



### **ITEM FOR ENVIRONMENTAL COMMISSION AGENDA**

**COMMISSION MEETING  
DATE:** 04/15/2020

**NAME & NUMBER OF  
PROJECT:** Albert H. Ullrich Water Treatment Plant  
SPC-03-0005C(R1)

**NAME OF APPLICANT OR  
ORGANIZATION:** MWM Design Group; Shari Pape

**LOCATION:** 3602½ Redbud Trail Unit C, 78746

**COUNCIL DISTRICT:** District 8

**ENVIRONMENTAL  
REVIEW STAFF:** Scott Hiers, Environmental Scientist Senior,  
Watershed Protection Department, 512.974.1916,  
scott.hiers@austintexas.gov

Pamela Abee-Taulli, Environmental Review Specialist Senior,  
Development Services Department, 512.974.1879, pamela.abee-  
taulli@austintexas.gov

**WATERSHED:** Bee Creek, Little Bee Creek, & Lake Austin watersheds, Water Supply  
Rural Classification, Drinking Water Protection Zone

**REQUEST:** Variance request is as follows:  
Request to vary from LDC 25-8-281(C)(2)(b) to allow the construction  
within 150-foot Critical Environmental Feature (CEF) buffer for a Rimrock  
CEF.

**STAFF  
RECOMMENDATION:** Staff recommends this variance, having determined the findings of fact  
to have been met.

**STAFF  
CONDITIONS:** None.

## **Staff Findings of Fact**



Development Services Department  
Staff Recommendations Concerning Required Findings

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Project Name &  
Case Number: **Albert H. Ullrich Water Treatment Plant - SPC-03-0005C(R1)**

Ordinance Standard: **Watershed Protection Ordinance**

Variance Request: **To allow construction within 150-foot Critical Environmental Feature (CEF) buffer for a Rimrock CEF [LDC 25-8-281(C)(2)(b)].**

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Include an explanation with each applicable finding of fact.

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

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. Other City of Austin water treatment plants have the same chemical feed system in place to help control zebra mussel infestations in the raw water transmission main. Chemical treatment is necessary to control zebra mussel infestations in raw water transmission mains.**

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. The variance is not necessitated by the design. No alternative locations are available on site for a Zebra Mussel Mitigation System. The system must be placed in or near the existing intake pump house. There is not enough room in the existing pump station to house the entire system, such as the chemical storage. All the proposed construction coincides within areas of existing impervious cover. No additional impervious cover is being added.**

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

Yes. The variance is a minimum deviation from the code requirement and is allowing for a reasonable use of the property. No new impervious cover is proposed. The Zebra Mussel Mitigation System and the associated construction activities is in areas, or adjacent to areas, with existing impervious cover or development. The piping for the chemical storage and metering station is the shortest and most direct route to the existing building, and the system is located where there is already an asphalt driveway or development.

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

Yes. The variance with the staff recommended conditions does not create a probability of significant harmful environmental consequences. Construction is within existing structures or where there is existing impervious cover. The chemical tank and piping are double contained. The equipment pad is curbed and covered with a canopy. The pump metering station includes a virtual day tank and there are automated valves at the pump bay that close if the pumps fail or when the pumps are not running. No new impervious cover is being added. As part of the Stormwater Pollution Prevention Plan, temporary sedimentation and erosion controls will be installed prior to the start of construction activities. The applicant is providing wetland plantings along the shoreline that will reduce shoreline erosion and reduce the possibility of sediment-laden surface runoff from entering the lake.

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 variance will result in water quality that is at least equal to the water quality achievable without the variance. The proposed construction will not impact existing water quality. No new impervious cover is proposed. During construction, Stormwater Pollution Prevention Plan best practices will be employed to prevent construction sediment and debris from entering the stormwater runoff, and additional wetland plants along the shoreline will be provided to enhance the water quality of surface water runoff.

**Staff Recommendation:** Staff recommends the Findings of Fact have been met.

- B. The Land Use Commission may grant a variance from a requirement of Section 25-8-422 (*Water Supply Suburban Water Quality Transition Zone*), Section 25-8-452 (*Water Supply Rural Water Quality Transition Zone*), Section 25-8-482 (*Barton Springs Zone Water Quality Transition Zone*), Section 25-8-368 (*Restrictions on Development Impacting Lake Austin, Lady Bird Lake, and Lake Walter E. Long*), or Article 7, Division 1 ( *Critical Water Quality Zone Restrictions* ), after determining that:

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

Yes / No

N/A

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


Yes / No                      N/A

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

Yes / No                      N/A

**Staff Recommendation: N/A.**

Hydrogeologic Reviewer  
(WPD)

  
\_\_\_\_\_  
Scott E. Hiers

Date: 04-02-2020

Environmental Officer  
(WPD)

  
\_\_\_\_\_  
Chris Herrington

Date: 04/02/2020

## **Applicant Form and Findings of Fact**



## ENVIRONMENTAL COMMISSION VARIANCE APPLICATION FORM

### PROJECT DESCRIPTION

#### Applicant Contact Information

Name of Applicant	Minda Sarmiento, Austin Public Works
Street Address	6800 Burleson Road, Bldg 312, Ste 200
City State ZIP Code	Austin, Texas 78744
Work Phone	512-974-5645
E-Mail Address	minda.sarmiento@austintexas.gov

#### Variance Case Information

Case Name	ALBERT H. ULLRICH WATER TREATMENT PLANT
Case Number	SPC-03-0005C(R1)
Address or Location	3602 1/2 REDBUD TRL UNIT C
Environmental Reviewer Name	Pamela Abee-Taulli
Environmental Resource Management Reviewer Name	Scott Hiers
Applicable Ordinance	LDC 25-8-261      LDC 25-8-42(A)
Watershed Name	Lake Austin; Bee Creek
Watershed Classification	<input type="checkbox"/> Urban <input type="checkbox"/> Suburban <input type="checkbox"/> Water Supply Suburban <input checked="" type="checkbox"/> Water Supply Rural <input type="checkbox"/> Barton Springs Zone
Edwards Aquifer Recharge Zone	<input type="checkbox"/> Barton Springs Segment <input checked="" type="checkbox"/> Northern Edwards Segment <input type="checkbox"/> Not in Edwards Aquifer Zones
Edwards Aquifer Contributing Zone	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Distance to Nearest Classified Waterway	40'
Water and Waste Water service to be provided by	Not Applicable
Request	<p>The variance request is as follows (Cite code references:</p> <p>Land Development Code 25-8-281: Construction is prohibited within 150' of a Critical Environmental Feature (rimrock and wetlands).</p>

Impervious cover	Existing	Proposed
square footage:	_____	___0___
acreage:	___8.81___	___0___
percentage:	___6.24%___	___0___
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)	<p>The site terrain slopes (~13%) towards the lake shoreline and is located in the Lake Austin and Bee Creek Watersheds. The chemical metering station will be installed at an elevation of ~562' and the chemical piping will be installed under the access road, which is cut into the hillside, and slopes to the low service pump station (LSPS) at elevation ~512'. The terrain is covered with trees and brush. The trees are sycamore, juniper, cedar elm, live oaks, maple silverleaf and a Spanish oak. There is one heritage tree: a 33.5" live oak located outside of the LOC at an elevation higher than the proposed work ground, although the dripline extends over the LOC. The chemical metering station will be installed in the WQTZ and the chemical piping will have to cross through the CWQZ in order to reach the pump station. There is rimrock adjacent to the LSPS so the proposed installation will be located inside of the 150' rimrock CEF buffer. No work is proposed inside the 100-year floodplain. In addition, there are two identified wetlands areas on either side of the LSPS right at the shoreline. The wetlands will not be impacted by the proposed construction.</p>	



Clearly indicate in what way the proposed project does not comply with current Code (include maps and exhibits)	<ul style="list-style-type: none"><li>• Construction will be performed within the 150' rimrock CEF buffer and within 150' wetlands CEF buffer.</li></ul>

## **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: **Zebra Mussel Mitigation Techniques – Chemical Storage and Feed System**

Ordinance:

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 proposed construction prevents zebra mussels from clogging the LSPS of the water treatment plant. All water plants with LSPSs drawing water from zebra mussel infested water bodies will require treatment to prevent zebra mussels from settling on the pump intake equipment and piping. If there is no room in the existing pump station, then the new construction must be installed outdoors in protected areas adjacent to the lakeshore.**

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 The design decision to place the chemical storage and metering station next to the lakeshore is because the LSPS is already on the lakeshore. There is no other feasible location.**

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

**Yes The chemical storage and metering station was situated where there is already an asphalt driveway, which means the station will require no new impervious area. The chemical piping was routed in the shortest and most direct route and does not disturb any vegetated areas.**

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

**Yes The chemical storage and metering station is designed to prevent any harmful environmental consequences. The tank and piping are double contained. The equipment pad is curbed and covered with a canopy. The pump metering station includes a virtual day tank and there are automated**

**valves at each pump bay that automatically close if the pumps fail and whenever the pumps are not running.**

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 construction will not impact existing water quality. During construction, SWPPP best practices will be employed to prevent construction sediment and debris from entering the stormwater runoff.**

- 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;

**Yes      Installing a utility line in the CWQZ is permitted per Article 7 Division 1 (D) as long as the utility line follows the most direct path to minimize disturbance, which is true for the proposed utility lines.**

**The proposed construction is inside the WQTZ but is being installed where an existing asphalt driveway exists. No new impervious cover is proposed.**

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

**Yes      The chemical storage and metering station will prevent zebra mussels from clogging the pump intake equipment and piping. Without it, the City would have to constantly physically remove the zebra mussels settling on the equipment at great expense.**

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

**Yes      The variance requested is the minimum deviation necessary to allow reasonable, economic use of the entire property. The chemical storage and metering station will prevent zebra mussels from clogging the pump intake equipment and piping. Without it, the City would have to constantly physically remove the zebra mussels settling on the equipment at great expense.**

**\*\*Variance approval requires all above affirmative findings.**





**CITY OF AUSTIN**  
**ULLRICH WTP**  
**ZEBRA MUSSEL CHEMICAL**  
**STORAGE AND FEED**  
**SYSTEM**  
**(8207.009)**

**Project Location**  
**Map**

**Legend**

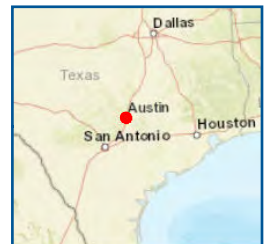


ULLRICH WTP

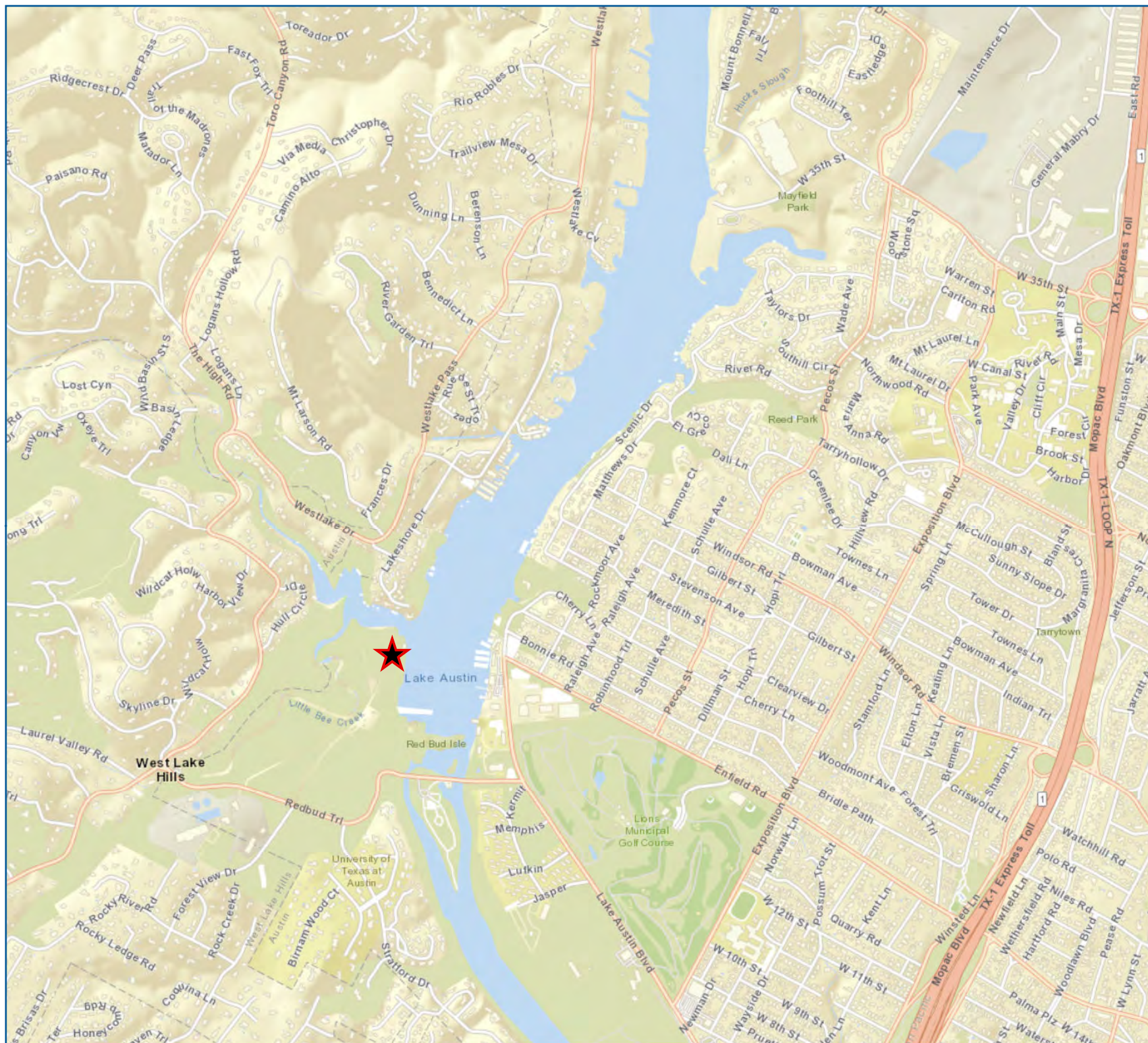


800 0 800  
Feet

1 inch = 1,700 feet

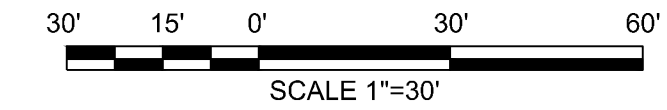


**BV PN**  
**402943/198493**





FD10000  
D10000  
PLOTTED: 2/17/2020 7:15 AM FILE: C:\pw\_working\bwv\_americas\0908334\G-06-Ullrich.dwg



LEGEND

- CRITICAL WATER QUALITY ZONE
- WATER QUALITY TRANSITION ZONE
- CRITICAL ENVIRONMENTAL FEATURE: WETLANDS
- CEF CRITICAL ENVIRONMENTAL FEATURE (CANYON RIMROCK)\*

DESIGNED: MLS		ADDENDUM NO. 1 (UPDATED BACKGROUND)		1	NO.	BY	CHK/APP
DETAILED: BWA		ADDENDUM NO. 2		2			
CHECKED: AVK					REVISIONS AND RECORD OF USE		
APPROVED: DAT							
DATE: NOVEMBER 2019					DATE		
PROJECT NO. 402943					2/20/2020		
G-06 SHEET 6 OF 39							

**BLACK & VEATCH**  
Black & Veatch Corporation  
Austin, Texas

CITY OF AUSTIN  
ZEBRA MUSSEL MITIGATION TECHNIQUES  
ULLRICH WTP

GENERAL  
SITE LAYOUT





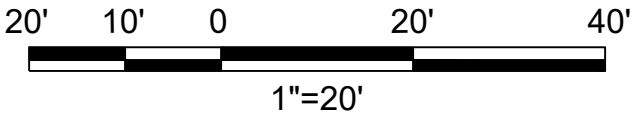
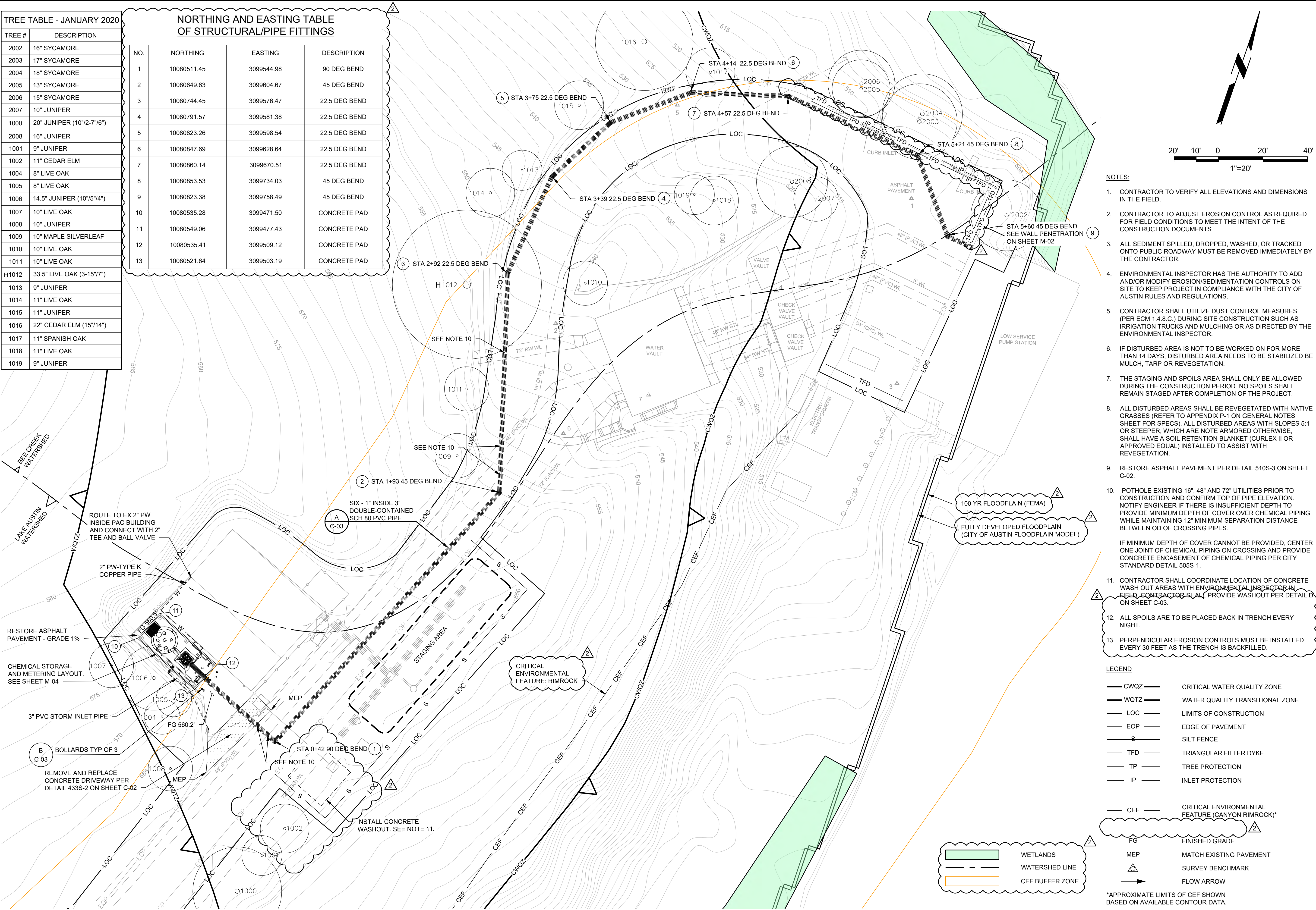


TREE TABLE - JANUARY 2020

TREE #	DESCRIPTION
2002	16" SYCAMORE
2003	17" SYCAMORE
2004	18" SYCAMORE
2005	13" SYCAMORE
2006	15" SYCAMORE
2007	10" JUNIPER
1000	20" JUNIPER (10"/2-7"/6")
2008	16" JUNIPER
1001	9" JUNIPER
1002	11" CEDAR ELM
1004	8" LIVE OAK
1005	8" LIVE OAK
1006	14.5" JUNIPER (10"/5"/4")
1007	10" LIVE OAK
1008	10" JUNIPER
1009	10" MAPLE SILVERLEAF
1010	10" LIVE OAK
1011	10" LIVE OAK
H1012	33.5" LIVE OAK (3-15"/7")
1013	9" JUNIPER
1014	11" LIVE OAK
1015	11" JUNIPER
1016	22" CEDAR ELM (15"/14")
1017	11" SPANISH OAK
1018	11" LIVE OAK
1019	9" JUNIPER

NORTHING AND EASTING TABLE  
OF STRUCTURAL/PIPE FITTINGS

NO.	NORTHING	EASTING	DESCRIPTION
1	10080511.45	3099544.98	90 DEG BEND
2	10080649.63	3099604.67	45 DEG BEND
3	10080744.45	3099576.47	22.5 DEG BEND
4	10080791.57	3099581.38	22.5 DEG BEND
5	10080823.26	3099598.54	22.5 DEG BEND
6	10080847.69	3099628.64	22.5 DEG BEND
7	10080860.14	3099670.51	22.5 DEG BEND
8	10080853.53	3099734.03	45 DEG BEND
9	10080823.38	3099758.49	45 DEG BEND
10	10080535.28	3099471.50	CONCRETE PAD
11	10080549.06	3099477.43	CONCRETE PAD
12	10080535.41	3099509.12	CONCRETE PAD
13	10080521.64	3099503.19	CONCRETE PAD



- NOTES:
- CONTRACTOR TO VERIFY ALL ELEVATIONS AND DIMENSIONS IN THE FIELD.
  - CONTRACTOR TO ADJUST EROSION CONTROL AS REQUIRED FOR FIELD CONDITIONS TO MEET THE INTENT OF THE CONSTRUCTION DOCUMENTS.
  - ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
  - ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS.
  - CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES (PER ECM 1.4.8.C.) DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
  - IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BE MULCH, TARP OR REVEGETATION.
  - THE STAGING AND SPOILS AREA SHALL ONLY BE ALLOWED DURING THE CONSTRUCTION PERIOD. NO SPOILS SHALL REMAIN STAGED AFTER COMPLETION OF THE PROJECT.
  - ALL DISTURBED AREAS SHALL BE REVEGETATED WITH NATIVE GRASSES (REFER TO APPENDIX P-1 ON GENERAL NOTES SHEET FOR SPECS). ALL DISTURBED AREAS WITH SLOPES 5:1 OR STEEPER, WHICH ARE NOTE ARMORED OTHERWISE, SHALL HAVE A SOIL RETENTION BLANKET (CURLEX II OR APPROVED EQUAL) INSTALLED TO ASSIST WITH REVEGETATION.
  - RESTORE ASPHALT PAVEMENT PER DETAIL 510S-3 ON SHEET C-02.
  - POTHOLE EXISTING 16", 48" AND 72" UTILITIES PRIOR TO CONSTRUCTION AND CONFIRM TOP OF PIPE ELEVATION. NOTIFY ENGINEER IF THERE IS INSUFFICIENT DEPTH TO PROVIDE MINIMUM DEPTH OF COVER OVER CHEMICAL PIPING WHILE MAINTAINING 12" MINIMUM SEPARATION DISTANCE BETWEEN OD OF CROSSING PIPES.  
  
IF MINIMUM DEPTH OF COVER CANNOT BE PROVIDED, CENTER ONE JOINT OF CHEMICAL PIPING ON CROSSING AND PROVIDE CONCRETE ENCASEMENT OF CHEMICAL PIPING PER CITY STANDARD DETAIL 505S-1.
  - CONTRACTOR SHALL COORDINATE LOCATION OF CONCRETE WASH OUT AREAS WITH ENVIRONMENTAL INSPECTOR IN FIELD. CONTRACTOR SHALL PROVIDE WASHOUT PER DETAIL D ON SHEET C-03.
  - ALL SPOILS ARE TO BE PLACED BACK IN TRENCH EVERY NIGHT.
  - PERPENDICULAR EROSION CONTROLS MUST BE INSTALLED EVERY 30 FEET AS THE TRENCH IS BACKFILLED.

- LEGEND
- |          |                                 |
|----------|---------------------------------|
| — CWQZ — | CRITICAL WATER QUALITY ZONE     |
| — WQTZ — | WATER QUALITY TRANSITIONAL ZONE |
| — LOC —  | LIMITS OF CONSTRUCTION          |
| — EOP —  | EDGE OF PAVEMENT                |
| — S —    | SILT FENCE                      |
| — TFD —  | TRIANGULAR FILTER DYKE          |
| — TP —   | TREE PROTECTION                 |
| — IP —   | INLET PROTECTION                |

- |          |  |
|----------|--|
| — CEF —  | CRITICAL ENVIRONMENTAL FEATURE (CANYON RIMROCK)* |
| — FG —   | FINISHED GRADE                                   |
| — MEP —  | MATCH EXISTING PAVEMENT                          |
| — SURV — | SURVEY BENCHMARK                                 |
| — FLOW — | FLOW ARROW                                       |

\*APPROXIMATE LIMITS OF CEF SHOWN BASED ON AVAILABLE CONTOUR DATA.

ADDENDUM NO. 1 (UPDATED BACKGROUND)

ADDENDUM NO. 2

01/10/2020

01/19/2020

DATE

NO. BY

CHK APP

REVISIONS AND RECORD OF USE

SALE OF TEXAS  
87689  
CHRIS P. CORNIER  
LICENSED  
PROFESSIONAL  
ENGINEER  
2/20/2020

**BLACK & VEATCH**  
**Black & Veatch Corporation**  
Austin, Texas

**CITY OF AUSTIN**  
**ZEBRA MUSSEL MITIGATION TECHNIQUES**  
**ULLRICH WTP**

**CIVIL AND EROSION AND SEDIMENTATION CONTROLS**  
**ENLARGED SITE PLAN**

DESIGNED: MLS  
DETAILED: BWA  
CHECKED: AVK  
APPROVED: DAT  
DATE: NOVEMBER 2019

0 1/2 1  
IF THIS BAR DOES NOT  
MEASURE 1" THEN DRAWING  
IS NOT TO FULL SCALE

PROJECT NO.  
402943  
**C-01A**  
SHEET  
7A OF 39



## **Applicant Exhibits**



## Environmental Resource Inventory

For the City of Austin  
Related to LDC 25-8-121, City Code 30-5-121, ECM 1.3.0 & 1.10.0

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

1. SITE/PROJECT NAME: \_\_\_\_\_
2. COUNTY APPRAISAL DISTRICT PROPERTY ID (#'s): \_\_\_\_\_
3. ADDRESS/LOCATION OF PROJECT: \_\_\_\_\_
4. WATERSHED: \_\_\_\_\_
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 or City Code 30-5-2)*

**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 (ECM)*, or
  - ☐ (3) The floodplain modifications proposed are necessary for development allowed in the critical water **quality zone under LDC 25-8-261 or 25-8-262, City Code 30-5-261 or 30-5-262.**
  - ☐ (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 ECM 1.7 and Appendix X 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

***N/A - We are in the Water Supply Rural Watershed, not Urban or Suburban.***

**\*\*\*If yes, then riparian restoration is required by LDC 25-8-261(E) or City Code 30-5-261(E) and a functional assessment must be completed and attached to the ERI (see ECM1.5 and Appendix X for forms and guidance).**

8. There is a total of \_\_\_\_\_ (#s) Critical Environmental Feature(s)(CEFs) on or within 150 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)*:

\_\_\_\_\_ (#'s) Spring(s)/Seep(s)      \_\_\_\_\_ (#'s) Point Recharge Feature(s)      \_\_\_\_\_ (#'s) Bluff(s)  
 \_\_\_\_\_ (#'s) Canyon Rimrock(s)      \_\_\_\_\_ (#'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 LDC 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.**

**Please see Attachment 9.4 for CEF descriptions.**

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

All ERI reports must include:

- (Attachment 9.1) ☐ **Site Specific Geologic Map with 2-ft Topography**
- (Attachment 9.2) ☐ **Historic Aerial Photo of the Site**
- (Attachment 9.3) ☐ **Site Soil Map**
- (Attachment 9.4) ☐ **Critical Environmental Features and Well Location Map on current Aerial Photo with 2-ft Topography**

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

- (Attachment 9.5) ☐ **Edwards Aquifer Recharge Zone with the 1500-ft Verification Zone**  
(Only if site is over or within 1500 feet the recharge zone)
- (Attachment 9.6) ☐ **Edwards Aquifer Contributing Zone**
- (Attachment 9.7) ☐ **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)

**\*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):*

**List surface geologic units below:**

Geologic Units Exposed at Surface		
Group	Formation	Member

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

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

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

***There are no wells within 150 feet of the project limits. See attachment 9.4 for location of wells on the project property but farther than 150 feet from the project site.***

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

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

There is woodland community on site ..... ☐ YES ☐ NO *(Check one)*.

If yes, list the dominant species below:

Woodland species	
Common Name	Scientific Name

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

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

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 City Code Chapter 15-12 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). **Not applicable.**

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: \_\_\_\_\_  
Date(s)

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

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Telephone

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Email Address

\_\_\_\_\_  
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).



## City of Austin Environmental Resource Inventory - Critical Environmental Feature Worksheet

1	Project Name:	
2	Project Address:	
3	Site Visit Date:	
4	Environmental Resource Inventory Date:	

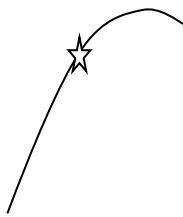
5	Primary Contact Name:	
6	Phone Number:	
7	Prepared By:	
8	Email Address:	

**\*\*See note below.**


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 cfs
			<i>coordinate</i>	<i>notation</i>	<i>coordinate</i>	<i>notation</i>	X	Y	Length	Avg Height	X	Y	Z	Trend	

City of Austin Use Only	
CASE NUMBER:	

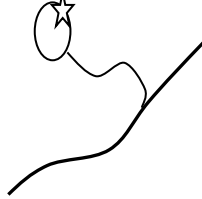
For rimrock, locate the midpoint of the segment that describes the feature.



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.**

<u>Method</u>	<u>Accuracy</u>
GPS <input type="checkbox"/>	sub-meter <input type="checkbox"/>
Surveyed <input type="checkbox"/>	meter <input type="checkbox"/>
Other <input type="checkbox"/>	> 1 meter <input type="checkbox"/>

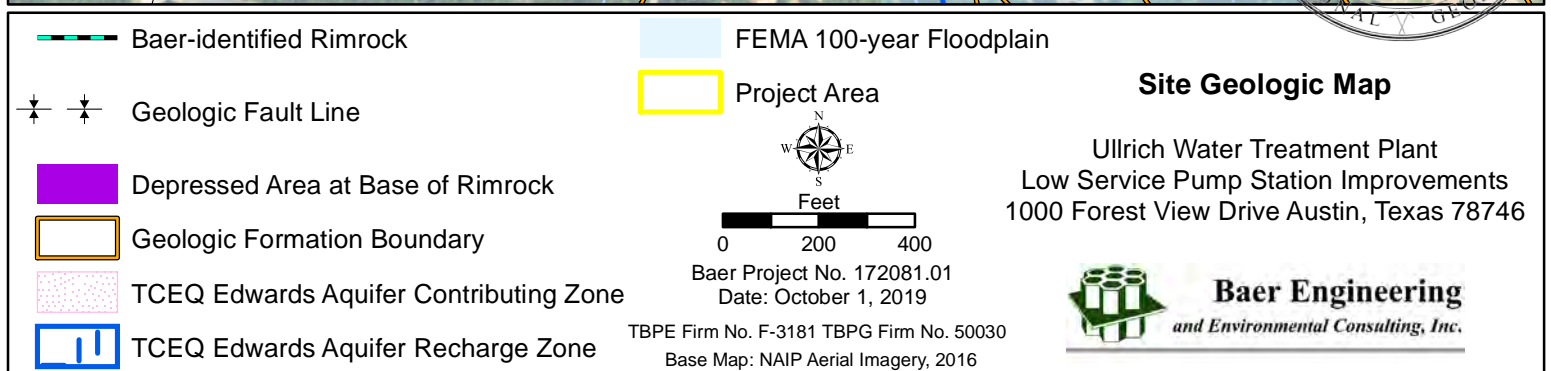
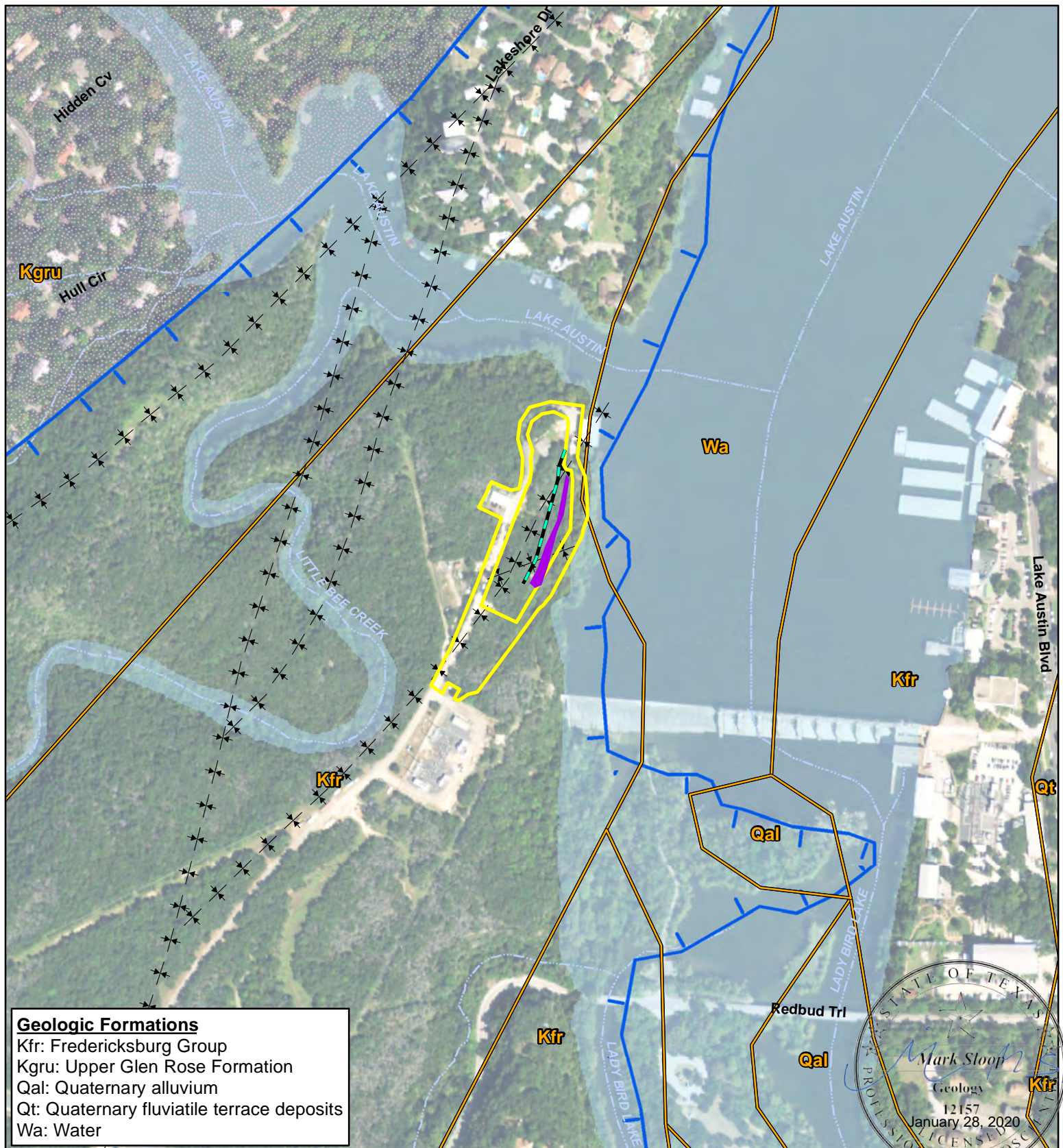
Professional Geologists apply seal below



**\*\*City of Austin does not consider the depression identified during the site visit to be a recharge feature per the January 30, 2020 email from Minda Sarmiento.**

## ATTACHMENT 9.1 - SITE SPECIFIC GEOLOGIC MAP





**Attachment 9.1 - USGS Texas Geology Area Description**

USGS Texas Geology describes this area as "Fredericksburg Group undivided, rock unit code Kfr. Edwards limestone, limestone, dolomite, and chert; limestone aphanitic to fine grained, massive to thin bedded, hard, brittle, in part rudistid blostromes, much miliolid biosprate; dolomite fine to very fine grained, porous, medium gray to grayish brown; chert nodules and plates common, varies in amount from bed to bed, some intervals free of chert, mostly white to light gray; in zone of weathering considerable recrystallized, "honeycombed," and cavernous forming an aquifer; forms flat areas and plateaus bordered by scarps; thickness 60-350 feet, thins northward. Comanche peak limestone, fine to very fine grained, fairly hard, nodular, light gray, weathers white, extensively burrowed, burrow fillings slightly coarser and darker, typically crops out in scarp face beneath Edwards Limestone; thickness up to 80 feet, thins southward near Williamson Travis County line. Keys Valley Marl, soft, white; marine megafossils include *Exogyra texana*, *Gryphaea mucronata*, and other pelecypods, ammonites, gastropods, and echinoids; thickness up to 50 feet, thins southward near Williamson Travis County line. Cedar Park Limestone, Kcp, lithologically and faunally similar to Comanche Peak Limestone; thickness 40 feet, south of Williamson Travis County line upper part interfingers with Edwards Limestone and lower part is mapped with Bee Cave Marl, Kbc, lithologically and faunally similar to Keys Valley Marl, except *Exogyra texana* are more abundant and ammonites are scarce; thickness 25-40 feet."

ATTACHMENT 9.2 - HISTORIC AERIAL PHOTO OF  
THE SITE



# Ullrich LSPS

2008 - Historical Aerial



## LEGEND

PROJECT  
VICINITY



800 ft



## ATTACHMENT 9.3 - SITE SOIL MAP

Soil Map—Travis County, Texas  
(Ullrich LSPS - Soil Map)



ATTACHMENT 9.4 - CEF AND WELL LOCATION  
MAP



# Ullrich LSPS

CEF and Well Location Map

## LEGEND

WETLAND



Well #5842619

Well #5842620

RIM ROCK  
CRITICAL  
ENVIRONMENTAL  
FEATURE

WETLAND  
CRITICAL  
ENVIRONMENTAL  
FEATURE (W-2)

THIS RECHARGE  
FEATURE/DEPRESSION  
IDENTIFIED IN THE FIELD IS  
NOT A CEF AS DEFINED BY  
CITY OF AUSTIN  
WATERSHED PROTECTION  
GEOLOGISTS.

WETLAND CRITICAL  
ENVIRONMENTAL  
FEATURE (W-1)

APPROX. 3,500 SF OF  
DISTURBANCE



700 ft



## CEF DESCRIPTIONS

Baer Engineering conducted a field survey of the assessment area on August 28, 2019. The assessment area is defined as the project area plus a 150-ft buffer. Approximately five-tenths of an inch of rain were recorded near the project area in the week before commencement of the field surveys. No rain was recorded during field surveys.

For wetland identification, Baer Engineering used the recommended routine method, outlined in the COA ECM Section 1.10.3. This 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. The wetlands described in this report met the criteria in the wetland delineation method described above. No official delineation was conducted and the dimensions provided in this report are estimates.

Four (4) CEFs (two wetlands, one rimrock, & one recharge feature) were observed within the assessment area. The CEFs are described below.

**Wetland, W-1:** This wetland was observed along the eastern edge of the assessment area, at the shore of the Colorado River. The river bank was dominated by bald cypress (*Taxodium distichum*, OBL), with some glossy privet (*Ligustrum lucidum*, UPL), green ash (*Fraxinus pennsylvanica*, FAC), and American sycamore (*Platanus occidentalis*, FAC). Jamaican sawgrass (*Cladium mariscus*, OBL) and taro (*Colocasia esculenta*, OBL) were observed beyond the fence line at the shore, but inaccessible. The wetland was approximately 5 to 60 feet wide, observed from the edge of the water, and approximately 250 feet long. Please see

**Photographs 1-2.**

**Wetland, W-2:** This wetland was observed northwest of the facility at the bank of the Colorado River, at the north end of the assessment area. Bald cypress, smallspike false nettle (*Boehmeria cylindrica*, FACW), and Emory sedge (*Carex emoryii*, FACW) dominated the area, along with some glossy privet and American sycamore. The wetland was approximately 15 feet wide from the edge of the water and 140 feet long following the shoreline. Please see

**Photographs 3-4.**

**Rimrock, Ullrich Rimrock:** Rimrock was observed at the center of the assessment area, northwest of the proposed roadway and southeast of the proposed work adjacent to the existing roadway. The rim rock extends northeast to southwest for approximately 430 feet. The estimated height of the rimrock is 30 feet from the base to the upper edge. Please see

**Photograph 5.**

**Recharge Feature, Solution Recharge Feature:** A recharge feature was observed within a depression that is approximately five to six feet below the nearby footpath surface and approximately three to four feet below the level of the nearby Colorado River. The depression contained several inches of leaf litter and detritus. The initial site visit was conducted after a rain event the evening before and little to no water was observed in the depression. Comparing the depression and rimrock discussed above to geologic maps of the area, these features appear to

correlate with a mapped fault depicted on the site. The feature was approximately 350 long, 20 feet wide, and 4 feet below the surrounding grade. Please see **Photographs 5-6**.

## VEGETATION REPORT

### BRIEF DESCRIPTION OF SITE PLANT COMMUNITIES:

The Site is located in the U.S. EPA-defined Balcones Canyonlands ecoregion, described below:

The Balcones Canyonlands are highly dissected through the erosion and solution of springs, streams, and rivers working both above and below ground; percolation through the porous limestone contributes to the recharge of the Edwards Aquifer. High gradient streams originating from springs in steep-sided canyons supply water for development on the Texas Blackland Prairies at the eastern base of the escarpment. This ecoregion supports a number of endemic plants and has a higher representation of deciduous woodland than elsewhere on the Edwards Plateau, with escarpment black cherry, Texas mountain-laurel, madrone, Lacey oak, bigtooth maple, and Carolina basswood. Some relicts of eastern swamp communities, such as baldcypress, American sycamore, and black willow, occur along major streamcourses. It is likely that these trees have persisted as relicts of moister, cooler climates following the Pleistocene glacial epoch. Toward the west, the vegetation changes gradually as the climate becomes more arid. Plateau live oak woodland is eventually restricted to north and east facing slopes and floodplains, and dry slopes are covered with open shrublands of juniper, sumac, sotol, acacia, honey mesquite, and ceniza.

Vegetation within the project area was characterized by three habitat types: **Juniper Woodland**, **Deciduous Floodplain Forest**, and **Mowed Grasses**.

The **Juniper Woodland** occupied the upland portions of the project area adjacent to the driveway. Canopy cover was mostly dense, with some open grassy areas on the eastern side. Trees were predominantly ashe juniper (*Juniperus ashei*) with some cedar elm (*Ulmus crassifolia*) and live oak (*Quercus fusiformis*). The moderately dense midstory included Texas persimmon (*Diospyrus texana*), Texas mountain laurel (*Sephora secundiflora*), agarita (*Mahonia trifoliolata*), yaupon (*Ilex vomitoria*), and elbowbush (*Forestiera pubescens*). Shrubby boneset (*Ageratina havanensis*) and cedar sedge (*Carex planostachys*) dominated the wooded understory. The grassy opening vegetation predominantly consisted of silver bluestem (*Bothriochloa laguroides*), doveweed (*Croton monanthaginus*), prairie coneflower (*Ratibida columnifera*), and other grasses and forbs as groundcover. Additionally, evergreen and flameleaf sumac (*Rhus virens*, *Rhus lanceolata*) and Texas kidneywood (*Eysenhardtia texana*) grew as a midstory with some prickly pear species (*Opuntia* sp.). Please see **Photographs 7-9**.

The **Deciduous Floodplain Forest** was observed below the bluff, east of the paved driveway. Canopy cover was dense, with cottonwood (*Populus deltoides*), bald cypress, American sycamore, and glossy privet as overstory. Smaller woody vegetation included ash species (*Fraxinus* sp.) and chinaberry (*Melia azedarach*), with some groundcover from poison ivy (*Toxicodendron radicans*), frostweed (*Verbesina virginica*), and Virginia wild rye (*Elymus virginicus*). The understory vegetation had relatively low density. The previously-

described wetlands occurred along the river bank on the edges of this habitat. Please see **Photograph 10**.

**Mowed Grasses** were observed along the paved driveway within the project area. Identifiable grasses included silver bluestem and perennial rye (*Lolium perenne*), and forbs included lemon beebalm (*Monarda citriodora*), tie vine (*Ipomoea cordatotriloba*), western ragweed (*Ambrosia psilostachya*), Indian Blanket (*Gaillardia pulchella*), maretail weed (*Erigeron canadensis*), as well as plants as found in the wooded openings in the Juniper Woodland, described above. Please see **Photograph 11**.



**Photograph 1:** Wetland W-1 – A view of the wetland, dominated by bald cypress along the bank of the Colorado River.



**Photograph 2:** Wetland W-1 – Photo through perimeter fence of taro at river bank.





**Photograph 3:** Wetland W-2 – Wetland observed on northern side of assessment area along bank of the Colorado River, outside of perimeter fence. Bald cypress and American sycamore can be seen.



**Photograph 4:** Wetland W-2 – View of wetland vegetation at the river bank outside of perimeter fence, including sedges and shortspike false nettle.





**Photograph 5:** Ullrich Rimrock, Solution Recharge Feature – This depression was observed east of the paved driveway and at the foot of the rimrock.



**Photograph 6:** Ullrich Rimrock, Solution Recharge Feature – The figure below depicts the location of the feature in blue.





**Photograph 7:** Example of **Juniper Woodland**, west of paved driveway.



**Photograph 8:** Example of **Juniper Woodland**, east of paved driveway and above floodplain bluff.





**Photograph 9:** Grassy opening in **Juniper Woodland**, east of paved driveway.



**Photograph 10:** Example of **Deciduous Floodplain Forest** between the river bank and Ullrich Rimrock.





**Photograph 11:** Example of **Mowed Grasses** along paved driveway.



**ATTACHMENT 9.5 - EDWARDS AQUIFER  
RECHARGE AND CONTRIBUTING ZONES MAP**



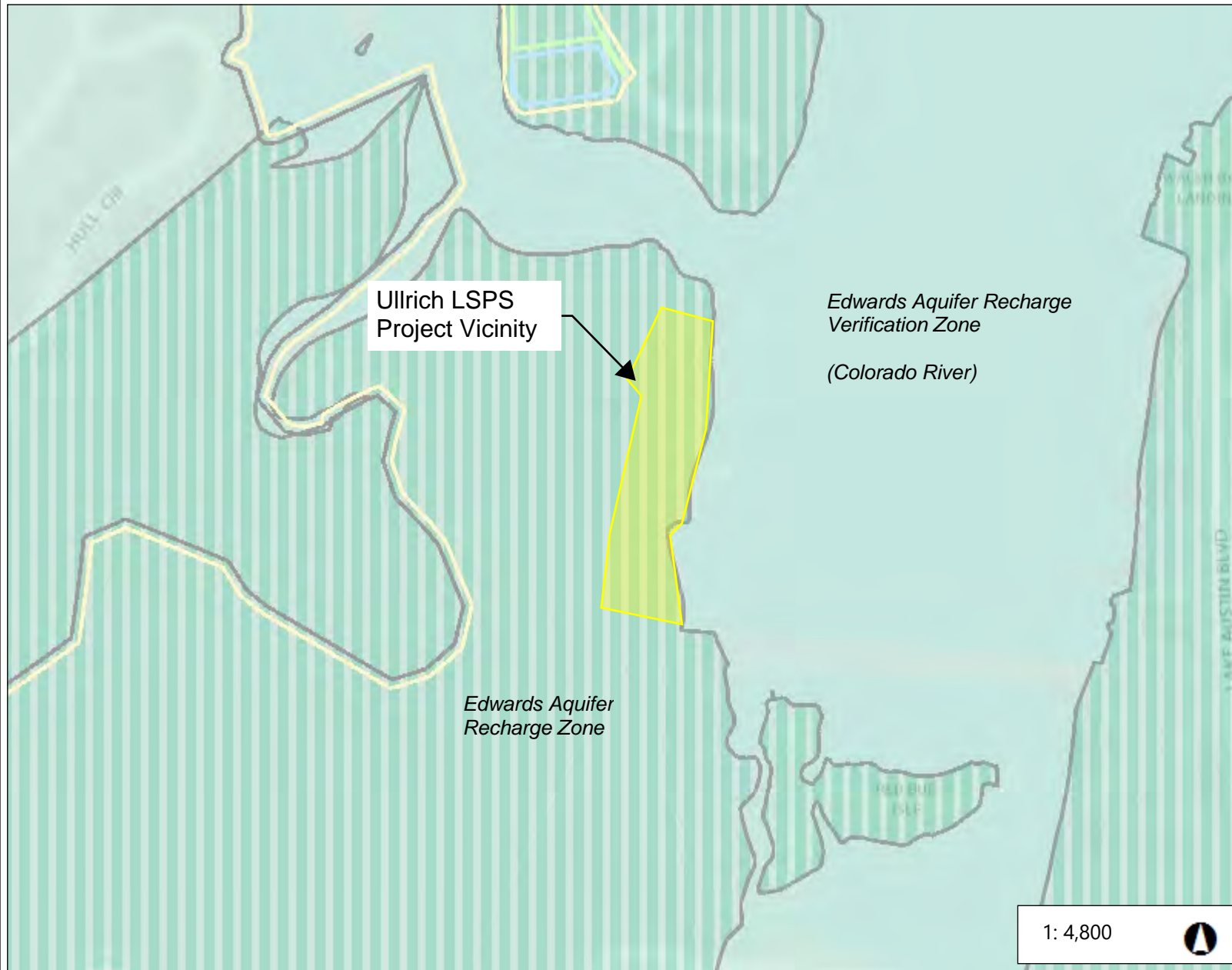
# Property Profile

## Legend

### Jurisdiction

- FULL PURPOSE
- LIMITED PURPOSE
- EXTRATERRITORIAL JURISDICTION
- 2 MILE ETJ AGRICULTURAL AGR
- OTHER CITY LIMITS
- OTHER CITIES ETJ

- Edwards Aquifer Recharge Zone
- Edwards Aquifer Recharge Verification Zone
- Edwards Aquifer Contributing Zone



Ullrich LSPS  
Project Vicinity

Edwards Aquifer Recharge  
Verification Zone  
(Colorado River)

Edwards Aquifer  
Recharge Zone

1:4,800



0.2 0 0.08 0.2 Miles

NAD\_1983\_StatePlane\_Texas\_Central\_FIPS\_4203\_Feet

10/23/2018

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey. This product has been produced by the City of Austin for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

## Notes

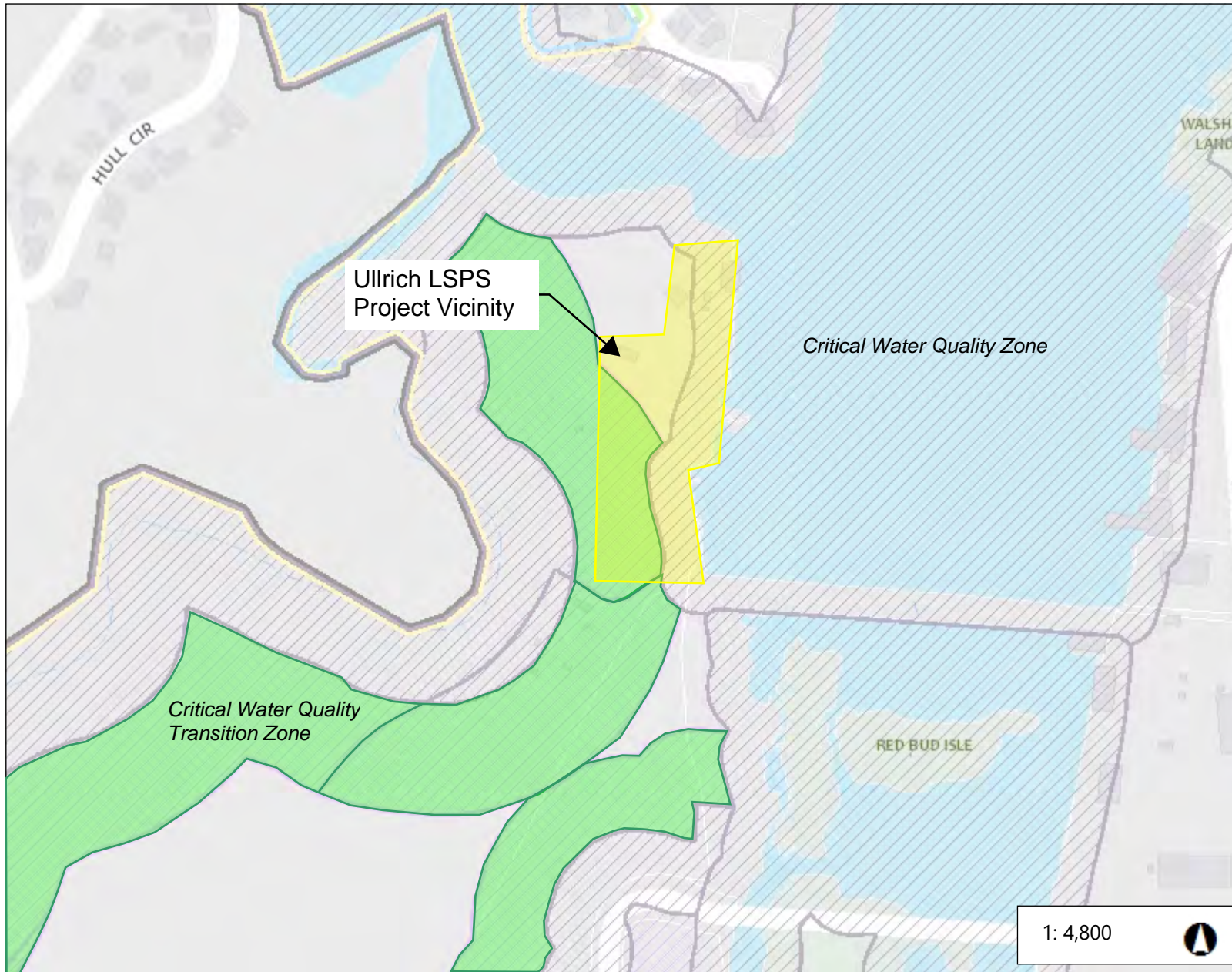
This project is entirely in the Edwards Aquifer Recharge Zone. The Contributing and Verification Zones are outside of project limits.

## ATTACHMENT 9.6 - WQTZ AND CWQZ MAP





# Property Profile



1: 4,800



0.2 0 0.08 0.2 Miles

NAD\_1983\_StatePlane\_Texas\_Central\_FIPS\_4203\_Feet

11/6/2018

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey. This product has been produced by the City of Austin for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

## Legend

### Jurisdiction

- FULL PURPOSE
- LIMITED PURPOSE
- EXTRATERRITORIAL JURISDICTION
- 2 MILE ETJ AGRICULTURAL AGR
- OTHER CITY LIMITS
- OTHER CITIES ETJ

### Creek Buffers/Waterway Setbacks

- Critical Water Quality Zone
- Water Quality Transition Zone

## Notes

This project is in the CWQZ and CWTZ.

**ATTACHMENT 9.7 - CITY OF AUSTIN FULLY  
DEVELOPED FLOODPLAINS MAP**

# City of Austin FloodPro Map



## FEMA Floodplain

- 100 Year (Detailed-AE)
- 100 year (Shallow-AO)
- 100 Year (Approx-A)
- ⊗ X Protected by Levee
- 500 Year



This custom map was created with FloodPro and is for informational purposes only. It is not intended for or suitable for legal, engineering, or surveying purposes. It does not represent on-the-ground survey and represents only the approximate relative locations of property boundaries. No warranty is made by the City of Austin regarding the specific accuracy or completeness of the map. Final determination of floodplain status for a property must be based on topographic survey by a Texas registered professional. For regulatory purposes, floodplain elevations must be determined from an engineering model created in accordance with the Drainage Criteria Manual and approved by the City of Austin.

0 793 1,586 Feet

Prepared: 12/18/2019



