

CYPRESS CREEK MITIGATION BANK PROSPECTUS

**CYPRESS CREEK & KATY HOCKLEY ROAD
509 ACRES
HARRIS COUNTY, TEXAS**



**PREPARED FOR
CUNNINGHAM INTERESTS II LTD
HOUSTON, TEXAS**

**BERG & OLIVER ASSOCIATES, INC.
ENVIRONMENTAL SCIENCE AND LAND USE CONSULTANTS
HOUSTON, TEXAS
REPORT NO: 10198N-PROP
JUNE 2017**

CYPRESS CREEK MITIGATION BANK PROSPECTUS

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CYPRESS CREEK MITIGATION BANK

SPONSORED BY

CUNNINGHAM INTERESTS II LTD.

JUNE 2017

509 ACRES

CUNNINGHAM INTERESTS II LTD.

HARRIS COUNTY, TEXAS

I. INTRODUCTION

The information provided herein is submitted by Berg Oliver Associates, Inc. as authorized by Mr. Christopher Gilbert on behalf of Cunningham Interests II Ltd. (Sponsor).

The Sponsor is requesting that the Interagency Review Team (IRT) approve the establishment of the Cypress Creek Mitigation Bank (CCMB). The property to be included in the Bank is located along Cypress Creek in Harris County, Texas.

The proposed CCMB would be created as a large-scale wetland and stream complex available for regional wetland and stream compensation that would be managed and maintained in perpetuity. The objective of the CCMB is to provide replacement of the various functions and values of wetlands and streams lost due to permitted impacts to jurisdictional areas within the proposed Primary and Secondary Service Areas.

The consolidation of multiple small mitigation projects by creating this bank would allow for better economic planning, implementation, and maintenance. Additionally, the bank would produce wetlands of greater function and value due to their location, size, high level of commitment to assure wetland functions, and the long-term management of the ecosystem. In addition to the creation of wetlands, the bank will preserve high quality stream habitat and riparian corridor along Cypress Creek. Further, this bank likely would reduce administrative costs and delays in issuing permits by the U.S. Army Corps of Engineers; Galveston District for proposed activities that would qualify for use of the bank. The expected benefits of the bank include water quality management, fish and wildlife habitat restoration and creation, flood control, conservation of biological diversity, education, recreation, and aesthetics.

The proposed CCMB would be on a 509 acre tract located along Cypress Creek in Harris County, Texas. More specifically, the site is located on the United States Geological Service (USGS) Warren Lake topographic quadrangle, coordinates 29.940665° N and -95.817147° W. Based on a preliminary wetland and stream delineation of the site, it is estimated that approximately 16 acres of potential wetlands, 3 acres of man-made stock ponds, and 5,500 linear feet of drainage ditches currently exist on the tract.

There is the potential to create approximately 88 acres of herbaceous wetlands on-site within existing, previously disturbed upland agricultural fields. The existing 16 approximate acres of herbaceous wetlands will be enhanced and 3 acres of agricultural ponds will be restored to wetlands in perpetuity by the placement of a conservation easement held by a qualified third party land trust. Additionally, there is the potential to restore and enhance portions of Cypress Creek tributaries. The restored tributaries and headwaters, as well as, Cypress Creek will be preserved in perpetuity by the placement of conservation easement held by a qualified third party land trust.

There is tremendous need for a wetland and stream mitigation bank in Harris and surrounding counties. The continued growth of residential multi-home developments within this proposed CCMB service area has created a significant market for wetland mitigation credits with permitted impacts for these types of projects.

The proposed bank site was chosen due to close proximity to Cypress Creek, potential impact sites, enhancement/restoration potential, and upstream areas located within the same watershed. Recognizing the need and social and economic benefits of wetland banking and the desire to protect certain portions of the ranch by conservation easement, Cunningham Interests II Ltd. decided to pursue wetland and stream banking opportunities on the site.

The CCMB proposed site is also within the watershed of the Addicks and Barker reservoirs. These reservoirs and associated dam structures have historically been in danger of breaching and stressed from flooding within the region. The creation of an upstream wetland mitigation bank can provide valuable water attenuation to relieve aging infrastructure and reduce the risk of dam failure during flood events.

The proposed CCMB would be available for compensation for approved wetland and stream Department of the Army (DA) permits for impacts to any jurisdictional non-tidal water bodies, located within the primary and secondary service area as shown in Appendix A. The service area proposed was evaluated based on the 8-digit Hydrologic Unit Code (HUC) in which the tract resides, relation to the EPA Level III eco-region, and all watersheds that contribute and flow into Cypress Creek. The proposed primary service area includes Hydrologic Unit Code (HUC) Spring Creek HUC (12040102) and the proposed Secondary Service Area is the Buffalo-San Jacinto HUC (12040104) and the West Fork San Jacinto HUC (12040101). This proposed service area would require approval by the Interagency Review Team (IRT) during the mitigation bank review process. However, the IRT has approved service areas based on this approach for recent mitigation banks that we have developed.

II. ESTABLISHMENT OF THE CCMB

A. BACKGROUND INFORMATION

The Sponsor has evaluated the current site conditions. The proposed bank site has the potential for enhancement, restoration, and establishment of aquatic resources.

The 509 acre proposed bank site, with the exception of the southeast corner, lies entirely within the 100-year floodplain of Cypress Creek as published by the Federal Emergency Management Agency (FEMA). The project area is dominated by open pasture areas primarily used for livestock. The majority of this site is currently utilized for agricultural livestock production and is improved grazing pasture for the livestock.

The tract has historically been used for agricultural activities such as rice cultivation and livestock production. 1944 aerial imagery shows the property was used for rice production but was eventually converted back to pasture prior to 1978.

Wetlands generally occur as historical features on the landscape and usually maintain their basic configurations and appearances over a long period of time. However, vegetation communities naturally progress through several stages of succession as wetlands age and become mature.

Additionally, topographical and hydrological characteristics may be changed by natural processes or by man-induced alterations in or near wetland and stream areas. While field verification remains essential to wetland and stream identification, historical aerial photography, and topographic maps played a vital role in the evaluation of wetland and stream features and variations over extended periods of time. Aerial photography was used extensively in the preliminary evaluations made on the site.

These photographs were studied extensively for the presence of wetland indicators that recur over time. Black & white photographs contain features which may outline the subtle changes in shading and contrast where wetland vegetation or soils may occur. Anaerobic soils are often of a different hue, due to hydrous conditions and vegetation patterns associated with such soils. Due to the hydroperiod and vegetation variation, these areas can be distinguished from surrounding uplands. Black & white photography becomes a primary method for interpretive delineation since wetland areas may often be very distinctive. Infrared photographs provide views of the site as a complete unit where areas and systems of high water content become more easily defined. Such areas are slightly cooler than the surrounding areas and will appear on the false color imagery as variations in shading. Areas which consistently appeared as possible wetlands were marked for field confirmation. The same process also identified areas that appeared as marginal or upland. From these photographic interpretations, a preliminary "rough" delineation pattern was established and incorporated into planned site reconnaissance.

A preliminary site visit was made to verify the findings from the aerial photograph investigation. The attached preliminary wetland assessment map depicts the findings of aerial photograph investigation and the site visit and provides an approximate location of existing aquatic resources on the tract.

B. CONCEPTUAL DEVELOPMENT PLAN

In order to develop a conceptual development plan for the CCMB the following resources were reviewed: 1) Natural Resource Conservation Service (NRCS) county soil survey maps; 2) FEMA flood plain maps; 3) USGS topographic maps; and 4) Current and historical aerial photographs.

The NRCS Web Soil Survey of Harris County, Texas was reviewed to determine the types of soils that would most likely be present on the subject property. The dominant soils on the tract are Addicks loam (Ad), Gessnar fine sandy loam (Ge), 0 to 1% slopes, ponded, Gessnar complex (Gs), Hockley loamy fine sand (HoB), 1 to 3% slopes, Katy fine sandy loam (Kf), 0 to 1% slopes, and Wockley fine sandy loam (Wo), 0 to 1% slopes. Three (3) of these soil types (Addicks loam-Ad, Gessnar fine sandy loam-Ge, and Gessnar complex-Gs) are listed as "hydric" according to the NRCS Web Soil Survey of Harris County, Texas. The majority of the property is comprised of Katy fine sandy loam (Kf), which is listed as "not hydric". However, this does not mean that wetlands do not exist on the tract or that the tract is not conducive for wetland creation and development. In fact, Katy fine sandy loam (Kf) is pervasive throughout the Katy Prairie ecological footprint. Wetlands were historically widespread throughout this ecological area but were drained to accommodate agricultural practices during the 1900's. Furthermore, Katy fine sandy loam (Kf) is considered to have a slow infiltration rate which would allow water to pond on the surface rather

than infiltrate and percolate quickly out of the root zone. This is especially true when the hydrology of the area is manipulated to increase frequency of flooding.

The USGS Warren Lake Quad was reviewed. This information has been used to identify potential sources of hydrologic enhancement.

1. Enhancement

A preliminary wetland assessment was conducted on this site by personal from BOA. There are approximately 16 acres of potential wetlands, 3 acres of man-made stock ponds, and 5,500 linear feet of drainage ditches that currently exist on the tract. These wetlands are low quality aquatic resources in need of enhancement and protection from non-regulated degradation, such as agriculture.

The Sponsor is proposing enhancement of these low quality wetlands by excavating within the existing areas to increase their overall quality. Excavation to a depth of 6-12 inches below surface level will replicate the historical wetland habitat present within this eco-region. Historically this area was dominated by prairie pothole wetland habitat and this is the vision that the CCMB will try to replicate in regards to design and function.

The enhanced wetland areas will then be planted with desirable, native wetland species once construction is complete and hydrology is established.

2. Restoration

There is the potential to restore approximately 3 acres of existing agricultural ponds within the subject property. These ponds were likely excavated within existing wetlands or low lying areas for the purpose of watering livestock. The ponds will be filled or regraded as necessary to correspond to the 6-12 inch depth below surface level design. wetlands that will also be restored. The deeper ponds will be filled in with clean earthen fill collected from on-site excavation in other areas.

In addition to the restoration of the existing ponds, approximately 85 acres of historical wetlands will be restored to replicate conditions prior to being drained for agriculture. These areas were selected based on studying aerial imagery from 1938-1995. Areas inundated with water were observed and targeted as areas to create wetlands that historically existed, but have been drained for the purpose of agriculture or livestock grazing. The 85 acres to be restored no longer possess characteristics that meet wetland criteria, but through construction activities the natural contours will be restored along with the hydrology. These 85 acres of restored wetland areas will be excavated to have a maximum water depth of 6-12 inches.

Furthermore, the Sponsor proposes to restore approximately 15,000 linear feet of historical streams. Due to the manipulation of the site and the lack of aerial imagery dating back prior to 1938, it is difficult to determine the exact locations of historical

stream channels within the subject property. However, current and historical contours can give insight to the historical drainage patterns even after the alteration of stream channels. These contours were used to establish likely channel locations prior to disturbance. The created stream channels will be excavated and contoured to match the contours of nearby Cypress Creek tributaries. The ~5,500 linear feet of on-site ditches will be removed to increase overland flow and restore flow to the created stream channels.

3. Creation

Approximately 88 acres of wetlands could be created throughout the subject property within areas currently utilized for livestock grazing. Water could be diverted into these areas from upstream areas and/or Cypress Creek and retained by creating berms with weir structures. The 88 acres of created wetlands would need to be excavated to a depth of 6-12 inches similar to historic Katy prairie wetland habitats. Remaining dirt would need to be removed from the site or used to fill in some of the existing pond features to match the appropriate depth of the created and restored wetlands on-site.

The created wetland areas will then be planted with desirable, native wetland species once construction is complete and hydrology is established.

III. OPERATION OF THE CCMB

A. WETLAND ASSESSMENT METHODOLOGY

The entire 509 acre tract will first be fully delineated according to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (v.2) in order to determine the exact acreage and location of aquatic resources on the tract.

A Hydrogeomorphic (HGM) Assessment will be utilized to determine the credits for the wetland areas to be enhanced, restored and created. This assessment would be submitted to the U.S. Army Corps of Engineers, Galveston District for review and approval.

B. CREDITING AND DEBITING PROCEDURES

Preservation credits of existing wetlands and streams would be released immediately following approval of the bank and the placement of a conservation easement over the entire bank site.

Future credits would be released and available for purchase upon approval of the HGM assessment. Credits will be issued using a 1:1 ratio for mitigation compensation within the primary service area and 1.5:1 for mitigation compensation within the secondary service area.

The amount of credits sold from the CCMB would be based on the HGM findings and best professional judgment of the Corps of Engineers Project Manager as to the quality of those waters. Once individual credits are sold, a credit ledger would be maintained by the Sponsor

and forwarded to the Corps of Engineers; Galveston District on an annual basis with all pertinent information. This information would include the permit identification number, permittee name, amount of wetlands/streams approved for impact at the project site, number of credits purchased as compensation, date of purchase, and number of credits remaining available at the bank.

C. MONITORING REQUIREMENTS

Monitoring for noxious species would be conducted annually within the preservation areas until all available credits are purchased and the CCMB is turned over to a third-party for long-term preservation. Additionally, the created and restored areas will be monitored to ensure the success of the areas and to determine when the appropriate functional assessment model needs to be run to produce a credit release. The exact monitoring parameters and performance standards will be included in the Draft Mitigation Banking Instrument (DMBI).

D. LONG-TERM MAINTENANCE/MANAGEMENT

A qualified third party land trust will be contacted to be the conservation easement holder. The entity and a draft conservation easement document will be provided to the IRT along with the Draft Mitigation Banking Instrument (DMBI).

E. PROTECTIVE REAL ESTATE MECHANISM

The CCMB would be maintained under a conservation easement held by a qualified third party land trust.

F. LAND USE PROVISIONS

The property may be used for educational and recreational purposes, but will no longer be used as an agricultural property. Only activities that are authorized within the conservation easement will be allowed on the property.

G. WATER RIGHTS

The Sponsor is not aware of any future reservoirs or drainage plans that would affect hydrology to the Bank. Similarly, the Sponsor is not aware of any future Harris County plans that could reduce or impact flow within Cypress Creek.

IV. CONCLUSION

It is the opinion of the Sponsor that the 509-acre CCMB is a suitable tract for the development of a successful wetland and stream mitigation bank. The CCMB is located in an area that has a current and future market for mitigation credits. The site contains high quality aquatic resources suitable for preservation credits and contains suitable habitat for wetland restoration

and creation. The site also contains stream habitat suitable for enhancement and restoration. The unique position of this property within the watershed also enables significant water attenuation potential to relieve the Addicks and Barker dams downstream. Based on the factors listed above the Sponsor is respectfully submitting this prospectus to the IRT for review and comment with the intention of moving forward with the development of the CCMB.

V. LITERATURE CITED

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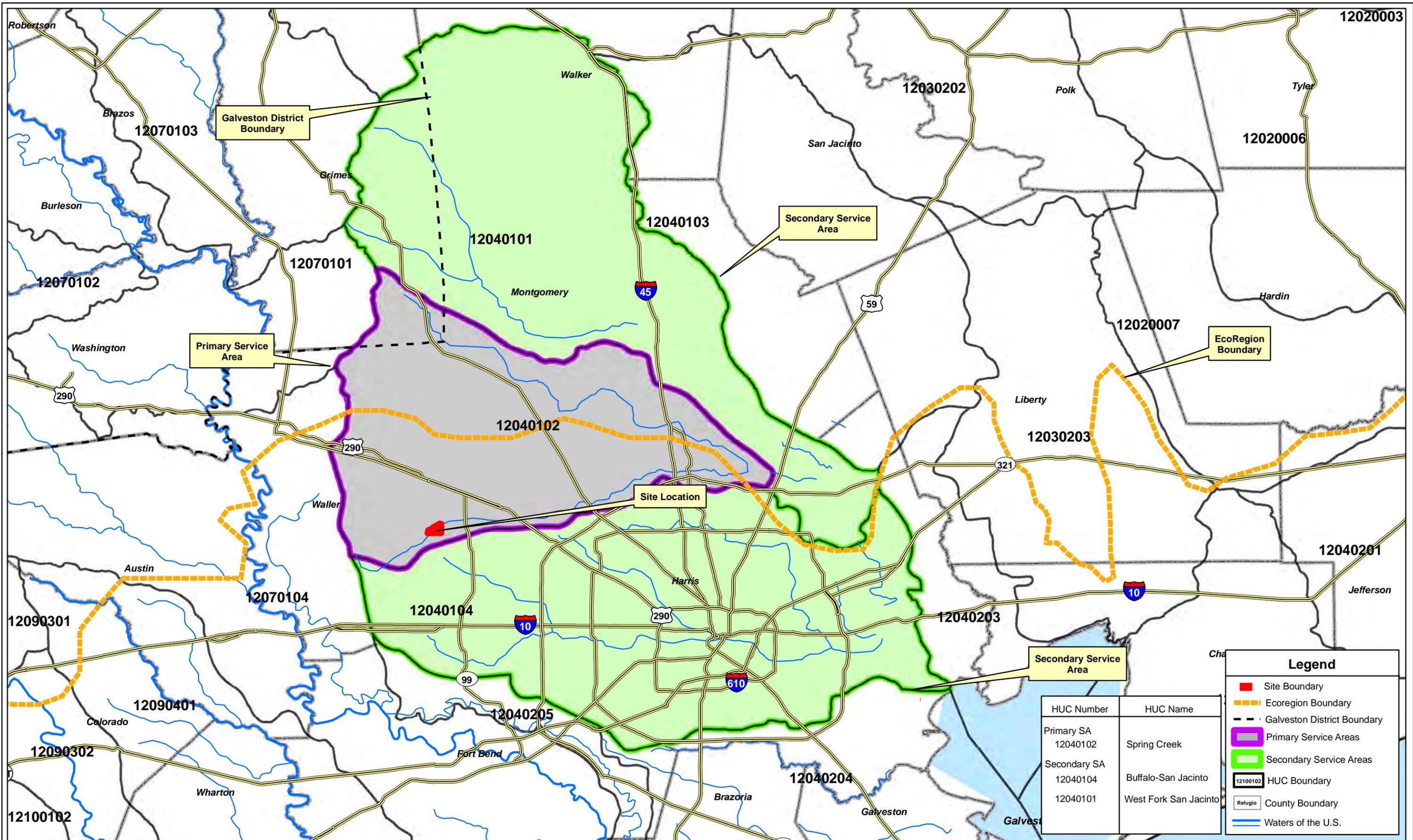
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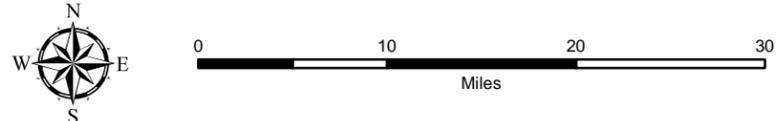
APPENDIX A
PROPOSED SERVICE AREA



Legend

- Site Boundary
- Ecoregion Boundary
- Galveston District Boundary
- Primary Service Areas
- Secondary Service Areas
- 12100102 HUC Boundary
- Refugio County Boundary
- Waters of the U.S.

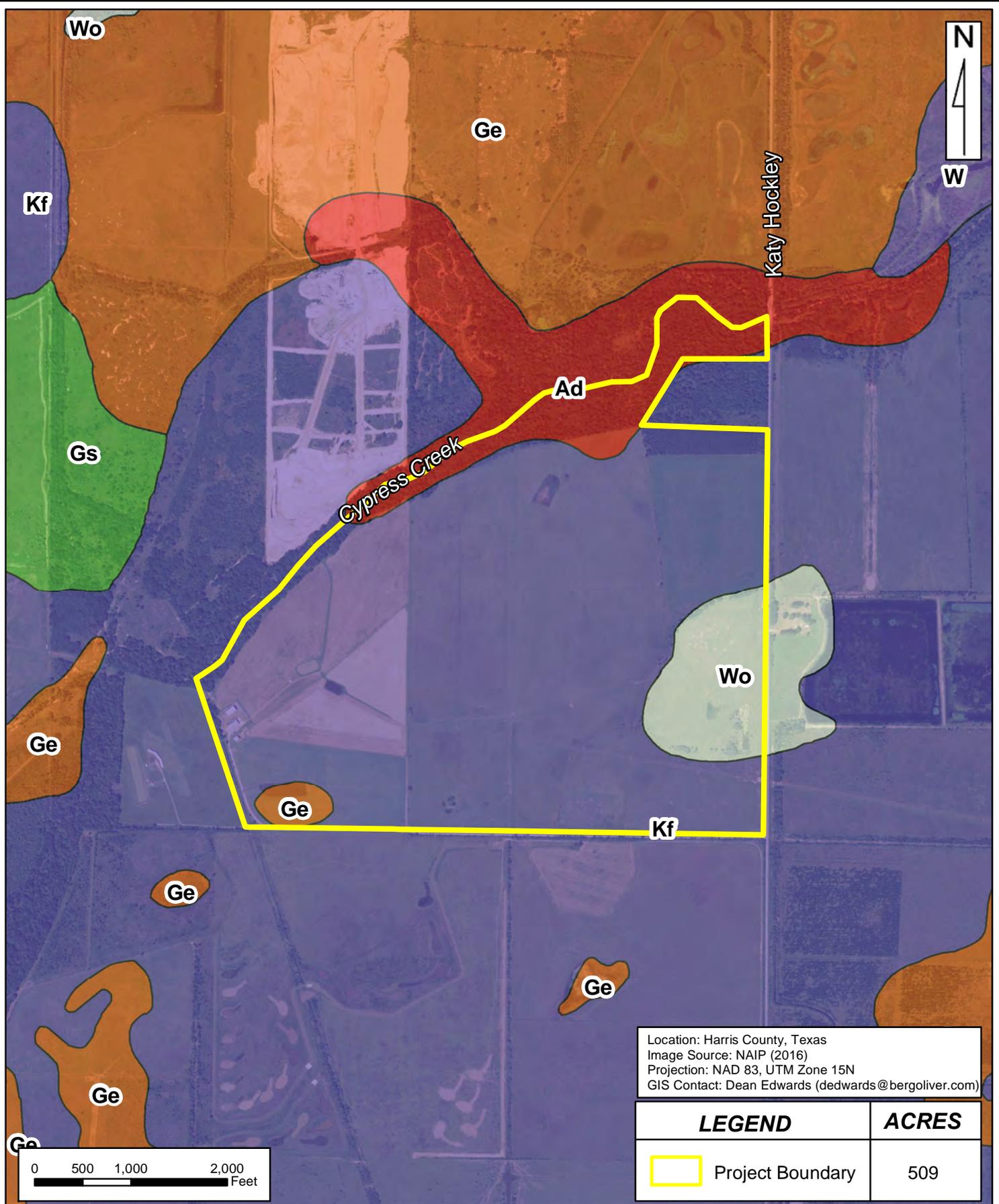
HUC Number	HUC Name
Primary SA 12040102	Spring Creek
Secondary SA 12040104	Buffalo-San Jacinto
12040101	West Fork San Jacinto



PROPOSED MITIGATION BANK SERVICE AREA MAP

Project #: 10198N-MBFS For: Cunningham Interests II, Ltd. Location: 257 acres Katy-Hockley Cutoff Harris County, Texas	REVISIONS June 1, 2016 by JKM	BERG OLIVER ASSOCIATES, INC. ENVIRONMENTAL SCIENCE & LAND USE CONSULTANTS 14701 ST. MARY'S LANE, SUITE 400 HOUSTON, TEXAS 77079 PHONE: (281) 569-2888 http://www.bergoliver.com
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APPENDIX B
HARRIS COUNTY SOIL SURVEY MAP



Location: Harris County, Texas
 Image Source: NAIP (2016)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)

LEGEND	ACRES
Project Boundary	509

NRCS COUNTY SOILS ON 2016 NAIP AERIAL

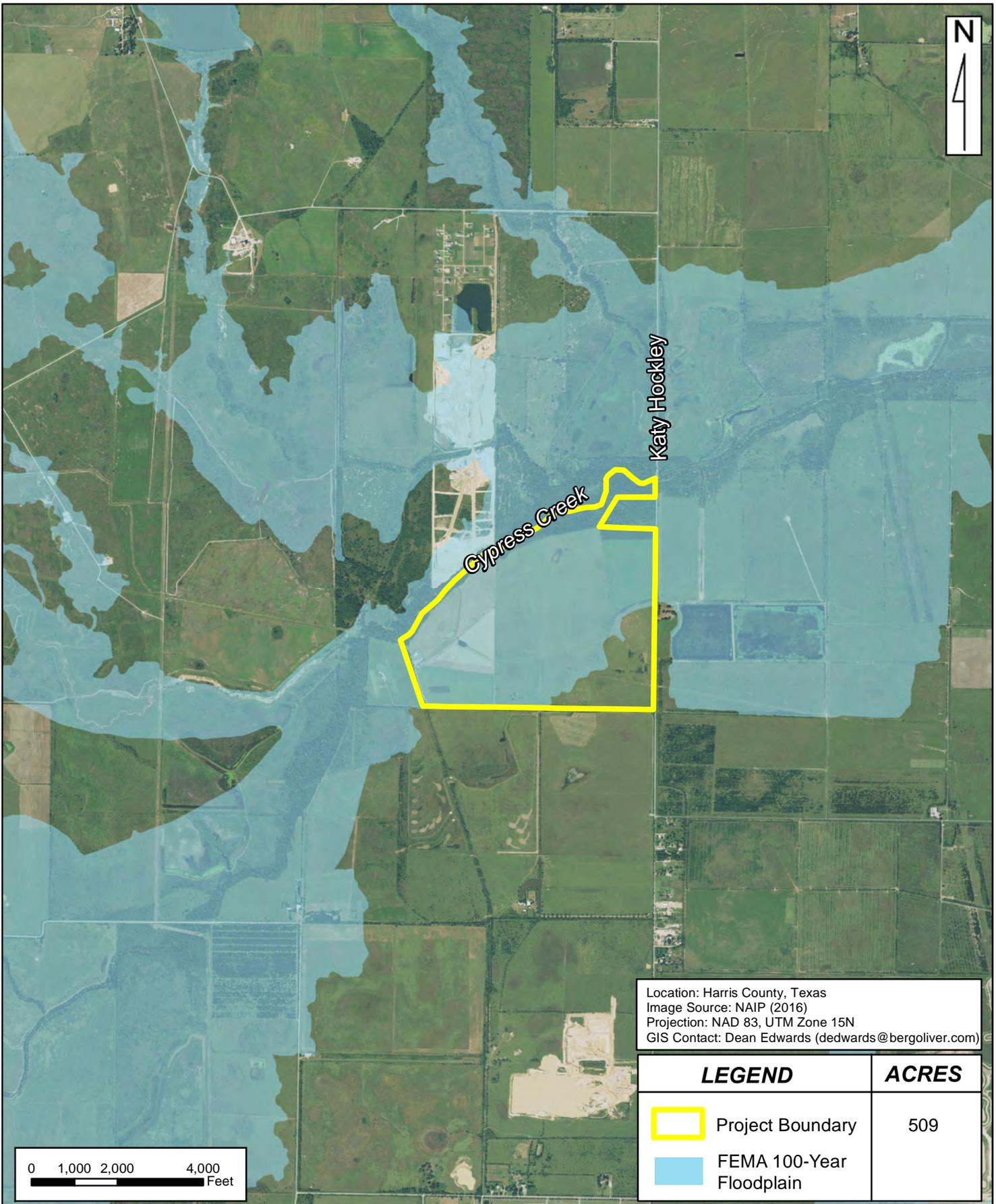
Project #: 10198N-PROP
 For: Cunningham Interests II, Ltd.
 Location: S of Cypress Creek & W of Katy Hockley Rd
 Harris County, Texas

REVISIONS
6/8/17 by DBE

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 HOUSTON, TEXAS 77079 PHONE (281)589-0898 <http://www.bergoliver.com>

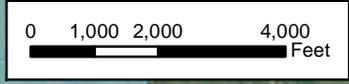


APPENDIX C
FEMA 100-YEAR FLOODPLAIN MAP



Location: Harris County, Texas
 Image Source: NAIP (2016)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)

LEGEND		ACRES
	Project Boundary	509
	FEMA 100-Year Floodplain	



FEMA 100-Year FLOODPLAIN ON 2016 NAIP AERIAL

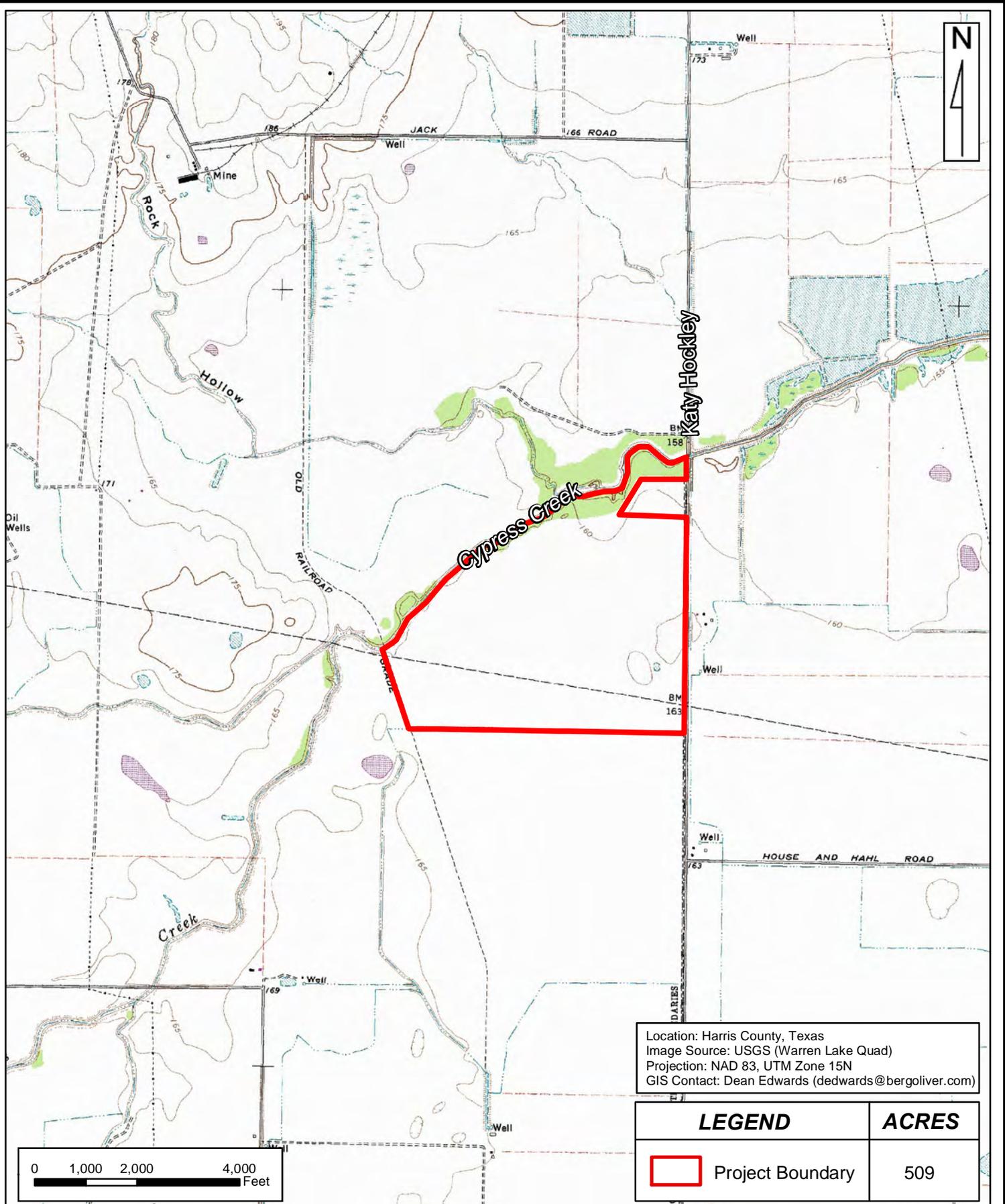
Project #: 10198N-PROP
For: Cunningham Interests II, Ltd.
Location: S of Cypress Creek & W of Katy Hockley Rdf
 Harris County, Texas

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APPENDIX D
UNITED STATES GEOLOGIC SURVEY TOPOGRAPHIC MAP



Location: Harris County, Texas
 Image Source: USGS (Warren Lake Quad)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)

LEGEND	ACRES
 Project Boundary	509

USGS TOPOGRAPHIC MAP- Warren Lake Quad

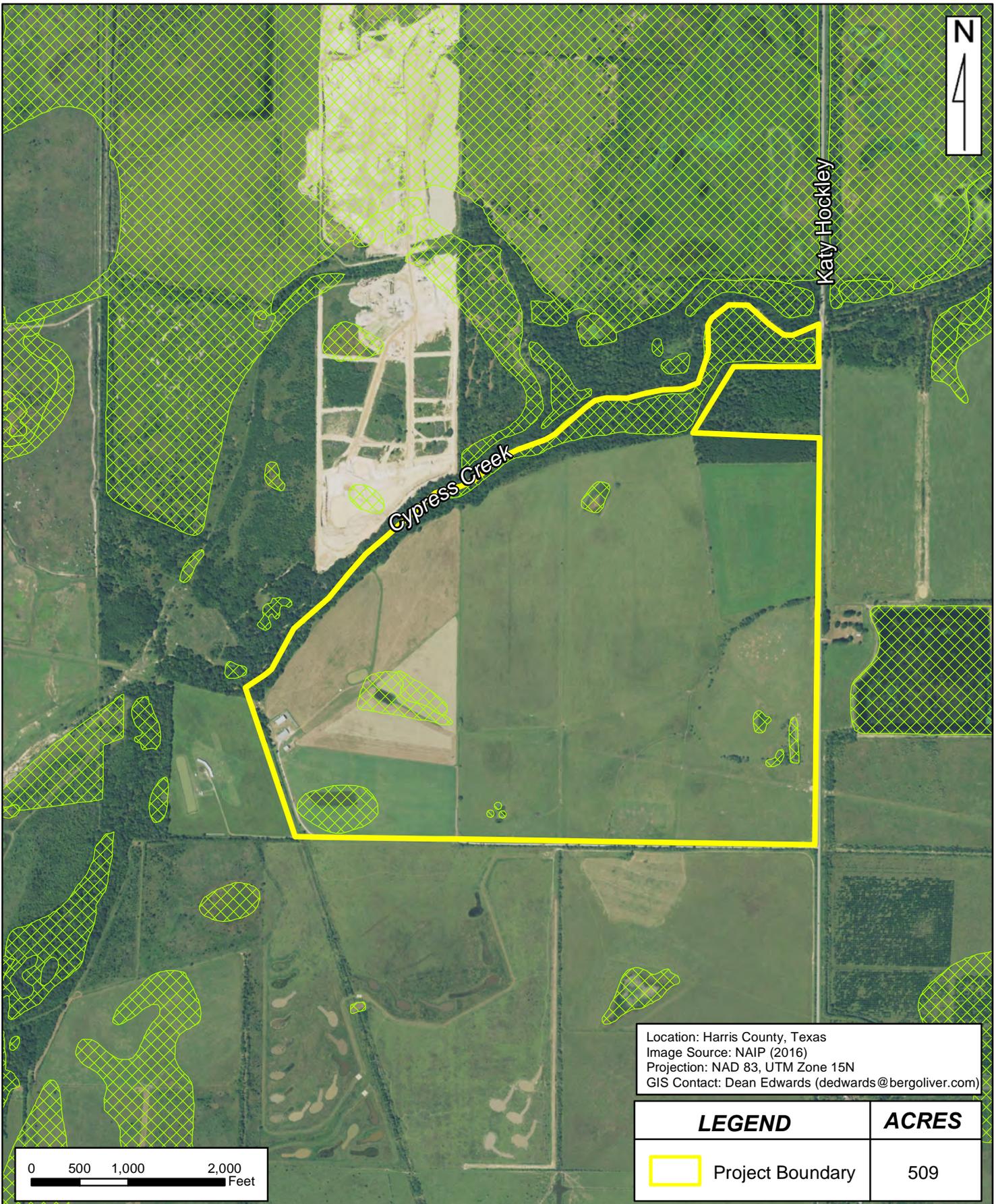
Project #: 10198N-PROP
 For: Cunningham Interests II, Ltd.
 Location: S of Cypress Creek & W of Katy Hockley Rdf
 Harris County, Texas

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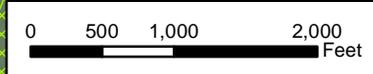
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APPENDIX E
NATIONAL WETLAND INVENTORY MAP



Location: Harris County, Texas
 Image Source: NAIP (2016)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)



LEGEND	ACRES
Project Boundary	509

NATIONAL WETLAND INVENTORY FEATURES ON 2016 NAIP AERIAL

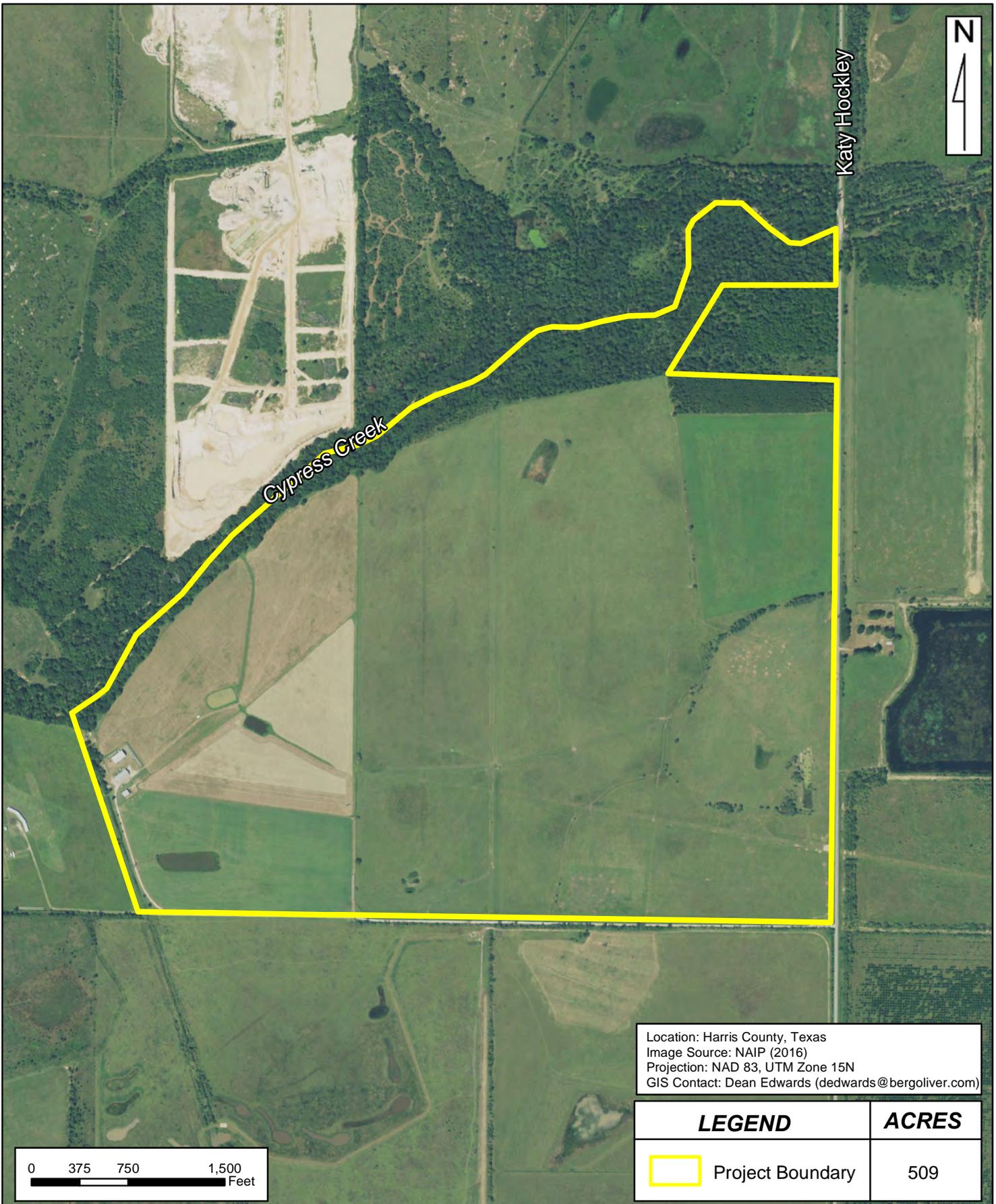
Project #: 10198N-PROP
 For: Cunningham Interests II, Ltd.
 Location: S of Cypress Creek & W of Katy Hockley Rdf
Harris County, Texas

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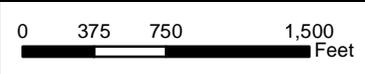
APPENDIX F
AERIAL PHOTOGRAPHY



Katy Hockley

Cypress Creek

Location: Harris County, Texas
 Image Source: NAIP (2016)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)



LEGEND	ACRES
 Project Boundary	509

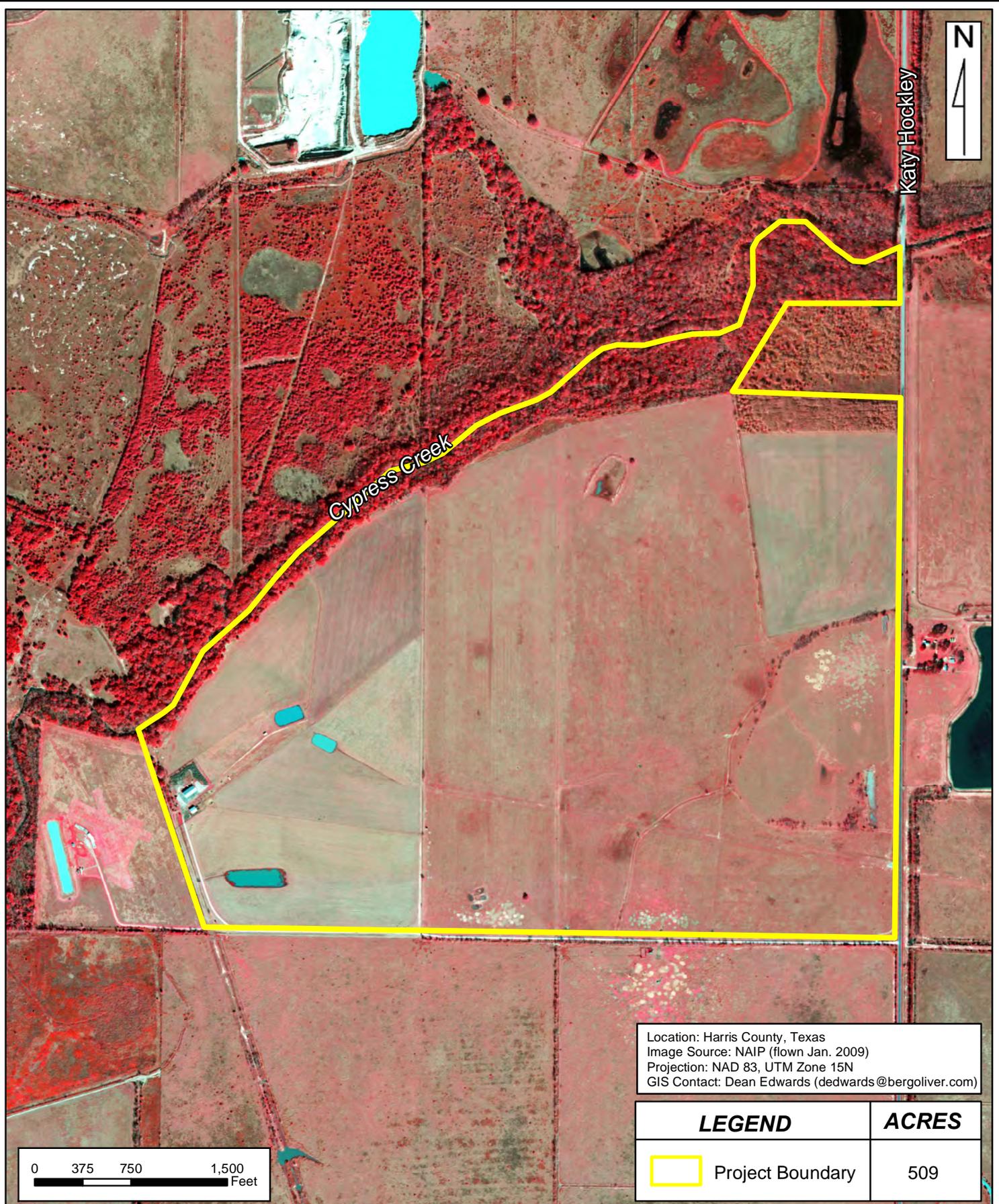
2016 NAIP AERIAL

Project #: 10198N-PROP
 For: Cunningham Interests II, Ltd.
 Location: S of Cypress Creek & W of Katy Hockley Rdf
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Location: Harris County, Texas
 Image Source: NAIP (flown Jan. 2009)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)

LEGEND	ACRES
 Project Boundary	509



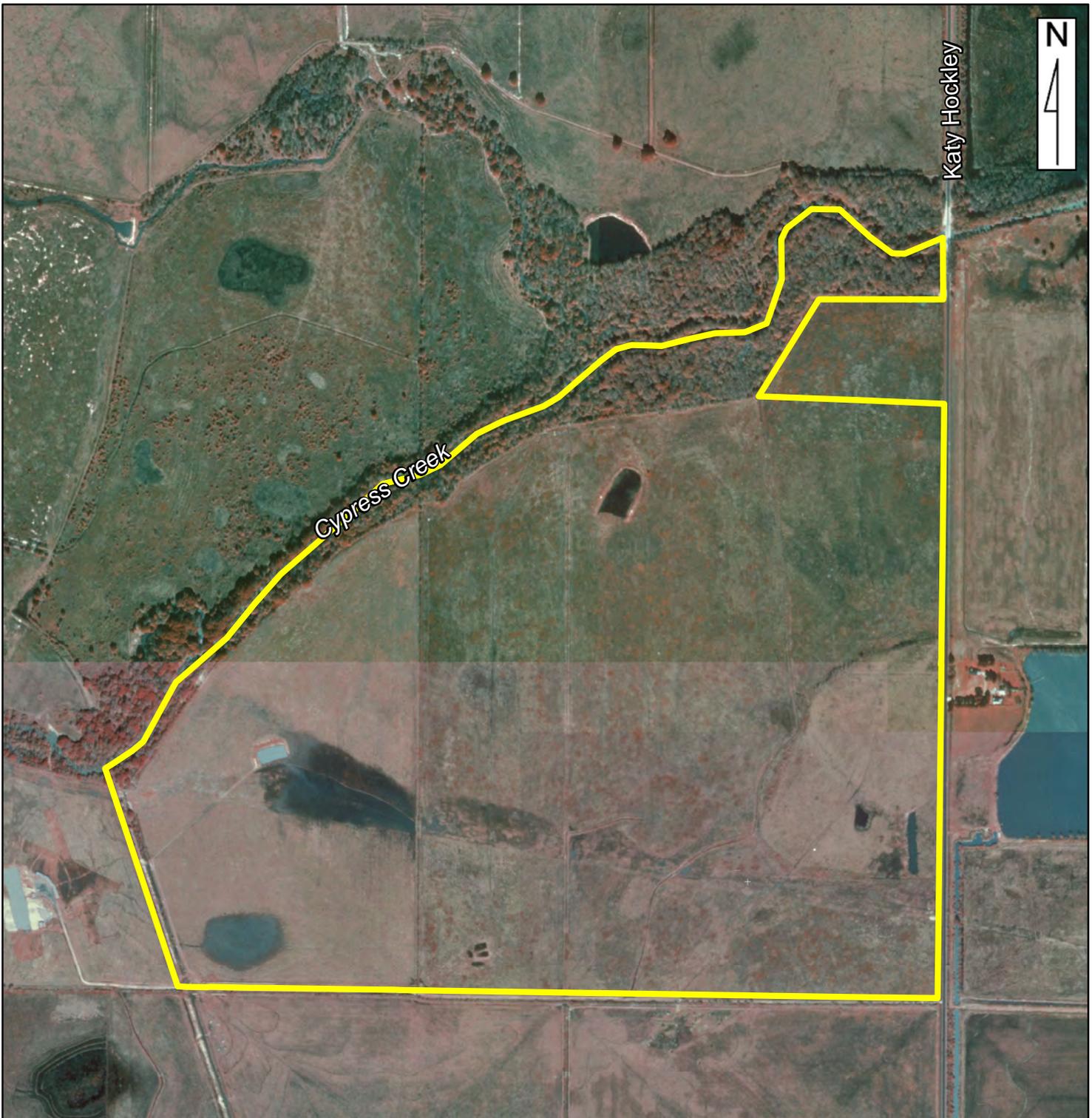
2009 NAIP INFRARED AERIAL

Project #: 10198N-PROP
 For: Cunningham Interests II, Ltd.
 Location: S of Cypress Creek & W of Katy Hockley Rdf
Harris County, Texas

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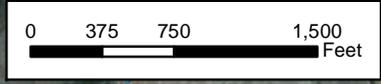
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Location: Harris County, Texas
 Image Source: TXDOQQ (1995)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)

LEGEND	ACRES
 Project Boundary	509



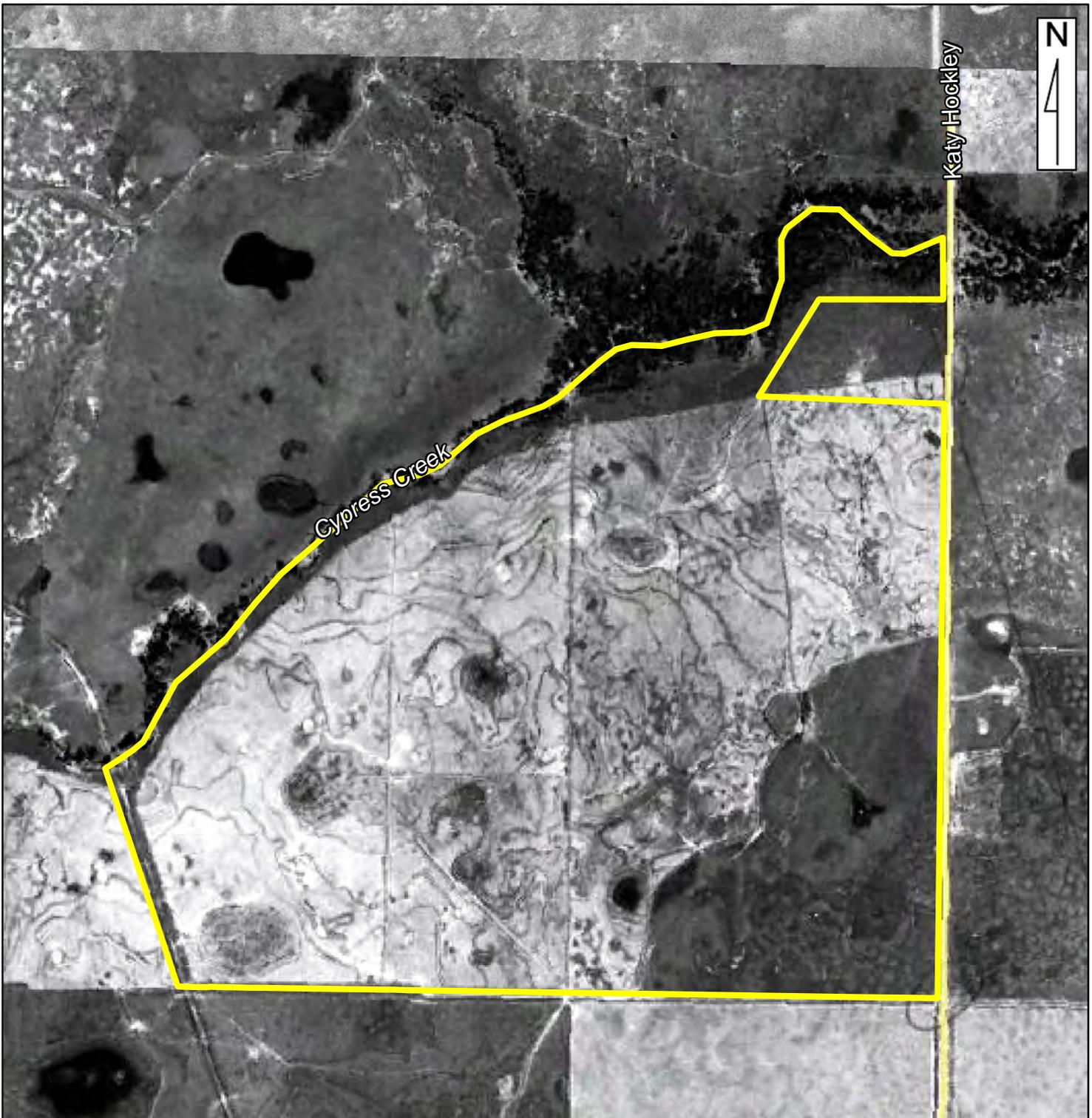
1995 TXDOQQ INFRARED AERIAL

Project #: 10198N-PROP
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Katy Hockley



Cypress Creek

Location: Harris County, Texas
 Image Source: Google Earth (1944)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)



LEGEND	ACRES
Project Boundary	509

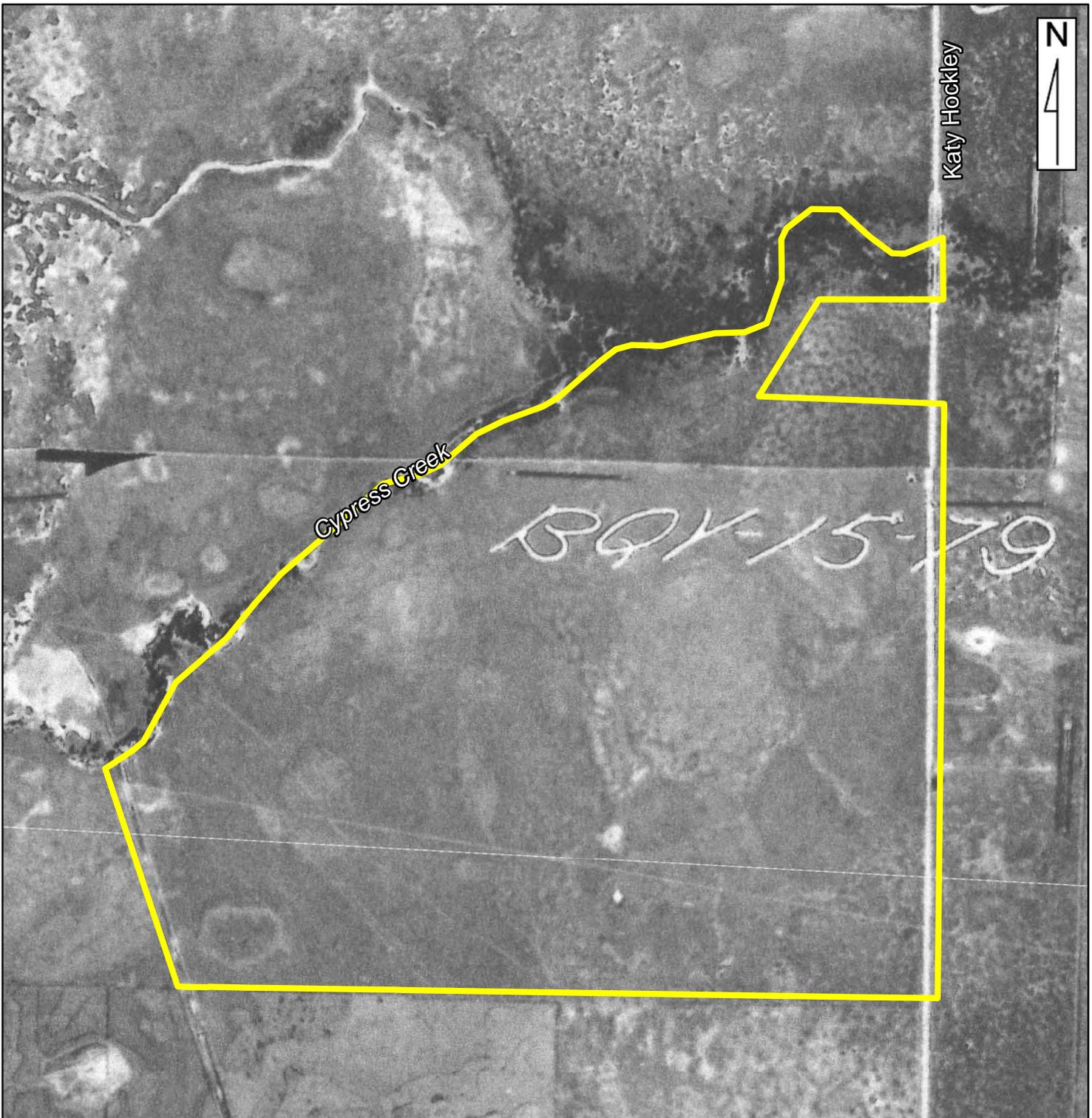
1944 GOOGLE EARTH AERIAL

Project #: 10198N-PROP
 For: Cunningham Interests II, Ltd.
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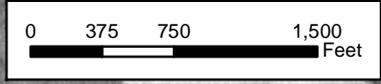
Katy Hockley

Cypress Creek

BQY-15-79

Location: Harris County, Texas
 Image Source: USDA (1938)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)

LEGEND	ACRES
 Project Boundary	509



1938 USDA AERIAL

Project #: 10198N-PROP
 For: Cunningham Interests II, Ltd.
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APPENDIX G
PRELIMINARY WETLAND SURVEY

NOTE: Approximate location of the 100-year floodplain as depicted was derived from digitized Federal Insurance Rate Maps (FIRM). The proper authorities, prior to any land planning or engineering activities, should verify the exact location of the 100-year floodplain.

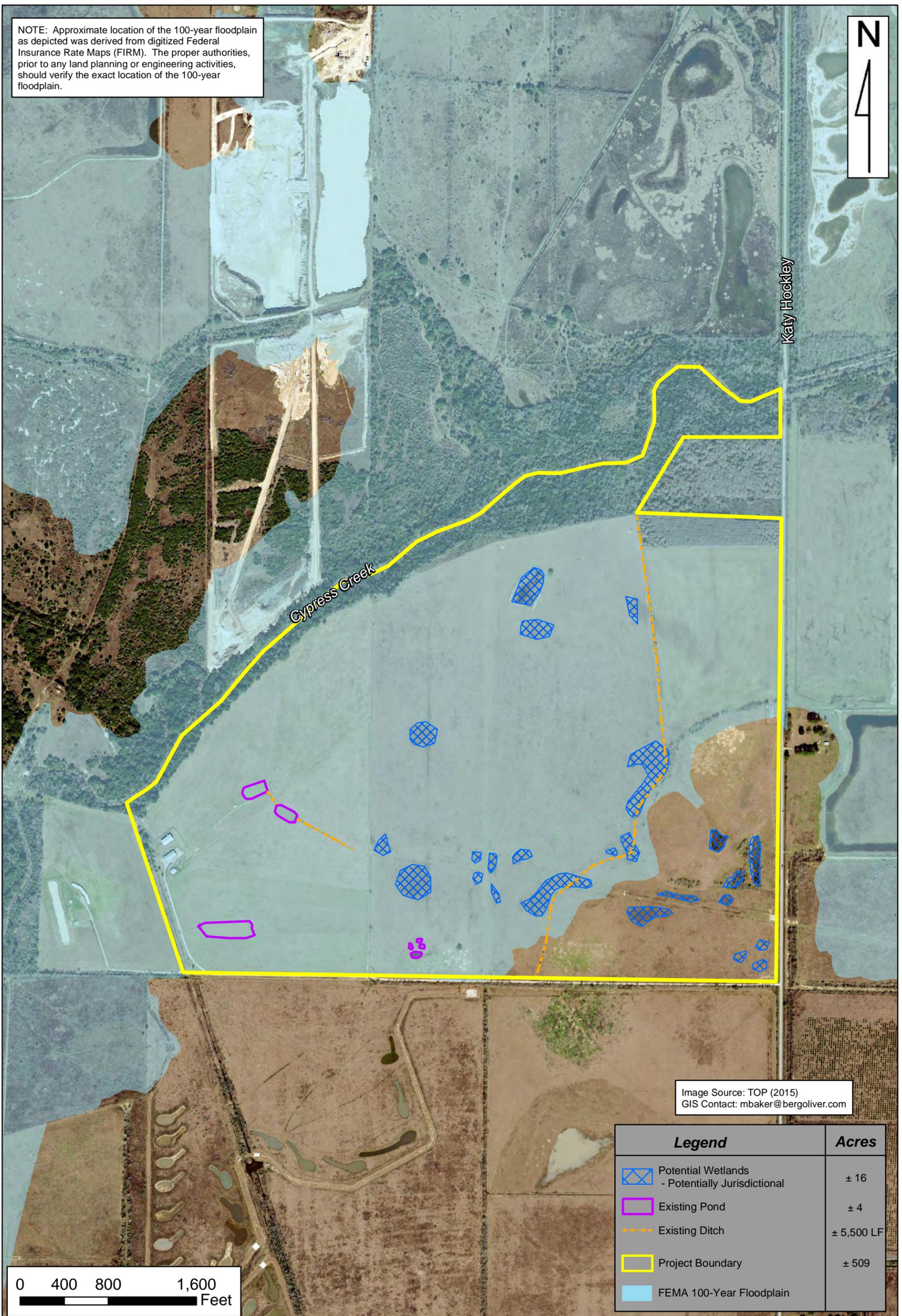
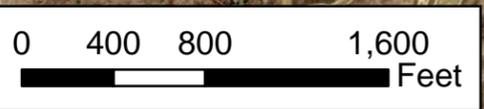


Image Source: TOP (2015)
GIS Contact: mbaker@bergoliver.com

Legend		Acres
	Potential Wetlands - Potentially Jurisdictional	± 16
	Existing Pond	± 4
	Existing Ditch	± 5,500 LF
	Project Boundary	± 509
	FEMA 100-Year Floodplain	



**DUE DILIGENCE WETLAND STUDY
SITE LOCATION MAP**

Project #: 10198 N-WDDS (Tract 1)
For: Cunningham Interests II, Ltd.
Location: Southwest of Cypress Rosehill & Grant Rd.
Harris County, Texas

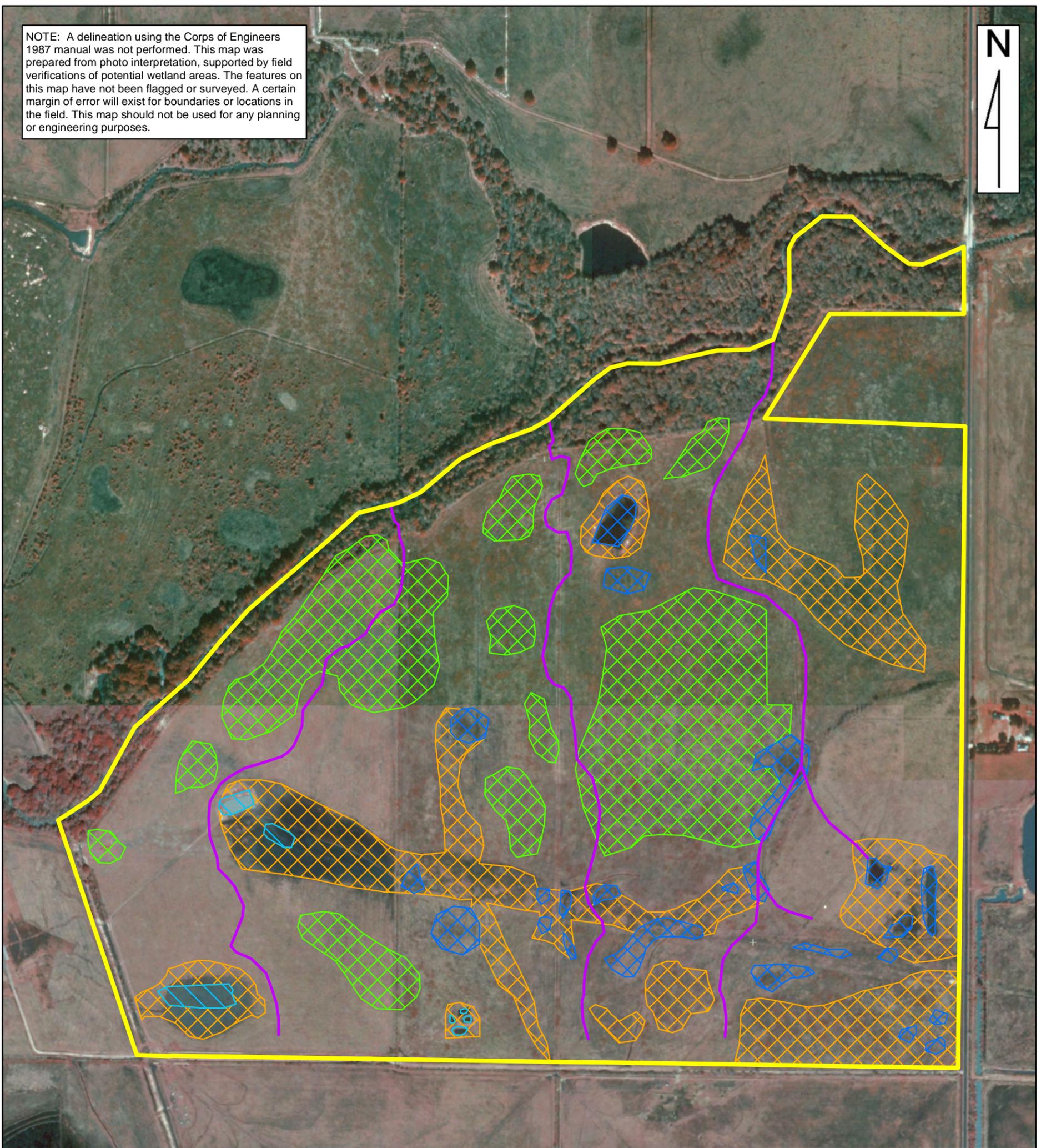
REVISIONS
May 13, 2016 by MDB

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APPENDIX H
PROPOSED MITIGATION BANK MAP

NOTE: A delineation using the Corps of Engineers 1987 manual was not performed. This map was prepared from photo interpretation, supported by field verifications of potential wetland areas. The features on this map have not been flagged or surveyed. A certain margin of error will exist for boundaries or locations in the field. This map should not be used for any planning or engineering purposes.



Location: Harris County, Texas
 Image Source: TXDOQQ (1995)
 Projection: NAD 83, UTM Zone 15N
 GIS Contact: Dean Edwards (dedwards@bergoliver.com)



Legend	Acres
Potential Wetlands -To be Enhanced	± 16
Historic Wetlands -To be Restored	± 85
Existing Ponds -To be Restored	± 3
Potential Wetlands -To be Created	± 88
Historic Stream -To be Restored	± 15,000 LF
Project Boundary	509

**WETLAND DUE DILIGENCE STUDY
 SITE LOCATION MAP**

Project #: 10198N-PROP
For: Cunningham Interests II, Ltd.
Location: S of Cypress Creek & W of Katy Hockley Rd
 Harris County, Texas

REVISIONS
6/9/17 by DBE

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