ADDENDUM No. 2

Date August 26, 2016

City of Austin

Project Name Montopolis Water Reclamation Initiative (WRI) Storage Reservoir and Pump Station Project

C.I.P. No. 5267.035 IFB 6100 CLMC601

This Addendum forms a part of Contract and clarifies, corrects or modifies original Bid Documents, dated May 2016. Acknowledge receipt of this addendum in space provided on bid form. Failure to do so may subject bidder to disqualification.

A. Project Manual Revisions:

1. Table of Contents
    a. REMOVE Section Table of Contents and REPLACE this section in its entirety with the attached new version.

2. Section 00300L Lump Sum Bid Form
    a. REPLACE this section in its entirety with the attached new version. **Responsive bidders MUST use the new form attached.**

3. Section 00400 Statement of Bidder's Experience
    a. REMOVE Section 00400 Statement of Bidder's Experience and REPLACE this section in its entirety with the attached new version.

4. Section 00820 Modifications to Bidding Requirements and Contract Forms
    a. ADD the attached new Section 00820 Modifications to Bidding Requirements and Contract Forms.

5. Section 01020 Allowances
    a. ADD the attached new Section 01020 Allowances.

6. Section 01040 Project Coordination
    a. REMOVE Section 01040 Project Coordination and REPLACE this section in its entirety with the attached new version.

7. SP-510S Special Provision to Standard Specification No. 510S Pipe
    a. REMOVE SP-510S Special Provision to Standard Specification No. 510S Pipe and REPLACE this section in its entirety with the attached new version.

8. Section 03315 Prestressed Concrete Tank
    a. REMOVE Section 03315 Prestressed Concrete Tank and REPLACE this section in its entirety with the new version.

9. Specification 11211 Horizontal Split-Case Centrifugal Pumps
    a. ADD the attached two additional supplements (pump data sheets) to the end of the existing Specification.

B. Drawing Revisions:

1. Drawing C-4 PAVING PLAN 01

    REMOVE Drawing C-4 Paving Plan 01 and REPLACE this drawing in its entirety with the attached new version.

2. Drawing C-6 PAVING PLAN 03

    REMOVE Drawing C-6 Paving Plan 03 and REPLACE this drawing in its entirety with the attached new version.

3. Drawing C-9 SITE GRADING PLAN

    REMOVE Drawing C-9 Site Grading Plan and REPLACE this drawing in its entirety with the attached new version.

This Addendum consists of 66 page(s)/sheet(s).

8-26-16

Approved by OWNER

Approved by ENGINEER/ARCHITECT

STATE OF TEXAS
JOSEPH W. JENKINS
68717
REGISTERED
PROFESSIONAL ENGINEER
8-26-2016

END

Document Number		Title

VOLUME 1

INTRODUCTORY INFORMATION

BIDDING REQUIREMENTS, CONTRACT FORMS, & CONDITIONS OF THE CONTRACT

Document Number		Title
607S	05/23/00	Slope Stabilization Applications for Erosion Control
608S	09/26/12	Planting
610S	09/26/12	Preservation of Trees and Other Vegetation
620S	05/23/00	Filter Fabric
633S	11/26/01	Landgrading
641S	06/21/07	Stabilized Construction Entrance
642S	09/01/11	Silt Fence

Series 700 – Incidental Construction

700S	09/26/12	Mobilization
701S	09/26/12	Fencing
703S	09/22/88	Fencing for Excavations
720S	09/26/12	Metal for Structures
721S	09/26/12	Steel Structures
722S	09/26/12	Protective Coatings
723S	09/26/12	Structural Welding

Series 800 – Urban Transportation

802S	09/26/12	Project Signs
803S	11/15/11	Barricades, Signs and Traffic Handling
824S	02/24/10	Traffic Signs
860S	09/26/12	Pavement Marking Paint

Series 16000 – Water Utility Electrical

S16110	10/03/11	Raceways, Fittings, and Supports
S16130	10/03/11	Boxes and Cabinets
S16140	10/03/11	Wiring Devices
S16200	10/03/11	General Wiring Methods
S16205	10/03/11	Wire Tagging
S16289	10/03/11	Surge Protective Devices
S16440	10/03/11	Disconnect Switches and Enclosed Circuit Breakers
S16450	10/03/11	Grounding
S16460	10/03/11	Dry Type Transformers – 600 Volts and Below Primary Rated 150 KVA and Smaller
S16470	10/03/11	Panelboards
S16480	10/03/11	Motor Control Center
S16485	10/03/11	Electrical Systems Analysis
S16490	07/07/08	Automatic Transfer Switch
S16520	07/07/08	Site Lighting
S16700	09/16/14	Common Control Panel Requirements for Equipment
S16720	07/07/08	Annunciator
S16730	05/23/11	Uninterruptible Power Supply
S16943	07/07/08	Temperature Transmitter RTD

Additional standard specifications not found in the list above and cross- referenced standard specifications not found in the list above may be obtained as follows:
{City of Austin Standard Specifications, Series 100 through 16000, adopted April 6, 1986, as amended. Available for purchase from

American Legal Publishing Corporation	*Telephone*	*1-800-445-5588*
Folio Business Partners and Publishers	*FAX*	*1-513-763-3562*
432 Walnut Street, 12th Floor	*email*	*amlegal@aol.com*
Cincinnati, Ohio 45202	*Web Page*	*http://www.amlegal.com*

END

City Manager
Austin, Texas

The undersigned, in compliance with the Invitation for Bids for construction of the following Project: Montopolis Water Reclamation Initiative (WRI) Storage Reservoir and Pump Station Project

(CIP ID# 5267.035) (IFB# 6100 CLMC601) for the City of Austin, Texas, having examined the Project Manual, Drawings and Addenda, the site of the proposed Work and being familiar with all of the conditions surrounding construction of the proposed Project, having conducted all inquiries, tests and investigations deemed necessary and proper; hereby proposes to furnish all labor, permits, material, machinery, tools, supplies and equipment, and incidentals, and to perform all Work required for construction of the Project in accordance with the Project Manual, Drawings and Addenda within the time indicated for the lump sum price of:

MINIMUM WAGES: Workers on Project shall be paid not less than wage rates, including fringe benefits, as published by the Department of Labor (DOL) for Building Construction and Heavy and Highway Trades "AS APPLICABLE" and/or the $13.03 minimum Wage required by City of Austin Ordinance No. 20160324-015, whichever is higher. The Total Minimum Wage required can be met using any combination of cash and non-cash qualified fringe benefits provided the cash component meets or exceeds the $13.03 minimum wage required.

EXCAVATION SAFETY SYSTEMS UNIT PRICES: The undersigned Bidder agrees that the Base Bid for the Work includes the following amounts in the Bid for excavation safety systems as specified in Item Number 509S of the Specifications and in case of an authorized adjustment to the scope of Work, the following unit price(s) will be used in adjusting the Contract Amount:

Quantity	Unit	Item Description	Unit Price	Amount
2,650	LF	Trench Safety systems	$_____	$_____

ALLOWANCES

Allowance #1 Site Trash Disposal	$ 12,000
Allowance #2 Security Equip. Install, Conductors, and Programming	$ 75,000
Allowance #3 Contractor Employees ID Badges and Background Checks	$ 1,000
SUBTOTAL ALLOWANCES	$ 88,000
TOTAL BID..... =	$ _____

(Total Bid includes Excavation Safety Systems, and Allowances.)

Notes:

1. Allowances described in Section 01020.
2. Total Bid is the Total Base Bid in the Compliance Plan (Volume IV MBE/WBE Procurement Packet.

BID GUARANTY: A Bid guaranty must be enclosed with this Bid, as required in Section 00020, in the amount of not less than five percent (5%) of the total Bid. Following the Bid opening, submitted Bids may not be withdrawn for a period of 120 Calendar Days. Award of Contract will

occur within this period, unless mutually agreed between the parties. The Bid guaranty may become the property of the OWNER, or the OWNER may pursue any other action allowed by law, if:

- Bidder withdraws a submitted Bid within the period stated above;
- Bidder fails to submit the required post Bid information within the period specified in Section 00020 or 00100, or any mutually agreed extension of that period; or
- Bidder fails to execute the Contract and furnish the prescribed documentation (bonds, insurance, etc.) needed to complete execution of the Contract within five (5) Working Days after notice of award, or any mutually agreed extension of that period.

GEOTECHNICAL BASELINE ACKNOWLEDGEMENT: The undersigned bidder certifies that he/she has read and understands the Geotechnical Baseline Report (GBR), the Geotechnical Data Report, the Reflection Survey Report, and all other geological and geotechnical information and data as provided in the Contract Documents, including all Addenda. ***The Bidder acknowledges and agrees that the GBR represents the contractual statement of the subsurface conditions reasonably anticipated to be encountered during construction. The GBR will be used to evaluate whether subsurface conditions differ materially from those indicated in the GBR.***

TIME OF COMPLETION: The undersigned Bidder agrees to commence work on the date specified in the written "Notice to Proceed" to be issued by the OWNER and to **substantially** complete construction of the improvements, as required by the Project Manual, Drawings and Addenda for the Work within four-hundred and eighty (480) **Calendar** Days. **If a Substantial Completion date has been specified, the Bidder further agrees to reach Final Completion within thirty (30) Calendar Days after Substantial Completion as required by the Project Manual, Drawings and Addenda for the work.** The Bidder further agrees that should the Bidder fail to **substantially complete the Work or to finally** complete the Work within the number of days indicated in the Bid or as subsequently adjusted, Bidder shall pay the liquidated damages for each consecutive day thereafter as provided below; unless the OWNER elects to pursue any other action allowed by law.

WAIVER OF ATTORNEY FEES: In submitting its bid, in consideration for the waiver of its right to attorney's fees by the OWNER, the Bidder knowingly and intentionally agrees to and shall waive the right to attorney's fees under Section 271.153 of the Texas Local Government Code in any administrative proceeding, alternative dispute resolution proceeding, or litigation arising out of or connected to any Contract awarded pursuant to this solicitation process.

LIQUIDATED DAMAGES: The Bidder understands and agrees that the timely completion of the described Work is of the essence. The Bidder and OWNER further agree that the OWNER's actual damages for delay caused by failure to timely complete the Project are difficult, if not impossible to measure. However, with respect to the additional administrative and consultant costs to be incurred by OWNER, the reasonable estimate of such damages has been calculated and agreed to by OWNER and Bidder. Therefore, the Bidder and the OWNER agree that for each and every **Calendar** Day the Work or any portion thereof, remains incomplete after the **Substantial** Completion date as established by the above paragraph, "Time of Completion", payment will be due to the Owner in the amount of one-thousand five hundred fifty dollars ($1,550.00) per **Calendar** Day as liquidated damages, not as a penalty, but for delay damages to the OWNER. **If both Substantial and Final Completion dates have been specified, the Bidder and the OWNER further agree that for each and every Calendar Day the Work or any portion thereof, remains incomplete after the Final Completion date as established by the above paragraph , "Time of Completion", payment will be due to the OWNER in the amount of nine hundred ten dollars ($910.00) per Calendar Day as liquidated damages, not as a penalty, but for delay damages to the OWNER.** Such amount shall be deducted by the OWNER from any Contract payment due. In the event of a default or breach by the CONTRACTOR and demand is made upon the surety to complete the project, in accordance with the Contract

Documents, the surety shall be liable for liquidated damages pursuant to the Contract Documents in the same manner as the CONTRACTOR would have been.

OWNER reserves the right to reject any or all Bids and to waive any minor informality in any Bid or solicitation procedure (a minor informality is one that does not affect the competitiveness of the Bidders).

The undersigned acknowledges receipt of the following addenda:

Addendum No. 1 dated _____ Received _____

Addendum No. 2 dated _____ Received _____

Addendum No. 3 dated _____ Received _____

Addendum No. 4 dated _____ Received _____

BID DOCUMENT EXECUTION AND ACKNOWLEDGEMENT:

The undersigned Bidder certifies that he/she has read and understands the Section 00020 Invitation for Bids, the Section 00100 Instructions to Bidders, and all other requirements applicable to the bidding process provided in the Bid and Contract Documents.

Bidder will initial each of the blanks set forth below to represent and certify that the Bidder has completed, executed, and enclosed the corresponding supplemental Bid Documents with its Bid.

Bidder acknowledges and agrees by its signature below that in addition to any signatures required to be set forth in the following supplemental Bid Documents, Bidder is bound to the terms and conditions of each of the following documents, which are incorporated herein by reference:

____ 00425A Insurance Cost Form *(ROCIP projects only)*

____ 00440 Affidavit - Prohibited Activities

____ 00475 Nonresident Bidder Provisions

____ 00630 Non-Discrimination and Non-Retaliation Certificate
(NOTE: THIS FORM MUST STILL BE SEPARATELY SIGNED AND PROPERLY NOTARIZED)

____ MBE/WBE Compliance Document

_____ _____
Secretary, *if Bidder is a Corporation Bidder

_____
(Seal) Authorized Signature

_____
Title

_____
Date

_____

_____
Address

_____
Telephone Number / FAX Number

_____
Email Address for Person Signing Bid

_____
Email Address for Bidder's Primary Contact Person

* Copy of Corporate Resolution and minutes with certificate of officer of Bidder as to authority of signatory to bind Bidder is to be signed and dated no earlier than one week before Bid date, and attached to this document.

End

STATEMENT OF BIDDERS EXPERIENCE

Section 00400

Project Name: Montolpolis Water Reclamation Initiative (WRI) Storage Reservoir and Pump Station Project

IFB Number: 6100 CLMC601

CIP ID Number: 5267.035

Bidder's Name: _____

Bidder must complete all Attachments to Section 00400 clearly and comprehensively. If necessary, responses may be continued on separately attached sheets.

To be considered a responsive and responsible bidder, the apparent three (3) low Bidders must complete and submit within three (3) working days of notification of low bidder status Attachments A through I in accordance with Article 11, Section 00100. Any information in Attachments A through I that indicates the Bidder or a "Subcontractor" is not responsible or that might negatively impact a Bidder's ability to complete the Work within the Contract Time and for the Contract Price may result in the Bid being rejected.

The Bidder is responsible for the accuracy and completeness of all of the information provided by the Bidder or a proposed Subcontractor in response to this Invitation for Bids.

POST-BID SUBMITTALS

ATTACHMENT A – BIDDER'S INFORMATION

ATTACHMENT B – EXPERIENCE REQUIREMENTS (GENERAL CONTRACTOR)

ATTACHMENT C – PROJECT MANAGER AND SUPERINTENDENT EXPERIENCE

ATTACHMENT D– EXPERIENCE REQUIREMENTS (SPECIFIC CONSTRUCTION OR TECHNICAL EXPERIENCE)

ATTACHMENT E – AVAILABLE EQUIPMENT

ATTACHMENT F – AVAILABLE WORKFORCE

ATTACHMENT G – CURRENT PROJECTS

ATTACHMENT H – COMPLETED PROJECTS

ATTACHMENT I – BIDDER'S AUTHENTICATION

ATTACHMENT A

BIDDER'S INFORMATION

(Complete and return within three (3) days of notification of the three (3) low bidders' status)

IFB Number: 6100 CLMC601_____

CIP ID Number: 5267.035_____

A. ***Name of Bidder:*** _____

B. ***Bidder's Permanent Address:*** _____

C. ***Bidder's Phone No.: ( ) _____-_____***

D. ***Number of years in business under current company name:*** ____

(Note: Bidder must have been in existence for a minimum of one (1) year under its current company name. Changes in company name during the experience period are acceptable, if the continuity of the company can be demonstrated. Attach separate documentation, if applicable.)

If Bidder answers "YES" for any of questions D through G, Bidder must attach separate sheets with a brief description or explanation of the answer and provide pertinent contact information (parties' names, addresses and telephone numbers).

E. ***Has the Bidder ever defaulted on a contract?***

YES (____) NO (____)

F. ***Are there currently any pending judgments, claims, or lawsuits against the Bidder?***

YES (____) NO (____)

G. ***Does Bidder currently have any pending claims, judgments or lawsuits against any prior client?***

YES (____) NO (____)

H. ***Is the Bidder or its principals involved in any bankruptcy or reorganization proceedings?***

YES (____) NO (____)

ATTACHMENT B

EXPERIENCE REQUIREMENTS (GENERAL CONTRACTOR)

(Complete and return within three (3) days of notification of the three (3) low bidders' status)

IFB Number: 6100 CLMC601_____

CIP ID Number: 5267.035_____

GENERAL CONTRACTOR EXPERIENCE

Bidder must list and describe Bidder's (not proposed subcontractors') construction experience as a general contractor for a minimum of three (3) successfully completed projects of comparable size, scope and complexity to the Work described in the Contract Documents. Bidders should refer to the 1.2 Description of Work section in contract document 01010 Summary of Work to determine what is reasonably comparable. Decisions on "comparability" are at the complete discretion of the OWNER.

Bidder must have completed the projects within the past five (5) years.

PROJECT NO. 1:

Name of Project: _____

Location: _____

OWNER's Name and Address: _____

OWNER's Contact Person (Print): _____

Phone/Fax No.: _____/_____

Initial Contract Price: _____

Final Contract Price: _____

Contract Start Date: _____ *(Date of Notice To Proceed)*

Contract Time: _____( ) *Calendar Days* ( ) *Working Days*

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

If contract time extensions were added to the contract as a result of Bidder's responsibilities, provide a short explanation of each.

_____

_____

_____

Project Description and why it is comparable to this Contract:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

PROJECT NO. 2:

Name of Project: _____

Location: _____

OWNER's Name and Address: _____

OWNER's Contact Person (Print): _____

Phone/Fax No.: _____/_____

Initial Contract Price: _____

Final Contract Price: _____

Contract Start Date: _____ *(Date of Notice To Proceed)*

Contract Time: _____( ) *Calendar Days* ( ) *Working Days*

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

If contract time extensions were added to the contract as a result of Bidder's responsibilities, provide a short explanation of each.

_____

_____

_____

Project Description and why it is comparable to this Contract:

_____

_____

_____

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_____

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_____

_____

_____

PROJECT NO. 3:

Name of Project: _____

Location: _____

OWNER's Name and Address: _____

OWNER's Contact Person (Print): _____

Phone/Fax No.: _____/_____

Initial Contract Price: _____

Final Contract Price: _____

Contract Start Date: _____ *(Date of Notice To Proceed)*

Contract Time: _____( ) *Calendar Days* ( ) *Working Days*

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

If contract time extensions were added to the contract as a result of Bidder's responsibilities, provide a short explanation of each.

_____

_____

_____

Project Description and why it is comparable to this Contract:

_____

_____

_____

_____

_____

_____

ATTACHMENT C

PROJECT MANAGER & SUPERINTENDENT EXPERIENCE

(Complete and return within three (3) days of notification of the three (3) low bidders' status)

IFB Number: 6100 CLMC601_____

CIP ID Number: 5267.035_____

Bidder must attach resumes for the Project Manager and Superintendent who will be assigned to this project. The resumes must demonstrate that these individuals have worked on at least three (3) similar, successfully completed projects in the capacity of Project Manager or Superintendent, or other responsible supervisory capacity, as applicable, during the last 10 years.

Project Manager (name): _____

Superintendent (name): _____

(Insert Resumes & Experience)

ATTACHMENT D

(Complete and return within three (3) days of notification of the three (3) low bidders' status)

SPECIFIC CONSTRUCTION EXPERIENCE (GENERAL CONTRACTOR OR SUBCONTRACTOR PERFORMING THE WORK)

Bidder must provide the following project history information for each Construction Experience requirement listed below. OWNER may in its reasonable discretion deem the provided experience information insufficient and reject the Bid.

For each Construction Experience item listed below, list and describe the applicable Construction Experience for a minimum of three (3) successfully completed projects of comparable size, scope, and complexity to the Work described for this project. Comparability requirements may be spread among the three (3) projects per item submitted, e.g. One Project may demonstrate comparable size, another Project may demonstrate comparable scope and another may demonstrate comparable complexity. Decisions on "comparability" are at the complete discretion of the OWNER.

The Work must have been performed within the past five (5) years.

Bidder must provide all requested information in a complete, clear, and accurate manner. If necessary, additional information may be provided on separate attached sheets. Failure to provide any requested information may cause the Bid to be rejected by OWNER as non-responsive.

If the Bidder proposes to fulfill any specific construction experience requirement with subcontracted resources, the applicable Subcontractor must be included in the Bidder's Original MBE/WBE Compliance Plan. Failure to include subcontractors on the MBE/WBE Compliance Plan may render your bid non-responsive.

SPECIFIC CONSTRUCTION EXPERIENCE ITEMS REQUIRED:

ITEM 1. Furnish and/or installation of a minimum 3.5 million gallons per day capacity reclaimed or potable water pump station with building and <u>furnish and/or installation of a pre-stressed concrete tank of similar size.</u>

The Bidder shall complete and duplicate the following specific Construction Experience Form as required to provide the requested documentation for a minimum of three (3) successfully completed projects for each of the above specific Construction Experience requirements.

CONSTRUCTION EXPERIENCE DOCUMENTATION FORM

EXPERIENCE ITEM NUMBER: _____

Project Number: _____

Does Bidder plan to self perform this work? YES (_____) NO (_____)

If "NO", provide the following Subcontractor information:

Company Name: _____

Permanent Address: _____

Phone Number: _____

Number of years Subcontractor has been in business under current company name: _____

Name of Project: _____

Location: _____

OWNER's Name: _____

OWNER's Address: _____

OWNER's Contact Person (Print): _____

Phone/Fax No.:_____/_____

Initial Contract Price: _____

Final Contract Price: _____

Contract Start Date: _____ *(Date of Notice To Proceed)*

Contract Time: _____( ) *Calendar Days* ( ) *Working Days*

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

If contract time extensions were added to the contract as a result of Bidder's responsibilities, provide a short explanation of each.

_____

_____

_____

Project Description and why it is comparable to the size, scope, and/or complexity for this item:

_____

_____

_____

_____

_____

_____

ATTACHMENT E

AVAILABLE EQUIPMENT LIST

(Complete and return within three (3) days of notification of the three (3) low bidders' status)

Name of Bidder: _____

IFB Number: **6100 CLMC601**_____

CIP ID Number: **5267.035**_____

Provide a list of equipment that is available to the CONTRACTOR or its Subcontractor(s) and is specifically intended to be used on the Work under this Contract. Also indicate whether the equipment is owned or will be leased by the CONTRACTOR and/or Subcontractor(s).

EQUIPMENT	OWNED OR LEASED	COMMITTED TO ANOTHER PROJECT? (Yes / No)	AVAILABLE / RELEASE DATE

Use additional pages, as necessary

ATTACHMENT F

AVAILABLE WORKFORCE

(Complete and return within three (3) days of notification of the three (3) low bidders' status)

Name of Bidder: _____

IFB Number: 6100 CLMC601_____

CIP ID Number: 5267.035_____

Provide a list of the available workforce for the various disciplines and crafts required for the Work on this Project, including the number of work crews, and number and worker classification for each equipment operator, mechanic, and laborer for that portion of the Work that Bidder will actually perform.

Number of Anticipated Work Crews: _____

DISCIPLINE OR CRAFT	NO. OF EMPLOYEES	COMMITTED TO ANOTHER PROJECT? (Yes / No)	AVAILABLE / RELEASE DATE
Professional (specify)			
Superintendent			
Technical (specify)			
Skilled Workers (specify)			
Semiskilled Workers (specify)			
Equipment Operators (list)			
Other			
Other			

Use additional pages, as necessary

ATTACHMENT G

CURRENT PROJECT LISTING (INCLUDING ALL CITY OF AUSTIN PROJECTS)

(Complete and return within three (3) days of notification of the three (3) low bidders' status)

Name of Bidder: ____

IFB Number: 6100 CLMC601______________________________________

CIP ID Number: 5267.035_____________________________________

Provide a list of all current projects, including *all City of Austin projects*. Include the following for all jobs that Bidder is currently committed to or has currently underway: brief statement regarding the job type; estimated project duration; project contact; and project description.

Name of Project: ______________________________ Location: ______________

Type of Job: ________________________ City of Austin Job? ☐ Yes / ☐ No

Project Start Date: __________________ Estimated Completion Date: __________

Project Contact: __________________________

Brief Description: ____

____

Name of Project: ______________________________ Location: ______________

Type of Job: ________________________ City of Austin Job? ☐ Yes / ☐ No

Project Start Date: __________________ Estimated Completion Date: __________

Project Contact: __________________________

Brief Description: ____

____

Name of Project: ______________________________ Location: ______________

Type of Job: ________________________ City of Austin Job? ☐ Yes / ☐ No

Project Start Date: __________________ Estimated Completion Date: __________

Project Contact: __________________________

Brief Description: ____

____

Name of Project: ______________________________ Location: ______________

Type of Job: ________________________ City of Austin Job? ☐ Yes / ☐ No

Project Start Date: __________________ Estimated Completion Date: __________

Project Contact: __________________________

Brief Description: ____

____

Use additional pages, as necessary

ATTACHMENT H

COMPLETED PROJECTS (INCLUDING ALL CITY OF AUSTIN PROJECTS)

(Complete and return within three (3) days of notification of the three (3) low bidders' status)

Name of Bidder: ____

IFB Number: **6100 CLMC601**______________________________________

CIP ID Number: **5267.035**_____________________________________

Provide a list of all completed projects, including *all City of Austin projects* that Bidder has completed in the past five (5) years by calendar year (or life of company if less than five (5) years). Include the following: a brief statement regarding the job type, the estimated project duration, project contact, and project description.

Calendar Year of __________

Name of Project: ________________________________ Location: ______________

Type of Job: ________________________ City of Austin Job? ☐ Yes / ☐ No

Project Duration: ____________________ Project Contact: ____________________

Brief Description: ____

____

____

Name of Project: ________________________________ Location: ______________

Type of Job: ________________________ City of Austin Job? ☐ Yes / ☐ No

Project Duration: ____________________ Project Contact: ____________________

Brief Description: ____

____

____

Name of Project: ________________________________ Location: ______________

Type of Job: ________________________ City of Austin Job? ☐ Yes / ☐ No

Project Duration: ____________________ Project Contact: ____________________

Brief Description: ____

____

____

Name of Project: ________________________________ Location: ______________

Type of Job: ________________________ City of Austin Job? ☐ Yes / ☐ No

Project Duration: ____________________ Project Contact: ____________________

Brief Description: ____

____

____

Use additional pages as necessary to achieve a representative listing covering 5 years

ATTACHMENT I

BIDDERS AUTHENTICATION

(Complete and return within three (3) days of notification of the three (3) low bidders' status)

Name of Bidder: _____

IFB Number: 6100 CLMC601_____

CIP ID Number: 5267.035_____

THE STATE OF TEXAS

COUNTY OF TRAVIS

I certify that my responses and the information provided in Attachments A-H are true and correct to the best of my personal knowledge and belief and that I have made no willful misrepresentations in this Section, nor have I withheld any relevant information in my statements and answers to questions. I am aware that any information given by me in this Section may be investigated and I hereby give my full permission for any such investigation and I fully acknowledge that any misrepresentations or omissions in my responses and information may cause my bid to be rejected.

Bidder's full name and entity status:

_____

Company's Name

_____

Signature, Authorized Representative of Bidder

_____

Title

_____

Date

SECTION 00100 – INSTRUCTIONS TO BIDDERS

Add the following to Paragraph 7, first paragraph:

(j) Required Texas Water Development Board forms as shown in Section TWDB-0552, to be included with bid: Form TWDB-0459 (Vendor Compliance with Reciprocity of Non-Resident Bidders), Form ED-101 (Site Certificate)(do not complete just submit), Form ED-103 (Contractor's Act of Assurance), Form ED-104 (Contractor's Act of Assurance Resolution), and Form WRD-255 (Bidder's Certifications).

Add the following to Paragraph 9,B:

(17) Failure to submit any of the items in Paragraph 7(i).

SECTION TWDB-0552 – Texas Water Development Board Supplemental Contract Conditions and Instructions for Construction Services for Projects Funded through State Programs

General Notes regarding Section TWDB-0552 Requirements:

1. Any contract or contracts awarded under this Invitation for Bids is/are expected to be funded in part by a loan or grant from the Texas Water Development Board (TWDB). Neither the state of Texas, nor any of its departments, agencies or employees are or will be a party to this Invitation for Bids or any resulting contract. The requirements of Section TWDB-0552 shall govern over all other sections of the Contract Documents, as applicable.
2. This project is not funded by EDAP or DFund mechanisms, and therefore the U.S. Iron and Steel and Manufactured Goods and the Employment of Local Labor requirements do not apply to this project.

END

Part 1 – GENERAL

1.1. Description

A. Allowance is defined as "a not-to-be-exceeded amount", either individually or in the aggregate, which is established between the Owner and the Contractor as part of its Bid Proposal when the precise scope of a particular line item(s) has not been defined to a level which is adequate for the Contractor to provide a definitive line item pricing for that particular scope of Work. The use of any Allowances by the Contractor will be subject to the Owner's sole approval and it is the Owner's intent to minimize the use of Allowances to the fullest extent possible. For any Allowances which the Owner allows the Contractor to use, the following rules shall apply: (i) Allowances shall cover the cost to the Contractor of the Cost of Work; (ii) Contractor's overhead and profit associated with the stated Allowance shall be included in the Allowance; and (iii) upon completion of the portion of the Work subject to an Allowance, the Contract Amount for that portion of the Work will be adjusted based upon the approved actual cost of the Work, which will not exceed the approved aggregate amount of the Allowances."

B. If actual cost exceeds this Allowance, a Change Order must be approved for additional costs.

1.2. Submittals

A. Cost proposal for work.

B. Cost invoice for materials to the Engineer/Architect in accordance with Specification 00700 - General Conditions.

PART 2 • PRODUCTS

NOT USED

PART 3• EXECUTION

3.1. General

A. The Contractor shall include in his Bid the allowance as stated in the Specifications.

B. The stated allowance represents the cost for purchase and installation of the materials and equipment by others, including all applicable taxes.

C. The Contractor's overhead and profit contemplated for the original allowance material and equipment shall be included as indicated in this section. Profit shall be limited to 10%.

D. If the actual cost of the work, including all applicable taxes is more or less than the allowance, the Contract sum will be adjusted accordingly by change order.

3.2. Allowances

A. Site Clearing Trash Disposal - (not typical clearing and grubbing)

B. Security Equipment Installation and Commissioning – includes installation of General Contractor supplied equipment (see security equipment Bill of Materials on drawings), conductors for equipment, installing equipment in General Contractor supplied cabinet, programming security equipment, connecting to communications network, and commissioning of system.

C. Contractor Employees ID Badges and Background Checks.

END

SECTION 01040
PROJECT COORDINATION

PART 1 GENERAL

1.01 SUBMITTALS

A. Informational:

1. Statement of Qualification (SOQ) for land surveyor or civil engineer.
2. Statement of Qualification (SOQ) for photographer and videographer.
3. Photographs: Section 01380, Construction Photography and Videos.

1.02 RELATED WORK AT SITE

A. General:

1. Other work that is either directly or indirectly related to scheduled performance of the Work under these Contract Documents, listed henceforth, is anticipated to be performed at Site by others.
2. Coordinate the Work of these Contract Documents with work of others as specified in General Conditions.
3. Include sequencing constraints specified herein as a part of Progress Schedule.

B. Power:

1. Agency and Contact Person: Danny Cummins
Austin Energy
St. Elmo Service Center
Ofc: (512) 505-7651
Fax: (512) 505-7742
danny.cummins@austinenergy.com

2. Work to be performed by Austin Energy:
   a. Incoming aerial power lines.
   b. Transformers supplying main electrical service to the facility.
   c. Metering facilities, except as indicated.
3. Work to be performed by Contractor:
   a. Coordinate Contractor's Work with Austin Energy.
   b. Incoming power, trench, and backfill, and duct system.
   c. Transformer site preparation and pad(s).
   d. As indicated.
   e. Perform Work in accordance with Austin Energy requirements and codes.
4. Owner will be responsible for payment of direct charges of Austin Energy.

C. Gas:

1. Agency and Contact Person:
   a. Tony Garcia
      P: 512-401-1507; C: 915-525-0210
      agarcia@txgas.com
2. Work to be performed by Contractor:
   a. When digging within 10’ of a transmission or HPD line, please make contact with Anthony (Tony) Garcia at least 48 hours in advance so that a TGS representative can be scheduled to be present during all excavation activities. Please maintain at least 5’ (OD to OD) from the transmission or HPD line as well.

D. Greater Austin Area Telecommunications Network (GAATN :

1. Agency and Contact Person:
   Tracy Gunderson
   Supervisor-Network Services Group-Transition & Design
   Communications & Technology Management
   City of Austin
   Office: 512-974-9079
   Fax: 512-974-2091

2. Work to be performed by GAATN
   a. Furnish and install fiber cables from Montopolis on Austin Energy Power poles into Austin Water Utility Pump Station site
   b. Transition fiber cables from power poles to conduit in duct bank provided by contractor to pump station control room.
   c. Furnish and install termination panel for fiber cables in pump station control room.
3. Work to be performed by Contractor:
   a. Furnish and install conduit and duct system for fiber from Austin Energy power pole to pump station control room.
   b. Provide power to GAATN termination panel.

E. Applications Software Development:

1. Owner or an Owner Representative will perform programming of applications software for certain portions of Process Instrumentation and Control Subsystem (PICS). Refer to Section 13400, Process and Instrumentation Control Systems (PICS).
   a. Coordinate and deliver to Owner hardware and standard software components, as specified for PICS.
   b. Sequencing: Include sequencing constraints specified herein as part of Progress Schedule.
2. Deliver hardware specified in Sections 13321, Wireless Broadband Subsystem, 13400, Process and Instrumentation Controls Systems

(PICS), 13420 Instrumentation and Control Components, 13430 Distributed Control System no later than 120 days after Effective Date of the Agreement**.**

3. Allowance for interruptions to the Work because of testing of developed applications software:
   a. During Functional Testing and Performance Testing, Contractor shall plan for interruption of testing of the Work to allow Owner or an Owner Representative to investigate software problems, make software configuration changes, and conduct additional testing.
   b. Allowance for Interruptions: 20 days total.
   c. When applications software testing is delayed because of altered equipment interfaces or receipt of incorrect Shop Drawing information, duration of delay will be excluded from interruption allowance, unless notified otherwise by Engineer.

F. Water For Testing

1. Agency and Contact Person:
   Dan Pedersen
   Reclaimed Program Manager
   Austin Water
   City of Austin
   Office: 512-972-0074
   Fax: 512-974-3504
2. Austin Water will provide reclaimed water for testing pipes and storage reservoir. Contractor to provide pipes and fittings required to transfer water from reclaimed water pipeline on Montopolis Drive to the Work.

1.03 UTILITY NOTIFICATION AND COORDINATION

A. Coordinate the Work with various utilities within Project limits. Notify applicable utilities prior to commencing Work, if damage occurs, or if conflicts or emergencies arise during the Work.

1.04 FACILITY OPERATIONS

A. Continuous operation of Owner's facilities is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified.

B. Perform Work continuously during critical connections and changeovers, and as required to prevent interruption of Owner's operations.

C. When necessary, plan, design, and provide various temporary services, utilities, connections, temporary piping and heating, access, and similar items to maintain continuous operations of Owner's facility.

D. Do not close lines, open or close valves, or take other action which would affect the operation of existing systems, except as specifically required by the Contract Documents and after authorization by Owner and Engineer. Such authorization will be considered within 48 hours after receipt of Contractor's written request.

E. Install and maintain bypass facilities and temporary connections required to keep Owner's South Austin Regional WWTP and Reclaimed Water System operations on line. Sequences other than those specified will be considered upon written request to Owner and Engineer, provided they afford equivalent continuity of operations.

F. Do not proceed with Work affecting a facility's operation without obtaining Owner's and Engineer's advance approval of the need for and duration of such Work.

G. Relocation of Existing Facilities:

1. During construction, it is expected that minor relocations of Work will be necessary.
2. Provide complete relocation of existing structures and Underground Facilities, including piping, utilities, equipment, structures, electrical conduit wiring, electrical duct bank, and other necessary items.
3. Use only new materials for relocated facility. Match materials of existing facility, unless otherwise shown or specified.
4. Perform relocations to minimize downtime of existing facilities.
5. Install new portions of existing facilities in their relocated position prior to removal of existing facilities, unless otherwise accepted by Engineer.

1.05 ADJACENT FACILITIES AND PROPERTIES

A. Examination:

1. After Effective Date of the Agreement and before Work at Site is started, Contractor, Engineer, and affected property owners and utility owners shall make a thorough examination of pre-existing conditions including existing buildings, structures, and other improvements in vicinity of Work, as applicable, which could be damaged by construction operations.
2. Periodic reexamination shall be jointly performed to include, but not limited to, cracks in structures, settlement, leakage, and similar conditions.

B. Documentation:

1. Record and submit documentation of observations made on examination inspections.

2. Upon receipt, Engineer will review, sign, and return one record copy of documentation to Contractor to be kept on file in field office.
3. Such documentation shall be used as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of Contractor's operations, and is for the protection of adjacent property owners, Contractor, and Owner.
4. Contractor to provide a record copy to City Construction Inspector.

1.06 CONSTRUCTION PHOTOGRAPHS AND VIDEO

A. As specified in Section 01380, Construction Photography and Videos.

1.07 REFERENCE POINTS AND SURVEYS

A. Owner's Responsibilities:

1. Establish bench marks as shown on Drawings.
2. Establish horizontal reference points or coordinate system with bench marks and reference points for Contractor's use as necessary to lay out Work.
3. Engineer and Owner will not perform any additional construction staking or surveying, except as may be required for quality control checks by Owner or Engineer.

B. Location and elevation of bench marks are shown on Drawings.

C. Contractor's Responsibilities:

1. Provide additional survey and layout required to layout the Work.
2. Notify Engineer at least 7 working days in advance of time when grade additional information to be provided by Owner will be needed.
3. Check and establish exact location of existing facilities prior to construction of new facilities and any connections thereto.
4. In event of discrepancy in data provided by Owner, request clarification before proceeding with Work.
5. Retain professional land surveyor or civil engineer registered in state of Project who shall perform or supervise engineering surveying necessary for additional construction staking and layout.
6. Maintain complete accurate log of survey work as it progresses as a Record Document.
7. On request of Engineer, submit documentation.
8. Provide competent employee(s), tools, stakes, and other equipment and materials as Engineer may require to:
    a. Establish control points, lines, and easement boundaries.
    b. Check layout, survey, and measurement work performed by others.
    c. Measure quantities for payment purposes.
9. Notify all property owners, prior to accessing property.

10. Preserve all monuments, benchmarks, and reference points.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SALVAGE OF MATERIALS

A. Materials to be salvaged include:

1. None, unless as directed by Owner.

B. Salvage materials for Owner's use as directed.

1. Remove material with extreme care so as not to damage for future use.
2. Promptly remove salvaged materials from Work area.
3. Store materials where instructed by Owner onsite.

C. Meet with Engineer and Owner prior to starting to dismantle equipment or piping designated to be salvaged. Engineer will indicate locations where equipment is to be disconnected.

D. Provide new or repair damaged equipment or material specified or indicated to be salvaged. Clean and protect equipment from dust, dirt, natural elements, and store as directed.

3.02 CUTTING, FITTING, AND PATCHING

A. Cut, fit, adjust, or patch Work and work of others, including excavation and backfill as required, to make Work complete.

B. Obtain prior written authorization Owner before commencing Work to cut or otherwise alter:

1. Structural or reinforcing steel, structural column or beam, elevated slab, trusses, or other structural member.
2. Weather-resistant or moisture-resistant elements.
3. Efficiency, maintenance, or safety of element.
4. Work of others.

C. Refinish surfaces to provide an even finish.

1. Refinish continuous surfaces to nearest intersection.
2. Refinish entire assemblies.
3. Finish restored surfaces to such planes, shapes, and textures that no transition between existing work and the Work is evident in finished surfaces.

D. Restore existing work, Underground Facilities, and surfaces that are to remain in completed Work including concrete-embedded piping, conduit, and other utilities as specified and as shown on Drawings.

E. Make restorations with new materials and appropriate methods as specified for new Work of similar nature; if not specified, use recommended practice of manufacturer or appropriate trade association.

F. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces and fill voids.

G. Remove specimens of installed Work for testing when requested by Engineer.

END OF SECTION

SPECIAL PROVISION
To Standard Specification Item No. 510S
Version 10/03/13
Pipe

For this project, Item 510S, Subgrade Preparation, of the City of Austin Standard Technical Specifications is hereby amended with respect to the clauses cited below. No other clauses or requirements of this section of this City of Austin Standard Technical Specification are waived or changed.

1. **Add** the following to 510.2 (8) (g)

SECTION 510.2 (8) (g) 1 COPPER AND COPPER ALLOY PIPE, TUBING, AND FITTINGS	
Item	Description
General	Materials in contact with potable water shall conform to NSF 61 acceptance.
Pipe	Oxygen Service: Red brass, seamless, standard wall thickness, conforming to ASTM B43.
Tubing	Seamless, conforming to ASTM B88 as follows: Oxygen service — Type K, hard drawn Water (buried) — Type K, soft or hard temper Water (exposed) — Type L, hard drawn Domestic hot water — Type L, hard drawn Compressed air service — Type L, hard drawn Laboratory air service — Type L, hard drawn Laboratory vacuum service — Type L, hard drawn Refrigerant service — Type L, hard drawn P-Trap priming service — Type L, soft temper Sample line service — Type L, hard drawn Laboratory gas service — Type L, hard drawn
Fittings	Oxygen Service: Class 250, ASTM B62 bronze, screwed, dimensions conforming to ASME B16.15 or ASTM B75 wrought copper, socket joint, dimensions conforming to ASME B16.22. Other Services: ASTM B75 commercially pure wrought copper, socket joint, dimensions conforming to ASME B16.22.
Flanges	Oxygen Service: Class 150, ASTM B61 bronze, screwed, ASME B16.24 standard. Other Services: Class 150, ASTM B75 commercially pure wrought copper, socket joint, ASME B16.24 standard.
Bolting	Oxygen Service: ASTM A320/A320M, stainless steel Type 304, Grade B8 bolts, copper silicon hex nuts conforming to ASTM B98 Grade A hard and ASTM F436/F436M Type 3 alloy washers at nuts and bolt heads. Achieve 40 percent to 60 percent of bolt minimum yield stress. Other Services: ASTM A307, carbon steel, Grade A hex head bolts, ASTM A563 Grade A hex head nuts and ASTM F436/F436M hardened steel washers at nuts and bolt heads. Achieve 40 percent to 60 percent of bolt minimum yield stress.
Gaskets	1/16-inch-thick nonasbestos compression type, full face, Cranite, John Manville.

SECTION 510.2 (8) (g) 1 COPPER AND COPPER ALLOY PIPE, TUBING, AND FITTINGS	
Item	Description
Solder	Oxygen Service: Silver brazing alloy, 15 percent silver content, 1185 degrees F to 1300 degrees F melting range, conforming to AWS A5.8. Other Services: Joints 2-1/2 Inch and Smaller: Wire solder (95 percent tin), conforming to ASTM B32 Alloy Grade Sn95. Do not use cored solder. Joints Larger Than 2-1/2 Inch: Wire solder, melt range approximately 440 degrees F to 660 degrees F, conforming to ASTM B32 Alloy Grade HB or HN. Do not use cored solder.

2. **Add** the following section to 510.2 (8)

SECTION 510.2 (8) (p) CARBON STEEL PIPE AND FITTINGS—GENERAL SERVICE		
Item	Size	Description
Pipe	All	Black carbon steel, ASTM A106/A106M, Grade B seamless or ASTM A53/A53M, Grade B seamless or ERW. Threaded, butt-welded, grooved end, and flanged joints:
	Screwed:	
	2" & smaller	Schedule 40.
	Welded:	
	2-1/2" thru 10"	Schedule 40.
	12" thru 16"	Schedule 30.
	18" thru 24"	Schedule 20.
	Grooved:	
	2-1/2" thru 6"	Schedule 40.
	8" thru 12" inch	Schedule 30.
	14"	Standard weight.
Joints	2" & smaller	Threaded or flanged at valves and equipment or grooved end meeting the requirements of AWWA C606.
	2-1/2" & larger	Butt-welded or flanged at valves and equipment, or grooved end meeting the requirements of AWWA C606.

SECTION 510.2 (8) (p) CARBON STEEL PIPE AND FITTINGS—GENERAL SERVICE		
Item	Size	Description
Fittings	2" & smaller	Threaded: 150- or 300-pound malleable iron, ASTM A197/A197M or ASTM A47/A47M, dimensions in accordance with ASME B16.3. Fire sprinkler fittings to be UL listed. Grooved End: Malleable iron ASTM A47/A47M or ductile iron ASTM A536, grooved ends to accept couplings without field preparation. Victaulic Co.; Anvil International, Inc., Gruvlok.
	2-1/2" & larger	Butt Welded: Wrought carbon steel butt-welding, ASTM A234/A234M, Grade WPB meeting the requirements of ASME B16.9; fitting wall thickness to match adjoining pipe; long radius elbows unless shown otherwise. Grooved End: Malleable iron ASTM A47/A47M, ductile iron ASTM A536, forged steel ASTM A234/A234M, or factory fabricated from ASTM A53/A53M pipe. Grooved ends to accept couplings without field preparation. Victaulic Co.; Anvil International, Inc., Gruvlok; Shurjoint Piping Products.
Branch Connections	2" & smaller	For threaded pipe: Threaded, straight, or reducing tees in conformance with Fittings specified above. For welded or grooved pipe, use threadolet.
	2-1/2" & larger	Butt-welding or grooved end tee in conformance with Fittings specified above.
Flanges	2" & smaller	Forged carbon steel, ASTM A105/A105M, Grade II, ASME B16.5 Class 150 or Class 300 socket-weld or threaded, 1/16-inch raised face.
	2-1/2" & larger	Butt-Welded Systems: Forged carbon steel, ASTM A105/A105M, ASME B16.5 Class 150 or Class 300 slip-on or welding neck, 1/16-inch raised face; weld neck bore to match pipe internal diameter. Use weld neck flanges when abutting butt-weld fittings. Weld slip-on flanges inside and outside. Grooved End Adapter Flange: Malleable iron ASTM A47/A47M or ductile iron ASTM A536. Victaulic Style 741 or 743; Anvil International, Inc., Gruvlok Figure 7012 or 7013; Shurjoint Model 7041-A. Include stainless steel washer plates as required for mating to serrated faces and lined valves and equipment. Cast Iron Mating Flange: AWWA C207, Class D or E, hub or ring type to mate with ASME B16.1, Class 125 cast-iron flange. AWWA C207 Class F hub type or ASTM A105/A105M, ASME B16.5 Class 300 to mate with ASME B16.1 Class 250 cast-iron flange.

SECTION 510.2 (8) (p) CARBON STEEL PIPE AND FITTINGS—GENERAL SERVICE		
Item	Size	Description
Unions	2" & smaller	Threaded malleable iron, ASTM A197/A197 or ASTM A47/A47M, 150- or 300-pound WOG, meeting the requirements of ASME B16.3.
Couplings	2-1/2" & larger	Grooved End: Rigid joint malleable iron, ASTM A47/A47M or ductile iron, ASTM A536. Victaulic Co.; Anvil International, Inc., Gruvlok; Shurjoint Piping Products. Screwed End: Malleable iron, ASTM A197/A197M or ASTM A47/A47M.
Bolting	All	Flanges: Carbon steel ASTM A307, Grade A hex head bolts; ASTM A563, Grade A hex head nuts and ASTM F436/F436M hardened steel washers at nuts and bolt heads. Achieve 40 percent to 60 percent of bolt minimum yield stress. When mating flange on equipment is cast iron and gasket is flat ring, provide ASTM A307, Grade B hex head bolts; ASTM A563, Grade A heavy hex nuts and ASTM F436/F436M hardened steel washers at nuts and bolt heads. Achieve 40 percent to 60 percent of bolt minimum yield stress. Grooved End Couplings: Carbon steel, ASTM A183 bolts and nuts, 110,000 psi minimum tensile strength. [Flanged Joints in Sumps, Wet Wells, and Submerged and Wetted Installations: Type 316 stainless steel, ASTM A320/A320M, Grade B8M hex head bolts; ASTM A194/A194M, Grade 8M hex nuts and ASTM F436/F436M Type 3 alloy washers at nuts and bolt heads. Achieve 40 percent to 60 percent of bolt minimum yield stress.]
Gaskets	All flanges	Water, Steam, and Air Services: 1/16-inch-thick, compressed inorganic fiber with nitrile binder, rated 400 degrees F. continuous. Fuel Gas Service: 1/8-inch-thick, homogeneous black rubber (EPDM), hardness 60 (Shore A), rated 250 degrees F. continuous and conforming to ASME B16.21 and ASTM D1330, Steam Grade. Blind flanges shall be gasketed covering the entire inside face with the gasket cemented to the blind flange. Grooved Couplings: EPDM per ASTM D2000 for water and oil-free air to 230 degrees F, nitrile for oil vapor in air and oil services to 180 degrees F. [NSF 61 approved for potable water service.]
Thread Lubricant	2" & smaller	General Service: 100 percent virgin PTFE Teflon tape. Fuel Gas Service: Yellow Teflon tape designed for fuel gas service, Air Force A-A-58092, AA Thread Seal Tape, Inc.

3. **Add** the following section to 510.2 (8)

SECTION 510.2 (8) (q) STAINLESS STEEL PIPE AND FITTINGS—GENERAL SERVICE		
Item	Size	Description
Pipe	2-1/2" & smaller	Schedule 40S: ASTM A312/A312M, Type 316 seamless, pickled and passivated.
	3" thru 6"	Schedule 10S: ASTM A778, "as-welded" grade, Type 316L, pickled and passivated.
	8" & larger	Schedule 5S: ASTM A778, "as-welded" grade, Type 316L, pickled and passivated.
Tubing	All	ASTM A269, Type 316 stainless steel, seamless, fully annealed hydraulic tubing, 0.065-inch wall thickness minimum.
Joints	1-1/2" & smaller	Threaded or flanged at equipment as required or shown.
	2" & larger	Butt-welded or flanged at valves and equipment.
Tubing Joints	All	Flareless compression fitting
Fittings	1-1/2" & smaller	Threaded: Forged 1,000 CWP minimum, ASTM A182/A182M, Grade F316 or cast Class 150, ASTM A351/A351M, Grade CF8M/316.
	2" & 2-1/2"	Butt Welded: ASTM A403/A403M, Grade WP316L conforming to ASME B16.9 and MSS SP 43, annealed, pickled and passivated; fitting wall thickness to match adjoining pipe; long radius elbows, unless shown otherwise.
	3" & larger	Butt-Welded: ASTM A774/A774M Grade 316L conforming to MSS SP 43, "as-welded" grade, pickled and passivated; fitting wall thickness to match adjoining pipe; long radius elbows, unless shown otherwise.
Tubing Fittings	All	Flareless Compression Type Forged: ASTM A182/A182M, Grade F316, Parker-Hannifin Ferulok, Flodar BA Series.
Branch Connections	1-1/2" & smaller	Tee or reducing tee in conformance with fittings above.
	2" & larger	Butt-welding tee or reducing tee in accordance with fittings above.
Tubing Branch Connections	All	Compression type tees or reducing tees in accordance with Tubing Fittings above.

SECTION 510.2 (8) (q) STAINLESS STEEL PIPE AND FITTINGS—GENERAL SERVICE		
Item	Size	Description
Flanges	All	Forged Stainless Steel: ASTM A182/A182M, Grade F316L, ASME B16.5 Class 150 or Class 300, slip-on weld neck or raised face. Weld slip-on flanges inside and outside. Cast Carbon Steel: ASTM A216/A216M Grade WCA, drilled, ASME B16.5 Class 150 or Class 300 Van Stone Type with stainless steel stub ends, ASTM A240 Type 316L "as-welded grade", conforming to MSS SP 43, wall thickness same as pipe. Blind Flanges, exposed to the atmosphere and not buried nor immersed in liquid, may be either stainless steel or Class 125 ductile iron or Class 150 carbon steel with gaskets as specified herein.
Unions	2" & smaller	Threaded Forged: ASTM A182/A182M, Grade F316, 2,000-pound or 3,000-pound WOG, integral ground seats, AAR design meeting the requirements of ASME B16.11, bore to match pipe.
Bolting	All	Forged Flanges: Type 316 stainless steel, ASTM A320/A320M Grade B8M hex head bolts, ASTM A194/A194M Grade 8M hex head nuts and ASTM F436/F436M Type 3 alloy washers at nuts and bolt heads. Achieve 40 percent to 60 percent of bolt minimum yield stress. Van Stone Flanges and Anywhere Mating Flange on Equipment is Cast Iron and Gasket is Flat Ring: Carbon steel ASTM A307 Grade B hex head bolts, ASTM A563 Grade A hex head nuts and ASTM F436/F436M hardened steel washers at nuts and bolt heads. Achieve 40 percent to 60 percent of bolt minimum yield stress. Flanged Joints in Sumps, Wet Wells, and Submerged and Wetted Installations: Type 316 stainless steel, ASTM A320/A320M, Grade B8M hex head bolts and ASTM A194/A194M, Grade 8M hex nuts and ASTM F436/F436M Type 3 alloy washers at nuts and bolt heads. Achieve 40 percent to 60 percent of bolt minimum yield stress.
Gaskets	All Flanges	Flanged, Water, Hot Air, Fuel Gas, and Sewage Services: 1/8 inch thick, homogeneous black rubber (EPDM), hardness 60 (Shore A), rated to 250 degrees F. continuous and conforming to ASME B16.21 and ASTM D1330, Steam Grade. Blind flanges shall be gasketed covering entire inside face with gasket cemented to blind flange.

SECTION 510.2 (8) (q) STAINLESS STEEL PIPE AND FITTINGS—GENERAL SERVICE		
Item	Size	Description
Thread Lubricant	2" & smaller	General Service: 100 percent virgin PTFE Teflon tape. Fuel Gas Service: Yellow Teflon tape designed for fuel gas service, Air Force A-A-58092, AA Thread Seal Tape, Inc.

4. **Add** the following after the first paragraph of 510.3(14)(a):

   The bedding envelope for the 36-inch reclaimed pipe shall contain Controlled Low Strength Material (CLSM) per Standard Specification No. 402S to the spring line of the pipe. When placing CLSM, the contractor should ensure the pipe is properly anchored to prevent hydrostatic uplift. The remaining bedding envelope shall be as described in existing 510.3(14)(a).

5. Delete subsection 510.3 (26) (e) and Replace with the following subsection:

   (26) (e) See Special Specification 15955 Process Piping Leakage Testing

   Delete subsection 510.3 (27) and Replace with the following subsection:

   (27) See Special Specification 15955 Process Piping Leakage Testing

END

SECTION 03315 PRESTRESSED CONCRETE TANK

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American Concrete Institute (ACI):
   a. 305R, Hot Weather Concreting.
   b. 350, Code Requirements for Environmental Engineering Concrete Structures and Commentary.
   c. 372R, Design and Construction of Circular Wire and strand Wrapped Prestressed Concrete Structures.
   d. b. 506R, Guide to Shotcrete.
   e. c. 506.2, Specification for Shotcrete.

2. ASTM International (ASTM):
   a. A82, Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
   b. A185, Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
   c. A416, Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete.
   d. A615, Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
   e. A1008, Standard Specification for Commercial Steel (CS) Sheet, Carbon, (0.15 Maximum Percent) Cold-Rolled.
   f. C42, Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
   g. C920, Standard Specification for Elastomeric Joint Sealants.
   h. D1056, Standard Specification for Flexible Cellular Materials – Sponge or Expanded Rubber.
   i. D1752, Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

3. American Water Works Association (AWWA), D110, Wire and Strand-Wound, Circular, Prestressed Concrete Water Tanks.
4. International Code Council (ICC): International Building Code (IBC).
5. ASCE Standard 7 Minimum Design Loads for Buildings and Other Structures.

1.02 DEFINITIONS

A. Prestressed Tank System: Consists of a cast-in-place concrete floor slab, a core wall, and dome roof.

B. Shotcrete: Mortar projected jet directly upon intended surface.

1.03 DESIGN REQUIREMENTS

A. Obtain services of a qualified design engineer, as defined in Article QUALITY ASSURANCE, to design Prestressed Tank System conforming to attributes specified in this section.

B. Floor Slab: Cast-in-place concrete, minimum 6-inches thick with minimum reinforcing in slab equals 0.005 times concrete section.

C. Roof: Cast-in-place or precast concrete dome with minimum thickness of 4 inches and minimum reinforcing of 0.005 times concrete section.

D. Walls: Precast concrete core wall with steel diaphragm, vertical joint seals, and shotcrete coverings. Walls placed on elastomeric bearing pads, free to move radially, and plastic water stop connection between wall and footing. Satisfy allowable stress requirements when calculating wall thicknesses.

E. Openings and Penetrations: Except for the openings shown on the Drawings, other openings or penetrations through wall not permitted.

F. Design Loads and Foundation Criteria:

1. Storage Capacity: 4.0 million gallons.
2. Roof Live Load: 20 psf for dome roof.
3. Wind Load: in accordance with IBC Section 1609, with basic wind speed (3 second gust) of 90 mph, exposure C, and Wind Importance Factor Iw = 1.15.
4. Winter Temperature: Water 50 degrees F, and outside air 32 degrees F.
5. Summer Temperature: Water 60 degrees F, and outside air 100 degrees F.
6. Differential Drying Allowance: 10 degrees F shall be additive to temperature differential during winter.
7. Liquid Unit Weight: 62.4 pcf.
8. Design Overflow Rate for Overflow Weir: 5000 gpm.
9. Design Draw-down Rate for Vents: 63,000 gpm.
10. Maximum Foundation Bearing Pressure: 3,000 psf (bearing pressure includes weight of water).
11. Maximum Differential Settlement: 1/2 inch.

12. Seismic Zone Forces: In accordance with IBC, Section 1615, with foundation soils classified as Class C.

1.04 SUBMITTALS

A. Shop Drawings:

1. Design Data:
   a. Proposed details, concepts, stress calculations, and overflow pipe opening for prestressed tank walls.
   b. For design loads and foundation criteria, show calculations and details based on the seismic zone forces.
   c. Details for sealing vertical joints of steel diaphragm shell.
   d. Details of prestressed tank accessories.
   e. Calculations stamped by professional engineer registered in Texas.
   f. Design drawings stamped by a professional engineer registered in Texas.

      1) Curing methods for dome concrete.
      2) Description of construction method and materials.

B. B. Samples: Vertical joint of steel diaphragm shell to show evidence of satisfactory seal.

C. C. Information Submittals:

1. Manufacturer’s Certificate of Compliance:
   a. Shotcrete sand.
   b. Concrete and shotcrete admixtures do not contain chlorides or other corrosive chemicals.

2. Manufacturer’s Certificate of Proper Installation.
3. Statements of Qualification:
   a. Registered professional engineer.
   b. Prestressed tank installer.
4. Written Test Reports of Each Test and Inspection:
   a. Shotcrete.
   b. Test reports for prestressing steel components.
   c. Mill test data for circumferential prestressing material regardless of manufacture. Include chemical composition, physical properties, and dimensions of steel. Mill test data for at least three samples of final prestressing material taken from material delivered to site. Identify each roll that Samples were taken from. Identify packages or rolls of prestressing material with mill and heat number.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Qualified Design Engineer: Registered in Texas.
2. Prestressed Tank Installer:
   a. Company specializing in design and construction of prestressed tanks. Minimum 10 years' experience on tanks of similar size and type required for Project. Company has designed and built in its name or under one of its divisions no less than 20 AWWA D110 Prestressed Concrete Tanks with a Type III core wall now in use and are giving satisfactory service. Tanks shall have been constructed within the last 10 years. Include name and address of owners.
   b. Experience in the design and construction of AWWA D110 Type I, Type II, or Type IV tanks is not acceptable.
   c. The Tank Contractor shall have in its employ a design professional with a minimum of 10 years experience.

B. Shotcrete Panel Mockups:

1. When not using automated equipment, assemble test panel at least 30 inches by 30 inches for each mix being considered.
2. Assemble test panels to same thickness as structure, but not less than 3 inches.
3. Take minimum three cubes or cores from panels for strength testing of shotcrete.
4. Cut or broken surfaces shall be dense and free from laminations and sand pockets.
5. Retain and maintain test panels during construction to establish standards by which completed shotcrete Work will be judged.
6. Independent Testing Laboratory Services will:
   a. Test proposed materials, including water.
   b. Test proposed mix proportions.
   c. Test specimens.
   d. Secure production samples of materials at plants or stockpiles during construction and test.
   e. Test strength of shotcrete as Work progresses.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Materials delivered prior to time required, store in a dry, ventilated building, heat if necessary to prevent accumulation of moisture on materials or in wrapping. Do not store on ground or expose to weather.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Delay Work under the following conditions:

1. During high winds causing sand to separate at the nozzle.
2. When weather approaches freezing defined as below 40 degrees F when temperature is falling, or until temperature is 35 degrees F when temperature is rising.
3. During rains of high intensity to wash cement out of fresh material.

B. Cold Weather: Take precautions to avoid low temperatures detrimental to epoxy grout or the ability to pump. If grouting procedure cannot be postponed, keep wall temperatures within the required temperature range.

C. Hot Weather: When temperatures exceed 90 degrees F, obtain approval for method used to protect shotcrete from excessive heat and drying. Hot weather shotcreting shall be in accordance with ACI 305R.

D. Do not expose circumferential prestressing on walls to weather for more than 72 hours. Exercise precautions during adverse weather conditions.

1.08 SPECIAL GUARANTEE

A. The tank manufacturer shall supply a special guarantee that the circumferential prestressing and shotcrete are free from defects in workmanship and materials for a period of 5 (five) years after substantial completion of the Project. If within 5 (five) years, workmanship or materials are proved defective, the tank contractor shall repair such defects at his own expense.

1.09 MANUFACTURERS

A. DN Tanks, Inc., Delaware (Natgun Corporation, Massachusetts, and DYK Incorporated, California, Divisions of DN Tanks)

B. Preload, LLC, Louisville, KY

PART 2 PRODUCTS

2.01 CONCRETE

A. In accordance with City Standard Technical Specifications Series 400, except that a 3/8-inch maximum size aggregate may be used for dome concrete if designed for strength and maximum density.

B. Minimum Design Strengths:

1. Dome Roof: 4,000 psi at 28 days.
2. Core Wall: 4,000 psi at 28 days.
3. Floor Slab: 4,000 psi at 28 days.

C. Admixtures: As specified in City Standard Technical Specifications Series 400.

2.02 SHOTCRETE

A. Fine Aggregates (Sand):

1. Saturated, surface dry, hard, dense, uncoated rock fragments free from injurious amounts of foreign or deleterious substances as specified in City Standard Technical Specifications Series 400.
2. Fineness Modulus for Sand: Range from 2.40 to 2.75 with maximum particle size of 1/4 inch.
3. Maintain sand at 3 to 6 percent moisture content; dampen or dry with sand dryers if necessary.
4. Gradation:
   Sieve Size Percent Passing by Weight
   3/8 inch 100 No. 4 97 - 100 No. 8 90 - 98
   No. 16 70 - 85 No. 30 35 - 55 No. 50 12 - 25
   No. 100 2 -8

B. Screen sand for finish coat to produce uniform dense surface in texture and appearance.

C. Water and Cement: As specified in City Standard Technical Specifications Series 400.

D. D. Admixtures: As specified in City Standard Technical Specifications Series 400.

E. E. Minimum design strength 4,000 psi at 28 days.

2.03 MORTAR FILL AND NON-SHRINK GROUT

A. Mortar fill and non-shrink grout shall have a minimum compressive strength of 4,000 psi at twenty-eight days, have a maximum water to cement ratio of 0.42 and meet all requirements for concrete contained in this specification.

B. Portland cement grout will not be accepted.

2.04 ELASTOMERIC MATERIALS

A. A 9 inch minimum waterstop with centerbulb shall be polyvinyl chloride meeting the requirements of the Corps of Engineers Specification CRD-C 572. Splices shall be made in accordance with the Manufacturer's recommendations subject to the approval of the Engineer. Waterstop shall be manufactured by Greenstreak Plastic Products Company, Inc., or equal.

B. Bearing pads shall be natural rubber or neoprene.

1. Natural rubber bearing pads shall contain only virgin natural polyisoprene as the raw polymer and the physical properties shall comply with ASTM D2000 Line Call-Out M 4 AA 414 A1 3.

2. Neoprene bearing pads shall have a hardness of 40 to 50 durometer, a minimum tensile strength of 1,500 psi, a minimum elongation of 500%, and a maximum compressive set of 50%. Pads shall meet the requirements of ASTM D2000 Line Call-Out M 2 BC 410 A1 4 B14 or M 2 BC 414 A14 C12 F17 for 40 durometer material.

C. Sponge filler shall be closed-cell neoprene or rubber conforming to ASTM D1056, Type 2, Class A, and Grade 1 or 3. Compression deflection limited to 25% at 2 to 5 psi.

D. Polysulfide or polyurethane sealant will be a two or three component elastomeric compound meeting the requirements of ASTM C920. Sealants shall have permanent characteristics of bond to metal surfaces, flexibility, and resistance to extrusion due to hydrostatic pressure. Air cured sealants shall not be used.

2.05 WELDED WIRE FABRIC

A. In accordance with ASTM A82 and ASTM A185.

2.06 MILD STEEL REINFORCING

A. Deformed Grade 60 bars with maximum service load design, allowable stress of 18,000 psi in accordance with ASTM A615.

2.07 CIRCUMFERENTIAL PRESTRESSING STEEL

A. High Tensile High Carbon Steel Wire:

1. Diameter Tolerance of Wire: Plus or minus 0.002 inch.
2. Tensile Strength: Minimum 210,000 psi.
3. Yield Strength at 1 Percent Extension: Minimum 170,000 psi.
4. Elongation in 10 Inches at Fracture: Minimum 4 percent.
5. Bending (R equals 5D): Minimum 6 bends per 90 degrees.
6. Meet requirements of ASTM A821.

B. Anchorage: Prestressing manufacturer's standard and capable of safely developing full strength of units, and not susceptible to galvanic action with prestressed steel.

C. Prestressing Steel Requirements:

1. Initial prestress force in circumferential prestressing units after anchoring shall not exceed 70 percent of guaranteed ultimate strength. Coordinate value with tolerance requirements and reflect values in calculations.
2. Final prestress force in circumferential prestressing units, when using nonelectronic or electronic wrapping machine, not capable of close stress tolerance, shall be determined by using stress loss of 25,000 psi for concrete shrinkage, plastic flow, and creep in steel plus 6 percent of initial wire stress system tolerances.
3. Calculate final circumferential prestress force and location on wall. Final prestress force shall provide for minimum residual compression in wall, above that required to resist internal water pressure of 200 psi. Maximum compression in core wall limited to 0.45 times design strength of core wall when using final prestress force after all losses. Maximum initial compression in core wall limited to 0.55 times design strength of core wall. Calculate wall thickness to comply with these requirements and bending requirements.

2.08 STEEL DIAPHRAGM SHELL

A. Tank diaphragm in accordance with ASTM A1008 for Commercial Quality cold-rolled steel sheet. Minimum of 26-gauge sheet and form corrugations of a pattern to form a continuous positive watertight seal and a strong mechanical key between shotcrete and steel. Furnish steel sheets in one continuous length to full height of wall. Vertical joints between sheets.

2.09 SHOTCRETE MIX PROPORTIONS

A. Adjacent to Steel Diaphragm and Over Wires: 1 part cement to 3 parts sand.

B. All Other: 1 part cement to 4 parts sand.

2.10 LADDERS AND HANDRAILS

A. Provide an aluminum exterior ladder as shown on the Drawings and in accordance with Section 05500, METAL FABRICATIONS.

B. Provide aluminum handrail as shown on the Drawings and in accordance with Section 05521, ALUMINUM RAILINGS.

PART 3 EXECUTION

3.01 GENERAL

A. Foundation:

1. Encase tank piping under foundations in concrete.

B. Welded Wire Fabric: Adequately support prior to placement of concrete.

3.02 CORE WALL

A. Do not begin prestressing until core wall has obtained a compressive field strength of 4,000 psi or higher as determined by tests.

3.03 CIRCUMFERENTIAL PRESTRESSING

A. Apply uniformed stressed steel wire to core wall using a wrapping machine to provide the final prestressing force per linear foot of wall height. Electronic servo controlled wrapping systems with automatic electronic recording may be used. Nonelectronic wrapping machines may also be used.

B. Stress Measurement and Recording:

1. Apparatus capable of measuring stress of circumferential prestressing units accurately.
2. Gauges or other stress measuring apparatus calibrated by a recognized gauge manufacturer or testing laboratory on wire samples taken from prestressing steel delivered to site to be used in the Work.
3. Perform calibration work performed within 15 days prior to prestressing.
4. Recalibrate stress measuring apparatus during progress of Work.
5. If stresses measured exceed values specified, discontinue operation and make satisfactory adjustments prior to proceeding with wrapping.
6. Apply additional wire to compensate for understressed wire.
7. Base measurements of wire stress on a continuous sensing of applied force on wire between tensioning drum and wall when, and as, wire is being wrapped and laid on wall.

C. Splicing of Wire:

1. Do not weld splice wire, except when terminating one complete coil or in event of a defect.
2. Join ends of wire with steel sleeves or splicing devices which will develop full strength of wire without slippage or loss of stress.
3. Anchor stressed prestressing steel, or tie off at frequent intervals as stressing proceeds to minimize loss of stress in event of breakage.
4. Remove from Work, coils of prestressing steel which have broken three or more times.

5. Stress prestressing steel only once.

D. Spacing:

1. Space at minimum five wires of 0.162 to 0.192 inch in diameter, per foot of wall height, and maximum 22 wires per foot.
2. Minimum clear spacing between units not less than 1.5 unit diameters or 3/8 inch, whichever is larger.
3. Spread or remove from Work prestressing steel wrapped closer together.
4. Space wire of other diameters.
5. Wires in contact with each other shall be rejected.

3.04 SHOTCRETING OF CIRCUMFERENTIAL PRESTRESSING STEEL

A. In accordance with ACI 506.2 and ACI 506R. Application of dry or wet mix is acceptable.

B. Cover each layer and outer layer of prestressing steel with a coating of shotcrete. Work from bottom to top of wall.

C. Completely embed the prestressing steel without voids. Maintain uniform flow of material from nozzle.

D. Cut out slugs, sand spots, or wet sloughs resulting from nonuniform material flow and repair as Work progresses.

E. Clear rebound away from Work before initial set occurs.

F. Time the intervals between successive applications to allow for initial set to develop. After initial set, stiff broom shotcrete layers receiving another coat to remove laitance and to provide a bond with succeeding applications.

G. Adjust amount of water in shotcrete placed on vertical surfaces. Thickness of shotcrete approximately 3/4 inch.

H. Remove deposits of loose sand before placing succeeding layers of shotcrete. Clear rebound away continuously from the Work, and do not reuse rebounded sand.

I. Slope construction joints or day’s work joints off to thin, clean, and to regular feathered slope edge. Thoroughly clean sloped portion and adjacent shotcrete with mortar film coating. Wet and scour with air jet, or sandblast with silica sand before placing adjoining Work.

J. Where more than one layer of circumferential prestressing units are required, maintain minimum 1/4-inch cover over each underlayer. Shotcrete cover over outer layer shall be a minimum of 1-inch thickness applied in a minimum of three coats. Provide 1/4-inch minimum cover over prestressing unit for first

coat. Apply finish coat approximately 1/4-inch thickness. Layers of shotcrete shall have a nozzle finish.

3.05 FINISHING OF SHOTCRETE

A. Underlayers or Exposed Surfaces:

1. On completing surfaces, bring shotcrete to an even plane and to well-formed corners by working up to ground wires or other thickness or alignment guides, using lower placing velocity than normal.

B. Finish Coat:

1. Apply coat to remove rough areas after ground wires have been removed.
2. Carefully screen sand for finish coat to remove oversize particles which rebound and mar surfaces.
3. Surface of finish coat shall be; of natural texture and coloration; free from spotting, cement or dust streaking, lap lines, uneven surfaces, and rebounded material.
4. Do not hand-patch.
5. Check coatings for bond by tapping lightly to test for hollow sounding spots.
6. Cut out areas where bond is not fully developed and repair.

C. Corrosion Protection:

1. Inspect core wall and patched surfaces.
2. Patch surfaces by building out in uniform circular area level with surface.
3. Sandblast patches and core wall surfaces prior to application of prestressing and shotcrete.

3.06 CURING

A. Dome Concrete:

1. Water cure dome concrete for 7 days by keeping surface continuously wet.
2. Schedule wire wrapping and application of shotcrete so curing shall not be interrupted, and water from curing shall not wash or damage shotcrete wire coats.
3. Begin curing after initial concrete set has occurred.

B. Shotcrete:

1. Keep shotcrete between layers of wire and cover damp by hand watering or fine mist spray.

2. Continuously water cure completed shotcrete surfaces for period of 7 days after application, or until subsequent shotcrete coats are applied prior to end of the 7-day curing period.
3. Remove laitance from wall by light sandblasting or pressure washing after curing period.
4. Do not use curing compounds.

3.07 DECORATIVE COATINGS

A. All exposed concrete shall be given a two-coat finish consisting of one coat of damp-proofing product such as “Tamoseal with AKKRO-71” or equal, and one coat of “Tammscoat” or equal. Work shall be performed by workmen skilled in the application of these types of products. The manufacturer’s application instructions shall be submitted to the ENGINEER for approval. The CONTRACTOR shall confer with the manufacturer’s representatives regarding application techniques and shall follow the manufacturer’s instructions implicitly.

B. The concrete surface to be coated must be clean, free of all laitance, dirt, grease, or other foreign materials. All defective surfaces shall be filled and/or repaired. Application shall be in full accordance with the manufacturer’s instructions or as amended by the ENGINEER.

C. The OWNER shall select the color.

3.08 TESTS

A. Shotcrete Panel Field Tests:

1. When length of core is less than twice diameter, apply correction factors in accordance with ASTM C42 to obtain compressive strength of individual cores.
2. Average compressive strength of three cores taken from test panel equal or exceed 0.85 f’c with no individual core less than 0.75 f’c. Average of three cubes taken from a panel equal or exceed f’c with no individual cube less than 0.88 f’c.
3. Shotcrete will be based on results obtained from cores or sawed cubes.
4. Use of data obtained from impact hammers, ultrasonic equipment, or nondestructive testing devices is not permitted. However, these devices may be used for determining uniformity of shotcrete.
5. Remove and replace shotcrete found not meeting tests, or cut cores and further test shotcrete, or repair and replace as approved by ENGINEER.

B. Perform water leakage test on tank as specified in City Standard Technical Specifications Series 400.

END OF SECTION

HORIZONTAL SPLIT-CASE CENTRIFUGAL PUMP DATA SHEET, 11211-__

Tag Numbers: P001

Pump Name: Montopolis WRI Pump Station

Manufacturer and Model Number: (1) Flowserve Worthington

(2) Crane Deming

(3) Peerless Pumps

(4) Patterson

SERVICE CONDITIONS

Liquid Pumped (Material and Percent): Reclaimed Water

Pumping Temperature (Fahrenheit): Normal: _____ Max _____ Min _____

Specific Gravity at 60 Degrees F: 1.0 Viscosity Range: 0.98

Vapor Pressure at 60 Degrees F: 0.4 pH: 6.7

Abrasive (Y/N) N Possible Scale Buildup (Y/N): N

Min. NPSH Available (Ft. Absolute): 35

Altitude (Feet above Mean Sea Level): 595

Area Classification: Factory Industrial, F-2 Low Hazard

Ambient Temperature (degrees F.): Max 90 – Min 45

Location: Indoor (Y/N): Y Outdoor (Y/N): N

PERFORMANCE REQUIREMENTS

Capacity (US gpm): Rated: 350 Secondary: 500

Total Dynamic Head (Ft): Rated: 150 Secondary: 100

BHP at Rated Point: 20 Secondary: 23

Min. Pump Hydraulic Efficiency at Rated Capacity (%): 67

Max. NPSH Required at Rated Capacity (Ft. Absolute): 18.5

Max. Pump Speed at Rated Capacity (rpm): 3,530

Constant (Y/N): Y

Adjustable (Y/N): N

DESIGN AND MATERIALS

Pump Type: Horizontal (Y/N) Y Frame-Mounted (Y/N) _____

Vertical (Y/N) N Other _____

Casing Material: Cast Iron ASTM A48

Casing Wear Rings (Y/N) Y Casing Wear Ring Material: Bronze

Impeller: Type: Double Suction Material: Bronze ASTM B148

Impeller Wear Rings (Y/N) Y Impeller Wear Ring Material: Bronze ASTM B148

Shaft Material: 316 SS Shaft Sleeve Material: _____

Shaft Seal: Packing (Y/N) N Mechanical (Y/N) Y Type: Component Seal

Seal Lubrication: _____

ABMA B-10 Bearing Life (hrs): 100,000 Lubrication: Oil

HORIZONTAL SPLIT-CASE CENTRIFUGAL PUMP DATA SHEET, 11211-__

Tag Numbers: P001

Bearings: Outboard End Type: _____ Inboard End Type: _____

Coupling: Falk (Y/N) Y Fast: (Y/N) N Spring-Grid (Y/N) N

Gear Type (Y/N) Y Spacer (Y/N) Y

Manufacturer Standard (Y/N) _____

Baseplate Material: Fabricated Steel

Drive Type: Direct-Coupled X Belt _____ Adjustable Speed _____ Other _____

DRIVE MOTOR (See Section 16220, Low-Voltage AC Induction Motors.)

Horsepower: 30 Voltage: 460 Phase: Synchronous Speed (rpm) 3,600

Service Factor: 1.15

Motor nameplate horsepower shall not be exceeded at any head-capacity point on pump curve.

Enclosure: DIP _____ EXP _____ ODP _____ TEFC X CISD-TEFC _____ TENV _____ WPI _____ WPII _____ SUBM _____

Mounting Type: Horizontal X Vertical Solid Shaft _____ Nonreverse Ratchet (Y/N) _____

REMARKS _____

HORIZONTAL SPLIT-CASE CENTRIFUGAL PUMP DATA SHEET, 11211-__

Tag Numbers: P002

Pump Name: Montopolis WRI Pump Station

Manufacturer and Model Number: (1) Flowserve Worthington

(2) Crane Deming

(3) Peerless Pumps

(4) Patterson

SERVICE CONDITIONS

Liquid Pumped (Material and Percent): Reclaimed Water

Pumping Temperature (Fahrenheit): Normal: _____ Max _____ Min _____

Specific Gravity at 60 Degrees F: 1.0 Viscosity Range: 0.98

Vapor Pressure at 60 Degrees F: 0.4 pH: 6.7

Abrasive (Y/N) N Possible Scale Buildup (Y/N): N

Min. NPSH Available (Ft. Absolute): 35

Altitude (Feet above Mean Sea Level): 595

Area Classification: Factory Industrial, F-2 Low-Hazard

Ambient Temperature (degrees F.): Max 90 – Min 45

Location: Indoor (Y/N): Y Outdoor (Y/N): N

PERFORMANCE REQUIREMENTS

Capacity (US gpm): Rated: 700 Secondary: 1,220

Total Dynamic Head (Ft): Rated: 150 Secondary: 105

BHP at Rated Point: 36 Secondary: 52

Min. Pump Hydraulic Efficiency at Rated Capacity (%): 70

Max. NPSH Required at Rated Capacity (Ft. Absolute): 6

Max. Pump Speed at Rated Capacity (rpm): 1,800

Constant (Y/N): Y

Adjustable (Y/N): N

DESIGN AND MATERIALS

Pump Type: Horizontal (Y/N) Y Frame-Mounted (Y/N) _____

Vertical (Y/N) _____ Other _____

Casing Material: Cast Iron ASTM A48

Casing Wear Rings (Y/N) Y Casing Wear Ring Material: Bronze

Impeller: Type: Double Suction Material: Bronze ASTM B148

Impeller Wear Rings (Y/N) Y Impeller Wear Ring Material: Bronze ASTM B148

Shaft Material: 316 SS Shaft Sleeve Material: 410SS

Shaft Seal: Packing (Y/N) N Mechanical (Y/N) Y Type: Split

Seal Lubrication: _____

ABMA B-10 Bearing Life (hrs): 100,000 Lubrication: Oil

HORIZONTAL SPLIT-CASE CENTRIFUGAL PUMP DATA SHEET, 11211-__

Tag Numbers: P002

Bearings: Outboard End Type: _____ Inboard End Type: _____

Coupling: Falk (Y/N) Y Fast: (Y/N) N Spring-Grid (Y/N) N

Gear Type (Y/N) Y Spacer (Y/N) Y

Manufacturer Standard (Y/N) _____

Baseplate Material: Fabricated Steel

Drive Type: Direct-Coupled X Belt _____ Adjustable Speed _____ Other _____

DRIVE MOTOR (See Section 16220, Low-Voltage AC Induction Motors.)

Horsepower: 60 Voltage: 460 Phase: Synchronous Speed (rpm) 1,800

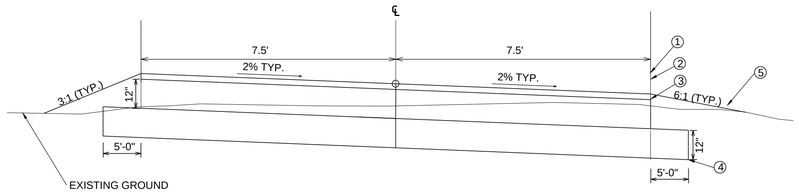
Service Factor: 1.15

Motor nameplate horsepower shall not be exceeded at any head-capacity point on pump curve.

Enclosure: DIP _____ EXP _____ ODP _____ TEFC X CISD-TEFC _____ TENV _____ WPI _____ WPII _____ SUBM _____

Mounting Type: Horizontal X Vertical Solid Shaft _____ Nonreverse Ratchet (Y/N) _____

REMARKS _____



PROPOSED TYPICAL SECTION
15' ACCESS DRIVEWAY

N.T.S.

KEY

1. 2" HMAC - TY C - COA ITEM 340S
2. PRIME COAT - COA ITEM 306S
3. 12" FLEXIBLE BASE COA ITEM 260S
4. 12" LIME STABILIZED SUBGRADE COA ITEM 203S
5. 4" TOP SOIL

HORIZONTAL ALIGNMENT DATA

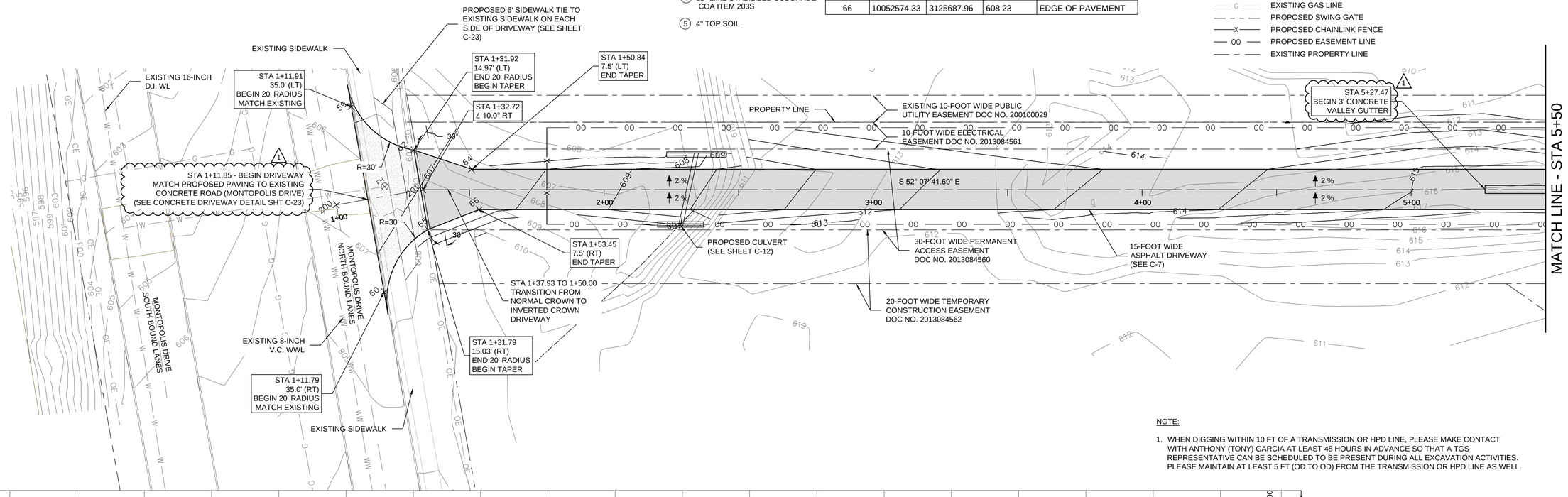
POINT ID	NORTHING	EASTING	STATION
200	10,052,608.22	3,125,647.25	1+00.00
201	10,052,592.97	3,125,676.21	1+32.72

POINT ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
59	10052633.63	3125674.09	605.80	EDGE OF PAVEMENT
60	10052571.76	3125641.38	607.53	EDGE OF PAVEMENT
62	10052606.60	3125682.47	607.31	EDGE OF PAVEMENT
64	10052587.78	3125695.11	608.13	EDGE OF PAVEMENT
65	10052580.11	3125668.38	607.38	EDGE OF PAVEMENT
66	10052574.33	3125687.96	608.23	EDGE OF PAVEMENT

LEGEND

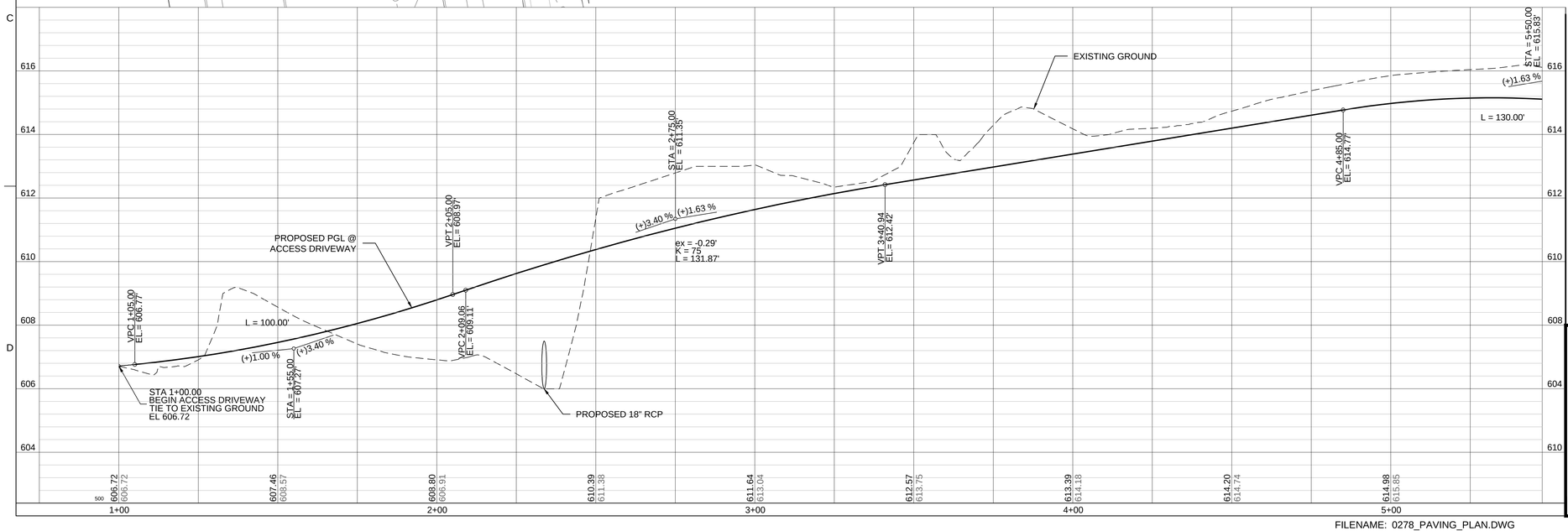
- PROPOSED CONTOUR
- PROPOSED WATER LINE
- PROPOSED FORCE MAIN
- PROPOSED WASTEWATER LINE
- PROPOSED RECLAIMED WATER LINE
- PROPOSED WATER METER
- EXISTING FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED PAVEMENT
- EXISTING GEOTECHNICAL BORE
- EXISTING CONTOUR
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING GAS LINE
- PROPOSED SWING GATE
- PROPOSED CHAINLINK FENCE
- PROPOSED EASEMENT LINE
- EXISTING PROPERTY LINE

0 20' 40'
SCALE 1" : 20'



NOTE:

1. WHEN DIGGING WITHIN 10 FT OF A TRANSMISSION OR HPD LINE, PLEASE MAKE CONTACT WITH ANTHONY (TONY) GARCIA AT LEAST 48 HOURS IN ADVANCE SO THAT A TGS REPRESENTATIVE CAN BE SCHEDULED TO BE PRESENT DURING ALL EXCAVATION ACTIVITIES. PLEASE MAINTAIN AT LEAST 5 FT (OD TO OD) FROM THE TRANSMISSION OR HPD LINE AS WELL.



MATCH LINE - STA 5+50

APPROVAL

SITE PLAN APPROVAL SHEET 10 OF 126

FILE NUMBER: SPC-2015-0322C APPLICATION DATE: JULY 17, 2015

APPROVED BY COMMISSION ON: N/A UNDER SECTION 142 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.

EXPIRATION DATE (25-5-81, LDC) CASE MANAGER LYNDA COURTNEY

PROJECT EXPIRATION DATE (ORD.#970905-A) DWPZ DDZ

Director, Planning and Development Review

RELEASE FOR GENERAL COMPLIANCE: ZONING P-NP LI-NP

Rev. 1 Correction 1

Rev. 2 Correction 2

Rev. 3 Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

STATE OF TEXAS
DALE P. MURPHY
90614
LICENSED
PROFESSIONAL ENGINEER
05/09/2016

NO.	DATE	DSGN
1	8/8/16	DR
REVISED CALLOUT FOR SHEET REFERENCE - ADDENDUM #2		M Gilfillan
1	8/8/16	CHK
REVISED STA NUMBER - ADDENDUM #2		APVD
	JS	DM
	JS	DM
	BY	APVD
		D Murphy
		APVD
		D Murphy
		DR
		M Gilfillan
		CHK
		D Murphy

K·FRIESE + ASSOCIATES
PUBLIC PROJECT ENGINEERING
TBPE Firm #455

Montopolis Water Reclamation Initiative (WRI)
Storage Reservoir and Pump Station
2711 Montopolis Drive
Austin Water, Austin, Texas

CH2MHILL.
TBPE FIRM NO. 3699

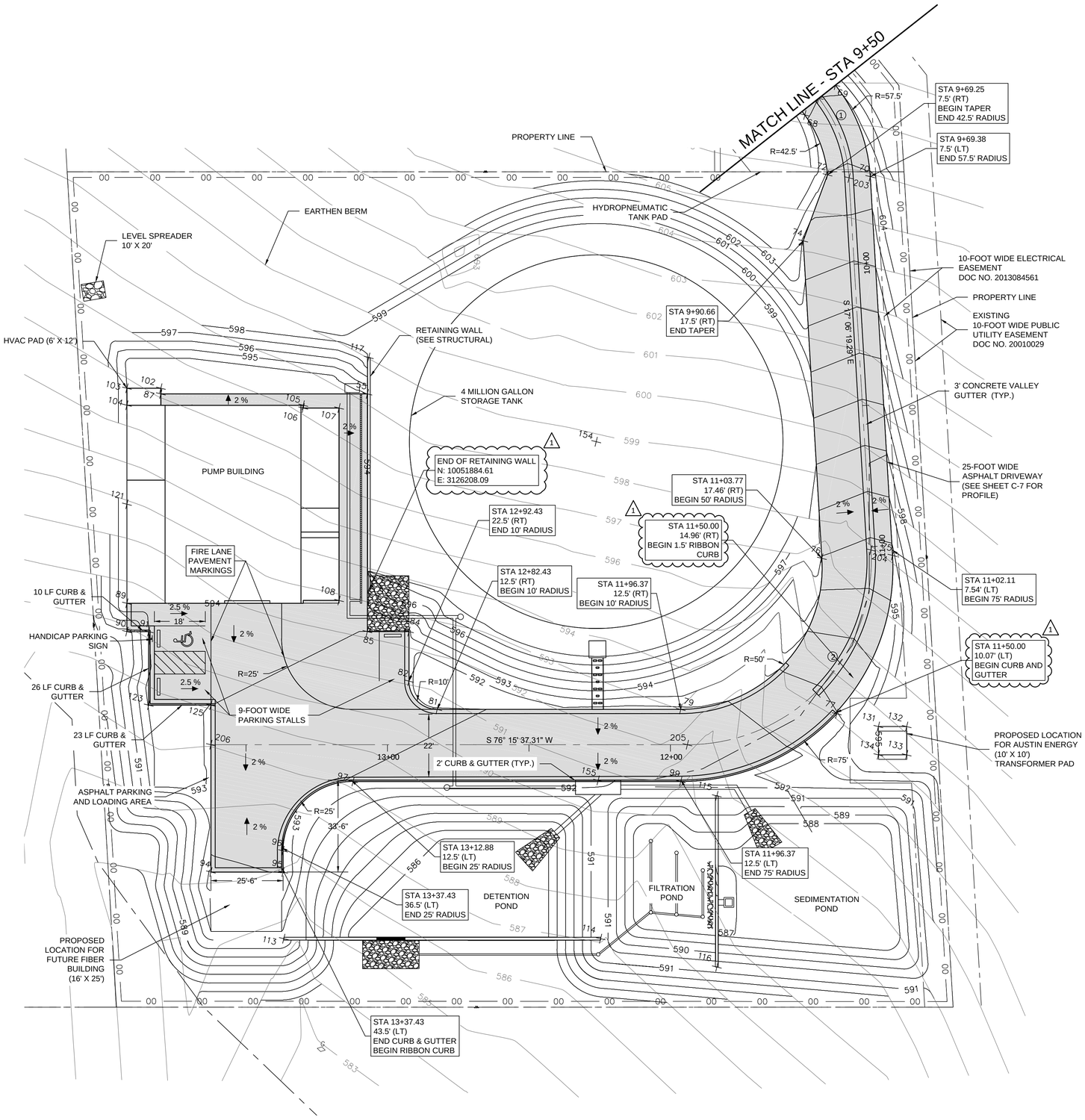
CIVIL

PAVING PLAN 01

1" = 20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MAY 2016
PROJ	472902
DWG	C-4
SHEET	10 of 126

FILENAME: 0278_PAVING_PLAN.DWG PLOT DATE: August 23, 2016 PLOT TIME: 3:12 PM SPC-2015-0322C



POINTS TABLE

POINT ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
55	10051951.91	3126191.12	593.86	EDGE OF SIDEWALK
68	10052084.41	3126317.93	605.08	EDGE OF PAVEMENT
69	10052097.22	3126325.90	605.14	EDGE OF PAVEMENT
70	10052068.74	3126345.55	603.38	EDGE OF PAVEMENT
72	10052065.77	3126330.75	603.95	EDGE OF PAVEMENT
74	10052041.05	3126327.92	602.83	EDGE OF PAVEMENT
75	10051940.54	3126385.01	595.76	EDGE OF PAVEMENT
76	10051933.61	3126360.98	595.94	EDGE OF PAVEMENT
77	10051881.73	3126378.71	593.58	BACK OF CURB
79	10051869.91	3126325.20	591.72	EDGE OF RIBBON CURB
81	10051849.47	3126241.59	592.17	EDGE OF RIBBON CURB
82	10051856.80	3126229.50	592.47	EDGE OF RIBBON CURB
84	10051873.80	3126225.35	592.71	EDGE OF RIBBON CURB
85	10051870.31	3126211.07	593.00	EDGE OF PAVEMENT
87	10051934.57	3126120.21	593.84	EDGE OF SIDEWALK
89	10051859.84	3126126.13	593.92	EDGE OF ASPHALT AT BUILDING
90	10051850.12	3126128.51	593.92	BACK OF CURB
91	10051851.95	3126135.99	593.88	BACK OF CURB
94	10051774.61	3126177.54	593.17	EDGE OF PAVEMENT
95	10051780.67	3126202.31	593.16	BACK OF CURB
96	10051787.95	3126200.53	593.40	BACK OF CURB
97	10051817.63	3126218.76	592.56	BACK OF CURB
99	10051845.14	3126331.26	591.67	BACK OF CURB
102	10051936.51	3126119.74	593.92	EDGE HVAC PAD
103	10051933.66	3126108.08	593.92	EDGE HVAC PAD
104	10051927.84	3126109.50	593.92	EDGE HVAC PAD
105	10051942.64	3126170.05	593.92	EDGE OF ASPHALT AT BUILDING
106	10051941.67	3126170.29	593.92	EDGE OF ASPHALT AT BUILDING
107	10051944.68	3126182.60	593.92	EDGE OF ASPHALT AT BUILDING
108	10051878.62	3126198.75	593.92	EDGE OF ASPHALT AT BUILDING
110	10051941.67	3126186.68	598.10	TOP OF RETAINING WALL
113	10051757.85	3126208.17	591.00	TOP OF RETAINING WALL
114	10051784.45	3126316.96	591.00	TOP OF RETAINING WALL
115	10051843.25	3126344.88	591.00	TOP OF RETAINING WALL
116	10051784.48	3126359.25	591.00	TOP OF RETAINING WALL
117	10051964.53	3126188.55	598.10	TOP OF RETAINING WALL
118	10051870.43	3126211.56	592.97	PROPOSED GROUND
121	10051893.84	3126117.82	593.92	PROPOSED GROUND AT BUILDING
122	10051927.84	3126109.50	594.00	PROPOSED GROUND
123	10051826.69	3126142.16	593.35	EDGE OF PAVEMENT
125	10051831.92	3126163.53	592.94	BACK OF CURB
131	10051880.61	3126394.52	595.00	PROPOSED GROUND AT BUILDING
132	10051882.98	3126404.23	595.00	PROPOSED GROUND AT BUILDING
133	10051873.27	3126406.61	595.00	PROPOSED GROUND AT BUILDING
134	10051870.89	3126396.89	595.00	PROPOSED GROUND AT BUILDING
154	10051954.71	3126273.72	598.50	CENTER OF TANK
155	10051838.60	3126302.81	591.52	CURB INLET FLOW LINE

① CURVE DATA

P.I. STATION		9+65.70
DELTA	=	35° 01' 22.40" (RT)
DEGREE	=	180° 00' 00.00"
TANGENT	=	15.78
LENGTH	=	19.46
RADIUS	=	50.00
EXTERNAL	=	2.43
LONG CHORD	=	30.09
MID. ORD.	=	2.32
P.C. STATION		9+49.92
P.T. STATION		9+69.38

② CURVE DATA

P.I. STATION		11+70.10
DELTA	=	93° 21' 56.60" (RT)
DEGREE	=	100° 34' 11.01"
TANGENT	=	68.94
LENGTH	=	92.84
RADIUS	=	65
EXTERNAL	=	29.75
LONG CHORD	=	94.58
MID. ORD.	=	20.41
P.C. STATION		11+01.16
P.T. STATION		11+94.00

HORIZONTAL ALIGNMENT DATA

POINT ID	NORTHING	EASTING	STATION
202	10,052,091.30	3,126,321.29	9+49.92
203	10,052,066.54	3,126,338.39	9+69.38
204	10,051,940.58	3,126,377.15	11+01.16
205	10,051,585.33	3,126,330.46	11+94.00
206	10,051,811.27	3,126,138.01	13+92.12

0 20' 40'
SCALE 1" : 20'

LEGEND

- 600 — PROPOSED CONTOUR
- W — PROPOSED WATER LINE
- FM — PROPOSED FORCE MAIN
- WW — PROPOSED WASTEWATER LINE
- RW — PROPOSED RECLAIMED WATER LINE
- W — PROPOSED WATER METER
- EXISTING FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED PAVEMENT
- EXISTING GEOTECHNICAL BORE
- 600 — EXISTING CONTOUR
- W — EXISTING WATER LINE
- WW — EXISTING WASTEWATER LINE
- OE — EXISTING OVERHEAD ELECTRIC
- G — EXISTING GAS LINE
- X — PROPOSED SWING GATE
- 00 — PROPOSED CHAINLINK FENCE
- PROPOSED EASEMENT LINE
- EXISTING PROPERTY LINE
- PROPOSED TRENCH DRAIN

Proposed Land Uses	Outdoor Storage/Equipment Servicing
Floor Area	5,250 sq ft
Parking Ratio	1 space / 2,000 sq ft
Number of Spaces Required	2.652
Number of Standard Spaces Provided	2
Number of Handicap Spaches Provided	1

APPROVAL

SITE PLAN APPROVAL SHEET 12 OF 126
FILE NUMBER: SPC-2015-0322C APPLICATION DATE: JULY 17, 2015
APPROVED BY COMMISSION ON: N/A UNDER SECTION 142 OF
CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) CASE MANAGER LYNDA COURTNEY
PROJECT EXPIRATION DATE (ORD.#970905-A) DWPZ DDZ

Director, Planning and Development Review
RELEASE FOR GENERAL COMPLIANCE: ZONING P-NP LI-NP
Rev. 1 Correction 1
Rev. 2 Correction 2
Rev. 3 Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

STATE OF TEXAS
DALE P. MURPHY
90614
LICENSED
PROFESSIONAL ENGINEER
05/09/2016

NO.	DATE	DSGN	
1	8/8/16	JS	DM
1	8/8/16	JS	DM
		BY	APVD
	REVISION	CHK	APVD
		DR	D Murphy
			M Gilfillan
			D Murphy
			D Murphy

K-FRIESE + ASSOCIATES
PUBLIC PROJECT ENGINEERING
TBPE Firm #3535

Montopolis Water Reclamation Initiave (WRI)
Storage Reservoir and Pump Station
2711 Montopolis Drive
Austin Water, Austin, Texas

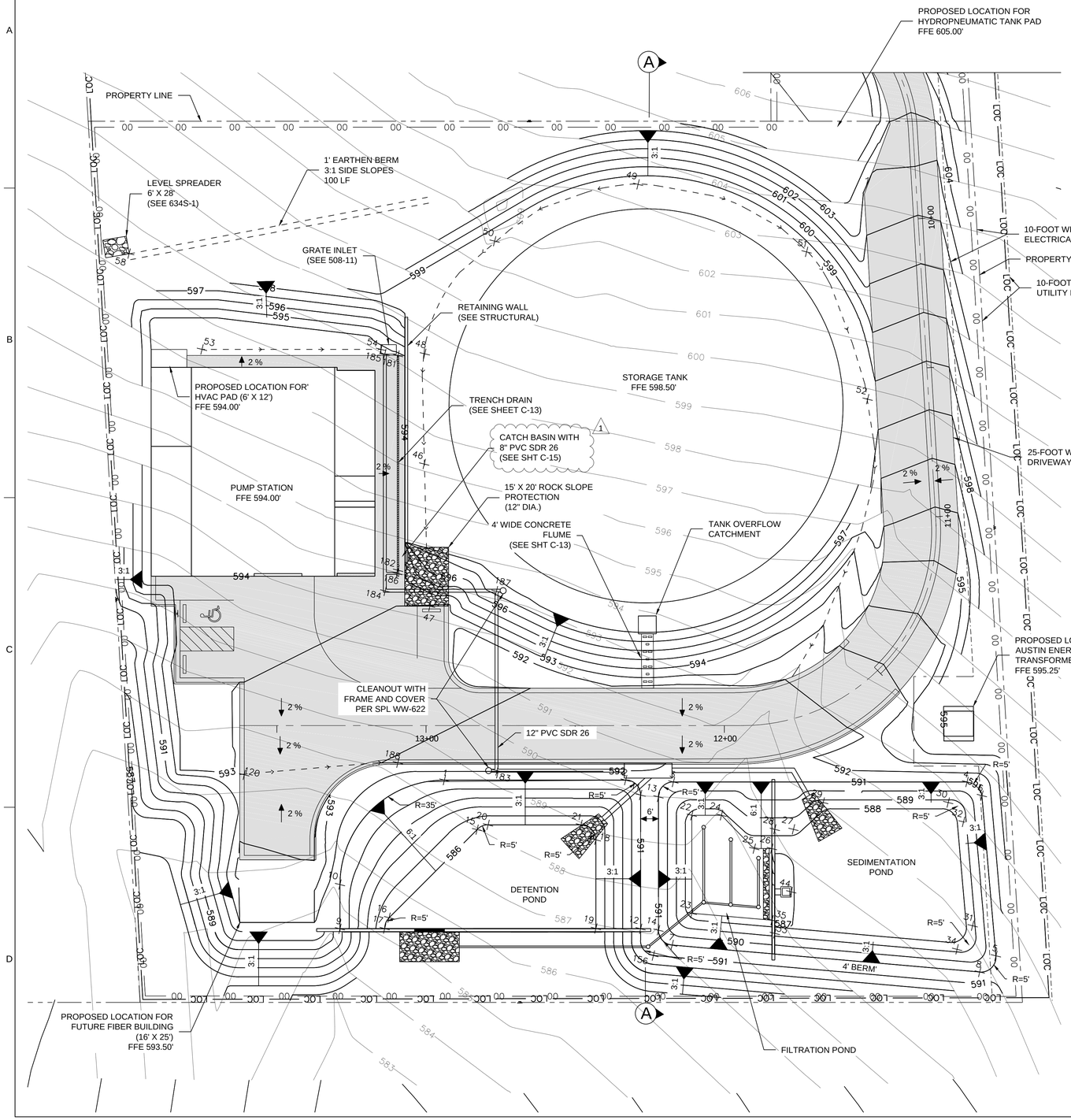
CH2MHILL®
TBPE FIRM NO. 3699

CIVIL

PAVING PLAN 03

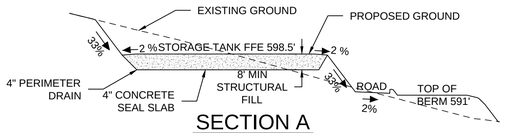
1" = 20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE MAY 2016
PROJ 472902
DWG C-6
SHEET 12 of 126



NOTES

1. REFER TO STRUCTURAL PLANS, DETAILS AND SPECIFICATIONS FOR OVEREXCAVATION AND STRUCTURAL FILL REQUIREMENTS AT TANK AND PUMP STATION.
2. EXCAVATION RAMPS SHALL BE CONSTRUCTED OUTSIDE THE AREAS REQUIRING STRUCTURAL FILL.



SECTION A

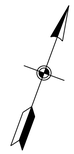
NTS

POINTS TABLE

POINT ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	10051816.85	3126237.83	591.00	TOP OF POND
2	10051831.28	3126296.87	591.00	TOP OF POND
3	10051834.48	3126312.56	591.00	TOP OF POND
4	10051857.86	3126408.16	591.00	TOP OF POND
5	10051803.57	3126431.40	591.00	TOP OF POND
6	10051854.61	3126414.08	591.00	TOP OF POND
7	10051781.29	3126325.11	591.00	TOP OF POND
8	10051797.02	3126427.42	591.00	TOP OF POND
9	10051760.15	3126215.66	591.00	TOP OF POND
10	10051774.53	3126212.15	591.00	TOP OF POND
11	10051827.61	3126302.91	591.00	TOP OF POND
12	10051784.09	3126313.55	591.00	TOP OF POND
13	10051784.09	3126308.89	591.00	TOP OF POND
14	10051785.05	3126319.50	591.00	TOP OF POND
15	10051803.34	3126252.42	586.00	BOTTOM OF POND
16	10051767.66	3126230.78	586.00	BOTTOM OF POND
17	10051763.78	3126230.20	586.00	BOTTOM OF POND
18	10051809.48	3126291.90	586.00	BOTTOM OF POND
19	10051780.62	3126298.96	586.00	BOTTOM OF POND
20	10051805.75	3126255.61	586.00	BOTTOM OF POND
21	10051813.15	3126285.86	586.00	BOTTOM OF POND
22	10051825.10	3126321.19	587.28	BOTTOM OF POND
23	10051793.20	3126328.99	587.28	BOTTOM OF POND
24	10051827.46	3126330.84	587.28	BOTTOM OF POND
25	10051819.24	3126344.19	587.28	BOTTOM OF POND
26	10051820.63	3126349.89	587.28	BOTTOM OF POND
27	10051828.60	3126355.41	588.70	BOTTOM OF POND
28	10051827.12	3126349.33	588.70	BOTTOM OF POND
29	10051839.71	3126362.98	588.70	BOTTOM OF POND
30	10051849.65	3126403.66	588.70	BOTTOM OF POND
31	10051811.51	3126421.42	588.70	BOTTOM OF POND
32	10051844.58	3126410.20	588.70	BOTTOM OF POND
33	10051793.26	3126357.61	588.70	BOTTOM OF POND
34	10051802.59	3126418.24	588.70	BOTTOM OF POND
35	10051797.34	3126355.68	587.28	BOTTOM OF POND
44	10051808.08	3126359.65	586.94	BOTTOM OF POND/INLET FLOW LINE
46	10051918.64	3126207.96	597.30	BOTTOM OF DRAINAGE SWALE
47	10051872.32	3126219.29	592.83	BOTTOM OF DRAINAGE SWALE
48	10051954.71	3126198.72	597.90	BOTTOM OF DRAINAGE SWALE
49	10052026.89	3126253.35	598.38	BOTTOM OF DRAINAGE SWALE
50	10051996.29	3126211.30	598.12	BOTTOM OF DRAINAGE SWALE
51	10052018.13	3126313.76	598.00	BOTTOM OF DRAINAGE SWALE
52	10051975.13	3126345.89	597.70	BOTTOM OF DRAINAGE SWALE
53	10051937.78	3126124.58	593.70	BOTTOM OF DRAINAGE SWALE
54	10051952.02	3126182.90	593.40	DROP INLET TOP
58	10051957.37	3126087.35	597.00	TOP OF BERM
118	10051870.43	3126211.56	592.97	PROPOSED GROUND
120	10051802.65	3126172.23	592.54	CURB GUTTER FLOW LINE
181	10051951.37	3126188.93	593.67	TOP OF TRENCH DRAIN
182	10051881.43	3126206.03	592.77	TRENCH DRAIN FLOW LINE INTO CATCH BASIN
183	10051824.27	3126254.11	588.47	12-INCH PVC FLOW LINE
184	10051873.81	3126203.37	589.66	12-INCH PVC FLOW LINE
185	10051950.78	3126184.53	590.90	12-INCH PVC FLOW LINE
186	10051880.36	3126206.01	591.80	8-INCH PVC FLOW LINE
187	10051882.56	3126239.80	589.07	12-INCH PVC FLOW LINE
188	10051817.63	3126218.76	592.16	CURB GUTTER FLOW LINE

NOTE:

DURING OVER-EXCAVATION AND SELECT FILL EMBANKMENT OPERATIONS, ANY CONSTRUCTION RAMPS SHALL BE CONSTRUCTED OUTSIDE OF THE SELECT FILL AREA.



0 20' 40'

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- X — EXISTING WIRE FENCE
- 00 — PROPOSED CHAINLINK FENCE
- PROPOSED EASEMENT LINE
- EXISTING PROPERTY LINE
- LOC — PROPOSED LIMITS OF CONSTRUCTION
- PROPOSED TRENCH DRAIN

APPROVAL

SITE PLAN APPROVAL SHEET 15 OF 126

FILE NUMBER: SPC-2015-0322C APPLICATION DATE: JULY 17, 2015

APPROVED BY COMMISSION ON: N/A UNDER SECTION 142 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.

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PROJECT EXPIRATION DATE (ORD.#970905-A) DWPZ DDZ

Director, Planning and Development Review

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05/09/2016

NO.	DATE	DSGN
1	8/8/16	D Murphy
	REVISED SHEET REFERENCE - ADDENDUM #2	
	REVISION	CHK
DR	M Gilfillan	
APVD	D Murphy	
JS	BY	APVD
DM		D Murphy

K·FRIESE + ASSOCIATES
PUBLIC PROJECT ENGINEERING
TBPE Firm #2535

CH2MHILL
TBPE FIRM NO. 3699

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Austin Water, Austin, Texas

CIVIL

SITE GRADING PLAN

1" = 20'

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	MAY 2016
PROJ	472902
DWG	C-9
SHEET	15 of 126

FILENAME: 0278_GRADING_PLAN.DWG PLOT DATE: August 23, 2016 PLOT TIME: 3:12 PM

SPC-2015-0322C