Alternative Environmentally Sensitive Area (AESA) Plan (AESA24-0002)

Dentex Tract

Approximately 93 Acres

Denton, Denton County, Texas
September 17, 2024

Project Owner:
North Texas Land Development, LLC

Prepared By:
Kimley»Horn

Dallas, Texas

Kimley»Horn

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Alternative Environmentally Sensitive Area (AESA) Plan
Dentex Tract
Denton, Denton County, Texas

1.0 – Introduction and Authority/Purpose and Need for Action

Kimley-Horn and Associates Inc. (Kimley-Horn) has prepared the following Alternative Environmentally Sensitive Area (AESA) Plan. This AESA plan is being submitted to the City of Denton under the Denton Development Code (DDC) to request approval for impacts to Environmentally Sensitive Areas (ESA). This AESA Plan proposes mitigation measures for the impacts required to construct a mixed-use development and a single-family residential development for North Texas Land Development, LLC.

Pursuant to DDC, the disturbance of Undeveloped Floodplain is a permitted activity for the placement of these mixed-use and single-family residential developments if the disturbed area is restored to minimize erosion and promote the recovery of the ESA. The mitigation activities offered as a part of this AESA would achieve this goal.

1.1 – Description of Overall Development

The proposed Dentex Tract project is approximately 93-acres in size generally located north of Johnson Lane and south of Allred Road in the City of Denton, Denton County, Texas (DCAD # R76886, Figure 1). The project can be separated into Tract A, in the southern portion of the parcel, and Tract B, in the northern portion of the parcel.

Tract A consists of a single-family residential development with an associated green space, roads, housing, two detention ponds, utility installations, and a hike-and-bike trail. The proposed zoning for Tract A is Residential (R6) which allows for the proposed development (Z24-0009).

Tract B consists of a high-density residential, commercial, and retail development with associated roads, parking, and a detention area. The proposed zoning for Tract B is Mixed-Use Neighborhood (MN) which allows for the proposed development (Z24-0009).

1.2 – Site Visit

Following a review of the City of Denton GIS mapper and readily available background information including aerial imagery and online databases, Kimley-Horn conducted an ESA Field Assessment for the project area on July 11, 2024 (ESA24-0018).

Ground level photographs were taken during the site visit. The general locations of photographs are depicted on Figure 3 and the numbering system on the figure corresponds to the site visit photograph numbers. ESA Assessment Forms were completed at during the site visit.

2.0 – Site Area Description

The approximate center coordinates of the study area are Latitude: 33.148 and Longitude: -97.183 (1983 North American Datum (NAD) Coordinates). The project is located within the Hickory Creek – Little Elm Reservoir watershed (USGS Hydrological Unit Code (HUC) 1203010308). Based on historic aerial imagery and current observations, the majority of the site appears to be undeveloped pasture with a wedding venue and one single-family residence located in the northern portion.

2.1 - Vegetation

The project area is located in the historic Cross Timbers ecoregion. Historically, this region was dominated by post oak, blackjack oak, cedar elm, Osage-orange, and various grasses and forbs.

However, this ecoregion has witnessed significant impacts due to urban sprawl and agriculture. Based on site visit observations, the study area can be categorized as the following vegetation community: *pasture.*

- **Vegetation Type 1: Pasture**
  - The vegetation type makes up approximately 100% of the vegetated portion of the study area and is dominated by:
    - Bermuda grass (*Cynodon dactylon*)
    - dallisgrass (*Paspalum dilatatum*)
    - perennial ryegrass (*Lolium perenne*)

2.2 – Observed ESA Habitat

During the site visit, Undeveloped Floodplain ESA was generally mapped following the FEMA Zone A/AE: 100-Year Floodplain (Figure 3).

Undeveloped Floodplain ESA

Tract A

The Undeveloped Floodplain ESA within the southern portion of the site surrounds a network of three swales located downstream of a small section of previously removed Riparian Buffer ESA on the eastern adjacent property. The upland pond is located under the access road and does not have a defined outfall or connecting channel. A culvert under the access road concentrates overland flow into the excavated ditch that then ends abruptly at the fence line. Flow from the project site to the adjacent site to the east appears to be through overland flow. The northern drainage area within the floodplain area was dominated by upland grasses and aster species.

Tract B

The Undeveloped Floodplain ESA within the northern portion of the site surrounds an upland pond and excavated ditch located directly upstream of removed Riparian Buffer ESA to the west and unassessed Riparian Buffer ESA to the east. The swales extend through the pastureland, eventually converging near the eastern boundary. None of the swales making up the system were observed to have defined channels, and all the swales were fully vegetated with upland grasses. The Undeveloped Floodplain ESA on site is shown on Figure 3.

2.3 – Purpose of AESA

The purpose of the AESA plan is to propose mitigation for the impacts to the Undeveloped Floodplain ESA caused by the construction of a mixed-use development. The mitigation activities will include the removal of invasive species and revegetation with native species within the designated green space areas located within and outside of the floodplain. This AESA plan explaining the mitigation measures will be provided to the City of Denton for formal notification and review of the proposed activity.

Though the Undeveloped Floodplain ESA area was observed to be dominated by upland grasses and appeared to be historically altered for agricultural purposes, Undeveloped Floodplain ESA was mapped due to its role in protecting the waterway from areas subject to agricultural pollutants and alteration (ESA24-0018). The proposed development would introduce the possibility of nonpoint source pollution from stormwater, including increased sediment, phosphorous, oil, grease, and nitrogen. A healthy, functional ESA, achieved through the removal and replacement of the upland grass species and restoring channel grading to its natural state within the floodplain, will allow native vegetative and wildlife communities to reestablish in the buffer zone and therefore naturally treat water and reduce pollution within downstream waterways.

Additional project information is available from City of Denton Case Number ESA24-0018 and within the City of Denton eTRAKiT system.

3.0 – Affected Environment and Summary of Impacts

Mass grading of the entire site is proposed for the construction of the single-family residential development (Tract A) and mixed-use development (Tract B). Impacts are anticipated to the entire 29.9 acres of Undeveloped Floodplain ESA (Figure 4). 18.9 acres will be permanently removed, and 11 acres will be improved and restored. A floodplain study was conducted, and the total pre-project floodplain area was reduced to 24.6 acre. Additionally, the Undeveloped Floodplain ESA currently consists of low-quality habitat due to impacts from agriculture and the presence of predominantly upland grasses. The revitalization of the channel within the southern floodplain area and the revegetation of green spaces across the site with native plants suitable for intermittent flows will create higher quality habitat and increased water quality within the floodplain.

Within Tract A, the project is proposing to construct a single-family residential development including housing lots, associated infrastructure, two detention ponds, and two green spaces within the onsite Undeveloped Floodplain ESA.

Within Tract B, the project proposes to construct a high-density mixed-use development, associated infrastructure, and an open space buffer with a detention pond.

Based on the tree inventory completed prior to the preparation of this plan, tree species within the ESA area were identified as hackberry (*Celtis laevigata*) and Osage-orange (*Maclura pomifera*). Trees within the Right-of-Way (ROW) to the south of the project area are to be removed. The protected trees to be preserved per the City of Denton Ordinance are described in Table 1 below. Additional protected trees will be preserved to create a larger habitat for wildlife. A detailed tree preservation plan is included in Appendix B.

Table 1: Proposed Tree Preservation Activity

TAG#	DBH	COMMON NAME	*SCIENTIFIC NAME*	CONDITION	MULTIPLE-STEMMED	CLASSIFICATION	LOCATION	PRESERVE/ REMOVE
8171	10.8	hackberry	*Celtis laevigata*	Hazard	Single	Non-Protected	Development Impact Area	Remove
8172	14.5	Osage-orange	*Maclura pomifera*	Healthy	Forked	Secondary	Development Impact Area	Remove
8173	21.1	sugarberry	*Celtis laevigata*	Healthy	Forked	Secondary	Development Impact Area	Remove
8174	11.7	sugarberry	*Celtis laevigata*	Healthy	Forked	Secondary	Development Impact Area	Remove
8188	9.1	sugarberry	*Celtis laevigata*	Declining	Single	Non-Protected	Development Impact Area	Remove
8190	22.5	sugarberry	*Celtis laevigata*	Healthy	Single	Secondary	Development Impact Area	Preserve
8192	10.3	sugarberry	*Celtis laevigata*	Healthy	Single	Non-Protected	Development Impact Area	Preserve
8194	8.6	sugarberry	*Celtis laevigata*	Healthy	Single	Secondary	Development Impact Area	Preserve

4.0 – Mitigation Activities

Following the impacts, within the green spaces, the areas will be revegetated with native grasses and forbs based on the plan below.

3.1 – Tract A (Single-Family Residential Development)

Vegetation

The channel within the floodplain will be restored via grading and will be designed to carry water from stormwater infrastructure and from precipitation events. Flow within the channel is expected to vary with maximum flow located at the downstream end of the channel, which will experience a flow of approximately 334 cfs in the post-project offsite undeveloped event. This will create areas of periodically moist soil along the banks within the floodplain. A combination of a Native Sun Turf Mix, Drainfield Mix and Riparian Recovery Mix will be broadcast seeded throughout the designated green spaces within the impacted Undeveloped Floodplain ESA to provide ecosystem services such as erosion control, native habitat, and pollution control.

- **Native Sun Turf Mix:**
  - will be planted within mow zone located 3-5 feet from either side of hike-and-bike trail and immediately behind residential lots; and
  - will be concentrated in areas less exposed to the least moisture.
- **Drainfield Mix:**
  - grass mix designed for areas that have periodic moist soils; and
  - adaptability to a wide range of growing conditions.
- **Riparian Recovery Mix**:
  - seed mix including a combination of 36 native grass & wildflower species (full species list: (http://www.seedsource.com/catalog/);
  - includes native, deep rooted, diverse plant community; and
  - provides increased bank stability and runoff filtration.

The Drainfield Mix will be seeded at the lowest elevations within the green space where moisture is expected to concentrate. Riparian Recovery Mix will be planted in the transition zone surrounding the Drainfield Mix. The goal of the proposed seeding is to develop an AESA with a quality, functioning native habitat that will not need additional maintenance beyond the initial seeding.

Temporary non-invasive vegetative cover approved by City Staff, such as Canadian wild rye (*Elymus canadensis*), cereal rye (*Secale cereale*), winter wheat (*Triticum aestivum*), or oats (*Avena sp*.) will be established by hydro-mulching or installing erosion control blankets within one month of mass grading. Irrigation within the designated mitigation areas is not proposed at this time; however, if the seeded forbs and grasses show signs of stress, irrigation may be deemed necessary and installed following the plantings. An initial site visit by Kimley-Horn environmental staff will be performed following the completion of initial seeding and prior to the first annual monitoring event. Kimley-Horn staff will perform additional site visits as necessary during the first annual monitoring period.

Hike-and-Bike Trail

Along with revegetation, a 10-foot hike-and-bike pedestrian trail is proposed to traverse the length of the green space. The trail maximizes public utilization of the ESA area by creating recreational space within the floodplain and providing an opportunity for individuals to access and form connections with a natural area. A 3-to-5-foot mow-zone will be established on either side of the hike-and-bike trail to avoid tall vegetation and other concerns immediate to the trail. Educational signage will be established prior to the issuance of building permits in order to properly inform potential homebuyers of the final product.

The proposed owner of the green space and trail is the future neighborhood homeowner's association (HOA). A maintenance plan agreement will be prepared and provided with CEPs. The HOA will be responsible for any necessary repairs and recurring maintenance responsibilities. Kimley-Horn will be responsible for annual monitoring and reporting for three years, post installation.

Detention Ponds

Two detention ponds are planned within the southern green space (Tract A). These detention ponds will be visible from the hike-and-bike trail and are intended to provide temporary storage of stormwater runoff to reduce downstream water quantity impacts. The slowing of stormwater runoff entering the channel will reduce erosion and maintain a more natural waterway. Drainfield mix will be planted along the banks of the detention ponds to reduce erosion and filter pollutants from stormwater runoff.

Rain Garden

To help mitigate for the reduction of permeable surface within the floodplain, approximately 0.6 acre of rain gardens are to be constructed along the drainage area transecting Tract A. The rain garden is intended to provide an aesthetically pleasing method to reduce flooding and prevent water contaminated by pollutants from entering storm drains and downstream waterways. It will mimic the natural absorption and filtering present in forests, meadows and prairies.

The rain gardens will be constructed as shallow depressions within the floodplain gently sloped towards the drainage area. Several inches of topsoil will be removed and replaced with a permeable, engineered media such as compost, gravel or stones. The rain gardens will temporarily hold rainwater several hours following precipitation events before allowing it to penetrate the ground and reenter the groundwater system. Pollutants, such as sediment, nutrients, bacteria and heavy metals, from the single-family development will also be filtered out by the media and vegetation. If the rain garden experiences ponding for several days after routine rain events, a berm can be constructed around the rain garden to create more of a slope for water to drain. More stones or compost can also be added to the rain garden to help distribute the water.

Native herbaceous vegetation will be planted within the rain gardens in conjunction with the engineered media. The herbaceous vegetation will tolerate a range of hydrologic conditions from the ponding and draining of the rain garden. An example vegetation mix that can be planted within the rain garden is the Drainfield Mix (previously described). The herbaceous vegetation will assist in the filtering of pollutants present in stormwater. It will also provide refuge and food for butterflies, both migratory and non-migratory birds and other wildlife. If vegetation struggles to grow within the rain garden, the rain garden can be watered with 1-2 inches of water per week, unless it rains that week.

3.2 – Tract B (Mixed-Use Development)

Vegetation

A combination of Native Sun Mix and Drainfield Mix of seeds will be spread throughout the designated green space within the impacted Undeveloped Floodplain ESA to provide a ground cover and a protective vegetative layer surrounding the detention pond. Native, deep-rooted vegetation will prevent erosion and filter stormwater runoff. The Drainfield Mix will be seeded at the lowest elevations within the green space where moisture is expected to concentrate. Native Sun Mix will be planted in the mow zone above the detention pond bank.

Temporary non-invasive vegetative cover approved by City Staff, will also be established on Tract B by hydro-mulching or installing erosion control blankets. Irrigation is not proposed at this time; however, if the seeded forbs and grasses show signs of stress or the survival rate does not meet or exceed 90% cover, irrigation may be deemed necessary and installed following the plantings.

Detention Pond

One detention pond is planned within the open space buffer in the northern tract (Tract B). This detention pond will be visible from the northern access road and is intended to provide temporary storage of stormwater runoff to reduce downstream water quantity impacts. The slowing of stormwater runoff entering the channel will reduce erosion and maintain a more natural waterway. Drainfield mix will be planted along the banks of the detention pond to reduce erosion and filter pollutants from the adjacent roadways.

5.0 – Perpetual Maintenance Activity

The designated no-mow zones within green spaces, detention ponds, and rain gardens will be maintained as detailed below in Table 2. If the property is sold in the future, the new owners must comply with the described maintenance plan in order to maintain the function and health of the mitigation land.

Table 2: Perpetual maintenance activity for Dentex Tract

Activity	Description
Mowing and Establishment of Mow-Zones	Mowing will be conducted within a 3-to-5-foot mow-zone buffer from either side of the hike-and-bike trail within the southern green space. Mowing will occur above the banks of the detention ponds and will not occur within the rain gardens. Mowing may occur within landscaped areas outside of designated green spaces, detention ponds, and rain gardens on site. Occasional mowing, approximately once or twice a year, can occur as needed within the green spaces, detentions ponds and rain gardens to help control undesirable vegetation.
Edging	Edging will only occur within the described mow-zones.
Leaf Removal	There will be no leaf removal outside of the described mow-zones.
Fertilizer and Pesticides	There will be no pesticides or fertilizer distributed within the designated green spaces, rain gardens, or detention ponds, other than for the purpose of invasive species or privet removal deemed necessary by an arboricultural consultant.
Tree Removal	No trees outside of the mow zones will be cut, trimmed, thinned, altered, or raised without the City of Denton's written permission.
Trash Removal	Trash removal will be the responsibility of the neighborhood HOA and will take place twice per year by hand from individuals walking the mitigation land areas. No vehicles (ATVs, cars, trucks, tractors, or any other motorized vehicles) will be utilized in this effort. Trash will be disposed of in trash bags that will be removed by the City and disposed of in an approved landfill.
Invasive Species Management	Invasive species will be assessed by Kimley-Horn staff during annual monitoring visits during the first three years following construction. Following the conclusion of restoration effort, the neighborhood HOA will be responsible for sourcing an arboricultural consultant. Invasive species management will be performed by the responsibility of the neighborhood HOA.

Ground Disturbing Activity	Any ground-disturbing activity, such as maintenance, erosion control, or proposed changes to grading will not occur until designs have been approved in writing by the City of Denton.

6.0 – Compliance with Authorities

The City of Denton is the authority over compliance with this AESA mitigation plan. Once the AESA mitigation activities have been completed, the City of Denton will be notified that restoration activities are complete.

7.0 – Annual Reporting

The applicant will prepare an annual report each year for three consecutive years, beginning 12 months after initial seeding. The annual reports will detail species diversity and vegetative coverage data. Kimley-Horn will perform monitoring activities at the end of the growing season, typically September through October, annually. Reports will be submitted on November 15th of each year.

Ten-to-twelve 0.01-acre circular plots will be established within the designated green spaces, arranged to accurately represent different vegetative communities within the green space. Each plot center will be GPS-located and marked with a center stake. The one-thousandth acre plots will have a radius of 11.8 feet. Within each plot, a visual estimate of percent cover will be recorded. Additionally, all species located within the plots will be recorded and reported.

The first two annual reports will contain action items that may include: the implementation of additional erosion control, re-seeding the seed mixtures as needed, and removing weeds within the seeded areas. The neighborhood HOA will be responsible for maintenance such as weeding, and Kimley-Horn will be responsible for any re-planting effort.

Upon completion of the three-year monitoring and reporting period, the City of Denton Environmental Services shall inspect the plantings and determine whether ninety percent (90%) of the seeded area is healthy and has a reasonable chance of sustained cover. If it is determined that 90% of the seeded area is healthy and has a reasonable chance of sustained cover, the City will issue the final acceptance of the project. After city inspection, if more than 90% of seeded area is found to be diseased or not having a reasonable chance of sustained cover, the applicant shall be notified to reseed those problematic areas. If the applicant does not take remedial steps to bring the property into compliance, the City may use all legal remedies to enforce this provision. These annual reports will be submitted to the city for review and inspection.

If changes need to be made to the mitigation plan during the three-year monitoring period, the City of Denton will be notified prior to making the plan modifications.

8.0 – Criteria for Approval

The following outlines the criterial for approval of an AESA Plan and the project aspects that meet each criterion.

1. **Mitigation goals are obtained by creating, expanding and/or improving ESAs.**

   The proposed AESA proposes to mitigate the impacts to the Undeveloped Floodplain ESA from the construction of one single-family residential development (Tract A) and one mixed-use development (Tract B) by seeding the designated green space within the Undeveloped Floodplain ESA area with native seed mixtures to both provide a protective ground cover and functional native plant community. While the initial construction activity will result in impacts to

the existing ESAs, the resulting green spaces within Tract A and Tract B will be seeded to create a native vegetative community that will also promote the native grasses in the surrounding area. The resulting habitat will provide vegetative cover for birds and wildlife species. The promotion of native plant species will suppress the regrowth of non-native grasses observed on site. The mitigation will also expand into the surrounding areas outside of the ESA impact areas within the green space by expanding broadcast seeding efforts beyond the original floodplain with a native seed mix to promote a native grass community. Native Sun Turf mix will be used in areas with minimal moisture and areas that require mowing. It is anticipated that this mix will provide contiguous vegetative cover which will be monitored annually. Overall, the floodplain will contain an improved channel and detention ponds that will improve stormwater management capabilities and will support a diverse, native plant community.

2. **Mitigation goals are obtained by preserving environmentally sensitive areas above the minimum requirements, exchanges between different types of ESAs, installing pollution prevention controls, and/or implementing best management practices or any other approaches that result in the improvement of the environment being impacted.**

   Once revegetated, the native grasses and forbs planted within the green space will provide vegetative cover and forage for local wildlife, promote the native herbaceous community within the ESA, and filter surface runoff before it reaches the waterway. The green space itself will prevent negative impacts from increased flows through the ESAs. Through grading, channel restoration, and seeding, it is anticipated that Riparian Buffer ESA may re-develop over time.

   Detention ponds and rain gardens on site will be utilized to improve water quality by slowing and treating runoff from the proposed mixed-use development and nearby roadways. Pollutants derived from lawncare, motor vehicles, pets, pest control are expected from residential and commercial developments. The rain gardens and detention ponds will capture rainwater and slowly release it into the soil, treating the rainwater and recharging groundwater.

   The maintenance plan outlined in Section 5.0 details measures in place to prevent pollutants such as fertilizers and excess sediment from entering mitigation areas.

3. **Areas offered as mitigation are linked to existing or planned open space or conserved areas to provide an overall open space system.**

   The disturbances and proposed AESA are located within larger Undeveloped Floodplain ESAs surrounding swales on either side of the property boundary. Though 18.4 acres are to be removed, the mitigation land area within the designated green space will be revegetated to avoid lasting negative impacts to the overall ecosystem, promote the native vegetative community, and support wildlife populations. Native grass seed mixes are also being utilized outside of the ESAs to expand the native grass communities. The mitigation land will remain connected to ESA areas on either side of the project site.

4. **Development is arranged for maximizing access and utilization of the ESAs by citizens.**

   The designated mitigation land is located in an area that is central to the single-family residential neighborhood, visible from roads and housing, and accessible by hike-and-bike trail within the neighborhood. A 10-foot hike-and-bike trail with a 3-to-5-foot mow zone on either side has been designed to create opportunities for exposure to natural areas and recreation within the floodplain.

5. **Areas offered as mitigation are placed either in a lot or lots that incorporate a permanent conservation easement, restrictive covenants, or such other legal mechanism to allow for the long term conservation of said areas. Such legal mechanism shall limit any future land disturbing activity or construction within the ESAs ad shall run with the land and be binding upon all successors and assigns of the current owner.**

   As the designated green spaces within the Undeveloped Floodplain ESA are being revegetated to create a native habitat, the ESA designation will remain and therefore be subject to use restrictions set forth in the DDC.

6. **The AESA plan shall demonstrate that the developer's alternative proposal results in a high-quality development meeting the intent of the standards in the DDC.**

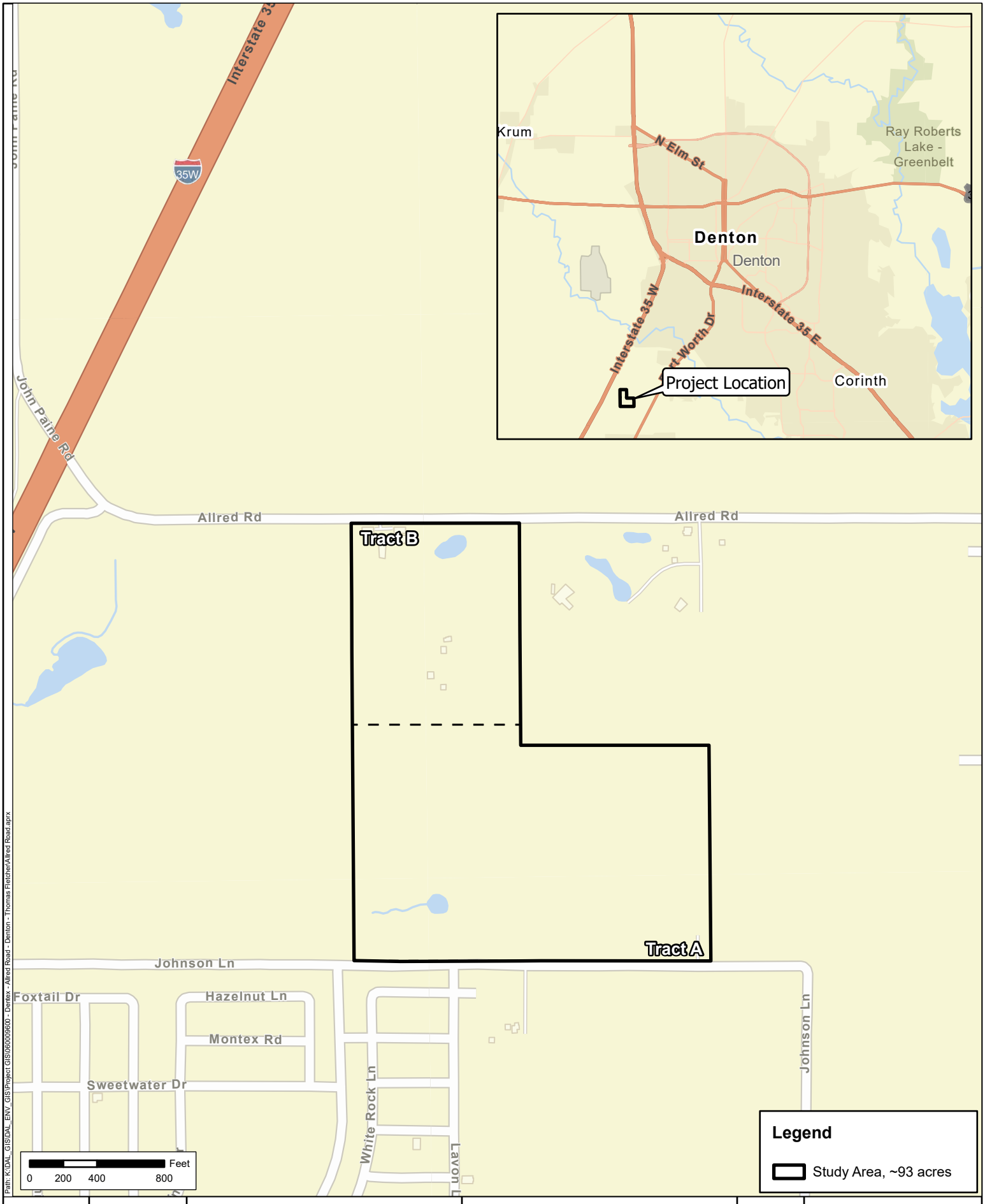
   The AESA has been designed to minimize the impacts to ESAs necessary to meet the design standards for the overall development and proposes to mitigate for the impacts by revegetating the undeveloped portion of the Floodplain ESA with native vegetation. As such, the proposed development meets the criteria for approval for an AESA.

9.0 – Summary

The impacts proposed to the Undeveloped Floodplain ESA 29.9 acres resulting from the construction of residential and mixed-use developments. Approximately 11.0 acres are to be restored and preserved as mitigation land. The mitigation for the impacts to the Undeveloped Floodplain ESA will consist of seeding the green space within the Undeveloped Floodplain ESA impacted by the construction with native seed mixtures to provide ground cover and a functional, diverse vegetative community that will serve to filter pollutants from the proposed developments and prevent erosion. The native grasses planted within the mitigation land will provide vegetative cover and forage for local wildlife and promote the native herbaceous community within the ESA.

Figures

STUDY AREA MAPS



Path: K:\DAL_GIS\DAL_ENV_GIS\Project GIS\060009600 - Dentex - Allred Road - Denton - Thomas Fletcher\Allred Road.aprx

FIGURE 1

DATE:	07/15/2024
DRAWN:	OGR
CHECKED:	AMB
KHA NO.:	060009600

Vicinity Map

Source: ESRI Basemap

DENTEX
Allred Road

Denton, Denton County, Texas

Kimley»Horn

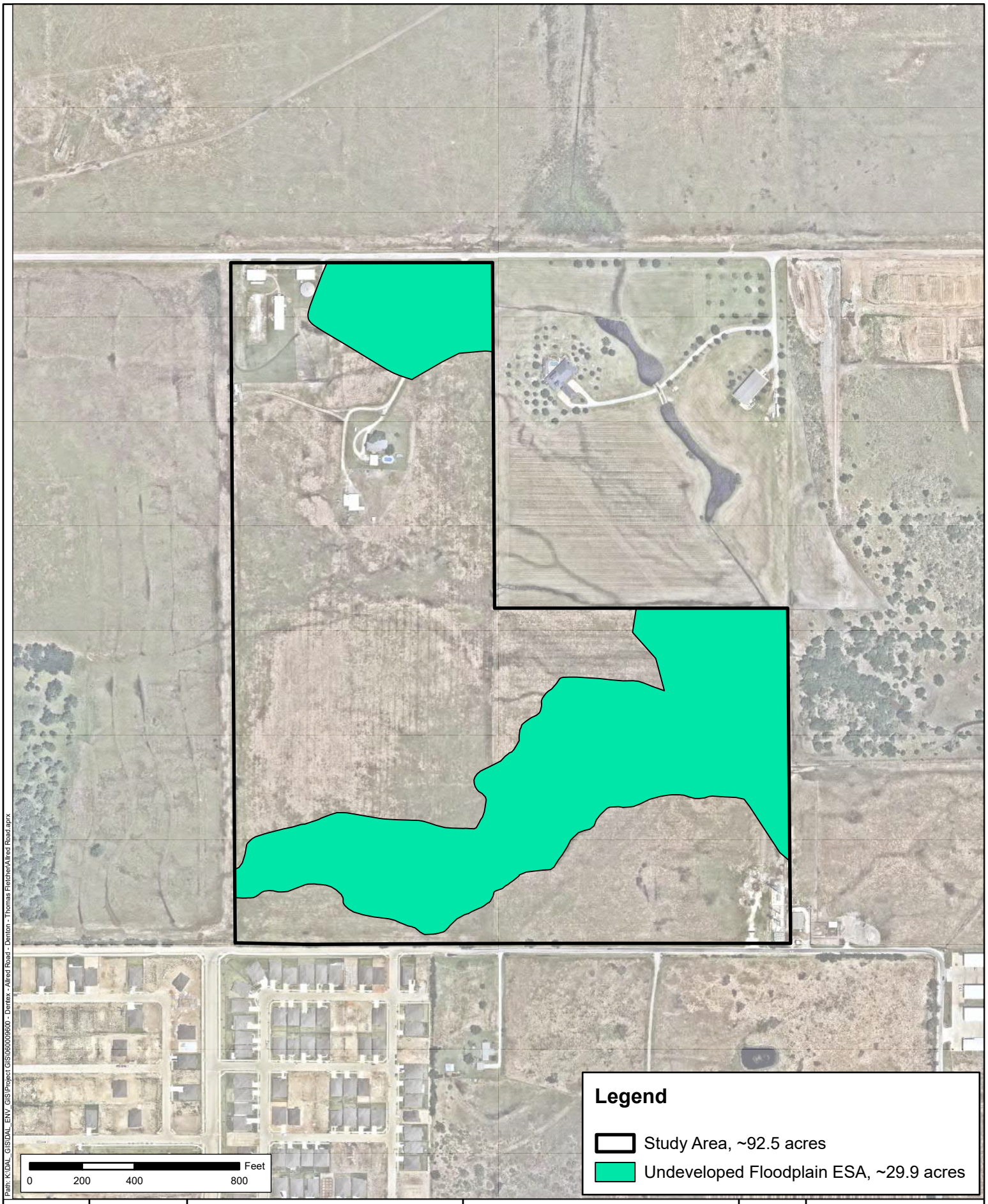


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FIGURE
2

DATE:	07/15/2024
DRAWN:	OGR
CHECKED:	AMB
KHA NO.:	060009600

City of Denton
Mapped ESAs

Source: Nearmap May 28, 2022

DENTEX
Allred Road

Denton, Denton County, Texas

Kimley»Horn

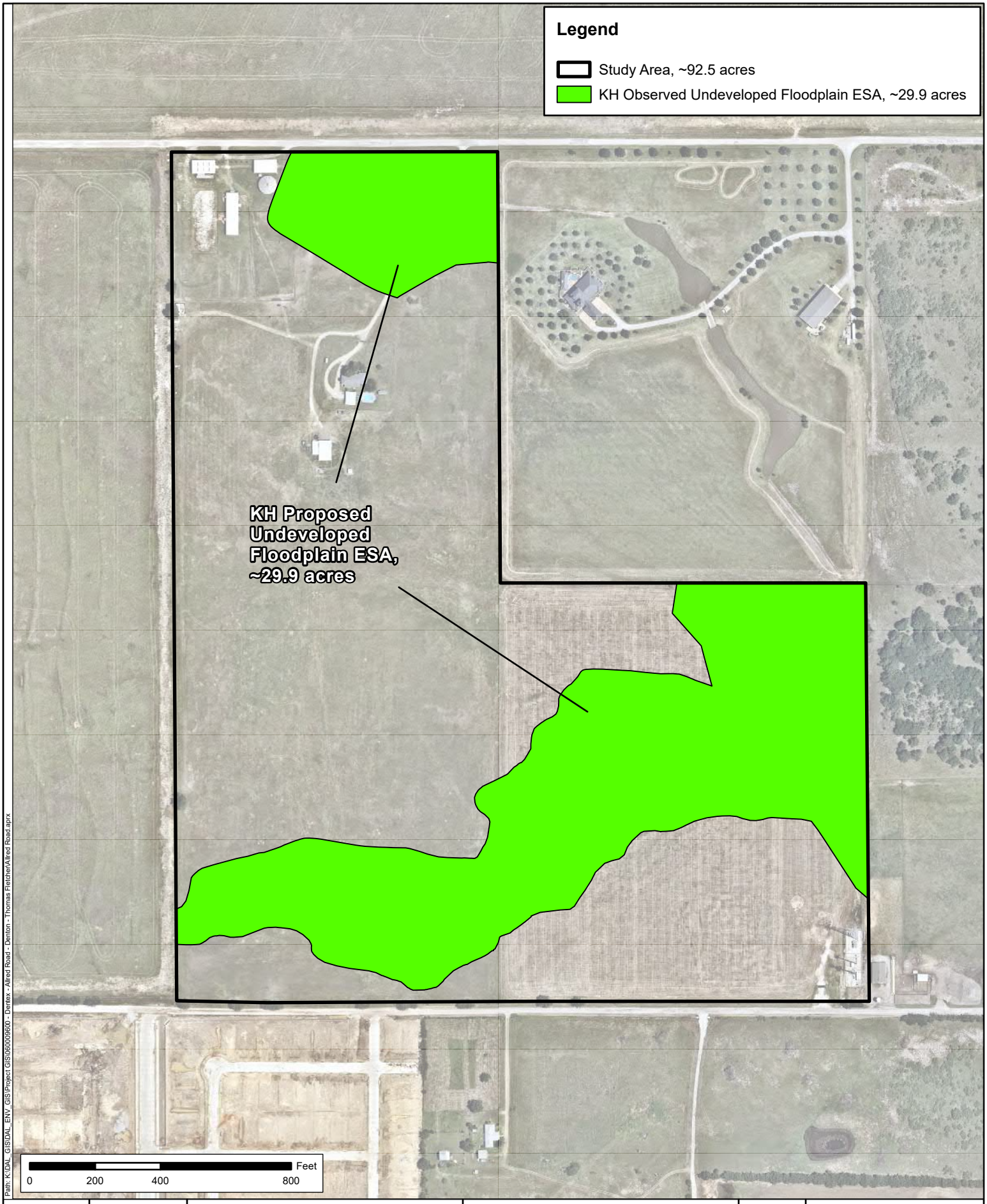

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FIGURE 3	DATE: 07/15/2024 DRAWN: OGR CHECKED: AMB KHA NO.: 060006900	Proposed ESAs Source: Nearmap May 28, 2022	DENTEX Allred Road Denton, Denton County, Texas	N	Kimley»Horn

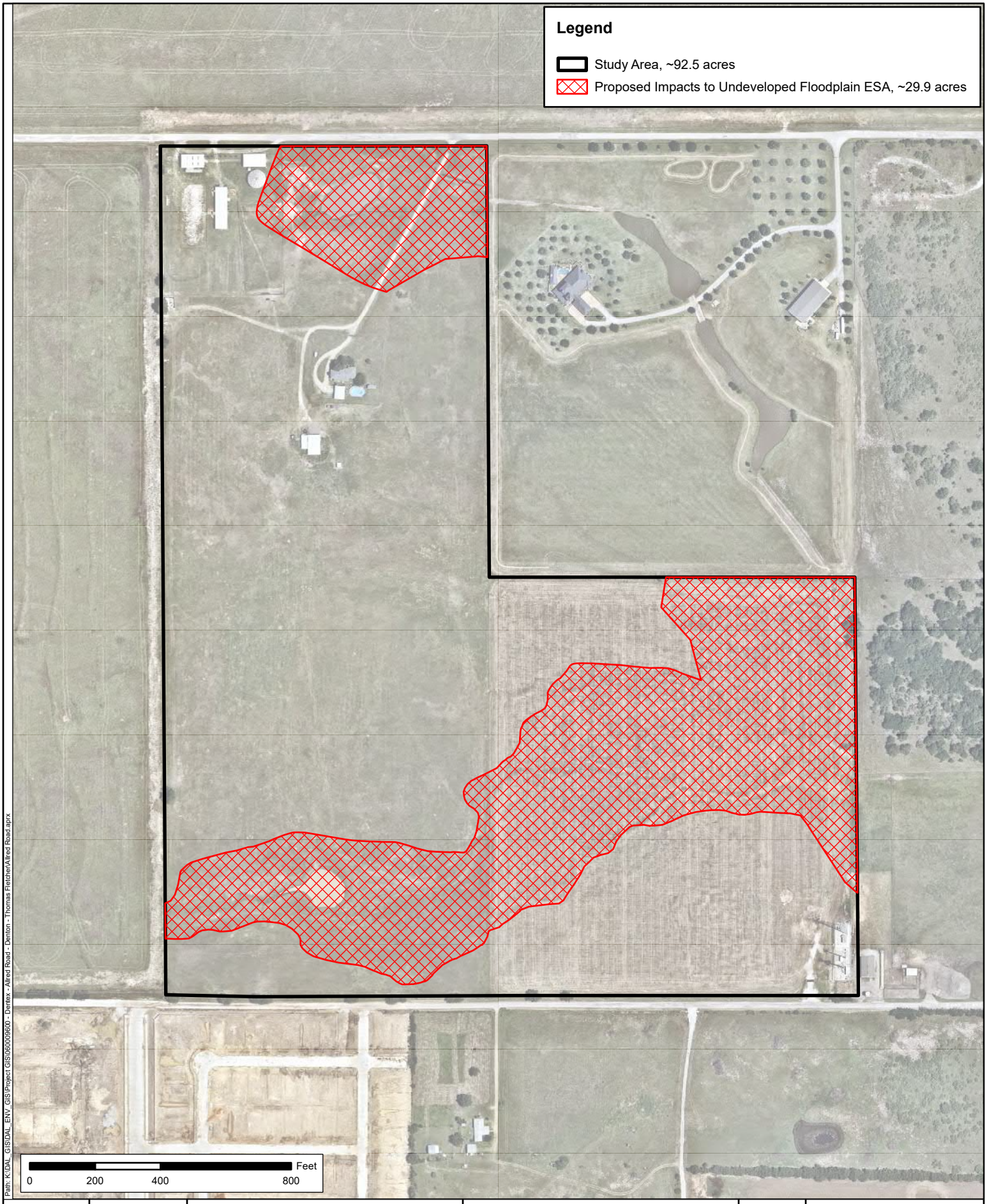

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FIGURE					
4	DATE: 07/15/2024	Proposed ESA Impacts	DENTEX Allred Road	N	Kimley»Horn
	DRAWN: OGR	Source: Nearmap May 28, 2022	Denton, Denton County, Texas		
	CHECKED: AMB				
	KHA NO.: 060006900				

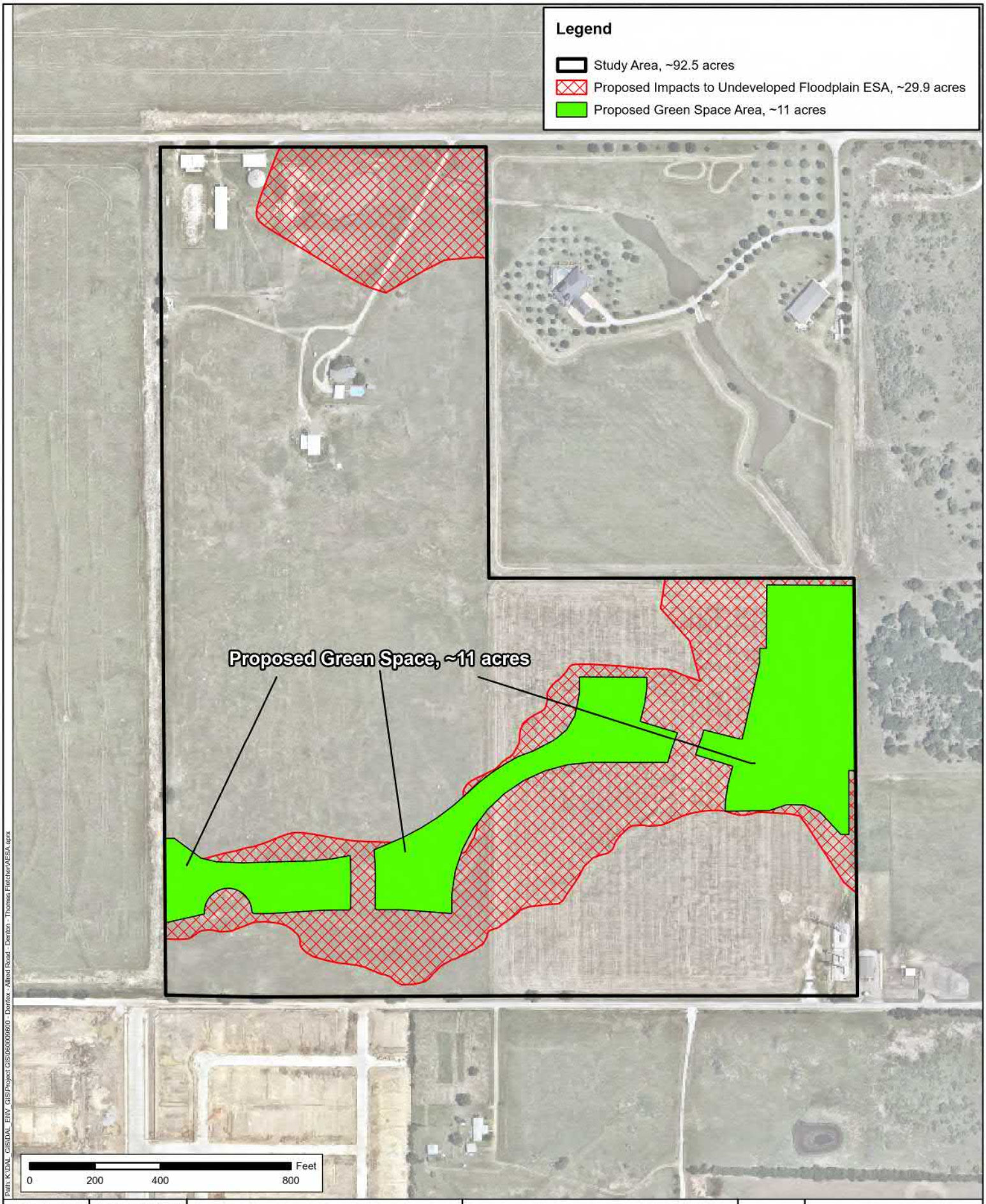

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FIGURE	DATE:	09/30/2024	AESA Proposed Mitigation	DENTEX Allred Road	N	Kimley»Horn
5	DRAWN:	RDH	Source: Nearmap May 28, 2022	Denton, Denton County, Texas		
	CHECKED:	AMB				
	KHA NO.:	060006900				

Appendix A

CONCEPT SITE PLAN

BRUSH CREEK ROAD/ALLRED ROAD

ALLRED ROAD

JOHNSON ROAD

JOHN PAYNE PARKWAY

EXISTING WATER TRANSMISSION EASEMENT

DEVELOPMENT MONUMENT SIGNAGE

OPEN SPACE BUFFER & DETENTION

COMMERCIAL / RETAIL / HIGH DENSITY RESIDENTIAL

TRACT B

TRACT A

UTILITY, STORM & ACCESS EASEMENT & TRAIL

DETENTION

10' TRAIL

10' TRAIL CONNECTION TO CITY PARK

CITY OF DENTON PARK

SAGEBROOK PHASE I BLK X LOT 1 (OPEN SPACE)

FEMA ZONE A 100-YR FLOOD PLAIN

FUTURE RIGHT OF WAY

PLUGGED GAS WELL

TELECOMMUNICATIONS TOWERS

ANGELA DOMINGUEZ & MICHAEL BARBER

SAGEBROOK DENTON LP

BLK A

BLK E

SAGEB

HR 3200 LP

ARGYLE ISD

BETTY SUE MALONE

ERIN L & TIMOTHY L WYMER

COUNTRY LAKES NORTH PHASE 6B

BLK MM

BLK YY

75.0'

DWG NAME
LAST SAVED

K:\FRI_CIVIL\063246303 - DENTEX LAND TRACT\CAD\EXHIBITS\PLANSHEETS\DENTEX CP02040430.DWG
4/30/2024 7:05 AM BY: STANG, TYLER

Tract A Property Summary

Telecommunications Towers	0.7
Total Open Space	13.2
Net Residential Area	51.5
Total	65.4

Single Family Open Space

Open Space	13.2
Single Family Area	51.5
Total Percentage of Open Space	25.5%

Lot Summary

50' Lots	209

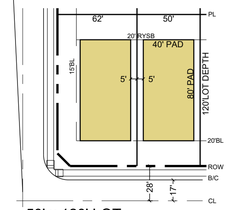
Density Summary

Gross	3.2

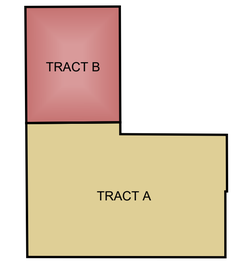
Tract B Property Summary

Arterial & Collector Right of Way	3.5
Commercial/Retail/High Density Residential	21.1
Total Open Space	3.4
Total	27.9

TRACT B NOTES:
1. NO MORE THAN 12-ACRES SHALL BE USED FOR HIGH DENSITY RESIDENTIAL
2. THE FOLLOWING DENSITIES SHALL GOVERN FOR HIGH DENSITY RESIDENTIAL:
   - 2.1. MULTI-FAMILY: 25 units/ac.
   - 2.2. BUILD TO RENT: 16 units/ac.
   - 2.3. TOWNHOME: 12 units/ac.



50' x 120' LOT



TRACT DETAIL

NOTES:
1. THIS PLAN IS CONCEPTUAL IN NATURE AND MAY HAVE BEEN PRODUCED WITHOUT THE BENEFIT OF A SURVEY OR CONTACT WITH THE CITY, COUNTY, ETC.
2. FLOOD PLAIN SHOWN IS SUBJECT TO CHANGE BASED ON A MORE DETAILED FULLY DEVELOPED FLOOD STUDY ANALYSIS.
3. AERIAL IMAGE BY NEARMAP, COPYRIGHT 2024.

Concept Plan

DENTEX

Denton ETJ, Denton County Texas

Kimley»Horn
100 West Oak Street, Suite 203
Denton, TX 76201
P 940-287-3620
State of Texas Registration No. F-928

April 2024

Appendix B

AESA SITE PLAN

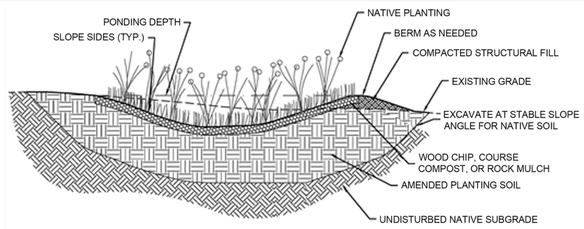
LEGEND

TREES

- RAIN GARDEN TREE QTY: 11
- RAIN GARDEN ORNAMENTAL TREE QTY: 19

SEED / SOD

- 50% COMMON BERMUDA SOD & 50% NATIVE SUN TURF MIX
- DRAINFIELD MIX
- RIPARIAN FIELD MIX
- DETENTION PONDS



LID 1.06 INFILTRATION RAIN GARDEN W/ PLANTING SOIL

NTS ***FINAL DESIGN W/ CONSTRUCTION PLANS

N W E S

0 100' 200'

GRAPHIC SCALE 100'

ESA SITE PLAN

FOR

DENTEX LAND TRACT

PROJECT: AESA24-0001

BEING 67.32 ACRES

B.B.B.& C.R.R. CO. SURVEY, ABSTRACT NO. 159

CITY OF DENTON, DENTON COUNTY, TEXAS

EX ZONING: R6

PROPOSED USE: SINGLE FAMILY

OWNER & DEVELOPER:
DENTEX LAND, CATTLE AND ENERGY, LP
928 TANGLEWOOD DR. EAST,
IRVING, TX 75061

ENGINEER/SURVEYOR:
Kimley»Horn
6160 WARREN PARKWAY, SUITE 210
FRISCO, TX 75034
TEL: (972) 731-2190
CONTACT: MICHAEL POLASKI, RLA.

DESIGNED	DRAWN	CHECKED	SCALE	DATE	KH PROJECT #	
JWI	JWI	MFP	NTS	SEPT. 2024	063246303	ESA-1

LEGEND

TREES

- RELOCATED STREET TREE
- MITIGATION TREE QTY: 22
- STREET TREE

N
W E
S

0 100' 200'
GRAPHIC SCALE 100'

ESA SITE PLAN
FOR
DENTEX LAND TRACT
PROJECT: AESA24-0001
BEING 67.32 ACRES
B.B.B.& C.R.R. CO. SURVEY, ABSTRACT NO. 159
CITY OF DENTON, DENTON COUNTY, TEXAS
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DESIGNED	DRAWN	CHECKED	SCALE	DATE	KH PROJECT #	
JWI	JWI	MFP	NTS	SEPT. 2024	063146303	ESA-1

LEGEND

TREES

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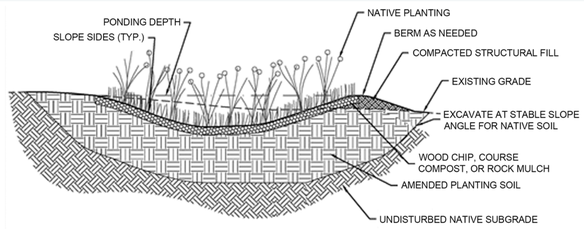
- RAIN GARDEN ORNAMENTAL TREE QTY: 19
- RELOCATED STREET TREE
- MITIGATION TREE QTY: 22
- STREET TREE

SEED / SOD

- 50% COMMON BERMUDA SOD & 50% NATIVE SUN TURF MIX
- DRAINFIELD MIX
- RIPARIAN FIELD MIX
- DETENTION PONDS



LID 1.06 INFILTRATION RAIN GARDEN W/ PLANTING SOIL

NTS ***FINAL DESIGN W/ CONSTRUCTION PLANS

N W E S

0 100' 200'

GRAPHIC SCALE 100'

ESA SITE PLAN

FOR

DENTEX LAND TRACT

PROJECT: AESA24-0001

BEING 67.32 ACRES

B.B.B.& C.R.R. CO. SURVEY, ABSTRACT NO. 159

CITY OF DENTON, DENTON COUNTY, TEXAS

EX ZONING: R6

PROPOSED USE: SINGLE FAMILY

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TEL: (972) 731-2190
CONTACT: MICHAEL POLASKI, RLA.

DESIGNED	DRAWN	CHECKED	SCALE	DATE	KH PROJECT #	
JWI	JWI	MFP	NTS	SEPT. 2024	063946303	ESA-1

Appendix C

TREE PRESERVATION PLAN

PLOTTED BY WIDNER, ROSS 8/26/2024 11:53 AM
DWG NAME K:\FRI_CIVIL\063246303- DENTEX LAND TRACT\CAD\PRELIMINARY PLANSHEETS\T-1_TREE PRESERVATION PLAN.DWG [24 x 36]
LAST SAVED 8/23/2024 2:29 PM

MATCH LINE SEE THIS SHEET

N
W E
S

0 100' 200'
GRAPHIC SCALE 100'

TRACT 2
(CALLED 717.315 ACRES)
HR 3200, LP
INST. NO. 2021–229059
O.R.D.C.T.

CALLED 92.382 ACRES
DENTEX LAND, CATTLE AND ENERGY, LP
INST. NO. 2005–49231
O.R.D.C.T.

TRACT 2
(CALLED 717.315 ACRES)
HR 3200, LP
INST. NO. 2021–229059
O.R.D.C.T.

CALLED 34.973 ACRES
ANGELA DOMINGUEZ
AND MICHAEL BARBER
VOL. 4357, P. 0240
O.P.R.D.C.T.

MATCH LINE SEE THIS SHEET

STREET K
STREET J
STREET I
STREET H
STREET G
STREET F
STREET E
STREET D
STREET C
STREET B
STREET A

BLOCK A
BLOCK B
BLOCK C
BLOCK D
BLOCK E
BLOCK F
BLOCK G

11X-HOA & D.E.
BLOCK A

12X-HOA & D.E.

1X-HOA & D.E.
BLOCK E

27X-HOA & U.E.

27X-HOA & D.E.
BLOCK B

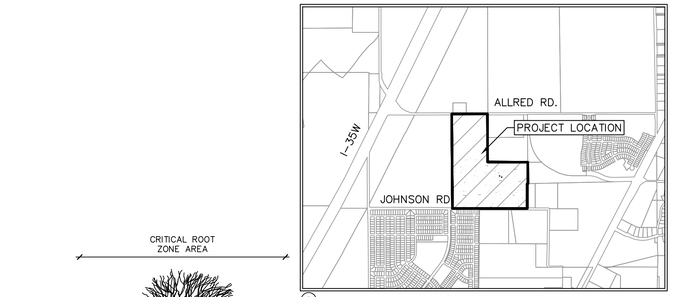
39X-HOA
BLOCK B

51X-HOA

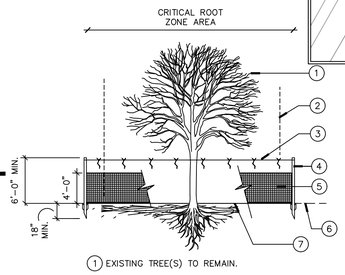
1X-HOA

COUNTRY LAKES NORTH
PHASE 5B

CALLED 133.5 ACRES
PATRICIA A. BROWN, FRANCES BROWN
DOBY & BETTY FANNING
VOL. 290, PG. 382
D.R.D.C.T.

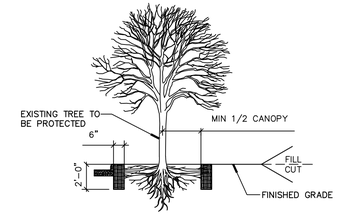


VICINITY MAP
SCALE: 1" = 2000'



1. EXISTING TREE(S) TO REMAIN.
2. DRIPLINE OF EXISTING TREE (TYP)
3. CONTINUOUS NYLON TIE STRING TIED TO STAKE TOPS W/ 2' TUNDRA WEIGHT ORANGE STREAMERS @ 3' O.C.
4. 8' METAL T–STAKES: 6' O.C. MIN., DRIVEN 2' INTO GROUND AT (OR OUTSIDE) TREE DRIPLINE
5. 4' MIN. HEIGHT ORANGE PLASTIC FENCING INSTALLED PER MANF. RECOMMENDATIONS (TYP). SUPPLEMENT W/ SILT FENCE FABRIC @ PRUNING TRENCH AS REQ'D.
6. EXISTING GRADE TO BE DISTURBED.
7. EXISTING GRADE TO REMAIN.

A TREE PROTECTION DETAIL
N.T.S.



•HAND DIG TRENCH (NO MECHANICAL TRENCHING)
•CUT ROOTS WITH A SHARP PRUNING TOOL
•BACKFILL WITH EXISTING SOIL
•PERFORM ROOT PRUNING A MINIMUM OF 2 WEEKS PRIOR TO CONSTRUCTION

B ROOT PRUNING DETAIL
N.T.S.

Tree Number	Lot Occupied	Remove/Preserve
8151	MROW	Remove
8152	MROW	Remove
8153	MROW	Remove
8154	MROW	Remove
8155	MROW	Remove
8156	MROW	Remove
8157	MROW	Remove
8158	MROW	Remove
8159	MROW	Remove
8160	MROW	Remove
8161	MROW	Remove
8162	MROW	Remove
8163	MROW	Remove
8164	MROW	Remove
8165	MROW	Remove
8166	MROW	Remove
8167	MROW	Remove
8168	MROW	Remove
8169	MROW	Remove
8170	MROW	Remove
8171	MROW	Remove
8172	Block A, Lot 11X	Remove
8173	Block A, Lot 11X	Remove
8174	Block A, Lot 11X	Remove
8175	Block A, Lot 11X	Remove
8176	Offsite	Preserve
8177	Offsite	Preserve
8178	Offsite	Preserve
8179	Offsite	Preserve
8180	Offsite	Preserve
8181	Offsite	Preserve
8182	Offsite	Preserve
8183	Offsite	Preserve
8184	Offsite	Preserve
8185	Offsite	Preserve
8186	Offsite	Preserve
8187	Block B, Lot 12X	Preserve
8188	Block B, Lot 12X	Remove
8189	Block B, Lot 12X	Preserve
8190	Block B, Lot 12X	Preserve
8191	Block B, Lot 12X	Preserve
8192	Block B, Lot 12X	Preserve
8193	Block B, Lot 12X	Preserve
8194	Block B, Lot 12X	Preserve
8195	Block B, Lot 12X	Preserve

TREE SURVEY LEGEND

2000 TREE I.D. NUMBER
EXISTING TREE TO BE PRESERVED
EXISTING TREE TO BE REMOVED
EXISTING TREE INTENDED TO BE PRESERVED BUT SHOWN AS REMOVED IN TREE INVENTORY

GENERAL NOTES

1. ALL STRUCTURES ON PROPERTY ARE TO BE REMOVED WITH DEVELOPMENT, UNLESS OTHERWISE SHOWN AND NOTED.

2. ALL AREAS OF RIGHT-OF-WAY AND LOTS ARE PROPOSED TO BE DISTURBED, INCLUDING CLEARING, GRUBBING, AND GRADING, EXCEPT AREAS UNDER THE DRIP LINE OF TREES SHOWN TO BE PRESERVED.

3. ALL PROPOSED STREET AND UTILITY IMPROVEMENTS WILL BE LOCATED WITHIN THE RIGHT-OF-WAY AND EASEMENTS SHOWN.

4. ALL FUTURE PROPERTY OWNERS OF LOTS WITH PRESERVED TREES SHALL BE NOTIFIED THAT TREES RECEIVING PRESERVATION CREDIT EXIST ON THEIR LOT. LOTS CONTAINING PRESERVED TREES:
PHASE 1A: BLOCK A LOTS 6, 7
PHASE 1B: BLOCK F LOTS 7-11, 15-18, 38X

TREE PRESERVATION LEGEND

PROPERTY LINE
PROPOSED SANITARY SEWER LINE
PROPOSED WATER LINE
PROPOSED ORANGE FENCE
PROPOSED SANITARY SEWER MANHOLE
PROPOSED SANITARY SEWER CLEANOUT
SANITARY SEWER FLOW DIRECTION
PROPOSED FIRE HYDRANT
PROPOSED TAPPING SLEEVE & VALVE
IRRIGATION SLEEVE
OHP EXISTING OVERHEAD POWER LINE
W EXISTING WATER LINE
SS EXISTING SANITARY SEWER LINE
EXISTING STORM SEWER LINE
EXISTING POWER POLE
EXISTING FIRE HYDRANT
EXISTING WATER METER
EXISTING SANITARY SEWER MANHOLE

CITY PROJECT NUMBER: XXXXXXXXX

FOR
DENTEX

210 RESIDENTIAL LOTS
BEING 67.32 ACRES
OUT OF THE
B.B.B. & C.R.R. CO. SURVEY, ABSTRACT NO. 159
IN THE
CITY OF DENTON, DENTON COUNTY, TEXAS

OWNER:
Owner Name
Street Address
City, TX ZipCode
Tel: (XXX) XXX-XXXX
Contact: Owner Name

DEVELOPER:
Denton Land Ventures LP
3625 Hall Street, Suite 720
Dallas, TX 75219
Tel: (XXX) XXX-XXXX
Contact: Justin Bono

ENGINEER/SURVEYOR:
Kimley»Horn
6160 Warren Parkway, Suite 210
Frisco, TX 75034
Tel: (972) 335-3580
Contact: SCOTT PANGBURN, P.E.

DESIGNED	DRAWN	CHECKED	SCALE	DATE	KH PROJECT NO.	
SEP	JRW	TLF	AS SHOWN	AUGUST 2024	063246303	T-1

Tree Number	Common Name of Tree	Avg. Canopy Spread (sqft)	Landmark Tree Circumference (inch)	Diameter (dbh)	Part of 3+ Tree Cluster***: Yes/blank	Status: Healthy or Dead /Diseased	Notes:	Classification*	Action: Preserve/ Remove	Site Location**
8151	hackberry		N/A	17.50		Healthy		Secondary	Remove	MROW
8152	hackberry		N/A	26.50		Healthy		Secondary	Remove	MROW
8153	hackberry		N/A	17.20		Healthy		Secondary	Remove	MROW
8154	hackberry		N/A	8.60	Yes	Healthy		Secondary	Remove	MROW
8155	hackberry		N/A	12.50	Yes	Healthy		Secondary	Remove	MROW
8156	hackberry		N/A	7.00	Yes	Healthy		Secondary	Remove	MROW
8157	hackberry		N/A	9.00	Yes	Healthy		Secondary	Remove	MROW
8158	hackberry		N/A	11.20		Healthy		Secondary	Remove	MROW
8159	hackberry		N/A	8.80	Yes	Dead/Diseased		Non-Protected	Remove	MROW
8160	hackberry		N/A	15.50	Yes	Dead/Diseased		Non-Protected	Remove	MROW
8161	eastern redcedar		N/A	6.60	Yes	Dead/Diseased		Non-Protected	Remove	MROW
8162	hackberry		N/A	7.60	Yes	Healthy		Secondary	Remove	MROW
8163	hackberry		N/A	6.70	Yes	Healthy		Secondary	Remove	MROW
8164	hackberry		N/A	8.60	Yes	Healthy		Secondary	Remove	MROW
8165	hackberry		N/A	7.50	Yes	Healthy		Secondary	Remove	MROW
8166	hackberry		N/A	13.20	Yes	Healthy		Secondary	Remove	MROW
8167	hackberry		N/A	7.30	Yes	Dead/Diseased		Non-Protected	Remove	MROW
8168	hackberry		N/A	22.10	Yes	Healthy		Secondary	Remove	MROW
8169	hackberry		N/A	26.10		Dead/Diseased		Non-Protected	Remove	MROW
8170	hackberry		N/A	18.30		Dead/Diseased		Non-Protected	Remove	MROW
8171	hackberry		N/A	10.80		Dead/Diseased		Non-Protected	Remove	MROW
8172	Osage-orange		N/A	14.50	Yes	Healthy		Secondary	Remove	DIA
8173	hackberry		N/A	21.10	Yes	Healthy		Secondary	Remove	DIA
8174	hackberry		N/A	11.70	Yes	Healthy		Secondary	Remove	DIA
8175	Osage-orange		N/A	34.90		Healthy		Secondary	Remove	DIA
8176	Osage-orange		N/A	28.00		Healthy		Secondary	Preserve	OFF
8177	hackberry		N/A	35.30		Dead/Diseased		Non-Protected	Preserve	OFF
8178	hackberry		N/A	36.00		Healthy		Secondary	Preserve	OFF
8179	hackberry		N/A	10.30		Healthy		Secondary	Preserve	OFF
8180	mesquite		N/A	20.60		Dead/Diseased		Non-Protected	Preserve	OFF
8181	eastern redcedar		N/A	19.10		Healthy		Heritage	Preserve	OFF
8182	eastern redcedar		N/A	13.70		Healthy		Quality	Preserve	OFF
8183	American elm		N/A	13.70		Healthy		Quality	Preserve	OFF
8184	bur oak		N/A	10.20		Healthy		Quality	Preserve	OFF
8185	sawtooth oak		N/A	13.20		Healthy		Quality	Preserve	OFF
8186	hackberry		N/A	10.00		Healthy		Secondary	Preserve	OFF
8187	hackberry		N/A	7.40		Dead/Diseased		Non-Protected	Preserve	OFF
8188	hackberry		N/A	9.10		Dead/Diseased		Non-Protected	Remove	DIA
8189	hackberry		N/A	24.90		Dead/Diseased		Non-Protected	Preserve	DIA
8190	hackberry		N/A	22.50		Healthy		Secondary	Preserve	DIA
8191	hackberry		N/A	30.00		Dead/Diseased		Non-Protected	Preserve	OFF
8192	hackberry		N/A	10.30		Dead/Diseased		Non-Protected	Preserve	DIA
8193	hackberry		N/A	21.10		Dead/Diseased		Non-Protected	Preserve	DIA
8194	hackberry		N/A	8.60		Healthy		Secondary	Preserve	DIA
8195	hackberry		N/A	20.00		Dead/Diseased		Non-Protected	Preserve	DIA

Eligible for Secondary-Only Preservation?	Yes
	dbh
Total (Healthy) Protected dbh	0
Total (Healthy) Non-Protected dbh	0
Total (Healthy) Secondary dbh	113
Required Preservation (20%)	22.66
Dead Tree dbh	272.1
Required Preservation dbh Achieved?	Yes

Secondary Trees Removed

	Trees Removed	Replacement Ratio	Calculated DBH
Secondary	18	4":1 tree	72
Total			72
Preliminary Mitigation dbh		50% Reduction	36

Trees Preserved

Type	dbh Preserved in DIA		Preservation Credit
Landmark	0	4:1	0
Secondary	31.1	0.5:1	15.55
Addt'l Cluster Cred	0	1.15:1	0
Total	31.1		15.55
Mitigation dbh			**20.45**

CITY PROJECT NUMBER: XXXXXXXXX

FOR
DENTEX

210 RESIDENTIAL LOTS
BEING 67.32 ACRES
OUT OF THE
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IN THE
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OWNER:
Owner Name
Street Address
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Contact: SCOTT PANGBURN, P.E.

DESIGNED	DRAWN	CHECKED	SCALE	DATE	KH PROJECT NO.	
SEP	JRW	TLF	AS SHOWN	AUGUST 2024	063246303	T-2