

# **GOLDEN-CHEEKED WARBLER PRESENCE/ABSENCE SURVEY**

Prepared for:

**New Braunfels Utilities**

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## 1.0 INTRODUCTION

New Braunfels Utilities (NBU) is in the planning phase of developing a 49-acre parcel located approximately 1 mile southwest from the intersection of Highway 46 and Loop 337 in New Braunfels, Comal County, Texas (**Figure 1**). It is presumed that during previous evaluation efforts that included a habitat assessment for federally listed species, NBU acquired information that the parcel proposed for development was identified as potential habitat for the federally endangered golden-cheeked warbler (GCWA; *Setophaga chrysoparia*). NBU contracted Freese and Nichols, Inc. (FNI) to perform presence/absence surveys for the GCWA during the spring of 2020 prior to project construction. This report documents the GCWA presence/absence surveys and includes site vegetation information.

## 2.0 METHODS

Presence/absence surveys for GCWA were authorized and completed under the existing U.S. Fish and Wildlife Service (USFWS) Section 10(a) Permit (#TE44547B). Surveys took place on March 24, April 7, April 28, May 13, and May 28 of 2020. According to USFWS GCWA survey protocols, 1 hour of survey time must be dedicated to every 25 acres surveyed; thus, FNI allocated approximately 2 hours to survey the 49-acre parcel. Surveys were conducted for 2 hours along a 1.5-mile-long route within the parcel (**Figure 2**), with FNI biologists pausing systematically along the route to identify GCWAs by sight or sound. Data on vegetation structure and composition was recorded during the second survey.

Methods for performing the GCWA presence/absence surveys followed USFWS's "Section 10(a)(1)(A) Scientific Permit Requirements for Conducting Presence/Absence Surveys and Habitat Assessments for Golden-Cheeked Warblers" (USFWS, 2010). The efforts observed the following survey guidelines:

- GCWA surveys must be conducted between March 15 and June 1 with 60 percent of the surveys being conducted prior to May 15 (Pulich 1976, Gass 1996, Bolsinger 1997, Ladd and Gass 1999).
- Surveys times are recommended to start 30 minutes before sunrise (Bolsinger 1997). All surveys must be completed within 7 hours of sunrise (Robbins 1981a).
- Surveys should not be conducted during unfavorable weather conditions, such as wind speeds greater than 12 mph, fog, light to heavy precipitation, and temperatures greater than 45°F or less than 80°F (Robbins 1981b, Verner 1985).
- Surveyors must not conduct surveys when experiencing temporary hearing impairment, such as from a cold (Emlen and DeJong 1981).
- A minimum of five visits must be conducted with no more than one visit within any five-day period. Total survey time should be a minimum of 1 hour per 25 acres of potential habitat.
- A minimum of 1 hour per visit is needed regardless of the size of the site. Taped or playback recordings of GCWA or screech owl calls may be used only after the above methodology (five visits) has been exhausted, and no birds have been located. Recordings must be used to verify

negative results (absence of GCWAs). At any one point, recordings should be played for only 30 to 60 seconds, followed by a quiet period of at least 15 seconds before repeating this process once more. After the second quiet period with no detection, permittees may move to another area. Upon sighting or hearing a GCWA, the recording must be stopped immediately.

### 3.0 RESULTS

Field surveys took place on March 24, April 7, 28 and May 13 and 28, 2020. General information on survey conditions is presented in **Table 1**. There were no GCWA detections at the NBU parcel during the five surveys. Recordings of GCWA calls (male A and B songs from ‘Sibley’s eGuide to Birds’ application on Android) were played near four vegetation points (Sampling Plots 1, 2, 4, and 5) on the last survey (May 28, 2020). There was no response to the GCWA recordings.

**Table 1. Summary Data for GCWA Presence/Absence Survey Efforts Performed on the NBU Parcel from March to May 2020, Comal County, Texas**

Survey Date	Time Start	Time End	Duration	# GCWA Detected	Mean Wind Speed (mph)	Mean Temperature (°F)	Cloud Cover (%)
03/24/20	07:29	9:30	2:01	0	0-6	69	75
04/07/20	07:35	10:00	2:25	0	5	70	40
04/28/20	07:40	09:40	2:00	0	0	69	90
05/13/20	07:35	09:37	2:02	0	0-1	65	60
05/28/20	07:50	09:53	2:03	0	0-2	68	0

Regarding vegetation, vegetation in the NBU parcel varies in structure and is fragmented, but species composition is similar across the site. Table 2 displays physiognomic and floristic data collected in representative portions of the tract and shows that both plant species and structural characteristics are unlikely to support GCWAs. Further, no GCWAs were heard or seen during survey efforts.

**Table 2. Vegetation Data Recorded on the NBU parcel in April 7, 2020 as part of a GCWA Presence/Absence Survey, Comal County, Texas**

Vegetation Sample ID	Latitude	Longitude	Average canopy height (ft)	Mean DBH (in)	Mean Canopy Cover %	Dominant Species (Tree, Shrub)
Sampling Plot 1	29.7062031	-98.1718024	18	6	50	<i>Juniperus ashei</i> , <i>Eysenhardtia texana</i> , <i>Diospyros texana</i>
Sampling Plot 2	29.7073933	-98.1731468	18	10	30	<i>J. ashei</i>

Vegetation Sample ID	Latitude	Longitude	Average canopy height (ft)	Mean DBH (in)	Mean Canopy Cover %	Dominant Species (Tree, Shrub)
Sampling Plot 3	29.7058254	-98.1741413	25	15	70	<i>J. ashei</i> , <i>D. texana</i>
Sampling Plot 4	29.7050659	-98.1757027	25	15	80	<i>J. ashei</i> , <i>Mahonia trifoliolata</i>
Sampling Plot 5	29.7032601	-98.1730828	18	8	20	<i>J. ashei</i> , <i>Opuntia</i> sp.
Sampling Point 6	29.704974	-98.172313	20	8	50	<i>J. ashei</i> , <i>D. texana</i>

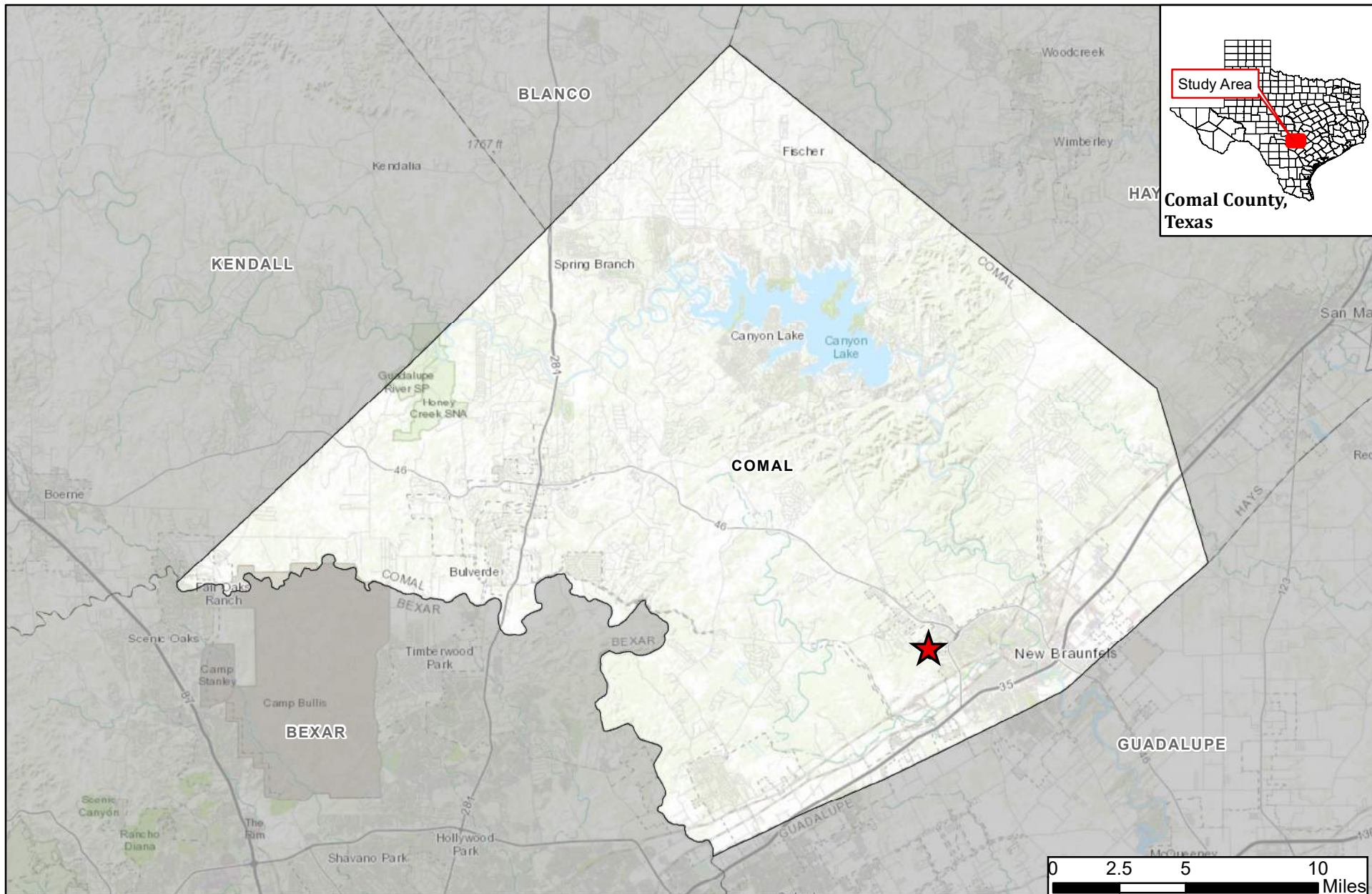
## 4.0 CONCLUSIONS

There were no GCWAs observed or heard during the survey conducted on March 24, April 7, 28 and May 13 and 28, 2020. Furthermore, there have been no GCWA sightings documented on eBird or the Texas Parks and Wildlife Department's Natural Diversity Database within a two-mile radius of the NBU parcel, which suggests that there are no known adjacent occupied GCWA habitats observed near the NBU parcel. The 49-acre NBU parcel is surrounded by residential housing, an NBU well facility, and an active limestone quarry. The parcel size is not likely large enough to support GCWAs presently since the surrounding areas have been recently developed with residential housing or encroached upon by industrial mining.

## 5.0 REFERENCES

- Bolsinger, J.S. 1997. Patterns of use and variation in the songs of the golden-cheeked warbler (*Dendroica chrysoparia*). Master's thesis, Univ. of Massachusetts, Amherst.
- Campbell, L. 2003. Endangered and threatened animals of Texas: Their life history and management. Endangered Resource Branch, Texas Parks and Wildlife Department, Austin.
- Emlen, J.T., and M.J. DeJong. 1981. The application of song detection threshold distance to census operations. Pp. 346-352. in C.J. Ralph and J.M Scott (eds.). Estimating numbers of terrestrial birds. Studies in Avian Biology No. 6. Cooper Ornithological Society. Lawrence, Kansas. 630 pp.
- Gass, L. 1996. Nesting behavior of golden-cheeked warblers in Travis County, Texas. Master's thesis, Southwest Texas State Univ. (now known as Texas State Univ.), San Marcos.
- Ladd, C., and L. Gass. 1999. Golden-cheeked warbler (*Dendroica chrysoparia*). In The Birds of North America, No. 420 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, Pennsylvania. 24 pp.
- Pulich, W.M. 1976. The Golden-cheeked warbler, a bioecological study. Texas Parks and Wildlife. 172 pp.
- Robbins, C. 1981a. Effect of time of day on bird activity. Pp. 275-286. in C.J. Ralph and J.M Scott (eds.). Estimating numbers of terrestrial birds. Studies in Avian Biology No. 6. Cooper Ornithological Society. Lawrence, Kansas. 630 pp.
- . 1981b. Bird activity levels related to weather. Pp. 301-310. in C.J. Ralph and J.M Scott (eds.). Estimating numbers of terrestrial birds. Studies in Avian Biology No. 6. Cooper Ornithological Society. Lawrence, Kansas. 630 pp.
- Texas Parks and Wildlife Department (TPWD). 2017. Texas Natural Diversity Database (TXNDD) information request for the project area. Request received on April 21, 2017.
- . 2018. Rare, Threatened, and Endangered Species of Texas by County. <http://tpwd.texas.gov/gis/rtest/>.
- U.S. Fish and Wildlife Service (USFWS). 2010. USFWS Section 10(a)(1)(A) Scientific Permit Requirements for Conducting Presence/Absence Surveys and Habitat Assessments for Endangered Golden-Cheeked Warblers. USFWS Ecological Services office, Austin, Texas.
- . 2017. IPaC Environmental Conservation Online System (ECOS). <https://ecos.fws.gov/ipac/>.
- Verner, J. 1985. Assessment of counting techniques. Pp. 247–302. in R.F Johnston (ed.). Current Ornithology, Volume 2. Plenum Press, New York.



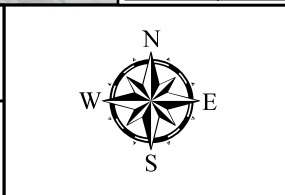


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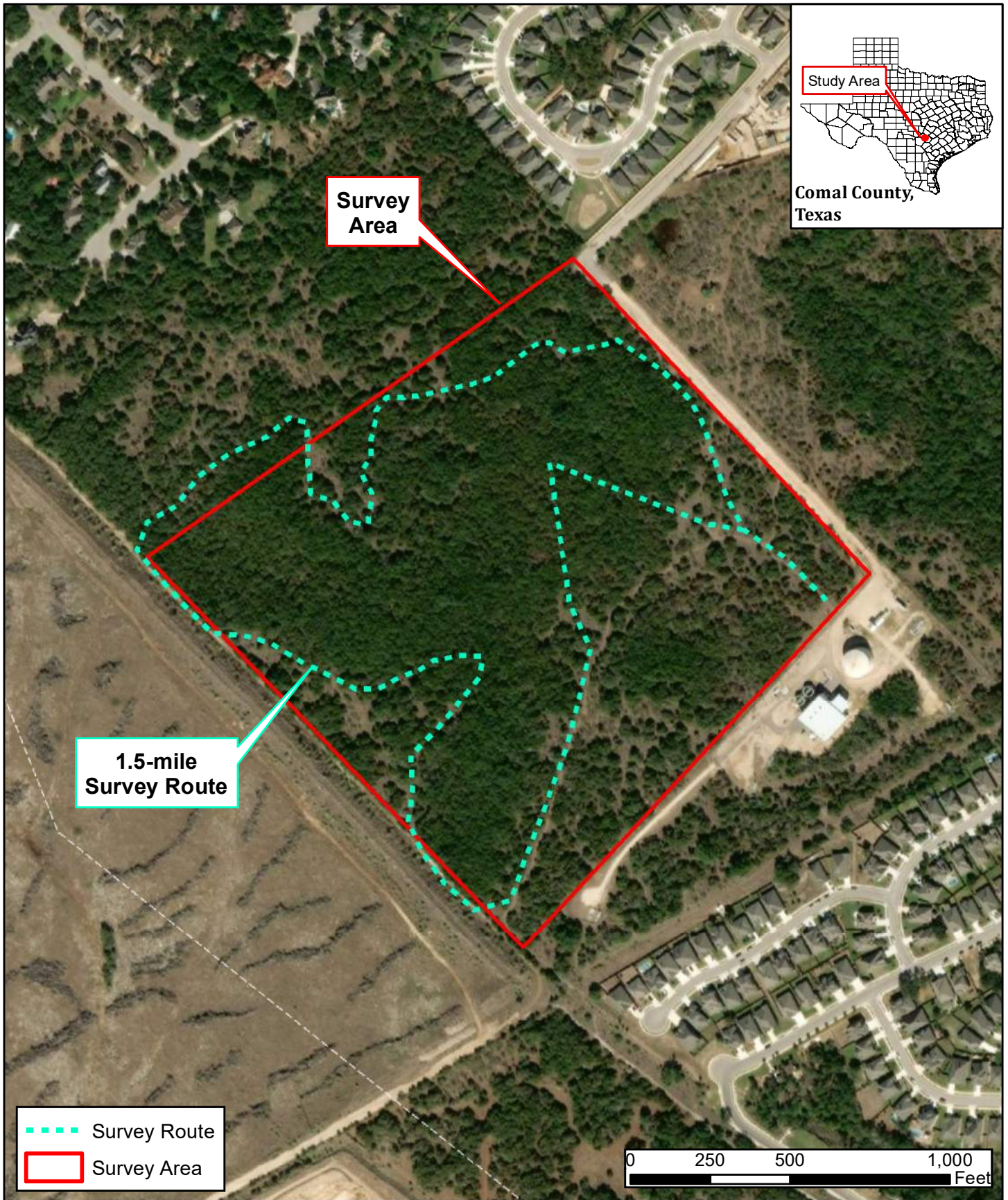
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 GCWA Presence/Absence Survey and Habitat Assessment

**Vicinity Map**



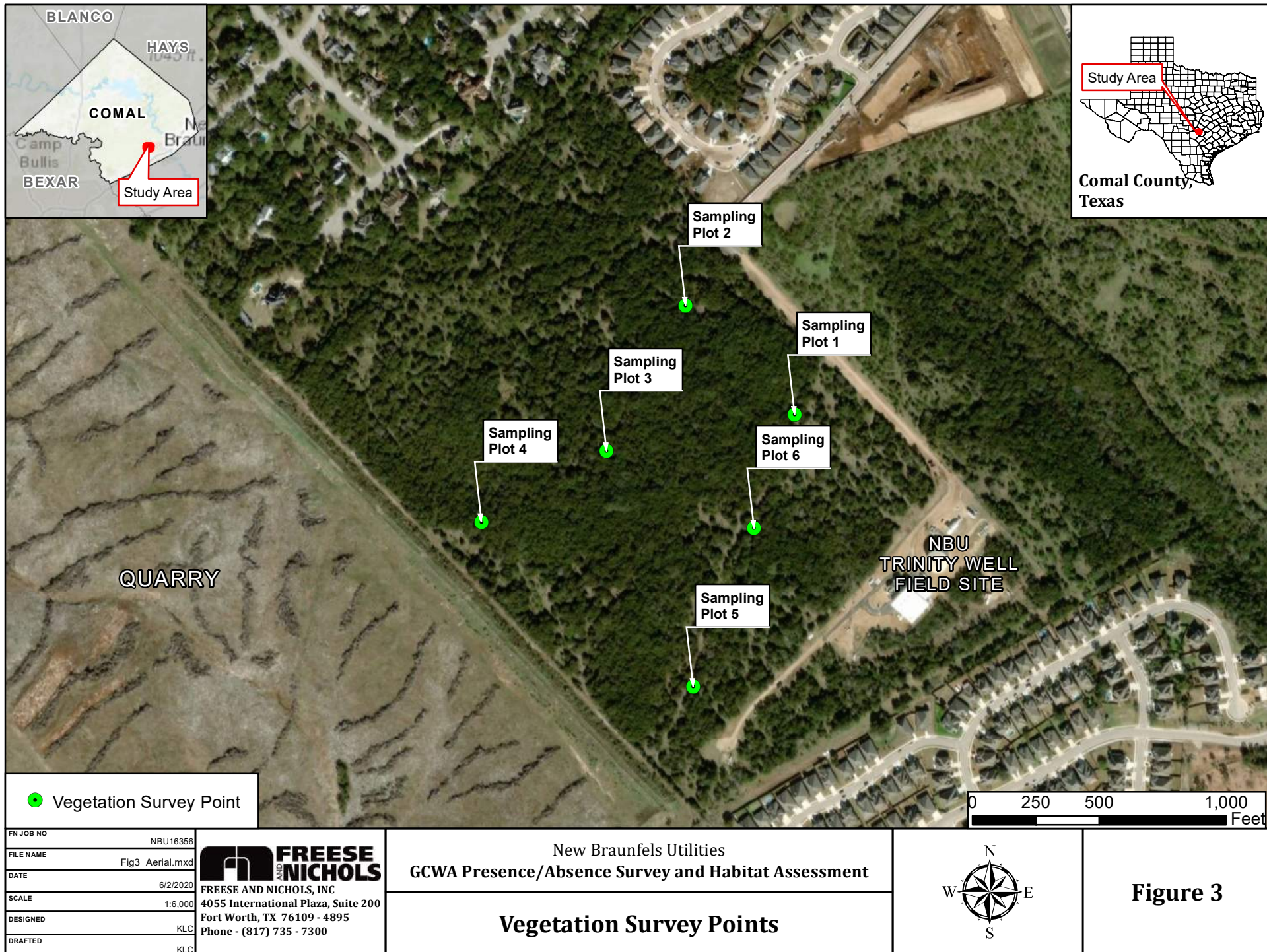
**Figure 1**





<p>FN JOB NO NBU16356</p> <p>FILE NAME Fig2_Route.mxd</p> <p>DATE 6/4/2020</p> <p>SCALE 1:5,000</p> <p>DRAFTED KLC</p>	<p><b>FREESE AND NICHOLS, INC.</b></p> <p>4055 International Plaza, Suite 200 Fort Worth, TX 76109 - 4895 Phone - (817) 735 - 7300</p>	<p>New Braunfels Utilities GCWA Presence/Absence Survey and Habitat Assessment</p> <p><b>Survey Route Map</b></p>		<p><b>Figure 2</b></p>
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## **APPENDIX A**

### **Representative photographs**





**Photograph 1.** This photograph shows vegetation that is typical of the 49-acre parcel. This photograph exhibits vegetation typical of the north and west portions of the parcel. Vegetation structure (tall trees, 15-20 feet, and high degree of openness) and relatively homogeneous stands of *Juniperus ashei* suggest that this is unlikely to support nesting habitat for GCWAs. FNI biologists also noticed an abundant amount of dead vegetation and vegetative litter. No detections were recorded in areas with this vegetation physiognomy and floristics. This area is represented by Vegetation Sampling Plot #1 (**Figure 3**).



**Photograph 2.** This photograph shows vegetation that is typical of the 49-acre parcel. This photograph exhibits vegetation typical of the west portions of the parcel. Vegetation structure (tall trees and high degree of openness) and relatively homogeneous stands of *Juniperis asheii* suggest that this is unlikely to support nesting habitat for GCWAs. No detections were recorded in areas with this vegetation physiognomy and floristics. This area is represented by Vegetation Sampling Plot #4 (**Figure 3**).





**Photograph 3.** This image shows vegetation that is typical of the 49-acre parcel. This photograph exhibits vegetation typical of the west portions of the parcel. Canopy heights of 25 feet and 80% canopy cover characterized vegetation in this area. No detections were recorded in areas with this vegetation physiognomy and floristics. This area is represented by Vegetation Sampling Plot #4 (**Figure 3**).



**Photograph 4.** This photograph exhibits vegetation that best represents GCWA habitat and occurs on the eastern side of the parcel near the NBU well field. Canopy heights of 15-20 feet, 20% canopy cover, and higher deciduous woody diversity characterized vegetation in this area. No detections were noted on the NBU parcel. This image corresponds to Vegetation Sampling Plot #6 (**Figure 3**).