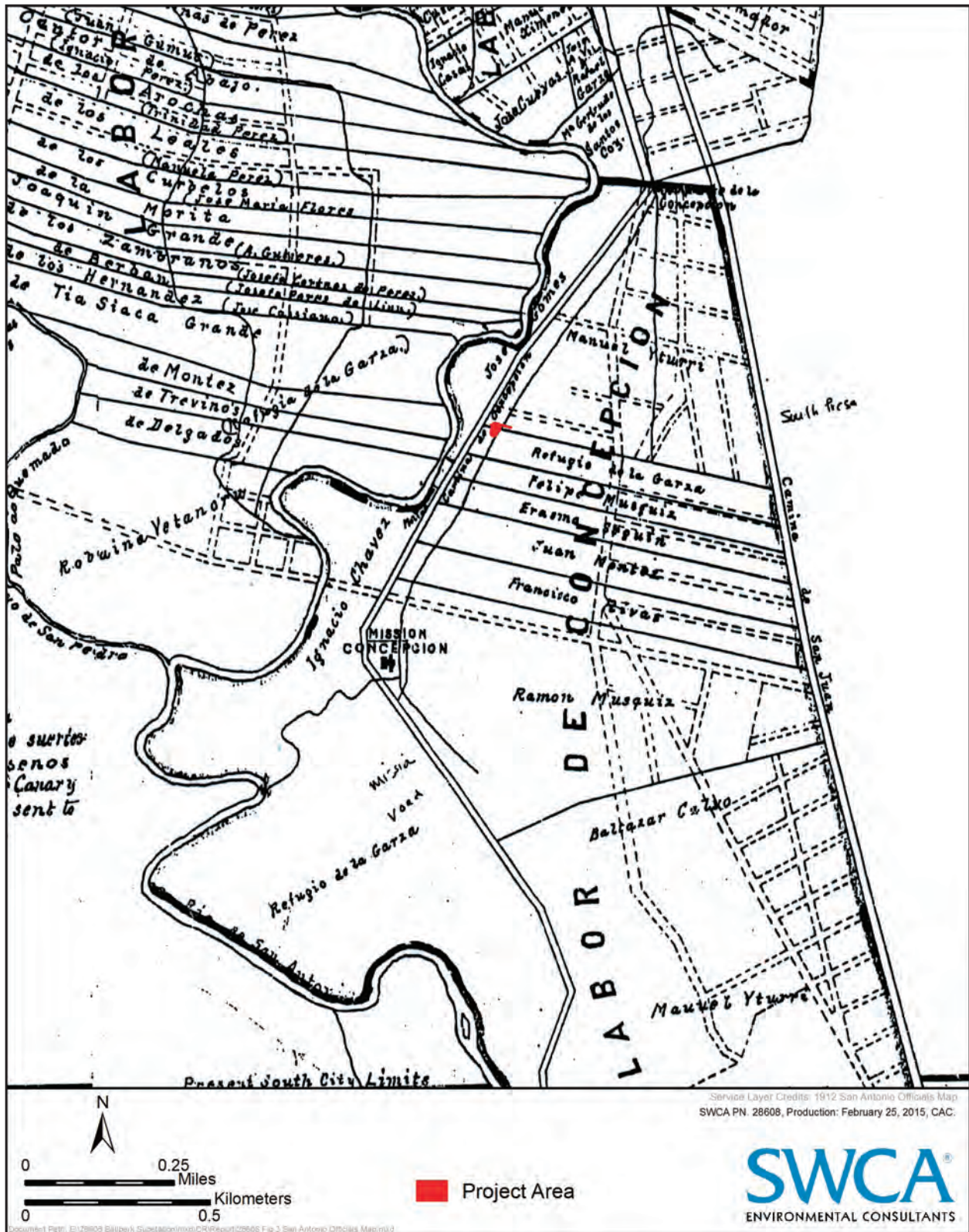
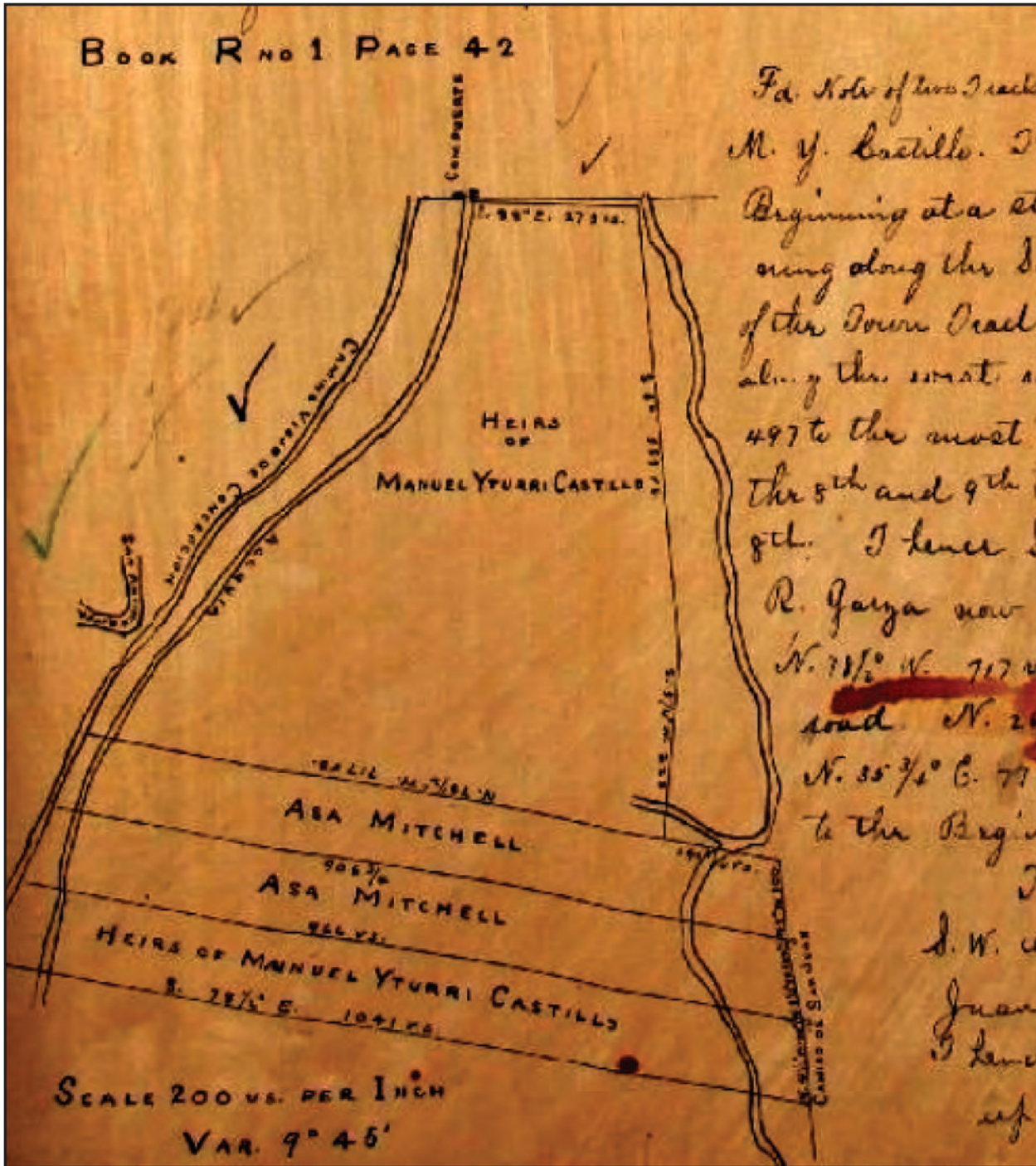


Figure 10.5. Project area on 1837 San Antonio Officials Map (1912 reprint).



Service Layer Credits: City of San Antonio Municipal Archives, Book 2, Page 12, 1849 SWCA PN. 28608, Production: February 25, 2015, CAC.



Document Path: E:\28608 Ballpark Substation\mxd\CR\Report\28608 Fig 5 City Archives Map.mxd

Figure 10.6. 1849 Map of the Francois Giroud Survey with general estimate of APE.

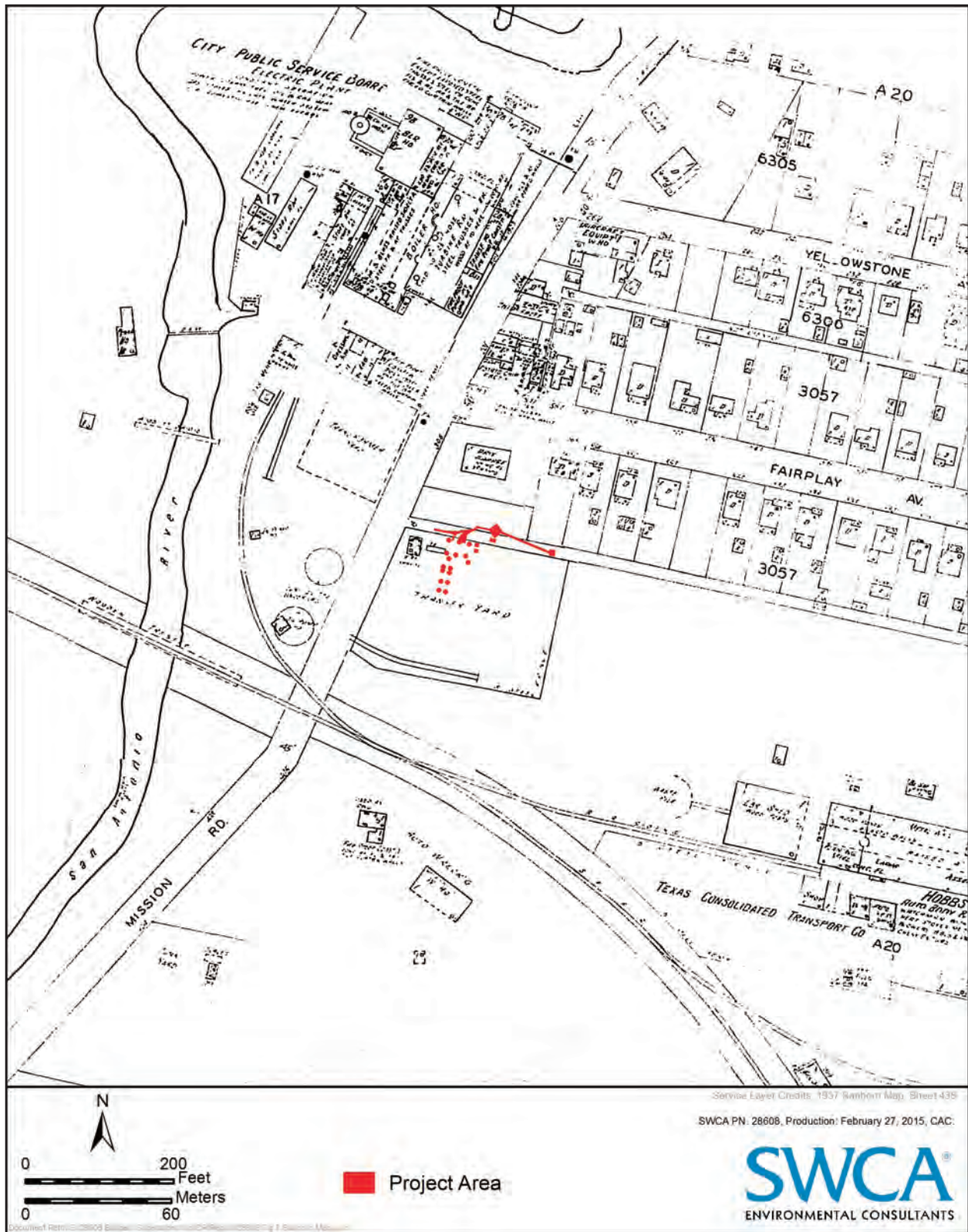


Figure 10.7. Project area on 1937 San Antonio Sanborn Fire Insurance Map.

to the northwest. Additionally, a possible railroad spur associated with the main SA&AP Railroad line is on the southern boundary of the project area on both the 1911–1952 and 1911–March 1951 Sanborn Maps. The buildings correspond with the Control House building and oil tank that is currently within the substation. In addition, the building complex for the SAG&E Company is still standing and currently vacant. No evidence of the Pajalache Acequia is depicted on any of the Sanborn maps.

SWCA reviewed historic aerial maps dating to 1955 and 1963 on Historicaerials.com. The Control House and oil tank are depicted on both maps. In 1955, the substation boundary was limited to the southern portion of the current project area. By 1963, the substation expanded north towards West Highland Boulevard to its current boundaries. Additional historic aerial imagery illustrates the development of the project area and its surroundings from as early as 1938 (Figure 10.8).

PAJALACHE ACEQUIA

As stated previously, the Pajalache Acequia is considered one of the oldest and largest of the acequia system ditches in San Antonio (Arneson 1921; Cox 1995, 2005). The acequia is depicted within the project area on several historic maps. Due to the mapped acequia within the project area, the location is one of the five possible locations of the Mission Concepción Mill (Henson 2011).

MONITORING INVESTIGATIONS

In 2014 and 2015, SWCA archaeologists conducted cultural resources monitoring of construction activities for the proposed Ball Park Project area (Figure 10.9). Monitored construction activities consisted of the removal of eight existing pier foundations, the excavation for 13 new pier foundations, the excavation of a new manhole block, and the excavation of a new duct bank lateral trench. No cultural resources were identified. The investigations determined that the entire APE has been heavily disturbed by the construction of the substation site and utility installation.

The project area consists of an existing CPS Energy substation characterized by an asphalt paved lot with multiple concrete piers and electrical transformer structures (Figure 10.10). Multiple switchgear and housing structures also adorn the substation site. A mix of commercial lots, industrial warehouses, and railroad beds

are immediately south and southeast of the project area, while a residential neighborhood borders the project area to the north and northeast.

A channelized section of the San Antonio River is 250 feet west of the project area boundary. The river channel is approximately 40 feet wide and adorned with small overflow dams for flood and erosion control. The topography of the project area is generally level, likely due to heavy grading and use of base fill use during the construction of the substation lot. A mild depression is observed at the center of the project area running north to south. It is unclear if this depression was intentionally placed for storm water runoff purposes or if it is the result of natural erosion and settling.

EXISTING PIER FOUNDATION REMOVALS

Eight existing pier foundations were removed from the Ball Park Project area on July 9, 2014 (Figure 10.11). The existing piers were within a 60-foot (18.3 m) north–south by 30-foot (9.1 m) east–west work area, 45 feet south of West Highlands Boulevard and 20 feet east of Mission Road. Each pier was characterized by a square, superficial footing inset with four bolt anchors at each corner of its surface. The piers measured 1 foot (0.3 m) wide by 1 foot long, and extend 6 inches (15.2 cm) above the ground surface (Figure 10.12).

Extractions began with the removal of the asphalt surface within the pier foundation work area (Figure 10.13). Next, a 3- to 4-foot (0.9–1.2-m) trench was excavated around each foundation with the excavator end of a backhoe. Finally, each pier was extracted with the backhoe, revealing a concrete conglomerate mass that measured 3 feet long and between 1 to 2 feet wide on average (Figure 10.14). The soil profile surrounding each pier foundation consisted of:

- 0 to 1 foot (0 to 0.3 m) – Light yellowish brown gravel construction base.
- 1 to 2.5 feet (0.3 to 0.8 m) – Very dark grayish brown clay mottled with light yellowish brown gravelly clay.
- 2.5 to 3 feet (0.8 to 0.9 m) – White caliche with gravels.

Existing polyvinyl chloride (PVC) conduits were observed at the bases of Piers 1, 2, 7, and 8 (Figure 10.15), and braded grounding cables were observed 6 inches below ground surface adjacent to Piers 1, 3, and 4 (Figure 10.16). A layer of wooden planks was

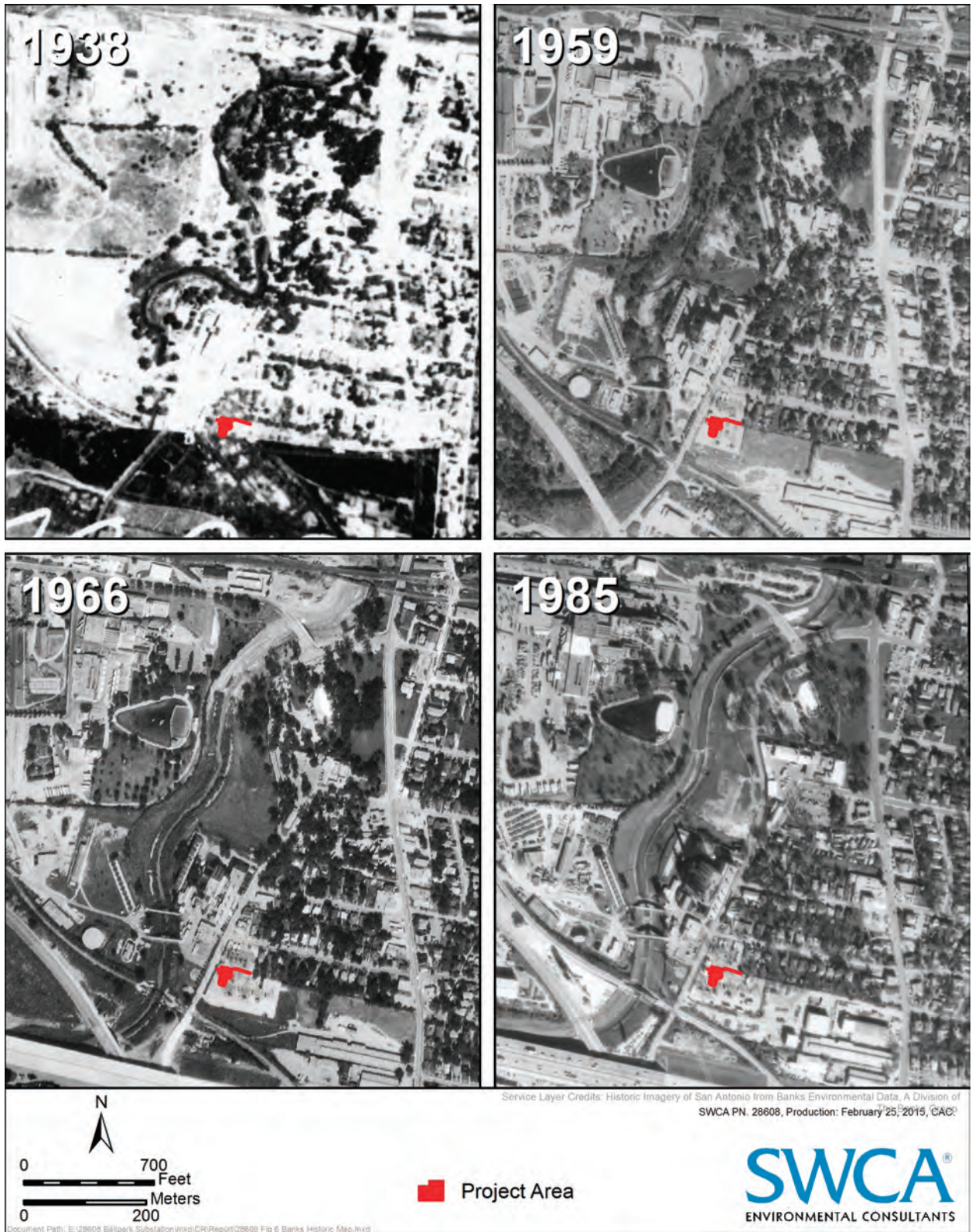


Figure 10.8. Project area on 1938, 1959, 1966 and 1985 historic aerial imagery.



Figure 10.9. Monitoring investigations results.



Figure 10.10. Overview of Ball Park Project area setting, facing southwest.

observed at the base of Pier 2 (Figure 10.17), which likely served as a support or cover for the PVC conduits beneath the foundation. Additionally, an old concrete fence base was also observed beneath Pier 7.

One fragment of cut faunal bone was observed during the removal of Pier 7 (Figure 10.18). The fragment is likely the long bone of a large ungulate (e.g., cow, horse, deer) and was observed between the grounding wires adjacent to the foundation. The bone fragment was observed within disturbed contexts and was considered fill material. Based on monitoring investigations, the existing pier foundation removals were located within disturbed soils and no cultural materials or features were observed. No indication of the Pajalache Acequia was observed.

PIER FOUNDATION EXCAVATIONS

Thirteen holes for pier foundations were excavated on November 2 and 11–13, and December 1, 2014 (see Figure 10.11). The initial construction scope of work required the excavation of 16 new pier foundations; however, a reconfiguration of the project layout omitted the need for Pier 80 and repurposed existing pier foundations for Pier 66 and 67. Pier foundation excavations took place within the same work area as the existing pier foundation removals (Figure 10.19). Drilling was completed with a mechanized auger. Each time the auger bit was withdrawn from the hole, the operator would move the bit to the side and spin it in reverse, releasing the matrix onto the ground for inspection (Figure 10.20). Spoils were examined throughout the excavation process and immediately removed with

a backhoe to a spoil pile located on the northeastern corner of the project area. The results of the pier foundation excavations are shown in Table 10.1.

The average soil profile for pier foundation excavations (Figure 10.21) consisted of:

- 0 to 1 foot (0 to 0.3 m) – Light yellowish brown gravel construction base.
- 1 to 5 (0.3 to 1.5 m) – Dark brown clay loam with light brown mottles and 40 percent angular gravels.
- 5 to 20 (1.5 to 6.1 m) – Very pale brown silty clay loam with 60 to 80 percent well-rounded gravels.

Monitoring investigations determined that the upper 5 to 6 feet of pier foundation excavation consisted of highly disturbed soils resulting from the construction of the substation site and utility installations. Soils below 6 feet were sterile and did not contain cultural deposits. No cultural materials or features were observed during the excavation of the pier foundations, and no indication of the Pajalache Acequia or the Mission Concepción Mill was observed.

MANHOLE EXCAVATIONS

Excavations for the manhole took place on January 28 and 29, 2015. The manhole is located within the center of the project area, 42 m south of West Highland Boulevard and 36 m east of Mission Road (Figure 10.22). Dimensions measure 13.9 feet (4.2 m) northeast to southwest by 13.9 feet northwest to southeast at a depth of 17 feet (4.9 m) (Figure 10.23).

Excavations began by removing the upper layer of contaminated construction base that covers the northern half of the project area. An existing concrete duct bank was uncovered just below surface on the northwestern edge of the excavation and was removed (Figure 10.24). Excavations continued by trenching the northwestern side of the excavation block down to 15 feet. Once a 15-foot depth was reached, shoring plates were installed and the trench was backfilled with excavated spoils to secure the shoring plates (Figure 10.25). This process continued on the northeast, southwest, and southeast sides of the manhole block until all sides of the trench were braced with shoring plates.

Because safety regulations require shoring plates be immediately installed for deep construction excava-

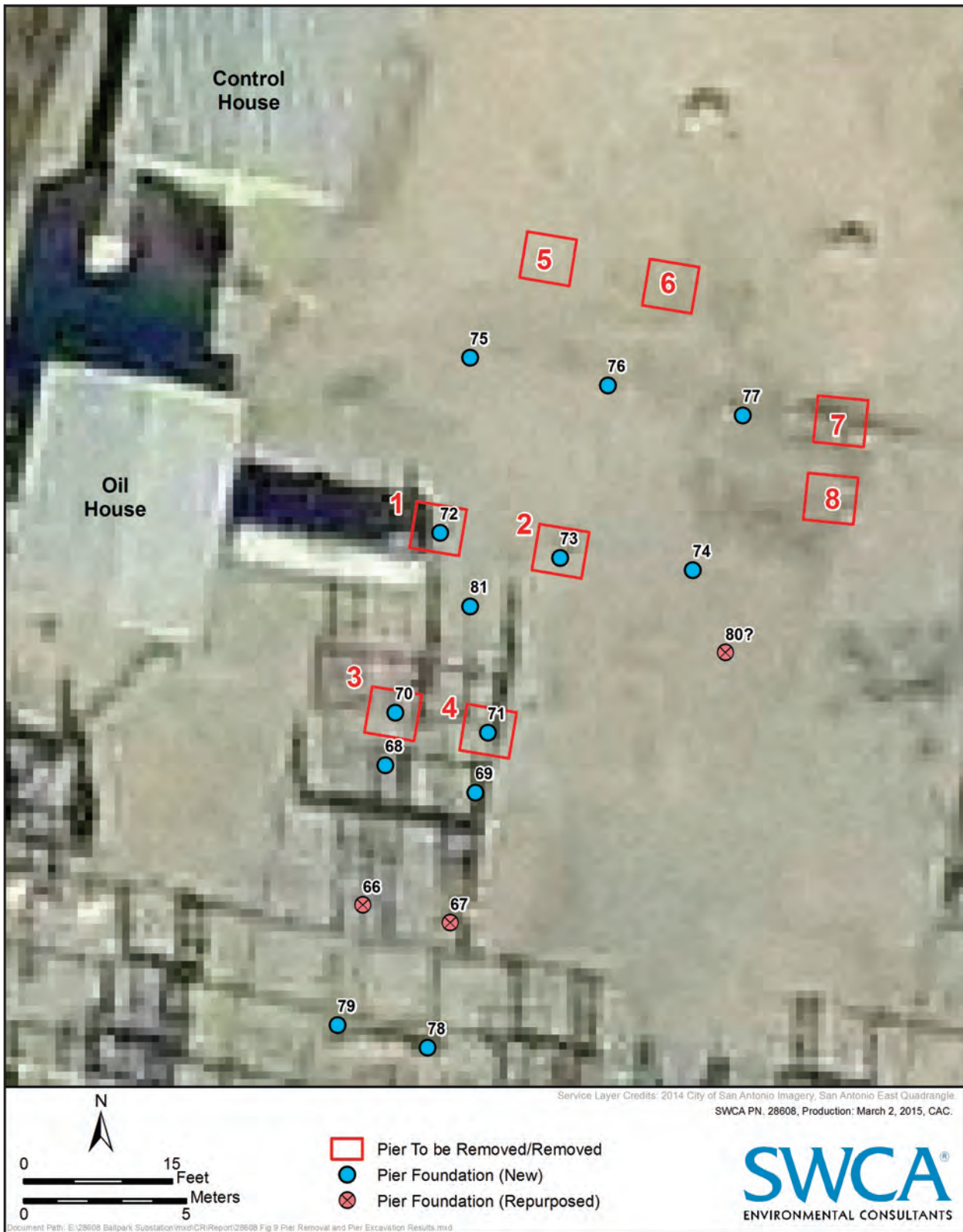


Figure 10.11. Existing pier foundation removal and pier foundation excavation results.

Table 10.1. Pier Foundation Excavation Results

Auger Hole No.	Diameter (inches)	Depth (feet)	Comments/Inclusions/Cultural Materials
66	-	-	No Excavation. Use of existing pier foundation.
67	-	-	No Excavation. Use of existing pier foundation.
68	30	20	No cultural material or inclusions observed.
69	30	20	Existing utility at 12 inches below surface. No cultural materials observed.
70	30	20	No cultural material or inclusions observed.
71	30	20	No cultural material or inclusions observed.
72	24	15	Existing utility at 2 feet below surface. No cultural materials observed.
73	24	15	Existing utility at 2 feet below surface. Metal fragments observed at 5 feet below surface.
74	30	15	Existing utility at 2 feet below surface. No cultural materials observed.
75	30	15	No cultural material or inclusions observed.
76	30	15	No cultural material or inclusions observed.
77	30	15	No cultural material or inclusions observed.
78	30	15	Existing utility at 2 feet below surface. Modern trash observed at 3 feet below surface.
79	30	15	No cultural material or inclusions observed.
80	-	-	No excavation due to project layout reconfiguration.
81	24	15	No cultural material or inclusions observed.



Figure 10.12. Example of existing pier foundation at surface to be removed; Pier 4, facing east.



Figure 10.13. Asphalt removal from pier foundation removal area, facing southwest.



Figure 10.14. Example of extracted pier foundation; Pier 3, facing east.



Figure 10.17. Wooden planks beneath Pier 2 foundation, facing south.



Figure 10.15. Example of PVC conduits, beneath Pier 2, facing south.



Figure 10.18. Cut faunal bone of a large ungulate, observed within grounding wires of Pier 7.



Figure 10.16. Example of braided grounding wires, adjacent to Pier 4, facing south.



Figure 10.19. Overview of pier foundation removal/excavation work area, facing southwest.



Figure 10.20. Overview of auger excavation process, facing northwest.



Figure 10.21. Average soil profile for pier foundation replacement excavations, Auger Hole 79.

tion, SWCA archaeologists had limited visibility for profile wall inspections. Visibility within the narrow, deep trenches exhibited a soil profile of (Figure 10.26):

- 0 to 1 foot (0 to 0.3 m) – Light yellowish brown gravel construction base.
- 1 to 3 feet (0.3 to 0.9 m) – Dark yellowish brown clay loam with 10 percent angular gravels.
- 3 to 5 feet (0.9 to 2.1 m) – Very pale brown clay loam with 20 percent gravels.
- 5 to 14 feet (2.1 to 4.3 m) – Light yellowish brown clay loam with 20 percent rounded gravels and some cobbles.
- 14 to 16 feet (4.3 to 16 m) – Very pale brown silty clay loam with 60 percent rounded cobbles and gravels.

After all four sides of the manhole were set with shoring plates, the center of the block was excavated to 17 feet and shoring braces were set in place (Figure 10.27). All soils removed from the manhole excavations were immediately loaded onto a dump truck and relocated to the spoil pile at the northeastern corner of the project area. Monitoring investigations determined that the upper 5 to 6 feet of the manhole excavations consisted of highly disturbed soils resulting from the construction of the substation site and utility installations. All soils below 6 feet were sterile and did not contain cultural deposits. No cultural materials or features were observed during the excavation of the

manhole, and no indication of the Pajalache Acequia or Mission Concepción Mill was observed.

DUCT BANK TRENCH EXCAVATIONS

On January 26–28, February 2–4, and February 16–17, 2015, excavations were completed for the duct bank trench that will connect the Control House to a new switchgear, the new manhole, and the existing manhole located on the eastern end of the project area. The initial construction scope for the new duct bank consisted of a linear trench that started at the southeastern corner of the Control House and extends east through the new manhole, terminating at the existing manhole. However, an existing utility containing hazardous materials (i.e., asbestos pipes) was found to exist within the proposed trajectory. To eliminate the need to remove the entire existing utility, the construction scope was reconfigured to move the new duct bank to the north of the existing utility. The new trajectory would only require the removal of a 45-foot (13.7 m) section of the existing utility. Overall, the new trajectory of the duct bank trench measures 165 feet (50.3 m) long, beginning 170 feet (51.8 m) south-southeast of the Mission Road–West Highlands Boulevard intersection (see Figure 10.22).

Excavations for the duct bank trench began with the exposure of the existing utility for removal. A 45-foot-long trench that measured 6 feet (1.8 m) wide, and 7 feet (2.1 m) deep was excavated to completely expose the concrete duct bank that encased the asbestos pipes (Figure 10.28). All excavations for the 45-foot trench were within existing disturbance. A specialized crew

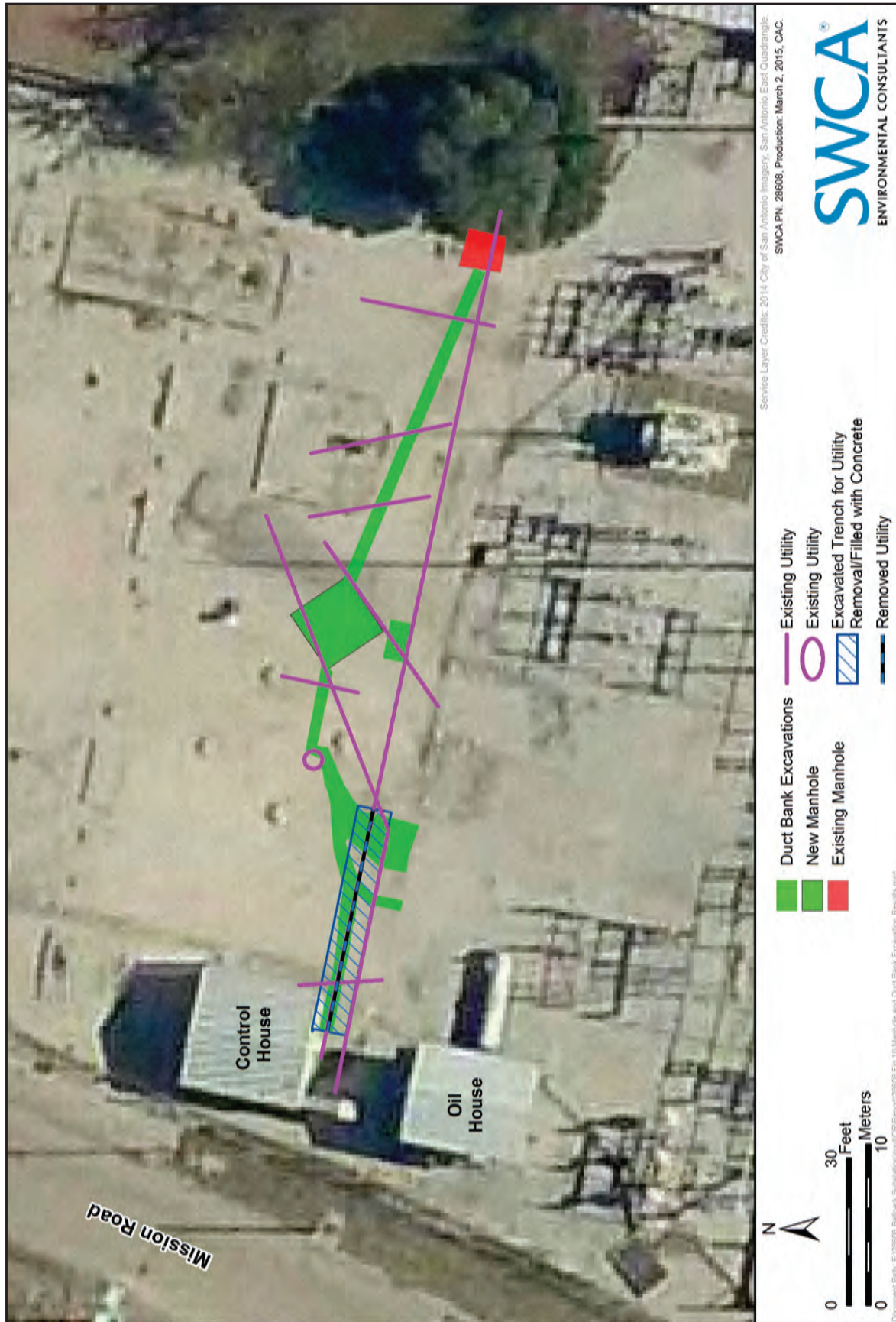


Figure 10.22. Manhole and duct bank excavation results.



Figure 10.23. Overview of manhole location, facing southeast.



Figure 10.26. Facing southeast, example of manhole profile wall, outer southwest wall, 17 feet in depth.



Figure 10.24. Facing northeast, existing utility within manhole excavations, 13.9 feet wide.



Figure 10.27. Excavated manhole with shoring plates and bracings, facing east.



Figure 10.25. Facing southwest, installation of northeast and northwest shoring plates within manhole excavations, 13.9 feet wide.



Figure 10.28. Excavation overview of existing utility containing asbestos pipes, facing west-southwest



Figure 10.29. Removed existing asbestos utility, facing east.



Figure 10.30. West end of duct bank trench excavations, facing east.



Figure 10.31. East end of duct bank trench excavations and existing manhole, facing west.

then removed the existing utility and the entire trench was backfill with concrete (Figure 10.29).

Next, a 3-foot-wide trench was re-excavated into the center of the concrete-backfilled trench, beginning at the southeastern corner of the Control House (Figure 10.30). The trench began as 8 feet deep but gradually sloped to 11 feet deep as it curved east and northeast towards the connection with the new manhole. The trench continued at 11 feet deep on the eastern side of the new manhole and remained consistent until its termination at the existing manhole (Figure 10.31). The average soil profile for the duct bank trench (Figure 10.32) consisted of:

- 0 to 1 foot (0 to 0.3 m) – Light yellowish brown gravel construction base.
- 1 to 2 feet (0.3 to 0.6 m) – Dark yellowish brown clay loam with 10 percent angular gravels.
- 2 to 11 feet (0.6 to 3.4 m) – Very pale brown clay loam with 20 percent gravels.

Two 8-foot extension trenches were excavated off the southern side of the west end of the duct bank trench (Figure 10.33). The first trench measures 8 feet long by 2 feet wide, and was excavated to 6 feet deep. The second trench measures 8 feet long by 10 feet wide, and was also excavated to 6 feet deep. The first 2 feet of excavation for both trenches extending off the main trench was located within the concrete-backfill of the previous excavated trench. The remaining 6 feet of excavation was within existing disturbance.

Eight existing utilities and one tower foundation were observed during the duct bank trench excavations. Existing utilities consisted of concrete duct banks and exposed grounding wires that ranged in depth from just below ground surface to 4 feet below surface (Figure 10.34). One circular, concrete tower footing was exposed just below ground surface near the center of the duct bank trench. The footing began just below ground surface and extended to an unknown depth. Removal of the footing was difficult because of the extent of its depth, so the duct bank trench was excavated around this features. With the exception of the 45-foot stretch of existing asbestos pipe, all other existing utilities were left intact.

Monitoring investigations determined that the upper 5 to 6 feet of the duct bank trench excavations consisted of highly disturbed soils resulting from the construction

of the substation site and utility installations. All soils below 6 feet were sterile and did not contain cultural deposits. No cultural materials or features were observed during the excavation of the duct bank trench, and no indication of the Pajalache Acequia or Mission Concepción Mill was observed.

MISCELLANEOUS EXCAVATIONS

On May 30, 2014, an existing pipe and valve were removed from the eastern exterior of the Oil House on the west end of the project area (see Figure 10.11). The removal required a 5-foot-long (1.5-m-long) trench be excavated, starting at the base of the building (Figure 10.35). The trench directed to the southeast where it terminated at a vertical release valve set into an existing concrete foundation. The pipe was 6 inches (15.2 cm) below surface. All excavations were within existing disturbance, and no cultural materials or features were observed (Figure 10.36).

On December 8, 2014, trenching excavations began on the west end of the project area, between the Oil House and Control House (see Figure 10.11). The trench measured 3 to 4 feet wide and 4 to 5 feet deep (Figure 10.37). Inconsistencies in trench width and depth was due to unstable, highly disturbed soils that frequently collapsed during excavation. The trench directed east then curved to the south and southeast, meandering between the previously set pier foundations (Figure 10.38). The purpose of the trench was to install new PVC conduits that would connect the Control House to the new Switchgear (located at Pier Foundations 75, 76, and 77). All excavations were within existing disturbance, and no cultural materials or features were observed.

MONITORING INVESTIGATIONS SUMMARY

In May, July, November, and December 2014, as well as in January and February 2015, SWCA conducted cultural resources monitoring for select construction activities within the Ball Park Project area. Monitoring investigations determined that the entire APE has been heavily impacted by the construction of the substation site, which dates back to as early as the 1930s, as well as the installation of multiple underground utilities. Disturbed soils ranged from 0 to 6 feet below ground surface and consisted of construction base fill and dark yellowish brown clay loams with 10 percent gravels. During construction activity, SWCA observed multiple existing utilities ranging from 0 to 4 feet below surface.



Figure 10.32. Average soil profile for duct bank trench excavations, facing north.



Figure 10.33. Two 8-foot extension trenches on the southern side of the west end of the duct bank trench, facing east.



Figure 10.34. Example of existing concrete duct bank utility, facing west.

Overall, the project area contains minimal to no areas of intact soil deposition, and no cultural materials were identified during cultural investigations. Furthermore, no indication of the Pajalache Acequia or Mission Concepción Mill was observed. Due to the high volume of disturbance, no further work or avoidance strategy is recommended for the Ball Park Project area.

SUMMARY AND RECOMMENDATIONS

On behalf of CPS Energy, SWCA conducted cultural resources monitoring investigations of the Ball Park Substation Project located at 307 Mission Road in Bexar County, Texas. The investigations included a background and archival review and cultural resources monitoring investigations of select construction activities. All work was done in accordance with the

standards and guidelines of the THC and the CTA under CPS Energy’s annual Texas Antiquities Permit, No. 6851.

The APE was entirely within the boundaries of the Ball Park Substation. The excavations for the concrete pier foundation removal were 3 feet in depth. The 13 new pier locations were approximately 30 inches in diameter and excavated down to a maximum of 20 feet. The proposed duct bank trench was approximately 165 feet long, 3 feet wide, and 11 feet deep, maximum. The manhole block was approximately 14×14 feet in size and excavated down to 17 feet deep. The cumulative APE included an approximately 1-acre disturbance area, with the excavation of approximately 400 cubic yards of soil.



Figure 10.35. Overview of existing Oil House pipe and valve removal, facing south.



Figure 10.36. Overview of removed Oil House pipe and valve trench, facing north.



Figure 10.37. Facing east, overview of new conduit trench, located between Oil House and Control House, 5 feet deep.



Figure 10.38. Overview of new conduit trench, located between Oil House and Control House, facing west.

The background literature review determined that the Ball Park Project area has been previously surveyed, and no previously recorded cultural resource sites are within or adjacent to its boundaries. However, numerous historic maps illustrated the Pajalache Acequia (archaeological site 41BX1802) as potentially intersecting the project area. Multiple cultural resources surveys, four previously recorded archaeological sites, one NRHP property, three NRHP Districts, and three neighborhood surveys are within a 0.5-mile radius of the project area. The project area is also within the locally designated San Antonio Mission Historic District and the San Antonio RIO District 4. The review also determined the substation is a possible location of the Mission Concepción Mill.

In May, July, November, and December 2014, as well as in January and February 2015, SWCA conducted cultural resources monitoring for select construction activities within the Ball Park Project area. Monitoring investigations determined that the entire APE has been heavily impacted by the construction of the substation site, which dates back to as early as the 1930s, as well as the installation of multiple underground utilities. Overall, the project area contains minimal to no areas of intact soil deposition, and no cultural materials were identified during cultural investigations. Furthermore, no indication of the Pajalache Acequia or Mission Concepción Mill was observed.

SWCA made a reasonable and good faith effort to identify cultural resources properties within the project area. Based on the results of this investigation, the undertaking will have no effect on any significant cultural resources and SWCA recommends no further archaeological investigations within the APE. No artifacts were collected; thus, nothing was curated.

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CHAPTER 11

INTERIM REPORT VII: CULTURAL RESOURCES MONITORING INVESTIGATIONS OF THE CPS ENERGY COMAL STREET SUBSTATION PROJECT, BEXAR COUNTY, TEXAS

Rhiana D. Ward

INTRODUCTION

On behalf of CPS Energy, SWCA conducted cultural resources monitoring investigations of the Comal Street Substation Project (Comal Street Project) in Bexar County, Texas (Figure 11.1). The investigations included a background and archival review and cultural resources monitoring investigations. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's annual permit, Texas Antiquities Permit No. 6851.

The purpose of the work was to locate and identify all prehistoric and historic archaeological sites in the project area, establish vertical and horizontal site boundaries as appropriate with regard to the project area, and evaluate the significance of any site recorded within the project area. SWCA archaeologists Laura I. Acuña, Matthew Stotts, Allyson Walsh, and Rhiana D. Ward conducted the field work in October, November, and December 2014, as well as January and February 2015.

PROJECT AREA DESCRIPTION

The project involved two phases of work: Phase 1) the installation of five manhole blocks, 45 pier foundations, two storm drain blocks, and an underground utility line within the existing ROW of S. Comal Street for the CPS Energy Comal Street Substation; and Phase 2) the installation of an underground utility line within the S. Comal and El Paso Street ROWs, six manhole blocks, and two bore pit blocks (Figure 11.2). The project began at the intersection of S. Comal Street and W. Cesar Chavez Street (formerly known as W. Durango Street), 0.4 mile west of Interstate Highway 35 (I-35) in west downtown San Antonio, Texas. The project extended 1,480 feet south towards the S. Comal/El Paso Streets intersection, then redirected west for 2,260 feet towards the El Paso/S. San Saba intersection where the project terminated. Based on preliminary review of historic documents, the project area is intersected by the Alazán Acequia (41BX620)

within the Frio Street ROW. Additionally, the project area is located southeast of the Cattleman Square Local Historic District. Lastly, the project has the potential to impact deeply buried cultural deposits, as it is located within the floodplain of the Alazán Creek to the west and the San Pedro Creek to the east.

The APE was within the boundaries of the new CPS Energy Comal Street substation and the existing ROWs of S. Comal and El Paso Streets. Initially, the proposed impacts for Phase 1 were expected to be limited to the manholes and utility lines. However, changes in construction scope of work, schedules, and inadvertent obstacles encountered during construction created additional excavations that required cultural monitoring, including the excavation of two storm drain blocks and 45 pier foundations within Phase 1 area, and one additional manhole block within Phase 2.

Additional impacts consisting of the storm drain block and pier locations were added to the construction activities and were monitored throughout the course of work. The excavations of Phase 1 consisted of the installation of five manhole blocks, 833 feet of underground electric lines, two storm drain blocks, and 45 pier foundation footings. Approximately 533 feet of electric line was within substation boundaries, and 300 feet was within the ROW of S. Comal Street. Three manhole blocks were within the substation and two within S. Comal Street. The manhole blocks within the substation were 12×12 feet in size and excavated to a depth of 12 feet. The duct bank trenches within the substation were 3 feet wide and excavated to a depth of 3 feet. The manhole blocks within the S. Comal Street ROW were 8×8 feet in size and excavated to a depth of 10 feet. The underground electric line within the ROW was 3 feet wide and excavated to a depth of 5 to 8 feet. Storm drain blocks measured 23×32×10 feet and 16×32×6 feet. Pier foundations were 30 inches and 25 inches in diameter and excavated to 15 feet and 25 feet in depth.

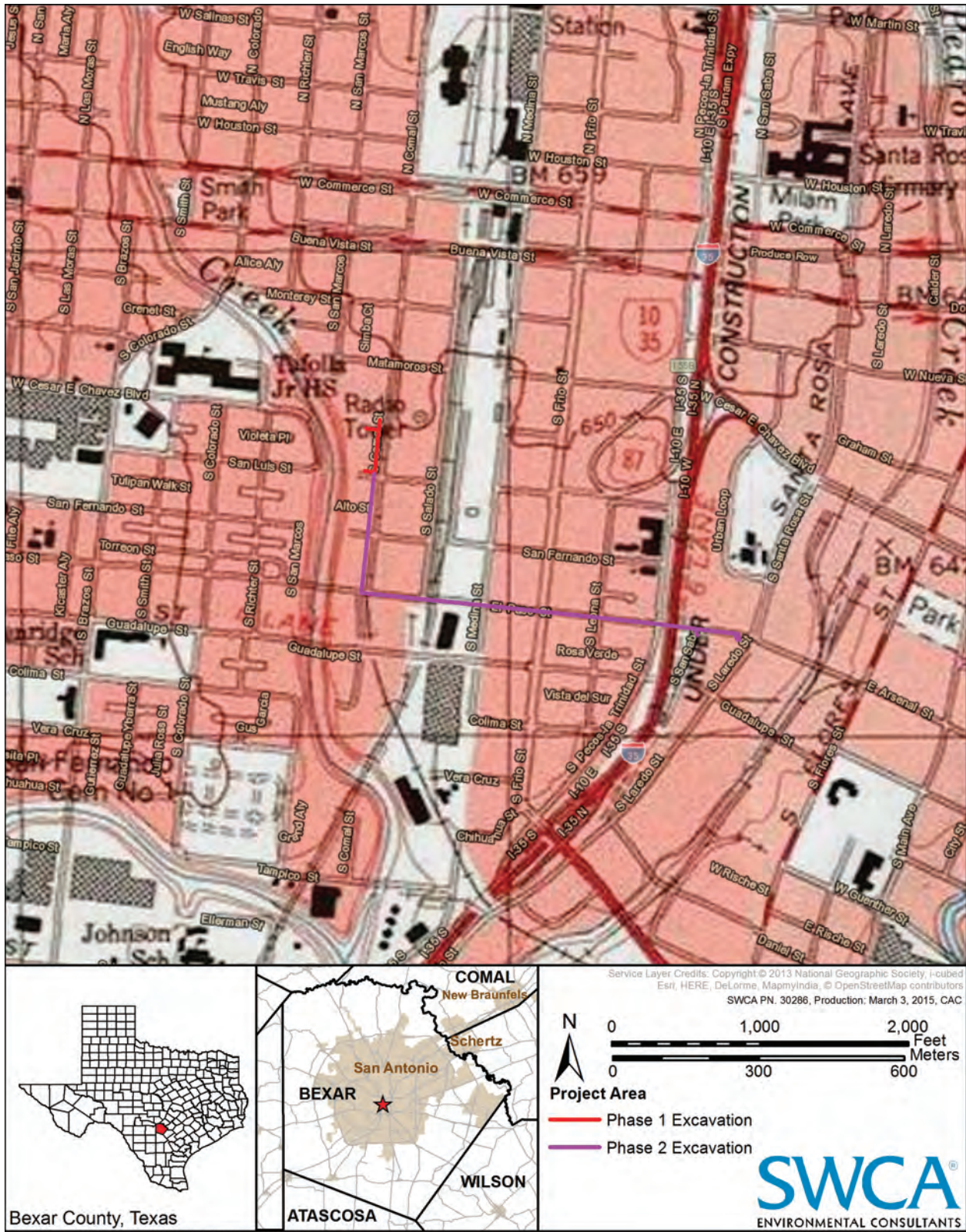


Figure 11.1. Project area location.

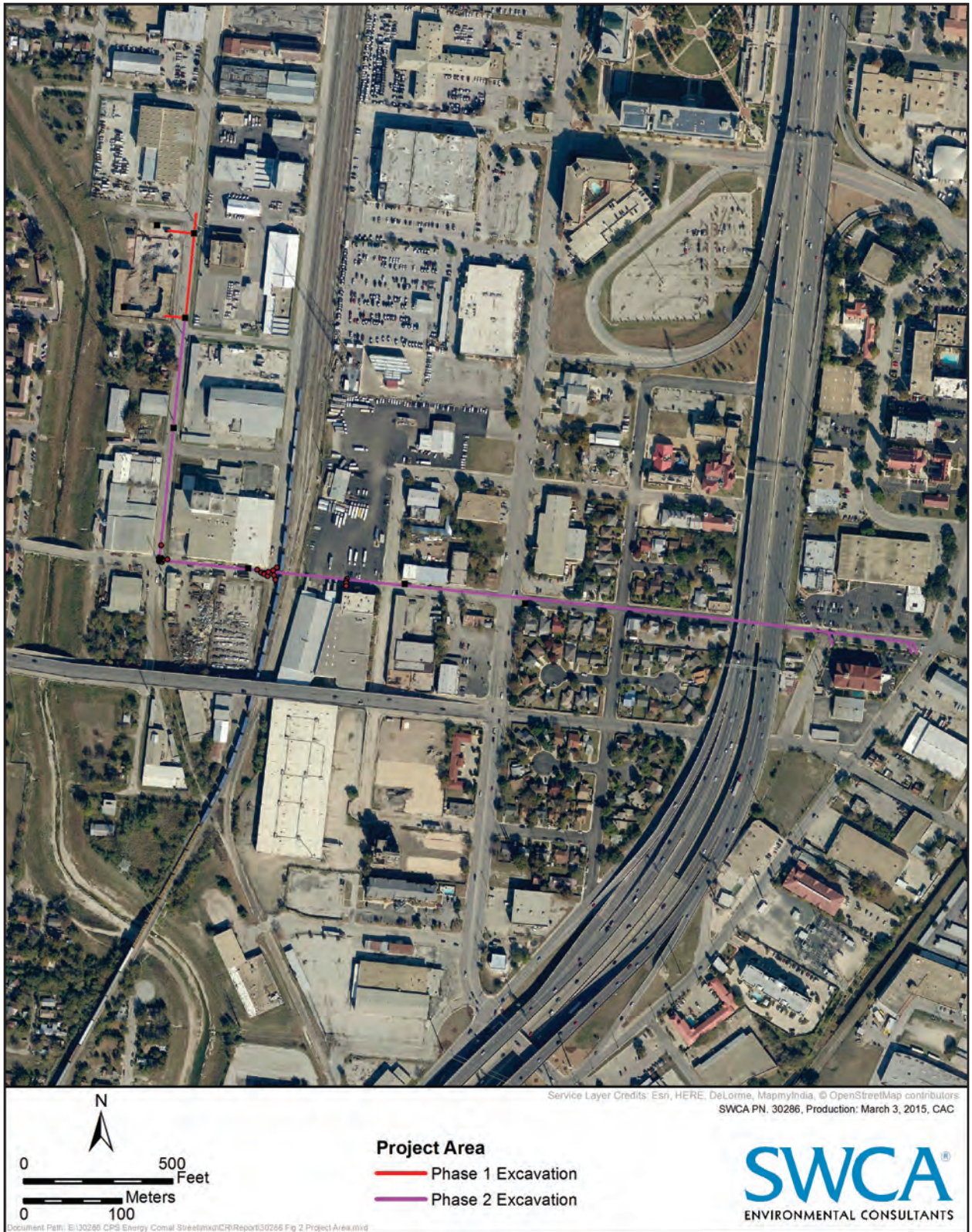


Figure 11.2. Project area overview.

The proposed Phase 2 excavations consisted of 3,500 feet of underground electric line and six manhole blocks within the ROWs of S. Comal and El Paso Streets. Approximately 390 feet of the alignment was directionally drilled or bored below existing railroad tracks. The directional drilling activities involved the excavation of two 14×40-foot bore pits. The remaining 3,100 feet of alignment was open trenched at 3 feet wide to a depth of 5 to 8 feet. Five of the six manhole blocks were 8×8 feet and one was 7×10 feet. All were excavated to a depth of 10 feet. As a result of these activities, the cumulative APE consisted of an approximately 3-acre disturbance area, with expected excavation of 4,382 cubic yards of soil.

SWCA monitored the five manhole blocks, two storm drain blocks, 45 pier foundation excavations, and 300 feet of the underground alignment along S. Comal Street for Phase 1 (Figure 11.3). In addition, SWCA monitored the six manhole blocks, 1,170 feet of underground alignment work, and bore pits for directional drilling for Phase 2, including a 770-foot segment along El Paso Street between S. Medina and S. Leona Streets, where the Alazán Acequia purportedly intersects the project area at Frio Street.

ENVIRONMENTAL SETTING

GEOLOGY

The underlying geology of the project area is 100 percent Quaternary-age Fluvial terrace deposits adjacent to the San Pedro Creek (Barnes 1983). These terrace deposits consist of predominately gravel, limestone, dolomite, and chert, with sand, silt, and clay. Most low terrace deposits along entrenched waterways like Alazán and San Pedro Creek are above flood level (Barnes 1983).

SOILS

The project area soils are mapped as 100 percent Houston Black clay terrace deposits with 1 to 3 percent slopes (Taylor et al. 1991: Map Sheet 53). The Houston series consists of clayey soils that are very deep, moderately well drained, and very slowly permeable. These soils formed from weakly consolidated calcareous clays and marls of Cretaceous Age, and are found on nearly level to moderately sloping uplands (NRCS 2014; Taylor et al. 1991:21).

RESULTS

ATLAS BACKGROUND REVIEW

The background review determined that the majority of the Comal Street Project area was surveyed and one archaeological site, 41BX620 the Alazán Acequia, is located within the project area. The review also found 28 archaeological sites, 11 cultural resources surveys, five NRHP properties, five OTHMs, and one cemetery adjacent to or within a 0.5-mile radius of the project area. Additionally, the COSA locally designated Cattleman Square Historic District, the Main and Military Plazas NRHP Historic Districts, and the King William NRHP Historic District are also within a 0.5-mile radius of the project area.

In the 1980s, a large-area survey was conducted under the Urban Development Action Grant for the Vista Verde South Project. A 0.48-mile stretch of the Comal Street Project area was surveyed during the 1980s investigation. CAR-UTSA completed the 2-year survey that encompassed 31 city blocks of what used to be an ethnically diverse, middle-class neighborhood. The survey identified historical, architectural, and archaeological sites and structures from over 150 years of occupation (Labadie 1987).

ALAZÁN ACEQUIA

The Alazán Acequia, also known as archaeological site 41BX620, intersects the Comal Street Project within the Frio Street ROW according to the COSA Acequia Map, Sheet 15-57 (Figure 11.4).

Identified as potentially eligible for listing on the NRHP (Dippel and Victor 2012), the Alazán Acequia has had two major archaeological investigations conducted within its boundaries. The first investigation was completed in 1977 when small portions of the ditch were excavated at San Pedro Park for the San Antonio Parks and Recreation Department City Park Renovation and landscaping project (Fox 1978). The project area is 2 miles north of the Comal Street Project area. The investigations revealed that the exposed portions of the Alazán Acequia were constructed of repurposed cut limestone blocks set atop a layer of weathered clay, a thin layer of water-borne sand accumulation, and a layer of gravelly soil. Bedrock forms the foundation of the acequia. Two additional courses of cut limestone were also added to the south wall of the acequia and three were added to the north wall after the original construction of the acequia. Additionally a coating of



Figure 11.3. Proposed monitoring locations for project area.

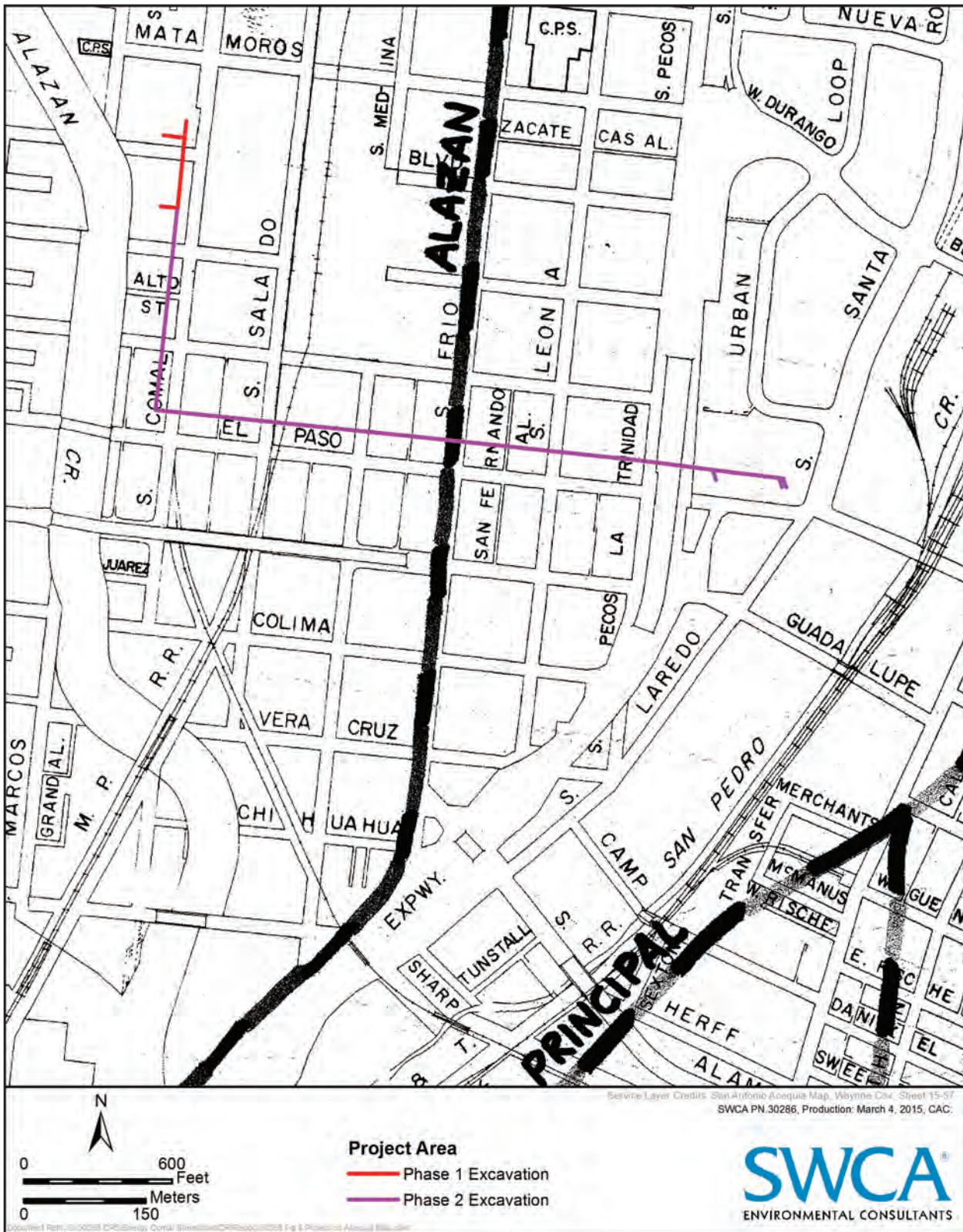


Figure 11.4. Project area on COSA Acequia Map, Sheet 15-57.

cement was applied to the south wall over the later additions which extends down and over the bedrock foundation of the feature. Late nineteenth century artifacts were recovered from the brown loamy topsoil located immediately above the acequia. It is likely these artifacts date to the closing and filling of the Alazán Acequia. After the acequia was photographed and documented, it was covered with soil matrix to protect its remains from the proposed landscape project (Fox 1978).

The second major investigation of the Alazán Acequia was conducted in 1996, 1.5 miles north of the Comal Street Project. A portion of the ditch was exposed during tunneling excavations for a sewer line. Approximately 7–14 feet was tunneled below the Union Pacific ROW, two blocks northwest of the Five Points intersection. The exposed portion of the ditch was a unique tunnel structure that measured 48 inches in diameter at its interior. The tunnel was constructed of 36×18-inch hand-quarried keystone-shaped limestone blocks. Most of the interior bottom and sides of the acequia were coated with a 0.75-inch layer of smooth roman cement. The exterior of the tunnel was set within a mottled clay, likely from construction backfill. The interior of the tunnel was filled nearly to the top with silty soils. No artifacts were found in association with the tunnel (Nickels and Cox 1996).

More recent investigations of the Alazán Acequia were conducted 0.5 mile northeast of the project area for the VIA Transit Westside Multimodal Center Project. For the project, the SA-OHP provided alternative routes for the Alazán Acequia based on currently unavailable draft reports in the surrounding area. As a result, SWCA identified a portion of one of the alternative routes for the acequia during monitoring investigations for the San Antonio Water System VIA Transit Westside Multimodal Transit Center Phase II Water Main Replacement Project (Ward 2014). The monitoring investigations for the water main replacement identified a disturbed, shallow, cross-section of the acequia within the Medina Street ROW. The basin-shaped feature consisted of an unlined ditch filled with light grayish brown clay loam mixed with 30 percent gravels and pebbles. No outstanding construction techniques or cultural materials were encountered. Based on the observable profiles, a portion of the acequia segment was destroyed during the installation of a utility concrete duct bank. While providing important information on the general projection of the acequia route, SWCA rec-

ommended the exposed portion of the Alazán Acequia within the project area as not significant (Ward 2014).

CULTURAL RESOURCE SITES

Twenty-eight archaeological sites, most of which are historic residential or commercial structures from the nineteenth and twentieth century neighborhood, are adjacent to or within a 0.5-mile radius of the Comal Street project area. Historic commercial sites include the Guenther Upper Mill (41BX342); the Ed Steves and Sons site (41BX600); the Steves Sash and Sons (41BX601) site; the Merchants Ice Company (41BX602); the Tamalina Milling W. site (41BX607); the Martinez Mill (41BX608); the Reicher Shop (41BX615); the Rummel Store (41BX619); and the Vollrath Blacksmith site (41BX786). Historic residential sites include the Navarrow House (41BX302); 41BX511, a small frame structure and historic artifact scatter; the Jacob Richardson House (41BX603), which was designated as eligible for listing on the NRHP in 2003; the Ernest Steves House (41BX604); the McNue House (41BX605); the Jimenez Store (41BX606); the Martinez Home (41BX609); the Lischike-Duerler House (41BX610), which was designated as eligible for listing on the NRHP in 2003; the Marx House (41BX611); the Callaghan-Navarro House (41BX612); the Navarro-Leal House (41BX613); the Morales House (41BX614); the Auton Reicher House (41BX616); the Juan R. Lozano House (41BX617); the Guilbeau-Saldana House (41BX618); and the John Stewart McDonald House (41BX794) (Atlas 2014).

Other non-residential or commercial archaeological sites within a 0.5-mile radius of the Comal Street Project area are the San Antonio Arsenal (41BX351 and 41BX622) and the Santa Rosa Privy (41BX1967). Site 41BX351 encompasses 400 square feet, which includes the Old Commanders House and a section of a Spanish Acequia (likely the Principal, also known as the San Pedro Acequia or San Pedro Ditch). Site 41BX622 encompasses over 8 acres and includes numerous buildings ranging in age from ca. 1858 to 1950 (Atlas 2014).

Santa Rosa Privy (41BX1967) is 0.45 mile southeast of the current project area. The site consists of a yellow, brick-lined feature that measures approximately 160 cm deep by 120–140 cm wide. Testing excavations within the privy yielded glass, bone, ceramic, metal, charcoal, lithics, personal items, and toys that dated to the late 1800s and early 1900s. Although the entire

privy was excavated and ultimately destroyed, it was designated as eligible for inclusion to the NRHP in 2013 (Atlas 2014).

Eleven cultural resources investigations have been conducted within a 0.5-mile radius of the project area. Of the 11, four consisted of archaeological monitoring investigations for commercial development and the installation of city utility lines. The monitoring investigations were conducted in 1992, 2010, 2012, and 2013 and consisted of small area or linear project areas. The remaining seven cultural resources surveys consisted of various archaeological investigations that utilized shovel testing, ground surface inspection, and backhoe trenching techniques.

In 1979, an area survey was conducted 0.34 mile to the northwest of the current project area on behalf of the Heritage Conservation and Recreation Service. Additionally, in 1983 two area surveys were conducted on behalf of the Housing and Urban Development Department 0.38 mile west of the current project area. No information on the 1979 or 1983 surveys are available on Atlas (Atlas 2014).

In 1979, another large-area survey was conducted 0.19 mile east of the current project area on behalf of the USACE. The survey was conducted in order to prepare a historical, architectural, and archaeological survey of the lands for 0.25 mile on either side of the San Antonio River from the Olmos Dam to South Alamo Street, as well as the San Pedro Creek from San Pedro Park to Guadalupe Street. Dozens of archaeological and historical sites were identified during the 1979 survey (Fox 1979).

In 2002, CAR-UTSA conducted an archaeological survey on behalf of the Municipal Facilities Corporation for COSA for the development of the proposed One Stop Development Services Center. The survey utilized backhoe trenching to located traces of the San Pedro Acequia. The survey concluded that no significant cultural resources would be impacted by the construction activities associated with the One-Stop development project (Cox 2002).

In 2008, a survey was conducted 0.45 mile to the north of the current project area. This survey was conducted on behalf of the VIA Metropolitan Transit and Federal Transit Administration by Raba-Kistner Consultants, Inc., for the VIA Primo-Fredericksburg Road Bus Rapid Transit Project. The survey encompassed multiple proposed transit stations throughout the city,

and revisited the Alazán Acequia archaeological site and the International and Great Northern Railroad (I&GNRR) NRHP property. The survey determined that the proposed construction will have no effect on the revisited archaeological sites, and all construction was to proceed as planned (Held 2010).

In 2008, another survey was conducted 0.46 mile northeast of the current project area. This survey was conducted by CAR-UTSA for the Bexar County Justice Center Expansion Project. Shovel testing and backhoe trenching investigations resulted in the documentation of archaeological site 41BX1775, and the exposure of a portion of the San Pedro Acequia (41BX337). Monitoring activities during construction were then conducted for the areas associated with the acequia, as well as for previously recorded sites 41BX334 and 41BX335, also within the project area (Figueroa 2011).

In 2013, a 13.9-acre area survey for the proposed San Pedro Creek Restoration Project was conducted on behalf of the San Antonio River Authority approximately 0.18 mile east of the Comal Street Project area. This survey was conducted by Raba-Kistner and consisted of shovel testing and backhoe trenching investigations that expanded upon previously recorded site 41BX508, the Menger Soap Shop. Additionally, monitoring investigations were recommended for the portions of the project area that were associated with the remaining portions of the Menger Soap Shop, the Spanish Governors Place and Presidio de Bexar (41BX302), and the Casa Navarro (41BX302 and 41BX508) (Clark et al. 2013).

In addition to archaeological sites and cultural resources surveys, five NRHP properties, five OTHMs, one cemetery, the City of San Antonio's locally designated Cattleman Square Historic District, the Main and Military Plazas NRHP Historic Districts, and the King William NRHP Historic District are also located within a 0.5-mile radius of the Comal Street Project area. The five NRHP properties consist of the I&GNRR Passenger Station; the Heimann Building; the Menger Soap Works, also designated as archaeological site 41BX508; the Jose Antonio Navarro House Complex, also designated as archaeological site 41BX302; and the Jose Antonio Navarro Elementary School. OTHMs consist of commemorations for Captain Jose Antonio Menchaca, Col. Jose Francisco Ruiz, Don Juan Ximenes, Jose Antonio Navarro, and Placido Olivarri. The only cemetery located within a 0.5-mile radius is

the San Fernando No. 1 Cemetery that dates prior to the Civil War (Atlas 2014).

CATTLEMAN SQUARE LOCAL HISTORIC DISTRICT

The Cattleman Square Historic District is a small collection of streets on the west side I-35 that was designated a local historic district in 1985 (SA-OHP website). The buildings within the district include a variety of late-nineteenth- and early-twentieth-century commercial and industrial structures. The Cattleman Square Historic District is roughly bounded by Travis and Martin Streets to the north, Buena Vista and Commerce Streets to the south, I-35 to the east, and the I&GNRR tracks to the west.

In 1881, four years after the first rail line was extended to San Antonio, the I&GNRR opened its line from St. Louis to San Antonio. The first I&GNRR depot was constructed shortly thereafter at West Houston Street in what is today within the historic district boundary. The expansion of the railroad to this community led to a flurry of real estate activity in the area, including a mix of new residential, industrial, and commercial buildings.

One of the most significant buildings within the district is the former I&GNRR Passenger Station at 123 N. Medina. The I&GNRR Passenger Station, later known as the Missouri Pacific Station, was designed in 1907 by architect Harvey L. Page. The majestic building is of steel frame construction in the plan of a Greek cross, with tan brick cladding, a central dome, bell towers, mission-style parapets, stained glass windows, and barrel vaults on the interior. The lantern over the dome features a bronze Indian figure. It is one of two remaining railroad stations in San Antonio, along with the Southern Pacific Depot or Sunset Station on the city's east side. The station was built to replace the earlier wood-frame I&GNRR depot constructed in the late nineteenth century on West Houston Street. The railroad eventually linked Austin to Laredo, providing a route into Mexico. The depot closed in 1979 but has since been restored and is a banking facility.

MAIN AND MILITARY PLAZA HISTORIC DISTRICT

The Main and Military Plaza Historic District is an area in downtown San Antonio comprised of thirteen whole blocks, the two plazas, and portions of two additional blocks. The district includes 36 contributing structures, 24 compatible structures, and an open green space (Main Plaza). Contributing structures include the

primarily nineteenth- and early-twentieth-century two- and three-story masonry structures, the eighteenth-century Spanish Governor's Palace, nineteenth-century City Hall, Bexar County Courthouse, and San Fernando Cathedral (National Register Nomination Form No. 79002914).

KING WILLIAM HISTORIC DISTRICT

The King William Historic District is a neighborhood of Victorian and turn-of-the-century homes centered around King William Street, a five-block-long street near the San Antonio River just south of downtown San Antonio. The district is roughly bounded by Durango, Alamo, and Gunther Streets and the San Antonio River. The district contains 74 properties that contribute to its nineteenth-century period of significance. The Italianate, Greek Revival, and Renaissance Revival homes found in the district are particularly dense and significant along both sides of King William Street. The district also includes three mansions: Polk Mansion, Groos House, and Steves Homestead. The area was primarily established by prosperous German businessmen in the second half of the nineteenth century (National Register Nomination Form No. 72001349).

HISTORIC MAP REVIEW

SWCA reviewed the TxDOT historic overlay maps from 1883, 1887, 1889, 1903, 1918, 1927, and 1953 for the Comal Street Project area (Foster et al. 2006). An 1883 San Antonio C.P. Smith map illustrates the Alazán Acequia as intersecting the project area at Frio Street, and the I&GNRR at Salado Street (Figure 11.5). An 1887 Bexar County J.D. Rullman map depicts the project area as intersected by both the San Antonio and Aransas Pass Railroad (SA&APRR) and the I&GNRR. An 1889 San Antonio J.J. Olsen map illustrates the SA&APRR as within S. Comal Street and the I&GNRR within Salado Street. The Alazán Acequia is depicted as intersecting the project area at Frio Street.

A 1903 San Antonio USGS map, a 1918 Lytle USACE map, a 1927 West San Antonio USACE map also illustrates the I&GNRR as intersecting the project area. A 1953 USACE map also illustrates the rail beds in addition to another rail line along Medina Street (Foster et al. 2006).

A review of the Sanborn maps illustrates the flourishing development of the Comal Street Project area from 1896 to the 1940s. The 1896 Sanborn maps illustrate multiple dwelling structures along El Paso Street, as

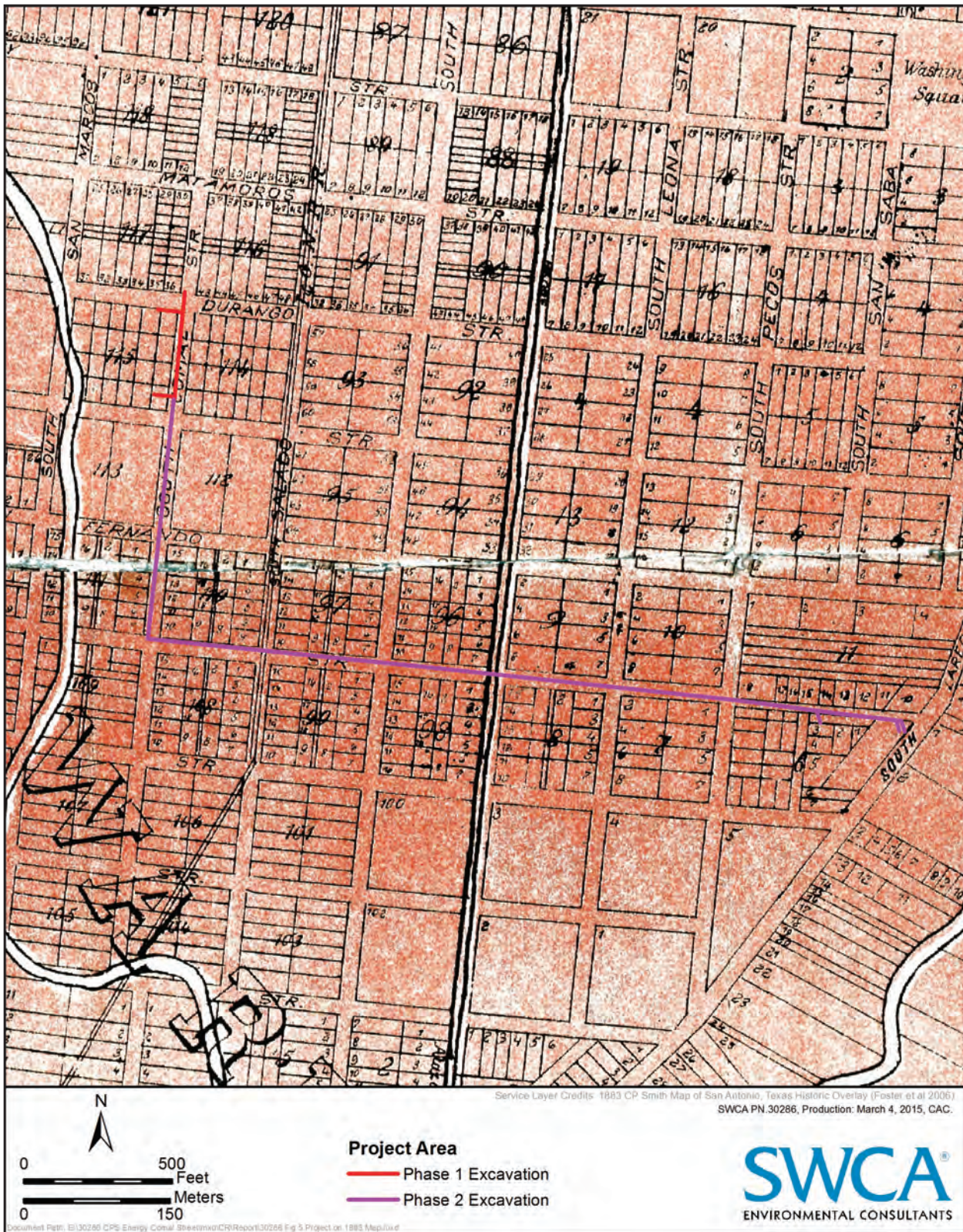


Figure 11.5. Project area on 1883 San Antonio C.P. Smith Map.

well as a 4-inch water pipe at its intersection with S. Medina Street (1896 Sanborn Map, Sheets 77). The 1904 maps indicate that El Paso and S. Comal Streets were unpaved and surrounded by shops, dwellings (some constructed of adobe material), Mexican dwellings, and empty lots. Several manholes and various-sized water pipes (6-inch and 8-inch) were also indicated at the intersections of El Paso at S. Medina and S. Comal Streets (Figure 11.6; 1904 Sanborn Map, Volume 1 Sheets 27, 28, 29, and 30). The ROW of El Paso is shown to narrow between S. Pecos and S. Laredo. Additionally, the 1904 maps illustrate the rail beds for the Kerrville Branch of the SA&APRR that parallels S. Comal Street, and the I&GNRR that parallels S. Salado Street (1904 Sanborn Map, Volume 1, Sheets 29 and 30). The 1904 Sanborn Map also depicts CPS Energy Comal Street Substation as within City Block 187, which houses several small dwellings, a stable, and multiple Mexican dwellings (1904 Sanborn Map, Volume 1, Sheet 30).

The 1911–1924 Sanborn maps (actual date 1911) depicts the SA&APRR Kerrville branch as within S. Comal Street, the I&GNRR as within S. Salado Street, and an unnamed rail bed within S. Medina Street (Figure 11.7; 1911–1924 Sanborn Map, Volume 4, Sheet 410, 411, 418, and 419). The rail bed within S. Medina Street abruptly ends just before El Paso Street and then resumes at Guadalupe Street. The substation pad site location within City Block 187 illustrates several dwellings and a portion of the Alazán Creek within the southwest corner of the block (1911–1924 Sanborn Map, Volume 4, Sheet 410). The 1911 maps also illustrate the El Paso Street ROW as macadamized. Macadam is defined as broken stone of even size or brick used in successively compacted layers for surfacing roads and paths.

The 1911–March 1951 Sanborn maps dating to 1940 and the 1911–1952 reprint of 1952 Sanborn maps also depict the same rail beds within the S. Comal Street, Salado Street, and Medina Streets (1911-Mar. 1951 Sanborn Map, Sheets 411, 418, 419, 420, and 430). In addition, the substation location (labeled as City Block 187) depicts a large concrete building labeled as San Antonio Bag & Burlap Corp. within the southeast corner of the block, near the corner of San Luis Street and S. Comal Street. The southwest corner of the block was cut by the channelization of the Alazán Creek. The northwestern corner of the block consisted of what could be narrow apartment buildings and the

northeastern corner contained a commercial building for roofing supplies (1911-Mar. 1951 Sanborn Map, Sheet 424).

SWCA also reviewed aerial photography dating from 1955 to 1995 on HistoricAerials.com. The 1955 aerial depicts a large building at the southeast corner of the Comal Street Substation, and several smaller structures within the northwest portion of the block. A domed warehouse was at the northeast corner. By 1963, another large building was added to the existing structure, connecting the southeastern building with the domed warehouse. Four smaller structures were still evident with the northwest portion of the project. After 1973, the smaller buildings were removed or demolished. The domed structure was removed sometime after 1995. The larger building remained on the property until 2014 when it was demolished for the proposed substation.

MONITORING INVESTIGATIONS

In October 2014, cultural resources monitoring investigations of select construction activities began for the Comal Street Project. Excavations started with Phase 1 manhole and underground alignment excavations within the S. Comal Street ROW. Excavations were completed by two to three construction crews working from west to east along the project area. Monitored excavations concluded in February 2015.

PHASE 1

Phase 1 of the Comal Street Project is within and adjacent to the CPS Energy Comal Street Substation (Figure 11.8). The substation is on the eastern edge of the channelized Alazán Creek, (Figure 11.9) and is bordered by W. Cesar Chavez to the north, San Luis Street to the south, and S. Comal Street to the east. The substation is composed of a 100-m north-south by 65-m east-west graded pad, elevated and leveled with yellow gravel construction base. The graded pad is supported by concrete retaining walls topped with a chain-link fence (Figure 11.10). Although the substation was leveled, the general topography of the project area gently slopes (less than 5 percent) to the west and northwest, towards the channelized creek. Vegetation surrounding the substation consists of grass and weed overgrowth, oak, and pecan trees. Industrial buildings, commercial lots, and residential housing surround the substation. Monitored construction activities for Phase 1 consisted of the excavations for two street manholes,



Figure 11.6. Project area on 1904 Sanborn Maps.



Figure 11.7. Project area on 1911 Sanborn Maps.

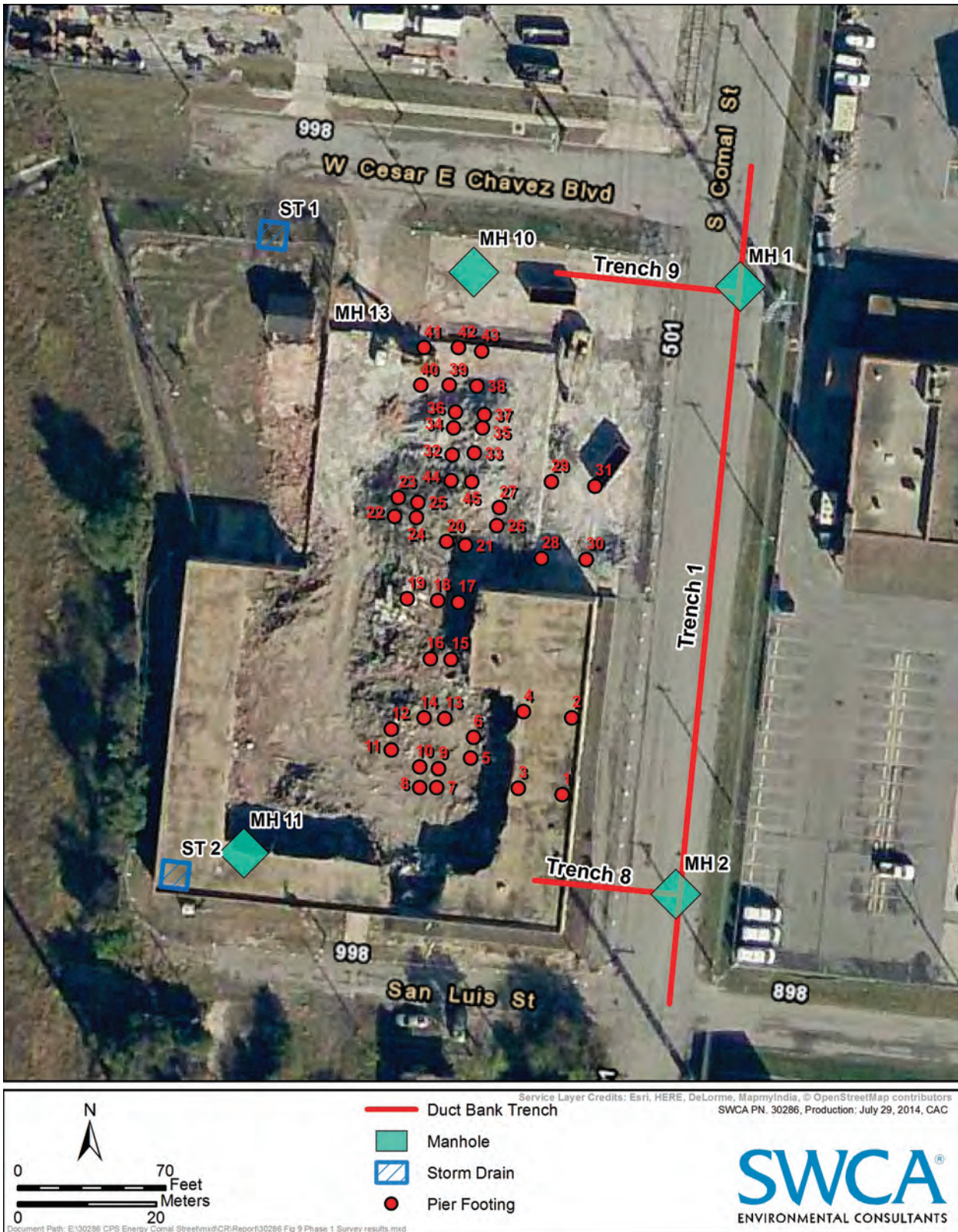


Figure 11.8. Phase 1 monitoring results on 2014 San Antonio aerial imagery.

three duct bank trenches, 45 pier foundations, three substation manholes, and two storm drainage blocks.

STREET MANHOLE EXCAVATIONS: MANHOLES 1 AND 2

Manholes 1 and 2 are located within the S. Comal Street ROW, near the intersection of W. Cesar Chavez and San Luis Streets (see Figure 11.8). Excavation for Manhole 1 and 2 were completed prior to the arrival of SWCA archaeologists and were not monitored for cultural materials (Figure 11.11). Instead, the spoil matrix from excavation was examined on October 9, 2014. Construction procedure for the Comal Street Project required all excavated soils to be immediately loaded into dump trucks and relocated to temporary holding areas for later disposal. The process mixed spoil matrix, limiting the identification of stratigraphic deposits. However, dark gray clay loams, yellowish brown clay loam with 50 percent well-rounded gravels, and yellow clay mottled with white clay and 40 percent gravels were observed for Manhole 1 and 2 excavations (Figure 11.12). Modern trash debris was observed within the dark gray clay soils, but no significant cultural materials were identified.

DUCT BANK TRENCHING—TRENCH 1, 8, AND 9

Excavations for Trench 1, 8, and 9 were completed on October 10, 13–17, and 20–22, 2014 (see Figure 11.8). All three trenches were within the S. Comal Street ROW and connected Manhole 1 and 2 to the substation pad site (Figure 11.13). Trenches measured 7–12 feet in depth adjacent to the manhole locations and gradually decreased to 7 feet in depth. All four trenches were 3 feet in width and varied in length. The average soil profile for Trench 1, 8, and 9 consisted of (Figure 11.14):

- 0 to 10 inches: Asphalt and yellow gravel construction base.
- 10 inches to 5 feet: Very dark gray clay Loam
- 5 to 9 feet: Brown silty clay with 50 to 60 percent caliche gravels
- 9 to 12 feet: Mottled brown, white, and gray clays with 10 percent gravels

Spoils were immediately loaded into dump trucks and relocated to temporary holding areas. An examination of the relocated spoils observed clear bottle glass, red brick fragments, yellow brick fragments and fragments of a wooden rail tie (Figure 11.15). The rail tie was



Figure 11.9. Overview of channelized Alazán Creek, facing north-northwest.



Figure 11.10. Overview of CPS Energy Comal Street Substation pad site, facing southwest.



Figure 11.11. Overview of Manhole 1 location, facing north.



Figure 11.12. Example of relocated spoils from Manhole 1 and 2 excavations, facing southeast.



Figure 11.13. Overview of Trench 8 and Manhole 2, facing southeast.



Figure 11.14. Soil profile for Trench 1, facing east.

located just beneath the asphalt blacktop, at the western edge of the S. Comal Street ROW within Trench 8. An iron fastening baseplate with three iron spikes was also observed (Figure 11.16). Rail spurs connecting commercial and industrial lots to the main I&GNRR and are a common feature throughout the surrounding area, and are illustrated on the Sanborn Maps (see Figures 11.6 and 11.7). Additionally, an existing section of the rail spur is still present within the commercial lot to the north of the project area (Figure 11.17).

Multiple existing utilities were observed during the excavations of Trench 1, 8, and 9. Utilities consisted of iron, PVC, and clay pipes that ranged from 1 to 5 feet below ground surface. One concrete utility duct bank was also observed within Trench 9. No significant cultural materials or features were observed during the excavation of Trenches 1, 8, and 9.

STORM DRAINAGE BLOCK EXCAVATIONS

Two storm drainage blocks were reviewed on December 1, 2014 (see Figure 11.8). The storm drains were excavated prior to the arrival of SWCA and were not monitored during construction. Instead, the profile and spoil piles were examined for cultural materials. Storm Drain 1 is on the northwestern corner of the substation and measured 16 feet wide, 32 feet long, and 6 feet deep (Figure 11.18). Soils consisted of 1-foot-thick black clay over light gray silty clay loams with chert riverbed gravels. Storm Drain 2, located on the southwestern corner of the pad site, measured 23 feet wide, 32 feet long, and was excavated to 10 feet below surface (Figure 11.19). Soils consisted of 6 inches of brown clay loam over 4.5 feet of very dark grayish-brown clay loams. Five feet of the southwestern block consisted of light gray silty clay loam with some gravels and caliche. Overall, no cultural materials or features were observed within Storm Drainage 1 and 2.

PIER FOUNDATION EXCAVATIONS

Forty-five pier foundation holes were excavated within the substation on December 16–19, 2014, and January 6–9, 12–13, and 15–16, 2015 (Figure 11.20; see Figure 11.8). Of the 45 holes, 35 were monitored for cultural material during excavation (Piers 1–15, 17–18, 21–22, 24–27, 31–34, and 36–43), seven were spot checked periodically during excavations (Piers 16, 20, 23, 29, 35, and 44–45), and three were not monitored (Piers 19, 28, and 30). Spot checks consisted of an examination of excavated spoils (if present) and an examination of



Figure 11.15. Example of wooden rail-tie fragments from railroad spur in Trench 8, facing north.



Figure 11.18. Storm Drainage 1 excavation, facing north.



Figure 11.16. Iron fastening baseplate with iron spikes recovered from Trench 8.



Figure 11.19. Storm Drainage 2 excavation, facing south.



Figure 11.17. Existing rail spur located to the north of the project area, facing north.



Figure 11.20. Overview of pier foundation excavations, facing northeast.

the profile walls for cultural materials or features after excavations were completed. Additional trenches were conducted to connect the various pier locations, but they did not exceed 3 feet in depth and were, therefore, not monitored.

Drilling was completed with a mechanized auger. Each time the auger bit was withdrawn from the hole, the operator would spin it in reverse, releasing the matrix from the bit onto the ground for inspection. The holes were excavated in 2- to 4-foot levels, with each level of spoils being deposited adjacent to the hole opening (Figure 11.21). Piers 5–27 and 34–45 were 30 inches in diameter and excavated to 15 feet deep, while Piers 1–4 and 28–33 were 54 inches in diameter and excavated to 24 feet deep. The average soil profile for the southern half of the substation consisted of (Figure 11.22):

- 0 to 2 feet: Yellow, gravelly construction base
- 2 to 8 feet: Very dark gray clay loam with 80 percent gravels
- 8 to 12 feet:– Very pale brown silty clay loam with 30 percent gravels
- 12 to 24 feet: Mottled brown, white, and gray clay with 60 percent well rounded gravels and caliche

The soil profile for the northern half of the substation consisted of (Figure 11.23):

- 0 to 1 feet: Yellow, gravelly construction base
- 1 to 8 feet: Very dark grayish brown clay loam with 20 to 40 percent gravels and trash debris
- 8 to 11 feet: Light gray clay with 40 percent gravels
- 11 to 24 feet: Gray clay with 40 to 60 percent cobbles and calcium carbonates

Two to four fragments of yellow and red brick and one wire nail were observed within the southern pier foundation (Figure 11.24). Refuse materials were observed between 2 and 11 feet below surface. Refuse material increased in abundance in the northern half of the substation between 1 and 8 feet below surface. Materials observed consisted of red brick fragments; a 1916 to 1929 Illinois Glass Company whole, clear, glass bottle; an iron brand with the letters “RD” (Figure 11.25); dark green bottle glass fragments; unidentifiable metal fragments; milk glass; whiteware ceramic fragments (Figure 11.26); wire nails; and clear bottle

glass fragments. The refuse was not associated with any intact cultural deposits or features and was considered construction fill. Or debris related to the destruction and demolition of the early-twentieth-century structures and mid-twentieth-century buildings that were within the Phase 1 project area. No significant cultural material or features were observed during pier foundation excavations.

SUBSTATION MANHOLE EXCAVATIONS—MANHOLES 10–12

On February 17–18 and 20, 2015, excavations were completed for the installation of three manholes within the substation (see Figure 11.8). The manholes are on the northern, western, and southern edges of the substation and will connect the substation to the underground alignment of the Comal Street Project. Additional trenching was also conducted within the substation to connect the three manholes to Trenches 8 and 9, but did not exceed 7 feet in depth and was, therefore, not monitored.

Manhole 10 is on the north-central edge of the pad site (Figure 11.27). It measured 16 feet wide by 16 feet long and 16 feet deep. Soils were removed with a mechanical excavator and piled adjacent to the hole, to be removed at a later time. Both spoils and the soil profile were examined for cultural materials to a depth from 0 to 12 feet. The remaining 4 feet of excavation were not monitored due to sterile soil deposits and the installation of shoring plates, which prevented further profile examination. The soil profile for Manhole 10 consists of (Figure 11.28):

- 0 to 3 feet: Yellow, gravelly construction base
- 3 to 3.5 feet: Dark grayish brown silty clay loam with 60 percent gravels
- 3.5 to 8 feet: Very dark grayish brown clay loam with 20 percent cobbles and gravels and refuse
- 8 to 12 feet: Grayish brown clay loam with 60 percent gravels and caliche
- 12 to 16 feet: Light gray, blocky clay mottled with yellow and white

Refuse debris observed during the northern pier foundation excavations was also present within the excavations of Manhole 10. The refuse debris was within a very dark grayish brown clay loam between 3.5 and 8 feet below surface. SWCA observed large quantities



Figure 11.21. Example of pier excavation process; Pier 12, facing northeast.



Figure 11.24. Yellow brick fragment from Pier 12.



Figure 11.22. Example of soil profile in northern half of substation; Pier 35.



Figure 11.25. Iron "RD" brand from Pier 25.



Figure 11.23. Example of soil profile in southern half of substation; Pier 9.

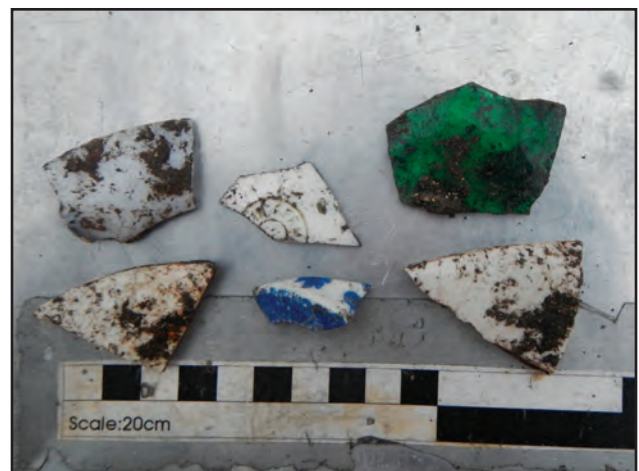


Figure 11.26. Sample of ceramic and glass refuse materials from northern pier excavations.



Figure 11.27. Overview of Manhole 10, facing west.



Figure 11.28. Soil profile of Manhole 10, facing northwest.



Figure 11.29. Example of red brick from Manhole 10 excavations.

of red brick (Figure 11.29), clear glass fragments, whiteware, metal fragments, and clear glass bottle and jars (Figure 11.30) within the spoil pile during excavations. The refuse was not associated with any intact cultural deposits or features and was considered construction fill.

Manhole 11 is on the southwestern corner of the pad site, east of Storm Drain 2. The manhole was initially excavated in a 16×16×14-foot block in anticipation of utilizing iron shoring plates and bracing (Figure 11.31). However, a smaller 13×13 shoring case was acquired. The new shoring block was set within the existing excavation and the excess space between the exterior shoring wall and excavation profile wall was backfilled with spoil matrix. The initial soil profile for Manhole 11 consisted of (Figure 11.32):

- 0 to 2 feet: Yellow, gravelly construction base
- 2 to 8 feet: Very dark gray clay loam with 80 percent gravels
- 8 to 12 feet:– Very pale brown silty clay loam with 30 percent gravels
- 12 to 14 feet: Mottled brown, white, and gray clay with 60 percent well rounded gravels and caliche

No cultural material or features were observed during the excavation of Manhole 11.

Manhole 12 is located on the northwestern end of the substation, southeast of Storm Drain 1 and southwest of Manhole 10. The manhole measured 12×12 feet and was excavated to 14 feet below surface. Because previous excavations within the substation (i.e. storm drains, manholes, and pier foundations) established a consistent soil profile of disturbance and no significant cultural deposits, excavations for Manhole 12 were not monitored.

PHASE 1 MONITORING INVESTIGATIONS SUMMARY

Monitoring investigations determined that Phase 1 of the Comal Street Project contains of highly disturbed soils from ground surface to 8 feet below surface. Disturbed soils are evident by a layer of dark gray clay loam with high volumes of refuse debris. The refuse deposit was significantly larger in volume in the northern half of the substation than in the southern half. Little to no refuse was observed in the southern excavations. Refuse materials observed consisted of household materials, such as tableware and glass bottle

fragments, one of which dates from 1916 to 1929. Other materials consisted of building construction materials, such as red and yellow brick fragments, and a single iron brand.

A review of the 1904 and 1911 Sanborn Maps show that the substation is situated within the location of several small dwellings, a stable, and multiple Mexican dwellings. Additionally, the 1940 Sanborn maps illustrate a large concrete building labeled as San Antonio Bag & Burlap Corp. within the southeast corner of the substation, and the northwestern corner of the block consisted of what could be narrow apartment buildings. The buildings depicted on 1904 and 1911 maps were demolished for the subsequent larger industrial building. In addition, the historic aerial photography depict the development of additional industrial buildings within the project area which were later demolished in early 2014. Based on the Sanborn map and historic aerial photography review, it was concluded that the refuse deposit likely represents the early- to mid-twentieth-century residential and industrial occupations within the Phase 1 project area.

Based on topography of the general area, large volumes of fill would be needed to level the topography that gently slopes to the north and east. Cultural resources monitoring concluded that fill materials acquired from the demolition of the early-twentieth-century and proceeding structures was used to elevate and level the substation pad site.

Overall, refuse deposits were not associated with any intact cultural deposits or features. Instead, refuse debris was considered construction fill and was not documented as an archaeological site. No significant cultural material or features were observed during Phase 1 cultural resources monitoring.

PHASE 2

Phase 2 of the Comal Street Project is within the ROWs of S. Comal and El Paso Streets (Figure 11.33). Phase 2 consists of the underground alignment work that begins at the intersection of S. Comal Street and San Luis Street. The alignment runs south from the intersection for 782.4 feet before redirecting east down El Paso Street for an additional 2,272.7 feet. The alignment terminates at the intersection of El Paso and S. San Saba Streets. Paved city streets with overhead and underground utilities characterize the Phase 2 alignment, with the western half being flanked by commercial business, industrial lots, and the I&GNRR rail



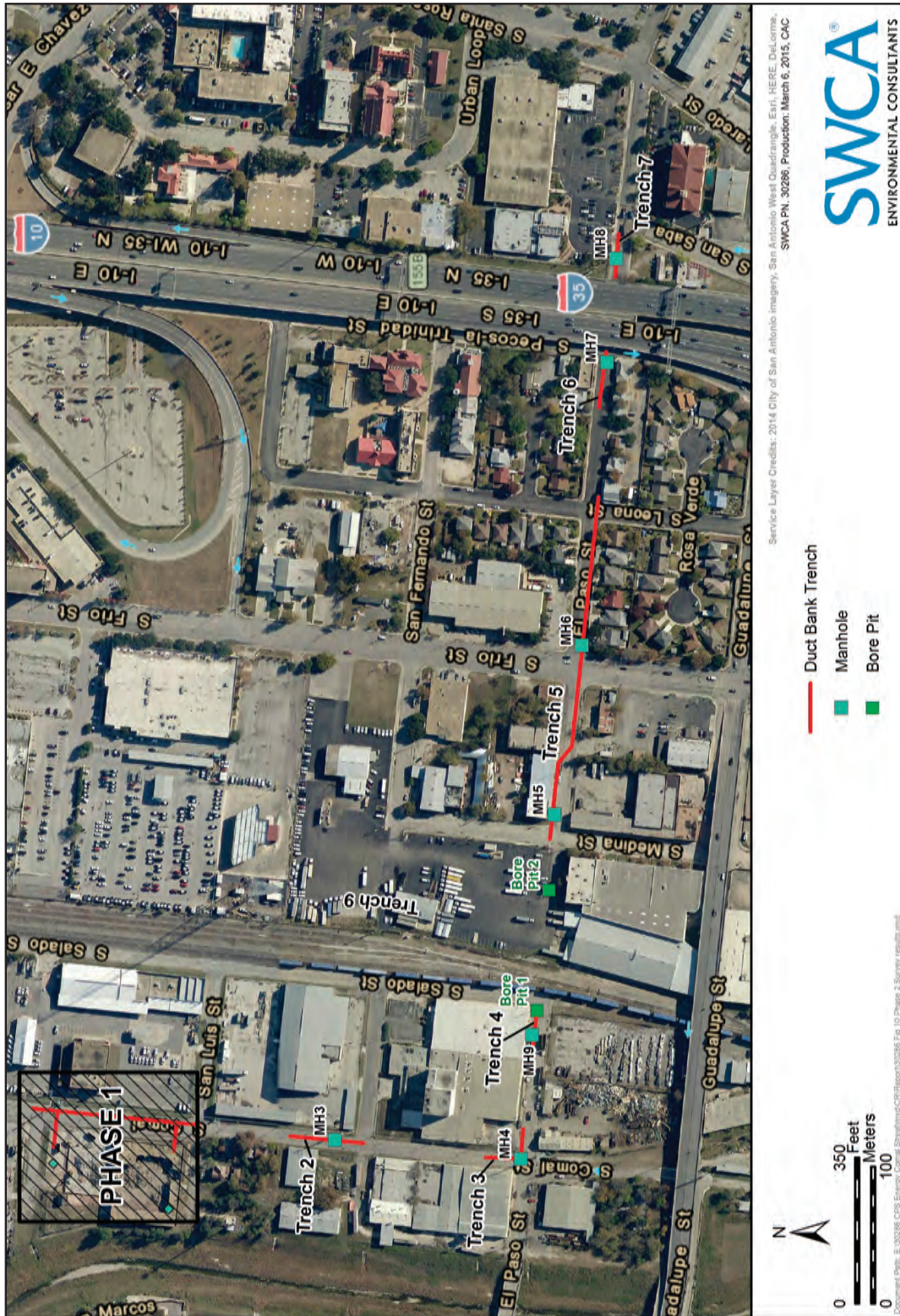
Figure 11.30. Daggett & Ramsdell's Chemists Perfect Cold Cream jar from Manhole 10 excavations.



Figure 11.31. Overview of Manhole 11, facing northeast.



Figure 11.32. Soil profile of Manhole 11, facing southeast.



Service Layer Credits: 2014 City of San Antonio imagery, San Antonio West Quadrangle, Esri, HERE, DeLorme, SWCA PN, 30286, Production, March 6, 2015, CAC

Figure 11.33. Phase 2 monitoring investigations.

yards (see Figure 11.11). The eastern half of Phase 2 is composed of a residential neighborhood and the I-35 corridor (Figure 11.34).

The topography of Phase 2 gently slopes (less than 5 percent) towards Alazán Creek to the west, San Pedro Creek to the east, and the confluence of the two drainages 0.7 mile south of the project area. Little vegetation surrounds the Phase 2 alignment, but sporadic patches of grass and weed overgrowth are observed on the western half of the project area, along with clusters of live oak, pecan, hackberry, and chinaberry trees. Vegetation of the eastern half of the project area consists of manicured yards complete with grasses, flower bushes, and ornamental fruit trees. Monitored construction activities for Phase 2 consisted of seven manhole excavations and their associated trench (Trench 2–7), two bore pit locations, and approximately 770 feet of duct bank trenching within the El Paso Street ROW between S. Medina and Leona Streets.

STREET MANHOLE EXCAVATIONS: MANHOLES 3–9 AND ASSOCIATED TRENCHES (TRENCH 2–7)

Manholes 3–9 are within the ROWs of S. Comal and El Paso Streets near their intersections at San Fernando, S. Medina, S. Frio, S. Pecos la Trinidad, and S. San Saba Streets (see Figure 11.33). Manhole excavations consisted of 12×12-foot blocks excavated to 15-foot depths with a backhoe machine. In addition to the manhole block, 20 feet of 3-foot-wide duct bank trenches were excavated to 8–12 feet in depth, depicted as Trenches 2–7 (Figure 11.35). The overall average depth for the Comal Street Project duct bank excavations is 8 feet below surface. The 20-foot sections associated with each manhole allowed the duct bank to gradually slope down from 8 feet below surface to the manhole connection window at 12 feet below surface. The average soil profile for Manholes 3–4 and 9 and Trenches 2–4 consisted of (Figure 11.36):

- 0 to 2 feet: Asphalt and yellow gravel construction base
- 2 to 7 feet: Black clay with some modern refuse fill
- 7 to 10 feet: Gray clay with caliche gravels and calcium carbonates
- 10 to 14 feet: Pale brown gravelly clay
- 14 to 15 feet: Very pale brown clay with high volumes of cobbles.

The average soil profile for Manholes 5–7 and Trenches 5–7 consists of (Figure 11.37):

- 0 to 1 foot: Asphalt and yellow gravel construction base
- 1 to 2 feet: Grayish brown clay loam with 10 percent gravels
- 2 to 4 feet: Pale brown clay with 10 percent gravels
- 4 to 8 feet: White clay with caliche gravels
- 8 to 15 feet: Light gray clay mottled with brownish yellow clay

Excavations for Manhole 8 extended beyond the average 12×12-foot block and trenching excavations of the Comal Street Project. A reconfiguration of the Comal Street Project scope of work called for the excavation of two bore pits in place of Manholes 7 and 8 to underpass the I-35 corridor. However, opening excavations for the bore ingress pit to the east of the corridor uncovered an intricate network of live and abandoned utilities (Figure 11.38). The utilities hindered the use of bore excavation, and the scope of work was reverted back to open trenching and manhole excavations. The 40×14-foot area of excavation which had been completed for the ingress bore pit was filled with concrete. As a result, the 12×12-foot excavation block for Manhole 8 was re-excavated within the concrete-filled block. The northern 4×12-foot section of the manhole was excavated within soil matrix.

Two to three dozen existing utilities were observed during the excavation of Manholes 3–9 and their associated trenches. Existing utilities consisted of iron, clay, and PVC pipes of various size at depths that ranged from 1 to 6 feet below surface. One 8-inch cast-iron water main paralleled the new alignment throughout the El Paso Street ROW and was consistently observed within the southern profile of the duct bank excavations (Figure 11.39). The abandoned pipe was 4 feet below surface and was removed in sections during excavations when completely exposed.

Macadamized brick layers and refuse debris were a common observation within the upper layers of manhole and trench excavations. As stated earlier, macadam is broken stone of even size or brick used in successively compacted layers for sub-surfacing roads and paths. Macadamized bricks were observed during the excavations for Manholes 4 and 8 (Figures 11.40



Figure 11.34. General setting overview of the eastern half of Phase 2, facing west.



Figure 11.37. Average soil profile of Manholes 6–8; Manhole 7, facing southeast.



Figure 11.35. Example of trenching excavations associated with manhole; Manhole 4, facing north.



Figure 11.38. Existing utilities within excavations near Manhole 8, facing south.



Figure 11.36. Average soil profile of Manholes 3–5 and 9; Manhole 5, facing east.



Figure 11.39. Existing cast-iron water main in profile of El Paso Street ROW, facing south.

and 11.41). Refuse debris consisted of red brick fragments, clear glass, wood timbers (see Figure 11.41), and metal fragments. The refuse was not associated with any intact cultural deposits or features and was considered construction fill.

Overall, the manhole and associated trenching excavations found that the Phase 2 project area consists of highly disturbed soil deposits. Disturbed soils are characterized by a layer of black and grayish brown clay loam with refuse debris and existing utility pipes. Refuse deposits were significantly thicker in the western half of the Phase 2 alignment than the eastern half of excavations. No significant cultural material or features were observed during manhole and trenching excavations.

BORE PIT EXCAVATIONS

On November 18–19, 2014, and January 5, 2015, two bore pit locations were excavated to underpass the I&GNRR rail yard (see Figure 11.33). Ingress Bore Pit 1 is located on the western edge of the I&GNRR ROW, within the El Paso ROW (Figure 11.42). The pit measured 27 feet east-west by 14 feet north-south, and was excavated to 11 feet below surface. The soil profile consisted of (Figure 11.43):

- 0 to 1 foot: Asphalt and yellow gravel construction base
- 1 to 6 feet: Very dark gray clay
- 6 to 7.5 feet: Heavily mottled gray and brown clay with trash debris
- 7.5 to 8.5 feet: Light brownish gray and light gray clay with high volumes of calcium carbonates
- 8.5 to 11 feet: Very pale brown clay with high volumes of calcium carbonates

Whole and fragmented red brick was observed within the upper levels of Bore Pit 1 excavation. The source of the red brick material was an abandoned brick manhole, which was removed during excavation (Figure 11.44). The abandoned manhole was located at the center of the El Paso/S. Salado Street intersection, 25 feet west of the I&GNRR rail yard. The feature was approximately 3–4 feet in diameter and 10 feet deep. The opening was lined with a metal ring and covered with a metal cap. The manhole was empty and void of fill with several cast iron steps. Abandoned red brick manholes are a



Figure 11.40. Macadamized brick layer near Manhole 8 excavations, facing west.



Figure 11.41. Profile view of macadamized red brick layer and wooden timbers near Manhole 4, facing south.



Figure 11.42. Bore Pit 1 excavations, facing south.



Figure 11.43. Soil profile of Bore Pit 1, facing south.



Figure 11.44. Abandoned brick manhole removed from Bore Pit 1, facing south.

common feature within the ROWs of city streets in downtown San Antonio and are considered modern utilities of little significance. A PVC sewer pipe was encountered at the base of the manhole suggesting the feature was in use until the late twentieth century (Figure 11.45). No significant cultural materials or features were observed during the excavations of Bore Pit 1.

Egress Bore Pit 2 is located on the east side of the I&GNRR ROW, within the GLI Distributing parking lot (Figure 11.46). The pit measured 14 feet east to west by 9 feet north to south, and was excavated to 10.5 feet below surface. The soil profile for Bore Pit 2 consisted of (Figure 11.47):

- 0 to 1 foot: Asphalt and yellow gravel construction base
- 1 to 5 feet: Very Dark Gray Clay
- 5 to 7 feet: Light Brownish Gray and Light Gray Clay with high volumes of calcium carbonates
- 7 to 10.5 feet: Mottled Brown, White, and Gray Clay with 60 percent well rounded gravels and caliche

Two existing PVC pipe utilities were uncovered during the excavation of Bore Pit 2 in the northern and southern profile walls. Whole and fragmented red brick was observed beneath the asphalt layer of Bore Pit 2 and is likely macadam. No significant cultural materials or features were observed during the excavation of Bore Pit 2.

FRIO STREET TRENCHING EXCAVATIONS—TRENCH 5

On November 24–25, December 8–11 and 15–17, 2014, January 6, 26, and 28–30, and February 2, 2015, excavations were completed for 770 feet of duct bank trenching, Trench 5, within the El Paso Street ROW. The segment runs between S. Medina and S. Leona Streets. The segment was selected for cultural monitoring in anticipation of the exposure of the Alazán Acequia, which is mapped as intersecting the project area within the S. Frio Street ROW. Excavations started on the north side of El Paso Street, east of Manhole 5, directing east for approximately 200 feet before crossing over to the south side of the ROW for the rest of the segment. The trench measured 3 feet wide and ranged from 8 to 12 feet deep. The average soil profile for the Frio Street trenching consisted of:

- 0 to 1 foot: Asphalt and yellow gravel construction base
- 1 to 2 feet: Grayish brown clay loam with 10 percent gravels
- 2 to 4 feet: Pale brown clay with 10 percent gravels
- 4 to 8 feet: White clay with caliche gravels
- 8 to 15 feet: Light gray clay mottled with brownish yellow clay

Twenty-eight to 32 existing utilities were exposed during excavations (Figure 11.48). Existing utilities consisted of iron and PVC pipes of various sizes that ranged from 1 to 6 feet below surface. Two of the existing utilities parallel the duct bank trench and were exposed within the profile of the trench (see Figure 11.39). Some utilities were associated with residential housing and commercial buildings, while a large concentration was within the Frio Street ROW.

The brick was often observed within highly disturbed soil deposits adjacent to existing utilities. As a result, the brick fragments were considered construction fill and were not documented as cultural material. Concrete joint blocks were also observed 2–4 feet within the duct bank trench at the intersection of Frio and El Paso Streets. Concrete joint blocks were utilized for repairs when a blow-out occurred at utility pipe joints. No significant cultural materials were observed during the excavation of the Frio Street trenching, and no indication of the Alazán Acequia was encountered.

PHASE 2 MONITORING INVESTIGATION SUMMARY

Monitoring investigations determined that Phase 2 of the Comal Street Project contained highly disturbed soils. Disturbed soils consisted of dark grayish brown clay and clay loams that ranged from ground surface to 5–8 feet below surface. Cultural materials observed included macadamized layers of red brick just below ground surface within Bore Pit 2 and Manhole 8 excavations. Macadamized sections of the El Paso Street ROW near its intersection with Medina and San Saba Streets are illustrated on the 1904, 1911, and 1940 Sanborn Maps. Macadamized layers of red brick are a common feature throughout downtown city streets, and are considered modern utilities.

Additional small deposits of red and yellow brick were also observed within the upper levels of Phase 2 excavations, but were associated with construction



Figure 11.45. Existing PVC pipe at base of brick manhole.



Figure 11.46. Overview of Bore Pit 2, facing east.



Figure 11.47. Soil profile of Bore Pit 2, facing north-northeast.

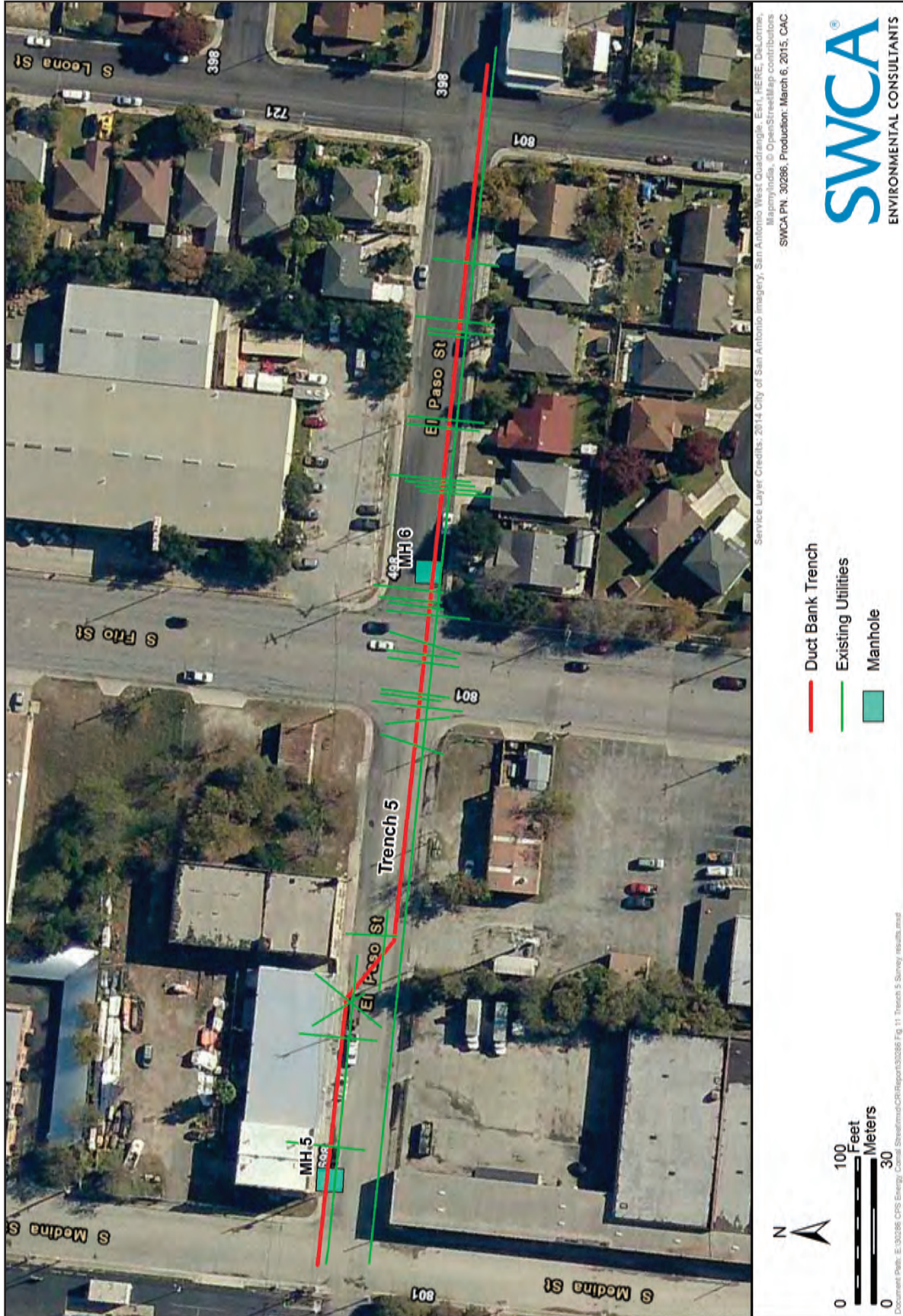


Figure 11.48. Trench 5—Frio Street monitoring results.

fill adjacent to existing utilities. More than 50 existing utilities were observed during excavations from ground surface to 6 feet below, including an abandoned red-brick manhole and an abandoned cast-iron waterline that paralleled the southern profile of the new duct bank excavations. Overall, Phase 2 excavations consisted of highly disturbed soils associated with the installation of numerous existing utilities. No significant cultural material or features were observed during Phase 1 cultural resources monitoring, and no indication of the Alazán Acequia was observed.

SUMMARY AND RECOMMENDATIONS

On behalf of CPS Energy, SWCA conducted cultural resources monitoring investigations of the Comal Street Substation Project in Bexar County, Texas. The investigations included a background and archival review and cultural resources monitoring investigations. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's annual permit, Texas Antiquities Permit No. 6851.

The project involved two phases of work. Phase 1 consisted of the installation of two manholes and approximately 833 feet of trench excavations within the S. Comal Street ROW; and 45 pier foundations, three manholes, and two storm drainage blocks within the CPS Comal Street Substation. Phase 2 consisted of the installation of seven manholes, two bore pits, and approximately 3,500 feet of trench excavations within the S. Comal Street and El Paso Street ROWs.

SWCA monitored the five manhole block excavations and the trenching excavations along S. Comal Street for Phase 1, in addition to all pier foundation and storm drain excavations. Monitoring was also completed for the six manhole blocks and 1,170 feet of trenching work for Phase 2, including a 770-foot segment along El Paso Street between S. Medina and S. Leona Streets, where the Alazán Acequia purportedly intersects the project area within the Frio Street ROW.

The background review determined that the majority of the Comal Street Project area was surveyed and one archaeological site, 41BX620 the Alazán Acequia, is located within the project area. The review also found 28 archaeological sites, 11 cultural resources surveys, five NRHP properties, five OTHMs, and one cemetery adjacent to or within a 0.5-mile radius of the project area. Additionally, the COSA locally

designated Cattleman Square Historic District, the Main and Military Plazas NRHP Historic Districts, and the King William NRHP Historic District are also within a 0.5-mile radius of the project area.

SWCA conducted cultural monitoring investigations in October, November, and December 2014, as well as January and February 2015, for Phase 1 and Phase 2 of the Comal Street Project area. Monitoring investigations determined that Phase 1 consists of fill materials acquired from the demolition of early-twentieth-century and preceding structures used to elevate and level the substation pad site. The refuse deposits were not associated with any intact cultural deposits or features and were considered construction fill, thus not requiring documentation as an archaeological site. No significant cultural material or features were observed during Phase 1 cultural resources monitoring.

Phase 2 of the Comal Street Project consists of highly disturbed soils resulting from the installation of 28–35 existing utilities. Cultural materials observed included macadamized layers of red brick and one red brick manhole just below ground surface. The manhole and macadamized street sections likely date to the early to mid-twentieth century, but are considered modern utilities that are common throughout downtown San Antonio. Additional small deposits of red and yellow brick were also observed, but were associated with construction fill adjacent to existing utilities. No significant cultural material or features were observed during Phase 2 cultural resources monitoring, and no indication of the Alazán Acequia was observed.

SWCA made a reasonable and good faith effort to identify cultural resources deposits and features within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources, and SWCA recommends no further archaeological investigations within the project area. No artifacts were collected; thus, nothing was curated.

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CHAPTER 12

INTERIM REPORT VIII: CULTURAL RESOURCES MONITORING INVESTIGATIONS OF THE CPS ENERGY TENTH STREET TO COLISEUM SUBSTATION TRANSMISSION LINE REBUILD PROJECT, DOWNTOWN SAN ANTONIO, BEXAR COUNTY, TEXAS

Rhiana D. Ward

INTRODUCTION

On behalf of CPS Energy, SWCA conducted cultural resources monitoring of the Tenth Street to Coliseum Substation Transmission Line Rebuild Project (Coliseum Project) in the City of San Antonio, Bexar County, Texas (Figure 12.1). The investigations included a background and archival review and cultural resources monitoring investigations. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's annual permit, Texas Antiquities Permit No. 6851.

The purpose of the work was to locate and identify all prehistoric and historic archaeological sites in the project area, establish vertical and horizontal site boundaries as appropriate with regard to the project area, and evaluate the significance of any site recorded within the property. SWCA archaeologists Rhiana D. Ward and Laura I. Acuña conducted the field work at intervals from December 2014 through March 2015.

PROJECT AREA DESCRIPTION

The project involves the removal and installation of 46 tower locations for the transmission line rebuild between the Tenth Street Substation and Coliseum Substation. Most of the work would be conducted within the existing sidewalks and ROWs of city streets. The alignment intersects the Dignowity Hill San Antonio Historic District and continues through a well-established residential neighborhood.

The start of the rebuild begins at the northeastern ROW of Ninth Street south of the Tenth Street Substation and extends southeast for 0.10 mile beneath I-35 to the Lamar Street intersection and continues 0.26 mile along the northern edge of the Lamar Street ROW east towards Mesquite Street. At the Mesquite Street intersection the alignment shifts south for 0.17 mile along the eastern of the Mesquite Street ROW towards

Burnet Street. The project then proceeds along the southern edge of the Burnet Street ROW of for 1.50 miles towards the Grimes Street intersection. The alignment continues north along the eastern edge of the Grimes Street ROW for 0.28 mile, crossing an unnamed tributary of Salado Creek just before it reaches Larry Street. From Larry Street, the project extends 0.35 mile southeast paralleling the drainage, crossing Hines Avenue and also intersecting the tributary. From the drainage, the alignment shifts 0.10 northeast towards its terminus at the Coliseum Substation at the Monson Street and Rotary Street intersection. In total, the project is approximately 2.76 miles (14,572 feet) in length.

Based on preliminary review of historic documents, the project is intersected by the Acequia Madre (41BX8) at Ninth Street and the San Antonio Valley irrigation ditch at Lamar Street. In addition, the project has potential to impact deeply buried cultural deposits along the unnamed tributary of Salado Creek. As such, two areas were identified for monitoring investigations (Figure 12.2). Area 1, within the western segment of the alignment along Ninth and Lamar Streets up to Cherry Street, includes tower locations (Nos. 1–4) intersected by the mapped acequia locations. Area 2, along Grimes Street and Larry Street up to the Coliseum Substation Terminus consists of tower locations (Nos. 34–44) within or near the floodplain of the unnamed tributary of Salado Creek, which contains the potential of deeply buried cultural deposits. The remaining pole replacements within the Dignowity Hill San Antonio Historic District and along Burnet Street were not recommended for monitoring as they would be entirely within an upland setting with minimal subsurface potential and within existing disturbances related to the development of the neighborhood.

The initial project plans included Tower 70. After several design updates and changes to the project, Tower

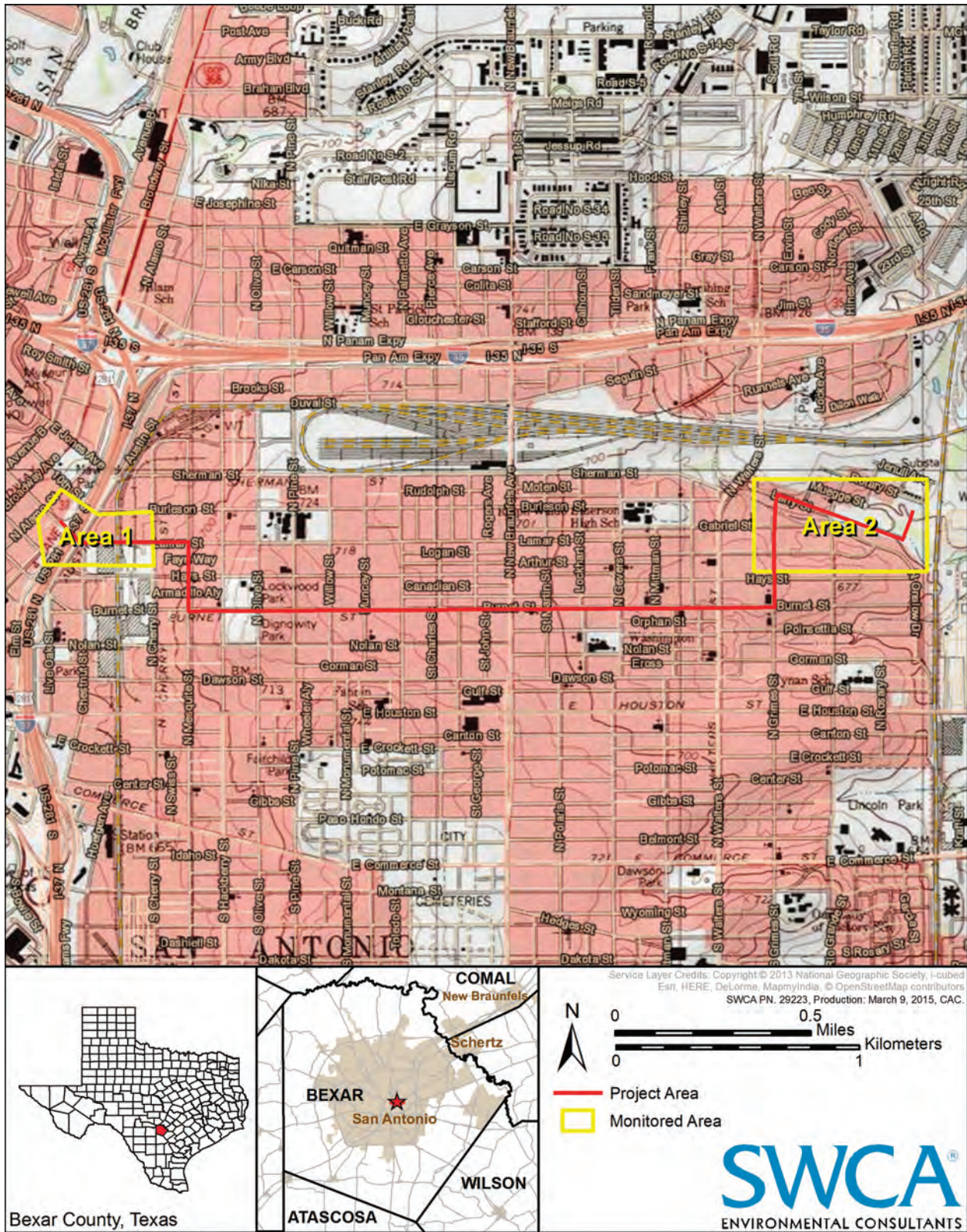


Figure 12.1. Project area location.

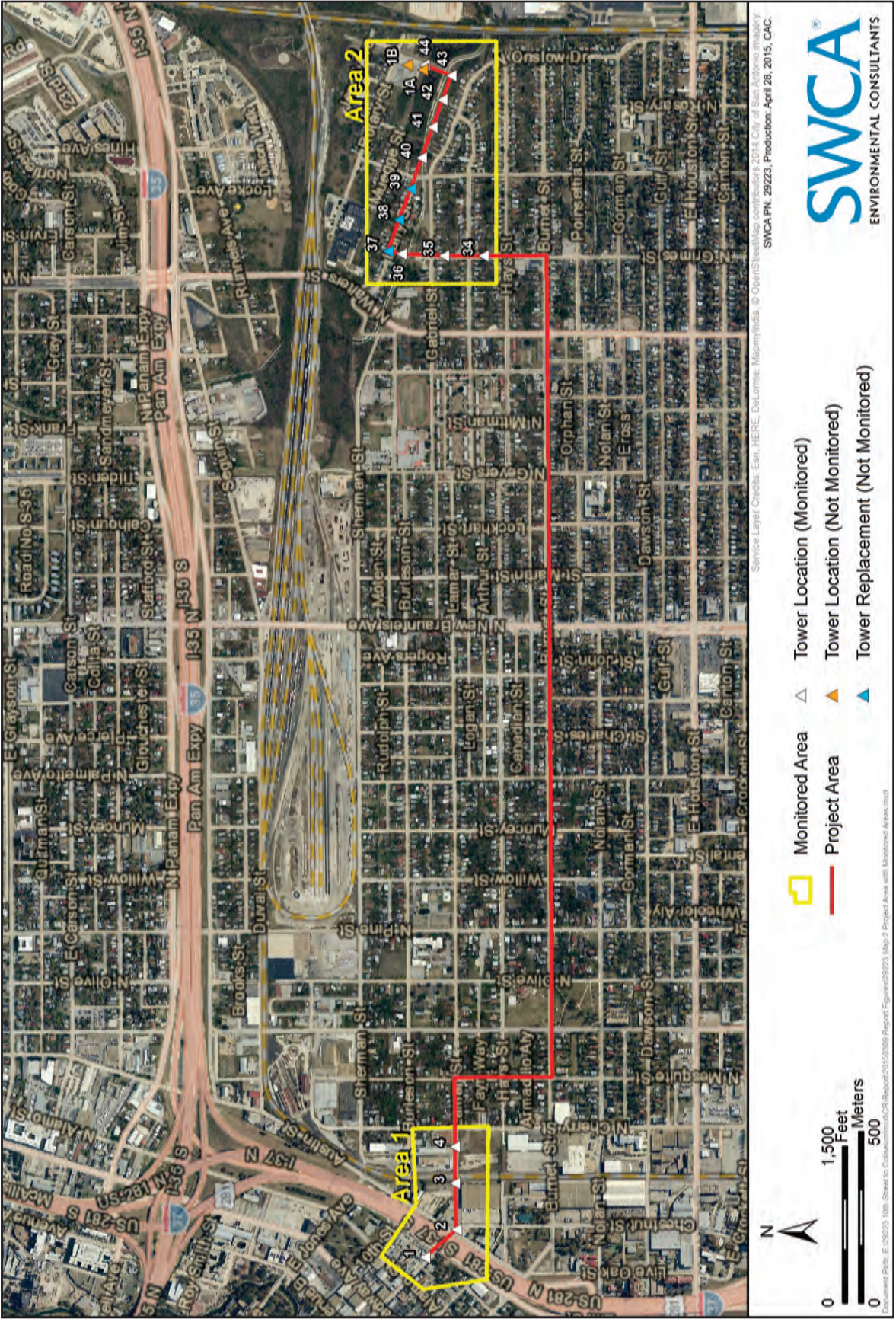


Figure 12.2. Project area map with monitored areas.

70 will be outside of the Coliseum Substation and part of another utility phase. Towers 1A and 1B were completed concurrently with the Coliseum Project and are within Area 2. However, the locations were not monitored as they were added after the start of the Coliseum Project and are part of a separate utility phase under a different contractor.

The project APE is entirely within the existing ROWs of city streets and an unnamed tributary of Salado Creek. SWCA monitoring investigations focused on the western (Area 1) and eastern (Area 2) terminus of the proposed alignment, approximately 0.81 mile (4,276 feet) of APE, or a total of 15 pole locations. Excavations for the proposed tower locations ranged between 72 to 84 inches in diameter and were excavated to a depth of 40 feet below ground surface within a 20-foot-wide temporary construction easement. As a result, the cumulative APE encompasses approximately 6.6 acres, with an anticipated excavation of 2,566 cubic yards of soil.

ENVIRONMENTAL SETTING

GEOLOGY

The underlying geology of the project area is mapped almost entirely as Uvalde Gravel, though the western terminus at Ninth Street is mapped as Quaternary-age Fluvial terrace deposits (Barnes 1983). Uvalde Gravel deposits consist of sand and fine to medium grained quartz with some caliche nodules approximately 85 feet thick. The terrace deposits consist of predominately gravel, limestone, dolomite, and chert, with sand, silt, and clay. Most low terrace deposits along entrenched waterways like Alazan and San Pedro Creek are above flood level (Barnes 1983).

SOILS

The project area soils are mapped as 44 percent Houston Black gravelly clay with 1 to 3 percent slopes, 25 percent Houston Black clay gravelly clay with 3 to 5 percent slopes, 21 percent Branyon clay with 1 to 3 percent slopes, and 10 percent Loire clay loam with 0 to 2 percent slopes, occasionally flooded (Taylor et al. 1991). The Houston series, primarily located within the central portion of the alignment, consists of clayey soils that are very deep, moderately well drained, and very slowly permeable. These soils formed from weakly consolidated calcareous clays and marls of Cretaceous Age, and are found on nearly level to moderately slop-

ing uplands (NRCS 2014; Taylor et al. 1991:21). The Branyon series is located within the western portion of the alignment and consists of very deep, moderately well drained soils that formed in calcareous clayey alluvium (NRCS 2014). The Loire series is along portions of the unnamed tributary of Salado Creek and consists of very deep, well drained, moderately permeable soils that formed in loamy alluvial sediments (NRCS 2014).

RESULTS OF BACKGROUND REVIEW

ATLAS BACKGROUND REVIEW

The background review determined that two small segments of the project area have been previously surveyed, and that parts of the Acequia Madre (41BX8), the San Antonio Valley Ditch, and the Dignowity Hill San Antonio Historic District are within the project area. The review also found six archaeological sites, two cultural resources surveys, seven NRHP properties, five National Register Historic Districts, five historic districts designated by the COSA, two RIO districts, 12 OTHMs, multiple cemeteries, and 150 to 200 neighborhood surveys adjacent to or within a 0.5-mile radius of the project area.

From 2012 through 2014, SWCA conducted monitoring investigations for the Tenth Street Substation Project on behalf of CPS Energy. The 2-acre project area is located on the eastern end of the current project area. Investigations consisted of monitoring all construction activities associated with trenching and the removal of beams and slabs within the existing substation. No cultural materials or features were documented during the investigations (Acuña and Galindo 2014; Galindo et al. 2013).

Another area survey was conducted in 2013 by GTI Environmental Services on behalf of Terracon Consultants, the Housing and Urban Development Department, and COSA. All work was done under Texas Antiquities Permit No. 6669. The project area encompassed 22 acres of land west of West Walter Street between Burnet Street and Gabriel Street. No further information on this survey is available on Atlas (2014).

DIGNOWITY HILL

Dignowity Hill is a historic district locally designated by COSA's SA-OHP. The district was San Antonio's first exclusive residential suburb, first settled by Dr. Anthony Michael Dignowity in the early 1800s. Dignowity's residence, Harmony House, was con-

structed in what is now Dignowity Park, south of the current project area. The house was demolished after his death in 1875. By the turn of the twentieth century, industrial development and the arrival of the railroad began to transform the landscape of the once exclusive neighborhood. Today, Dignowity Hill is characterized by a mix of modern housing, small Folk Victorian Style houses, and Craftsman Bungalows (City of San Antonio Official Website 2014).

RESOURCES WITHIN 0.5-MILE RADIUS

Located adjacent to or within a 0.5-mile radius of the Coliseum Project area are six archaeological sites, two cultural resources surveys, seven NRHP properties, five National Register Historic Districts, five historic COSA-designated districts, two RIO districts, 12 OTHMs, multiple cemeteries, and 150 to 200 neighborhood surveys.

Archaeological sites within a 0.5-mile radius include 41BX1274, 41BX1275, 41BX1817, 41BX1818, 41BX1874, and 41BX1913. No information for 41BX1274 or 41BX1275 is available on Atlas, but both sites were designated as eligible for designation as a SAL and inclusion in the NRHP by the THC in 1998.

Site 41BX1817 is the Alamo Mills Dam, located within the San Antonio River channel. The dam's eligibility for inclusion in the NRHP or for designation as a SAL is currently undetermined.

Site 41BX1818 is the Lexington Avenue Dam, located just north of the Lexington Avenue Bridge along the San Antonio River. Eligibility for listing as an SAL or for listing on the NRHP is considered undetermined for the concrete- and stone-lined dam.

Archaeological site 41BX1894 is a historic well located beneath a recently constructed parking garage. The dry-laid stone well measures 4 feet in diameter and 12 feet deep and was determined to have little research value. No artifacts were documented in association with the well. The site was recommended as ineligible for designation as an SAL or for inclusion in the NRHP, and no further work was recommended.

Site 41BX1913, the Arden Grove Site, is a prehistoric lithic scatter, possibly of a late archaic temporal affiliation. Cultural material consists mostly of biface thinning flakes, along with a few small fire-cracked rock fragments and Rabdotus shells. The site was located through backhoe trenching investigations, but

no further information on the site is available on Atlas (Atlas 2014).

Two cultural surveys have been conducted within a 0.5-mile radius of the current project area. The first survey is a 5.8-acre area survey located adjacent to the south side of the current project area, beginning at the intersection of Burnet Street and North Olive Street. The survey was conducted in 1979 for Dignowity Park on behalf of the Heritage Conservation and Recreation Service. No further information on the survey is available on Atlas (2014).

In 1979, another large area survey was conducted adjacent to the west end of the current project area on behalf of the USACE. The survey was conducted in order to prepare a historical, architectural, and archaeological survey of the lands for 0.25 mile on either side of the San Antonio River from the Olmos Dam to South Alamo Street, as well as the San Pedro Creek from San Pedro Park to Guadalupe Street. Dozens of archaeological and historical sites were identified during the 1979 survey (Fox 1979).

The seven NRHP properties within a 0.5-mile radius of the Coliseum Project area consist of the Emil Elmen-dorf House, the Hays Street Bridge, the Johann and Anna Heidgen House, the Merchants Ice and Cold Storage Company, the William J. Morrison Jr. House, the Thiele House, and the Gustave Uhl House and Store.

NRHP Districts within a 0.5-mile radius of the project area consists of the South Pacific Depot, the Old San Antonio City Cemetery Historic District, the San Antonio National Cemetery, the Friederich Complex, and Alamo Plaza.

COSA-designated districts within a 0.5-mile radius of the project area are the Auditorium Circle, the Old Lone Start Brewery, the Alamo Plaza, the Healy-Murphy, and St. Paul Square.

RIO districts within a 0.5-mile radius of the project area consist of District 2 and 3, which were established to regulate, protect, preserved, and enhance the San Antonio River and its improvements by establishing design standards and guidelines for properties located near the river.

Five of the 12 OTHMs within a 0.5-mile radius of the project area consist of commemorations for Captain Lee Hall, Frederick King, James Fisk, Simona Fisk, and Samuel Smith. The remaining seven OTHMs commemorate the Alamo Masonic Cemetery, the First Pres-

byterian Church, the Heidgen House, the King House, the Scottish Rite Cathedral, and the Thiele House.

Multiple cemeteries are located within a 0.5-mile radius of the current project area, most of which are within the Old San Antonio City Cemetery NRHP district. Addition cemeteries include the Odd Fellows Cemetery and the Alamo Masonic Lodge Cemetery (Atlas 2014).

HISTORIC MAP REVIEW

A review of the TxDOT historic overlay maps (Foster et al. 2006) from 1896, 1883, 1887, 1889, 1903, 1927, and 1953 was completed for the Coliseum Project area. An 1869 A. J. Mauermann map of San Antonio, illustrates the west end of the project only, as intersecting the Acequia Madre. An 1883 C.P. Smith map of San Antonio shows the western quarter of the project line with the Acequia Madre channel (Figure 12.3). The map illustrates the development of the downtown San Antonio area with multiple city streets and city blocks with empty lots. An 1887 J. D. Rullmann map of Bexar County illustrates the entire project area as within a numbered block area of downtown San Antonio, with the Alamo Ditch transecting the western end of the project area. An 1889 J. J. Olsen map of San Antonio, too, illustrates the project area as being located within an undeveloped area characterized by city streets and empty lots, along with the Acequia Madre traversing the western end. The last three maps from 1903, 1927, and 1953 also illustrate the same setting, with the exception that the Acequia Madre is no longer depicted.

A review of the San Antonio Sanborn Fire Insurance (Sanborn) Maps illustrates a small portion of the development of the Coliseum Project area from 1885 to 1904. The 1885 maps depicts the intersection of Lamar, Austin (now I-35), and Ninth Streets, with a 10-inch water pipe paralleling the ROW of Austin Street. Multiple lumber yards are also depicted to the east of the intersection, as well as a light scattering of dwelling structures along Ninth Street (1885 Sanborn Map Sheet 11). The 1888 Sanborn maps continue to illustrate the Lamar-Austin-Ninth Street intersection, in addition to the intersection of Ninth Street and Avenue D (North Alamo Street). The Acequia Madre is illustrated to the north of Ninth Street, roughly paralleling Avenue D (1888 Sanborn Map Sheets 11 and 16). The 1892 and 1896 Sanborn maps show an increase in the number of dwelling structures along Ninth Street, as well as the presence of the Acequia Madre ditch to the east of the

Union Street-Ninth Street intersection (1892 Sanborn Map Sheets 22 and 24, 1896 Sanborn Map Sheets 52 and 55). The acequia is labeled as “covered” on the 1892 maps but not on the 1896 maps (Figure 12.4). A 10-inch water pipe is still depicted as intersecting the project area along the ROW of Austin Street (1892 Sanborn Map Sheets 22 and 24, 1896 Sanborn Map Sheets 52 and 55). The 1904 Sanborn maps depict a similar setting to the 1886 maps, with the exception of the Acequia Madre, which is no longer illustrated (1904 Sanborn Maps Sheets 161, 165, and 166). The 1904 maps also show that Ninth Street and Lamar Street were macadamized, a method of road construction that consisted of laying stone or brick with sand/mortar aggregate on the surface and then spraying it with a binding material.

ACEQUIA MADRE

Intersecting the west end of the Coliseum Project area is the Acequia Madre, also known as the Alamo Ditch, the Mother Ditch, and linear archaeological site 41BX8. The acequia, as well as the San Antonio Valley Ditch described below, are depicted on the COSA Acequia Map Sheet 16-58 (Figure 12.5).

In 1835, during the Texas Revolution, General Cos ordered that the Acequia Madre be redirected out of the Alamo compound for fear that enemy troops would contaminate the water supply (Cox 2005). The ditch was redirected out of the complex and a well was dug to supply water to soldiers and the compound (Cox 2005). In 1852 the city sought to improve the major acequia channels by lining them with cut-limestone blocks (Cox 1993, 1995; Nickels et al. 1996). The placement of the blocks would control erosion of the acequia bank, increase water flow, and ultimately improve ditch sanitation. For the Acequia Madre, the 1852 renovation also included the excavation of an entirely new ditch parallel to the old one across the Main Plaza (Cox 1985). Spoils from the new channel were utilized to fill in the dilapidated ditch (Cox 1985). The new ditch was ordered to be 3 feet wide at the base, 4 feet wide at the top, and to be lined with an 18-inch thick layer of stone laid in sand and lime (Cox 1985).

The Acequia Madre was ordered closed multiple times during the early 1900s, the first time being in 1901. However, local citizens argued that the ditch was necessary for storm water drainage, and the ditch was reopened in 1903 for floodwater control (Cox 2005; Ulrich 2011). In 1905, the acequia was ordered to be

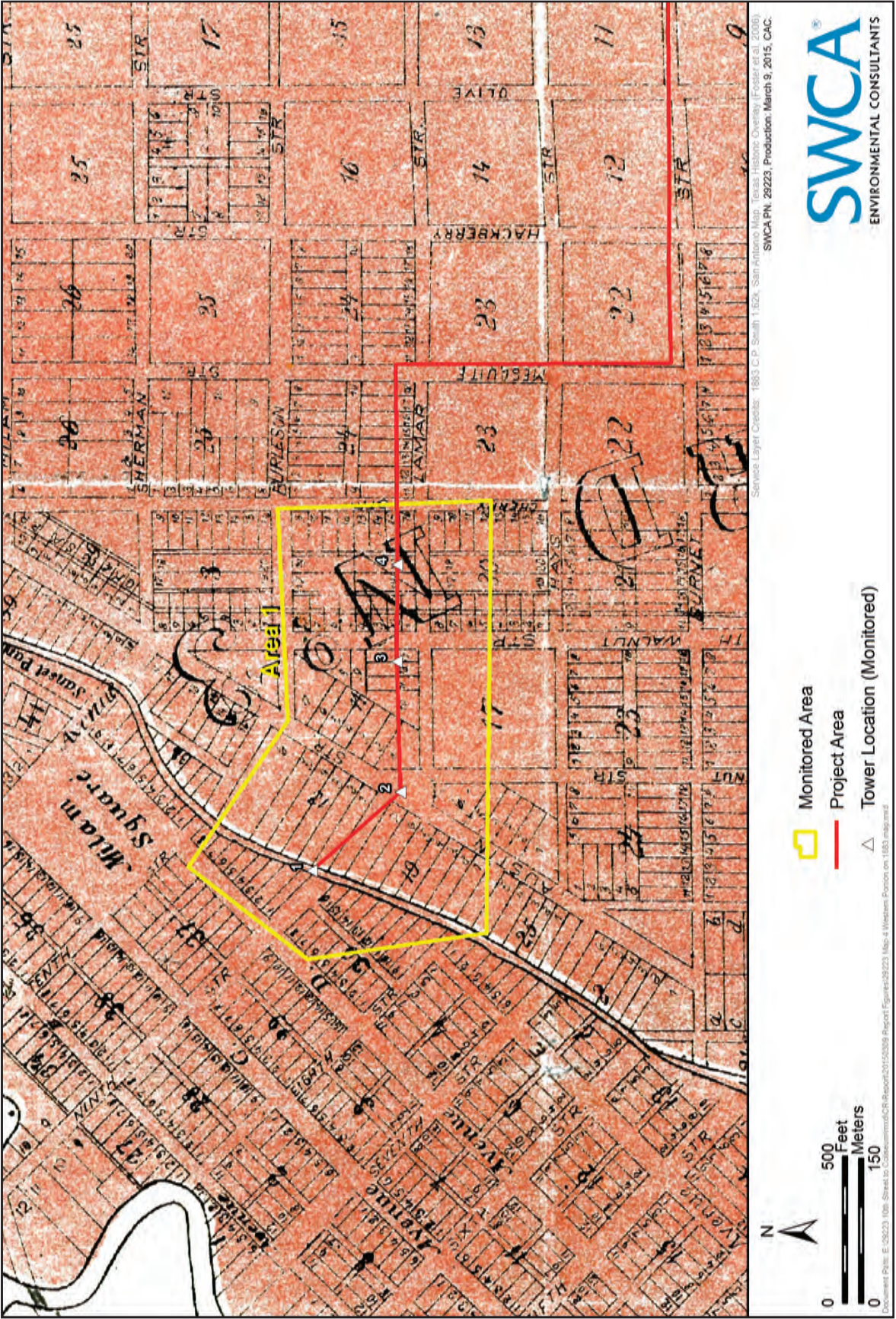


Figure 12.3. Western terminus of project area on 1883 C.P. Smith map of San Antonio.

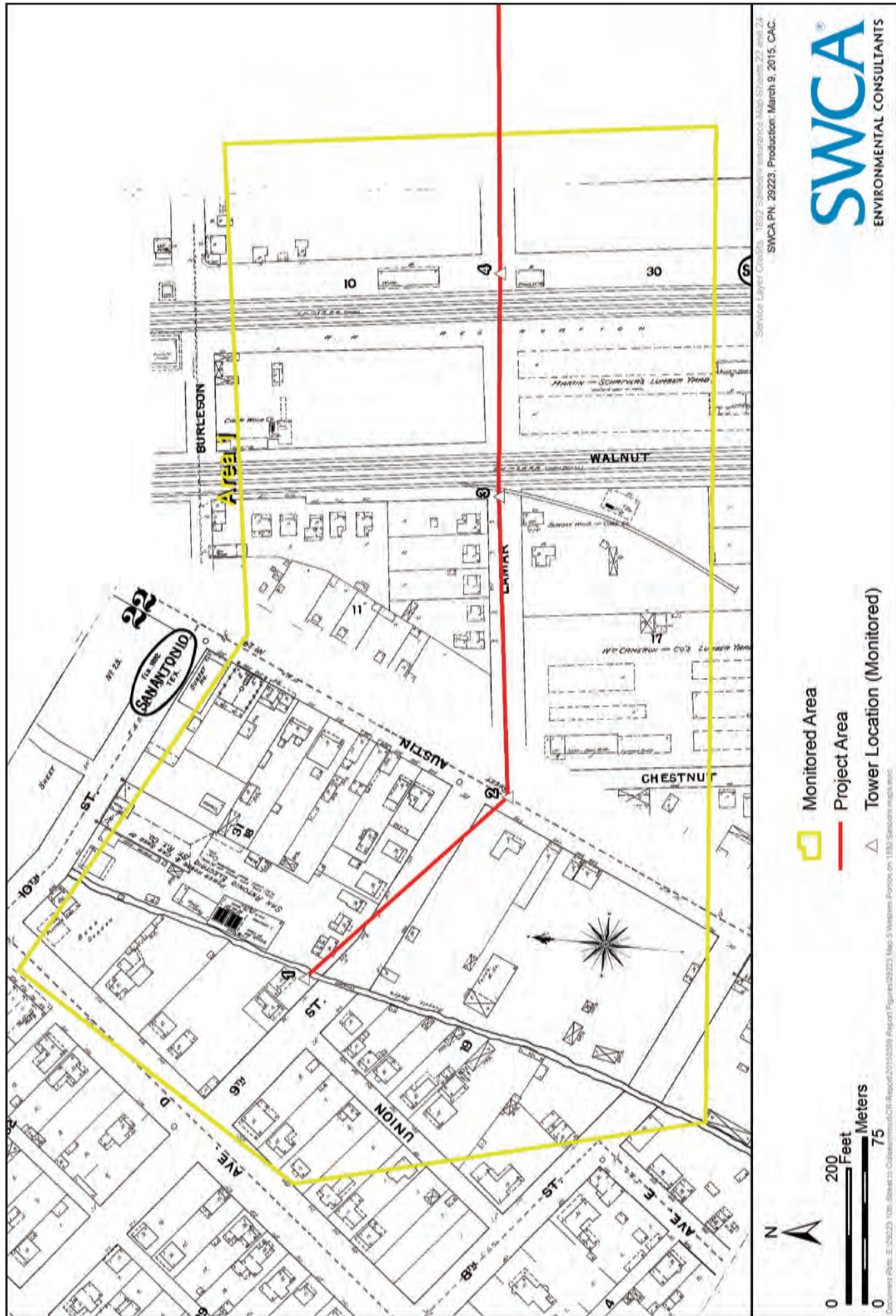


Figure 12.4. Western terminus of project area on 1892 Sanborn Maps Sheets 22 and 24.

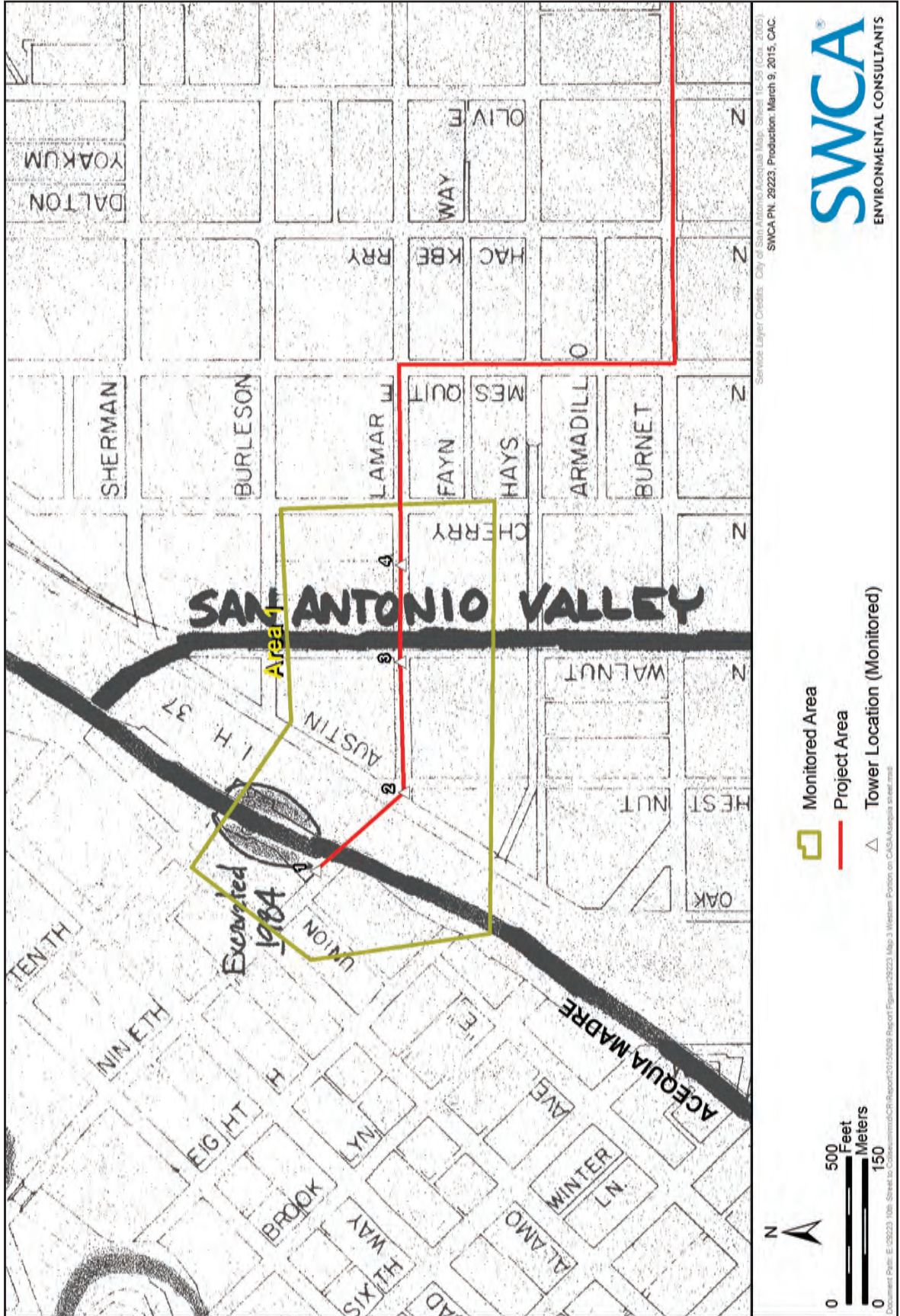


Figure 12.5. Western terminus of project area on City of San Antonio Acequia Map Sheet 16-58.

closed again, but initial costs for filling the ditch delayed the process (Cox 2005; Ulrich 2011). A solution to fill the ditch with street sweepings was ultimately proposed, and the Acequia Madre was closed for the last time by mid-1905 (Cox 2005; Ulrich 2011).

Multiple archaeological investigations have been conducted on the Acequia Madre since the 1960s. More recent investigations by CAR-UTSA, have contributed valuable information to the location and construction style of the Alamo Ditch. In 1984, CAR-UTSA monitored the excavations for the Tenth Street Substation Project just north of the current project area, and documented an unlined, shallow portion of the Acequia Madre. The ditch measured 5 feet (1.52 m) deep and 15 feet (4.57 m) wide, although profile views indicated that the channel reached a width of 21 feet (6.40 m), likely from erosion and meandering. The artifact assemblage collected during investigations indicated that the ditch was used for dumping over an extended period of time after its abandonment (Cox 1985). As previously mentioned, the refuse deposits are likely attributed to the use of street sweepings as fill as well as isolated dumping episodes by local residence.

In 1989, CAR-UTSA conducted archaeological testing within the southwest corner of the HemisFair Plaza, 0.94 mile southwest of the current project area on behalf of COSA. A series of six trenches uncovered the east wall of a stone-lined ditch, but revealed that most of the stones for the west wall of the ditch had been removed. Archival research suggested that the west wall stones were removed (likely to be repurposed) sometime between the acequia's abandonment from 1905 to 1915, at which date a map depicts the ditch as incomplete. Excavations found that the top of the existing east wall ranged from 1 to 2.63 feet (0.30–0.80 m) below the current ground surface, and the bottom of the ditch was around 6 feet (1.83 m) below ground surface. Further observation found 2 to 3 feet (0.61–0.91 m) of accumulated household trash within the ditch that was likely deposited after its abandonment. Although the west wall had been robbed of its stones, soil deposition indicated that the acequia was approximately 6.5 feet (1.98 m) in width, including the width of the existing east wall stones. A detailed analysis was conducted on the artifact assemblage recovered from trenching investigations to determine the point at which the acequia was filled, and to determine the consistency of the rubbish fill within the project area (Fox and Cox 1990).

In 2011, CAR-UTSA conducted survey and testing investigations on the grounds of the Witte Museum in search of the Acequia Madre and the Alamo Dam approximately 2 miles north of the current project area. Backhoe trenching investigations uncovered large, stacked limestone blocks adjacent to the current channel of the San Antonio River, which was believed to be the remains of the Alamo Dam. The top of the dam was found between 1 m (3.28 feet) and 1.5 m (4.92 feet) below ground surface. The total length of the dam observed within the profile of the excavations was 7 m (22.97 feet) north to south. Evidence indicates that portions of the dam were likely sheared off in the 1930s for the construction of the river channel lining. Two possible versions of the ditch were also uncovered, the first being a 2-m-wide (6.56-foot-wide) ditch cut into natural clay and caliche, filled with fine clay and clayey loams. The top of this ditch begins approximately 1.5 m (4.92 feet) below ground surface and extends to approximately 2.75 m (9.02 feet) at its lowest point. The second ditch, also mostly cut into natural clay and caliche soils, partly overlaps the east edge of the first ditch. The top of the second ditch is approximately 1.75 m (5.74 feet) below ground surface and extends to nearly 3 m (9.84 feet) below ground surface at its deepest extent. The second ditch was approximately 4 m (13.12 feet) wide, and was filled with deposits consistent with flooding and natural deposition. These deposits indicate this second ditch was not as well maintained as the first and may be an indication of when the Acequia Madre was used for flood control rather than for water supply (Ulrich 2011).

SAN ANTONIO VALLEY DITCH

The San Antonio Valley Ditch is mapped intersecting the project area at Lamar Street. The ditch began as a southeastern diversion off the Acequia Madre near the intersection of North Alamo Street and East Jones Avenue. The ditch then trended south for 0.74 mile down the ROW of the Galveston, Harrisburg, and San Antonio Railway before diverting east down Center Street for 450 feet. At this point, the ditch split into a 0.37-mile-long lateral that trended to the north down the ROW of North Cherry Street, and the main channel that continued south down South Cherry Street for 0.18 mile before meandering to the southeast. Ultimately, the ditch spans a total of 2.63 miles, terminating at the southern end of Piedmont Avenue. There are no known archaeological investigations that have encountered the San Antonio Valley Ditch.

MONITORING INVESTIGATIONS

At intervals from December 2014 to March 2015, SWCA archaeologists conducted monitoring investigations within the western and eastern terminus of the project alignment, designated as Area 1 and 2, respectively. Investigations focused on 15 tower locations of the APE (Table 12.1). The investigations determined that the APE was previously disturbed by the construction of city streets, existing utilities, and, on the eastern end of the project area, by the channelization of the unnamed tributary to Salado Creek. No significant cultural resources were encountered.

Excavations for the tower locations used one of two methods. The predominant method used a mechanized auger with the bits ranging in size from 72 to 84 inches in diameter, determined by the construction plans of the individual pole location. Each time the auger bit was withdrawn from the hole, the operator would move the bit to the side and spin it in reverse, releasing the matrix onto the ground for inspection. Spoils were examined during the excavation process and immediately removed with a backhoe on to a loading vehicle for off-site removal. The second method consisted of a “soft dig,” which used a highly pressurized water hose to break up soil material as a suction hose absorbed the debris into a large water truck. This was the preferred method within the residential areas where utility lines are more frequently encountered. The suction excavation would minimize any damage to utilities if they should be encountered. The spoils could not be observed when this method was used as the materials were quickly taken up by the suction hose. Only the profile walls of the excavations were examined when this method was utilized. Once the soft-dig excavations were completed to approximately 10 feet in depth, mechanized auger excavations followed to reach a maximum depth of 20 to 40 feet. Monitoring was abandoned once the excavations reached sterile deposits.

AREA 1

Tower locations 1–4 are within the western terminus of the project alignment (Figure 12.6). Towers 1 and 2 were excavated by the mechanized auger, while the soft dig method was used for Towers 3 and 4. All tower locations were 72 inches in diameter and excavated to a depth of 39 feet. Of the four tower locations in Area 1, only Tower 1 contained evidence of cultural material. Tower 1 is within the Tenth Street Substation and the

mapped path of the Acequia Madre. The soil profile consisted of (Figure 12.7):

- 0–0.5 feet: Asphalt
- 0.5–6 feet: Dark brown clay with 10 percent gravel inclusions
- 6–13 feet: clay with 60 percent gravel inclusions
- 13–39 feet: clay with 60 percent gravel inclusions

Artifacts observed within the upper 5 feet of the Tower 1 location consisted of historic material dating to the late nineteenth to early twentieth century. A horse shoe and wire nail were observed from the upper 3 feet of the excavations. Ceramic whiteware pieces, glass bottles, a miscellaneous metal fragment, and a graphite writing implement were observed between 3 to 5 feet in depth (Figure 12.8). The materials are of the same age range as artifacts recovered from previous excavations within the substation (Acuña and Galindo 2014). The artifacts are likely associated with the Acequia Madre as trash that flowed within former ditch or as fill used for the construction of the substation. No other features or evidence of structural material for the acequia was observed within the profile of the tower location.

Tower 2 is located near the intersection of Lamar Street and Chestnut Street. The upper excavations of the tower revealed evidence of the previous brick street underneath the existing pavement (Figure 12.9). Evidence was also observed on the ground surface near the auger hole (Figure 12.10). The soil profile for Tower 2 consisted of:

- 0–1 foot: Concrete and macadamized street area with brick
- 1–3 feet: Black clay
- 3–5 feet: Brown clay loam with 10 percent gravel inclusions
- 5–7 feet: Brownish yellow clay with 30 percent gravel inclusions and caliche
- 7–12 feet: Brownish yellow clay with 60 percent gravels, caliche, with some large cobbles
- 12–20+ feet: Pale brown silty clay with 60 percent cobbles, gravels, and caliche

Tower 3 is adjacent to an existing railroad crossing and the mapped location of the San Antonio Valley ditch.

Table 12.1. Tower Locations

Area	Tower Location	Excavation Depth (Feet)	Excavation Diameter (Inches)	Excavation Method	Monitoring Status	Comments
1	1	39	72	Mechanical Auger	Monitored	Evidence of Cultural Debris; No Significant Cultural Material or Features Observed.
1	2	39	72	Mechanical Auger	Monitored	Evidence of Brick Paved Road Below Existing Roadway; No Significant Cultural Material or Features Observed.
1	3	10	72	Soft-Dig (0-10 feet) Mechanical Auger (10-40 feet)	Upper 10 feet of excavations monitored	No Cultural Material or Features Observed.
1	4	8	72	Soft-Dig (0-10 feet) Mechanical Auger (0-40 feet)	Upper 8 feet of excavations monitored	No Cultural Material or Features Observed.
2	34	32	72	Soft-Dig (0-10 feet) Auger (0-40 feet)	Lower 20 feet of excavations monitored	No Cultural Material or Features Observed.
2	35	32	60	Soft-Dig (0-10 feet) Auger (0-40 feet)	Monitored	No Cultural Material or Features Observed.
2	36	40	72	Auger	Monitored	No Cultural Material or Features Observed.
2	37	40	72	N/A	N/A	Replacement Only, No Monitoring Required.
2	38	40	72	N/A	N/A	Replacement Only, No Monitoring Required
2	39	40	72	N/A	N/A	Replacement Only, No Monitoring Required.
2	40	40	72	Soft-Dig (0-10 feet) Auger (0-40 feet)	Upper 6 feet of excavations monitored	No Cultural Material or Features Observed.
2	41	40	72	Soft-Dig (0-10 feet) Auger (0-40 feet)	Upper 10 feet of excavations monitored	No Cultural Material or Features Observed.
2	42	40	72	Soft-Dig (0-10 feet) Auger (0-40 feet)	Upper 10 feet of excavations monitored	No Cultural Material or Features Observed.
2	43	40	72	Auger	Upper 22 feet of excavations monitored	No Cultural Material or Features Observed.
2	44	40	84	Auger	Upper 18 feet of excavations monitored	No Cultural Material or Features Observed.

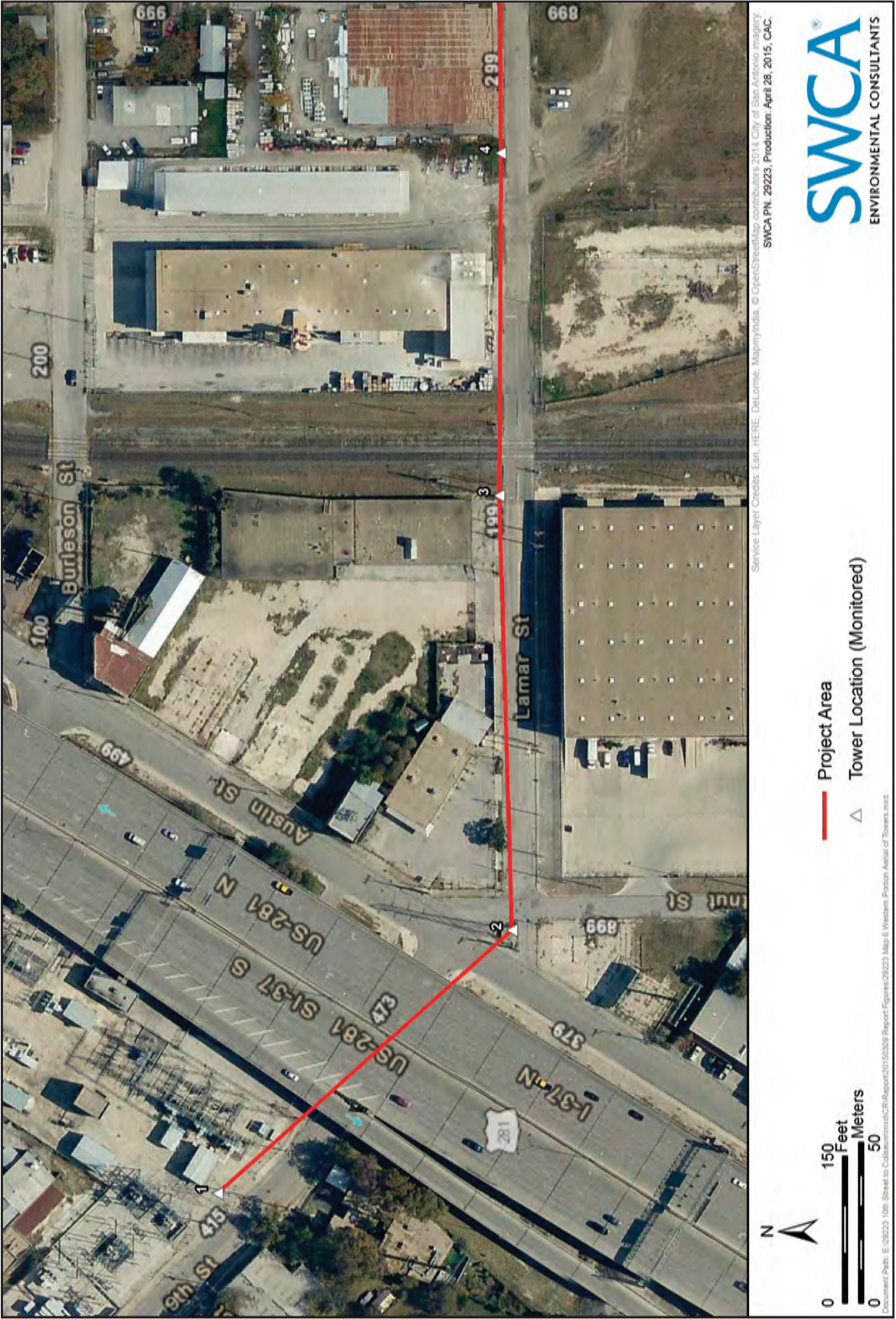


Figure 12.6. Area 1, close up of tower locations.



Figure 12.7. Soil profile of Tower 1.



Figure 12.9. Macadamized brick in auger hole and profile of Tower 2 location.



Figure 12.8. Miscellaneous artifacts from Tower 1.



Figure 12.10. Macadamized brick observed on the ground surface next to Tower 2.

The soft-dig excavation for Tower 3 was completed before SWCA archaeologists were notified and was therefore not monitored. However, the profile and spoil pile were examined for cultural resources. The excavations outlined an existing tower footing that was previously abandoned (Figure 12.11). The tower footing was removed and excavations continued within the same footing location. The excavations were 24 inches in diameter and 8 to 10 feet deep. Tower 3 was entirely within disturbed contexts, no significant cultural resources were encountered during the excavations and no evidence of the San Antonio Valley ditch was observed.

Three attempts were made to excavate Tower 4 utilizing the soft-dig method. The first two attempts encoun-

tered existing tower footings and excavations were abandoned. The third attempt was approximately 24 inches in diameter and 8 feet deep. An unknown buried utility line was encountered approximately 4 feet below surface within the profile wall (Figure 12.12). The excavations were shifted 1 foot to the south during the auger drilling. Another abandoned utility line made of cast iron was encountered 6 feet below the ground surface. No archaeological deposits or cultural features were observed during the excavations.

AREA 2

Area 2 contains 11 tower locations: Towers 34 and 35 are along Grimes Street, Towers 37–39 are along Larry Street, Towers 36–37 and 40–43 are adjacent

to the unnamed tributary of Salado Creek, and Tower 44 is next to the Coliseum Substation. The unnamed tributary, which traverses the project area at the eastern end of the project line, has been channelized and lined with concrete. The redefined banks are approximately 40 feet wide and 8 to 10 feet tall. Excavations revealed very shallow soil deposits over a dense substrate of 60 to 80 percent by volume river gravels. Constituent river gravels were rounded and ranged from 5 cm to 30 cm in size. The channelization of the drainage stripped the upper soils leaving only 1 to 2 feet of sediment. The typical profile for these tower locations as represented at Tower 36 consisted of (Figure 12.13):

- 0–1 foot: Very dark grayish brown clay
- 1–8 feet: Very dark grayish brown clay with 60–80 percent river gravels
- 8–9 feet: Light brown clay mottled with reddish yellow clay with 40 percent gravels
- 9–25 feet: Reddish yellow clay with 20 percent gravel inclusions
- 25–40 feet: Grey clay

Based on the results of the initial excavations in Area 2, the monitoring protocol was adjusted so that an SWCA archaeologist would be present for the removal of the upper 6 feet of sediments during the tower excavations. Of the 11 tower locations in Area 2, three were excavated with a mechanized auger (Towers 36, 43, and 44) and five were soft dug (Towers 34, 35, 40, 41, and 42). The remaining three tower locations (Towers 37, 38, and 39) were replaced within the existing tower footprint and were not monitored (Figure 12.14). Tower 41 was excavated four times to adjust for existing buried utilities.

Two additional pier locations, Tower 1A and Tower 1B, were observed within and near the Coliseum Substation that were excavated concurrently, but were not part of the project or associated directly with the known tower locations. These additional piers were not monitored as they were conducted under a separate phase and contractor.

MONITORING SUMMARY

Of the 15 tower locations, five were excavated with a mechanized auger, seven were soft-dug, and three were replaced within the existing tower footprint and did not require monitoring. Both Area 1 and Area 2 exhibited evidence of previously disturbed sediments within the



Figure 12.11. Tower 3 overview.



Figure 12.12. Tower 4 overview with existing utility in profile.



Figure 12.13. Tower 36 profile at 25–30 feet.

tower location excavations. Tower 1, located within the Tenth Street Substation, contained cultural materials dating to the late nineteenth to early twentieth century correlating with the previous investigations within the substation (Acuña and Galindo 2014). The materials are likely associated with debris from previous historic occupations of the city block or fill material used to cap the Acequia Madre within the substation. Traces of COSA's previous brick-paved streets, a common construction method used during the late nineteenth century, were observed during excavations of Tower 2 and is common throughout downtown San Antonio. No significant cultural materials were encountered. In addition, no evidence of the San Antonio Valley Ditch was encountered within the excavations of Tower 3, which is located near the mapped route.

Monitoring of the tower excavations within Area 2 encountered shallow soil deposits and several layers of dense river cobbles and clay. The adjacent unnamed tributary of Salado Creek has been channelized, which likely removed most of the upper soil sediments. No cultural materials were encountered during the tower excavations within Area 2. Overall, the Coliseum Project was primarily within previously disturbed contexts related to roadway construction, surface and subsurface utilities and residential activities and development. No significant cultural resources were encountered within the project area and no evidence of the mapped acequia locations was observed.

SUMMARY AND RECOMMENDATIONS

On behalf of CPS Energy, SWCA conducted a cultural resources survey of the Coliseum Project in Bexar County, Texas. The investigations included a background and archival review and cultural resources monitoring investigations at select tower locations of the project. All work was done in accordance with the standards and guidelines of the THC and the CTA under CPS Energy's annual Texas Antiquities Permit, (No. 6851).

The project APE was entirely within the existing ROW of city streets and the unnamed tributary of Salado Creek. SWCA monitoring investigations focused on the western (Area 1) and eastern (Area 2) terminus of the proposed alignment; this involved approximately 0.81 mile (4,276 feet) of APE, or a total of 15 of 46 proposed tower locations.

The background review determined that two small segments of the project area have been previously surveyed, and that the Acequia Madre (41BX8), the San Antonio Valley Ditch, and the Dignowity Hill San Antonio Historic District are within the project area. The review also found six archaeological sites, two cultural resources surveys, seven NRHP properties, five National Register Historic Districts, five COSA-designated historic districts, two RIO districts, 12 OTHMs, multiple cemeteries, and 150 to 200 neighborhood surveys adjacent to or within a 0.5-mile radius of the project area.

At intervals from December 2014 through March 2015, SWCA archaeologists conducted monitoring investigations within the western and eastern terminus of the project alignment, designated as Area 1 and 2, respectively. Of the 15 tower locations, five were excavated with a mechanized auger, seven were soft-dug, and three were replaced within the existing tower footprint and did not require monitoring. Both Area 1 and Area 2 exhibited evidence of previously disturbed contexts within the tower location excavations. No significant cultural resources were encountered within the project area and no evidence of the mapped acequia locations was observed.

SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources, and SWCA recommends no further archaeological investigations within the APE. No artifacts were collected; only records will be curated.

CHAPTER 13

SUMMARY

Laura I. Acuña

On behalf of CPS Energy, SWCA completed eight cultural resources investigations under CPS Energy's annual permit, Texas Antiquities Permit No. 6851. Each of the investigations included a background and archival review. Two projects involved an intensive pedestrian survey with subsurface investigations and six projects consisted of cultural resources monitoring investigations. All work was done in accordance with the standards and guidelines of the THC and the CTA. The document serves as a consolidated overview of all the investigations completed under CPS Energy's 2014 THC Annual Permit 6851.

In coordination with the THC and the SA-OHP, CPS Energy and SWCA applied existing CEs from the THC regulations and developed new CEs specific to CPS Energy projects. Projects were reviewed under the defined

CEs and some CEs are conditional upon their location within or outside of the original 36-square-mile City Limit for COSA. CPS Energy projects were primarily within an urban setting of downtown San Antonio and surrounding suburbs. Most of the projects occurred within the existing ROWs of previous utilities and roads. The project areas consisted of new electric and gas transmission and distribution projects; upgrading and maintaining existing electric and gas infrastructure; and a variety of construction and maintenance activities for substations.

Table 13.1 lists the projects and results with the date of concurrence from the THC (Appendix A). Overall, none of the projects encountered significant cultural resources and no further work was recommended. Five investigations were within the City Limit as defined by

Interim Report No.	Work Request No.	SWCA Project No.	Project Name	Investigation TYPE	Sites	Recommendations	THC Response
1	1752969	27290	NE SPD Expansion Project	Survey	none	No further work is recommended.	8/4/2014; Concurred
2	1873173	30542	Bulverde Road and Redland Road Project	Survey	none	No further work is recommended within the ROW.	10/3/2014; Concurred
3	1896172	31292	Huizar Street Gas Service Line Project	Monitoring	none	No further work is recommended.	12/16/2014; Concurred
4	Network No. 8034093-0010	31342	West Avenue Tower Relocation	Monitoring	none	No further work is recommended	12/16/2014; Concurred
5	1856482	30829	Isabel Street Pole Relocation	Monitoring	none	No further work is recommended	3/12/2015; Concurred
6	N/A	28608	Ball Park Substation	Monitoring	none	No further work is recommended	6/23/2015; Concurred
7	Phase I (1838071) Phase II (1866167)	30286	Comal Street Substation	Monitoring	none	No further work is recommended	5/4/2015; Concurred
8	N/A	29223	Tenth Street to Coliseum Transmission Line Rebuild	Monitoring	none	No further work is recommended	5/22/2015; Concurred

the CEs. The remaining three projects were outside of the City Limit, but did not qualify under any designated CEs and required investigations.

SWCA made a reasonable and good faith effort to identify cultural resource properties within the project areas. Based on the results of these investigations, the proposed undertakings will have no effect on any significant cultural resources. SWCA recommended no further archaeological investigations within the APE and the THC/SA-OHP concurred with each of the projects findings. No artifacts were collected; thus, only field records and photographs will be curated at CAR-UTSA.

REFERENCES

- (Atlas) Texas Archaeological Sites Atlas
2014 *Texas Archaeological Sites Atlas* restricted database, Texas Historical Commission. <http://nueces.thc.state.tx.us/>. Accessed October 23, 2014.
- Acuña, L. I. and M. J. Galindo
2014 *Additional Archaeological Monitoring Investigations for the Tenth Street Substation Project, Bexar County, Texas*. SWCA Cultural Resource Report, No. 13-325. SWCA Environmental Consultants, Austin, Texas.
- Ahr, Steven W., and Sherry N. DeFreece Emery
2010 *Archaeological and Historical Resources survey of Two Alternative Playground Locations at Roosevelt Park in San Antonio, Bexar County, Texas*. URS Miscellaneous Report of Investigations. URS Corporation, Austin.
- Arneson, Edwin P.
1921 Early Irrigation in Texas. *The Southwestern Historical Quarterly* 25(2):121-130.
- Barnes, V. E.
1983 *Geologic Atlas of Texas, San Antonio Sheet*. Bureau of Economic Geology, The University of Texas at Austin.
- Barr, A.
2015 Bexar, Siege of. *The Handbook of Texas Online*. Available at: <https://tshaonline.org/handbook/online/articles/qeb01>. Accessed November 2015.
- Baumgartner, D. H., and G. B. Vollentine
2012 "Gonzales County", *Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/hcg07>. Accessed March 1, 2012. Published by the Texas State Historical Association.
- Bever, M. R. and D. J. Meltzer
2007 Exploring Variation in Paleoindian Life Ways: The Third Revised Edition of the Texas Clovis Fluted Point Survey. *Bulletin of the Texas Archeological Society* 78:65-99.
- Black, S. and A. McGraw
1985 *The Panther Springs Creek Site: Cultural Change and Continuity with the Upper Salado Creek Watershed, South-Central Texas*. Archaeological Survey Report No. 100. Center for Archaeological Research at The University of Texas at San Antonio.
- Black, S. L.
1989 Environmental Setting. In *From the Gulf to the Rio Grande: Human Adaptation in Central, South, and Lower Pecos Texas*, by Thomas R. Hester, Stephen L. Black, D. Gentry Steele, Ben W. Olive, Anne A. Fox, Karl J. Reinhard, and Leland C. Bement, pp. 5-16. Research Series No. 33. Arkansas Archeological Survey, Fayetteville.
- Black, S. L., J. Karbula, C. Frederick, and C. Mear
1997 Scenarios of Midden Accumulation. In *Hot Rock Cooking on the Greater Edwards Plateau: Four Burned Rock Midden Sites in West Central Texas*, Volume 1, by S. L. Black, L. W. Ellis, D. G. Creel, and G. T. Goode, pp. 83-87. Studies in Archeology 22. Texas Archeological Research Laboratory, The University of Texas at Austin. Archeology Studies Program, Report 2. Environmental Affairs Department, Texas Department of Transportation, Austin.

- 1998 *Archeology along the Wurzbach Parkway, Module 5: Testing and Geoarcheological evaluation at the number – 6 site (41BX996) and other sites*. Studies in Archeology 29. Texas Archeological Research Laboratory, The University of Texas. Texas Department of Transportation. Austin, Texas.
- Blair, W. F.
1950 The Biotic Provinces of Texas. *The Texas Journal of Science* 2(1):93–117.
- Bolton, H. E.
1970 *Texas in the Middle Eighteenth Century: Studies in Spanish Colonial History and Administration*. The Texas State Historical Association and the University of Texas Press, Austin.
- Bonine, M., A. Mod, J. Hrivnatz, and S. Carpenter
2009 *Intensive Cultural Resources Survey of the District 3 New Branch Library at the Site of The Mission Drive-In Theater, City of San Antonio, Bexar County, Texas*. SWCA Cultural Resources Survey Report No. 08-315. SWCA Environmental Consultants, Austin, Texas.
- Bousman, C. B.
1998 Paleoenvironmental Change in Central Texas: The Palynological Evidence. *Plains Anthropologist* 43(164):201–219.
- Bousman, C. B., B. W. Baker, and A. C. Kerr
2004 Paleoindian Archeology in Texas. In *Prehistory of Texas*, edited by Timothy K. Perttula, pp.15–97. Texas A&M University Press. College Station, Texas.
- Brune, G.
1981 Springs of Texas. Vol. 1. Branch-Smith, Inc. Fort Worth.
- Burt, W. H., and R. P. Grossenbeider
1976 *Peterson Field Guides: Mammals*. Houghton Mifflin Company, Boston and New York.
- Butterfield, J. C.
1968 *The Free State of Bejar*. 2nd ed. Library Committee The Daughters of the Republic of Texas at the Alamo, Texas.
- Caldwell, L.
2012 “Casas Revolt,” *Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/jcc02>. Accessed March 1, 2012. Published by the Texas State Historical Association.
- Campbell, R. B.
2003 *Gone to Texas: A History of the Lone Star State*. Oxford University Press. New York.
- Campbell, T. N.
1988 *Indians of Southern Texas and Northeastern Mexico: Selected Writings of Thomas Nolan Campbell*. Texas Archeological Research Laboratory, with the cooperation of the Department of Anthropology, the College of Liberal Arts, and the Institute of Latin American Studies, The University of Texas at Austin.
- Cargill, D. A., B. A. Meissner, A.A. Fox, and I. W. Cox
2004 *San Antonio Mission Trails Statewise Transportation Enhancement Project Volume 1 Construction Package 1: Archeological Investigations at Mission San Francisco de la Espada (41BX4), City of San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 308. Center for Archaeological Research The University of Texas at San Antonio.
- Castañeda, C. E.
1936–1958 *Our Catholic Heritage in Texas, 1519–1936*. 7 vols. Von Boeckmann-Jones Co., Austin.
- Cecil, P. F., and D. P. Greene
2012 “Hays County”, *The Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/hch11>. Accessed March 1, 2012. Published by the Texas State Historical Association.

- Chipman, D. E.
 1992 *Spanish Texas, 1519–1821*. University of Texas Press, Austin, Texas.
 1993 Excavations of a Portion of the San Pedro Acequia (41BX337) via Metropolitan Transit System Parking Lot, San Antonio, Bexar County, Texas. Archaeological Survey Report, No. 291. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
 1995 *An Archival Search for the Alamo-Concepcion Aqueduct*. Archaeological Survey Report, No. 321. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
 2005 *Spanish Acequias of San Antonio*. Maverick Publishing Company, San Antonio.
- City of San Antonio Official Website
 2014 Office of Historic Preservation. *Dignowity Hill*. <http://www.sanantonio.gov/historic/Districts/Dignowity.aspx>. Accessed October 23, 2014.
- Clark, J. W. Jr.
 1978 *Mission San Jose y San Miguel de Aguayo, Archeological Investigations, December 1974*. Office of the State Archeologist, Report 29. Texas Historical Commission, Austin, Texas.
- Clark, Pollyanna, Chris Murray, and Sally S. Victor
 2013 *A Cultural Resources Survey of the Proposed San Pedro Creek Restoration Project, San Antonio, Bexar County, Texas*. RKEI Project, No. ASF12-129-00. Raba Kistner Environmental, Inc., San Antonio.
- Corner, William
 1890 *San Antonio de Bear: A Guide and History*. Bainbridge & Corner, San Antonio.
- Collins, M. B.
 1968 A Note on the Broad Corner-Notched Projectile Points Used In Bison Hunting in Western Texas. *The Bull Roarer* 3(2) 13–14. The University of Texas Anthropology Society, Department of Anthropology, The University of Texas at Austin.
 1990 *The Archaeological Sequence at Kincaid Rockshelter, Uvalde County, Texas*. Transactions of the Twenty-Fifth Regional Archeological Symposium for Southeastern New Mexico and Western Texas, pp. 25–34.
 1995 Forty Years of Archeology in Central Texas. *Bulletin of the Texas Archeological Society* 66:361–400.
 1998 *Early Paleoindian Components*. In *Wilson-Leonard: An 11,000-Year Archeological Record of Hunter-Gatherers in Central Texas*, Volume I, edited and assembled by Michael B. Collins, pp. 123–159. Studies in Archeology 31. Texas Archeological Research Laboratory, The University of Texas at Austin. Archeology Studies Program, Report 10. Environmental Affairs Division, Texas Department of Transportation.
 2004 Archeology in Central Texas. In *Prehistory of Texas*, edited by Timothy K. Perttula, pp. 101–126. Texas A&M University Press. College Station, Texas.
- Collins, M. B., G. L. Evans, T. N. Campbell, M. C. Winans, and C. E. Mear
 1989 Clovis Occupation at Kincaid Rockshelter, Texas. *Current Research in the Pleistocene* 6:3–4.
- Collins, M. B., T. R. Hester, and P. J. Hedrick
 1992 Engraved Cobbles from the Gault Site, Central Texas. *Current Research in the Pleistocene* 9:3–4.

- Collins, M. B., J. Guy, and S. W. Dial
- 1998 The Archaic Period, 8800 to 1300 B.P. In *Wilson-Leonard: An 11,000-Year Archeological Record of Hunter-Gatherers in Central Texas*, Volume I, edited and assembled by M. B. Collins, pp. 211–270. Studies in Archeology 31. Texas Archeological Research Laboratory, University of Texas at Austin. Archeology Studies Program, Report 10. Environmental Affairs Division, Texas Department of Transportation.
- 2004 Archeology in Central Texas. In *Prehistory of Texas*, edited by Timothy K. Perttula, pp.101–126. Texas A&M University Press. College Station, Texas.
- Cox, I. Wayne
- 1985 *10th Street Substation Excavation of the Acequia Madre (41BX8), San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 153. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 1986 *Excavations of Portions of the San Pedro Acequia (41BX337) and a Search for the Arocha Acequia, San Antonio, Texas*. Archaeological Survey Report, No. 161. The Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 1988 *Archaeological Monitoring of the San Jose Acequia (41BX267), Wastewater Facilities Improvements Program, San Antonio, Texas*. Archaeological Survey Report, No. 175. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 1992 *Archival Investigation of the Pyron Homestead (41BX278[9]), New City Block 7657, San Antonio, Texas*. Archaeological Survey Report, No. 210. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 1993 *Excavations of a Portion of the San Pedro Acequia (41BX337) via Metropolitan Transit System Parking Lot, San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 291. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 1995 *An Archival Search for the Alamo-Concepcion Aqueduct*. Archaeological Survey Report, No. 321. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 2002 *Archaeological Investigations for the One-Stop Development Services Center, San Antonio, Bexar County, Texas*. Letter Report, No. 142. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 2005 *Spanish Acequias of San Antonio*. Maverick Publishing Company, San Antonio.
- 2006 *Historic Background*. In *Archaeological Testing for the Walker Ranch Park Bridge Project (41BX1271), San Antonio, Bexar County, Texas*, by B.A. Meissner, pp. 4–6. Archaeological Survey Report No. 365. Center for Archaeological Research at The University of Texas at San Antonio.
- Cox, I. Wayne
- 1992 *Archival Investigation of the Pyron Homestead (41BX278[9]), New City Block 7657, San Antonio, Texas*. Archaeological Survey Report, No. 210. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 1995 *An Archival Search for the Alamo-Concepción Aqueduct*. Archaeological Survey Report, No. 321. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 2005 *Spanish Acequias of San Antonio*. Maverick Publishing Company, San Antonio.

- Cox, I. Wayne, Edgar D. Johnson, and C. Bousman
1999 *Excavations for the Upper Labor Dam Site, Brackenridge Park, San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 268. The Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Cruz, G. R.
2012 "San José y San Miguel de Aguayo Mission," *Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/uqs23>. Accessed March 1, 2012. Published by the Texas State Historical Association.
- Culotta, Daniel S., Christian T. Hartnett, and Kevin A. Miller
2010 *Intensive Archaeological Survey and Monitoring at Riverside Golf Course, City of San Antonio, Bexar County, Texas*. SWCA Cultural Resources Report, No. 09-185. SWCA Environmental Consultants, Austin.
- Davis, W. B., and D. J. Schmidly
1994 *The Mammals of Texas*. Texas Parks and Wildlife Press, Austin.
- Dibble, D. S., and D. Lorrain
1968 *Bonfire Shelter: A Stratified Bison Kill Site, Val Verde County, Texas*. Miscellaneous Papers No. 1. Texas Memorial Museum, The University of Texas at Austin.
- Dickey, Cynthia M., and Kristi Miller Ulrich
2012 *Construction Monitoring of the Theo Avenue Realignment Project, San Antonio, Bexar County, Texas*. Technical Report, No. 32. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Dippel, Michelle, and Sally Victor
2012 *Archaeological and Historical Assessment of the Westside Multi-Modal Transit Center Phase II, Bexar County, Texas*. HNTB Corporation, Austin.
- Donecker, F.
2008 San Antonio River. *Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/SS/ms6.html>. (accessed May 27, 2008).
- Dowling, J.
2008 *Backhoe Trenching on the Banks of the Old San Antonio River at Pyron Avenue, City of San Antonio, Bexar County, Texas*. Archaeological Report No. 380. Center for Archaeological Research at The University of Texas at San Antonio, San Antonio.
- Eisenhour, Thomas P. and Richard C. Cilley
2005 *Historic Resources Reconnaissance Survey of FM 2252 from Loop 1604 to Evans Road Bexar County, Texas CSJ#: 1433-01-025*. Ecological Communications Corporation, Austin, Texas.
- Everett, R.
1859 "Things in and About San Antonio," Frank Leslie's Illustrated Newspaper. Vol. 7 #163 (Jan. 15, 1859).
- Fehrenbach, T. R.
1978 *Lone Star: A History of Texas and the Texans*. Macmillan. New York.
2012 "San Antonio, TX," *Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/hds02>. Accessed March 1, 2012. Published by the Texas State Historical Association.
- Figueroa, Antonia L.
2011 *Archaeological Investigations and Construction Monitoring at the Bexar County Justice Center Expansion Project, San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 392. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.

- Figueroa, A. L. and S. A. Tomka
2009 *Archaeological Investigations in the Courtyard of Mission Nuestra Señora de la Purisima Concepcion Acuña (41BX12)*. Archaeological Report, No. 403. Center for Archaeological research The University of Texas at San Antonio.
- Foster, T. R., T. Summerville, and T. Brown
2006 *The Texas Historic Overlay: A Geographic Information System of Historic Map Images for Planning Transportation Projects in Texas*. Prepared for the Texas Department of Transportation by PBS&J, Austin.
- Foster, W. C.
1995 *Spanish Expeditions into Texas, 1689–1768*. University of Texas Press, Austin.
- Fox, A. A.
1977 *An Archaeological Assessment of the San Antonio 201 Wastewater Treatment Project*. Archaeological Survey Report No. 41. Center for Archaeological Research at The University of Texas at San Antonio.
1979 *Archaeological and Historical Investigations at 41BX180, Walker Ranch, San Antonio, Texas: Phase I*. Archaeological Survey Report No. 83. Center for Archaeological Research at The University of Texas at San Antonio.
- Fox, Anne A.
1978 *Archaeological Investigations of Portions of the San Pedro and Alazán Acequias in San Antonio, Texas*. Archaeological Survey Report, No. 49. The Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
1979 *A Survey of Archaeological, Architectural and Historical Sites on the San Antonio River from Almost Dam to South Alamo Street and on San Pedro Creek from San Pedro Park to Guadalupe Street*. Archaeological Survey Report, No. 80. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 1988 *Archaeological Investigations at Mission Concepción, Fall of 1986*. Archaeological Survey Report, No. 172. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Fox, Anne A., and I. Wayne Cox
1990 *Archaeological Excavations at the Alamo Acequia, Southwest Hemisfair Plaza, San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 192. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Fox, Anne A., Marcie Renner, and Robert J. Hard (editors)
1997a *Archaeology at the Alamodome: Investigations of a San Antonio Neighborhood in Transition, Vol. 1: Historical, Architectural, and Oral History Research*. SWCA Archaeological Survey Report, No. 236. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Galindo, M. J., K. Miller, and A. McGraw
2010 *Intensive Cultural Resources Survey of the Proposed Wurzbach Parkway Extension Project from Blanco Road to Wetmore Road, Bexar County, Texas*. SWCA Cultural Resources Report #07-225. Austin, Texas.
- Galindo, Mary Jo, Abigail Peyton, and Suzanne Trussell
2013 *Archaeological Monitoring Investigations for the Tenth Street Substation Project, Bexar County, Texas*. SWCA Cultural Resource Report, No. 10-358. SWCA Environmental Consultants, Austin, Texas.
- Gonzales, Steven Edward
2013 "History of El Camino Real de los Tejas". El Camino Real de los Tejas National Historic Trail Association. http://www.elcaminorealdelostejas.org/trail_history. Accessed September 2013.

- Gould, F. W.
1969 *Texas Plants: A Checklist and Ecological Survey*. Texas Agricultural Extension Service, Texas A&M University, College Station.
- Griffith, G. E., S. A. Bryce, J. M. Omernick, J. A. Comstock, A. C. Rogers, B. Harrison, S. L. Hatch, and D. Bezanson
2004 Ecoregions of Texas. Reston, Virginia, U. S. Geological survey
- Griffith, Timothy B., Joseph M. Sanchez, Rebecca Lapham, Alexis Reynolds, Maryellen Russo, and Brandon S. Young
2013 (Draft) *Cultural Resources Investigations for the Alazán Acequia (41BX620) and Historical Resources Survey for the Westside Multi-Modal Transit Center Phase 2 Project, San Antonio*. Texas Antiquities Code Permit, No. 6411. Blanton & Associates, Inc., Lakeway.
- Groneman, B.
2001 *Eyewitness to the Alamo*. Revised ed. Republic of Texas Press, Texas.
- Handbook of Texas Online
2012 "GTT" <http://www.tshaonline.org/handbook/online/articles/pfg01>. Accessed March 1, 2012. Published by the Texas State Historical Association.
- Hardin, S. L.
1994 *Texian Iliad: A Military History of the Texas Revolution, 1835–1836*. University of Texas Press, Austin.
- Hatch, T.
1999 *Encyclopedia of the Alamo and the Texas Revolution*. McFarland & Company, Inc., Publishers, Jefferson, North Carolina.
- Held, Pollyanna
2009 *An Intensive Cultural Resources Survey of 55 Acres Located South of Theo Avenue and West of Mission Avenue, San Antonio, Bexar County, Texas*. R-K Project, No. ASF09-118-01. Raba-Kistner Consultants, Inc., Austin.
2010 *An Intensive Archaeological Survey of the Proposed VIA Primo-Fredericksburg Road Bus Rapid Transit Project, San Antonio, Bexar County, Texas*. Project, No. ASF08-160-01. Raba-Kistner Consultants, Inc., San Antonio.
- Henderson, J. and J.W. Clark, Jr.
1984 *The Acequia and Other Features at Mission San José, Bexar County, Texas*. Publications in Archaeology Report No. 25. State Department of Highways and Public Transportation, Austin.
- Henderson, J. and G. T. Goode
1991 Pavo Real: An Early Paleoindian Site in South-Central Texas. *Current Research in the Pleistocene* 8:26–28.
- Henson, M. S.
2011 "Anglo-American Colonization," *Handbook of Texas Online* (<http://www.tshaonline.org/handbook/online/articles/uma01>), accessed May 27, 2011. Published by the Texas State Historical Association.
- Hester, T. R.
1989 Historic Native American Populations. In *From the Gulf to the Rio Grande: Human Adaptation in Central, South, and Lower Pecos, Texas*, by Thomas R. Hester, Stephen L. Black, D. Gentry Steele, Ben W. Olive, Anne A. Fox, Karl J. Reinhard, and Leland C. Bement, pp. 77–84. Research Series No. 33. Arkansas Archeological Survey, Fayetteville.
2004 The Prehistory of South Texas. In *Prehistory of Texas*, edited by T. K. Pertulla, pp. 127–155. Texas A&M Press, College Station.

- Hester, T., F. Bass, A. Fox, and T. Kelly
1974 *Archaeological Survey of Areas Proposed for Modification in the Salado Creek Watershed, Bexar County, Texas*. Archaeological Survey Report No. 3. Center for Archaeological Research at The University of Texas at San Antonio.
- Heusinger, E. W., F.R.G.S.
1951 *A Chronology of Events in San Antonio: Being a Concise History of the City Year By Year: From the Beginning of its Establishment to the End of the First Half of the Twentieth Century*. Standard Printing Co., San Antonio, Texas.
- Houk, B. A. and L. I. Acuña
2005 *Results of Cultural Resources Survey of the FCS Fischer MDP Project Area, Bexar County, Texas*. SWCA Cultural Resources Report No. 2005-454. SWCA Environmental Consultants, Austin, Texas.
- Houk, B. A., K. A. Miller, and E. R. Oksanen
2008 *The Gatlin Site (41KR621): Investigating Archaic Lifeways on the Southern Edwards Plateau of Central Texas*. Texas Department of Transportation Archeological Studies Program No. 108, SWCA Cultural Resources Report No. 149, SWCA Environmental Consultants, Austin.
- House, B.
1949 *City of Flaming Adventure: The Chronicle of San Antonio*. The Naylor Company, San Antonio, Texas.
- Hudson, W. R., Jr., W. Lynn, and D. Scurlock
1974 *Walker Ranch, An Archeological Reconnaissance and Excavations in Northern Bexar County, Texas*. Texas Historical Commission Office of the State Archaeologist Reports No. 26. Austin, Texas.
- Huebner, J. A.
1991 Late Prehistoric Bison Populations in Central and Southern Texas. *Plains Anthropologist* 36(137):343-358.
- Huffines, A. C.
1999 *The Blood of Noble Men: An Illustrated Chronology of the Alamo Siege and Battle*. Eakin Press, Austin, Texas.
- Ivey, James E., and Anne A. Fox
1999 *Archaeological Investigations at Mission Concepción and Mission Parkway*. Archaeological Survey Report, No. 114. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Jelks, E. B.
1962 *The Kyle Site: A Stratified Central Texas Aspect Site in Hill County, Texas*. University of Texas Archaeology Series, No. 5.
- Johnston, L. C.
1947 *San Antonio St. Anthony's Town*. Librarian's Council, San Antonio, Texas.
- Johnson, LeRoy
1995 *Past Cultures and Climates at Jonas Terrace: 41ME29 of Medina County, Texas*. Report No. 40. Office of the State Archeologist, Texas Historical Commission, Austin.
- Johnson, L., Jr., and G. T. Goode
1994 A New Try at Dating and Characterizing Holocene Climates, as Well as Archeological Periods, on the Eastern Edwards Plateau. *Bulletin of the Texas Archeological Society* 65:1-51.
- Johnson, L, Jr., D. A. Suhm, and C. D. Tunnell
1962 Salvage Archeology of Canyon Reservoir: The Wunderlich, Footbridge, and Oblate Sites. *Texas Memorial Museum Bulletin No. 5*, The University of Texas at Austin.

- Kelley, J. C., and T. N. Campbell
1942 What are the Burnt Mounds of Texas? *American Antiquity* 7(3):319–322.
- Kibler, K. W., and A. M. Scott
2000 *Archaic Hunters and Gatherers of the Balcones Canyonlands: Data Recovery Excavations at the Cibolo Crossing Site (41BX377), Camp Bullis Military Reservation, Bexar County, Texas*. Reports of Investigations No. 126. Prewitt and Associates, Inc., Austin.
- Kleinbach, K., G. Mehalchick, J. T. Abbott, and J. M. Quigg
1995 Other Analyses. In *NRHP Significance Testing of 57 Prehistoric Archeological Sites on Fort Hood, Texas*, Volume II, edited by James T. Abbott and W. Nicholas Trierweiler, pp. 765–842. Archeological Resource Management Series, Research Report No. 34. United States Army Fort Hood.
- Kricher, J. C., and G. Morrison
1993 *Peterson Field Guides: Ecology of Western Forests*. Houghton Mifflin Company, Boston and New York.
- Krieger, A. D.
2002 *We came naked and barefoot: The journey of Cabeza de Vaca across North America*. University of Texas Press, Austin.
- Kutac, E. A. and S. C. Caran
1994 *Birds and Other Wildlife of South Central Texas*. University of Texas, Austin.
- Labadie, Joseph H.
1987 *An Archaeological and Historical Assessment of the Vista Verde South Project, San Antonio, Texas*. Center for Archaeological Research, The University of Texas at San Antonio Archaeological Survey Report, No. 156.
- Long, C.
2012 “Paseo del Rio (River Walk)” *Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/hpp01>. Accessed March 1, 2012. Published by the Texas State Historical Association.
- Lowe, J. D.
2010 *Cultural Resources Survey of the Proposed Jones Malsberger (Redland to Thousand Oaks) Project in Bexar County, Texas*. SWCA Cultural Resources Report No. 2009-259. SWCA Environmental Consultants, Austin, Texas.
- McGraw, A. J., J. W. Clark Jr., and E. A. Robbins (editors)
1998 *A Texas Legacy, the Old San Antonio Road and the Caminos Reales: A Tricentennial History, 1691-1991*. Second Edition. Texas Department of Transportation Environmental Affairs Division, Austin, Texas.
- McKinney, W. W.
1981 Early Holocene Adaptations in Central and Southwestern Texas: The Problem of the Paleoindian-Archaic Transition. *Bulletin of the Texas Archeology Society* 52:91–120.
- McWilliams, J. K. and K. W. Kibler
2012 *Archeological Survey of a Segment of the Proposed Salado Creek Hike-and-Bike Trail, San Antonio, Bexar County, Texas*. Letter Report No. 853. Prewitt and Associates, Inc. Austin, Texas.
- Meissner, B. A.
2000 *Monitoring of Excavations for Construction of an Outdoor Classroom Facility at Walker Ranch Park (41BX1271), San Antonio, Texas*. Letter Report, No. 127. Center for Archaeological Research at The University of Texas at San Antonio.
2006 *Archaeological Testing for the Walker Ranch Park Bridge Project (41BX1271), San Antonio, Bexar County, Texas*. Archaeological Survey Report No. 365. Center for Archaeological Research at The University of Texas at San Antonio.

- Meissner, B. A., I. W. Cox, J. D. Weston, B. K. Moses, and A. Fox.
2007 *San Antonio Mission Trails Statewide Transportation Enhancement Project Volume II Construction Packages 2 and 3: Archaeological Testing and Monitoring Construction of the Mission Trails Hike and Bike Trails, City of San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 374. The Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Meltzer, D. J., and M. R. Bever
1995 Paleoindians of Texas: An Update on the Texas Clovis Fluted Point Survey. *Bulletin of the Texas Archeological Society* 66:47–81.
- Metz, L. C.
2001 *Roadside History of Texas*. Mountain Press Publishing Company. Missoula, Montana.
- Natural Resources Conservation Service (NRCS)
2014 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. *Web Soil Survey of Bexar County*. <http://websoilsurvey.nrcs.usda.gov/>. Accessed October 23, 2014.
- Newcomb, W. W., Jr.
2002 *The Indians of Texas*. University of Texas Press, Austin.
- Nickels, David L., and I. Wayne Cox
1996 *An Archaeological Assessment of the Alazán Acequia (41BX620) in the Five Points Area of San Antonio, Bexar County, Texas*. Archaeological Survey Report, No. 253. The Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Nickels, David L., I. Wayne Cox, and Connie Gibson
1996 *Excavation of the San Pedro Acequia on the Grounds of the San Antonio Housing Authority*. Archaeological Survey Report, No. 243. The Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Norment, A. R. and K. W. Kibler
2014 *Archeological Survey for Proposed Improvements to the West Avenue Low-Water Crossing at Salado Creek, San Antonio, Bexar County, Texas*. Letter Report No. 894. Prewitt and Associates, Inc. Austin, Texas.
- Oksanen, E. R.
2008 *Archaeological Investigations at the Icehouse Site, 41HY161: A Reevaluation of Early Archaic Technology, Subsistence and Settlement Along the Balcones Escarpment and Central Texas*. Unpublished Master's Thesis, Department of Anthropology, Texas State University, San Marcos.
2012 *Salado Creek Greenway Northern Segment Survey: Walker Ranch Park to Blanco Road, San Antonio, Bexar County, Texas*. Technical Report No. 38. Center for Archaeological Research at The University of Texas at San Antonio.
- Olmstead, F. L.
1857 *Journey Through Texas, A Saddle-trip on the Southwestern Frontier*. Reprinted in 1978 by UT Press, Austin.
- Peterson, L. A.
1977 *Peterson Field Guides: Edible Wild Plants*. Houghton Mifflin Company, Boston and New York.
- Petrides, G. A.
1988 *Peterson Field Guides: A Guide to Eastern Trees*. Houghton Mifflin Company, Boston and New York.
- Porter, C. R.
2009 *Spanish Water, Anglo Water: Early Development in San Antonio*. Texas A&M University Press, College Station.

- Potter, D. and S. Black
 1995 *Archeology Along the Wurzbach Parkway: Module 2 Initial testing and Evaluation of Five Prehistoric Sites in the Upper Salado Watershed, Bexar County, Texas*. Studies in Archeology 18. Texas Archaeological Research Laboratory, The University of Texas. Texas Department of Transportation Austin, Texas.
- Prewitt, E. R.
 1981 Cultural Chronology in Central Texas. *Bulletin of the Texas Archaeological Society* 52:65-90.
 1985 From Circleville to Toyah: Comments on Central Texas Chronology. *Bulletin of the Texas Archeological Society* 54:201-238.
- Ramsdell, C.
 1968 *Special Supplement to the Hemisfair Edition of San Antonio: A Historical and Pictorial Guide*. University of Texas Press, Austin, Texas.
- Richardson, R. N., E. Wallace, and A. N. Anderson
 1981 *Texas, The Lone Star State*. Fourth Edition. Prentice-Hall, Inc. Englewood Cliffs, N.J.
- Rybczyk, M. L.
 2000 *San Antonio Uncovered*. Republic of Texas Press, Plano.
- Schmidly, D. J.
 1983 *Texas Mammals East of the Balcones Fault Zone*. Texas A&M Press, College Station.
- Schoelwer, S. P.
 2012 "San Antonio de Valero Mission," *Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/uqs08>. Accessed March 1, 2012. Published by the Texas State Historical Association.
- Schroeder, Eric A.
 2001 *Archeological Survey of the Jungman Tract*. Paul Price Associates No. 306. Paul Price Associates, Inc., Austin, Texas.
- Schwarz, T., and R. Thonhoff
 1985 *Forgotten battlefield of the first Texas Revolution the Battle of Medina, August 18, 1813*. Eakin Press, Austin.
- Scurlock, D. and W. R. Hudson, Jr.
 1973 *An Archeological Investigation of Walker Ranch*. Texas Historical Commission Special Report #9. Austin, Texas.
- Scurlock, D., A. Benavides, Jr., D. Isham, and J. Clark, Jr.
 1976 *An Archeological and Historical Survey of the Proposed Mission Parkway, San Antonio, Texas*. Archaeological Survey Report, No. 17. The Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Scurlock, D., A. Benavides, Jr., D. Isham, and J. Clark, Jr.
 1976 *An Archeological and Historical Survey of the Proposed Mission Parkway, San Antonio, Texas*. Archaeological Survey Report, No. 17. The Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Shafer, H. J.
 1963 Test Excavations at the Youngsport Site: A Stratified Terrace Site in Bell County, Texas. *Bulletin of Texas Archeological Society* 34: 57-81.
- Simpson, B. J.
 1988 *A Field Guide to Texas Trees*. Texas Monthly Field Guide Series. Texas Monthly Press, Austin, Texas.
- Sorrow, W. M.
 1969 *Archeological Investigations at the John Ischy Site: A Burned Rock Midden in Williamson County, Texas*. Papers of the Texas Archeological Salvage Project No. 18. The University of Texas at Austin.
- Spearing, D.
 1991 *Roadside Geology Series: Roadside Geology of Texas*. Mountain Press Publishing Company. Missoula, MT.

- 1998 Roadside Geology Series: Roadside Geology of Texas. Sixth Edition. Mountain press Publishing Company. Missoula, Montana.
- Story, D. A.
1985 Adaptive Strategies of Archaic Cultures of the West Gulf Coastal Plain. In *Prehistoric Food Production in North America*, edited by R. I. Ford, pp. 19–56. Anthropological Papers 75. Museum of Anthropology, University of Michigan, Ann Arbor.
- Stotts, Matthew C., Laura I. Acuña, and Mary Jo Galindo
2014 *Archaeological Monitoring Investigations for the VIA Westside Transit Center Project, Bexar County, Texas*. SWCA Cultural Resources Report, No. 14-202. SWCA Environmental Consultants, Austin.
- Taylor, F. B., R. B. Hailey, and D. L. Richmond
1991 *Soil Survey of Bexar County, Texas*. United States Department of Agriculture, Washington, D.C.
- Taylor, F.B., R. B. Hailey, and D. L. Richmond
1966 *Soil Survey of Bexar County*. U.S. Department of Agriculture Soil Conservation Service. U.S. Government Printing Office, Washington, D.C.
- Tennis, Cythia (editor), I. W. Cox, J. J. Durst, D. D. Edmondson, B. A. Meissner, and S. A. Tomka
2001 *Archaeological Investigations at Four San Antonio Missions: Mission Trails Underground Conversion Project*. Archaeological Survey Report, No. 297. Center for Archaeological Research The University of Texas at San Antonio.
- Texas Archeological Sites Atlas (Atlas)
2014 *Texas Archeological Sites Atlas* restricted database, Texas Historical Commission. <http://nueces.thc.state.tx.us/>. Accessed October 2014.
- Texas State Historical Association (TSHA)
2013 “Old San Antonio Road,” in *The Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/OO/exo4.html>. Accessed September 2013.
- Thoms, A. V.
2009 Rock of Ages: Propagation of Hot-Rock Cookery in Western North America. *Journal of Archaeological Research* 36:573–591.
- Thoms, A. V. and R. D. Mandel
1992 The Richard Beene Site: A Deeply Stratified Paleoindian to Late Prehistoric Occupation in South-Central Texas. *Current Research in the Pleistocene* 9:42–44.
- Thoms, A. V., D. D. Kuehn, B. W. Olive, J. E. Dockall, P. A. Clabaugh, and R. Mandel
1996 Early and Middle Holocene Occupations at the Richard Beene Site: The 1995 Southern Texas Archaeological Association Field School Project. *La Tierra* 23(4):8–36.
- Thonhoff, R.
2012 “Medina, Battle of,” *Handbook of Texas Online*. <http://www.tshaonline.org/handbook/online/articles/qfm01>. Accessed March 1, 2012. Published by the Texas State Historical Association.
- Tomka, S. A.
1998 *An Archaeological Survey of Walker Ranch Park, Bexar County, Texas*. Archaeological Survey Report No. 282. Center for Archaeological Research at The University of Texas at San Antonio.
- Toomey III, R. S., M. D. Blum, and S. Valastro Jr.
1993 Late Quaternary Climates and Environments of the Edwards Plateau, Texas. *Global and Planetary Change* 7:299–320.

- Ulrich, Kristi Miller
- 2010 *Archaeological Investigations of the Theo Avenue Realignment, Mission Concepción Portal, and Concepción Park, San Antonio, Bexar County, Texas*. Archaeological Report, No. 415. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 2011 *Intensive Survey and Testing Associated with the Rediscovery of the Acequia Madre (41BX8) and Alamo Dam, San Antonio, Bexar County Texas*. Archaeological Survey Report, No. 417. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- 2012 *Documentation of a Portion of the Concepción Acequia, San Antonio, Bexar County, Texas*. Technical Report No. 45. Center for Archaeological Research at the University of Texas at San Antonio, San Antonio.
- Van Auken, O. W.
- 1988 Woody Vegetation of the Southern Escarpment and Plateau. In *Edwards Plateau Vegetation: Plant Ecological Studies in Central Texas*, edited by B. B. Amos and F. R. Geilbach, pp. 43–55. Baylor University Press, Waco.
- Ward, R.
- 2014 *Archaeological Monitoring Investigations for the San Antonio Water System VIA Transit-Westside Multimodal Transit Center Phase II Water Main Replacement Project, San Antonio, Bexar County, Texas*. SWCA Cultural Resource Report No. 14-580. SWCA Environmental Consultants, San Antonio, Texas.
- Weir, F. A.
- 1976 *The Central Texas Archaic*. Ph.D. Dissertation, Department of Anthropology, Washington State University, Pullman.
- Weston, J. D.
- 2003 *Archaeological Survey and Geoarchaeological Investigations at 41BX1271, Walker Ranch, Bexar County, Texas*. Archaeological Survey Report No. 337. Center for Archaeological Research at The University of Texas at San Antonio.
- Willey, G. R., and P. Phillips
- 1958 *Method and Theory in American Archaeology*. University of Chicago Press, Chicago.
- Wilson, E. W.
- 1930 Burnt Rock Mounds of Southwest Texas. *Bulletin of the Texas Archaeological and Paleontological Society* 2:59–63.

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APPENDIX A - CONCURRENCE LETTERS

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272910

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CA, INC

RECEIVED

July 11, 2014

JUL 10 2014

TEXAS HISTORICAL COMMISSION

Mr. Mark Denton
Texas Historical Commission
1511 Colorado
Austin, Texas 78701

**RE: DRAFT REPORT UNDER CPS ENERGY'S ANNUAL PERMIT –
INTERIM REPORT I: CULTURAL RESOURCES INVESTIGATIONS OF THE
CPS ENERGY NE SPD EXPANSION PHASE 1 GAS MAIN PROJECT, BEXAR
COUNTY, TEXAS; ACT 6851**

Mr. Denton:

Enclosed please find a draft interim report copy for you review of the cultural resources investigations of the CPS Energy NE SPD Expansion Phase I Gas Main project in northern Bexar County. Fieldwork was conducted under CPS Energy's annual permit, Texas Antiquities Permit Number 6851. The investigations included a background and archival review and an intensive pedestrian survey with subsurface investigations for the installation of a new 8-inch gas main which begins at the intersection of Evans Road and Green Mountain Road, and terminates at Judson Independent School District property (beginning of Wheeler Cemetery).

SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources and SWCA recommends no further archaeological investigations within the project area.

Please feel free to contact me by telephone or through email at lacuna@swca.com.

Sincerely,

Laura I. Acuña

Laura I. Acuña, MA
SWCA Principal Investigator
210-877-2847

ANTIQUITIES CODE OF TEXAS REVIEW	
NO SIGNIFICANT SITES	
PROJECT MAY PROCEED	
by	<i>Mark Wolfe</i>
for	Mark Wolfe
	Executive Director, THC
Date	8-4-14
Track#	

28608

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RECEIVED
MAY 28 2015

May 28, 2015

Mr. Mark Denton
Texas Historical Commission
1511 Colorado
Austin, Texas 78701

RE: ^{Interim} ~~DRAFT~~ REPORT UNDER CPS ENERGY'S ANNUAL PERMIT - INTERIM
REPORT VI: CULTURAL RESOURCES MONITORING INVESTIGATIONS OF THE
CPS ENERGY BALL PARK SUBSTATION PROJECT, BEXAR COUNTY, TEXAS; ACT
6851; SWCA 28608

Mr. Denton:

Enclosed please find a draft interim report copy for you review of the cultural resources investigations of the CPS Energy Ball Park Substation project in downtown, San Antonio, Bexar County. Fieldwork was conducted under CPS Energy's annual permit, Texas Antiquities Permit Number 6851. The investigations included a background and archival review and monitoring investigations of select construction activities within the Ball Park Substation. Investigations were required after a preliminary review by the City of San Antonio Office of Historic Preservation office determined the project is intersected by the Pajalache (Concepción) Acequia and is a possible location of the Mission Concepción Mill.

The excavations consisted of 13 new pier locations, a duct bank, and a manhole block. Monitoring investigations determined that the entire project was heavily impacted by the construction of the substation site, as well as the installation of multiple underground utilities. Overall, the project area contains minimal to no areas of intact soil deposition, and no cultural materials were identified during construction activities. No indication of the Pajalache Acequia or Mission Concepción Mill was observed.

SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources and SWCA recommends no further archaeological investigations within the project area.

Please feel free to contact me by telephone (210-877-2847) or through email at lacuna@swca.com.

Sincerely,

Laura I. Acuña

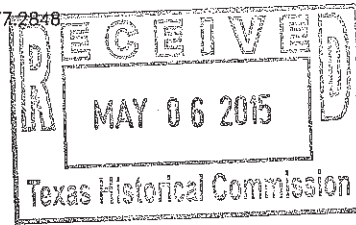
Laura I. Acuña, MA
SWCA Principal Investigator

ANTIQUITIES CODE OF TEXAS REVIEW	
NO SIGNIFICANT SITES	
PROJECT MAY PROCEED	
by	<i>Mark H. Wolfe</i>
for	Mark Wolfe
	Executive Director, THC
Date	6-23-15
Track#	

29223



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San Antonio, TX 78249
Tel 210.877.2847 Fax 210.877.2848
www.swca.com



May 4, 2015

Mr. Mark Denton
Texas Historical Commission
1511 Colorado
Austin, Texas 78701

RE: DRAFT REPORT UNDER CPS ENERGY'S ANNUAL PERMIT – INTERIM REPORT VIII: CULTURAL RESOURCES MONITORING INVESTIGATIONS OF THE CPS ENERGY TENTH STREET TO COLISEUM SUBSTATION TRANSMISSION LINE REBUILD PROJECT, DOWNTOWN SAN ANTONIO, BEXAR COUNTY, TEXAS; ACT 6851; SWCA 29223

Mr. Denton:

Enclosed please find a draft interim report copy for you review of the cultural resources investigations of the CPS Energy Tenth Street to Coliseum Substation Transmission Line Rebuild project in downtown San Antonio, Bexar County. Fieldwork was conducted under CPS Energy's annual permit, Texas Antiquities Permit Number 6851. The investigations included a background and archival review and monitoring investigations of construction activities of specific tower locations project. Investigations were required after a preliminary review by the City of San Antonio Office of Historic Preservation office determined the project is intersected by the Acequia Madre and the San Antonio Valley Ditch.

The excavations were conducted in two areas or a total of 15 tower locations. Of the 15 tower locations, five were excavated with a mechanized auger, seven were soft-dug, and three were replaced within the existing tower footprint and did not require monitoring. Both Area 1 and Area 2 exhibited previously disturbed sediments within the tower locations. Overall, the project area contains minimal to no areas of intact soil deposition, and no significant cultural materials were identified during construction activities.

SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources and SWCA recommends no further archaeological investigations within the project area.

Please feel free to contact me by telephone (210-877-2847) or through email at lacuna@swca.com.

Sincerely,

Laura I. Acuña

Laura I. Acuña, MA
SWCA Principal Investigator

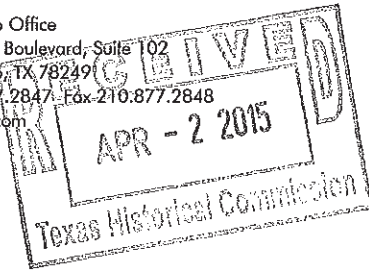
ANTIQUITIES CODE OF TEXAS REVIEW	
NO SIGNIFICANT SITES	
PROJECT MAY PROCEED	
by	<i>Mark W. Denton</i>
for	Mark Wolfe
	Executive Director, THC
Date	5-21-15
Track#	

30286



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March 31, 2015

Mr. Mark Denton
Texas Historical Commission
1511 Colorado
Austin, Texas 78701

**RE: DRAFT REPORT UNDER CPS ENERGY'S ANNUAL PERMIT ~~INTERIM~~
REPORT VII: CULTURAL RESOURCES MONITORING INVESTIGATIONS OF THE
CPS ENERGY COMAL STREETSUBSTATION PROJECT, BEXAR COUNTY, TEXAS;
ACT 6851; SWCA 30286**

Mr. Denton:

Enclosed please find a draft interim report copy for you review of the cultural resources investigations of the CPS Energy Comal Street Substation project in downtown San Antonio, Bexar County. Fieldwork was conducted under CPS Energy's annual permit, Texas Antiquities Permit Number 6851. The investigations included a background and archival review and monitoring investigations of construction activities within the Comal Street Substation, Comal Street, and El Paso Street right-of-ways. Investigations were required after a preliminary review by the City of San Antonio Office of Historic Preservation office determined the project is intersected by the Alazan Acequia.

The excavations were conducted in two phases of work consisting of the installation of 12 manholes, 45 pier foundations, and approximately 4,333 feet of unground utility lines within the Comal Street Substation and S. Comal Street and El Paso Street ROWs. Monitoring investigations determined that the entire project was heavily impacted by installation of multiple underground utilities and other land clearing activities. Overall, the project area contains minimal to no areas of intact soil deposition, and no significant cultural materials were identified during construction activities.

SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources and SWCA recommends no further archaeological investigations within the project area.

Please feel free to contact me by telephone (210-877-2847) or through email at lacuna@swca.com.

Sincerely,

Laura I. Acuña

Laura I. Acuña, MA
SWCA Principal Investigator

ANTIQUITIES CODE OF TEXAS REVIEW	
NO SIGNIFICANT SITES	
PROJECT MAY PROCEED	
by	<i>Mark Wolfe</i>
for	Mark Wolfe
	Executive Director, THC
Date	5-4-15
Track#	



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SWCA, INC.

OCT 06 2014

Received By:

September 9, 2014

Mr. Mark Denton
Texas Historical Commission
1511 Colorado
Austin, Texas 78701

**RE: DRAFT REPORT UNDER CPS ENERGY'S ANNUAL PERMIT –
INTERIM REPORT II: CULTURAL RESOURCES INVESTIGATIONS OF THE
CPS ENERGY BULVERDE ROAD AND REDLAND ROAD POLE
REPLACEMENT PROJECT, BEXAR COUNTY, TEXAS; ACT 6851**

Mr. Denton:

Enclosed please find a draft interim report copy for you review of the cultural resources investigations of the CPS Energy NE SPD Expansion Phase I Gas Main project in northern Bexar County. Fieldwork was conducted under CPS Energy's annual permit, Texas Antiquities Permit Number 6851. The investigations included a background and archival review an intensive pedestrian survey with subsurface investigations for the proposed installation of a six new distribution line poles and four anchors at the intersection of Bulverde Road and Redland Road.

SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources and SWCA recommends no further archaeological investigations within the project area.

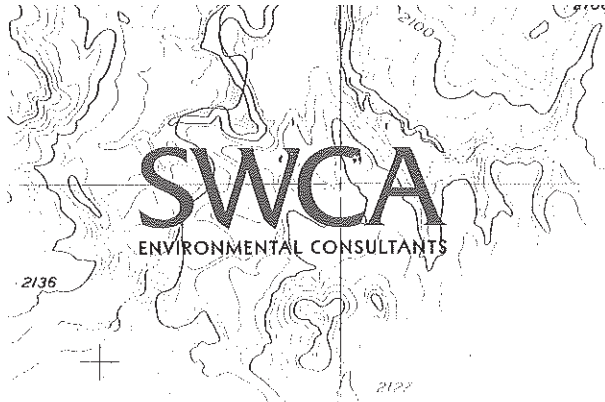
Please feel free to contact me by telephone or through email at lacuna@swca.com.

Sincerely,

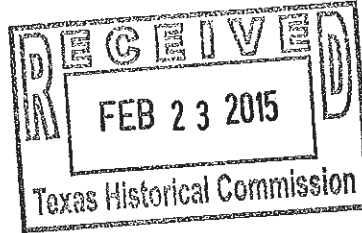
Laura I. Acuña, MA
SWCA Principal Investigator
210-877-2847

ANTIQUITIES CODE OF TEXAS REVIEW	
NO SIGNIFICANT SITES	
PROJECT MAY PROCEED	
by	
for	Mark Wolfe
	Executive Director, THC
Date	10-1-14
Track#	

30829



San Antonio Office
6200 UTSA Boulevard, Suite 102
San Antonio, TX 78249
Tel 210.877.2847 Fax 210.877.2848
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February 20, 2015

Mr. Mark Denton
Texas Historical Commission
1511 Colorado
Austin, Texas 78701

RE: DRAFT REPORT UNDER CPS ENERGY'S ANNUAL PERMIT - INTERIM REPORT V: CULTURAL RESOURCES MONITORING INVESTIGATIONS OF THE CPS ENERGY ISABEL STREET POLE REPLACEMENT PROJECT, BEXAR COUNTY, TEXAS; ACT 6851; SWCA 30829

Mr. Denton:

Enclosed please find a draft interim report copy for you review of the cultural resources investigations of the CPS Energy Isabel Street Pole Replacement project in northern Bexar County. Fieldwork was conducted under CPS Energy's annual permit, Texas Antiquities Permit Number 6851. The investigations included a background and archival review and monitoring investigations for the relocation and installation of one tower structure at 226 Isabel Street. Investigations were required after a preliminary review by the City of San Antonio Office of Historic Preservation office due to the projects proximity to the Pajalache (Concepción) Acequia. No cultural resources were encountered during the monitoring investigations.

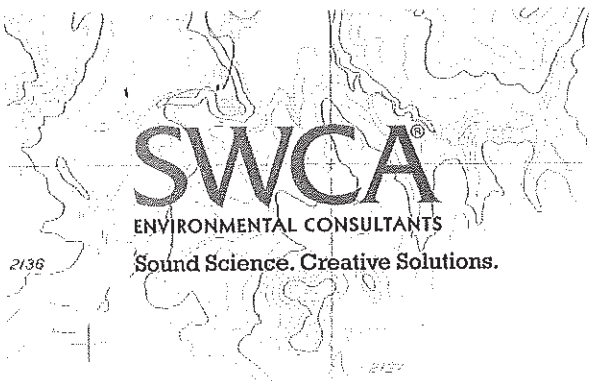
SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources and SWCA recommends no further archaeological investigations within the project area.

Please feel free to contact me by telephone (210-877-2847) or through email at lacuna@swca.com.

Sincerely,

Laura I. Acuña, MA
SWCA Principal Investigator

CONCUR	
by	
for	Mark Wolfe
	Executive Director, THC
Date	3-12-15
Track#	



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Texas Historical Commission

November 14, 2014

Mr. Mark Denton
Texas Historical Commission
1511 Colorado
Austin, Texas 78701

**RE: DRAFT REPORT UNDER CPS ENERGY'S ANNUAL PERMIT –
INTERIM REPORT III: CULTURAL RESOURCES INVESTIGATIONS OF
THE CPS ENERGY HUIZAR STREET GAS SERVICE LINE PROJECT, BEXAR
COUNTY, TEXAS; ACT 6851; SWCA 31292**

Mr. Denton:

Enclosed please find a draft interim report copy for you review of the cultural resources investigations of the CPS Energy Huizar Street Gas Service Line project in northern Bexar County. Fieldwork was conducted under CPS Energy's annual permit, Texas Antiquities Permit Number 6851. The investigations included a background and archival review and monitoring investigations for the installation of a gas service line within the right-of-way of Huizar Street and the 112 Huizar Street property.

SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources and SWCA recommends no further archaeological investigations within the project area.

Please feel free to contact me by telephone or through email at lacuna@swca.com.

Sincerely,

Laura I. Acuña

Laura I. Acuña, MA
SWCA Principal Investigator
210-877-2847

ANTIQUITIES CODE OF TEXAS REVIEW	
NO SIGNIFICANT SITES	
PROJECT MAY PROCEED	
by	<i>Mark Wolfe</i>
for	Mark Wolfe
	Executive Director, THC
Date	12-16-14
Track#	

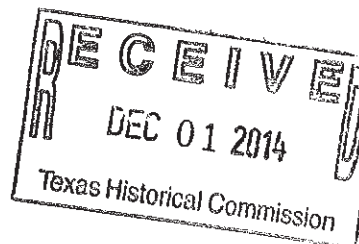
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November 26, 2014

Mr. Mark Denton
Texas Historical Commission
1511 Colorado
Austin, Texas 78701

**RE: Draft Report Under CPS Energy's Annual Permit – Interim Report IV:
Archaeological Monitoring Investigations of the CPS Energy West Avenue Tower
Relocation Project, Bexar County, Texas; ACT 6851; SWCA 31342**

Mr. Denton:

Enclosed please find a draft interim report copy for you review of the cultural resources investigations of the CPS Energy West Avenue Tower Relocation project in northern Bexar County. Fieldwork was conducted under CPS Energy's annual permit, Texas Antiquities Permit Number 6851. The investigations included a background and archival review and monitoring investigations for the relocation and installation of four tower structures along West Avenue. No cultural resources were encountered during the monitoring investigations.


SWCA made a reasonable and good faith effort to identify cultural resource properties within the project area. Based on the results of this investigation, the proposed undertaking will have no effect on any significant cultural resources and SWCA recommends no further archaeological investigations within the project area.

Please feel free to contact me by telephone or through email at lacuna@swca.com.

Sincerely,



Laura I. Acuña, MA
SWCA Principal Investigator
210-877-2847

ANTIQUITIES CODE OF TEXAS REVIEW	
NO SIGNIFICANT SITES	
PROJECT MAY PROCEED	
by	
for	Mark Wolfe
	Executive Director, THC
Date	12-16-14
Track#	