ITEM FOR ENVIRONMENTAL COMMISSION AGENDA

COMMISSION MEETING DATE:	November 1, 2023
NAME & NUMBER OF PROJECT:	Blueridge Multifamily at Wildhorse Ranch SP-2022-0426C.SH
NAME OF APPLICANT OR ORGANIZATION:	Allison Lehman, Kimley-Horn
LOCATION:	9825 Wildhorse Ranch Trail, Manor, TX 78653
COUNCIL DISTRICT:	District 1
ENVIRONMENTAL REVIEW STAFF:	Pamela Abee-Taulli, Environmental Program Coordinator Development Services Department, 512.974.1849 Pamela.abee-taulli@austintexas.gov
WATERSHED:	Gilleland Creek Watershed, Suburban Classification, Desired Development Zone
REQUEST:	Variance request is as follows. Request to vary from • LDC 25-8-341to allow cut to 12 feet, • LDC 25-8-342 to allow fill to 10 feet
STAFF RECOMMENDATION:	Staff recommends this variance, having determined the findings of fact to have been met.
STAFF CONDITION:	Staff recommends the following conditions: • The water quality pond will be a biofiltration pond. • Fill over 8 feet will be contained with engineered walls. • Slopes created by cut over 8 feet will be revegetated with native seeding and planting (per Standard Specifications Manual 609S.5)

Development Services Department
Staff Recommendations Concerning Required Findings

Project Name:	Blueridge Multifamily at Wildhorse Ranch
Ordinance Standard:	Watershed Protection Ordinance
Variance Request:	Variance request is as follows. Request to vary from • LDC 25-8-341to allow cut to 12 feet, • LDC 25-8-342 to allow fill to 10 feet

A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege or the safety of property given to owners of other similarly situated property with approximately contemporaneous development;

   Yes The majority of the existing slopes on the site exceed 5-10%, this limits the flat, buildable areas and poses challenges with accessibility. The approved Preliminary plan C8-2021-0152 that includes the extents of this site and the adjacent public roadway, Wildhorse Ranch Trail, required an approved variance for cut and fill up to 15ft in depth. The variance was needed so that Wildhorse Ranch Trail could provide accessibility from Parmer Lane to Blue Bluff Road. The existing proposed topography of the site is similar to the topography of the public road right of way area and the same accessibility challenges exist on the proposed site. A similar variance was requested and approved on the Saddle Ridge at Wildhorse Ranch project on the east side of Blue Bluff Road (C8-2020-0033) due to the same topography challenges in order to meet the Transportation Criteria Manual design criteria and ADA requirements that were required for that subdivision.

2. The variance:
   a. Is not based on a condition caused by the method chosen by the applicant to develop the property, unless the development method provides greater overall environmental protection than is achievable without the variance;

      Yes Blue Ridge Multifamily is a Smart Housing multifamily residential development generally designed to follow the existing topography to preserve the natural character of the property. In addition, multiple water quality and detention basins have been placed in natural low areas to preserve the existing drainage patterns. The site has been designed to preserve the natural drainage basin characteristics of the land and will preserve existing wetland CEFs.

b. Is the minimum change necessary to avoid the deprivation of a privilege given to other property owners and to allow a reasonable use of the property; and

Yes Blue Ridge Multifamily has been designed to minimally deviate from the code to allow for accessible routes and crossings in compliance with the Americans with Disabilities Act and Fair Housing Act requirements. The percentage of the land area exceeding the 8-foot cut fill limit for this property is 1.7%.

Specifically, the design accounts for existing constraints such as the elevation of the adjacent public roads at City of Austin approved driveway locations, the minimum allowable sidewalk slopes to allow for ADA compliance, and to meet vehicular emergency access vehicle minimum requirements. The site layout and building placement has been designed to minimize the amount of cut and fill and preserve the existing topography were possible.

c. Does not create a significant probability of harmful environmental consequences; and

Yes The proposed site layout and associated drainage system have been designed to protect the natural character and function of the Critical Environmental Features by ensuring that the contributing drainage basins are preserved, and they receive the necessary surface water runoff quantity and quality needed to promote wetland and floodplain health. In addition, the proposed design preserves the natural drainage patterns by detaining and treating stormwater in multiple basins throughout the property.

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Yes The proposed design adheres to all water quality requirements outlined within the Land Development Code and Environmental Criteria Manual and as such, will result in water quality that is at least equal to water quality achievable without the variance. In addition, the proposed design preserves the natural drainage patterns by detaining and treating stormwater in multiple basins throughout the property.

The Land Use Commission may grant a variance from a requirement of Article 7, Division 1 (*Critical Water Quality Zone Restrictions*), after determining that:

B. Additional Land Use Commission variance determinations for a requirement of Article 7, Division 1 (Critical Water Quality Zone Restrictions):

1. The criteria for granting a variance in Subsection (A) are met;

NA

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;

NA

3. The variance is the minimum deviation from the code requirement necessary to allow a reasonable, economic use of the entire property.

NA

Staff Determination: Staff determines that the findings of fact have been met. Staff recommends the following conditions:

- The water quality pond will be a biofiltration pond.
- Fill over 8 feet will be contained with engineered walls.
- Slopes created by cut over 8 feet will be revegetated with native seeding and planting (per Standard Specifications Manual 609S.5)

Environmental Reviewer (DSD)	*(Pamela Abee-Taulli)*	Date 10/11/2023
Environmental Review Manager (DSD)	*(Mike McDougal)*	Date 10/12/2023
Deputy Environmental Officer (WPD)	*(Liz Johnston)*	Date 10/12/2023

October 6, 2023

City of Austin
505 Barton Springs Road, 12th Floor
Austin, Texas 78704

RE: ***Environmental Commission Floodplain Modification Variance Request***
Blueridge Multifamily (SP-2022-0426C.SH)

To Whom It May Concern:

On behalf of our client, Elmington Capital Group, Kimley-Horn is requesting a variance to LDC 25-8-341 and 342. The request is to allow for greater than 8 ft of cut and 8 ft of fill on the project site.

Per the attached Environmental Commission Variance Application Form Findings of Fact, this variance is required to allow for development on a tract of land located off the Wildhorse Ranch Trail, located southeast of Highway 130 and Highway 290. The portion of roadway the proposed site takes access from is being permitted as the Wildhorse Ranch Trail Extension, SP-2022-0480D. This site area was included in a approved Preliminary Plan, C8-2021-0152, that includes the extents of this site and the adjacent public roadway, Wildhorse Ranch Trail. Due to the natural topography of the area the Preliminary Plan required an approved variance for cut and fill for the adjacent roadway up to 15ft in depth.

The existing grade elevations of the project site range from a low point of 530 ft to a high point of 640 ft, along with a natural drainage channel in the middle of the site that drops approximately 15 ft at a 20-30% grade. These site characteristics present a challenge, and in order to provide an accessible and driveable site plan layout the grades need to be leveled out. Major effort was made to minimize cut and fill across the site and to utilize the natural drainage and slopes of the existing site, however in two particular areas there are no feasible alternatives available while still allowing for economic and safe use of the site.

For this variance, there are two (2) primary locations where additional cut and fill is required as shown on the attached cut/fill exhibit. Cut of up to 12 ft is required to tie into the Wildhorse Ranch Trail Extension (SP-2022-0480D) and then additional cut is needed to maintain accessibility routes around building 9 and provide for the required parking. Secondly, a fill of up to 10 ft is required to build up the driveway that crosses the drainage channel and provides pedsitriain and vehicular connectiviety through the proposed site. The amount of fill in this area was minimized by utilizing walls to contain the fill and allow more existing slopes to be preserved. In, addition to the tow primary locations, there is a minor area by building 6 that proposes fill up to 10 ft adjacent to the building.

Your favorable consideration of this request is appreciated. Should you have any questions or require additional information, please contact me at 512-271-6327 or Allison.Lehman@kimley-horn.com

Sincerely,

Allison Lehman, P.E.

KIMLEY-HORN AND ASSOCIATES, INC.
(TBPE Firm No. 928)

October 6, 2023

ENVIRONMENTAL COMMISSION VARIANCE APPLICATION FORM

PROJECT DESCRIPTION
Applicant Contact Information

Name of Applicant	Allison Lehman
Street Address	5301 Southwest Parkway, Building 2, Suite 100
City State ZIP Code	Austin, Texas 78735
Work Phone	512-271-6327
E-Mail Address	allison.lehman@kimley-horn.com

Variance Case Information

Case Name	Blue Ridge Multifamily at Wildhorse Ranch
Case Number	SP-2022-0426C.SH
Address or Location	9825 Wildhorse Ranch Trail
Environmental Reviewer Name	Pamela Abee-Taulli
Environmental Resource Management Reviewer Name	Hank Marley
Applicable Ordinance	25-8-341 & 25-8-342
Watershed Name	Gilleland Creek
Watershed Classification	☐Urban X Suburban ☐Water Supply Suburban ☐Water Supply Rural ☐ Barton Springs Zone

Edwards Aquifer Recharge Zone	☐ Barton Springs Segment ☐ Northern Edwards Segment **X** Not in Edwards Aquifer Zones
Edwards Aquifer Contributing Zone	☐ Yes **X** No
Distance to Nearest Classified Waterway	Gilleland Creek runs approximately 1,800 feet east of the site
Water and Waste Water service to be provided by	Austin Water Utility
Request	The variance request is as follows: 25-8-341 Cut Requirements & 25-8-342 Fill Requirements

Impervious cover	Existing	Proposed
square footage:	____0____	____364,882_____
acreage:	____0____	____8.38_____
percentage:	____0%____	___ 31.4%_____

Provide general description of the property (slope range, elevation range, summary of vegetation / trees, summary of the geology, CWQZ, WQTZ, CEFs, floodplain, heritage trees, any other notable or outstanding characteristics of the property)	The site is 26.67 acres. 47.9% of the property falls within the 0% to 15% slope category. The remainder property has slopes exceeding 15% slope. The property ranges in elevation from 641 to 531. There is primarily an assortment of Cedar Elm and Cedar trees with a few Willow, Hackberry and Chinaberry trees within the site; only six of which exceed 24 caliper inches and all heritage trees within the site are proposed to remain. On-site soils are Type D Expansive Clays and is identified as Ferris-Heiden complex and Heiden clay by the USGS web soil survey. One wetland CEF exists within the site along the western boundary. No Critical Water Quality Zones or Fully developed 25-year and 100-year floodplains exist within the site.

Clearly indicate in what way the proposed project does not comply with current Code (include maps and exhibits)	Per the attached cut/fill exhibit, there are areas that require cut/fills greater than 8' and cut/fill greater than 4' in some locations that have slopes ranging from 15-25%

FINDINGS OF FACT

As required in LDC Section 25-8-41, in order to grant a variance the Land Use Commission must make the following findings of fact:

Include an explanation with each applicable finding of fact.

Project: Blue Ridge Multifamily at Wildhorse Ranch

Ordinance: 25-8-341 Cut Requirements & 25-8-342 Fill Requirements

A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege available to owners of similarly situated property with approximately contemporaneous development subject to similar code requirements.

Yes

The majority of the existing slopes on the site exceed 5-10%, this limits the flat, buildable areas and poses challenges with accessibility.

The maximum proposed cut is 12 feet. The maximum proposed fill is 10 feet.

In addition, the approved Preliminary plan C8-2021-0152 that includes the extents of this site and the adjacent public roadway, Wildhorse Ranch Trail, required an approved variance for cut and fill up to 15ft in depth. The variance was needed so that Wildhorse Ranch Trail could provide accessibility from Parmer Lane to Blue Bluff Road. The existing proposed topography of the site is similar to the topography of the public road right of way area and the same accessibility challenges exist on the proposed site. A similar variance was requested and approved on the Saddle Ridge at Wildhorse Ranch project on the east side of Blue Bluff Road (C8-2020-0033) due to the same topography

challenges in order to meet the TCM design criteria and ADA requirements that were required for that subdivision.

2. The variance:

a) Is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;

Yes

Blue Ridge Multifamily is a Smart Housing multifamily residential development generally designed to follow the existing topography to preserve the natural character of the property. In addition, multiple water quality and detention basins have been placed in natural low areas to preserve the existing drainage patterns. The site has been designed to preserve the natural drainage basin characteristics of the land and will preserve existing wetland CEFs. This variance request is not driven by a design decision on our side. All design decisions have been with the code requirements of the ECM in mind.

b) Is the minimum deviation from the code requirement necessary to allow a reasonable use of the property;

Yes

Blue Ridge Multifamily has been designed to minimally deviate from the code to allow for accessible routes and crossings in compliance with the Americans with Disabilities Act and Fair Housing Act requirements. The percentage of the land area exceeding the 8-foot cut fill limit for this property is 1.7%.

Specifically, the design accounts for existing constraints such as the elevation of the adjacent public roads at City of Austin approved driveway locations, the minimum allowable sidewalk slopes to allow for ADA compliance, and to meet vehicular emergency access vehicle minimum requirements.

The site layout and building placement has been designed to minimize the amount of cut and fill and preserve the existing topography were possible.

c) Does not create a significant probability of harmful environmental consequences.

Yes

The proposed site layout and associated drainage system have been designed to protect the natural character and function of the Critical Environmental Features by ensuring that the contributing drainage basins are preserved and they receive the necessary surface water runoff quantity and quality needed to promote wetland and floodplain health. In addition, the proposed design preserves the natural drainage patterns by detaining and treating stormwater in multiple basins throughout the property.

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Yes

The proposed design adheres to all water quality requirements outlined within the Environmental Criteria Manual and as such, will result in water quality that is at least equal to water quality achievable without the variance. In addition, the proposed design preserves the natural drainage patterns by detaining and treating stormwater in multiple basins throughout the property.

B. Additional Land Use Commission variance determinations for a requirement of Section 25-8-422 (Water Quality Transition Zone), Section 25-8-452 (Water Quality Transition Zone), Article 7, Division 1 (Critical Water Quality Zone Restrictions), or Section 25-8-368 (Restrictions on Development Impacting Lake Austin, Lady Bird Lake, and Lake Walter E. Long):

1. The criteria for granting a variance in Subsection (A) are met;

No N/A to this variance request.

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;

No N/A to this variance request.

3. The variance is the minimum deviation from the code requirement necessary to allow a reasonable, economic use of the entire property.

No N/A to this variance request.

**Variance approval requires all above affirmative findings.

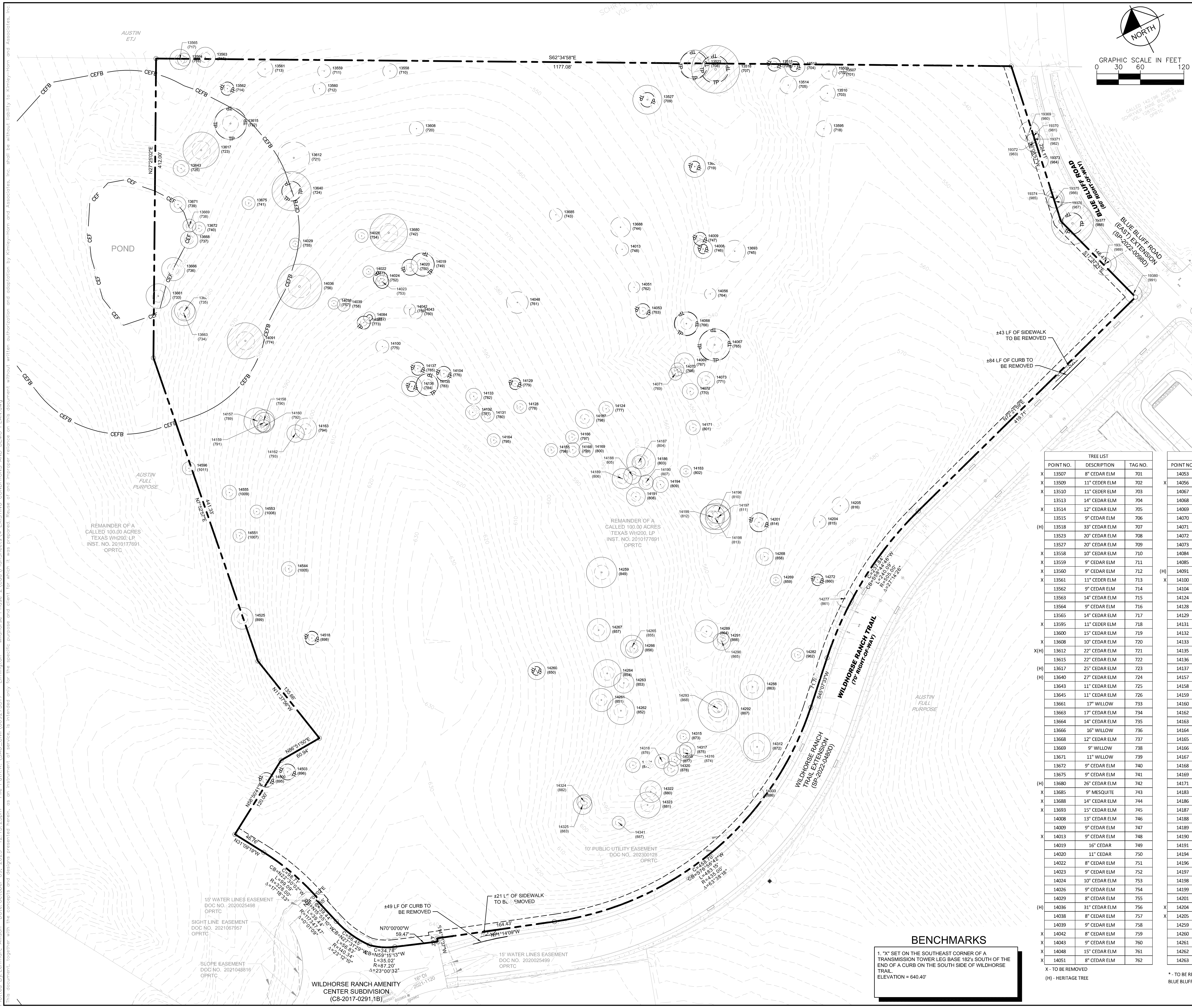
Exhibits for Commission Variance

- Aerial photos of the site
- Site photos
- Aerial photos of the vicinity
- Context Map—A map illustrating the subject property in relation to developments in the vicinity to include nearby major streets and waterways
- Topographic Map - A topographic map is recommended if a significant grade change on the subject site exists or if there is a significant difference in grade in relation to adjacent properties.
- For cut/fill variances, a plan sheet showing areas and depth of cut/fill with topographic elevations.
- Site plan showing existing conditions if development exists currently on the property
- Proposed Site Plan- full size electronic or at least legible 11x17 showing proposed development, include tree survey if required as part of site or subdivision plan
- Environmental Map – A map that shows pertinent features including Floodplain, CWQZ, WQTZ, CEFs, Setbacks, Recharge Zone, etc.
- An Environmental Resource Inventory pursuant to ECM 1.3.0 (***if required by 25-8-121***)
- Applicant's variance request letter

CONTEXT MAP


HARRIS BRANCH
SHADOWGLEN
HWY 290
PARMER LN
PROJECT LOCATION
MANOR
WILDHORSE CREEK
WILDHORSE RANCH TRAIL
HWY 130
LAKE WALTER E. LONG
GRAPHIC SCALE IN FEET
0 1000 2000 4000
NORTH

AERIAL PHOTO



LEGEND

	PROPERTY LINE
OHP	EXISTING OVERHEAD POWER LINE
W	EXISTING WATER LINE
WW	EXISTING WASTE WATER LINE
CEF	CEF BUFFER
CEFB	150' CEF BUFFER
	EXISTING STORM SEWER LINE
	EXISTING POWER POLE
	EXISTING FIRE HYDRANT
	EXISTING WATER METER
	EXISTING WATER VALVE
	EXISTING WASTE WATER MANHOLE
	EXISTING STORMWATER MANHOLE
	EXISTING GAS METER
	EXISTING TELEPHONE BOX
POINT # (TAG NO.)	EXISTING TREE TO REMAIN
POINT # (TAG NO.)	EXISTING TREE TO BE REMOVED
POINT # (TAG NO.)	EXISTING HERITAGE TREE
TP	TREE PROTECTION

NOTES:

1. A PRE-CONSTRUCTION MEETING WITH THE ENVIRONMENTAL INSPECTOR IS REQUIRED PRIOR TO ANY SITE DISTURBANCE.
2. TREES AND TOPOGRAPHY BASED ON A SURVEY BY KIMLEY-HORN ON 09/16/2021. NO WARRANTY IS EXPRESSED OR IMPLIED AS TO THEIR ACCURACY.
3. THE CONTRACTOR SHALL FIELD VERIFY ALL VERTICAL ELEVATIONS AND HORIZONTAL LOCATIONS PRIOR TO CONSTRUCTION.
4. NO DEMOLITION OR SITE WORK WILL OCCUR UNTIL A PRECONSTRUCTION MEETING IS HELD WITH THE ENVIRONMENTAL INSPECTOR.
5. PERIMETER EROSION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO DEMOLITION. REFERENCE EROSION CONTROL PLAN AND DETAILS FOR TYPE AND LOCATION

BENCHMARKS

1. "X" SET ON THE SOUTHEAST CORNER OF A TRANSMISSION TOWER LEG BASE 182'± SOUTH OF THE END OF A CURB ON THE SOUTH SIDE OF WILDHORSE TRAIL.
ELEVATION = 640.40'

TREE LIST

	POINT NO.	DESCRIPTION	TAG NO.
X	13507	8" CEDAR ELM	701
X	13509	11" CEDER ELM	702
X	13510	11" CEDER ELM	703
	13513	14" CEDAR ELM	704
X	13514	12" CEDAR ELM	705
	13515	9" CEDAR ELM	706
(H)	13518	33" CEDAR ELM	707
	13523	20" CEDAR ELM	708
	13527	20" CEDAR ELM	709
X	13558	10" CEDAR ELM	710
X	13559	9" CEDAR ELM	711
X	13560	9" CEDAR ELM	712
X	13561	11" CEDER ELM	713
	13562	9" CEDAR ELM	714
	13563	14" CEDAR ELM	715
	13564	9" CEDAR ELM	716
	13565	14" CEDAR ELM	717
X	13595	11" CEDER ELM	718
	13600	15" CEDAR ELM	719
X	13608	10" CEDAR ELM	720
X(H)	13612	22" CEDAR ELM	721
	13615	22" CEDAR ELM	722
(H)	13617	25" CEDAR ELM	723
(H)	13640	27" CEDAR ELM	724
	13643	11" CEDAR ELM	725
	13645	11" CEDAR ELM	726
	13661	17" WILLOW	733
	13663	17" CEDAR ELM	734
	13664	14" CEDAR ELM	735
	13666	16" WILLOW	736
	13668	12" CEDAR ELM	737
	13669	9" WILLOW	738
	13671	11" WILLOW	739
	13672	9" CEDAR ELM	740
	13675	9" CEDAR ELM	741
(H)	13680	26" CEDAR ELM	742
X	13685	9" MESQUITE	743
X	13688	14" CEDAR ELM	744
X	13693	15" CEDAR ELM	745
	14008	13" CEDAR ELM	746
	14009	9" CEDAR ELM	747
X	14013	9" CEDAR ELM	748
	14019	16" CEDAR	749
	14020	11" CEDAR	750
	14022	8" CEDAR ELM	751
	14023	9" CEDAR ELM	752
	14024	10" CEDAR ELM	753
	14026	9" CEDAR ELM	754
	14029	8" CEDAR ELM	755
(H)	14036	31" CEDAR ELM	756
	14038	8" CEDAR ELM	757
	14039	9" CEDAR ELM	758
X	14042	8" CEDAR ELM	759
X	14043	9" CEDAR ELM	760
X	14048	15" CEDAR ELM	761
X	14051	8" CEDAR ELM	762

X - TO BE REMOVED

(H) - HERITAGE TREE

TREE LIST

	POINT NO.	DESCRIPTION	TAG NO.
	14053	10" CEDAR ELM	763
X	14056	8" CEDAR ELM	764
	14067	22" CEDAR ELM	765
	14068	16" CEDAR ELM	766
	14069	14" CEDAR ELM	767
	14070	9" CEDAR ELM	768
	14071	9" CEDAR ELM	769
	14072	11" CEDAR ELM	770
	14073	12" CEDAR ELM	771
	14084	8" CEDAR ELM	772
	14085	9" CEDAR ELM	773
(H)	14091	25" CEDAR ELM	774
X	14100	9" CHINABERRY	775
	14104	10" CEDAR ELM	776
	14124	10" CEDAR ELM	777
	14128	9" CEDAR ELM	778
	14129	8" CEDAR ELM	779
	14131	9" CEDAR ELM	780
	14132	10" CEDAR ELM	781
	14133	11" CEDAR ELM	782
	14135	15" CEDAR ELM	783
	14136	14" CEDAR	784
	14137	9" CEDAR	785
	14157	18" CEDAR ELM	789
	14158	15" CEDAR ELM	790
	14159	14" CEDAR ELM	791
	14160	9" CEDAR ELM	792
	14162	12" CEDAR	793
	14163	15" CEDAR ELM	794
	14164	9" CEDAR ELM	795
	14165	9" CEDAR ELM	796
	14166	9" CEDAR ELM	797
	14167	13" CEDAR ELM	798
	14168	10" CEDAR ELM	799
	14169	10" CEDAR ELM	800
	14171	10" CEDAR ELM	801
	14183	8" CEDAR ELM	802
	14186	20" MESQUITE	803
	14187	9" MESQUITE	804
	14188	12" HACKBERRY	805
	14189	14" CEDAR ELM	806
	14190	10" HACKBERRY	807
	14191	13" CEDAR ELM	808
	14194	11" HACKBERRY	809
	14196	17" CEDAR ELM	810
	14197	17" CEDAR ELM	811
	14198	21" CEDAR ELM	813
	14199	17" CEDAR ELM	812
	14201	13" CEDAR	814
X	14204	9" CEDAR ELM	815
X	14205	12" CEDAR ELM	816
	14259	21" CEDAR ELM	849
	14260	12" CEDAR ELM	850
	14261	16" CEDAR ELM	851
	14262	19" CEDAR ELM	852
	14263	14" CEDAR ELM	853

* - TO BE REMOVED AND MITIGATIONUNDER BLUE BLUFF (EAST) SITE PLAN SP-2022-0098D.

TREE LIST

	POINT NO.	DESCRIPTION	TAG NO.
	14264	19" CEDAR ELM	854
	14265	16" CEDAR ELM	855
	14266	12" CEDAR ELM	856
	14267	16" CEDAR ELM	857
	14268	12" CEDAR ELM	858
	14269	8" CEDAR ELM	859
	14272	8" CEDAR ELM	860
	14277	12" CEDAR ELM	861
	14282	9" CEDAR ELM	862
	14288	17" CEDAR ELM	863
	14289	16" BOIS D'ARC	864
	14290	12" CEDAR ELM	865
	14291	8" CEDAR ELM	866
	14292	28" BOIS D'ARC	867
	14293	13" BOIS D'ARC	868
	14312	19" CEDAR ELM	872
	14315	9" HACKBERRY	873
	14316	11" CEDAR ELM	874
	14317	11" CEDAR ELM	875
	14318	10" CEDAR ELM	876
	14319	9" CEDAR ELM	877
	14320	10" CEDAR	878
	14321	10" CEDAR ELM	879
	14322	15" CEDAR ELM	880
	14323	18" CEDAR	881
	14324	10" CEDAR ELM	882
	14325	13" HACKBERRY	883
	14333	8" CEDAR ELM	886
	14341	9" CEDAR ELM	887
	14500	10" CEDAR ELM	895
	14503	11" CEDAR ELM	896
	14511	8" CEDAR ELM	897
	14518	9" CEDAR ELM	898
	14525	15" CEDAR	899
	14543	12" CEDAR ELM	1004
	14544	10" CEDAR	1005
	14551	9" CEDAR ELM	1007
	14553	9" CEDAR ELM	1008
	14555	10" CEDAR ELM	1009
	14596	9" CEDAR ELM	1011
*	19369	14" CEDAR ELM	980
*	19370	8" CEDAR ELM	981
*	19371	9" CEDAR ELM	982
*	19372	13" CEDAR ELM	983
*	19373	12" CEDAR ELM	984
*	19374	13" CEDAR ELM	985
*	19375	11" CEDAR ELM	986
*	19376	9" CEDAR ELM	987
(H)	19377	29" CEDAR ELM	988
*	19378	16" CEDAR ELM	990
*	19379	9" CEDAR ELM	989
*	19380	12" CEDAR ELM	991

DATE OF TREE SURVEY: SEPT. 16, 2021

REVISIONS		
No.	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100, AUSTIN, TX 78735
PHONE: 512-418-1771 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
ALLISON R. LEHMAN
122009
LICENSED PROFESSIONAL ENGINEER
9/14/2023

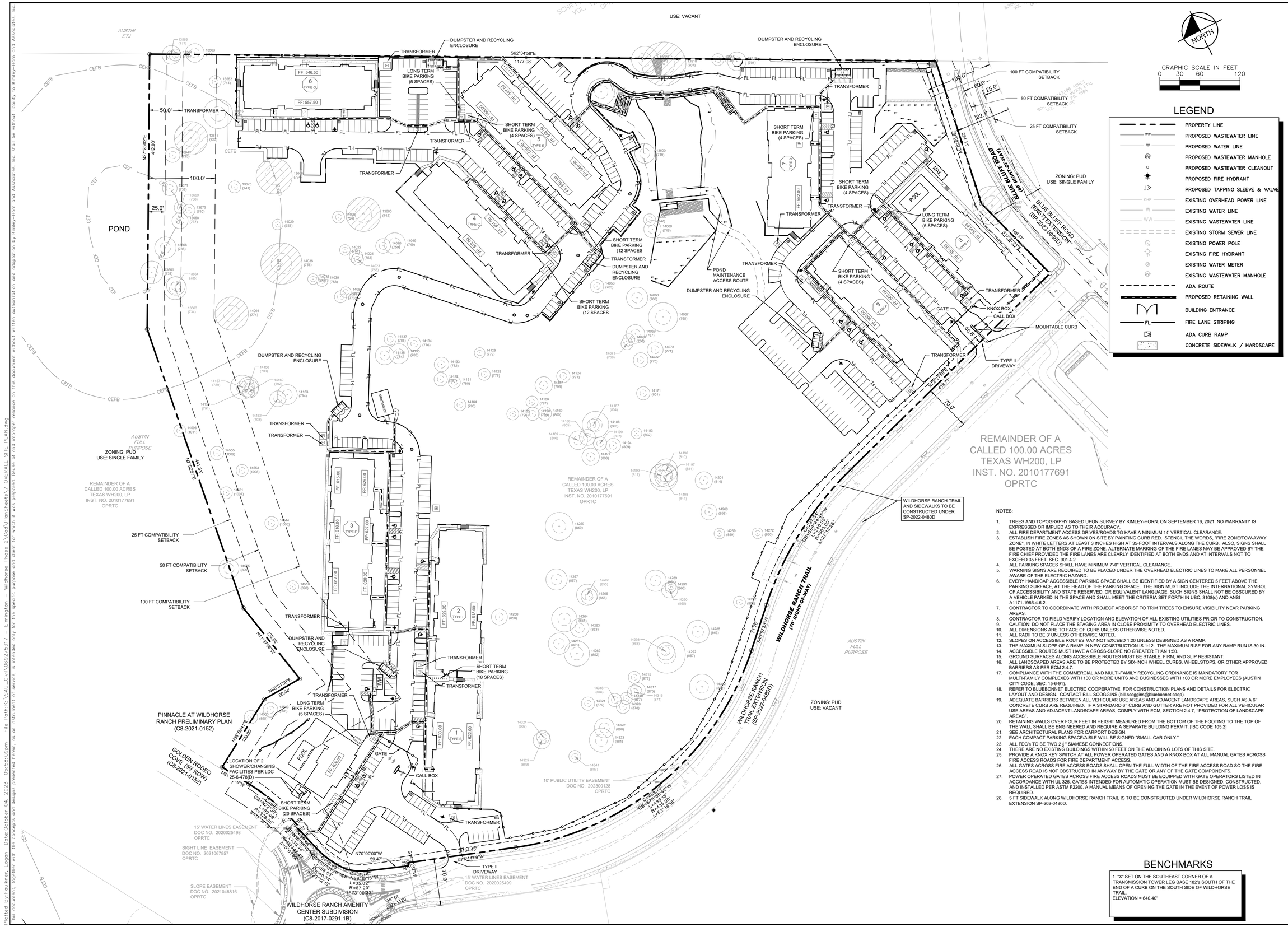
KHA PROJECT 069275317
DATE JULY 2023
SCALE: AS SHOWN
DESIGNED BY: ARL
DRAWN BY: JLB
CHECKED BY: ARL

EXISTING CONDITIONS & DEMOLITION PLAN

BLUERIDGE MULTIFAMILY AT WILDHORSE RANCH

9825 WILDHORSE RANCH TRAIL
CITY OF AUSTIN 78724
TRAVIS COUNTY, TEXAS

SHEET NUMBER
C1-00
6 OF 69



NOTES:

1. TREES AND TOPOGRAPHY BASED UPON SURVEY BY KIMLEY-HORN. ON SEPTEMBER 16, 2021. NO WARRANTY IS EXPRESSED OR IMPLIED AS TO THEIR ACCURACY.
2. ALL FIRE DEPARTMENT ACCESS DRIVES/ROADS TO HAVE A MINIMUM 14' VERTICAL CLEARANCE.
3. ESTABLISH FIRE ZONES AS SHOWN ON SITE BY PAINTING CURB RED. STENCIL THE WORDS, "FIRE ZONE/TOW-AWAY ZONE", IN WHITE LETTERS AT LEAST 3 INCHES HIGH AT 35-FOOT INTERVALS ALONG THE CURB. ALSO, SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE. ALTERNATE MARKING OF THE FIRE LANES MAY BE APPROVED BY THE FIRE CHIEF PROVIDED THE FIRE LANES ARE CLEARLY IDENTIFIED AT BOTH ENDS AND AT INTERVALS NOT TO EXCEED 35 FEET. SEC. 901.4.2
4. ALL PARKING SPACES SHALL HAVE MINIMUM 7'-0" VERTICAL CLEARANCE.
5. WARNING SIGNS ARE REQUIRED TO BE PLACED UNDER THE OVERHEAD ELECTRIC LINES TO MAKE ALL PERSONNEL AWARE OF THE ELECTRIC HAZARD.
6. EVERY HANDICAP ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY A SIGN CENTERED 5 FEET ABOVE THE PARKING SURFACE, AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED, OR EQUIVALENT LANGUAGE. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE AND SHALL MEET THE CRITERIA SET FORTH IN UBC, 3108(c) AND ANSI A117.1-1986-4.6.2.
7. CONTRACTOR TO COORDINATE WITH PROJECT ARBORIST TO TRIM TREES TO ENSURE VISIBILITY NEAR PARKING AREAS.
8. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
9. CAUTION: DO NOT PLACE THE STAGING AREA IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES.
10. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
11. ALL RADII TO BE 3' UNLESS OTHERWISE NOTED.
12. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
13. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN.
14. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50.
15. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT.
16. ALL LANDSCAPED AREAS ARE TO BE PROTECTED BY SIX-INCH WHEEL CURBS, WHEELSTOPS, OR OTHER APPROVED BARRIERS AS PER ECM 2.4.7.
17. COMPLIANCE WITH THE COMMERCIAL AND MULTI-FAMILY RECYCLING ORDINANCE IS MANDATORY FOR MULTI-FAMILY COMPLEXES WITH 100 OR MORE UNITS AND BUSINESSES WITH 100 OR MORE EMPLOYEES (AUSTIN CITY CODE, SEC. 15-6-91).
18. REFER TO BLUEBONNET ELECTRIC COOPERATIVE FOR CONSTRUCTION PLANS AND DETAILS FOR ELECTRIC LAYOUT AND DESIGN. CONTACT BILL SCOGGINS (bill.scoggins@bluebonnet.coop).
19. ADEQUATE BARRIERS BETWEEN ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, SUCH AS A 6" CONCRETE CURB ARE REQUIRED. IF A STANDARD 6" CURB AND GUTTER ARE NOT PROVIDED FOR ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, COMPLY WITH ECM, SECTION 2.4.7, "PROTECTION OF LANDSCAPE AREAS"
20. RETAINING WALLS OVER FOUR FEET IN HEIGHT MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL SHALL BE ENGINEERED AND REQUIRE A SEPARATE BUILDING PERMIT. [IBC CODE 105.2]
21. SEE ARCHITECTURAL PLANS FOR CARPORT DESIGN.
22. EACH COMPACT PARKING SPACE/AISLE WILL BE SIGNED "SMALL CAR ONLY."
23. ALL FDC's TO BE TWO 2 ½" SIAMESE CONNECTIONS.
24. THERE ARE NO EXISTING BUILDINGS WITHIN 50 FEET ON THE ADJOINING LOTS OF THIS SITE.
25. PROVIDE A KNOX KEY SWITCH AT ALL POWER OPERATED GATES AND A KNOX BOX AT ALL MANUAL GATES ACROSS FIRE ACCESS ROADS FOR FIRE DEPARTMENT ACCESS.
26. ALL GATES ACROSS FIRE ACCESS ROADS SHALL OPEN THE FULL WIDTH OF THE FIRE ACCESS ROAD SO THE FIRE ACCESS ROAD IS NOT OBSTRUCTED IN ANYWAY BY THE GATE OR ANY OF THE GATE COMPONENTS.
27. POWER OPERATED GATES ACROSS FIRE ACCESS ROADS MUST BE EQUIPPED WITH GATE OPERATORS LISTED IN ACCORDANCE WITH UL 325. GATES INTENDED FOR AUTOMATIC OPERATION MUST BE DESIGNED, CONSTRUCTED, AND INSTALLED PER ASTM F2200. A MANUAL MEANS OF OPENING THE GATE IN THE EVENT OF POWER LOSS IS REQUIRED.
28. 5 FT SIDEWALK ALONG WILDHORSE RANCH TRAIL IS TO BE CONSTRUCTED UNDER WILDHORSE RANCH TRAIL EXTENSION SP-2022-0480D.

BENCHMARKS

1. "X" SET ON THE SOUTHEAST CORNER OF A TRANSMISSION TOWER LEG BASE 182'± SOUTH OF THE END OF A CURB ON THE SOUTH SIDE OF WILDHORSE TRAIL.
ELEVATION = 640.40'

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100, AUSTIN, TX 78735
PHONE: 512-418-1771 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
ALLISON R. LEHMAN
122009
LICENSED PROFESSIONAL ENGINEER
9/14/2023

KHA PROJECT 069275317	DATE JULY 2023	SCALE: AS SHOWN	DESIGNED BY: ARL	DRAWN BY: JLB	CHECKED BY: ARL

OVERALL SITE PLAN

BLUERIDGE MULTIFAMILY AT WILDHORSE RANCH

9825 WILDHORSE RANCH TRAIL
CITY OF AUSTIN 78724
TRAVIS COUNTY, TEXAS

SHEET NUMBER
C2-00
9 OF 69

SP-2022-0426C.SH

Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area (CU. YD.)	Color
1	-11.70	-10.00	33.17	
2	-10.00	-8.00	688.47	
3	-8.00	-4.00	7819.53	
4	4.00	8.00	2682.20	
5	8.00	10.00	75.64	

NOTE:
SLOPES SHALL BE REVEGETATED WITH 609S GRASS SEED AND FORBS FOR NATIVE SEEDING.

NORTH

GRAPHIC SCALE IN FEET
0 30 60 120

WALLS EACH SIDE OF ROAD
APPROX. 8-9 FT TALL

BLUE BLUFF ROAD
(80' RIGHT-OF-WAY)

BLUE BLUFF ROAD
(EAST EXTENSION)
(SP-2022-0XX-)

WILDHORSE RANCH TRAIL
(70' RIGHT-OF-WAY)

WILDHORSE RANCH TRAIL EXTENSION
(SP-2022-0486D)

ROAD

POOL

BLUERIDGE MULTIFAMILY AT WILDHORSE RANCH

10037 Wildhorse Ranch Trail
AUSTIN, TEXAS 78724
SEPTEMBER 2023

DWG NAME
LAST SAVED

K:\SAU_CIVIL\069275317 - ELMINGTON - WILDHORSE PHASE 2\CAD\EXHIBITS\20230911 CUT FILL EXHIBIT
10/6/2023 12:14 PM

Kimley»Horn
5301 SOUTHWEST PARKWAY
BUILDING 2, SUITE 100
AUSTIN, TEXAS 78735
512-646-2237
STATE OF TEXAS REGISTRATION NO. F-928

Slopes Table				
Number	Minimum Slope	Maximum Slope	Area	Color
1	0.00%	15.00%	557357.84	
2	15.00%	25.00%	418904.99	
3	25.00%	35.00%	149452.79	
4	35.00%	100.00%	33357.49	

BENCHMARKS

1. "X" SET ON THE SOUTHEAST CORNER OF A TRANSMISSION TOWER LEG BASE 182± SOUTH OF THE END OF A CURB ON THE SOUTH SIDE OF WILDHORSE TRAIL
ELEVATION = 640.40'

No.	REVISIONS	DATE	BY

Kimley»Horn
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TEXAS REGISTERED ENGINEERING FIRM F-928

STATE OF TEXAS
ALLISON R. LEHMAN
122009
LICENSED PROFESSIONAL ENGINEER
9/14/2023

KHA PROJECT 069275317	DATE JULY 2023	SCALE: AS SHOWN	DESIGNED BY: ARL	DRAWN BY: JLB	CHECKED BY: ARL

SLOPE MAP AND BUFFER MITIGATION PLAN

BLUERIDGE MULTIFAMILY AT WILDHORSE RANCH

9825 WILDHORSE RANCH TRAIL
CITY OF AUSTIN 78724
TRAVIS COUNTY, TEXAS

SHEET NUMBER
C1-10
7 OF 69

APPENDIX II

PHOTO GALLERY

1. View northeast across the southern portion of the subject property

2. Mattress discarded at the southern portion of the subject property

3. View southeast along southwest property boundary

4. Southwest property boundary (Undeveloped land)

5. Southwest adjoining property (rural residential property and undeveloped land)

6. View of Wild Horse Ranch Trail along the southwestern property boundary

9. View northeast of the central portion of the subject property

10. View northeast along Blue Bluff Road

11. Southeast adjoining property (undeveloped land)

12. View southeast along Blue Bluff Road

13. View west of subject property from locked gate along Blue Bluff Road

14. Northeast adjoining property (undeveloped land)

15. Northwest adjoining property (undeveloped land)

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CITY OF AUSTIN ENVIRONMENTAL RESOURCE INVENTORY FOR THE WILDHORSE HILLTOP TRACT

Travis County, Texas

March 2021

Submitted to:
Kimley-Horn and Associates, Inc.
10814 Jollyville Road Campus IV, Suite 200
Austin, TX 78759

Prepared by:
aci consulting
1001 Mopac Circle
Austin, Texas 78746

aci Project No.: 35-21-018

Case No.: _____
(City use only)

Environmental Resource Inventory

For the City of Austin
Relating to the Land Development Code (LDC) Section 25-8, Title 30-5, ECM 1.3.0 & 1.10.0
Effective October 28, 2013

The ERI is required for projects that meet one or more of the criteria listed in (LDC) Section 25-8-121(A), Title 30-5-121(A).

1. SITE/PROJECT NAME: Wildhorse Hilltop

2. COUNTY APPRAISAL DISTRICT PROPERTY ID (#'s): 848837, 848836, and 848840

3. ADDRESS/LOCATION OF PROJECT: 9900 US HIGHWAY 290 E MANOR , TX 78653

4. WATERSHED: Gilleland Creek

5. THIS SITE IS WITHIN THE *(Check all that apply)*
   Edwards Aquifer Recharge Zone* *(See note below)* ..... ☐YES ☒No
   Edwards Aquifer Contributing Zone* ..... ☐YES ☒No
   Edwards Aquifer 1500 ft Verification Zone* ..... ☐YES ☒No
   Barton Spring Zone* ..... ☐YES ☒No
   **(as defined by the City of Austin – LDC 25-8-2)*

   Note: If the property is over the Edwards Aquifer Recharge zone, the Hydrogeologic Report and karst surveys must be completed and signed by a Professional Geoscientist Licensed in the State of Texas.

6. DOES THIS PROJECT PROPOSE FLOODPLAIN MODIFICATION?.....☐YES** ☒NO
   If yes, then check all that apply:
   - ☐ *(1) The floodplain modifications proposed are necessary to protect the public health and safety;*
   - ☐ *(2) The floodplain modifications proposed would provide a significant, demonstrable environmental benefit, as determined by a **functional assessment** of floodplain health as prescribed by the Environmental Criteria Manual, or*
   - ☐ *(3) The floodplain modifications proposed are necessary for development allowed in the critical water **quality zone under Section 25-8-261 or 25-8-262 of the LDC.***
   - ☐ *(4) The floodplain modifications proposed are outside of the Critical Water Quality Zone in an area determined to be in poor or fair condition by a **functional assessment** of floodplain health.*

   **** If yes, then a functional assessment must be completed and attached to the ERI (see Section 1.7 and Appendix X in the Environmental Criteria Manual for forms and guidance) unless conditions 1 or 3 above apply.**

7. IF THE SITE IS WITHIN AN URBAN OR SUBURBAN WATERSHED, DOES THIS PROJECT PROPOSE A UTILITY LINE PARALLEL TO AND WITHIN THE CRITICAL WATER QUALITY ZONE? ..... ☐YES*** ☒NO

   *****If yes, then riparian restoration is required by Section 25-8-261(E) of the LDC and a functional assessment must be completed and attached to the ERI (see Section 1.5 and Appendix X in the Environmental Criteria Manual for forms and guidance).**

8. There is a total of 2 (#'s) Critical Environmental Feature(s)(CEFs) on or within150 feet of the project site. If CEF(s) are present, attach a detailed **DESCRIPTION** of the CEF(s), color **PHOTOGRAPHS**, the **CEF WORKSHEET** and provide **DESCRIPTIONS** of the proposed CEF buffer(s) and/or wetland mitigation. Provide the number of each type of CEFs on or within 150 feet of the site (*Please provide the number of CEFs*):

0 (#'s) Spring(s)/Seep(s) 0 (#'s) Point Recharge Feature(s) 0 (#'s) Bluff(s)
0 (#'s) Canyon Rimrock(s) 2 (#'s) Wetland(s)

Note: Standard buffers for CEFs are 150 feet, with a maximum of 300 feet for point recharge features. Except for wetlands, if the standard buffer is not provided, you must provide a written request for an administrative variance from Section 25-8-281(C)(1) and provide written findings of fact to support your request. Request forms for administrative variances from requirements stated in LDC 25-8-281 are available from Watershed Protection Department.

9. The following site maps are attached at the end of this report *(Check all that apply and provide):*

All ERI reports must include:

- ☒ **Site Specific Geologic Map with 2-ft Topography**
- ☒ **Historic Aerial Photo of the Site**
- ☒ **Site Soil Map**
- ☒ **Critical Environmental Features and Well Location Map on current Aerial Photo with 2-ft Topography**

Only if present on site *(Maps can be combined):*

- ☐ **Edwards Aquifer Recharge Zone with the 1500-ft Verification Zone**
  (Only if site is over or within 1500 feet the recharge zone)
- ☐ **Edwards Aquifer Contributing Zone**
- ☐ **Water Quality Transition Zone (WQTZ)**
- ☐ **Critical Water Quality Zone (CWQZ)**
- ☐ **City of Austin Fully Developed Floodplains for all water courses with up to 64-acres of drainage**

10. **HYDROGEOLOGIC REPORT –** Provide a description of site soils, topography, and site specific geology below *(Attach additional sheets if needed):*

Surface Soils on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups*. If there is more than one soil unit on the project site, show each soil unit on the site soils map.

Soil Series Unit Names, Infiltration Characteristics & Thickness		
Soil Series Unit Name & Subgroup**	Group*	Thickness (feet)
See Section 10-1		

*Soil Hydrologic Groups Definitions *(Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

**Subgroup Classification – See Classification of Soil Series Table in County Soil Survey.

Description of Site Topography and Drainage *(Attach additional sheets if needed)*:

According to the Austin West U.S. Geologic Survey (USGS) 7.5-Minute Topographic Quadrangle and the City of Austin 2012 two-foot contours, the elevation within the subject area ranges from 508 feet above mean sea level (MSL) to 640feet above MSL. The subject area slopes from the southern portion toward the southern portion. (USGS 1987).

(COA) City of Austin. 2012. Two-foot Topographic Lines. City of Austin: Austin, TX.

(USGS) U.S. Geologic Survey. 1988. Manor Texas Quadrangle. USGS - Department of the Interior: Denver, CO.

List surface geologic units below:

Geologic Units Exposed at Surface		
Group	Formation	Member
N/A	Alluvium (Qal)	N/A
Taylor Group	Navarro and Taylor Group undivided	N/A

Brief description of site geology *(Attach additional sheets if needed)*:

The subject area is mapped as Navarro and Taylor Groups undivided (Knt) and Alluvium (Qal)

Knt - "in areas where Pecan Gap Chalk is not present because of gradation of marl similar to that of the Marlbrook and Ozan Formations"

Qal - "Floodplain deposits, including indistinct low terrace deposite; clay, sand, and gravel; silt and clay, calcareous to surface, dark gray to dark brown; sand largely quartz; gravel, siliceous, mostly chert, quartzite, limestone, and petrified wood, along Colorado River much igneous and metamorphic rock, probably mostly reworked from terrace deposits; fluviatile morphology well preserved with point bars, oxbows, and abandoned channel segments"

(USGS) U.S. Geologic Survey. 2021. Texas Geology Web Map. Last accessed: March 19, 2021. https://txpub.usgs.

Wells – Identify all recorded and unrecorded wells on site (test holes, monitoring, water, oil, unplugged, capped and/or abandoned wells, etc.):

There are 0 (#) wells present on the project site and the locations are shown and labeled

___ (#'s)The wells are not in use and have been properly abandoned.

___ (#'s)The wells are not in use and will be properly abandoned.

___ (#'s)The wells are in use and comply with 16 TAC Chapter 76.

There are 0 (#'s) wells that are off-site and within 150 feet of this site.

11. **THE VEGETATION REPORT** – Provide the information requested below:

Brief description of site plant communities *(Attach additional sheets if needed)*:

The vegetation is mixed deciduous and Ashe juniper woodland interspersed with cleared areas that maintained mature trees, but lacks an understory. The vegetation identified consisted of, but was not limited to, Ashe juniper (Juniperus ashei), Carolina ponysfoot (Dichondra carolinensis), redseed plantain (Plantago rhodosperma), common greenbrier (Smilax rotundifolia), sugarberry (Celtis laevigata), cedar elm (Ulmus crassifolia), turkey tangle fogfruit (Phyla nodiflora), bitter dock (Rumex obtusifolius), carolina crane bill (Geranium carolinianum), poison hemlock (Conium maculatum), balloon vine (Cardiospermum halicacabum), honey mesquite (Prosopis glandulosa), white horehound (Marrubium vulgare), Roosevelt weed (Baccharis neglecta), southern dewberry (Rubus trivialis), common spike rush, (Eleocharis palustris), broadleaf cattail (Typha latifolia), cursed crowfoot (Ranunculus sceleratus), and black willow (Salix nigra).

There is woodland community on site ……..☒YES ☐ NO *(Check one).*
If yes, list the dominant species below:

Woodland species	
Common Name	Scientific Name
Ashe Juniper	Juniperus ashei
Cedar Elm	Ulmus crassifolia
Honey Mesquite	Prosopis glandulosa
Sugar Hackberry	Celtis laevigata

There is grassland/prairie/savanna on site……..☒YES ☐ NO *(Check one).*
If yes, list the dominant species below:

Grassland/prairie/savanna species	
Common Name	Scientific Name
Little Bluestem	Schizachyrium scoparium
Southern Dewberry	Rubus trivialis
Roosevelt Weed	Baccharis neglecta

There is hydrophytic vegetation on site ……..☒YES ☐ NO *(Check one).*
If yes, list the dominant species in table below *(next page):*

Hydrophytic plant species		
Common Name	Scientific Name	Wetland Indicator Status
Bushy Bluestem	Andropogon glomeratus	FACW
Common Spike Rush	Eleocharis palustris	OBL
Broadleaf Cattail	Typha latifolia	OBL
Cursed Crowfoot	Ranunculus sceleratus	OBL
Black Willow	Salix nigra	FACW

A tree survey of all trees with a diameter of at least eight inches measured four and one-half feet above natural grade level has been completed on the site.
☒YES ☐ NO *(Check one).*

12. **WASTEWATER REPORT –** Provide the information requested below.

Wastewater for the site will be treated by *(Check of that Apply)*:

☐ On-site system(s)

☒ City of Austin Centralized sewage collection system

☐ Other Centralized collection system

Note: All sites that receive water or wastewater service from the Austin Water Utility must comply with Chapter 15-12 of Austin City Code and wells must be registered with the City of Austin

The site sewage collection system is designed and will be constructed to in accordance to all State, County and City standard specifications.
☒YES ☐ NO *(Check one).*

Calculations of the size of the drainfield or wastewater irrigation area(s) are attached at the end of this report or shown on the site plan.
☐YES ☐ NO ☒ Not Applicable *(Check one).*

Wastewater lines are proposed within the Critical Water Quality Zone?
☐YES ☒ NO *(Check one)*. If yes, then provide justification below:

Is the project site is over the Edwards Aquifer?
☒YES ☐ NO *(Check one).*

If yes, then describe the wastewater disposal systems proposed for the site, its treatment level and effects on receiving watercourses or the Edwards Aquifer.

13. One (1) hard copy and one (1) electronic copy of the completed assessment have been provided.

Date(s) ERI Field Assessment was performed: March 18, 2021
Date(s)

My signature certifies that to the best of my knowledge, the responses on this form accurately reflect all information requested.

Stephen Meyer	(512) 852-3860
Print Name	Telephone
Signature	smeyer@aci-group.net
	Email Address
aci consulting	March 30, 2021
Name of Company	Date

For project sites within the Edwards Aquifer Recharge Zone, my signature and seal also certifies that I am a licensed Professional Geoscientist in the State of Texas as defined by ECM 1.12.3(A).

P.G.
Seal

Print Form

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LIST OF ATTACHMENTS FOR THE ENVIRONMENTAL RESOURCE INVENTORY FORM

Question 8:

- Q8-1: Critical Environmental Features
- Q8-2. CEF Worksheet

Question 9:

- Q9-1: Site Specific Geologic Map with 2-ft Contours
- Q9-2: 1996 Historic Aerial
- Q9-3: Soils
- Q9-4: CEFs with Wells and 2-ft Contours
- Q9-5: Edwards Aquifer Contributing Zone

Question 10:

- Q10-1: Surface Soils
- Q10-2: Surface Geology

QUESTION 8 ATTACHMENTS

Q8-1: Critical Environmental Features

Section 25-8-1 of the City of Austin (COA) LDC defines CEFs as "features that are of critical importance to the protection of environmental resources, and include bluffs, canyon rimrocks, caves, faults and fractures, seeps, sinkholes, springs, and wetlands."

Aerial photographs and topographic maps were utilized to orient surveyors in the field. If potential CEFs were identified in the field, they were carefully examined and recorded, and each potential feature was described, photographed and its location recorded using a handheld Garmin GPS unit.

According to Section 30-5-1 of the COA LDC, wetlands are defined as "a transitional land between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water and conforms to the Army Corps of Engineers' definition." The U.S. Army Corps of Engineers defines wetlands as areas having hydrophytic vegetation, wetland hydrology, and hydric soils. Additionally, according to the COA Environmental Criteria Manual, wetlands should be identified based on criteria outlined in Part IV Section D. Routine Determinations of the *Corps of Engineers 1987 Wetlands Delineation Manual*. This section identifies steps to identify whether or not an area is a wetland, but assumes an area has hydric soils if it has wetland hydrology and hydrophytic vegetation with an abrupt boundary between the hydrophytic vegetation and the upland area. Additionally, to assume that hydric soils are present at the site, the dominant hydrophytic vegetation must not have a dominant Facultative (FAC) species, at least one community type must be dominated by an Obligate (OBL) species, the boundary between wetlands and non-wetlands is distinct, and the area is not known or suspected of having significantly altered hydrology (footer Page 54).

Field reconnaissance and a wetland delineation was conducted within the subject area on March 18, 2021, according to Part IV Section D Subsection 2 – Onsite Inspection Necessary of the 1987 Corps of Engineers Wetlands Delineation Manual.

However, COA Watershed Protection Department Staff generally base their wetland determinations on Section 1.10.3 of the ECM, which states (emphasis added):
The identification of wetlands should be completed by someone familiar with the Army Corps of Engineers three-parameter technical criteria as outlined in the Corps of

Engineers 1987 Wetlands Delineation Manual (Section D. Routine Determinations). The three parameters for wetland determination include prevalence of hydrophytic vegetation, hydric soil formation, and the presence of adequate hydrology. **The recommended routine method assumes adequate hydrology and hydric soils if the area under examination is dominated (over 50% vegetative cover) by Facultative-wet and/or Obligate plant species (as listed in the National List of Plant Species That Occur in Wetlands, South Plains, Region 6, U.S. Department of the Interior, Washington D.C.) and an abrupt boundary is evident between these Facultative-wet and/or Obligate plant community and the Upland plant communities.** If the area is dominated by Facultative plant species, the hydric soil and hydrology parameters cannot be assumed and must be examined to determine if an area is a wetland.

If an area is classified as a wetland CEF, the standard setback for a wetland meeting the City of Austin CEF definition is 150 feet. This setback may be administratively modified so that the same square footage as the standard setback is applied while maintaining a minimum buffer width of 50 feet from the centerline of the CEF. The standard buffer may be administratively modified or reduced on a case-by-case-basis if 1:1 mitigation in the form of in-kind and on-site wetland enhancement or replacement is provided.

The current hydrologic condition compared to a typical year can be determined using the Antecedent Precipitation Tool (APT), a desktop tool designed by the U.S. Army Corps of Engineers (USACE) to simplify rainfall analysis specifically for WOUS delineation. The tool uses a scoring system and weighted calculation to determine a final precipitation score. An index score of 9 or lower indicates conditions are drier than normal; an index score of 10 to 14 indicates conditions are normal; and a score of 15 or higher indicates conditions are wetter than normal. A typical year is defined by the Environmental Protection Agency (EPA) as "typical hydrologic flows or surface water connections that occur under normal conditions" and is based on a rolling thirty-year period (EPA).

The APT was utilized for the date of **aci consulting's** original site visit on March 18, 2021, to assess the local current conditions. The subject area scored a 10, which indicated normal conditions.

Field reconnaissance was conducted on March 18, 2021, and two wetland CEF'S, CEF-1 and CEF-2 were identified within the subject area.

CEF-1

CEF-1 is an emergent riverine wetland located in the western portion of the subject area around a pond. CEF-1 was saturated at the time of the field visit. CEF-1 had wetland hydrology, hydric soils, and is dominated by hydrophytic vegetation such as common spike rush, bushy bluestem, and broadleaf cattails. The boundary between CEF-1 and the adjacent non-wetland was identified based on changes in hydrology, dominant plant composition, and soils. No FEMA Flood Hazard Zones extend onto the subject area at CEF-1. The total area of CEF-1 is approximately 30,582 square feet (0.702 acre) within the subject area (Photo 1).

Wildhorse Hilltop Tract	**Feature**	Potential CEF-1	Photo 1
	Description	Potential CEF-1 in the western portion of the subject area.	**Direction:** West
Date: 3/18/2021	**Photographer**	aci consulting	

CEF-2

CEF-2 is a wetland fringe located in the central portion of the subject area. CEF-2 was saturated at the time of the field visit. CEF-2 had wetland hydrology, hydric soils, and is dominated by hydrophytic vegetation such as common spike rush and broadleaf cattails. The boundary between CEF-2 and the adjacent non-wetland was identified based on changes in hydrology, dominant plant composition, and soils. No FEMA Flood Hazard Zones extend onto the subject area at CEF-2. The total area of CEF-2 is approximately 3,793 square feet (0.087 acre) within the subject area (Photo 2).

Wildhorse Hilltop Tract	**Feature**	Potential CEF-2	Photo 2
	Description	Potential CEF-2 in the central portion of the subject area	**Direction:** South
Date: 3/18/2021	**Photographer**	aci consulting	

Non-CEF A

Non-CEF A is a stock pond located in the southeastern portion of the subject area. Non-CEF A was not inundated or saturated at the time of the field visit. No FEMA Flood Hazard Zones extend onto the subject area at Non-CEF A. Non-CEF A lacks emergent vegetation and hydric soils and is therefore a non-wetland. The total area of Non-CEF A is approximately 3,489 square feet, or approximately 0.08 acre within the subject area (Photo 3).

Wildhorse Hilltop Tract Date: 3/18/2021	**Feature**	Potential Non-CEF A	Photo 3
	Description	Potential Non-CEF A in the southern portion of the subject area	**Direction:** East
	Photographer	aci consulting	

Non-CEF B

Non-CEF B is a stock pond located in the northern portion of the subject area. Non- CEF B was inundated at the time of the field visit. No FEMA Flood Hazard Zones extend onto the subject area at Non-CEF B. Non-CEF B lacks emergent vegetation and hydric soils and is therefore a non-wetland. The total area of Non-CEF B is approximately 8,603 square feet, or approximately 0.19 acre within the subject area (Photo 4).

Wildhorse Hilltop Tract	**Feature**	Potential Non-CEF B	Photo 4
	Description	Potential Non-CEF B in the northern portion of the subject area	**Direction:** West
Date: 3/18/2021	**Photographer**	aci consulting	

Non-CEF C

Non-CEF C is an ephemeral stream that flows west to east across the northern portion of the subject area. NJD-2 has a bed, bank, and OHWM for approximately 443 feet and is approximately 3 feet wide, for a total area of approximately 2,553 square feet (0.05 acre) in the subject area. Water was not present within Non-CEF C at the time of field investigations. The 1% Annual Chance and 0.2% Annual Chance Flood Hazard Zones extend onto the subject area at Non-CEF C. Non-CEF C lacks emergent vegetation, wetland hydrology, and hydric soils and is therefore a non-wetland. Vegetation observed along Non-CEF C includes, but is not limited to, broomweed, lemon beebalm, and (Photo 5).

Wildhorse Hilltop Tract Date: 3/18/2021	**Feature**	Potential Non-CEF B	Photo 5
	Description	Potential Non-CEF B in the northern portion of the subject area	**Direction:** East
	Photographer	aci consulting	

City of Austin Environmental Resource Inventory - Critical Environmental Feature Worksheet

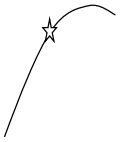
1	Project Name:	Wildhorse Hilltop Tract
2	Project Address:	9900 US HIGHWAY 290 E MANOR , TX 78653
3	Site Visit Date:	3/18/2021
4	Environmental Resource Inventory Date:	3/22/2021

5	Primary Contact Name:	Stephen Meyer
6	Phone Number:	(512) 347-3860
7	Prepared By:	Stephen Meyer
8	Email Address:	smeyer@aci-group.net

9	FEATURE TYPE {Wetland,Rimrock, Bluffs,Recharge Feature,Spring}	FEATURE ID (eg S-1)	FEATURE LONGITUDE (WGS 1984 in Meters)		FEATURE LATITUDE (WGS 1984 in Meters)		WETLAND DIMENSIONS (ft)		RIMROCK/BLUFF DIMENSIONS (ft)		RECHARGE FEATURE DIMENSIONS				Springs Est. Discharge
			coordinate	*notation*	*coordinate*	*notation*	X	Y	Length	Avg Height	X	Y	Z	Trend	cfs
	Wetland	CEF-1	-97.577626	DD	30.336217	DD	174.87	174.87							
	Wetland	CEF-2	-97.830745	DD	30.337568	DD	61.58	61.58							

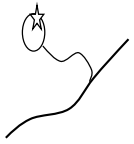
City of Austin Use Only CASE NUMBER:	

For rimrock, locate the midpoint of the segment that describes the feature.



For wetlands, locate the approximate centroid of the feature and the estimated area.

For a spring or seep, locate the source of groundwater that feeds a pool or stream.



Please state the method of coordinate data collection and the approximate precision and accuracy of the points and the unit of measurement.

Method		Accuracy	
GPS	X	sub-meter	
Surveyed		meter	
Other		> 1 meter	X

Professional Geologists apply seal below

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Coordinates	30.336217, -97.577626
Observation Date	2021-03-18
Elevation (ft)	549.28
Drought Index (PDSI)	Severe drought (2021-02)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-03-18	1.868504	3.462992	1.098425	Dry	1	3	3
2021-02-16	0.73622	3.149606	1.133858	Normal	2	2	4
2021-01-17	1.209055	3.826378	5.18504	Wet	3	1	3
Result							Normal Conditions - 10

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
TAYLOR 1NW	30.5844, -97.4156	570.866	19.677	21.586	9.279	7335	90
AUSTIN WTP	30.2806, -97.6536	500.0	5.942	49.28	2.967	299	0
WELLS BRANCH 4.2 S	30.3852, -97.6788	691.929	6.916	142.649	4.099	1	0
ELGIN 1 N	30.3642, -97.37	594.16	12.53	44.88	6.201	3717	0
ROUND ROCK 3 NE	30.5414, -97.635	721.129	14.583	171.849	9.068	1	0

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Wildhorse Hilltop City/County: Austin/Travis Sampling Date: 3/18/2021

Applicant/Owner: Kimley-Horn and Associates, Inc. State: TX Sampling Point: 89

Investigator(s): Gabriel Nejad and Mason Finley Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%):

Subregion (LRR): North Great Plains Lat: 30.336217 Long: -97.577626 Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑	No ☐	
Wetland Hydrology Present?	Yes ☑	No ☐	

Remarks:

Waypoint 89, CEF-1

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. bushy blustem	15		FACW
2. boardleaf cattails	10		OBL
3. southern dewberry	25		FACU
4. common spike rush	80	✓	OBL
5. Engelman daisy	1		UPL
6.			
7.			
8.			
9.			
10.			
	131 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	15	x 2 =	30
FAC species	-	x 3 =	-
FACU species	25	x 4 =	100
UPL species	1	x 5 =	5
Column Totals:	131 (A)		225 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☑ 2 - Dominance Test is >50%

☑ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: 89

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	99%					Clay	Hydric soils
	10YR 3/6	1%					Clay	Iron reduction
9-12+	10YR6/2	100%					Clay	Hydric soils

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☑ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☑ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☑ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☑ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): _____

Water Table Present? Yes ☑ No ☐ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): _____

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Wildhorse Hilltop City/County: Austin/Travis Sampling Date: 3/18/2021

Applicant/Owner: Kimley-Horn and Associates, Inc. State: TX Sampling Point: 110-132

Investigator(s): Gabriel Nejad and Mason Finley Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%):

Subregion (LRR): North Great Plains Lat: 30.337568 Long: -97.575266 Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑ No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑ No ☐	
Wetland Hydrology Present?	Yes ☑ No ☐	

Remarks:

Waypoints 110-132, pond with ~8ft wetland fringe, CEF-2

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. black willow	20	✓	FACW
2. cedar elm	5	✓	FAC
3.			
4.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. common spike rush	25	✓	OBL
2. cursed crowfoot	2		OBL
3. broadleaf cattail	10	✓	OBL
4. red seed plantain	5		FACU
5. hairyfruit chervil	2		FAC
6.			
7.			
8.			
9.			
10.			
	44	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	37	x 1 =	37
FACW species	20	x 2 =	40
FAC species	7	x 3 =	21
FACU species	5	x 4 =	20
UPL species	-	x 5 =	-
Column Totals:	69 (A)		118 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☑ 2 - Dominance Test is >50%

☑ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks:

SOIL

Sampling Point: 110-132

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 5/1	100					clay	hydric soil with out redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) (**MLRA 72 & 73 of LRR H**)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR I, J**)
- ☐ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ☐ Dark Surface (S7) (**LRR G**)
- ☐ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☑ Surface Soil Cracks (B6)
- ☑ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) (**where tilled**)
- ☑ Crayfish Burrows (C8)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) (**LRR F**)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): _____

Water Table Present? Yes ☑ No ☐ Depth (inches): _____

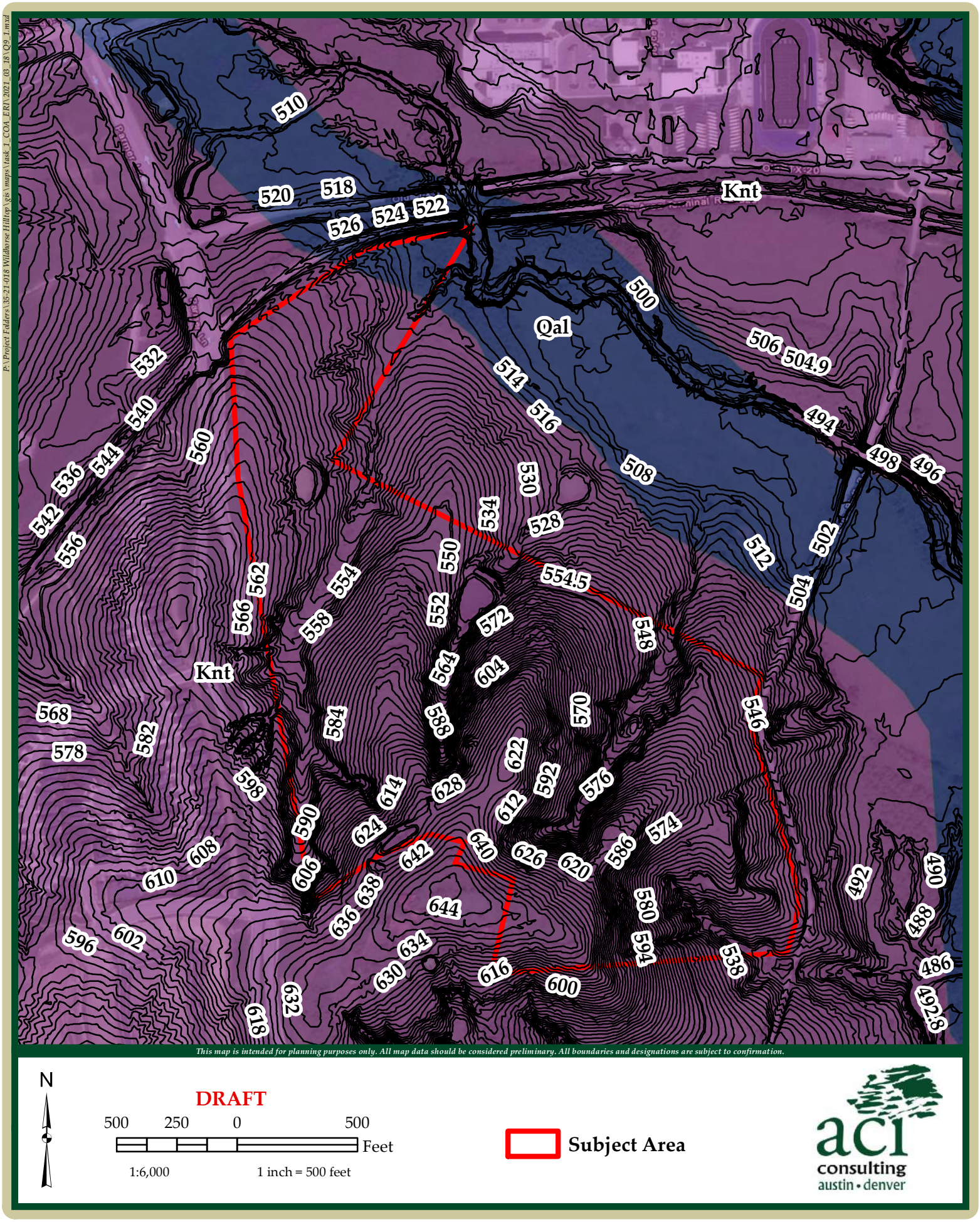
Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): _____

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Q9-1: Site Specific Geology Map with 2-ft Topography



Wildhorse Hilltop

aci Project No.: 35-21-018

Q9-1: Site Specific Geologic Map with 2-ft Contours

March 2021

P:\Project Folders\35-21-018 Wildhorse Hilltop\gis\maps\task_1_COA_ERI\2021_03_18\Q9-2.mxd

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

DRAFT

500 250 0 500 Feet

1:6,000 1 inch = 500 feet

Subject Area

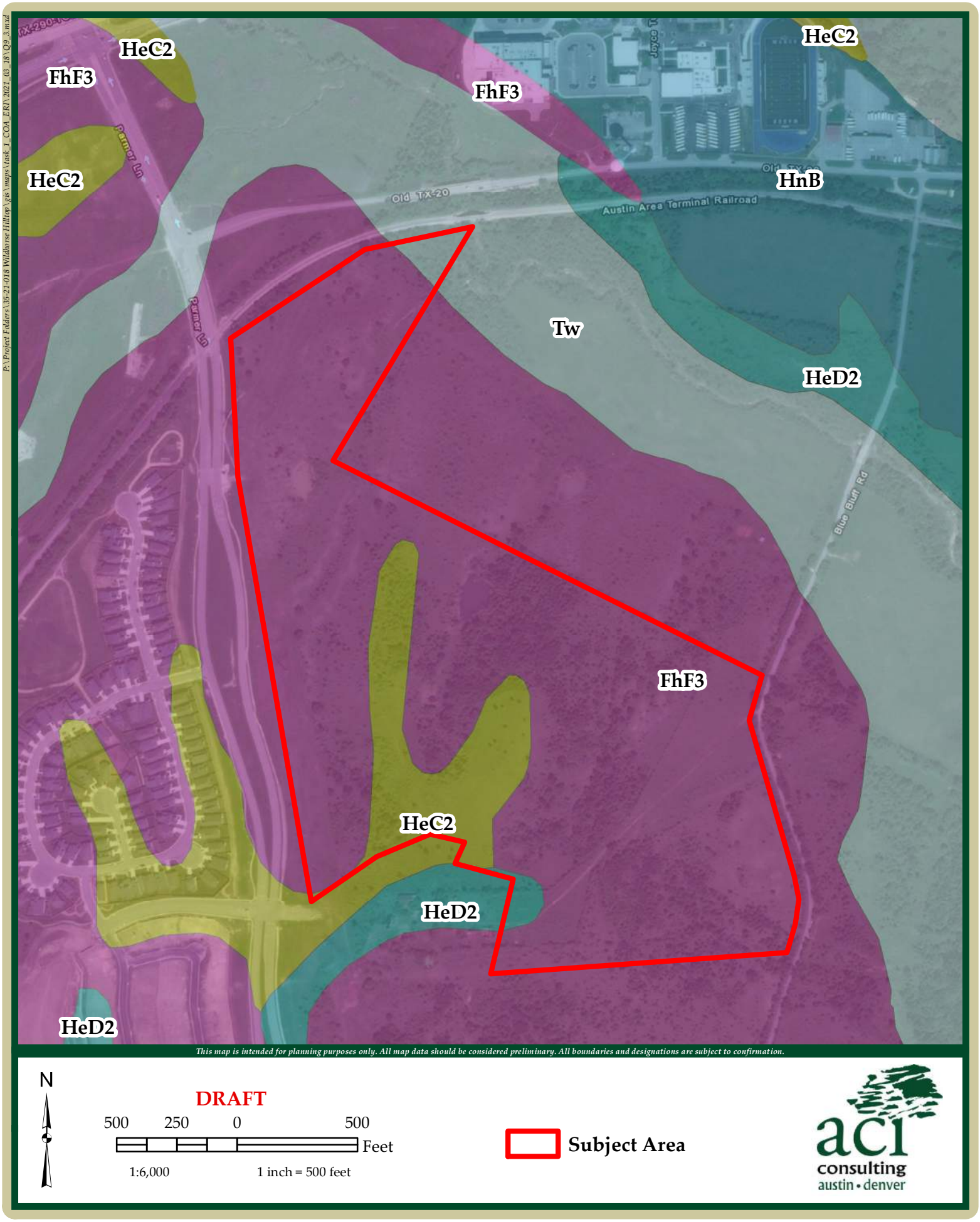
aci consulting austin • denver

Wildhorse Hilltop

Q9-2: 1996 Historic Aerial

aci Project No.: 35-21-018

March 2021



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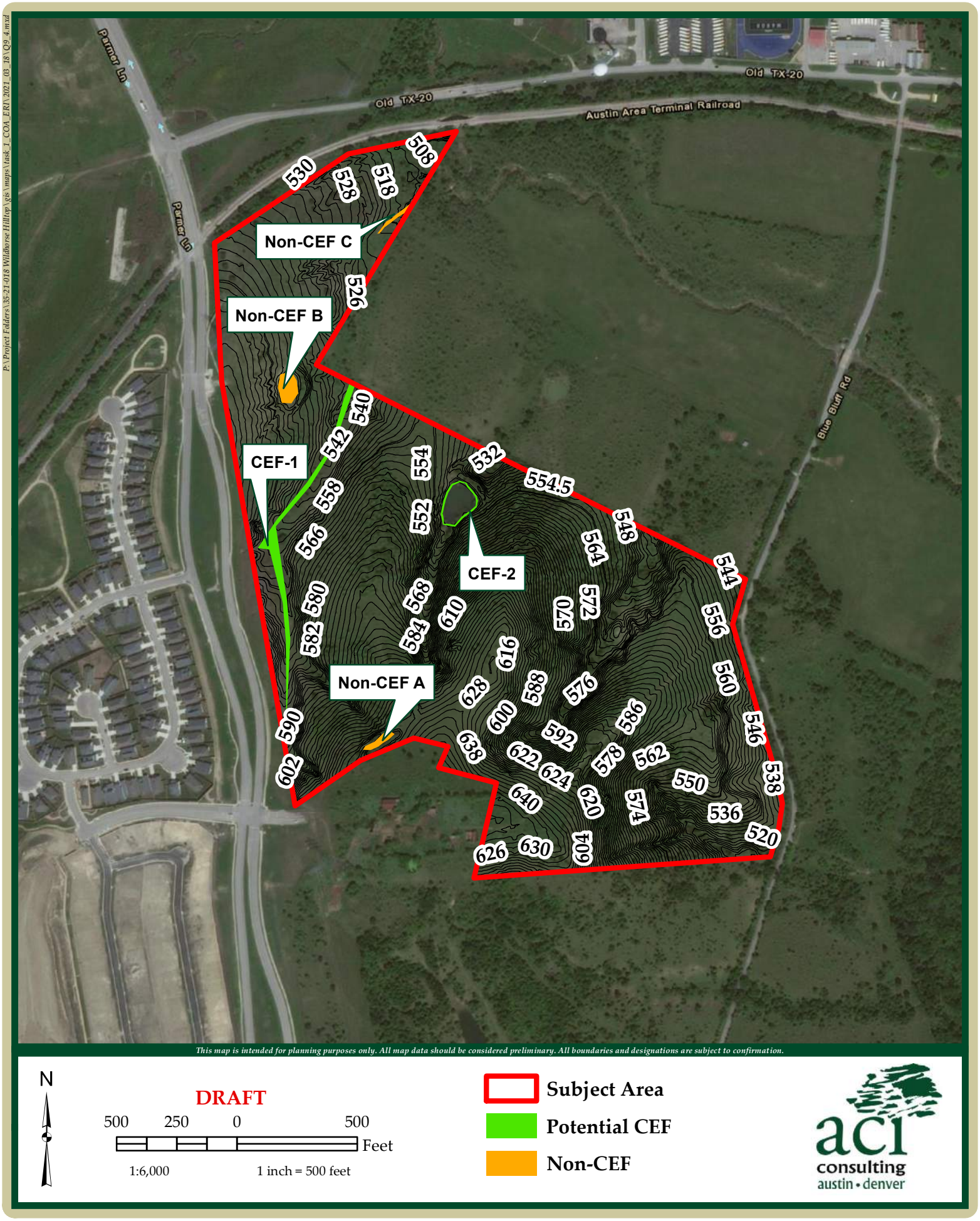
Wildhorse Hilltop

Q9-3: Soils

aci Project No.: 35-21-018

March 2021



This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

Wildhorse Hilltop

Q9-4: CEFs with Wells and 2ft Contours

aci Project No.: 35-21-018

March 2021

Q10-1: Surface Soils

Soil Series Unit Names, Infiltration Characteristics, & Thickness		
Soil Series Unit Name & Subgroup	Group	Thickness (feet)
Ferris-Heiden complex, 8 to 20 percent slopes, severely eroded (FhF3)	D	3-5 ft
Heiden clay, 3 to 5 percent slopes, eroded (HeC2)	D	3.33 – 5.41 ft
Heiden clay, 5 to 8 percent slopes, eroded (HeD2)	D	> 6.67 ft
Tinn clay, 0 to 1 percent slopes, frequently (Tw)	C	> 6.67 ft

Q10-2: Surface Geology

- **Alluvium (Qal).** "Floodplain deposits, including indistinct low terrace deposits; clay, sand, and gravel; silt and clay, calcareous to surface, dark gray to dark brown; sand largely quartz; gravel, siliceous, mostly chert, quartzite, limestone, and petrified wood, along Colorado River much igneous and metamorphic rock, probably mostly reworked from terrace deposits; fluviatile morphology well preserved with point bars, oxbows, and abandoned channel segments"

- **Navarro and Taylor Groups undivided (Knt).** "in areas where Pecan Gap Chalk is not present because of gradation to marl similar to that of the Marlbrook and Formations"

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