



ITEM FOR ENVIRONMENTAL COMMISSION AGENDA

COMMISSION MEETING DATE: November 1, 2023

NAME & NUMBER OF PROJECT: SP-2022-0558D - Bull Creek - Old Lampasas #3 Dam Modernization

NAME OF APPLICANT OR ORGANIZATION: Kimberly Patak, PE, CFM, ENV SP - Freese and Nichols, Inc. (FNI)

LOCATION: 9018-1/2 Old Lampasas Trail Austin, TX 78750

COUNCIL DISTRICT: District #6 and ETJ (Council District does not apply in ETJ)

ENVIRONMENTAL REVIEW STAFF: Mike McDougal
Environmental Policy Program Manager
Development Services Department
512-974-6380
mike.mcdougal@austintexas.gov

WATERSHED: Bull Creek Watershed
Water Supply Suburban
Drinking Water Protection Zone

REQUEST: Variance request is as follows:

1. Request to vary from LDC 25-8-261 to allow construction in the Critical Water Quality Zone
2. Request to vary from LDC 25-8-341 to allow cut up to 10 feet
3. Request to vary from LDC 25-8-342 to allow fill up to 9 feet
4. Request to vary from LDC 25-8-301 to allow driveway construction on slopes over 15%

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

STAFF CONDITION: 609S native seeding and planting except where prohibited due to dam safety requirements.



Development Services Department
Staff Recommendations Concerning Required Findings

Project Name: Bull Creek - Old Lampasas #3 Dam Modernization

Ordinance Standard: Watershed Protection Ordinance (current Code)

Variance Requests:

1. Request to vary from LDC 25-8-261 to allow construction in the Critical Water Quality Zone
2. Request to vary from LDC 25-8-341 to allow cut up to 10 feet
3. Request to vary from LDC 25-8-342 to allow fill up to 9 feet
4. Request to vary from LDC 25-8-301 to allow driveway construction on slopes over 15%

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 dam infrastructure improvements are necessary for the continued operation and maintenance of the existing in-channel detention facility. In addition, the dam improvements are required by both the City and the Texas Commission on Environmental Quality (TCEQ) to comply with City and State dam safety criteria.

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 – The dam must either be improved to comply with City and State dam safety criteria or be decommissioned. The dam is necessary to remain in its current location as the removal would result in adverse flooding impacts downstream of the dam including the increased overtopping of several downstream low water crossings along Spicewood Springs Road.

- 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 - The site was designed as efficiently as possible in order to minimize the impacts to trees, CEFs, and salamander habitat while still meeting the City and State dam safety requirements. Specifically:

- Construction in the CWQZ is necessary for dam improvements.
- Cut and fill over 4 feet are necessary for the construction of the replacement dam. In addition, fill over 4 feet is necessary around the spillway at the west end of the dam to tie-in the new raised embankment and maintenance drive to the surrounding

topography; cut over 4 feet beyond the dam footprint is necessary to remove existing piles of construction/excavation debris and to promote drainage.

- Construction of a driveway on slopes over 15% is necessary for a new, permanent drive to provide dam access and maintenance.

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

Yes – The dam is failing and must either be improved or decommissioned. The proposed improvements avoid a probability of harmful environment consequences by providing for continued flood control.

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 project includes conversion of the existing detention pond to an extended detention facility which will provide regional water quality benefits.

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;

Yes – The criteria for granting a variance in Subsection (A) are met.


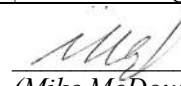
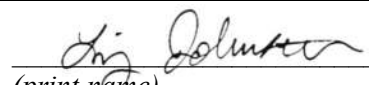
2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;

Yes – Dam improvements will prevent the flooding of other properties.

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

Yes – Dam improvements will prevent the flooding of other properties.

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

Environmental Reviewer (DSD)	 (Mike McDougal)	Date: <u>10-16-23</u>
Environmental Review Manager (DSD)	 (Mike McDougal)	Date: <u>10-16-23</u>
Deputy Environmental Officer (WPD)	 (print name)	Date <u>10/16/23</u>

October 6, 2023

Development Services Department
City of Austin
505 Barton Springs Road
Austin, Texas 78704

Re: Variance Request Letter: Bull Creek - Old Lampasas No. 3 Dam Rehabilitation Site Plan

To whom it may concern,

On behalf of the City of Austin Watershed Protection Department, we are requesting variances to the City of Austin (COA) Land Development Code (LDC) required for the site plan approval and subsequent construction of modernization improvements for Old Lampasas No. 3 Dam. The proposed improvements to Old Lampasas No. 3 Dam are intended to improve the level of safety of the dam to both the public and to the environment, and to mitigate potential future impacts.

Old Lampasas No. 3 Dam is an existing online (in-channel) detention facility located along Bull Creek Tributary 4A, approximately 0.25-miles west of the intersection of Old Lampasas Trail and Spicewood Springs Road. The dam is classified by TCEQ as intermediate sized and high-hazard due to the downstream infrastructure. The dam is located on COA Parkland and completely contained within an existing drainage easement. The dam is located within the CWQZ, WQTZ, 100-year floodplain, and is outside of the COA-defined Edwards Aquifer Recharge Zone but within the 1,500-foot verification zone. Several CEFs have been identified in the area, including springs, seeps, and rimrock. The dam was built in the early-1980s using construction spoils from the neighborhood development, including large boulders and fill material. Due to lack of maintenance, trees now cover the dam including heritage trees. The dam was damaged during Tropical Storm Hermine in September of 2010 warranting necessary repairs to stabilize the embankment. The existing 60-inch corrugated metal pipe (CMP) principal spillway has failed, and water is currently passing under the pipe. These flows carry sediment from the dam with each rain event and a void has developed on the upstream side of the dam. Several smaller voids are also present on the upstream face that are evidence of piping. The area is known habitat for the Jollyville Plateau Salamander, which has been documented both upstream and downstream of the dam. FNI and the City have undergone extensive coordination with the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Texas Historical Commission (THC), the Texas Parks and Wildlife Department (TPWD), and the Balcones Canyonlands Preserve (BCCP) to secure the necessary permits for the project. In 2022, a Letter of Permission (LOP) was issued for the project by the USACE.

The proposed improvements to the dam include the following:

- Removal of existing trees and boulders along the dam footprint,
- Replacement of the existing 60-inch diameter CMP principal spillway with a new 42-inch diameter reinforced concrete pipe (RCP) principal spillway and cradle,
- Installation of a new intake structure and low flow riser upstream of the dam to control the water level within the pond and provide extended detention for water quality benefits,
- Replacement of the existing wastewater line through the embankment of the dam with a new line parallel to the 42-inch RCP,

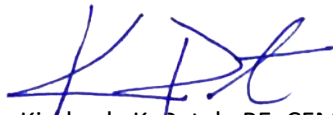
- Removal of the existing wastewater line upstream of the centerline of the dam,
- Grading and resurfacing of the upstream and downstream embankment slopes to provide increased stability,
- Raising the top of dam and auxiliary spillway elevations to meet City and State dam safety criteria,
- Installation of a new auxiliary spillway,
- Installation of a new concrete headwall for the principal spillway and downstream armoring of the existing plunge pool,
- Installation of a new permanent maintenance drive to allow WPD Field Operations to access and maintain the structure, and
- Installation of a new Flood Early Warning System (FEWS).

The following variances to the COA LDC are required for implementation of the project:

- LDC 25-8-261 – Development within the Critical Water Quality Zone
- LDC 25-8-301 – Construction of a roadway or driveway on slopes greater than 15%
- LDC 25-8-341 – Cut greater than 4'
- LDC 25-8-342 – Fill greater than 4'

Justification for each of these variances is included in the application herein. We respectfully seek your consideration and support of this variance request. Please let me know if you have any questions or need anything further. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read 'KDP', written over a horizontal line.

Kimberly K. Patak, PE, CFM, ENV SP
512.617.3138
kkp@freese.com

A handwritten signature in blue ink, appearing to read 'KDP', written over the bottom right portion of the professional seal.

10/6/2023

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144



ENVIRONMENTAL COMMISSION VARIANCE APPLICATION FORM

PROJECT DESCRIPTION

Applicant Contact Information

Name of Applicant	Kimberly Patak, PE, CFM, ENV SP - Freese and Nichols, Inc. (FNI)
Street Address	10431 Morado Circle, Bldg. 5, Ste. 300
City State ZIP Code	Austin, Texas 78759
Work Phone	(512) 617-3138
E-Mail Address	kkp@freese.com

Variance Case Information

Case Name	Bull Creek – Old Lampasas No. 3 Dam Modernization
Case Number	SP-2022-0558D
Address or Location	9018-1/2 Old Lampasas Trail Austin, Texas 78704
Environmental Reviewer Name	Mike McDougal
Environmental Resource Management Reviewer Name	
Applicable Ordinance	Current LDC
Watershed Name	Bull Creek
Watershed Classification	<input type="checkbox"/> Urban <input type="checkbox"/> Suburban <input checked="" type="checkbox"/> Water Supply Suburban <input type="checkbox"/> Water Supply Rural <input type="checkbox"/> Barton Springs Zone

Edwards Aquifer Recharge Zone	<input type="checkbox"/> Barton Springs Segment <input type="checkbox"/> Northern Edwards Segment <input checked="" 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	+/- 0 feet to Bull Creek Tributary 4A (onsite)
Water and Waste Water service to be provided by	Austin Water has an existing wastewater line within the dam footprint that will be replaced as part of this project.
Request	<p>The variance request is as follows (Cite code references):</p> <ul style="list-style-type: none"> • LDC 25-8-261 – Development within the Critical Water Quality Zone • LDC 25-8-301 – Construction of a roadway or driveway on slopes greater than 15% • LDC 25-8-341 – Cut greater than 4' • LDC 25-8-342 – Fill greater than 4'

Impervious cover	Existing	Proposed
square footage:	<u>0-sf</u>	<u>20,168-sf</u>
acreage:	<u>0-ac</u>	<u>0.46-ac</u>
percentage:	<u>0%</u>	<u>5.68%</u>
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>Old Lampasas No. 3 Dam is an existing online (in-channel) detention facility located along Bull Creek Tributary 4A, approximately 0.25-miles west of the intersection of Old Lampasas Trail and Spicewood Springs Road. The dam is classified by TCEQ as intermediate sized and high-hazard due to the downstream infrastructure. The dam is located on COA Parkland and completely contained within an existing drainage easement. The dam is located within the CWQZ, WQTZ, 100-year floodplain, and is outside of the COA-defined Edwards Aquifer Recharge Zone but within the 1,500-foot verification zone. Several CEFs have been identified in the area, including springs, seeps, and rimrock. The dam was built in the early-1980s using construction spoils from the neighborhood development, including large boulders and fill material. Due to lack of maintenance, trees now cover the dam including heritage trees. The dam was damaged during Tropical Storm Hermine in September of 2010 warranting necessary repairs to stabilize the embankment. The existing 60-inch corrugated metal pipe (CMP) principal spillway has failed, and water is currently passing under the pipe and through the embankment. These flows carry sediment from the dam with each rain event and a void has developed on the upstream side of the dam. Several smaller voids are also present on the upstream face that are</p>	

	<p>evidence of uncompacted fill material making up the dam embankment. There are also many slides along the downstream face of the dam due to the over-steepened slope.</p> <p>The area is known habitat for the Jollyville Plateau Salamander, a federally threatened species, which has been documented both upstream and downstream of the dam. FNI and the City have undergone extensive coordination with the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Texas Historical Commission (THC), the Texas Parks and Wildlife Department (TPWD), and the Balcones Canyonlands Preserve (BCCP) to secure the necessary permits for the project. In 2022, a Letter of Permission (LOP) was issued for the project by the USACE.</p> <p>The project is also within Balcones Canyonlands Conservation Plan (BCCP) Golden-cheeked Warbler Habitat Mitigation Zone 2, outside of the preserve acquisition boundary. Because of this, this project is eligible to participate in the regional Balcones Canyonlands Section 10 (a) permit by paying a fee to the City's mitigation bank.</p>	
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Clearly indicate in what way the proposed project does not comply with current Code (include maps and exhibits)	<p>The proposed project improvements do not comply with the following LDC requirements:</p> <ol style="list-style-type: none"> Critical Water Quality Zone Development (CWQZ) (LDC 25-8-261) As this is an online (in-channel) detention facility located within Bull Creek Tributary 4A, there are several improvements that will be located within the CWQZ. These improvements include the proposed dam embankment and appurtenances (i.e. principal spillway, riser structure, headwalls, etc.), proposed maintenance access drive, and proposed WW line relocation. <p>The dam infrastructure improvements are essential for the continued operation and maintenance of the existing in-channel detention facility. This facility meets the requirements of LDC 25-8-261(F) as it is a CIP project, it has been designed in accordance with the COA DCM and ECM, and no alternative location is feasible. Furthermore, the dam improvements are required by both the City and the Texas Commission on Environmental Quality (TCEQ) as it currently does not meet either the City's or the State's dam safety criteria.</p> <p>The proposed dam improvements result in either no change or reductions in peak flows downstream of the dam. Upstream of the dam, the limits of the dam's 100-year inundation pool are contained within the City of Austin's drainage easement and</p>
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	<p>potential impacts to homes located far upstream are highly unlikely. The modification of the floodplain upstream of the dam is necessary to address the existing threat to public health and safety, as the proposed improvements will ultimately prevent the failure and breach of the existing dam. The proposed maintenance access drive is required by the Watershed Protection Department (WPD) to be able to access the dam and appurtenances for maintenance purposes. This is required per COA Drainage Criteria Manual (DCM) Section 1.2.4.E. The drive will also provide access for Austin Water to maintain their wastewater line.</p> <p>The project meets the requirements of LDC 25-8-261(G) as the floodplain modifications proposed are necessary to protect public health and safety. The improvements will allow for peak flow reductions that result in downstream water surface elevation reductions within Bull Creek Tributary 4A. The design meets all other floodplain modification requirements.</p> <p>The Revegetation Plan shows that at the completion of the project, the site will be restored with native seeding and plantings per COA Standard Specification Item 609S. The Revegetation Plan is included as Attachment 11.</p> <ol style="list-style-type: none"> 2. Construction of a Roadway or Driveway (LDC 25-8-301) – Portions of the proposed maintenance access drive are proposed to be located on existing slopes greater than 15% as shown in Attachment 1. As discussed previously, this maintenance drive is necessary for WPD to be able to maintain the dam and is required per COA DCM 1.2.4.E. The maintenance access drive will be paved to provide permanent stabilization and will match the existing topography to prevent concentration of runoff. FNI coordinated with WPD on the design of the drive. 3. Cut Requirements (LDC 25-8-341) – Portions of the project include permanent excavation or “cuts” greater than four feet deep and are shown as Attachment 2. The majority of the cut areas are within the existing dam footprint, which was previously constructed with imported boulder and fill material from the neighborhood development. Because the location has been disturbed, the proposed cuts are anticipated to have minimal impacts to naturally occurring features.
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	<p>4. Fill Requirements (LDC 25-8-342) – Portions of the project also include permanent fills greater than four feet deep and are shown as Attachment 3. The majority of the fill areas are within the dam footprint, which was previously constructed with imported boulder and fill material from the neighborhood development. Because the location has been disturbed, the proposed fills are anticipated to have minimal impacts to naturally occurring features.</p>
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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:

Project: **Bull Creek - Old Lampasas No. 3 Dam Modernization (CIP No. 7492.029)**

Ordinance: **Current LDC**

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** / No **There are numerous in-channel detention facilities similar to Old Lampasas No. 3 Dam that have been constructed and are currently being maintained by the City over the past decades.**

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** / No **Decommissioning of the dam was evaluated during the preliminary engineering phase, but it was ultimately determined that the dam is necessary to remain in its current location as the removal would result in adverse flooding impacts downstream of the dam consisting of increased overtopping of several downstream low water crossings along Spicewood Springs Road. The preliminary alternatives analysis is discussed in the 2013 Preliminary Engineering Report (PER), included in the Basis of Design report.**

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

☒ **Yes** / No **The site was designed as efficiently as possible in order to minimize the impacts to trees, CEFs, and salamander habitat while still meeting the City and State dam safety requirements.**

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

☒ **Yes** / No **The existing dam is currently failing and is piping sediment downstream of the dam with each rainfall event. Eventually the dam will fail and the resulting flood and sediment wave will threaten the**

downstream properties, roadways, and electrical substation. Failure of the dam would also damage the habitat of the endangered JPS, which have been documented immediately downstream of the dam.

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

☒ **Yes** No **The existing detention facility, which provides no formal water quality benefits, is proposed to be converted to an extended detention facility which will provide regional water quality benefits. As mentioned previously, the existing dam is damaged and piping sediment-laden water through the dam but this will cease as a result of this project.**

- 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** No **See justification above.**

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

☒ **Yes** No **The entire project is within city parkland and a drainage easement and is to improve an existing dam.**

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

☒ **Yes** No **The entire project is within city parkland and a drainage easement. Proposed improvements are necessary to meet city and state dam safety requirements.**

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

Exhibits for Commission Variance

- Aerial photos of the site

An aerial photo of the site is included in the Location Map included as Attachment 4.

- Site photos

Representative site photos are included as Attachment 5.

- Aerial photos of the vicinity

A vicinity map is included as Attachment 6.

- Context Map—A map illustrating the subject property in relation to developments in the vicinity to include nearby major streets and waterways

This information is included in the vicinity map included as Attachment 6.

- 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.

The proposed grading plan shows the existing and proposed topography and is included as Attachment 7.

- For cut/fill variances, a plan sheet showing areas and depth of cut/fill with topographic elevations.

The proposed cut is included as Attachment 3 and the proposed fill is included as Attachment 4.

- Site plan showing existing conditions if development exists currently on the property.

The existing conditions are shown in the boundary map, which is included as Attachment 8.

- 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

The proposed site plan is included as Attachment 9. The tree protection plans are included as Attachment 10.

- Environmental Map – A map that shows pertinent features including Floodplain, CWQZ, WQTZ, CEFs, Setbacks, Recharge Zone, etc.

An environmental constraints map is included as Attachment 12. Also please reference the maps included in the ERI waiver, included as Attachment 13. Note – an administrative variance has been received for the CEF buffer zone encroachment and is included as Attachment 14.

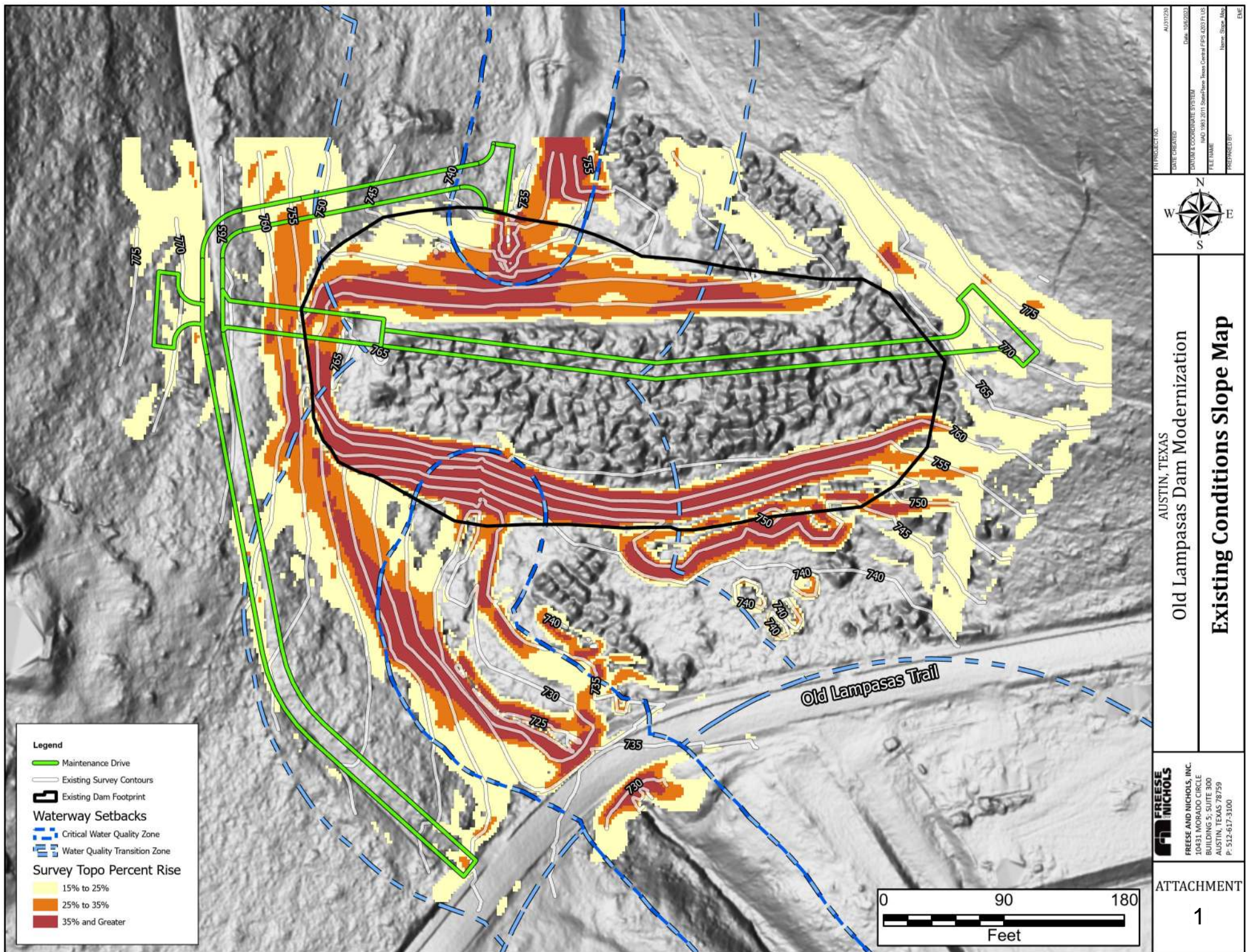
- An Environmental Resource Inventory pursuant to ECM 1.3.0 (*if required by 25-8-121*)

The ERI waiver is included as Attachment 13.

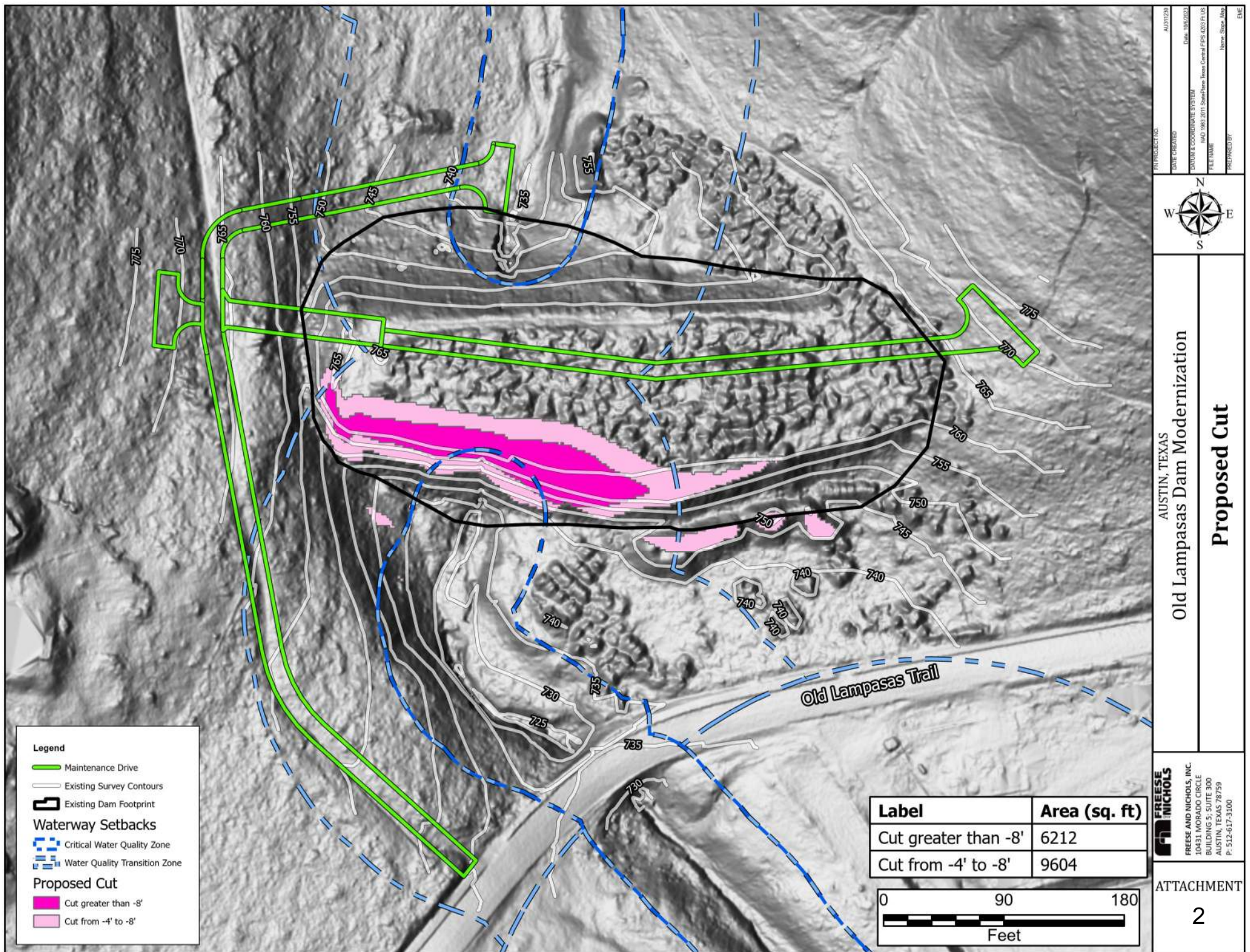
- Applicant's variance request letter

This is included as the cover letter.

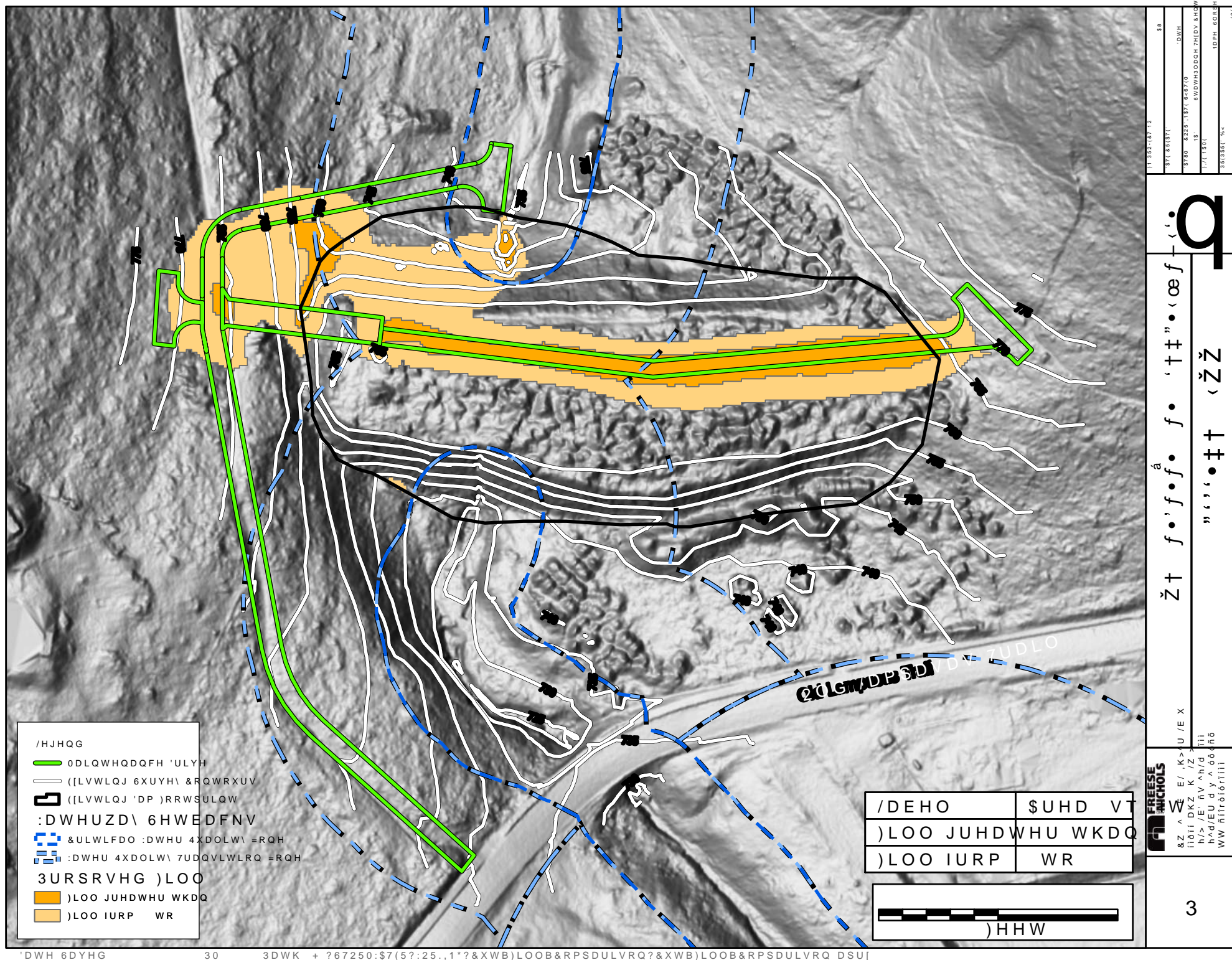
ATTACHMENT 1
EXISTING SLOPE MAP



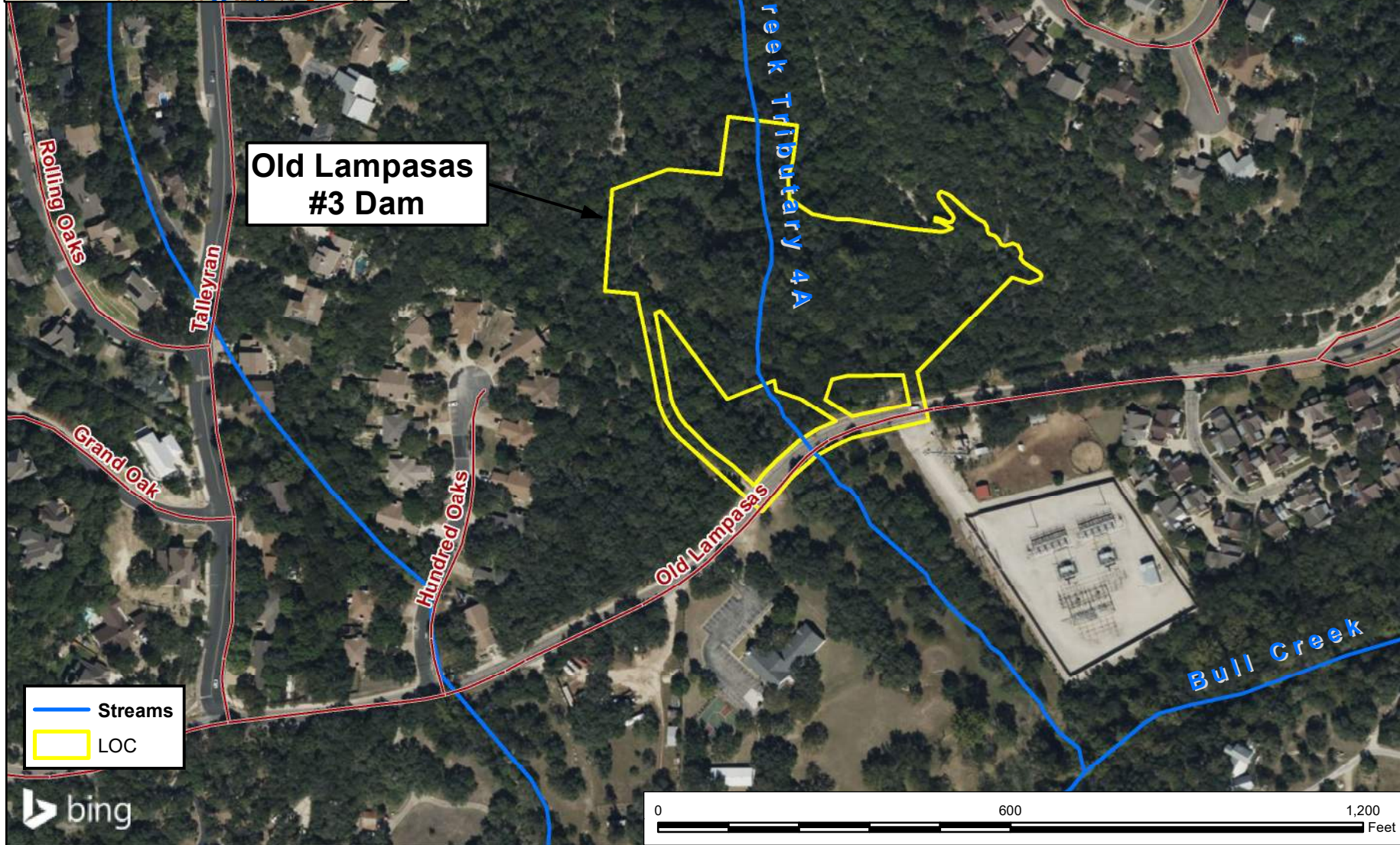
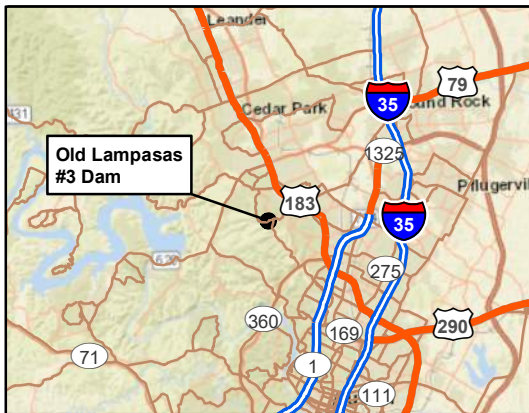
ATTACHMENT 2
PROPOSED CUT



ATTACHMENT 3
PROPOSED FILL



ATTACHMENT 4
AERIAL SITE MAP



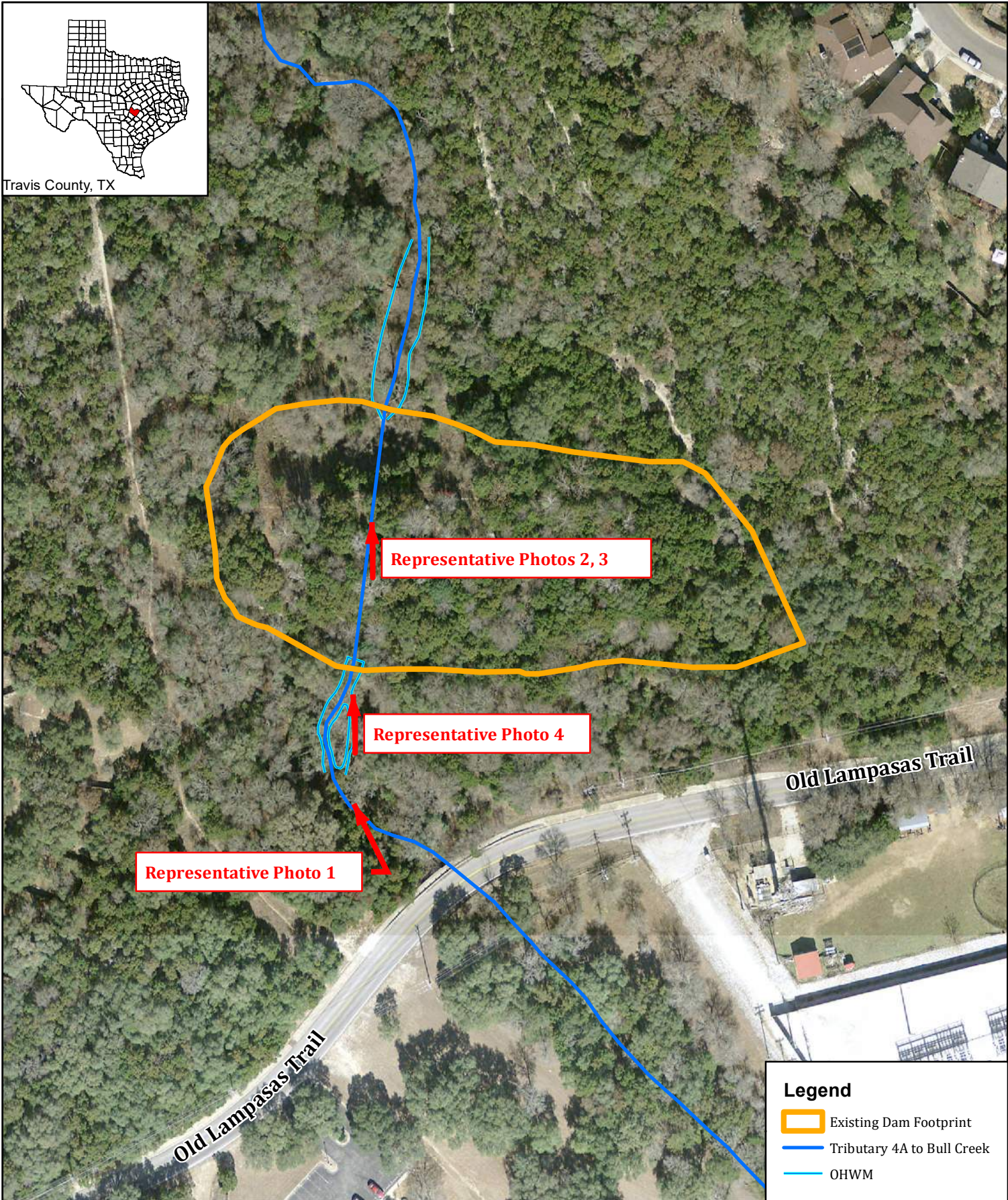
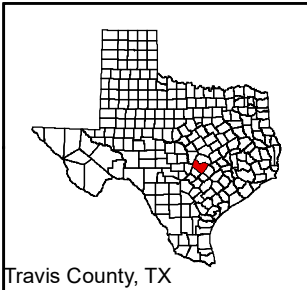
PROJECT NO.	AUSTIN
DATE CREATED	DATE 10/1/2023
DATUM & COORDINATE SYSTEM	NAD83 State Plane West Texas Central
FILE NAME	Map Project Location 20230621
PREPARED BY	BC

Bull Creek - Old Lampasas #3 Dam Modernization

Aerial Site Map

FREESE AND NICHOLS, INC.
 10814 JOLLYVILLE ROAD
 BLDG. 4, SUITE 100
 AUSTIN, TEXAS 78759
 PHONE: 512-617-3100
 FAX: 512-617-3101

ATTACHMENT 5
REPRESENTATIVE PHOTOS



Legend

- Existing Dam Footprint
- Tributary 4A to Bull Creek
- OHWM

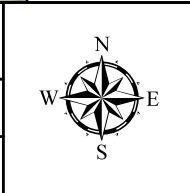
FNI PROJECT NUMBER	AI0311230
DATE CREATED	Date: 11/21/2019
DATUM & COORDINATE SYSTEM	NAD83 State Plane (Feet) Texas Central
FILE NAME	Name: Figure2-0_Photography Map
PREPARED BY	KLC

FREESE AND NICHOLS, INC.
 10431 MORADO CIRCLE
 SUITE 300
 AUSTIN, TEXAS 78759
 PHONE: 512-617-3100
 FAX: 512-617-3101

0 55 110 220 Feet

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
Old Lampasas #3 Dam Modernization

Photography Map



ATTACHMENT

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ATTACHMENT 5. REPRESENTATIVE PHOTOGRAPHS



Figure 1. The photograph was taken downstream of the dam embankment facing northwest towards the auxiliary spillway. The photograph was taken a couple of days after the Memorial Day floods, which brought significant rain and severe flooding to the Austin-area. During the site visit, water was observed to be passing under the dam pipe, principal spillway, and the auxiliary spillway. The photograph was taken on May 25, 2015 by Will Huff, FNI.



Figure 2. The photograph was taken on the Old Lampasas No. 3 Dam facing north. The photograph shows the exposed 60" corrugated metal pipe from the principal spillway and a 20' sink hole that had developed on the upstream side of the dam. The

photograph was taken a couple of days after the Memorial Day floods, which brought significant rain and severe flooding to the Austin-area. The photograph was taken on May 25, 2015 by Will Huff, FNI.



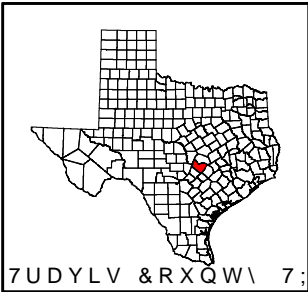
Figure 3. The photograph was taken on the upstream side of the dam facing north. In the foreground of the picture, two voids can be seen. Several small voids are present on the upstream side of the dam structure that are evidence of water piping through the dam. The exposed 60" corrugated metal pipe from the principal spillway can be seen in the midground of the image will be replaced by a 42" reinforced concrete pipe and a low-flow riser. The installation of a new intake structure and low-flow riser upstream of the dam will control water level within the pond and provide extended detention for water quality benefits. The photograph was taken on January 2, 2016 by Will Huff, FNI.



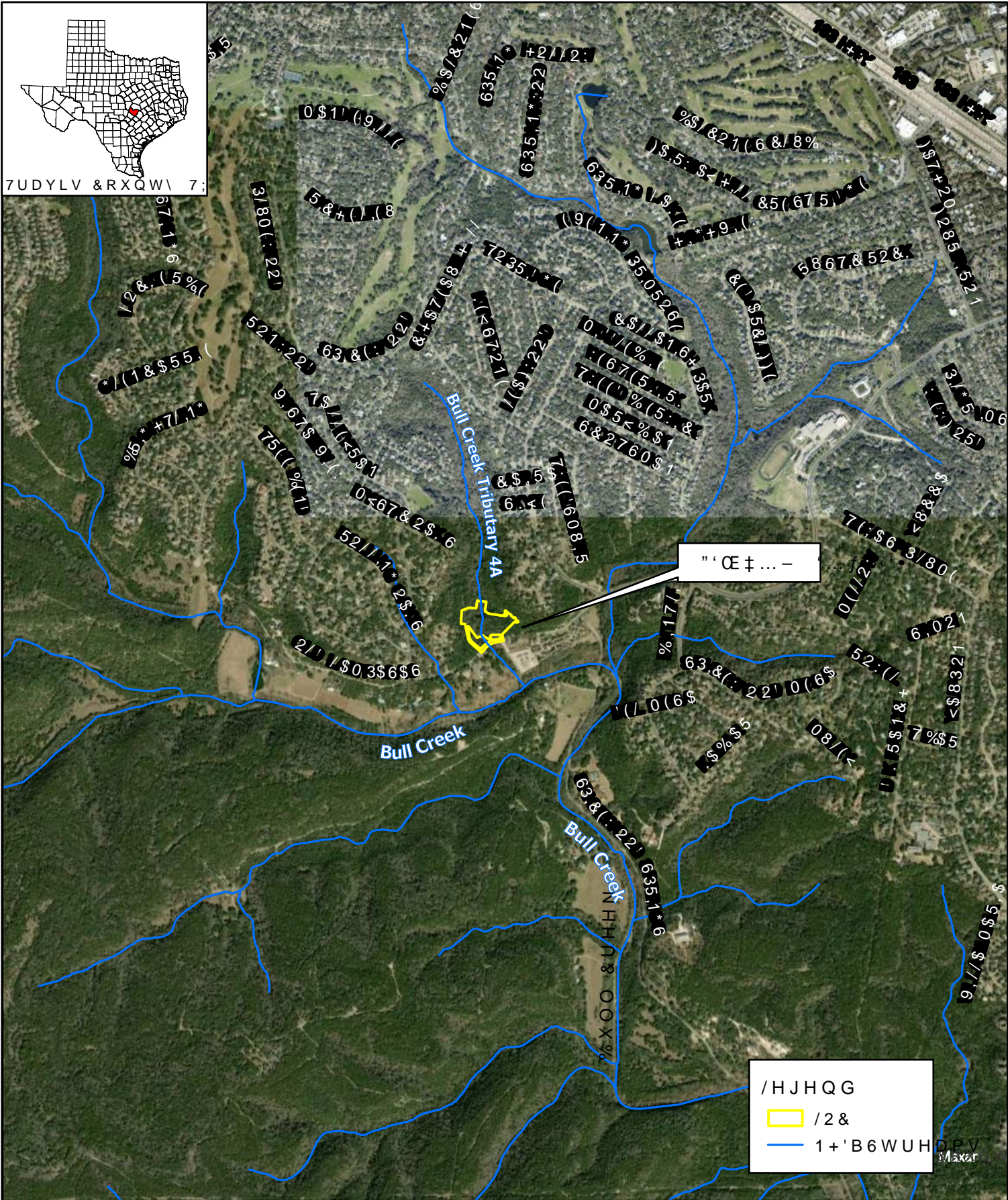
Figure 4. The photograph was taken downstream of the dam facing north. The image shows the principal spillway and the downstream plunge pool. The proposed action calls for excavating 3 feet below the OHWM and then backfilling with limestone boulders to the original contours of the stream. This would provide armoring to the stream channel and prevent downcutting during heavy flow events. The photograph was taken on April 23, 2019 by Tam Tran, FNI.

Additional photographs may be found within the Biological Assessment produced by Baer Engineering.

ATTACHMENT 6
VICINITY MAP



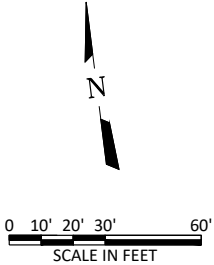
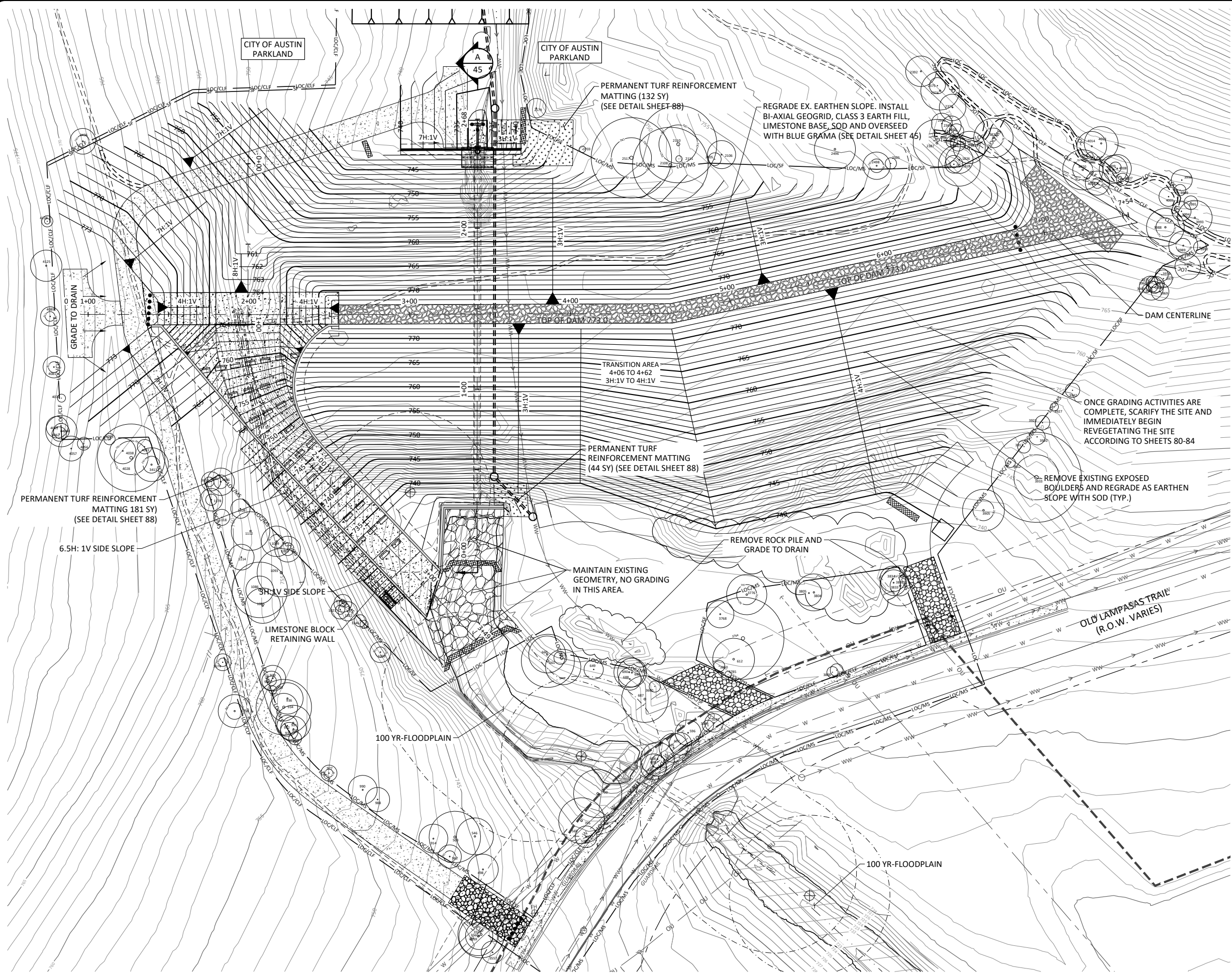
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ATTACHMENT 7
GRADING PLAN

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100% SUBMITTAL

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

REVIEWED BY:

DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT

DATE

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT

BULL CREEK

OLD LAMPASAS #3 DAM MODERNIZATION

GRADING PLAN

NO.	REVISION	BY	DATE	FILE NAME
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VERIFY SCALE

Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

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ATTACHMENT

7

6/19/2023

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144

KIMBERLY K. PATAK
97367
MECHANICAL ENGINEERING
STATE OF TEXAS

10431 Morado Circle, Suite 300
Austin, Texas 78759
Phone - (512) 617-3100
Fax - (512) 617-3101
Web - www.freese.com

ATTACHMENT 8
BOUNDARY MAP

BM #1 - 1/2" IRON ROD WITH RED PLASTIC CAP SET IN THE GROUND ON THE SOUTH SIDE OF OLD LAMPASAS TRAIL, +/- 75 FEET WEST OF THE WESTERN EDGE OF THE WEST GRAVEL DRIVEWAY FOR AN ELECTRIC SUBSTATION, 26 FEET NORTHEAST OF A WASTEWATER MANHOLE AND 29 FEET EAST OF THE EAST END OF A METAL GUARDRAIL.
(GRID) N=10125943.05; E=3095599.03 ELEV=735.04

BM #2 - 1/2" IRON ROD WITH RED PLASTIC CAP SET IN THE GROUND 35 FEET SOUTH OF THE SOUTH END OF THE OPENING FOR A 60" DIA. CORRUGATED METAL PIPE LOCATED AT THE BASE OF A RIPRAP EMBANKMENT AND +/- 158 FEET EAST OF A WOOD FENCE CORNER LOCATED 12 FEET WEST OF A GRAVEL PATHWAY.

(GRID) N=10126083.41; E=3095386.48	ELEV=729.78
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BM #3 - 1/2" IRON ROD WITH RED PLASTIC CAP SET IN THE GROUND 26 FEET NORTH OF THE NORTH END OF THE OPENING FOR A 60" DIA. CORRUGATED METAL PIPE WITH CONCRETE APRON LOCATED IN A SINKHOLE AND 247 FEET NORTH OF THE SOUTHERN OPENING OF SAME PIPE.
(GRID) N=10126360.84; E=3095428.95 ELEV=736.80

BORING NO.	NORTHING	EASTING	ELEVATION
B-1	10126220.565	3095323.121	764.11
B-2	10126317.922	3095315.683	747.69
B-3	10126255.071	3095404.041	763.96
B-4	10126256.786	3095435.690	763.62
B-5	10126246.711	3095506.006	764.29
B-6	10126302.378	3095337.282	749.79
B-6B(1)	10125904.637	3095490.406	733.84
B-6B(2)	10125902.088	3095487.213	733.94
B-6B(3)	10125899.433	3095490.811	733.52
B-7	10125863.770	3095471.999	733.92
B-8B	10125933.002	3095542.356	734.39

THE PROPERTY BOUNDARIES, EASEMENTS AND CONTOURS ARE FOR INFORMATIONAL PURPOSES AND MAY NOT HAVE BEEN PREPARED FOR OR BE SUITABLE FOR LEGAL, ENGINEERING, OR SURVEYING PURPOSES, UNLESS OTHERWISE NOTED ON THE DRAWING THEY DO NOT REPRESENT AN ON-THE-GROUND SURVEY AND REPRESENT ONLY THE APPROXIMATE RELATIVE LOCATION. THE BOUNDARIES HAVE BEEN PRODUCED BY TEXAS NATURAL RESOURCES INFORMATION SYSTEM (TNRIS) FOR THE SOLE PURPOSE OF GEOGRAPHIC REFERENCE. NO WARRANTY IS MADE BY THE CITY OF AUSTIN REGARDING SPECIFIC ACCURACY OR COMPLETENESS.

ALL ELEVATIONS SHOWN HEREON ARE BASED ON GPS OBSERVATIONS, TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NAD83, (CORS96), AND NAVD88. ALL COORDINATES AND DISTANCES SHOWN HEREON ARE GRID. THE PROJECT GRID-TO-SURFACE SCALE FACTOR IS 1.00010 EXACTLY.

CITY IN PROCESS OF OBTAINING TEMPORARY
CONSTRUCTION EASEMENT ON CHURCH
PROPERTY.



ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS
REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN
APPROVING THESE PLANS, THE CITY OF AUSTIN MUST RELY
UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

REVIEWED BY:

DIRECTOR, DEVELOPMENT
SERVICES DEPARTMENT

ATTACHMENT

8



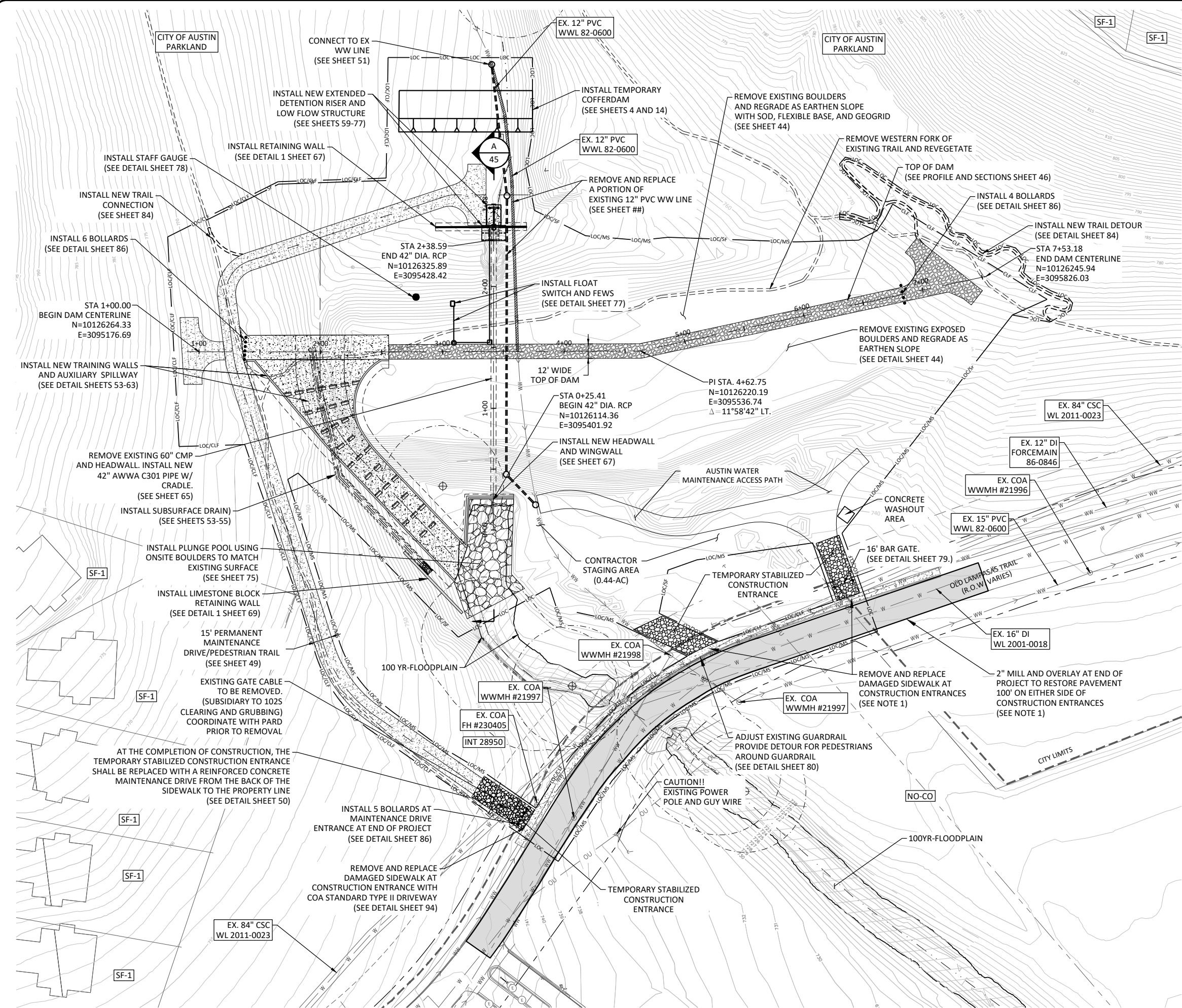
10/11/2023

**FREESE
& NICHOLS**

10431 Morado Circle, Suite 300
Austin, Texas 78759
Phone - (512) 617-3100
Fax - (512) 617-3101
Web - www.freese.com

ATTACHMENT 9
SITE PLAN

ACAD Ref: 24.2s (LMS Tech)
Filename: N:\wr\Drawings\WR-AU-PL-SITE.dwg
Last Saved: 10/11/2023 3:13 PM Saved By: 02248



SITE PLAN INFORMATION		
Item	Value	Notes
Building coverage (sq ft)	N/A	The project does not include any buildings.
Building Coverage (%)	N/A	The project does not include any buildings.
Impervious Coverage (sq ft)	20,168	Includes proposed maintenance drive (concrete and flex base).
Impervious Coverage (%)	5.68%	
Gross Floor Area	N/A	The project does not include any buildings; therefore, there is no gross area calculation.
Height	N/A	The project does not include any buildings.
Floor Area Ratio (FAR)	N/A	The project does not include any buildings; therefore, there is no floor area ratio.
Total LOC Area (acres)	4.97	
Zoning	P, ROW	There is no change to the existing zoning proposed.

RECORD REFERENCES	
WATER	28950
INTERSECTION	

- NOTES:
- WATER QUALITY CONTROLS ARE NOT REQUIRED FOR THE PROPOSED SIDEWALK REPLACEMENT AND MILL AND OVERLAY OF THE ROADWAY PER ECM 1.9.4.B.
 - ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE SITE PLAN AMENDMENT AND APPROVAL OF THE DEVELOPMENT SERVICES DEPARTMENT.
 - APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING AND FIRE CODE APPROVAL NOR BUILDING PERMIT APPROVAL.
 - ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.
 - WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF AUSTIN.
 - ALL EXISTING STRUCTURES SHOWN TO BE REMOVED WILL REQUIRE A DEMOLITION PERMIT FROM THE CITY OF AUSTIN DEVELOPMENT SERVICES DEPT.
 - A DEVELOPMENT PERMIT MUST BE ISSUED PRIOR TO AN APPLICATION FOR BUILDING PERMIT FOR NON-CONSOLIDATED OR PLANNING COMMISSION APPROVED SITE PLANS.
 - FOR DRIVEWAY CONSTRUCTION: THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES.
 - FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A ROW EXCAVATION PERMIT IS REQUIRED.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

REVIEWED BY:

DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT

DATE

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
BULL CREEK
OLD LAMPASAS #3 DAM MODERNIZATION

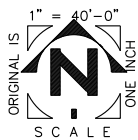
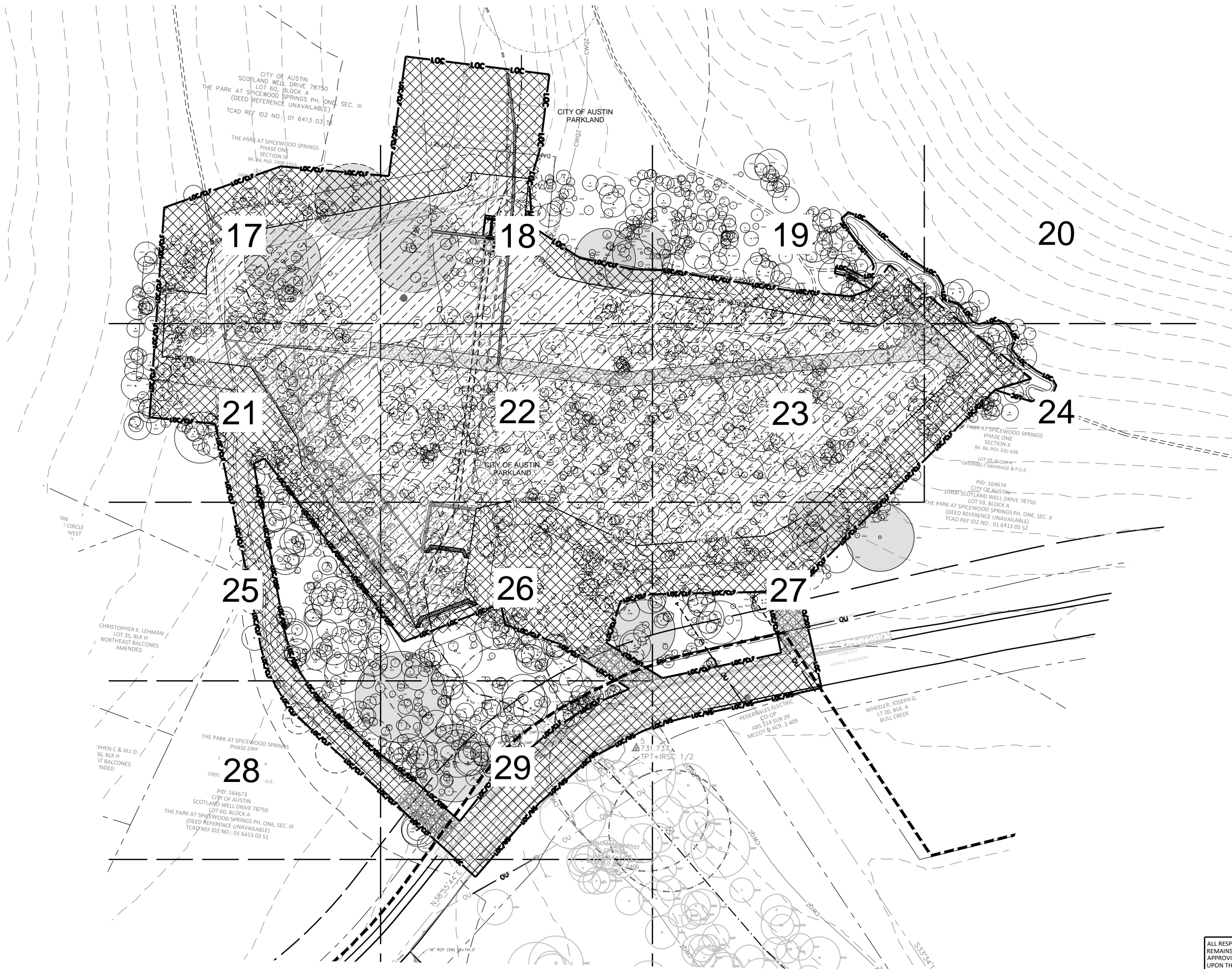
SITE PLAN

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ATTACHMENT 10
TREE PROTECTION PLANS

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Last Saved: 6/13/2023 10:28 AM, Saved By: Min.Liu

Plot Date: 6/13/2023 11:22 AM Plot By: Min.Liu Filename: Y:\023-77D_Old_Lampasas_Dam\CAD\Sheets\TP 201.dwg



AREA LEGEND

- LOC ACCESS AREA
- DAM CONSTRUCTION AREA

TREE LEGEND

- EXISTING TREE REMOVED FOR SITE ACCESS
- EXISTING TREE REMOVED FOR DAM CONSTRUCTION
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE REMOVED FOR SITE ACCESS
- EXISTING HERITAGE TREE REMOVED FOR DAM CONSTRUCTION
- CRITICAL ROOT ZONE STABILIZED CONSTRUCTION ACCESS. REF SHEET 17

MCGRAY CONDUCTED THE SURVEY IN DECEMBER 2018.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
BULL CREEK
OLD LAMPASAS #3 DAM MODERNIZATION
TREE REMOVAL PLAN INDEX

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Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

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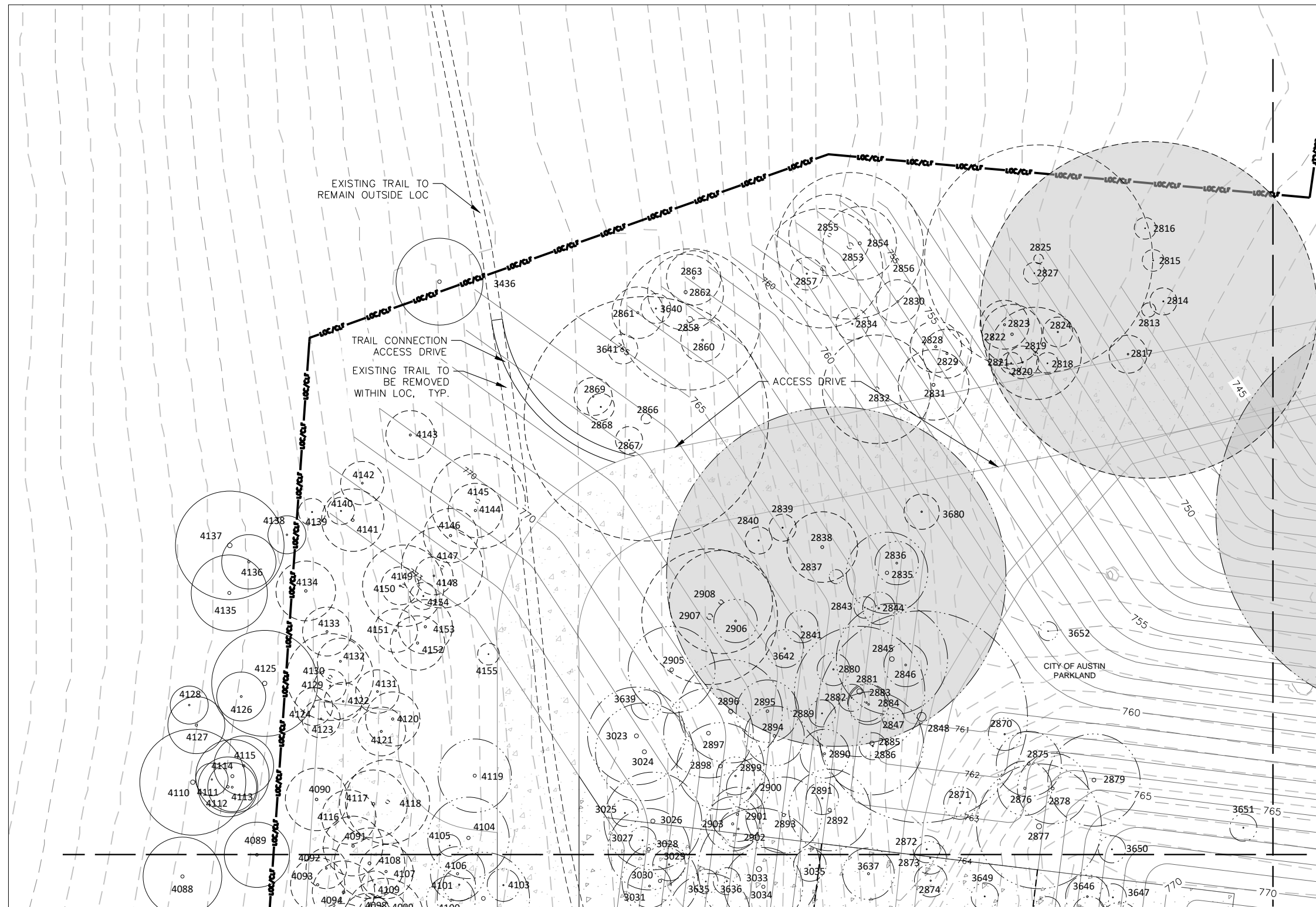
FOR DIRECTOR OF THE DEVELOPMENT SERVICES DEPARTMENT

DATE

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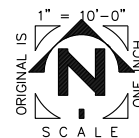
SHEET 16
TOTAL 94

COA CASE NO. SP-2022-0558D FILED ON NOVEMBER 23, 2022












MATCHLINE - SEE SHEET 21

MATCHLINE - SEE SHEET 18



TREE LEGEND

- | | |
|---|---|
|  | EXISTING TREE REMOVED
FOR SITE ACCESS |
|  | EXISTING TREE REMOVED
FOR DAM CONSTRUCTION |
|  | EXISTING TREE TO REMAIN |
|  | EXISTING TREE TO REMAIN
WITH MITIGATION |
|  | EXISTING HERITAGE TREE
TO REMAIN WITH MITIGATION |
|  | EXISTING HERITAGE TREE
TO REMAIN |
|  | EXISTING HERITAGE TREE
REMOVED FOR SITE ACCESS |
|  | EXISTING HERITAGE TREE
REMOVED FOR DAM
CONSTRUCTION |
|  | CRITICAL ROOT ZONE STABILIZED
CONSTRUCTION ACCESS. REF
SHEET 15 |

MCGRAY CONDUCTED THE SURVEY IN DECEMBER 2018.



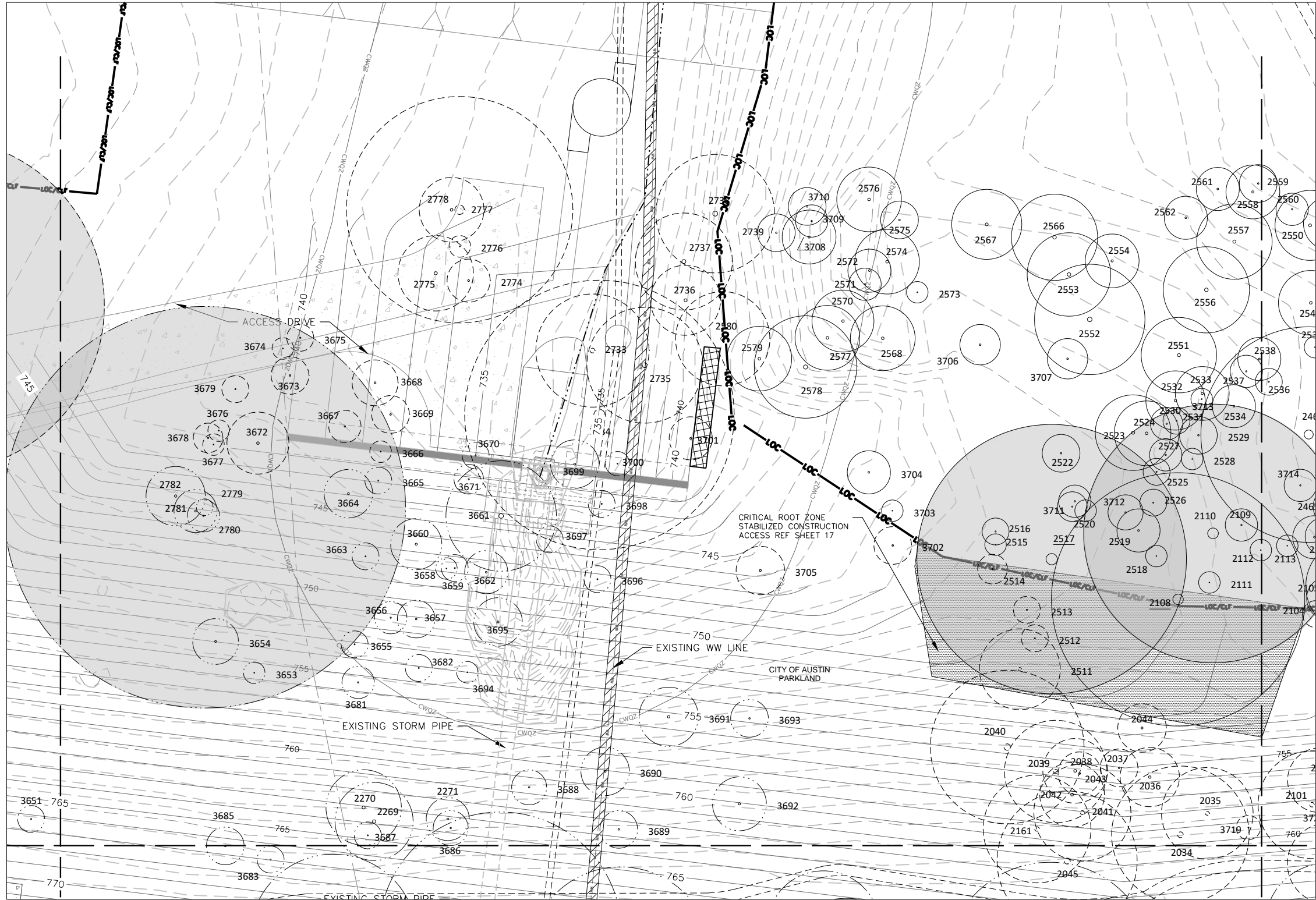
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
BULL CREEK
OLD LAMPASAS #3 DAM MODERNIZATION
TREE REMOVAL PLAN 1 OF 13

17	SHEET		L		TOTAL	
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	100% SUBMITTAL
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REVIEWED BY:	
FOR DIRECTOR OF THE DEVELOPMENT SERVICES DEPARTMENT	DATE
COA CASE NO. SP-2022-0558D FILED ON NOVEMBER 23, 2022	

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Last Saved: 6/12/2023 2:00 PM Saved By: Min.Liu

MATCHLINE - SEE SHEET 17



MATCHLINE - SEE SHEET 22

ORIGINAL IS
1" = 10'-0"
SCALE
ONE INCH

TREE LEGEND

- EXISTING TREE REMOVED FOR SITE ACCESS
- EXISTING TREE REMOVED FOR DAM CONSTRUCTION
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE REMOVED FOR SITE ACCESS
- EXISTING HERITAGE TREE REMOVED FOR DAM CONSTRUCTION
- CRITICAL ROOT ZONE STABILIZED CONSTRUCTION ACCESS. REF SHEET 15

MCGRAY CONDUCTED THE SURVEY IN DECEMBER 2018.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
BULL CREEK
OLD LAMPASAS #3 DAM MODERNIZATION
TREE REMOVAL PLAN 2 OF 13

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SHEET	18
TOTAL	94

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

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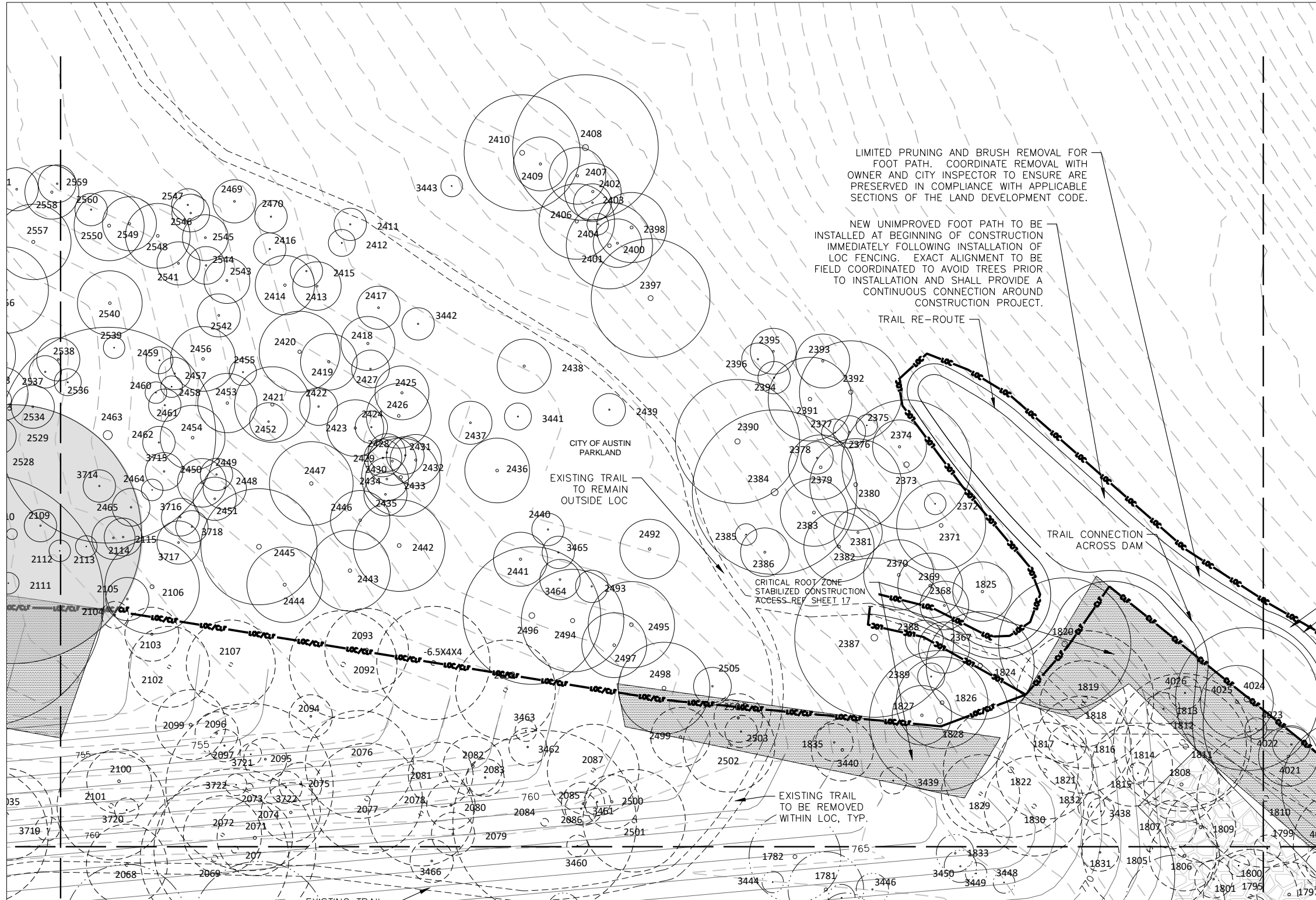
FOR DIRECTOR OF THE DEVELOPMENT SERVICES DEPARTMENT

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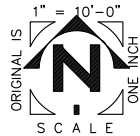
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Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

MATCHLINE - SEE SHEET 18



MATCHLINE - SEE SHEET 23



TREE LEGEND

- EXISTING TREE REMOVED FOR SITE ACCESS
- EXISTING TREE REMOVED FOR DAM CONSTRUCTION
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE REMOVED FOR SITE ACCESS
- EXISTING HERITAGE TREE REMOVED FOR DAM CONSTRUCTION
- CRITICAL ROOT ZONE STABILIZED CONSTRUCTION ACCESS. REF SHEET 15

MCGRAY CONDUCTED THE SURVEY IN DECEMBER 2018.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
BULL CREEK
OLD LAMPASAS #3 DAM MODERNIZATION
TREE REMOVAL PLAN 3 OF 13

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100% SUBMITTAL

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FOR DIRECTOR OF THE DEVELOPMENT SERVICES DEPARTMENT

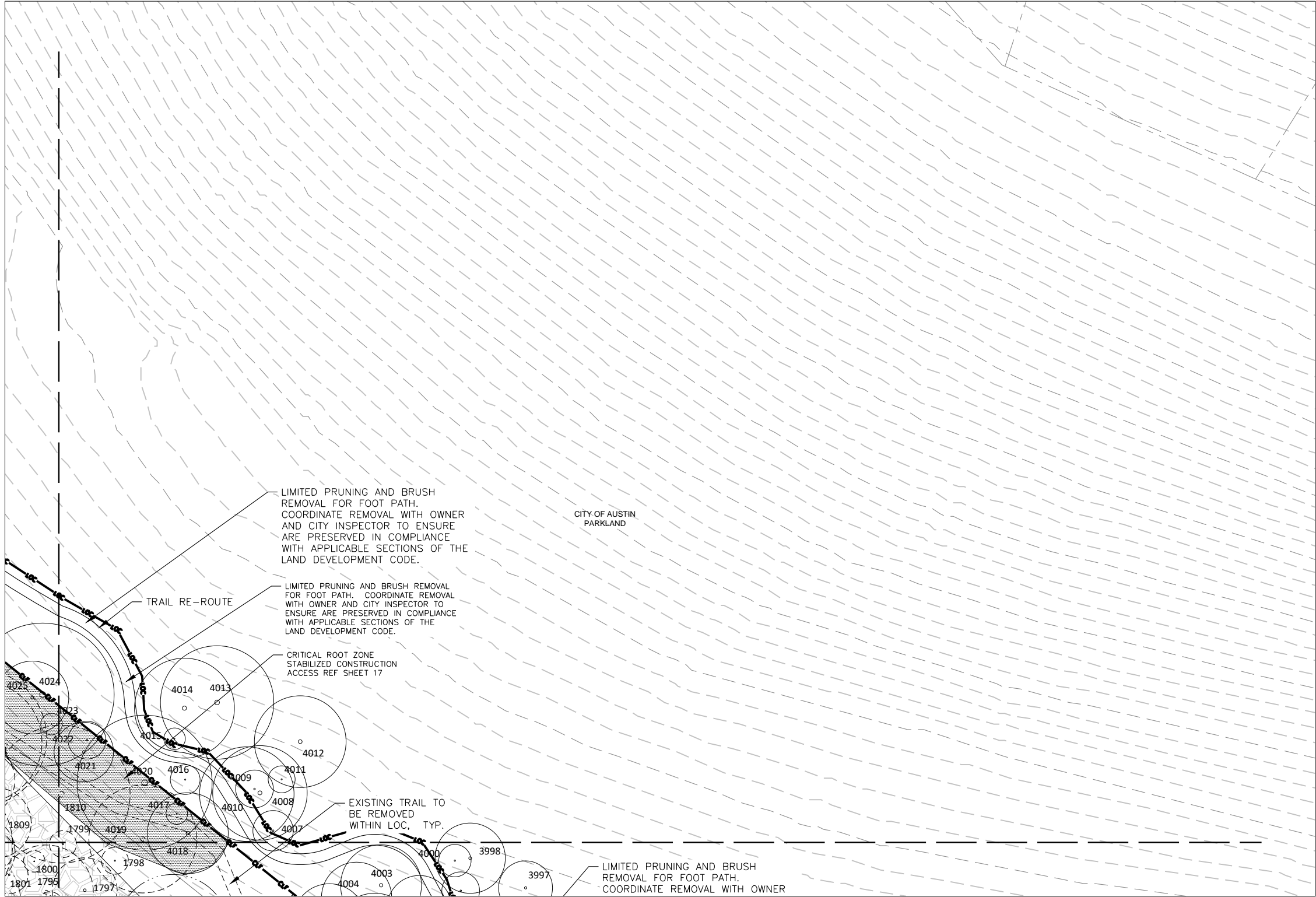
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SHEET 19

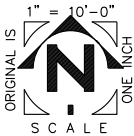
TOTAL 94

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Last Saved: 6/12/2023 2:00 PM Saved By: Min.Liu

MATCHLINE - SEE SHEET 19



MATCHLINE - SEE SHEET 24



TREE LEGEND

- EXISTING TREE REMOVED FOR SITE ACCESS
- EXISTING TREE REMOVED FOR DAM CONSTRUCTION
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE REMOVED FOR SITE ACCESS
- EXISTING HERITAGE TREE REMOVED FOR DAM CONSTRUCTION
- CRITICAL ROOT ZONE STABILIZED CONSTRUCTION ACCESS. REF SHEET 15

MCGRAY CONDUCTED THE SURVEY IN DECEMBER 2018.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
BULL CREEK
OLD LAMPASAS #3 DAM MODERNIZATION
TREE REMOVAL PLAN 4 OF 13

FILE NO.	AU311230
DATE	6/13/2023
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CHECKED	
FILE NAME	TP-211.dwg

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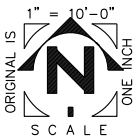
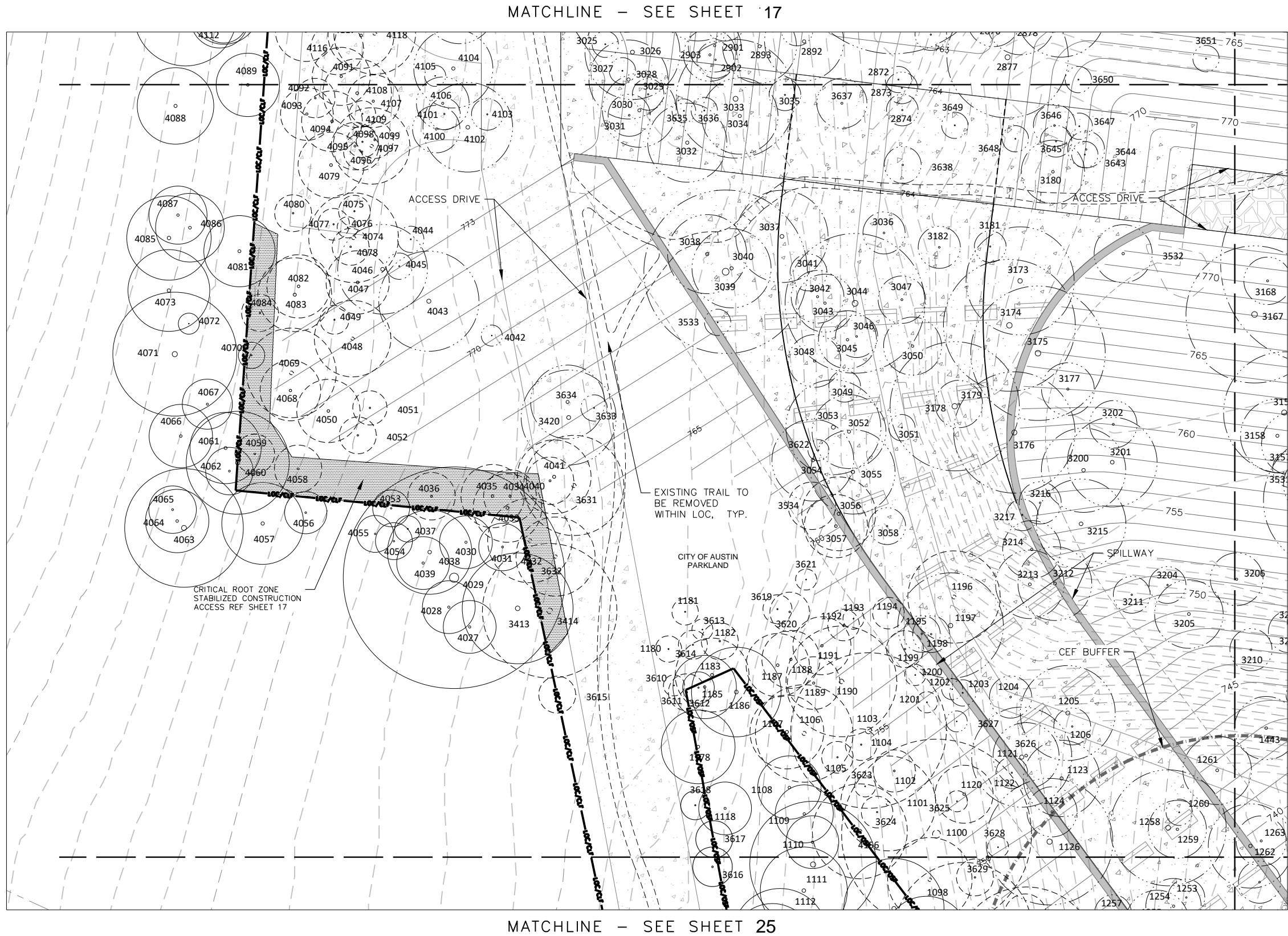
VERIFY SCALE
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100% SUBMITTAL	
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REVIEWED BY:	DATE
FOR DIRECTOR OF THE DEVELOPMENT SERVICES DEPARTMENT	

NO.	REVISION
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SHEET 20	
TOTAL 94	

ACAD Ref: 24.2 (LMS Tech)
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TREE LEGEND

- EXISTING TREE REMOVED FOR SITE ACCESS
- EXISTING TREE REMOVED FOR DAM CONSTRUCTION
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE REMOVED FOR SITE ACCESS
- EXISTING HERITAGE TREE REMOVED FOR DAM CONSTRUCTION
- CRITICAL ROOT ZONE STABILIZED CONSTRUCTION ACCESS. REF SHEET 15

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CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
BULL CREEK
OLD LAMPASAS #3 DAM MODERNIZATION
TREE REMOVAL PLAN 5 OF 13

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REVIEWED BY: _____

FOR DIRECTOR OF THE DEVELOPMENT SERVICES DEPARTMENT _____ DATE _____

SHEET 21

TOTAL 94

MATCHLINE - SEE SHEET 21



MATCHLINE - SEE SHEET 18

MATCHLINE - SEE SHEET 26



TREE LEGEND

- EXISTING TREE REMOVED FOR SITE ACCESS
- EXISTING TREE REMOVED FOR DAM CONSTRUCTION
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE REMOVED FOR SITE ACCESS
- EXISTING HERITAGE TREE REMOVED FOR DAM CONSTRUCTION
- CRITICAL ROOT ZONE STABILIZED CONSTRUCTION ACCESS. REF SHEET 15

MCGRAY CONDUCTED THE SURVEY IN DECEMBER 2018.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
BULL CREEK
OLD LAMPASAS #3 DAM MODERNIZATION
TREE REMOVAL PLAN 6 OF 13

NO.	REVISION	BY	DATE	FILE NAME
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Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

VERIFY SCALE

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94

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

REVIEWED BY:

FOR DIRECTOR OF THE DEVELOPMENT SERVICES DEPARTMENT

DATE

100% SUBMITTAL

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Filename: Y:\023-77D_Old_Lampasas_Dam\CAD\Sheets\TP-211.dwg
Last Saved: 6/13/2023 2:00 PM Saved By: Min.Liu

MATCHLINE - SEE SHEET 22



MATCHLINE - SEE SHEET 27

ORIGINAL IS
1" = 10'-0"
SCALE
ONE INCH

TREE LEGEND

- EXISTING TREE REMOVED FOR SITE ACCESS
- EXISTING TREE REMOVED FOR DAM CONSTRUCTION
- EXISTING TREE TO REMAIN
- EXISTING TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN WITH MITIGATION
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE REMOVED FOR SITE ACCESS
- EXISTING HERITAGE TREE REMOVED FOR DAM CONSTRUCTION
- CRITICAL ROOT ZONE STABILIZED CONSTRUCTION ACCESS. REF SHEET 15

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CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT
BULL CREEK
OLD LAMPASAS #3 DAM MODERNIZATION
TREE REMOVAL PLAN 7 OF 13

FILE NAME	TP-211.dwg
DATE	6/13/2023
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CHECKED	

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REVIEWED BY:

FOR DIRECTOR OF THE DEVELOPMENT SERVICES DEPARTMENT

DATE

SHEET 23

TOTAL 94