Memo

To: Patricia Davis, P.E., Brad Marshall
From: Jonathan Tran, P.E. / Charles Cameron
Copy: Matt Gaughan, P.E.
Date: June 11, 2020
Subject: CWWTP1 Change Order 0001

For the Central Wastewater Treatment Plant Expansion project, the Owner's Representative Team recommends approval of the attached Change Order 0001 in the amount of $288,607.76 and 34 additional days to the contract with BAR Constructors, Inc. for the nine items in Table 1 below.

The current contract price is $41,863,737.95 and the revised total not to exceed contract price, including this change order, will be $42,152,345.71. The current contract Substantial Completion date is 10/12/2021, and the revised contract Substantial Completion date will be 11/15/2021.

Item No.	Description	Net Change in Cost	Net Change in Time	Change Order Code
1	CP001 – Phosphorus Analyzer Building and Relocation	$71,226.21	21 days	R
2	CP001 – Clarifier No. 3 Sump Pit and Drain	$20,572.07		F
3	CP001 - UV Basin - Additional Structural Supports	$31,777.04		F/D
4	CP001 – PC Pump Containment Curb and Blower Header Rehab	$16,897.39		R
5	CP002 – Thoroseal Coating on Headworks and Influent PS	$30,860.89	7 days	E
6	CP003 - BNR, IPS, and HW - Additional Structural Supports	$20,586.03	0 days	F/D
7	CP0005 – Temporary Communications for Administration Building and Filed Operations Building	$7,299.50	0 days	S
8	CP0006 – 60" Hobas Pipe at Mixed Liquor Junction/Splitter Box	($7,626.27)	0 days	E
9	CP0007 Temporary Lift Station for Project Charm/SH130	$97,014.89	6 days	R
Total	**Net Change to Contract**	**$288,607.76**	**34 days**	

Item No. 1: CP001 Phosphorus Analyzer Building and Relocation
R- Owner Requested

The City Plant staff requested the Engineer provide modifications after the bid of the project to relocate the existing phosphorus building adjacent to the Aeration Basin #1 and provide a new phosphorus analyzer and turbidimeter building adjacent to the Effluent Filter Basin. This is needed to ensure the Plant stays in compliance with their TCEQ Permit Restrictions. The scope of work includes a new building slab, new fiberglass building, relocation of sample piping, instrumentation, HVAC equipment, process piping, electrical and other miscellaneous modifications.

Item No. 2: CP001 Clarifier No .3 Sump Pit and Drain Piping
F- Field Detailed Design

During the submittal review phase of the Clarifier No. 3 equipment, the selected manufacturer, required the Engineer to change the location of the drain as shown on their contract documents. This was required to comply with the specific manufacturer equipment requirements. The scope of work includes a new clarifier sump pit, a new 8-inch PVC drain line, and cleanouts.

Item No. 3: CP001 Structural Support Changes
F- Field Detailed Design / D – Design Issues

During the submittal review phase of the gratings and canopy at the UV Filter, there were questions regarding spacings of beams and canopy purlins and the extent of grating over the UV Structure finger weirs. The Engineer confirmed additional grating requirements and clarified the number and spacing of purlins required for the UV Structure Canopy. This required the metal subcontractor to provide more beams than shown on the contract drawings. The scope of work required is for additional beams, embedments and other miscellaneous metals.

Item No. 4: CP001 PC Pump Containment Curb and Blower Header Rehab –
R- Owner Requested

The City Plant staff requested the Engineer provide modifications after the bid of the project to install a concrete containment curb around the progressive cavity pumps and replace the leaking valves in the solids handling area. This work will contain a spill from the pumps and repair the leaking lines of the sludge holding tank air header. This scope of work includes concrete surface preparation, rebar dowels and epoxy, waterstop, concrete curb, valves, couplings, and other miscellaneous piping appurtenances.

Item No. 5: CP0002 Thoroseal Coating on Headworks and Influent Pump Station
E- Value Engineering / Enhancement

During the review of concrete specifications for concrete pours, BAR indicated that they saw a waterproofing specification but there were no callouts in the plans/sections to were waterproofing was to be placed. BAR asked the Engineer if they would like to apply the exterior waterproofing to any of the structures prior to performing the work. The Engineer recommended to apply the waterproofing to the influent lift station and headworks building as these are the most susceptible to corrosion by the incoming wastewater. The scope of work includes surface preparation, material, and application of Thoroseal coating.

Item No. 6: CP003 Structural Support Changes
F- Field Detailed Design / D – Design Issues

During the submittal review phase of the gratings at the Influent Filter and RAS Splitter Box, Headworks and BNR there was a Request for Information (RFI0009) regarding spacing of beams. The Engineer responded to RFI provided revised dimensions to the supplier for the grating requirements. This required the metal subcontractor to provide more beams than shown on the contract drawings. Further during submittal review, Engineer required change of cable trench embed material from galvanized to aluminum. The scope of work required is for additional support beams, changed material of embedments and other miscellaneous metals.

Item No. 7: CP005 Temporary Communications for Administration Building and Field Operations Building
S - Site Condition

During site investigation by Team Morales it was discovered that there was a fiber optic line in the electrical ductbank routed from Electrical Building 4 to behind the Public Works Administration Building. The ductbank was shown to contain power and could be abandoned after demolition of the existing lab building. This fiber optic line provides service to the Public Works Admin Building. This ductbank will need to be demolished as it is routed through the site of the new headwords facility. As a result of the ductbank demolition, temporary communications are required for the Public Works Administration Building and Field Operations Building. The temporary communications will take the form of two 5GHz Lite Beam M5 23dbi Ubiquiti radios communicating to the existing radio housed at Electrical Building 4.

Item No. 8: 60" Hobas Pipe at Mixed Liquor Junction/Splitter Box
E- Value Engineering / Enhancement

During the submittal review phase of the 60" Hobas pipe there was a Request for Information (RFI0032) regarding a proposed change for the wall penetration for the 60" FRP pipe at the Mixed Liquor Junction/Splitter Box. The Engineer responded to the RFI that the proposed 342/Type penetration be replaced with a cast-in place connection under the junction/splitter box. This will allow for a true alignment of the pipe and a better water stop installation. HOBAS will place a FRP wall ring on the (2) vertical sticks of pipe to create a tight water seal.

Item No. 9: CP0007 Temporary Lift Station for Project Charm | SH-130
R- Owner Requested

City has requested modifications to provide temporary lift station in vicinity of the Influent Lift Station and Headworks for anticipated wastewater flows from Project Charm | SH-130 Interceptor by November 2020. A temporary lift station will be installed in existing manhole No 12 and will bypass pump the new incoming wastewater flow into existing manhole No 15 then onto the existing headworks. This will continue until the Influent pump station is completed. The scope of work required is for excavation, pre-cast concrete manhole, pumps, electrical, controls, discharge piping as well as additional security fencing.

Change Order Codes

D - Design Issue	Clarification of ambiguity in the design documents
F - Field Detailed Design	Scope of work not yet incorporated into the Tender Design Documents
R - Owner Request	Requested by authorized Owner personnel
S - Site Condition	Variation caused by unforeseen or unique site conditions
E - Value Engineering / Enhancement	Variation which resulted in increased value to the Owner
X - Other	All other categories

Project:	Central Wastewater Treatment Plant	**Project Number:**	
Owner:	City of Pflugerville		88
Contractor:	BAR Constructors		279
Engineer:	Freese and Nichols		PFL16607
PCM:	Plus Six Engineering		19-211

Change Order No.: 001 **Date:** 06/11/2020

Make the following additions, modifications, or deletions to the Work described in the Contract Documents:

1.	CP0001 – Phosphorus Analyzer Building and Relocation	$71,226.21
2.	CP0001 – Clarifier No. 3 Sump Pit and Drain	$20,572.07
3.	CP0001 – Structural Support Changes	$31,777.04
4.	CP0001 – PC Pump Containment Curb and Blower Header Rehab	$16,897.39
5.	CP0002 – Thoroseal Coating on Headworks and Influent PS	$30,860.89
6.	CP0003 – Structural Support Changes	$20,586.03
7	CP0005 - Temp Comms for Administration Building and Filed Operations Building	$7,299.50
8	CP0006 - 60" Hobas Pipe at Mixed Liquor Junction/Splitter Box	($7,626.27)
9.	CP0007 – Temporary Lift Station for Project Charm | SH-130	$97,014.89
Net Change to Contract Amount:		$288,607.76

The compensation in this Change Proposal is the full, complete, and final compensation for all costs the Contractor may incur as a result of or relating to this change whether said costs are known, unknown, foreseen, or unforeseen at this time, including without limitation, any cost for delay, extended overhead, ripple or impact cost, or any other effect on changed or unchanged Work as a result of this Contract Amendment. The changes in Contract Times are the complete and final adjustments for direct impacts to the ability of the Contractor to complete the Work within the Contract Times and are the only adjustments to which the Contractor is entitled.

a	**Original Contract Price**	$41,863,737.95
b	**Previously Approved Change Order Amounts**	$0.00
c	**Adjusted Contract Price (a + b)**	$41,863,737.95
d	**Change Order Amount**	$288,607.76
e	**Revised Contract Price (c + d)**	$42,152,345.71

f Percent Change to Date: 0.7% **g Change in Days this Change Order:** 34

Completion Dates:		**Original**		**Current**		**Revised**
Substantial	**h**	10/12/2021	**I**	10/12/2021	**J**	11/15/2021
Final	**k**	12/11/2021	**l**	12/11/2021	**m**	01/14/2022

Recommended by: Construction Manager

Name 6/10/2020 *Date*

Approved by: BAR Constructors

Name *Date*

Recommended by: Engineer

Name *Date*

Approved by: City of Pflugerville

Name *Date*

Project:	Central Wastewater Treatment Plant	**Project Number:**	
Owner:	City of Pflugerville	88	
Contractor:	BAR Constructors, Inc	279	
Engineer:	Freese and Nichols, Inc	PFL16607	

Request No.: 0001 **Description:** Phosphorus Analyzer Repurposing, Clarifier Drain Line, Sludge Handling Items and Submersible Influent Sump Pumps

Specification:

Drawing No.: **Detail Description:**

Reference Document:

☐ Request for Information No.: ☐ Shop Drawing Deviation Request No.:

☐ Work Change Directive No.: ☐ Contract Document:

The Owner requests that the Contractor prepare a Change Proposal for the changes in the Contract Documents described in this Request for a Change Proposal. The compensation offered for this Change Proposal is to be the full, complete, and final compensation for all costs the Contractor may incur as a result of or relating to this change whether said costs are known, unknown, foreseen, or unforeseen at this time, including without limitation, any cost for delay, extended overhead, ripple or impact cost, or any other effect on changed or unchanged Work as a result of this Contract Amendment. Requested changes in Contract Times are to be the complete and final adjustments for direct impacts to the ability of the Contractor to complete the Work within the Contract Times and are the only adjustments to which the Contractor will be entitled. Authorization to proceed with changes must be approved by the Owner in accordance with the Contract Documents.

Owner requests a Change Proposal for the following modifications to the Contract Documents:

Item 1: Existing Phosphorus Analyzer Repurposing

Relocate the existing phosphorus analyzer, piping, HVAC equipment, lighting, and fiberglass housing to the existing mixed liquor splitter box next to the Aeration Basin #1 effluent box. A new 6' x 6' x 7.5'fiberglass building shall be provided for the new phosphorus analyzer and turbidimeter near the cloth media filters in place of repurposing the existing. Reference the attached markups.

Assumptions:

- All existing sample piping inside the existing phosphorus analyzer building will be relocated and reused
- The existing Phosphax system including control panels will be relocated and reused
- The existing Filtrax system will be reused (if possible)
- The existing HVAC equipment will be relocated and reused
- The existing lighting will be relocated and reused

Description of Work:

- New 10' x 10' concrete slab for phosphorus analyzer building adjacent to the Aeration Basin #1 effluent box per Detail 6, SD-27.
- New 1" PVC sample line extending from AB #1 effluent box, over the top of the north wall of the effluent box extending down to grade level, then north at grade to the phosphorus analyzer building through existing pipe penetrations on the back of the phosphorus analyzer building. Support piping on concrete basin using 316 SS pipe straps.
- New 2" PVC hub floor drain.
- New 2" PVC drain line extending from below floor of phosphorus analyzer building to 15" drain line located north of the aeration basins.
- New piping tie-in to 15" drain line north of the aeration basins with wye and reducers at connection point of 2" PVC drain and 15" PVC drain.
- Relocate existing sample piping, instrumentation, HVAC equipment, lighting, and phosphorus analyzer building to new concrete slab.
- Install power wires to account for the required amperage and voltage drop from EB-1 to the relocated phosphorous building.
- Install analog wires from EB-1 to the phosphorous building.
- From EMH-6 to the proposed location, Install concrete encased ductbank with 2-2" conduits for power and analog signals.
- Miscellaneous modifications to the PLC and power source (LP-BNR1)
- Provide new 6'x 6' x 7.5' fiberglass building for housing P-analyzer and turbidimeters at effluent filters. Fiberglass building shall be one-piece standard accessories building by Tracom or approved equal.

Item 2: Clarifier Drain Line

A drain line will be installed extending from Clarifier #3 to the 10" drain line located north of Clarifier #3 replacing the 12" drain with plug currently shown on the drawings. Reference the attached markups.

Description of Work:

- New sump in clarifier for connection to 8" PVC drain line.
- Removal of proposed 12" tee and drain plug
- New below grade 8" PVC drain line extending 63' from Clarifier #3 drainage sump to the 10" PVC drain line located north of Clarifier #3.
- New below grade 8" plug valve installed on 8" drain line just outside of the clarifier wall.
- Two new cleanouts installed on either side of the 8" plug valve.
- New 8" PVC 45 degree bend to be installed prior to connection with 10" drain line.

Project:	Central Wastewater Treatment Plant	**Project Number:**	
Owner:	City of Pflugerville	88	
Contractor:	BAR Constructors, Inc	279	
Engineer:	Freese and Nichols, Inc	PFL16607	

- New tie-in to 10" drain line.

Item 3: UV Structural Drawing Correction

Modifications to sheets S-UV-1 to S-UV-8 to clarify sections and details of the design.

Description of Work:

- No additional work required.

Item 4: PC Pump Containment Curb

Installation of 6" concrete containment curb around progressing cavity pumps in solids handling area. Reference attached markups.

Description of Work:

- Roughen slab under proposed curb
- Install dowels as required by detail
- Form and pour containment curb around pumps.

Item 5: Blower Header Rehabilitation

Replacement of leaking valves and couplings on sludge holding tank air header.

Description of Work:

- Replacement of 10" SS flange and flange adapter
- Replacement of two (2) 6" SS butterfly valves
- Replacement of two (2) 6" SS "Dresser-Style" flexible couplings

Item 6: Sludge Holding Tank Level Sensor

Installation of radar style level sensor on sludge holding tank for control of sludge transfer pumps

Description of Work:

- Install radar sensor on sludge holding tank
- Control wiring to tie reading into SCADA
- Programming upgrades to allow use of level sensor for control of sludge transfer pumps

Item 7: Submersible Pumps

Description of Work

BAR have submitted the specified Sulzer submersible sump pumps for installation at the influent lift station, The City of Pflugerville have had performance and vendor issues with Sulzer submersible pumps in the past and have asked that BAR procure either the KSB or Flygt submersible pumps, as specified in 44 42 56.04 Submersible Pumps

Purpose of Change Proposal:

Project:	Central Wastewater Treatment Plant	**Project Number:**	
Owner:	City of Pflugerville		88
Contractor:	BAR Constructors, Inc		279
Engineer:	Freese and Nichols, Inc		PFL16607

Attachments:

C-10, C-13, C-15, M-EF-1, S-EF-2, E-3, E-6, E-12, E-13, E-EB-1, E-42, C-18, M-FC-1, M-FC-2 S-FC-1, Section at Drainage Sump Pit Detail, S-UV-1, S-UV-2, S-UV-3, S-UV-4, S-UV-5, S-UV-6, S-UV-7, S-UV-8, M-11, Containment Curb Detail and Blower Photos

Status:

☐ Change Proposal No.: _____ Received ☐ Cancelled

Action Required:

☐ Documents Filed ☐ Cancelled

Requested by: Jonathan Ivan **Date:** 02/13/2020

Item 1: Existing Phosphorus Analyzer Repurposing

ITEM 1: EXISTING PHOSPHORUS ANALYZER REPURPOSING

ELECTRICAL BUILDING NO. 2
GENERATOR
6' FENCE WITH 3 STRAND BARBED WIRE
INFLUENT LIFT STATION
PUBLIC WORKS ADMINISTRATION BUILDING
8' CHAIN LINK FENCING
FLEET MAINTENANCE SHOP
STORAGE SHED
STREET WAREHOUSE
SIGN SHOP
VEHICLE GATE NO. 1
INFLUENT SPLITTER BOX
RAS SPLITTER BOX
ABANDONED INFLUENT LIFT STATION AND HEADWORKS
MODIFY SIDEWALK FOR BUILDING
RELOCATED FIBERGLASS BUILDING
SLUDGE HOLDING TANKS
AERATION BASIN NO. 2
AERATION BASIN NO. 1
BNR BASIN NO. 3
BNR BASIN NO. 4
FIELD OPERATIONS FACILITY
ELECTRICAL BUILDING NO. 4
ALUM FEED
ABANDONED SPLITTER BOX
ML JUNCTION BOX
MIXED LIQUOR SPLITTER BOX
8' CHAIN LINK FENCING
PEDESTRIAN GATE
ELECTRICAL BLDG. NO. 1
FENCE
VEHICLE GATE NO. 2
8' CHAIN LINK FENCING
VEHICLE GATE NO. 3
RAS/WAS PS NO. 2
SUN LIGHT NEAR WAY
ABANDONED EFFLUENT STRUCTURE
FINAL CLARIFIER NO. 2
FINAL CLARIFIER NO. 1
FINAL CLARIFIER NO. 3
RAS/WAS PS NO. 1
NEW RELOCATED PHOSPHORUS ANALYZER BLDG.
VEHICLE GATE NO. 4
BIOSOLIDS BUILDING
ABANDONED CHLORINE AREA
ABANDONED NPW AREA
ABANDONED CHLORINE CONTACT CHAMBER
EFFLUENT FILTERS
ABANDONED FILTERS
UV/EFFLUENT/ POST AERATION
ELECTRICAL BUILDING NO. 3
XFMR
COMPOST AREA
NPW/REUSE STRUCTURE
MAIN GENERATOR
OHE
N
0 20' 40' 80'
SCALE IN FEET

GENERAL NOTES:

1. YARD PIPING AND CONTOURS ARE NOT SHOWN FOR CLARITY.
2. REFERENCE SHEET C-33 THROUGH C-25 FOR PAVING DETAILS.
3. WHERE SECTIONS OF EXISTING EXTERIOR FENCING IS TO BE REPLACED, PROVIDE 6'-0" FENCE WITH 3-STRAND BARBED WIRE TO MATCH EXISTING. FOR ALL NEW FENCING BETWEEN PLANT AND PUBLIC WORKS FACILITIES, PROVIDE 8'-0" FENCE WITHOUT BARBED WIRE. REFERENCE SECTION 32 31 13.

LEGEND:

- EXISTING
- NEW
- NEW PAVEMENT
- CONCRETE SIDEWALK
- FLEXIBLE BASE

FREESE NICHOLS
10431 Morado Circle, Suite 300
Austin, Texas 78759
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Fax - (512) 617-3101

CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
CIVIL

PHASE I PLANT LAYOUT

NO.	ISSUE	BY	DATE
1	ADDENDUM NO.3	CG	9/11/19

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. PFL16607
DATE 07/17/19
DESIGNED CCG
DRAWN MGA
REVISED
CHECKED ED/CG
FILE NAME WW-ALL-OA-SITE-02.dwg

SHEET C-10
SEQ. 31

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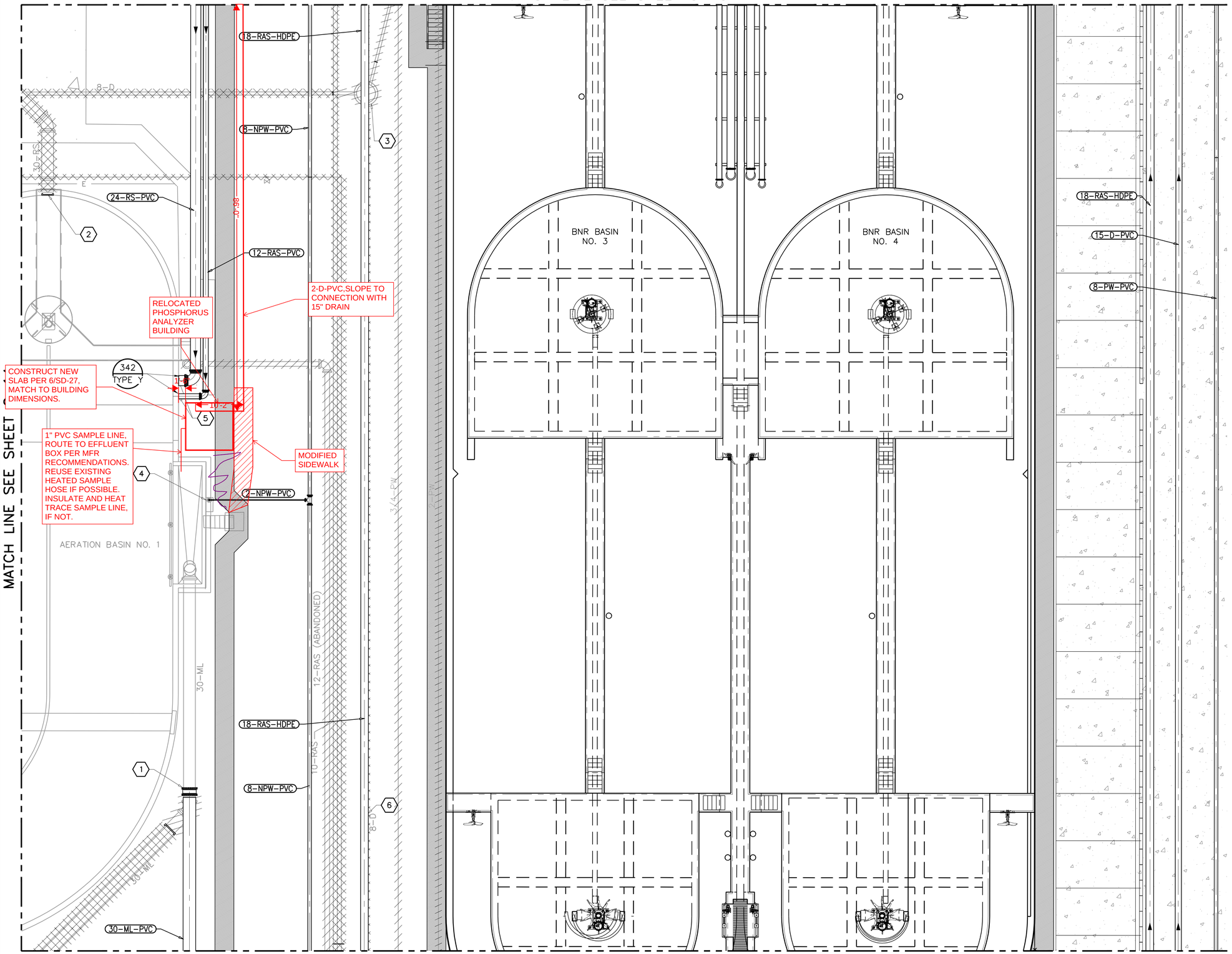
MATCH LINE SEE SHEET C-13

MATCH LINE SEE SHEET C-18



GENERAL NOTES:

1. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD VERIFIED AND CONFIRMED BY EQUIPMENT SUPPLIER AND CONTRACTOR, PRIOR TO MANUFACTURING AND CONSTRUCTION.
2. REFERENCE SECTION 01 35 00 FOR SPECIAL PROCEDURES AND CONSTRUCTION SEQUENCING.
3. PIPE ROUTING AND LOCATIONS ARE APPROXIMATE BASED ON EXISTING DATA.
4. AT ALL LOCATIONS PIPE IS SHOWN TO BE DEMOLISHED OR ABANDONED, CONTRACTOR TO REFER TO NOTE IN ON SHEET G-4.
5. SLOPE PIPES UNIFORMLY BETWEEN CALLED INVERT ELEVATIONS (I.E.) UNLESS NOTED OTHERWISE

NOTES BY SYMBOL "⬡"

1. REMOVE PIPE AND FITTINGS NECESSARY TO CONNECT NEW PIPE, PROVIDE ALL APPURTENANCES FOR TIE-IN
2. PLUG 30-RS IN AERATION BASIN NO. 1
3. DEMOLISH MANHOLE PER STANDARD DETAIL 1/SD-17
4. TIE INTO EXISTING UTILITY STATION/SCUM CONTROL PVC PIPING. MAKE CONNECTION 18" BELOW GRADE.
5. PENETRATE 24-RS AND 12-RAS AT I.E. 626.50.
6. ABANDON 8-D

LEGEND:

PROPOSED DEMOLITION

ABANDON IN PLACE

N

0 10' 20'
SCALE IN FEET

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Austin, Texas 78759
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Fax - (512) 617-3101

CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
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YARD PIPING PLAN IV

FAN JOB NO.	PFL16607
DATE	07/17/19
DESIGNED	CDC
DRAWN	DWS
REVISED	
CHECKED	ED/CG
FILE NAME	WW-SITE-YP-PL.dwg

NO.	ISSUE	BY	DATE

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET C-15

SEQ. 36

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Plot Date: 8/7/2019 8:44 AM Plot By: sandefurdw Filename: N:\WW\WW-SITE-YP-PL.dwg

GENERAL NOTES:

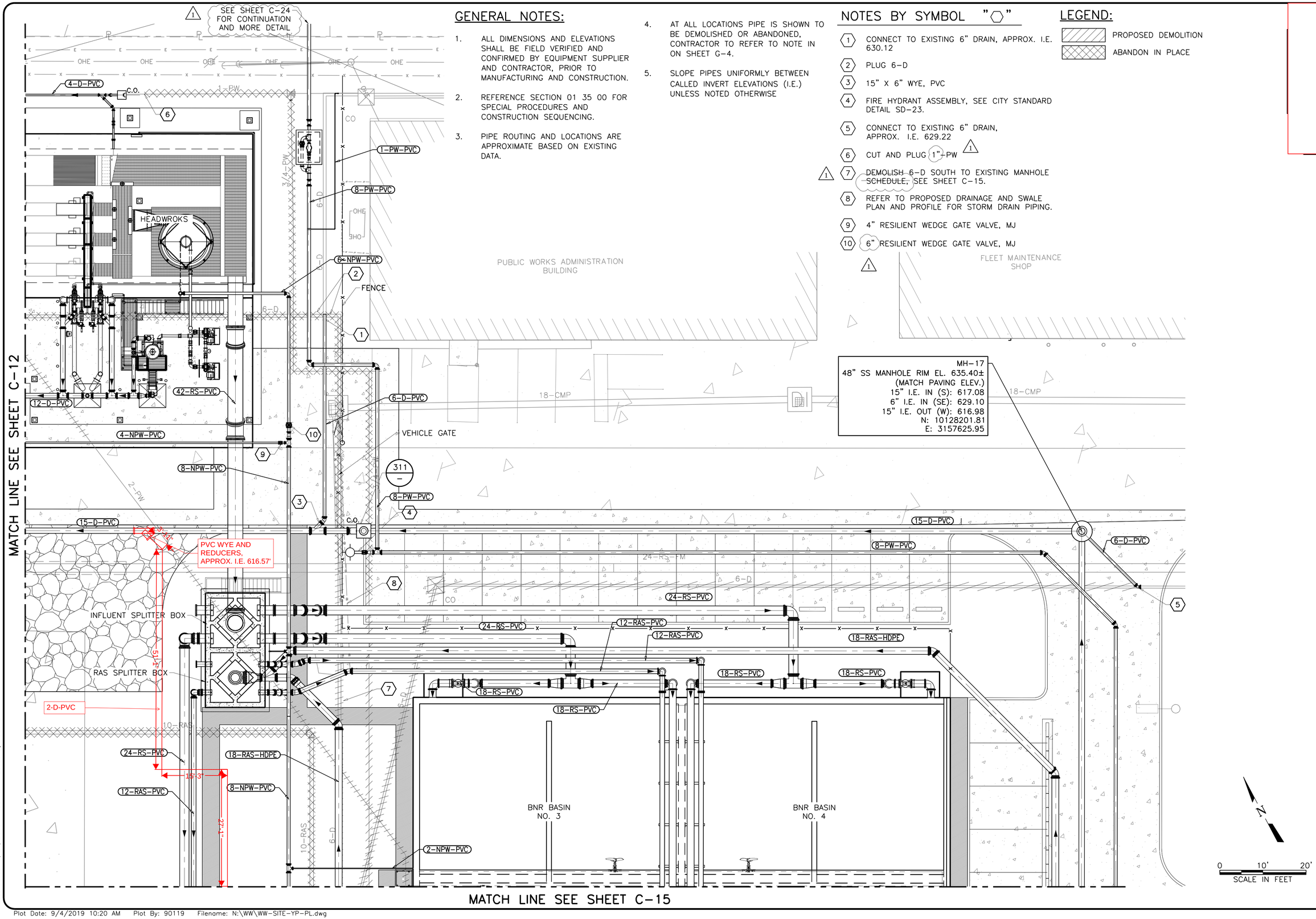
1. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD VERIFIED AND CONFIRMED BY EQUIPMENT SUPPLIER AND CONTRACTOR, PRIOR TO MANUFACTURING AND CONSTRUCTION.
2. REFERENCE SECTION 01 35 00 FOR SPECIAL PROCEDURES AND CONSTRUCTION SEQUENCING.
3. PIPE ROUTING AND LOCATIONS ARE APPROXIMATE BASED ON EXISTING DATA.
4. AT ALL LOCATIONS PIPE IS SHOWN TO BE DEMOLISHED OR ABANDONED, CONTRACTOR TO REFER TO NOTE IN ON SHEET G-4.
5. SLOPE PIPES UNIFORMLY BETWEEN CALLED INVERT ELEVATIONS (I.E.) UNLESS NOTED OTHERWISE

NOTES BY SYMBOL "⬡"

1. CONNECT TO EXISTING 6" DRAIN, APPROX. I.E. 630.12
2. PLUG 6-D
3. 15" X 6" WYE, PVC
4. FIRE HYDRANT ASSEMBLY, SEE CITY STANDARD DETAIL SD-23.
5. CONNECT TO EXISTING 6" DRAIN, APPROX. I.E. 629.22
6. CUT AND PLUG 1"-PW (1)
7. DEMOLISH 6-D SOUTH TO EXISTING MANHOLE SCHEDULE, SEE SHEET C-15. (1)
8. REFER TO PROPOSED DRAINAGE AND SWALE PLAN AND PROFILE FOR STORM DRAIN PIPING.
9. 4" RESILIENT WEDGE GATE VALVE, MJ
10. 6" RESILIENT WEDGE GATE VALVE, MJ

LEGEND:

- PROPOSED DEMOLITION
- ABANDON IN PLACE



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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
CIVIL

YARD PIPING PLAN II

FAN JOB NO.	DATE	BY	NO.	ISSUE
PFL16607	07/17/19			
DESIGNED CDC				
DRAWN DWS	9/4/19	CG	2	ADDENDUM NO.2
CHECKED ED/CG	FILE NAME WW-SITE-YP-PL.dwg			

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
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SHEET C-13
SEQ. 34

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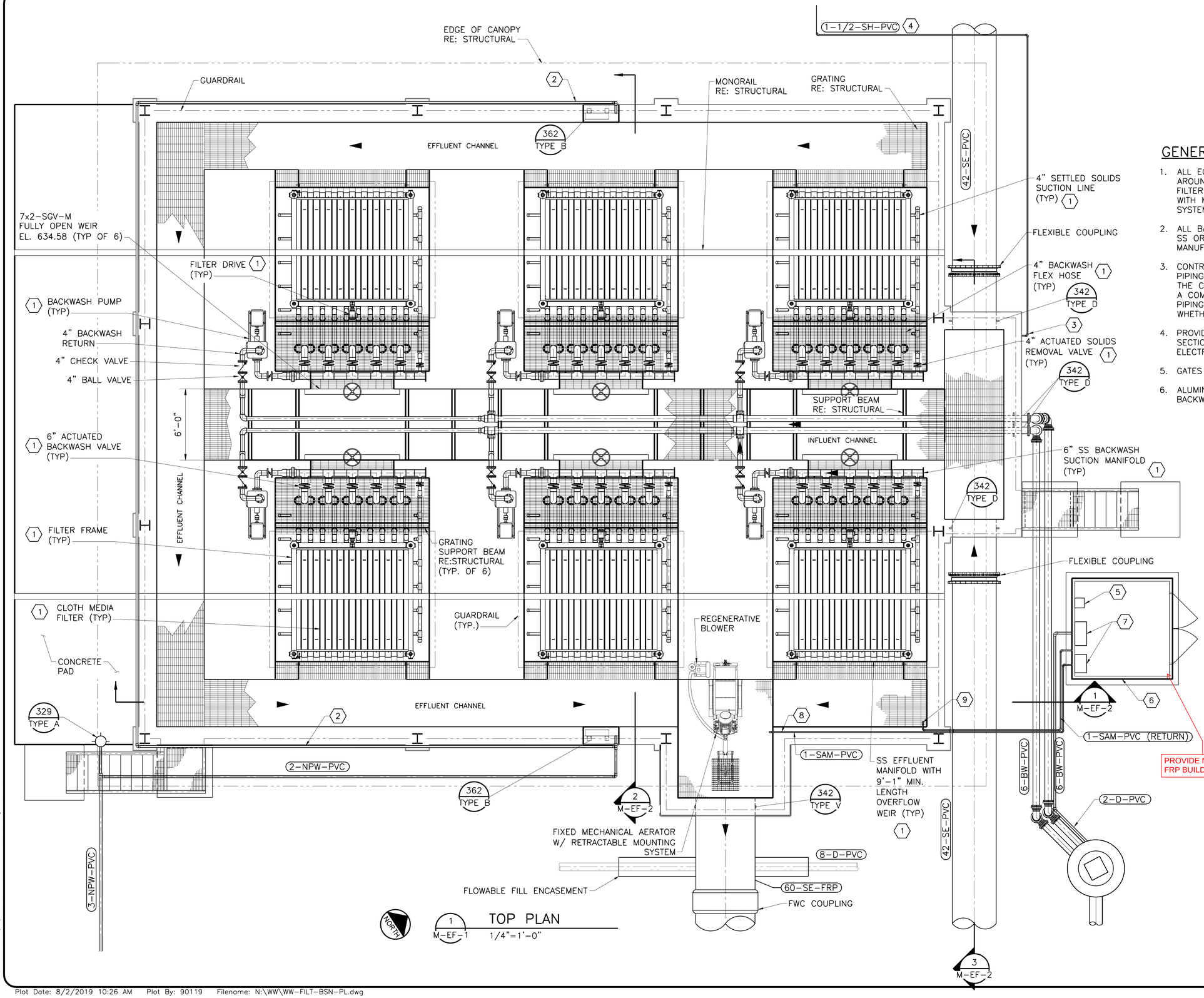

GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS SHEET IS DESIGNED AROUND ALFA LAVAL ASHBROOK SIMON-HARTLEY ISO-DISC FILTER. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH MANUFACTURER FOR A COMPLETE AND OPERABLE SYSTEM.
2. ALL BACKWASH PIPING INSIDE THE FILTERS SHALL BE 304 SS OR SCHED. 80 PVC, AS RECOMMENDED BY THE MANUFACTURER.
3. CONTRACTOR SHALL COORDINATE THE SCOPE OF BACKWASH PIPING AND EQUIPMENT SUPPLY WITH THE MANUFACTURER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLY OF A COMPLETE AND OPERABLE SYSTEM, INCLUSIVE OF ALL PIPING, VALVING, MECHANICAL AND ELECTRICAL EQUIPMENT WHETHER OR NOT SHOW HEREIN.
4. PROVIDE PIPING INSULATION ON ALL EXPOSED PIPING PER SECTION 44 00 00.02. HEAT TRACE LINES AS SHOWN ON ELECTRICAL DRAWINGS.
5. GATES SHALL BE AS SPECIFIED IN SECTION 40 05 50.
6. ALUMINUM GRATING TO BE MODIFIED TO ACCOMMODATE BACKWASH PIPING FROM FILTERS.

NOTES BY SYMBOL "⬡"

(1) PROVIDED BY FILTER EQUIPMENT SUPPLIER

(2) FIELD ROUTE 1-1/2-NPW-PVC TO UTILITY STATION. ATTACH TO RAIL PER DETAIL 362/TYPE B.

(3) FIELD ROUTE 1-1/2" PVC CASING PIPE VERTICALLY UP WALL AND PROVIDE PENETRATION 12" BELOW TOP OF WALL. PROVIDE HYDROPHILIC WATERSTOP (ADEKA ULTRASEAL) AROUND PIPE.

(4) 1/2" TUBING IN 1-1/2" SCH 40 PVC CONDUIT

(5) NEW HACH TU5300 SC TURBIDIMETER, SEE SHEET M-AS-12.

(6) NEW ~~RELOCATED~~ PHOSPHORUS ANALYZER BUILDING ~~FROM EXISTING MIXED LIQUOR JUNCTION BOX.~~

(7) NEW PHOSPHORUS ANALYZER AND SAMPLE PUMP, SEE SHEET M-AS-12

(8) 1" PVC SAMPLE LINE TO BE FIELD ROUTED BY CONTRACTOR TO LOCATION SHOWN. EXTEND SAMPLE LINE INTO BASIN, 6" ABOVE BASIN FLOOR. SUPPORT PIPE ALONG BASIN WALL WITH 316 SS PIPE STRAPS EVERY 5'-0" AT MINIMUM. PROVIDE OPENING IN METAL GRATING FOR PIPING.

(9) 1" PVC SAMPLE RETURN LINE TO BE FIELD ROUTED BY CONTRACTOR TO LOCATION SHOWN. EXTEND SAMPLE RETURN LINE INTO BASIN, 3" BELOW TOP OF WALL. SUPPORT PIPE ALONG BASIN WALL WITH 316 SS PIPE STRAPS EVERY 5'-0" AT MINIMUM. PROVIDE OPENING IN METAL GRATING FOR PIPING.

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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
MECHANICAL

EFFLUENT FILTERS TOP PLAN

NO.	ISSUE	BY	DATE

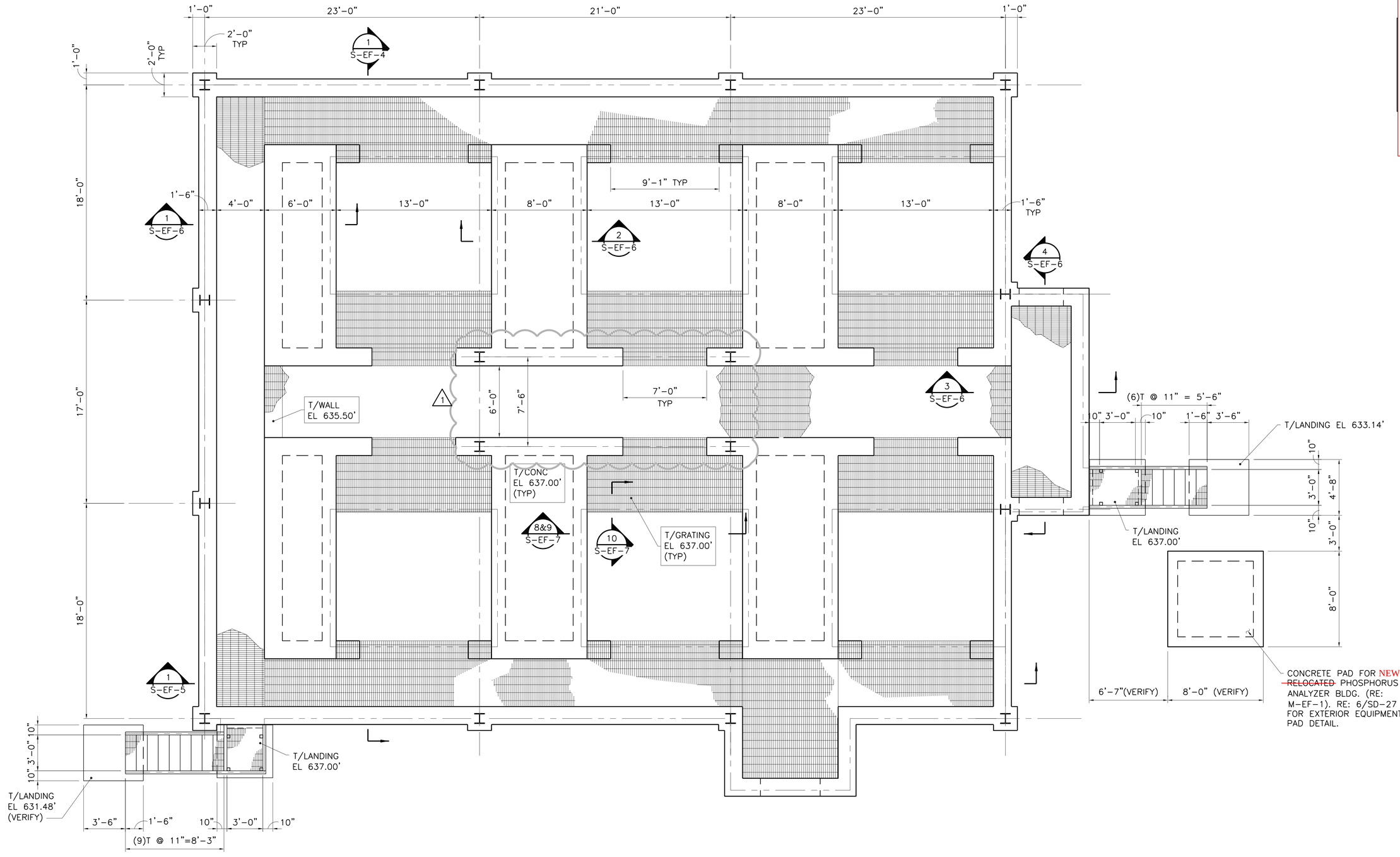
FILE NAME: WW-FILT-BSN-PL.dwg
CHECKED: TS
REVISED: -
DRAWN: CM
DESIGNED: FH
DATE: 07/17/19
FAN JOB NO: PFL16607

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1

SHEET
M-EF-1

SEQ.
161

ACAD Rel: 21.0s (LMS Tech)
Filename: N:\WW\WW-FILT-BSN-PL.dwg
Last Saved: 8/2/2019 10:22 AM Saved By: 90119
Plot Date: 8/2/2019 10:26 AM Plot By: 90119 Filename: N:\WW\WW-FILT-BSN-PL.dwg



NORTH

1 — TOP PLAN

1/4"=1'-0"

0 1' 2' 4' 8'

1/4"=1'-0"

FREESE NICHOLS

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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
STRUCTURAL

EFFLUENT FILTERS TOP PLAN

F&N JOB NO.	PFL16607
DATE	07/17/19
DESIGNED	MRR
DRAWN	JLM
REVISED	-
CHECKED	AD

NO.	ISSUE	BY	DATE
1	ADDENDUM NO. 2	MRR	09/04/19

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

0 1"

FILE NAME ST-FIL-PL-CONC02.dwg

SHEET S-EF-2

SEQ. 164

ACAD Rel: 21.0s (LMS Tech)
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Plot Date: 9/4/2019 2:25 PM Plot By: 02856 Filename: N:\ST\ST-FIL-PL-CONC02.dwg

ELECTRICAL BUILDING NO.2
ONCOR TRANSFORMER TX-EB2
GEN-EB2
INFLUENT LIFT STATION HEADWORKS
PUBLIC WORKS ADMINISTRATION BUILDING
FLEET MAINTENANCE SHOP
STORAGE SHED
STREET WAREHOUSE
SIGN SHOP
STREET WAREHOUSE
EXISTING HEADWORKS
EMH-8
EMH-1
Relocated Analyzer Building
BNR CARROUSEL NO.1 AND NO.2
BNR CARROUSEL NO.3 AND NO.4
FIELD OPERATIONS FACILITY
25A E-13
25 E-13
EMH-6
EMH-7
ELECTRICAL BUILDING NO.4
EMH-2
EMH-5
ELECTRICAL BUILDING NO.1
EMH-4
EMH-5
EMH-6
SUN LIGHT NEAR WAY
RAS PUMP STATION NO.1
SPLITTER BOX
EXISTING CLARIFIER NO.2
EXISTING CLARIFIER NO.1
CLARIFIER NO.3
RAS PUMP STATION NO.2
BIOSOLIDS BUILDING
EMH-7
ABANDONED CHLORINE AREA
ABANDONED NPW AREA
HYDRO TANK
ABANDONED CHLORINE CONTACT CHAMBER
EFFLUENT FILTER BASIN
ABANDONED FILTERS
UV BASIN
EMH-10
EMH-3
EMH-2
GENERATOR GEN-EB3
ONCOR TRANSFORMER TX-EB3
ELECTRICAL BUILDING NO.3
EMH-3
EXISTING REUSE PUMP STATION
EMH-9
EMH-1

GENERAL NOTES:

1. THE EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE.
2. NOT ALL UNDERGROUND UTILITIES MAY BE SHOWN.
3. THE EXACT LOCATION OF PROPOSED DUCTBANK SHALL BE FIELD VERIFIED.
4. COORDINATE FINAL DUCTBANK ROUTING WITH EXISTING AND NEW UNDERGROUND UTILITIES.
5. REFER TO SHEET SD-36 AND SD-37 FOR MANHOLE AND HANDHOLE SCHEDULE.

1 OVERALL SITE DUCTBANK PLAN
1"=40'

0 40' 80'
SCALE IN FEET

N

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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
ELECTRICAL

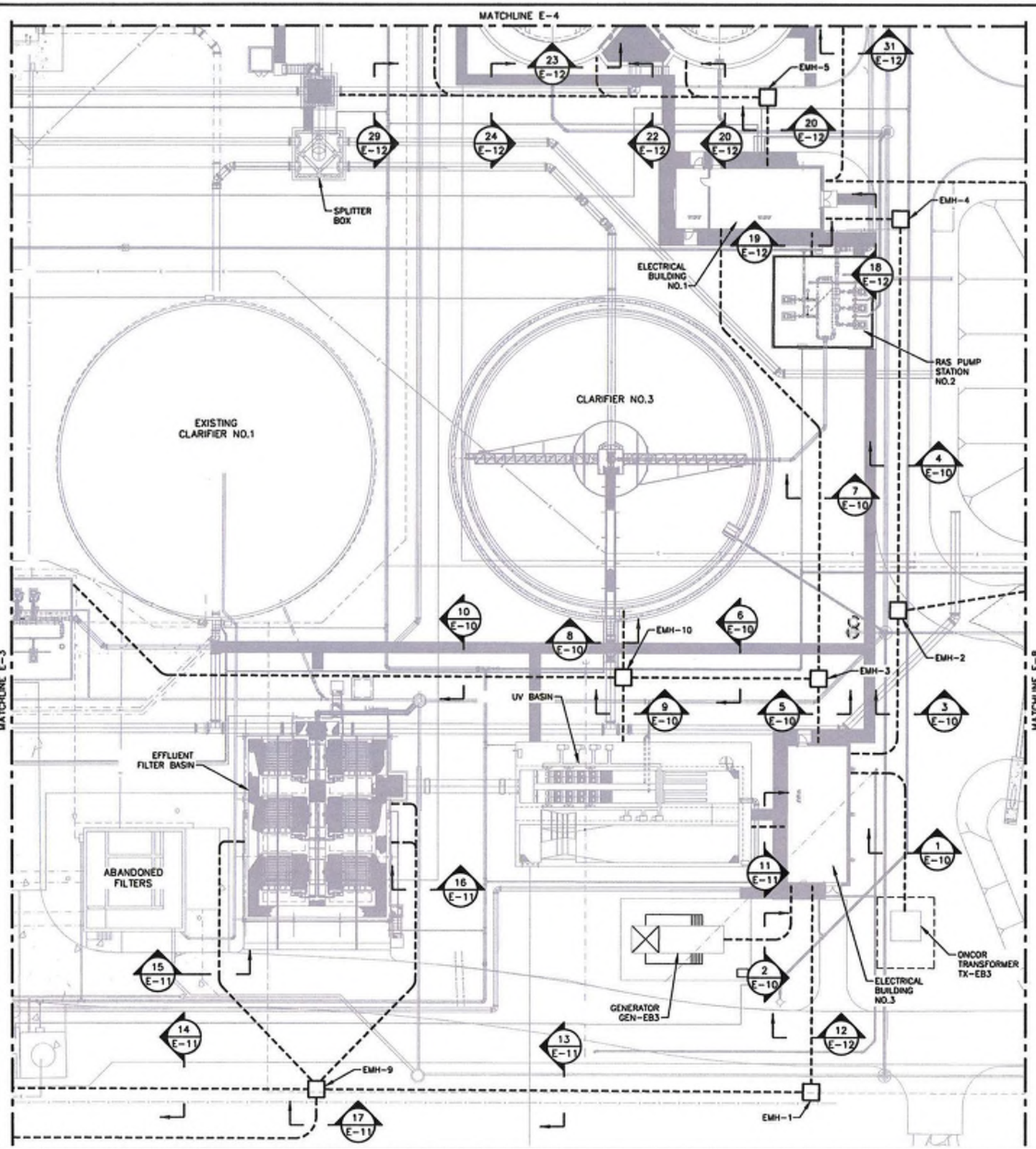
OVERALL SITE DUCTBANK ROUTING PLAN

NO.	ISSUE	BY	DATE
1	ISSUED FOR CONSTRUCTION	VKG	11/4/2019

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

PROJ. NO. PFL16607
DATE 08/05/19
DESIGNED MA
DRAWN MAC
CHECKED VKG
FILE NAME 1621_E-03.dwg

SHEET E-3
SEQ. 274



GENERAL NOTES:

1. THE EXISTING UNDRGROUND UTILITIES SHOWN ARE APPROXIMATE.
2. NOT ALL UNDERGROUND UTILITIES MAY BE SHOWN.
3. THE EXACT LOCATION OF PROPOSED DUCTBANK SHALL BE FIELD VERIFIED.
4. COORDINATE FINAL DUCTBANK ROUTING WITH EXISTING AND NEW UNDERGROUND UTILITIES.
5. REFER TO SHEET SD-36 AND SD-37 FOR MANHOLE AND HANDHOLE SCHEDULE.

Refer to Drawing E-12 For MODIFIED Duct BANK sections.

NORTH 1 — PARTIAL SITE PLAN
1"=20'

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CITY OF PFLUGERVILLE
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PHASE I IMPROVEMENTS
ELECTRICAL

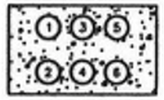
PARTIAL SITE PLAN - III

NO.	ISSUE	BY	DATE

Job .000 NO. PFL15607
DATE 08/05/19
DESIGNED MA
DRAWN MAC
CHECKED VKG
FILE NAME 1621_E-06.dwg

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

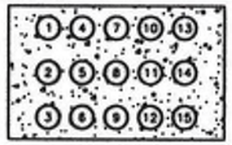
SHEET E-6
SEQ. 277



DUCTBANK SECTION
18 / E-6
NTS

TABLE FOR SECTION 18

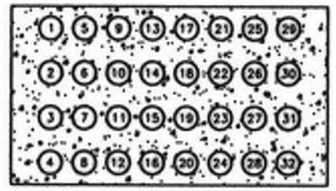
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SBUVA-1P	4"C	POWER FROM SWB-UV-A TO SWB-BNR-A
2	SBUVA-1P	4"C	POWER FROM SWB-UV-A TO SWB-BNR-A
3	SBUVA-1P	4"C	POWER FROM SWB-UV-A TO SWB-BNR-A
4	SBUVA-1P	4"C	POWER FROM SWB-UV-A TO SWB-BNR-A
5	SPARE	4"C	-
6	SPARE	4"C	-



DUCTBANK SECTION
19 / E-6
NTS

TABLE FOR SECTION 19

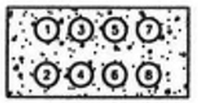
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	RAS511-P	2"C	POWER FROM EB1 TO RAS PUMP STATION 2
2	RAS512-P	2"C	POWER FROM EB1 TO RAS PUMP STATION 2
3	WAS511-P	2"C	POWER FROM EB1 TO RAS PUMP STATION 2
4	WAS512-P	2"C	POWER FROM EB1 TO RAS PUMP STATION 2
5	RAS511-C, RAS512-C	2"C	CONTROL SIGNALS FROM EB1 TO RAS PUMP STATION 2
6	WAS511-C, WAS512-C	2"C	CONTROL SIGNALS FROM EB1 TO RAS PUMP STATION 2
7	LPBNR-13, LPBNR-15, LPBNR-17, LPBNR-18	2"C	120V POWER TO RAS PUMP STATION 2
8	RI1-205	2"C	ANALOG SIGNALS FROM EB1 TO RAS PUMP STATION 2
9	RI1-206	2"C	-
10	LUBNR-4, LUBNR-5	2"C	UPS POWER FROM EB1 TO RAS PUMP STATION
11-15	SPARES	2"C	-



DUCTBANK SECTION
20 / E-6
NTS

TABLE FOR SECTION 20

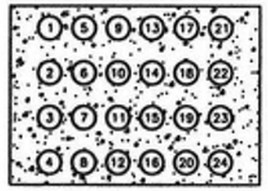
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MCBNRA-3P, MCBNRA-4P, MCBNRA-5P	2"C	POWER FROM EB1 TO BNR BASIN 3
2	MCBNRA-3C, MCBNRA-4C, MCBNRA-5C	2"C	POWER FROM EB1 TO BNR BASIN 3
3	AER303-1P	3"C	POWER FROM EB1 TO BNR BASIN 3
4	AER303-2P	3"C	POWER FROM EB1 TO BNR BASIN 3
5	AER303-1C, AER303-2C	2"C	CONTROLS FROM EB1 TO BNR BASIN 3
6	PL-301, PL-302	2"C	ANALOG SIGNALS TO BNR BASIN 3
7	LPBNR-21, LPBNR-23, LPBNR-25, LPBNR-27, LPBNR-35	2"C	120V POWER TO BNR BASIN 3
8	LUBNR-9, LUBNR-13	3"C	UPS POWER FROM EB1 TO BNR BASIN 3
9	SBBNRA-12P	2"C	POWER TO BNR BASIN 3 AND PLUG VALVE
10	PL-321	2"C	CONTROL SIGNALS TO BNR BASIN 3
11	SBBNRA-9P, SBBNRA-10P, SBBNRA-11P	2"C	POWER FROM EB1 TO BNR BASIN 3 GATES
12	MCBNRA-6P	2"C	POWER FROM EB1 TO BNR BASIN 3 RECYCLE GATE
13	PL-305, PL-307, PL-309, PL-319	2"C	CONTROL SIGNALS FROM EB1 TO BNR BASIN 4
14	PL-303, PL-304, PL-306, PL-308, PL-310, PL-320	2"C	ANALOG WIRES FROM EB1 TO BNR BASIN 3
15	LUBNR-11, LPBNR-19, LPBNR-37, LUBNR-15	2"C	120V POWER FROM EB1 TO BNR BASIN 3
16	LC1A-1, LC1A-3, LC1A-5, LC1A-7, LC1A-8, LC1A-9	2"C	BNR BASIN 3 LIGHTS
17	SBBNRB-9P, SBBNRB-10P, SBBNRB-11P	2"C	POWER FROM EB1 TO BNR BASIN 4
18	MCBNRB-6P	2"C	POWER FROM EB1 TO BNR BASIN 4 RECYCLE GATE
19	PL-405, PL-407, PL-409, PL-419	2"C	CONTROL SIGNALS FROM EB1 TO BNR BASIN 4
20	PL-403, PL-404, PL-406, PL-408, PL-410, PL-420	2"C	ANALOG SIGNALS FROM EB1 TO BNR BASIN 4
21	LUBNR-12, LPBNR-20, LPBNR-38, LUBNR-16	2"C	120V POWER FROM EB1 TO BNR BASIN 4
22	JBM-P/C	2"C	POWER FROM EB1 TO MIXED JUNCTION BOX
23	LPBNR-41, LPBNR-42, LC1A-10	2"C	120V POWER FROM EB1 TO MIXED JUNCTION BOX
24-32	SPARES	2"C	-
24	SBBNRB-7P RI1-111	2"C	Power and controls from EB-1 to Analyzer Bldg
25	RI1-209	2"C	Analog wires from EB-1 to Analyzer Building



DUCTBANK SECTION
23 / E-6
NTS

TABLE FOR SECTION 23

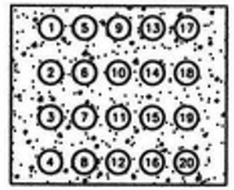
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MCBNRA-6P	2"C	POWER FROM EB1 TO BNR BASIN 3
2	PL-305, PL-307, PL-309, PL-319	2"C	DIGITAL SIGNALS FROM EB1 TO BNR BASIN 3
3	PL-303, PL-304, PL-306, PL-308, PL-310, PL-320	2"C	ANALOG SIGNALS FROM EB1 TO BNR BASIN 3
4	SBBNRA-9P, SBBNRA-11P, SBBNRA-10P	2"C	POWER FROM EB1 TO BNR BASIN 3
5	LUBNR-11, LPBNR-15	2"C	120V POWER FROM EB1 TO BNR BASIN 3
6	LC1A-7, LC1A-9	2"C	BNR BASIN 3 LIGHTS
7,8	SPARES	2"C	-



DUCTBANK SECTION
22 / E-6
NTS

TABLE FOR SECTION 22

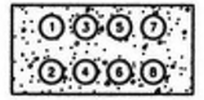
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MCBNRA-3P, MCBNRA-4P, MCBNRA-5P	2"C	POWER FROM EB1 TO BNR BASIN 3
2	MCBNRA-3C, MCBNRA-4C, MCBNRA-5C	2"C	POWER FROM EB1 TO BNR BASIN 3
3	AER303-1P	3"C	POWER FROM EB1 TO BNR BASIN 3
4	AER303-2P	3"C	POWER FROM EB1 TO BNR BASIN 3
5	AER303-1C, AER303-2C	2"C	CONTROLS FROM EB1 TO BNR BASIN 3
6	PL-301, PL-302	2"C	ANALOG SIGNALS TO BNR BASIN 3
7	LPBNR-21, LPBNR-23, LPBNR-25, LPBNR-27, LPBNR-35	2"C	120V POWER TO BNR BASIN 3
8	LUBNR-9, LUBNR-13	3"C	UPS POWER FROM EB1 TO BNR BASIN 3
9	SBBNRA-12P	2"C	POWER TO BNR BASIN 3 AND PLUG VALVE
10	PL-321	2"C	CONTROL SIGNALS TO BNR BASIN 3
11	SBBNRA-9P, SBBNRA-10P, SBBNRA-11P	2"C	POWER FROM EB1 TO BNR BASIN 3 GATES
12	MCBNRA-6P	2"C	POWER FROM EB1 TO BNR BASIN 3 RECYCLE GATE
13	PL-305, PL-307, PL-309, PL-319	2"C	CONTROL SIGNALS FROM EB1 TO BNR BASIN 4
14	PL-303, PL-304, PL-306, PL-308, PL-310, PL-320	2"C	ANALOG WIRES FROM EB1 TO BNR BASIN 3
15	LPBNR-11, LPBNR-19, LPBNR-37	2"C	120V POWER FROM EB1 TO BNR BASIN 3
16	JBM-P/C	2"C	POWER FROM EB1 TO MIXED JUNCTION BOX
17	LPBNR-41, LPBNR-42, LC1A-10	2"C	120V POWER FROM EB1 TO MIXED JUNCTION BOX
18-24	SPARES	2"C	-
18	SBBNRB-7P RI1-111	2"C	Power and controls from EB-1 to Analyzer Building
19	RI1-209	2"C	Analog Signals From EB-1 To Analyzer Building



DUCTBANK SECTION
24 / E-6
NTS

TABLE FOR SECTION 24

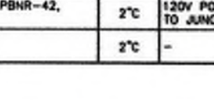
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MCBNRA-3P, MCBNRA-4P, MCBNRA-5P	2"C	POWER FROM EB1 TO BNR BASIN 3
2	MCBNRA-3C, MCBNRA-4C, MCBNRA-5C	2"C	POWER FROM EB1 TO BNR BASIN 3
3	AER303-1P	3"C	POWER FROM EB1 TO BNR BASIN 3
4	AER303-2P	3"C	POWER FROM EB1 TO BNR BASIN 3
5	AER303-1C, AER303-2C	2"C	CONTROLS FROM EB1 TO BNR BASIN 3
6	PL-301, PL-302	2"C	ANALOG SIGNALS TO BNR BASIN 3
7	LPBNR-21, LPBNR-23, LPBNR-25, LPBNR-27, LPBNR-35	2"C	120V POWER TO BNR BASIN 3
8	LUBNR-9, LUBNR-13	3"C	UPS POWER FROM EB1 TO BNR BASIN 3
9	SBBNRA-12P	2"C	POWER TO BNR BASIN 3 AND PLUG VALVE
10	PL-321	2"C	CONTROL SIGNALS TO BNR BASIN 3
11	JBM-P/C	2"C	POWER FROM EB1 TO MIXED JUNCTION BOX
12	LPBNR-41, LPBNR-42, LC1A-10	2"C	120V POWER FROM EB1 TO MIXED JUNCTION BOX
13-20	SPARES	2"C	-
13	SBBNRB-7P RI1-111	2"C	Power and controls from EB-1 to Analyzer Building
14	RI1-209	2"C	Analog wires From EB-1 To Analyzer Building



DUCTBANK SECTION
21 / E-6
NTS

TABLE FOR SECTION 21

CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SBBNRB-9P, SBBNRB-10P, SBBNRB-11P	2"C	POWER FROM EB1 TO BNR BASIN 4
2	MCBNRB-6P	2"C	POWER FROM EB1 TO BNR BASIN 4
3	PL-405, PL-407, PL-409, PL-419	2"C	CONTROL SIGNALS TO BNR BASIN 4
4	PL-403, PL-404, PL-406, PL-408, PL-410, PL-420	2"C	ANALOG SIGNALS TO BNR BASIN 4
5	LPBNR-20, LPBNR-38, LUBNR-12, LUBNR-15	2"C	POWER FROM EB1 TO BNR BASIN 4
6	LC1A-8	2"C	BNR BASIN 4 LIGHTS
7,8	SPARES	2"C	-



DUCTBANK SECTION
29 / E-6
NTS

TABLE FOR SECTION 29

CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	JBM-P/C	2"C	POWER AND CONTROLS FROM EB1 TO JUNCTION MIXER BOX
2	LPBNR-41, LPBNR-42, LC1A-10	2"C	120V POWER FROM EB1 TO JUNCTION BOX
3	SPARE	2"C	-

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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
ELECTRICAL

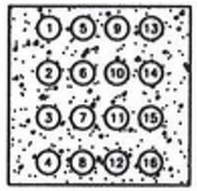
DUCTBANK SECTIONS - III

PROJ. JOB NO. PFL18607
DATE 08/05/19
DESIGNED MA
DRAWN MAC
CHECKED VWG
FILE NAME 1621_E-12.dwg

NO.	ISSUE	BY	DATE
	ISSUED FOR CONSTRUCTION	VWG	11/4/2019

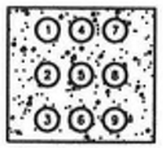
VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET E-12
SEQ. XXX



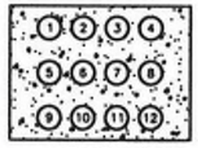
DUCTBANK SECTION
25 / E-7
NTS

TABLE FOR SECTION 25			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MCBNRA-3P, MCBNRA-4P, MCBNRA-5P	2"C	POWER FROM EB1 TO BNR BASIN 3
2	MCBNRA-3C, MCBNRA-4C, MCBNRA-5C	2"C	POWER FROM EB1 TO BNR BASIN 3
3	AER303-1P	3"C	POWER FROM EB1 TO BNR BASIN 3
4	AER303-2P	3"C	POWER FROM EB1 TO BNR BASIN 3
5	AER303-1C, AER303-2C	2"C	POWER FROM EB1 TO BNR BASIN 3
6	PL-301, PL-302	2"C	ANALOG SIGNALS TO BNR BASIN 3
7	LPBNR-21, LPBNR-23, LPBNR-25, LPBNR-27, LPBNR-35	2"C	120V POWER TO BNR BASIN 3
8	SBBNRA-12P	2"C	POWER FROM EB1 TO BNR BASIN 3 PLUG VALVE
9	PL-321	2"C	CONTROL SIGNALS TO BNR BASIN 3 PLUG VALVE
10	LC1A-1, LC1A-3, LC1A-5	2"C	BASIN LIGHTING
11	LUBNR-9, LUBNR-13	2"C	UPS POWER TO BNR BASIN 3
~~12-16~~ 14-16	SPARES	2"C	-
12	SBBNRB-7P RI1-111	2"c	Power and control wires FROM EB-1 to Analyzer
13	RI1-209	2"c	Analog signals from EB-1 to Analyzer Bldg



DUCTBANK SECTION
26 / E-7
NTS

TABLE FOR SECTION 26			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MCBNRA-5P	2"C	POWER FROM EB1 TO BNR BASIN 3
2	MCBNRA-5C	2"C	POWER FROM EB1 TO BNR BASIN 3
3	AER303-2P	3"C	POWER FROM EB1 TO BNR BASIN 3
4	AER303-2C	2"C	POWER FROM EB1 TO BNR BASIN 3
5	PL-302	2"C	ANALOG SIGNALS TO BNR BASIN 3
6	LPBNR-21, LUBNR-33	2"C	120V POWER TO BNR BASIN 3
7	LC1A-1, LC1A-3 ⚠1	2"C	BNR BASIN 3 LIGHTS
8,9	SPARES	2"C	-

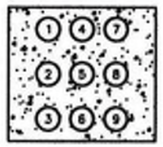


DUCTBANK SECTION
27 / E-7
NTS

TABLE FOR SECTION 27			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MCBNRA-3P, MCBNRA-4P	2"C	POWER FROM EB1 TO BNR BASIN 3
2	MCBNRA-3C, MCBNRA-4C	2"C	POWER FROM EB1 TO BNR BASIN 3
3	AER303-1P	3"C	POWER FROM EB1 TO BNR BASIN 3
4	AER303-1C	2"C	POWER FROM EB1 TO BNR BASIN 3
5	PL-301	2"C	ANALOG SIGNALS TO BNR BASIN 3
6	LPBNR-23, LPBNR-25, LPBNR-27	2"C	120V POWER TO BNR BASIN 3
7	SBBNR-12P	2"C	POWER FROM EB1 TO BNR BASIN 3 PLUG VALVE
8	PL-321	2"C	CONTROL SIGNALS TO BNR BASIN 3 PLUG VALVE
9	LC1-5	2"C	BNR BASIN 3 LIGHTS
10-12	SPARES	2"C	-

DUCTBANK SECTION
25A / E-3
NTS

Conduit No.	Conduit TAG	Size	Description
1	SBBNRB-7P RI1-111	2"c	
2	RI1-209	2"c	Analog wires From EB-1 to Analyzer Building



DUCTBANK SECTION
28 / E-7
NTS

TABLE FOR SECTION 28			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	MCBNRA-4P, MCBNRA-3P	2"C	POWER FROM EB1 TO BNR BASIN 3
2	MCBNRA-4C, MCBNRA-3C	2"C	POWER FROM EB1 TO BNR BASIN 3
3	AER303-1P	3"C	POWER FROM EB1 TO BNR BASIN 3
4	AER303-1C	2"C	POWER FROM EB1 TO BNR BASIN 3
5	PL-301	2"C	ANALOG SIGNALS TO BNR BASIN 3
6	LPBNR-23, LPBNR-25, LPBNR-27	2"C	120V POWER TO BNR BASIN 3
7	LUBNR-13, LC1-5	2"C	BNR BASIN 3 LIGHTS
8,9	SPARES	2"C	-

DUCTBANK SECTION
29 / E-7
NTS

TABLE FOR SECTION 29			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SBBNRA-12P	2"C	POWER SIGNALS TO BNR BASIN 3
2	PL-321	2"C	DIGITAL FROM EB1 TO BNR BASIN 3
3	LPBNR-14, LPBNR-16	2"C	POWER FROM EB1 TO SPLITTER BOX
4	SPARE	2"C	-

DUCTBANK SECTION
30 / E-7
NTS

TABLE FOR SECTION 30			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SBBNRA-12P	2"C	POWER SIGNALS TO BNR BASIN 3
2	PL-321	2"C	DIGITAL FROM EB1 TO BNR BASIN 3

DUCTBANK SECTION
59 / E-7
NTS

TABLE FOR SECTION 59			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	LPBNR-14	2"C	POWER SIGNALS TO NORTH SPLITTER
2	LPBNR-16	2"C	POWER TO NORTH SPLITTER

DUCTBANK SECTION
58 / E-7
NTS

TABLE FOR SECTION 29			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	SG-1P	2"C	POWER TO GATES
2	SG-1C	2"C	CONTROLS TO GATES
3	SPARE	2"C	-
4	SPARE	2"C	-

DUCTBANK SECTION
25A / E-3
NTS

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Austin, Texas 78759
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Fax - (512) 617-3101

CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
ELECTRICAL

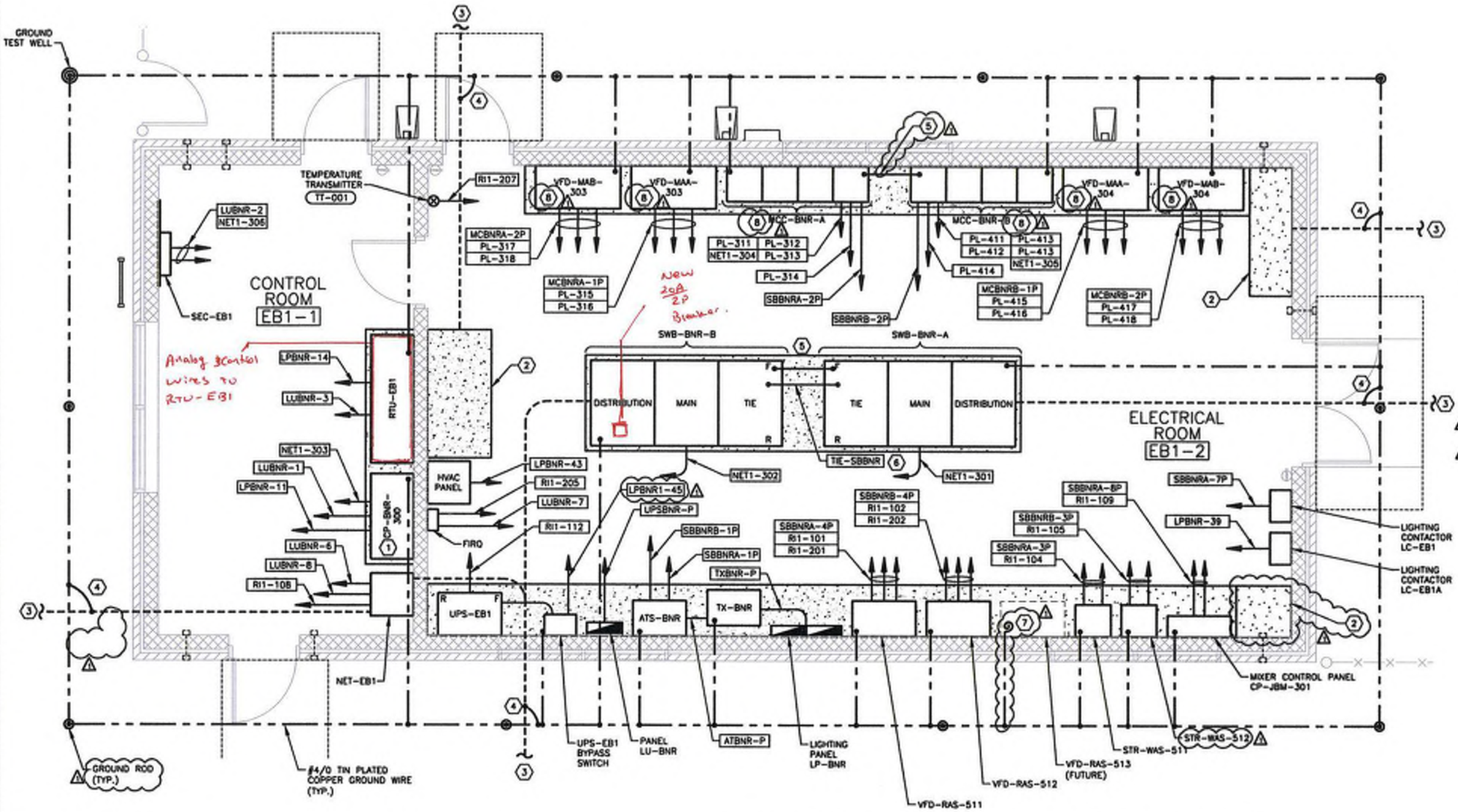
DUCTBANK SECTIONS - IV

NO.	ISSUE	DATE	BY
	⚠1 ISSUED FOR CONSTRUCTION	11/4/2019	VKG

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. PFL16607
DATE 08/05/19
DESIGNED MA
DRAWN MAC
CHECKED VKG
FILE NAME 1621_E-13.dwg

SHEET E-13
SEQ. 284



NOTES BY SYMBOL "⬡":

1. FURNISHED BY BNR MANUFACTURER. REFER TO SHEET E-48 FOR INTERFACE DIAGRAM.
2. THIS AREA IS RESERVED FOR CABLE TRAY TO CONDUIT TRANSITION.
3. REFER TO SHEET E-3 FOR CONTINUATION.
4. TIE GROUND LOOP TO DUCTBANK GROUND GRID.
5. BOND EQUIPMENT TOGETHER UNDER SLAB.
6. INSTALL CABLE BENEATH THE SLAB.
7. ⚠ PROVIDE 12" SPARE GROUND WIRE STUBBED OUT BENEATH THE SLAB.
8. ⚠ FURNISHED BY THE BNR MANUFACTURER.

ELECTRICAL BUILDING NO.1
POWER AND GROUNDING PLAN
NORTH
3/8"=1'-0"

CONDUIT TAG	SHEET REFERENCE
MCBNRA-XX	E-43
MCBNRB-XX	E-43
SBBNRA-XX	E-41, E-42
SBBNRB-XX	E-41, E-42
PL-XXX	E-48
LUBNR-XX	E-46
LPBNR-XX	E-46
RI1-XX	E-49

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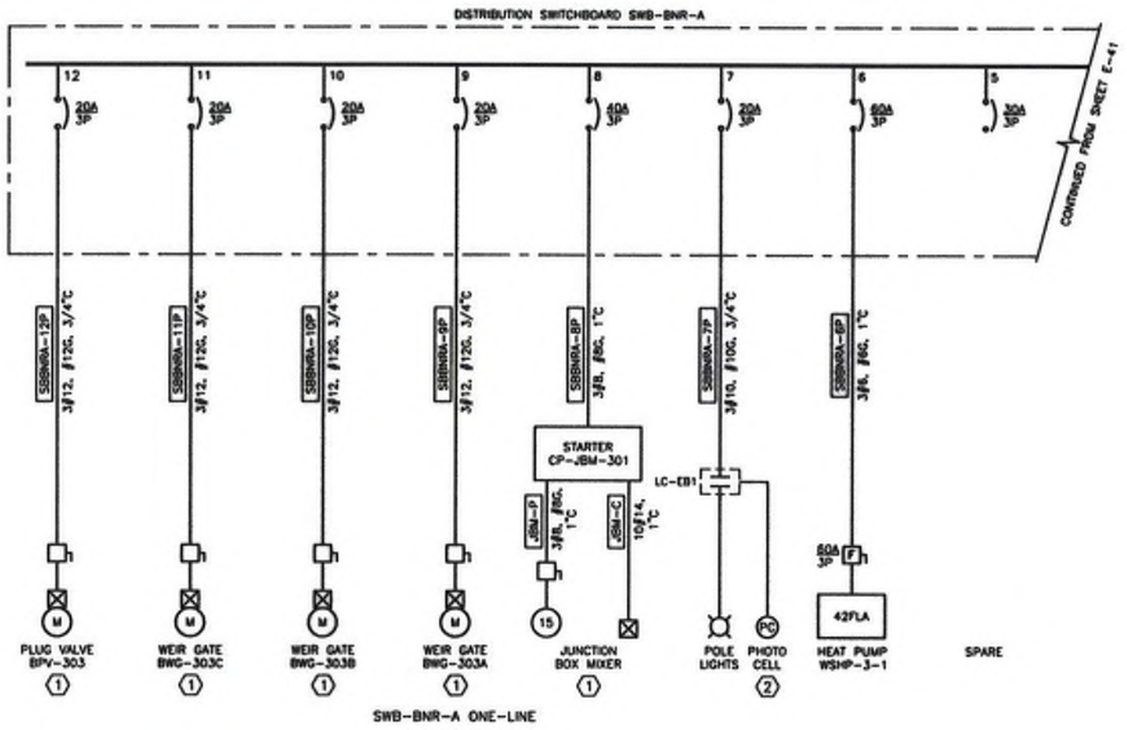
CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
ELECTRICAL
ELECTRICAL BUILDING NO.1
POWER AND GROUNDING PLAN

NO.	ISSUE	BY	DATE
1	⚠ ISSUED FOR CONSTRUCTION	VKG	11/4/2019

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

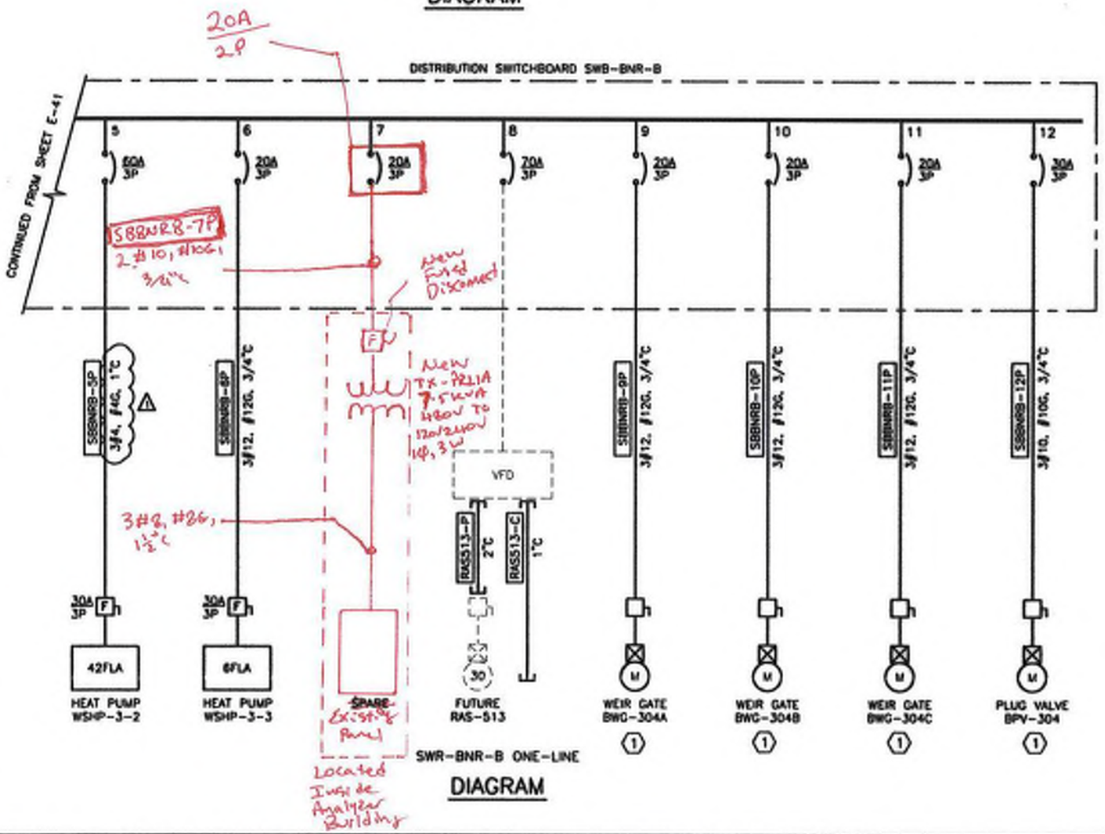
FAN 409 NO. PFL16607
DATE 08/05/19
DESIGNED MA
DRAWN MAC
CHECKED VKG
PROJECT MGR VKG
FILE NAME 1621_E-EB-01.dwg

SHEET E-EB-1
SEQ. 249



NOTES BY SYMBOL "○":

1. REFER TO SHEET E-52 FOR ELECTRICAL SCHEMATIC.
2. REFER TO SHEET E-60 FOR ELECTRICAL SCHEMATIC.



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CITY OF PFLUGERVILLE
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PHASE I IMPROVEMENTS
ELECTRICAL

SWB-BNR-A AND SWB-BNR-B
ONE-LINE DIAGRAM - II

NO.	ISSUE	BY	DATE
	ISSUED FOR CONSTRUCTION	WKG	11/4/2019

FSN JOB NO. PFL16607
DES. WKG DATE 06/05/19
DRAWN MA
CHECKED MAC
QA/QC WKG
FILE NAME 1621_E-42.dwg

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET E-42
SEQ. 313

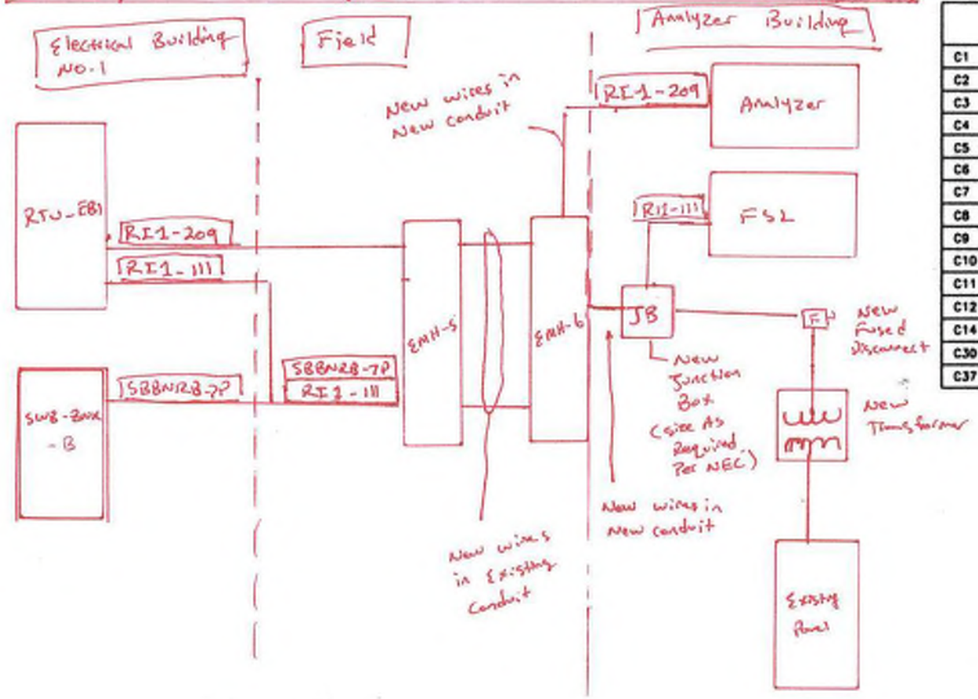
INTERFACE DIAGRAM

LOOP NO.	DESCRIPTION	FIELD WIRING (1)(3)			RIO-EB1 NET-EB1		NET-EB1
	INSIDE ELECTRICAL BUILDING NO.1						
-	POWER MONITORING	SWB-BNR-A/B	M1	NET1-301			
-	POWER MONITORING	SWB-BNR-A/B	M1	NET1-302			
CP-BNR-300	BNR CONTROL PANEL	CP	M1	NET1-303			
VFD-RAS-511	RAS PUMP NO.1	VFD	C10	RI1-101			
			A2	RI1-201			
VFD-RAS-512	RAS PUMP NO.2	VFD	C10	RI1-102			
			A2	RI1-202			
VFD-RAS-513	RAS PUMP NO.3 (FUTURE)	VFD	C10	RI1-103			
			A2	RI1-203			
STR-WAS-511	WAS PUMP NO.1	STR	C8	RI1-104			
STR-WAS-512	WAS PUMP NO.2	STR	C8	RI1-105			
NET-EB1	NETWORK ENCLOSURE	ATS	C2	RI1-108			
UPS-EB1	UPS ENCLOSURE	UPS	C4	RI1-106			
FIT-510	RAS PS 2 FLOW METER	FE	RI1-205A FIT A1	FIRQ RI1-205			
FIT-511	WAS PUMP FLOW METER	FE	RI1-206A FIT A1	RI1-206			
XT-001-1	SMOKE DETECTOR	XT	C1	RI1-107			
XT-001-2	SMOKE DETECTOR	XT	C1	RI1-108			
TT-001	TEMPERATURE TRANSMITTER	TT	A1	RI1-207			
-	JUNCTION BOX MIXER	CP	C3	RI1-109			
-	UPS	CP	C2	RI1-110 - RI1-13			

INTERFACE DIAGRAM

LOOP NO.	DESCRIPTION	FIELD WIRING (1)(3)			RIO-EB1 NET-EB1		NET-EB1
	FIELD						
LT-800	SODIUM HYDROCHLORIDE LEVEL	LE	RI1-208A FIT A1	RI1-208			
-	POWER MONITORING	MCC	M1	NET1-304			
-	POWER MONITORING	MCC	M1	NET1-305			
-	SECURITY PANEL	SCC	M1	NET1-306			
	Existing Analyzer	AST	A2	RI1-209			
	Sample Pump Flow switch	FSL	C1	RI1-111			

RIO-EB1/NET-EB1 (2)



GENERAL NOTES:

1. ALL CAT-5 AND CAT-6 CABLE PROVIDED AND INSTALLED BY OTHERS UNDER THIS CONTRACT.

NOTES BY SYMBOL -○-:

1. CONDUIT SIZES SHOWN ARE MINIMUM. COMBINATION OF SIMILAR CIRCUIT TYPES PERMISSIBLE. ADJUST CONDUIT SIZING ACCORDINGLY AND REFLECT FINAL CONFIGURATION ON AS-BUILT DOCUMENTATION.
2. TERMINATE ALL WIRING ON TERMINAL BLOCKS INSIDE PANEL. NO NON-TERMINATED WIRES ALLOWED.
3. INSTALL ALL WIRING WHETHER SHOWN ON FLOOR PLANS OR NOT.
4. SUBSTITUTE CAT-6 CABLE FOR CAT-5E WHERE REQUIRED BY CONTRACT DOCUMENTS.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE (1)(4)

C1	2#14, 3/4"C	A1	1-1Pr#16 TSP, 3/4"C
C2	4#14, 3/4"C	A2	2-1Pr#16 TSP, 3/4"C
C3	6#14, 1"C	A3	3-1Pr#16 TSP, 3/4"C
C4	8#14, 1"C	A4	4-1Pr#16 TSP, 1"C
C5	10#14, 1"C	A5	5-1Pr#16 TSP, 1"C
C6	12#14, 1-1/4"C	A6	6-1Pr#16 TSP, 1-1/2"C
C7	14#14, 1-1/4"C	A7	7-1Pr#16 TSP, 2"C
C8	16#14, 1-1/4"C	A8	8-1Pr#16 TSP, 2"C
C9	18#14, 1-1/4"C	A9	9-1Pr#16 TSP, 2"C
C10	20#14, 1-1/4"C	A10	10-1Pr#16 TSP, 2"C
C11	22#14, 1-1/2"C	A11	11-1Pr#16 TSP, 2"C
C12	24#14, 1-1/4"C	M1	1-CAT-5e, 1"C
C14	28#14, 1-1/4"C	M2	2-CAT-5e, 1-1/2"C
C30	60#14, 3-1/2"C	M3	3-CAT-5e, 2"C
C37	74#14, 4"C	M4	4-CAT-5e, 2"C

CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:

1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.

REPRESENTS PAIR OF WIRE
EXAMPLE C10 = 20#14 WIRES
EXAMPLE C20 = 40#14 WIRES
C# — C = CONTROL

2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.

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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
ELECTRICAL

INTERFACE DIAGRAM - II

NO.	ISSUE	BY	DATE
1	ADDENDUM NO.4	VKG	11/4/2019
0	ISSUED FOR CONSTRUCTION	VKG	5/16/2019

FAN JOB NO. PFL16407
DATE 08/05/19
DESIGNED MA
DRAWN MAC
CHECKED VKG
QA/QC VKG
FILE NAME 1621_E-49.dwg

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET E-49
SEQ. 320

ACAD Rel 23.0s (LMS Tech) User: mchambl@Ric
C:\Users\mchambl\AppData\Local\Temp\AcPublish_19180\1621_E-49.dwg LAYOUT: Layout1
Nov 13, 2019 - 2:51pm LTS: 0.5 PSLTS: 1 TWIST:
REFERENCES: Z:\1621_Pflugerville_Central_WWTP_Expansion\5_Previous\Electrical\Working\1621_E-49.dwg Z:_CAI Symbol Library\Process Symbols.dwg

Item 2: Clarifier Drain Line

ITEM 2: CLARIFIER DRAIN

MATCH LINE SEE SHEET C-17

MATCH LINE SEE SHEET C-19

MATCH LINE SEE SHEET C-21

LINE SEE SHEET C-15

BNR BASIN NO. 3

BNR BASIN NO. 4

MH-18
48" SS MANHOLE RIM EL. 634.32±
(MATCH PAVING ELEV.)
15" I.E. IN (S): 617.76
10" I.E. IN (W): 618.00
2" I.E. IN (SW): 628.00
1" I.E. IN (SW): 628.00
6" I.E.IN (SW): 627.73
15" I.E. OUT (N): 617.66
N: 10127910.13
E: 3157472.51

30-ML-PVC
MIXED LIQUOR JUNCTION BOX
18-RAS-HDPE
8-NPW-PVC
36-ML-PVC
4-AL-PVC
2-NPW-PVC
MIXED LIQUOR SPLITTER BOX
60-ML-FRP
10-D-PVC
3-NPW-PVC
2-PW-PVC
30-ML-PVC
6-D
8-WAS-HDPE
12-RAS (ABANDONED)
3" RPW
8-D
10-RAS
3/4-PW
2-PW
10-NPW-PVC
18-RAS-HDPE
FINAL CLARIFIER NO. 1
FINAL CLARIFIER NO. 3
10"X8" REDUCING TEE
8-D-PVC
8" ECCENTRIC PLUG VALVE W/ VALVE BOX
C.O
CONCRETE SUMP
ROUTE NEW 8" DRAIN LINE FROM CLARIFIER AND CONNECT TO 10" DRAIN LINE
RAS/WAS PUMP STATION NO. 2
ELECTRICAL BLDG. NO. 1
310
8-PW-PVC
15-D-PVC
12-RAS-DI
2-D-PVC
1-D-PVC
6-D-PVC

GENERAL NOTES:

1. ALL DIMENSIONS AND ELEVATIONS SHALL BE FIELD VERIFIED AND CONFIRMED BY EQUIPMENT SUPPLIER AND CONTRACTOR, PRIOR TO MANUFACTURING AND CONSTRUCTION.
2. REFERENCE SECTION 01 35 00 FOR SPECIAL PROCEDURES AND CONSTRUCTION SEQUENCING.
3. PIPE ROUTING AND LOCATIONS ARE APPROXIMATE BASED ON EXISTING DATA.
4. AT ALL LOCATIONS PIPE IS SHOWN TO BE DEMOLISHED OR ABANDONED, CONTRACTOR TO REFER TO NOTE IN ON SHEET G-4.
5. SLOPE PIPES UNIFORMLY BETWEEN CALLED INVERT ELEVATIONS (I.E.) UNLESS NOTED OTHERWISE

NOTES BY SYMBOL "⬡"

1. 4" SCHEDULE 40 PVC CONDUIT CARRIER PIPE HOUSING TWO 1" PVC FLEXIBLE TUBINGS. ALL CARRIER PIPING SHALL HAVE LONG SWEEPING ELBOWS.
2. 8" RESILIENT WEDGE GATE VALVE, MJ
3. CONNECT 2-NPW-PVC WITH 2" SERVICE CLAMPS

LEGEND:

PROPOSED DEMOLITION

ABANDON IN PLACE

0 10' 20'
SCALE IN FEET

FREESE NICHOLS
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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
CIVIL

YARD PIPING PLAN VII

NO.	ISSUE	BY	DATE
1	ADDENDUM NO.2	CG	9/4/19

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. PFL16607
DATE 07/17/19
DESIGNED CDC
DRAWN DWS
REVISED
CHECKED ED/CG
FILE NAME WW-SITE-YP-PL.dwg

SHEET C-18
SEQ. 39

ACAD Rel: 21.0s (LMS Tech)
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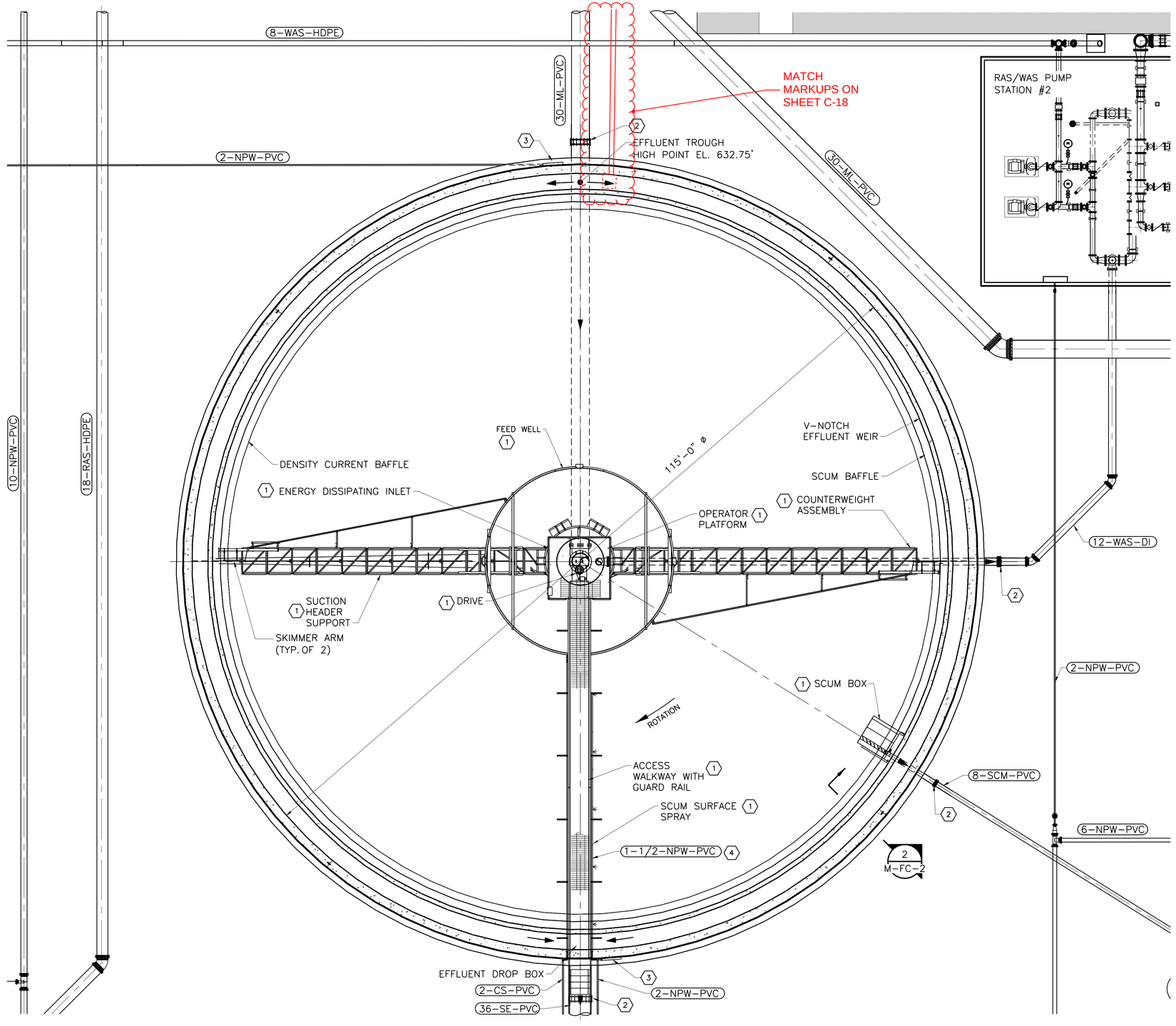

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LOCATIONS, AND ELEVATIONS PRIOR TO CONDUCTING WORK.
2. COORDINATE WITH CLARIFIER MECHANISM MANUFACTURER ON NECESSARY SUPPORTS FOR INFLUENT BAFFLE AND WALKWAY.
3. REFER TO SECTION 01 35 00 FOR SPECIFIC REQUIREMENTS OF SCHEDULING CONSTRUCTION ACTIVITIES.
4. SLOPE CLARIFIER FLOOR PER MANUFACTURER'S RECOMMENDATIONS.
5. SEE SHEET M-FC-2 FOR ILLUSTRATIVE SECTION VIEW.
6. CONTRACTOR TO COORDINATE ALL EQUIPMENT BEING PROVIDED AS PART OF SUPPLIER'S SCOPE OF WORK. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ADDITIONAL EQUIPMENT NECESSARY FOR A COMPLETE AND WORKING SYSTEM INCLUDING BUT NOT LIMITED TO: V-NOTCH WEIRS, SCUM BAFFLES, AND DENSITY CURRENT BAFFLES.
7. REFER TO M-FC-3 FOR DETAILS ON ALGAE CONTROL SYSTEM (NOT BY CLARIFIER SUPPLIER).

NOTES BY SYMBOL "(X)":

(1) PROVIDED BY CLARIFIER EQUIPMENT SUPPLIER.

(2) FLEXIBLE COUPLING, DRESSER STYLE OR EQUIVALENT.

(3) UTILITY STATION, SEE DTL. 362 TYPE A. PROVIDE 100' HOSE FOR EACH CLARIFIER UTILITY STATION.

(4) CONNECT SCUM SURFACE SPRAY SYSTEM TO PLANT NPW PIPING.

1 FINAL CLARIFIER NO. 3 PLAN
1/8"=1'-0"

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Austin, Texas 78759
Phone - (512) 617-3100
Fax - (512) 617-3101

CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
MECHANICAL

FINAL CLARIFIER NO. 3 PLAN

NO.	ISSUE	BY	DATE

FAN JOB NO. PFL16607
DATE 07/17/19
DESIGNED HMS
DRAWN MGA
REVISED
CHECKED CCG
FILE NAME WW-CLA-PL.dwg

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET M-FC-1
SEQ. 143

ACAD Rel: 21.0s (LMS Tech)
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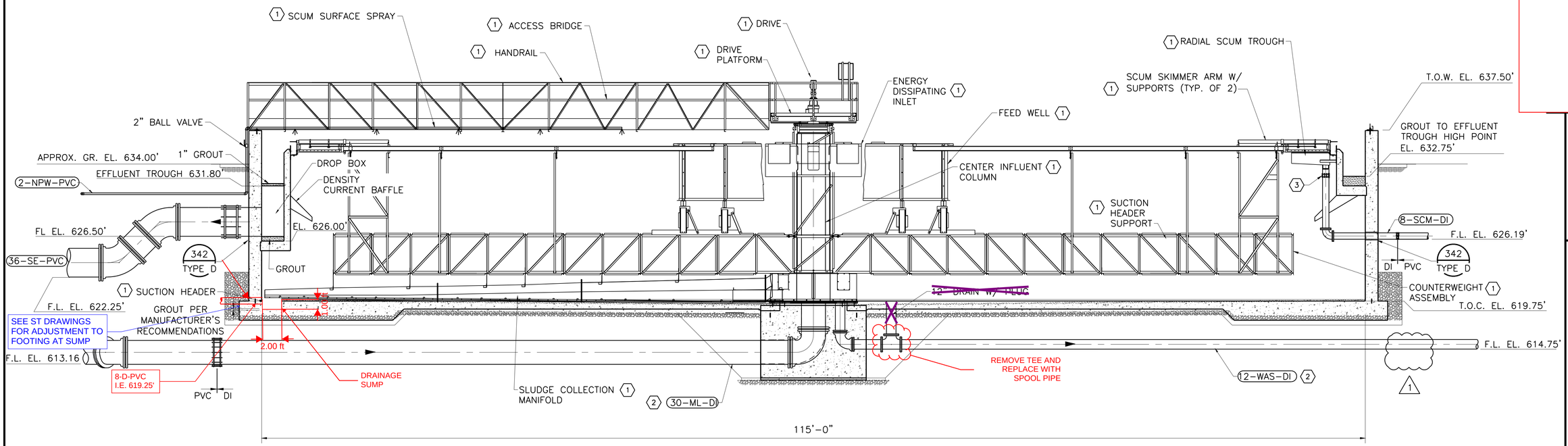
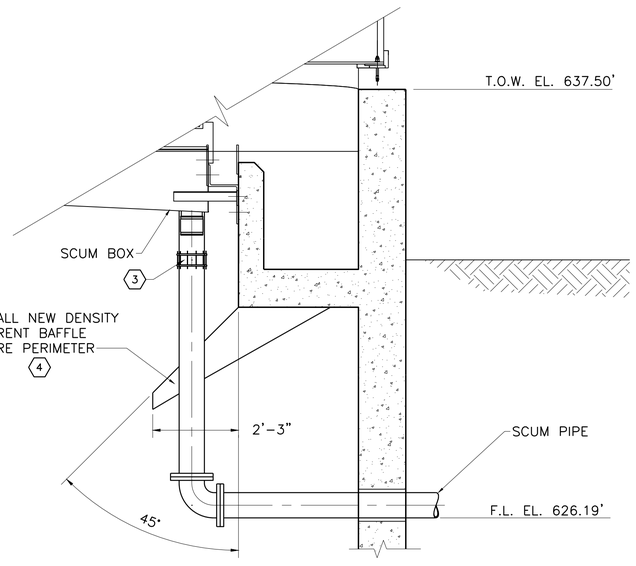
Last Saved: 8/2/2019 9:50 AM Saved By: 90119
Plot Date: 8/2/2019 11:34 AM Plot By: 90119 Filename: N:\WW\WW-CLA-PL.dwg

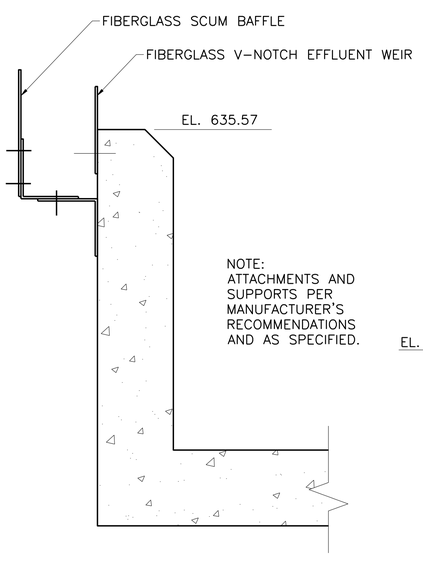
ITEM 1: CLARIFIER DRAIN MARKUPS



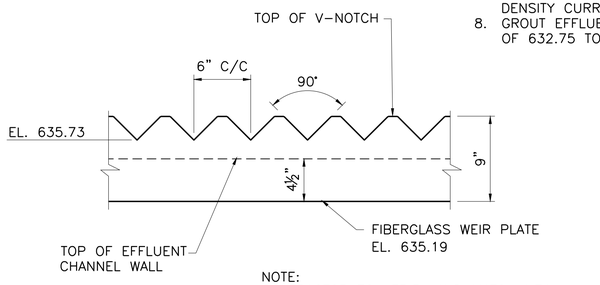
1 / – ILLUSTRATIVE SECTION VIEW
3/16"=1'-0"



2 / M-FC-2 SECTION
1/2"=1'-0"



3 / M-FC-2 EFFLUENT WEIR
1-1/2"=1'-0"



4 / M-FC-2 DETAIL
1-1/2"=1'-0"

GENERAL NOTES:

1. SEE PLAN VIEW ON SHEET M-FC-1 FOR ORIENTATION OF CLARIFIER COMPONENTS.
2. COORDINATE WITH CLARIFIER MECHANISM MANUFACTURER ON NECESSARY SUPPORTS FOR INFLUENT BAFFLE AND WALKWAY.
3. REFER TO SECTION 01 35 00 FOR SPECIFIC REQUIREMENTS OF SCHEDULING CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL COORDINATE WITH CLARIFIER MECHANISM MANUFACTURER TO PROVIDE ALL STRUCTURAL SUPPORT FOR THE CENTER WALL, SUCTION HEADER AND COUNTERWEIGHT WALKWAY, SKIMMER AND SCUM TROUGH.
5. STRUCTURAL ATTACHMENT AND BRIDGE HEIGHT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS. BRIDGE SUPPORTS SHALL ALLOW FOR ADEQUATE CLEAR SPACE FOR MECHANISM ROTATION.
6. ALL FASTENERS SHALL BE 316 SS.
7. CONTRACTOR TO COORDINATE ALL EQUIPMENT BEING PROVIDED AS PART OF SUPPLIER'S SCOPE OF WORK. CONTRACTOR RESPONSIBLE TO PROVIDE ALL ADDITIONAL EQUIPMENT NECESSARY FOR A COMPLETE AND WORKING SYSTEM INCLUDING BUT NOT LIMITED TO: V-NOTCH WEIRS, SCUM BAFFLES, AND DENSITY CURRENT BAFFLES.
8. GROUT EFFLUENT TROUGH TO PROVIDE A 0.5% SLOPE FROM THE HIGH POINT OF 632.75 TO THE DROP BOX.

NOTES BY SYMBOL "(X)":

(1) PROVIDED BY CLARIFIER EQUIPMENT SUPPLIER.
(2) CONCRETE ENCASE PIPING UNDER CLARIFIER
(3) FLEXIBLE COUPLING, DRESSER STYLE OR EQUIVALENT
(4) WHEN INSTALLING DENSITY CURRENT BAFFLE, CONTRACTOR TO TRIM AROUND OBSTRUCTIONS SUCH AS SCUM PIPE AND EFFLUENT DROP BOX.

0 4' 8'
3/16"=1'-0"
0 4" 8" 1'
1-1/2"=1'-0"
0 1' 2' 4'
1/2"=1'-0"

FREESE NICHOLS
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Austin, Texas 78759
Phone - (512) 617-3100
Fax - (512) 617-3101

CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
MECHANICAL
FINAL CLARIFIER NO. 3
SECTIONS AND DETAILS

NO.	ISSUE	BY	DATE
1	ISSUED FOR CONSTRUCTION	CCG	11/4/19

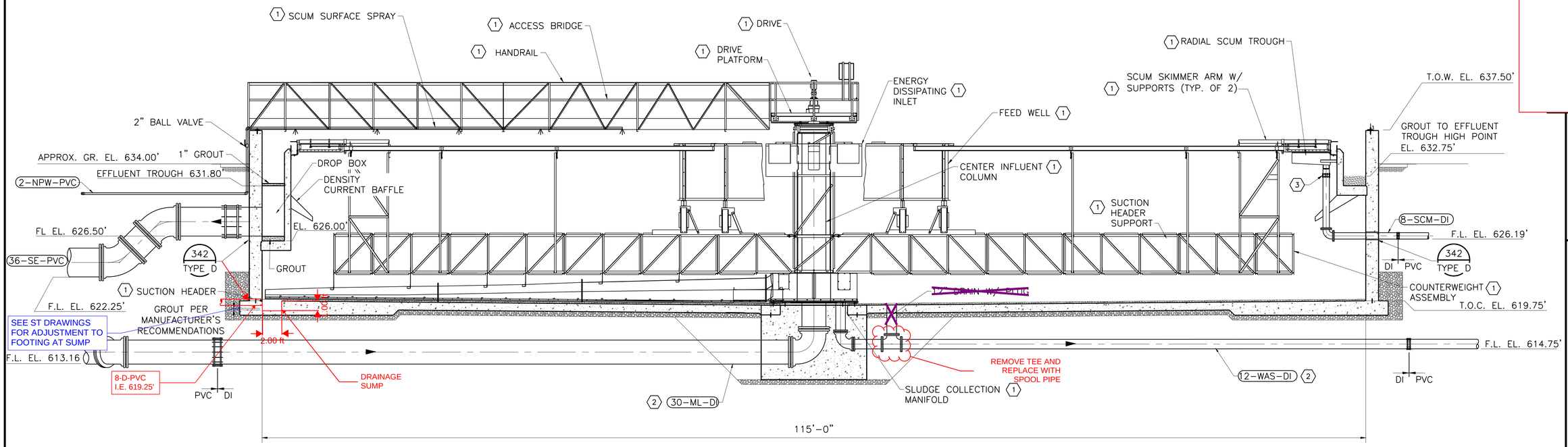
FAN JOB NO. PFL16607
DATE 07/17/19
DESIGNED HWS
DRAWN MGA
REVISED
CHECKED CCG
FILE NAME WW-CLA-SC.dwg

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

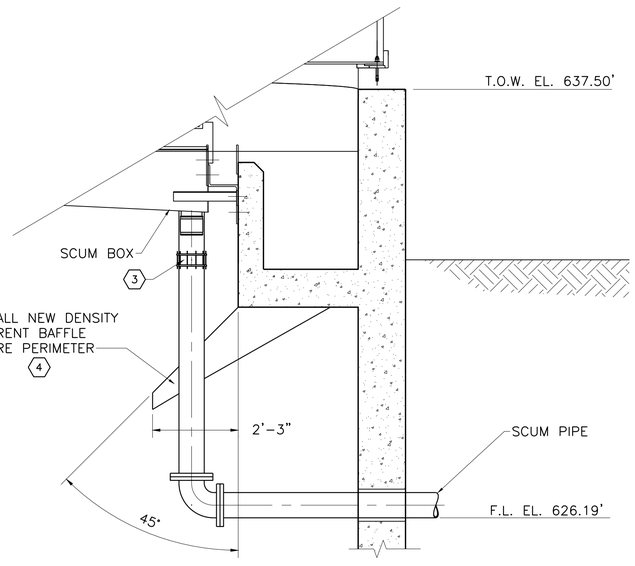
SHEET M-FC-2
SEQ. 144

ACAD Rel: 21.0s (LMS Tech)
Filename: N:\WW\WW-CLA-SC.dwg
Last Saved: 8/2/2019 8:46 AM Saved By: 90119

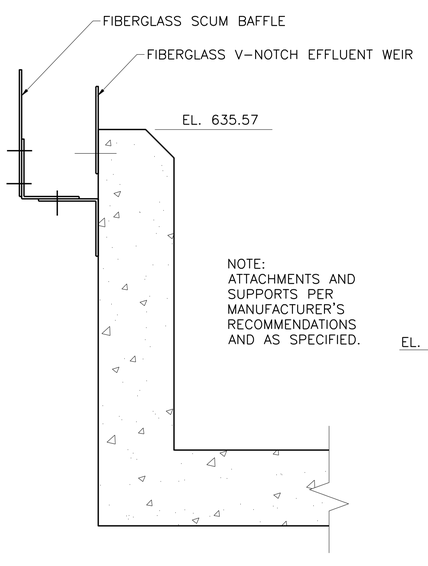
Plot Date: 10/21/2019 11:40 AM Plot By: 90119 Filename: N:\WW\WW-CLA-SC.dwg



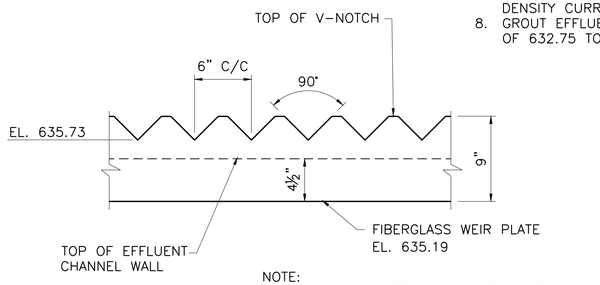
1 — ILLUSTRATIVE SECTION VIEW
3/16"=1'-0"



2 M-FC-2 — SECTION
1/2"=1'-0"



3 M-FC-2 — EFFLUENT WEIR
1-1/2"=1'-0"



4 M-FC-2 — DETAIL
1-1/2"=1'-0"

GENERAL NOTES:

1. SEE PLAN VIEW ON SHEET M-FC-1 FOR ORIENTATION OF CLARIFIER COMPONENTS.
2. COORDINATE WITH CLARIFIER MECHANISM MANUFACTURER ON NECESSARY SUPPORTS FOR INFLUENT BAFFLE AND WALKWAY.
3. REFER TO SECTION 01 35 00 FOR SPECIFIC REQUIREMENTS OF SCHEDULING CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL COORDINATE WITH CLARIFIER MECHANISM MANUFACTURER TO PROVIDE ALL STRUCTURAL SUPPORT FOR THE CENTER WALL, SUCTION HEADER AND COUNTERWEIGHT WALKWAY, SKIMMER AND SCUM TROUGH.
5. STRUCTURAL ATTACHMENT AND BRIDGE HEIGHT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS. BRIDGE SUPPORTS SHALL ALLOW FOR ADEQUATE CLEAR SPACE FOR MECHANISM ROTATION.
6. ALL FASTENERS SHALL BE 316 SS.
7. CONTRACTOR TO COORDINATE ALL EQUIPMENT BEING PROVIDED AS PART OF SUPPLIER'S SCOPE OF WORK. CONTRACTOR RESPONSIBLE TO PROVIDE ALL ADDITIONAL EQUIPMENT NECESSARY FOR A COMPLETE AND WORKING SYSTEM INCLUDING BUT NOT LIMITED TO: V-NOTCH WEIRS, SCUM BAFFLES, AND DENSITY CURRENT BAFFLES.
8. GROUT EFFLUENT TROUGH TO PROVIDE A 0.5% SLOPE FROM THE HIGH POINT OF 632.75 TO THE DROP BOX.

NOTES BY SYMBOL "(X)":

(1) PROVIDED BY CLARIFIER EQUIPMENT SUPPLIER.

(2) CONCRETE ENCASE PIPING UNDER CLARIFIER

(3) FLEXIBLE COUPLING, DRESSER STYLE OR EQUIVALENT

(4) WHEN INSTALLING DENSITY CURRENT BAFFLE, CONTRACTOR TO TRIM AROUND OBSTRUCTIONS SUCH AS SCUM PIPE AND EFFLUENT DROP BOX.

0 4' 8'
3/16"=1'-0"

0 4" 8" 1'
1-1/2"=1'-0"

0 1' 2' 4'
1/2"=1'-0"

ISSUED FOR BID

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Austin, Texas 78759
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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
MECHANICAL

FINAL CLARIFIER NO. 3
SECTIONS AND DETAILS

FNI JOB NO.	PFL16607
DATE	07/17/19
DESIGNED	HWS
DRAWN	MGA
REVISED	
CHECKED	CCG

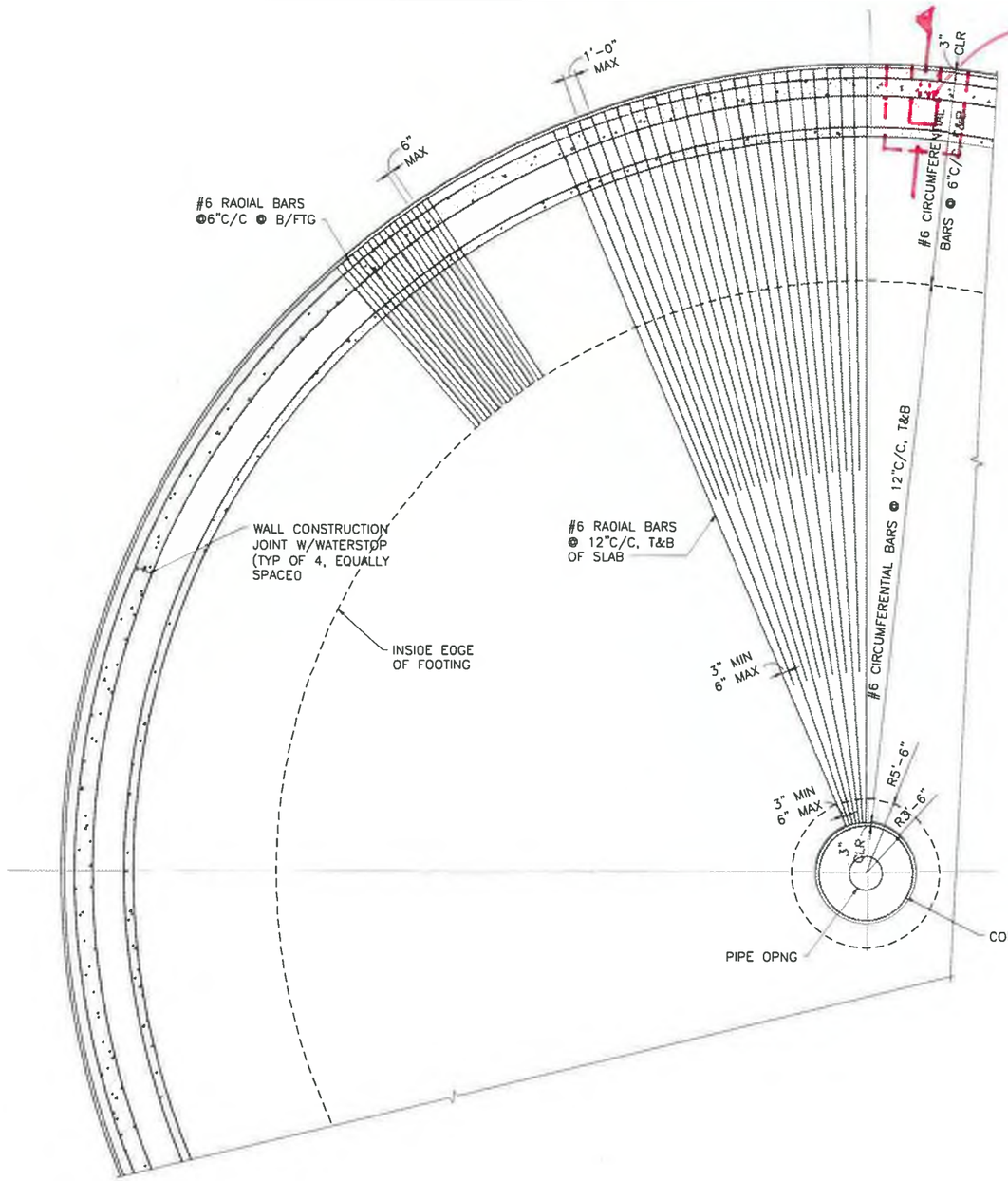
NO. | ISSUE | BY | DATE | FILE NAME WW-CLA-SC.dwg

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET M-FC-2
SEQ. 144

ACAD Rel: 21.0s (LMS Tech)
Filename: N:\WW\WW-CLA-SC.dwg
Last Saved: 7/15/2019 12:57 PM Saved By: 90119

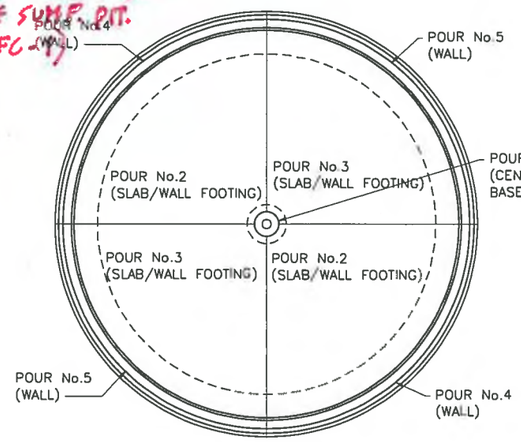
Plot Date: 7/17/2019 10:19 AM Plot By: 90119 Filename: N:\WW\WW-CLA-SC.dwg



CLARIFIER PARTIAL PLAN – SLAB REINFORCING

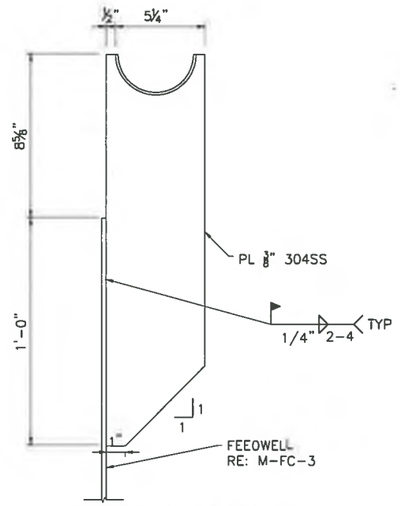
3/16"=1'-0"

2'-0" x 2'-0" x 1'-0" DEEP DRAINAGE SUMP PIT. (RE: 1/M-FC-4)



SLAB AND WALL PLACING SEQUENCE AND PLAN

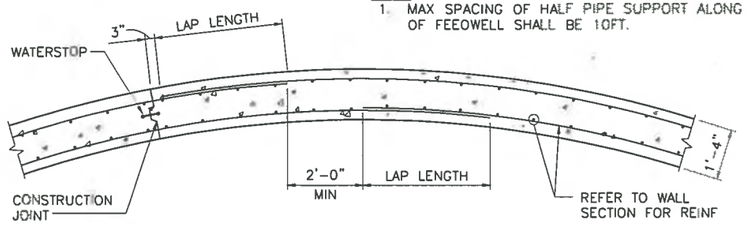
NOT TO SCALE



HALF PIPE SUPPORT

3"=1'

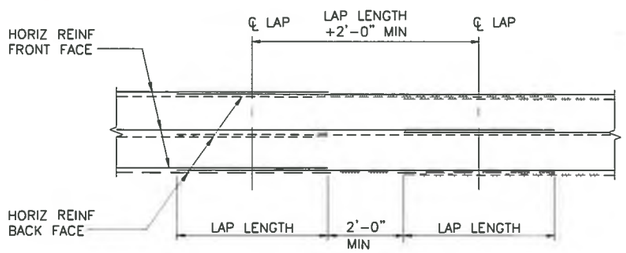
NOTE:
1. MAX SPACING OF HALF PIPE SUPPORT ALONG PERIMETER OF FEEDWELL SHALL BE 10FT.



NOTE:
REFER TO WALL ELEVATION–TYPICAL HORIZ BAR SPLICE

VERTICAL CONSTRUCTION JOINT IN WALL DETAIL

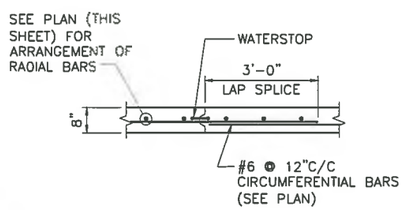
NOT TO SCALE



NOTE:
WHEN SPLICING HORIZ BARS, SPLICING SHALL BE STAGGERED IN RELATION TO BARS IN THE SAME FACE AND ALSO STAGGERED IN OPPOSITE FACE. REFER TYPICAL VERTICAL CONSTRUCTION JOINT IN WALL DETAIL.

WALL ELEVATION – TYPICAL HORIZ BAR SPLICE

NOT TO SCALE



CONSTRUCTION JOINT IN SLAB DETAIL

NOT TO SCALE

0 4' 8'

3/16"=1'-0"

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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS

STRUCTURAL

FINAL CLARIFIERS
PLAN AND SECTIONS

FNI JOB NO	PFL16607			
DATE	DATE	07/17/19		
BY	DESIGNED	MRR		
	DRAWN	JLM		
	REVISED			
	CHECKED	AD		
	FILE NAME	ST-CLA-PL-FNDN.dwg		

NO ISSUE

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

0 1"

SHEET S-FC-1

SEQ 146

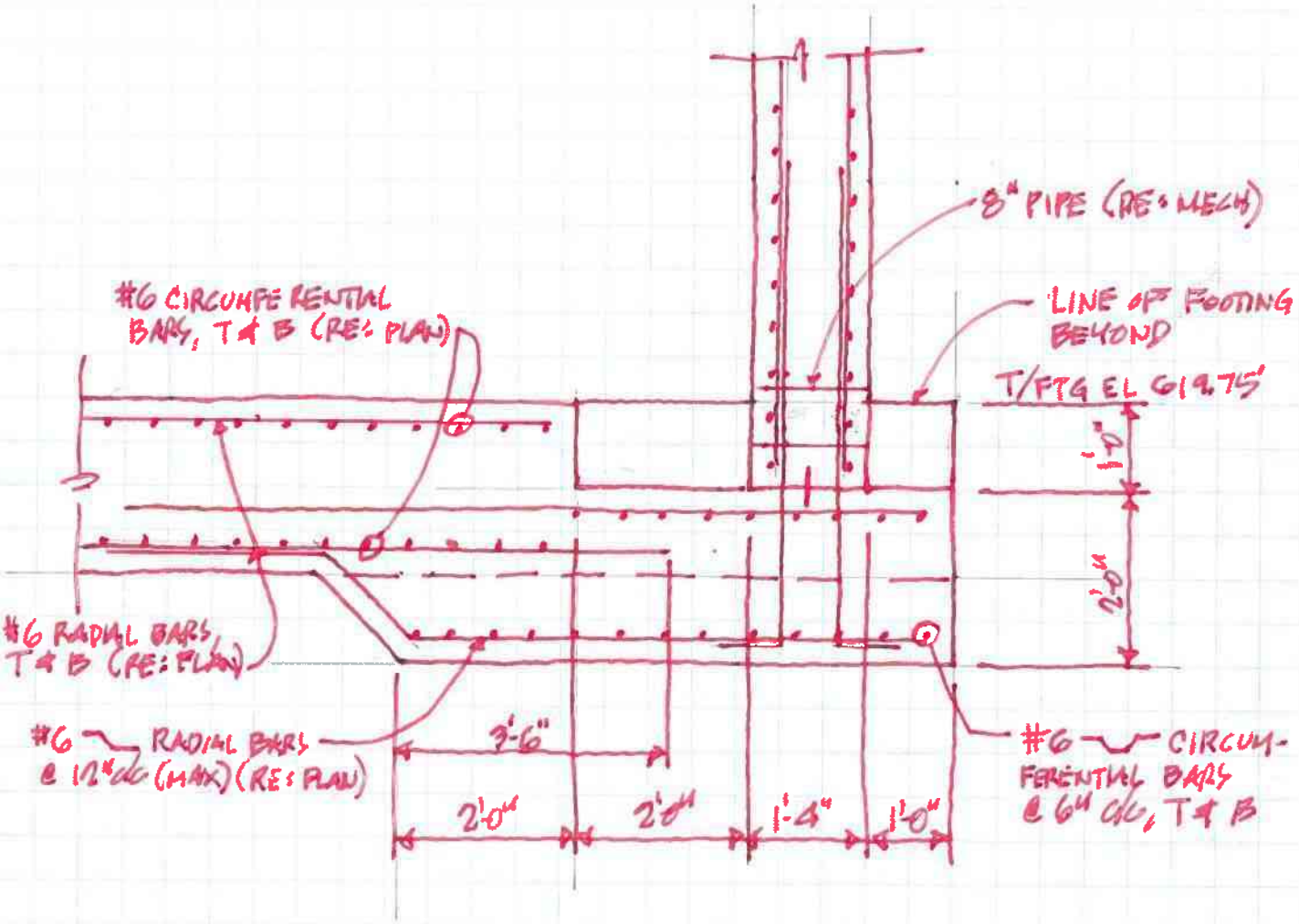
ALAU Ver: 21.0s (LMS Tech)
Filename: N:\ST\ST-CLA-PL-FNDN.dwg
Last Saved: 8/2/2019 3:16 PM Saved By: 02496

Plot Date: 8/5/2019 9:39 AM Plot By: 02496 Filename: N:\ST\ST-CLA-PL-FNDN.dwg

Title: _____ Date: _____

_____ By: _____

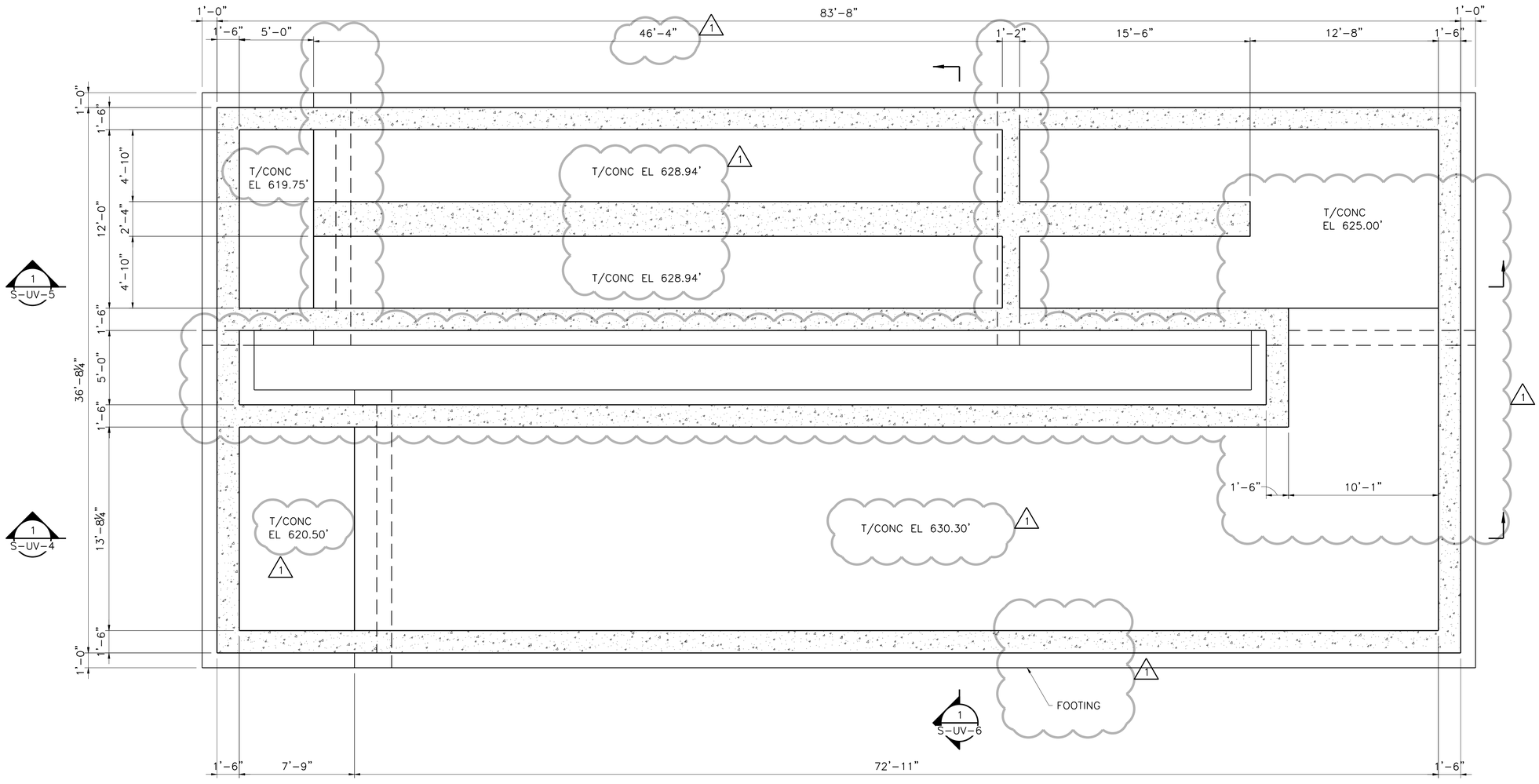
_____ ✔ _____



SECTION AT DRAINAGE SUMP PIT

FREESE AND NICHOLS

Item 3: UV Structural Drawing Correction



NORTH 1 — FOUNDATION PLAN EL 630.50'

1/4"=1'-0"

0 1' 2' 4' 8'

1/4"=1'-0"

ISSUED FOR BID

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

MICHAEL RAY ROBERTSON
59701
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
02/11/2020

FREESE AND NICHOLS
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Austin, Texas 78759
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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
STRUCTURAL

UV DISINFECTION BASIN & SYSTEM
FOUNDATION PLAN

NO.	ISSUE	BY	DATE
1	RCP NO. 1 - ITEM NO. 3	MRR	02/10/20

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

F&N JOB NO. PFL16607
DATE 07/17/19
DESIGNED MRR
DRAWN JLM
REVISED
CHECKED AO
FILE NAME ST-UVB-PL-FNDN.dwg

SHEET S-UV-1
SEQ. 181

ACAD Rel: 21.0s (LMS Tech)
Filename: N:\ST\ST-UVB-PL-FNDN.dwg
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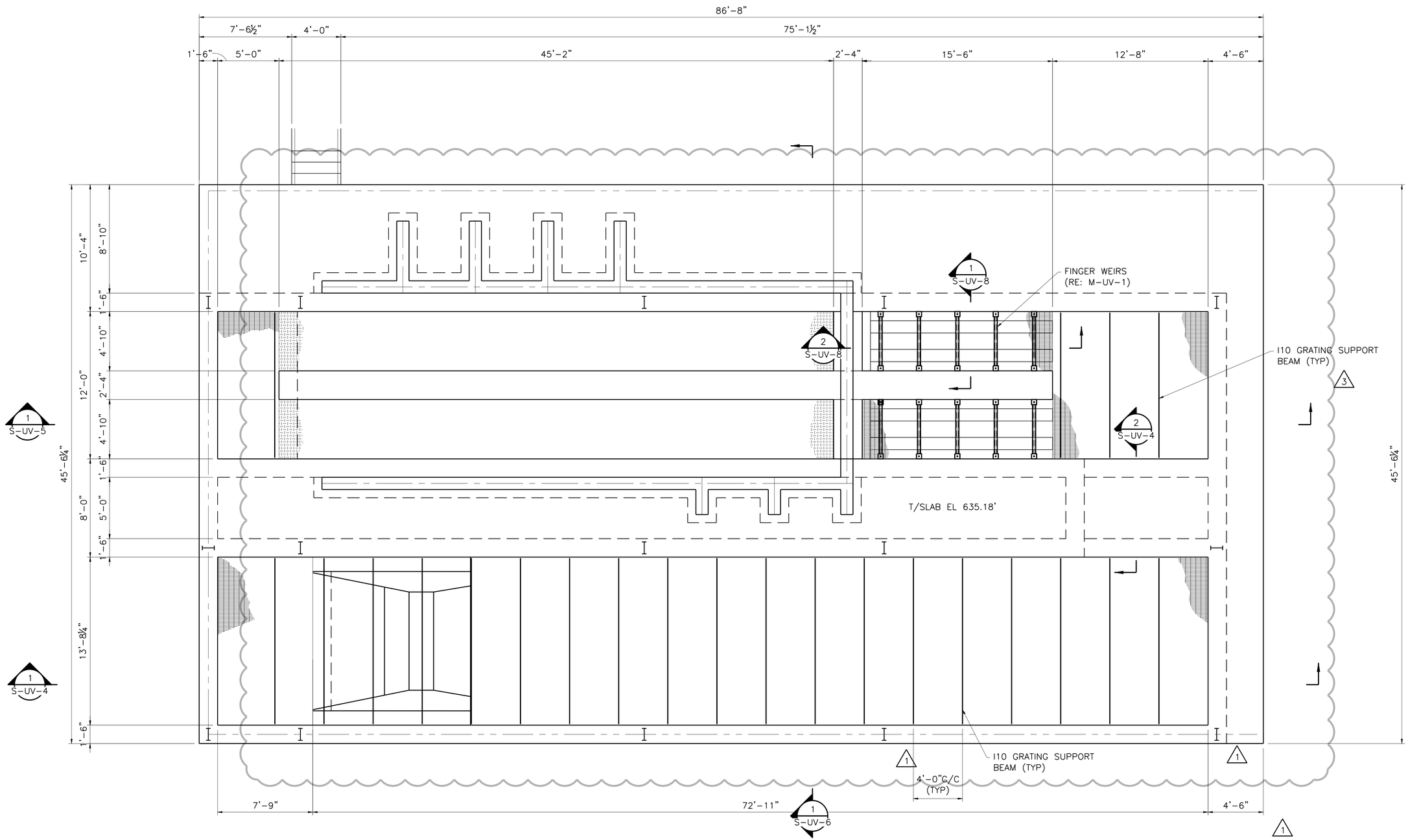
Plot Date: 2/11/2020 9:56 AM Plot By: 02198 Filename: N:\ST\ST-UVB-PL-FNDN.dwg



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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
STRUCTURAL
UV DISINFECTION BASIN & SYSTEM
TOP PLAN

NO.	ISSUE	BY	DATE
1	RCP NO. 1 – ITEM NO. 3	MRR	02/10/20
2	ISSUED FOR CONSTRUCTION	MRR	11/04/19
1	ADDENDUM NO.2	MRR	09/04/19

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

F&N JOB NO. PFL16607
DATE 07/17/19
DESIGNED MRR
DRAWN JLM
CHECKED AD
FILE NAME ST-UVB-PL-TOPP.dwg

SHEET S-UV-2
SEQ. 182

ACAD Rel: 21.0s (LMS Tech)
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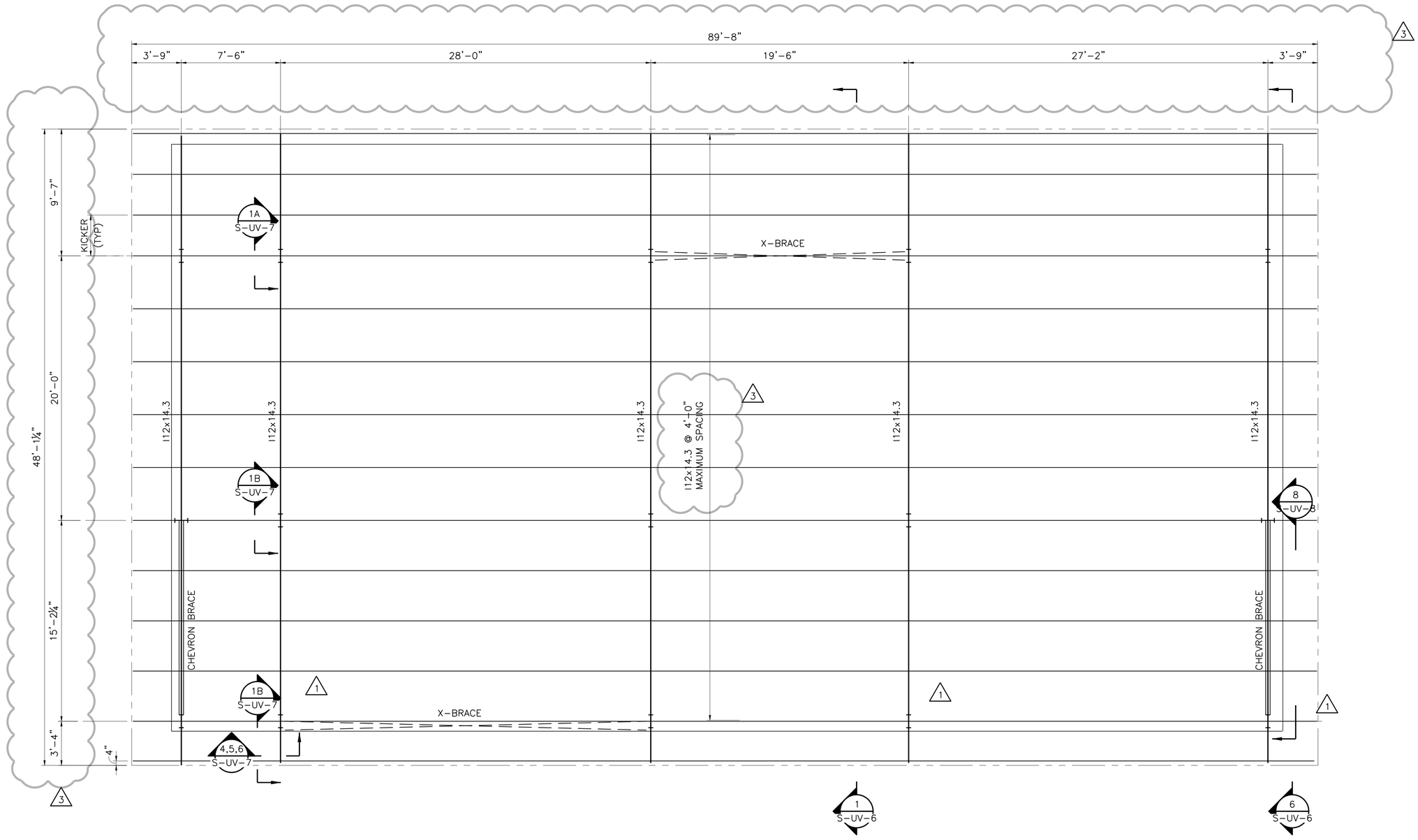

NORTH 1 — CANOPY FRAMING PLAN
1/4"=1'-0"

0 1' 2' 4' 8'
1/4"=1'-0"

ISSUED FOR BID

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Texas Registered Engineering Firm F-2144

STATE OF TEXAS
MICHAEL RAY ROBERTSON
59701
REGISTERED
PROFESSIONAL ENGINEER
02/11/2020

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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
STRUCTURAL
UV DISINFECTION BASIN
CANOPY FRAMING PLAN

NO.	ISSUE	BY	DATE
2	RCP NO. 1 - ITEM NO. 3	MRR	02/10/20
1	ISSUED FOR CONSTRUCTION	MRR	11/04/19
1	ADDENDUM NO. 2	MRR	09/04/19

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

F&N JOB NO. PFL16607
DATE 07/17/19
DESIGNED MRR
DRAWN JLM
REVISED -
CHECKED AD
FILE NAME ST-UVB-PL-FRMG.dwg

SHEET S-UV-3
SEQ. 183

ACAD Rel: 21.0s (LMS Tech)
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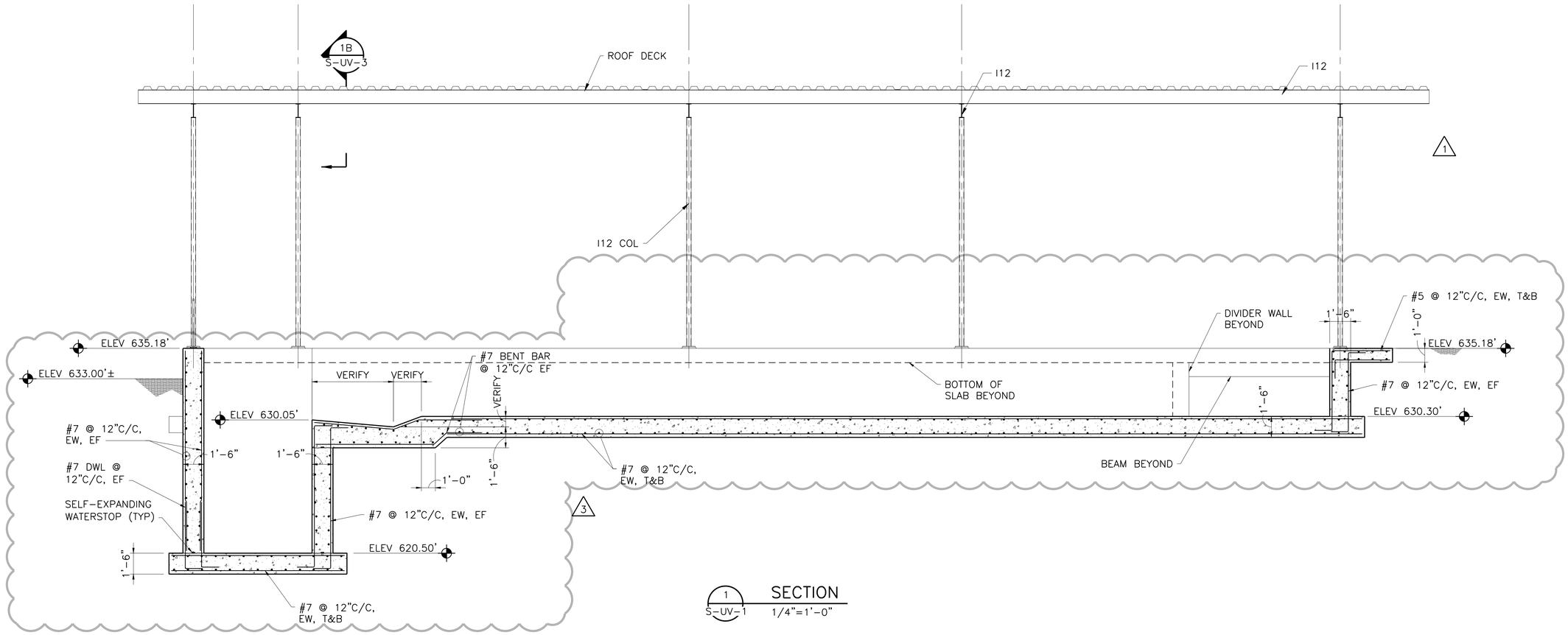
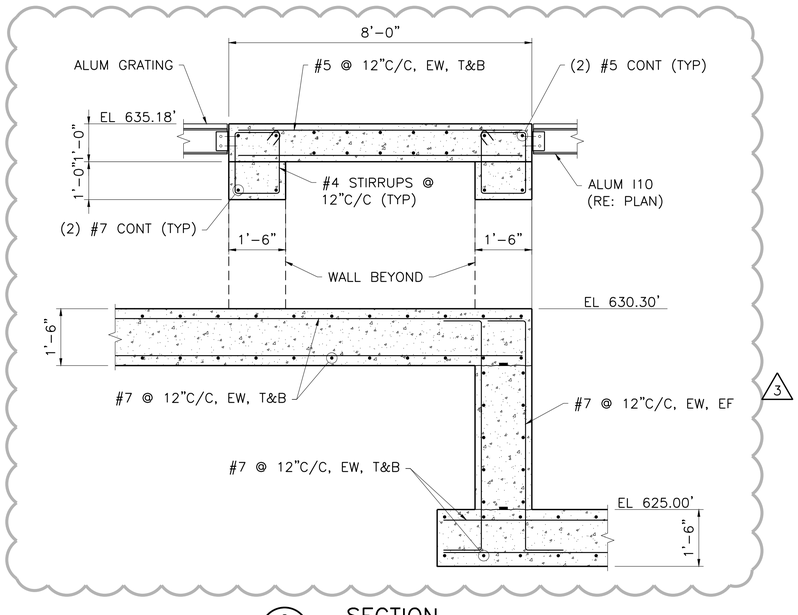


1 / S-UV-1 SECTION
1/4"=1'-0"



2 / - SECTION
1/2"=1'-0"

0 1' 2' 4'
1/2"=1'-0"

0 1' 2' 4' 8'
1/4"=1'-0"

ISSUED FOR BID

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Texas Registered Engineering Firm F-2144

MICHAEL RAY ROBERTSON
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REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS
02/11/2020

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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
STRUCTURAL
UV DISINFECTION BASIN
SECTION

NO.	ISSUE	BY	DATE
1	RCP NO. 1 – ITEM NO. 3	MRR	02/10/20
2	ISSUED FOR CONSTRUCTION	MRR	11/04/19
1	ADDENDUM NO. 2	MRR	09/04/19

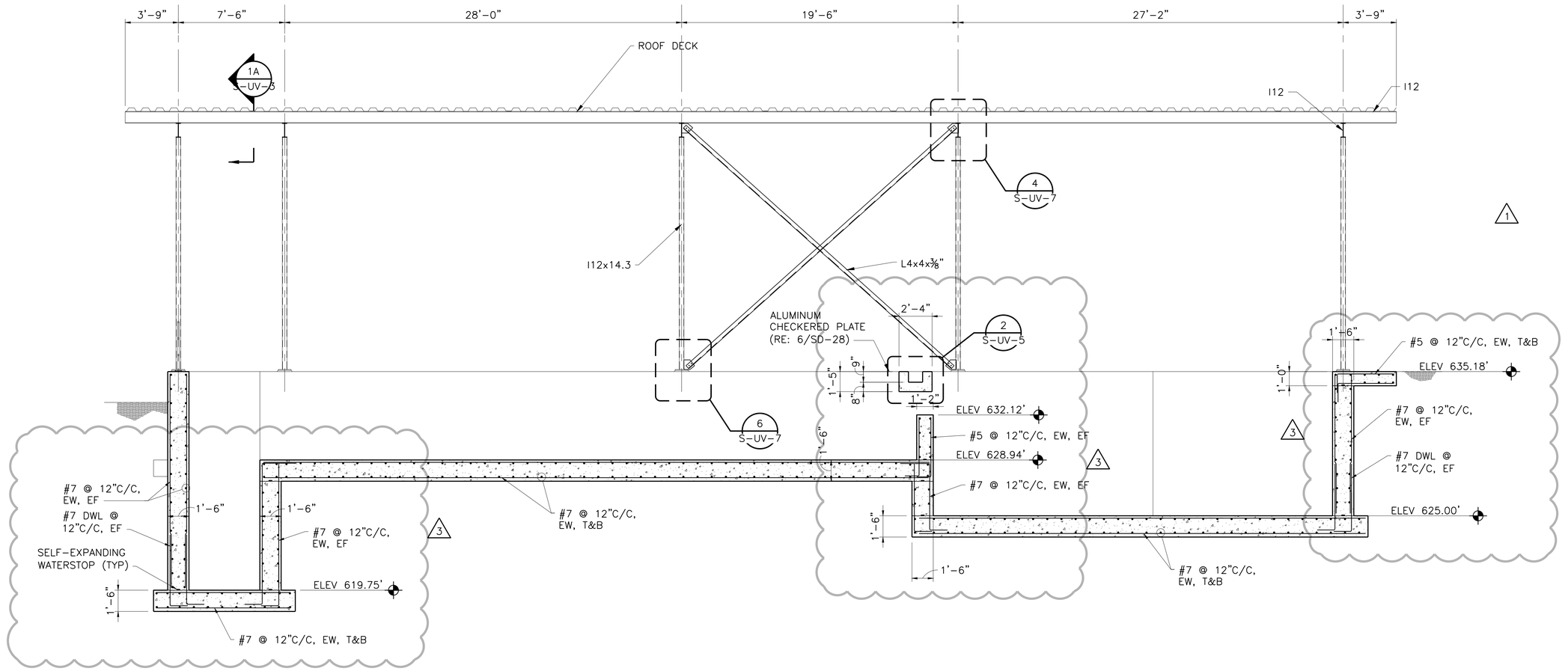
VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

F&N JOB NO. PFL16607
DATE 07/17/19
DESIGNED MRR
DRAWN JLM
REVISED
CHECKED AD
FILE NAME ST-UVB-SC-CONC01.dwg

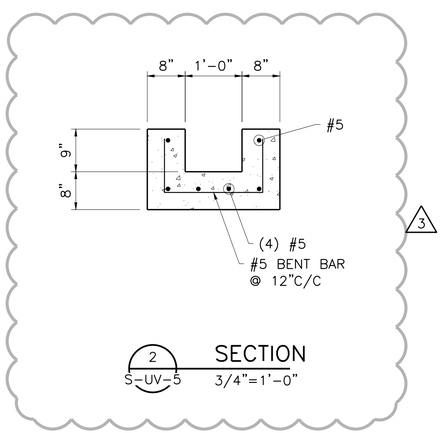
SHEET S-UV-4
SEQ. 184

ACAD Rel: 21.0s (LMS Tech)
Filename: N:\ST\ST-UVB-SC-CONC01.dwg
Last Saved: 2/11/2020 9:24 AM Saved By: 02198

Plot Date: 2/11/2020 9:57 AM Plot By: 02198 Filename: N:\ST\ST-UVB-SC-CONC01.dwg



1 SECTION
S-UV-1 1/4"=1'-0"



2 SECTION
S-UV-5 3/4"=1'-0"

0 6" 1' 2'
3/4"=1'-0

0 1' 2' 4' 8'
1/4"=1'-0"

ISSUED FOR BID

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

STATE OF TEXAS
MICHAEL RAY ROBERTSON
59701
REGISTERED
PROFESSIONAL ENGINEER
02/11/2020

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CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
STRUCTURAL
UV DISINFECTION BASIN
SECTION

NO.	ISSUE	BY	DATE
2	RCP NO. 1 - ITEM NO. 3	MRR	02/10/20
1	ISSUED FOR CONSTRUCTION	MRR	11/04/19
0	ADDENDUM NO. 2	MRR	09/04/19

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

S&N JOB NO.	PFL1660
DATE	07/17/19
DESIGNED	MRR
DRAWN	JLM
CHECKED	AD
FILE NAME	ST-UVB-SC-CONC02.dwg

SHEET
S-UV-5

SEQ.
185

ACAD Rel: 21.0s (LMS Tech)
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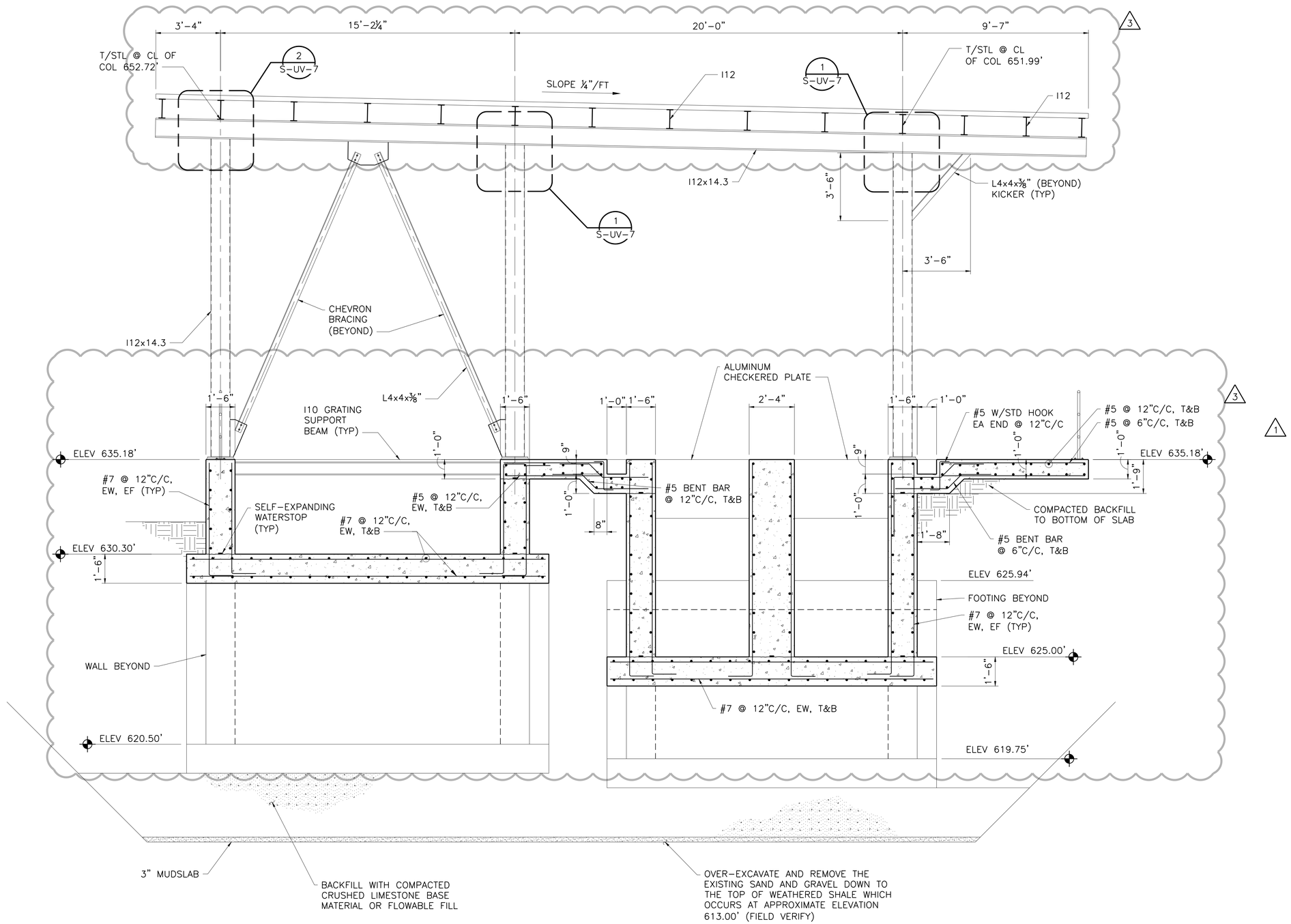
Plot Date: 2/11/2020 9:57 AM Plot By: 02198 Filename: N:\ST\ST-UVB-SC-CONC02.dwg



1 S-UV-1 SECTION 3/8"=1'-0"

0 1' 2' 4' 8'
1/4"=1'-0"

ISSUED FOR BID

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

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Austin, Texas 78759
Phone - (512) 617-3100
Fax - (512) 617-3101

CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
STRUCTURAL
UV DISINFECTION BASIN & SYSTEM SECTION

FNN JOB NO. PFL16607
DATE 07/17/19
DESIGNED MRR
DRAWN JLM
CHECKED AD
FILE NAME ST-UVB-SC-CONC03.dwg

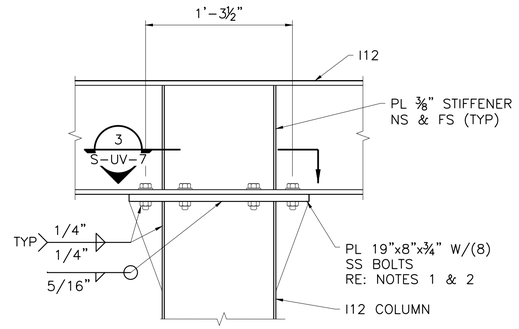
NO.	ISSUE	BY	DATE
1	RCP NO. 1 - ITEM NO. 3	MRR	02/10/20
2	ISSUED FOR CONSTRUCTION	MRR	11/04/19
3	ADDENDUM NO. 2	MRR	09/04/19

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

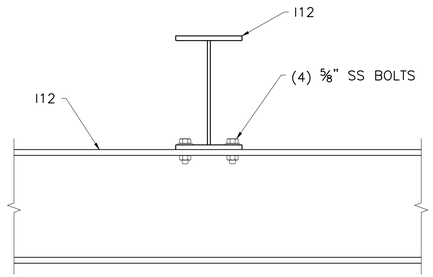
SHEET S-UV-6
SEQ. 186

ACAD Rel: 21.0s (LMS Tech)
Filename: N:\ST\ST-UVB-SC-CONC03.dwg
Last Saved: 2/11/2020 9:55 AM Saved By: 02198

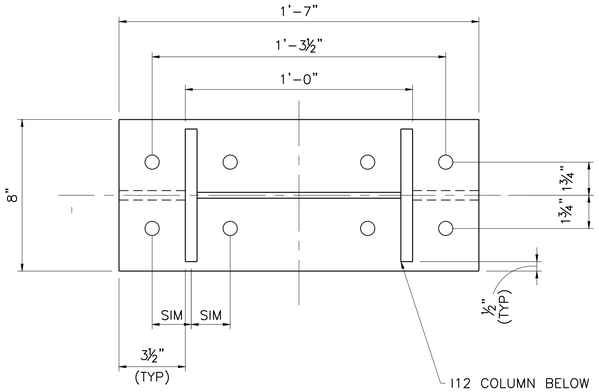
Plot Date: 2/11/2020 9:57 AM Plot By: 02198 Filename: N:\ST\ST-UVB-SC-CONC03.dwg



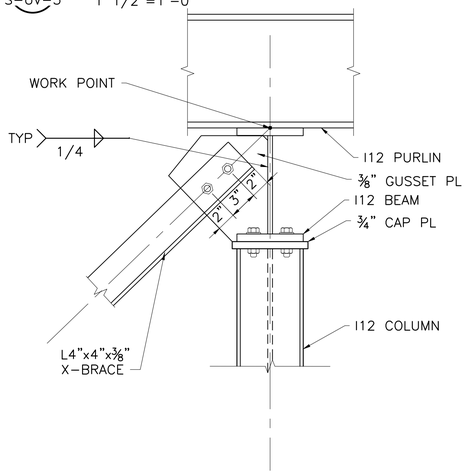
DETAIL NOTES:
1. BOLTS SHALL BE 1"Ø FOR SECTIONS 1A/S-UV-3.
2. BOLTS SHALL BE ⅝"Ø FOR 1B/S-UV-3
3. I12 PURLIN NOT SHOWN.
4. ROOF DECK NOT SHOWN.



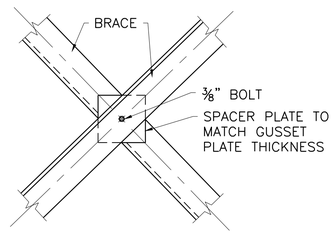
DETAIL NOTES:
1. ROOF DECKING NOT SHOWN.



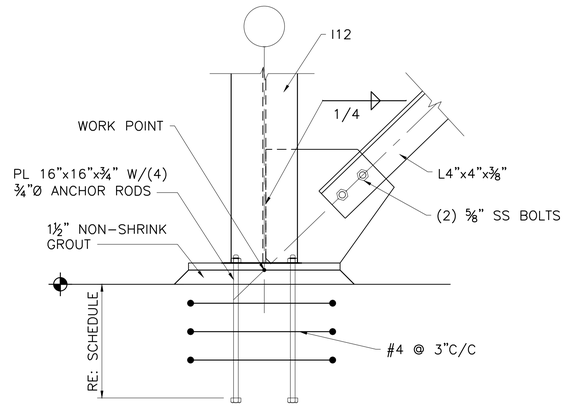
1A-1B / S-UV-3 COLUMN-BEAM CONNECTION DETAIL
1 1/2"=1'-0"

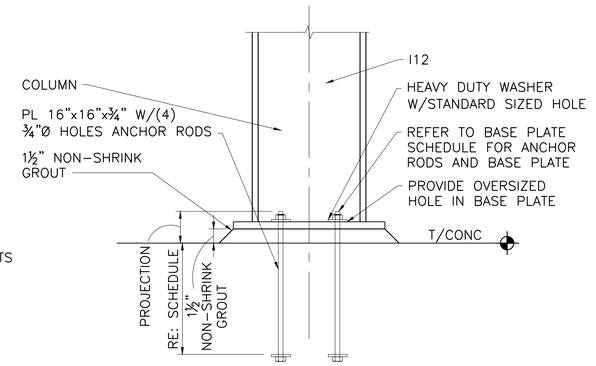


2 / S-UV-3 BEAM-PURLIN CONNECTION DETAIL
1 1/2"=1'-0"



3 / S-UV-3 CAP PLATE DETAIL
3"=1'-0"

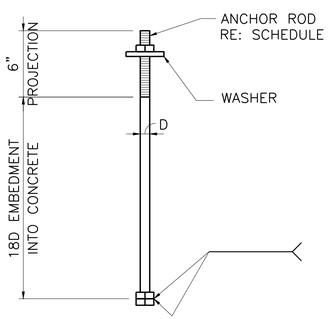


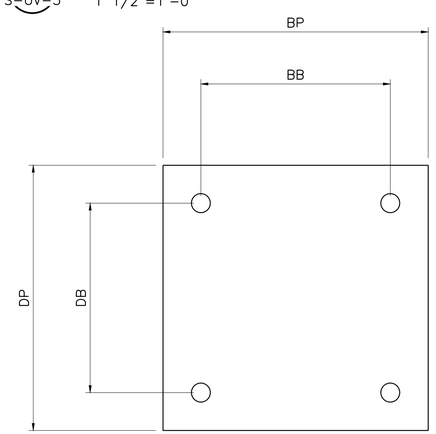


DETAIL NOTES:
1. MEANS OF LEVELING AND ELEVATION CONTROL SHALL BE PROVIDED AND COORDINATED. LEVELING NUTS ARE NOT ALLOWED AT COLUMNS THAT HAVE TENSIONED ANCHORS.

4 / S-UV-3 X-BRACE
1 1/2"=1'-0"

5 / S-UV-3 X-BRACE SPACER PLATE DETAIL
1 1/2"=1'-0"





DETAIL NOTES:
1. ALL ELEMENTS SHALL BE HOT-DIPPED GALVANIZED.

6 / S-UV-3 COLUMN BASEPLATE & X-BRACE DETAIL
1 1/2"=1'-0"

7 / - BASE PLATE ELEVATION
1 1/2"=1'-0"

8 / - ANCHOR ROD DETAIL
NOT TO SCALE

9 / - BASE PLATE DIMENSIONS
NOT TO SCALE

BASE PLATE SCHEDULE

STRUCTURE	SHEET REFRENCE	COLUMN	PEDESTAL DIAMETER	THICKNESS	BP	DP	BB	DB	ROD DIA "D"	ROD EMBED	PLATE GRADE
NPW	S-NPW-1	I6x4.69	–	0'-1 1/4"	0'-10"	0'-10"	0'-5"	0'-5"	0'-0 3/4"	1'-6"	6061-T6
UV BASIN	S-UV-5	I12x14.3	–	0'-0 3/4"	1'-4"	1'-4"	0'-6"	0'-6"	0'-0 3/4"	1'-6"	6061-T6
EFFLUENT FILTER	S-EF-3	I12x14.3	–	0'-0 3/4"	1'-2"	1'-2"	0'-5"	0'-5"	0'-0 3/4"	1'-6"	6061-T6
HEADWORKS	S-HW-14	RT 8x8x0.500	2'-0"	0'-1 1/4"	1'-2"	1'-2"	0'-11"	0'-11"	0'-0 3/4"	1'-6"	6061-T6
		RT 8x8x0.500	2'-2"	0'-1 1/4"	1'-4"	1'-4"	1'-1"	1'-1"	0'-0 3/4"	1'-6"	6061-T6

1. REFER TO BASE PLATE DETAIL 6/S-UV-7.
2. REFER TO BASE PLATE ELEVATION DETAIL 7/S-UV-7.
3. REFER TO ANCHOR ROD DETAIL 8/S-UV-7.
4. REFER TO BASE PLATE DIMENSIONS DETAIL 9/S-UV-7.

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144
STATE OF TEXAS
MICHAEL RAY ROBERTSON
59701
REGISTERED
ENGINEER
02/11/2020
FREESE NICHOLS
10431 Morado Circle, Suite 300
Austin, Texas 78759
Phone - (512) 617-3100
Fax - (512) 617-3101

CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
STRUCTURAL
UV DISINFECTION BASIN & SYSTEM
FRAMING DETAILS I

NO.	ISSUE	BY	DATE
2	RCP NO. 1 - ITEM NO. 3	MRR	02/10/20
1	ISSUED FOR CONSTRUCTION	MRR	11/04/19
0	ADDENDUM NO. 2	MRR	09/04/19

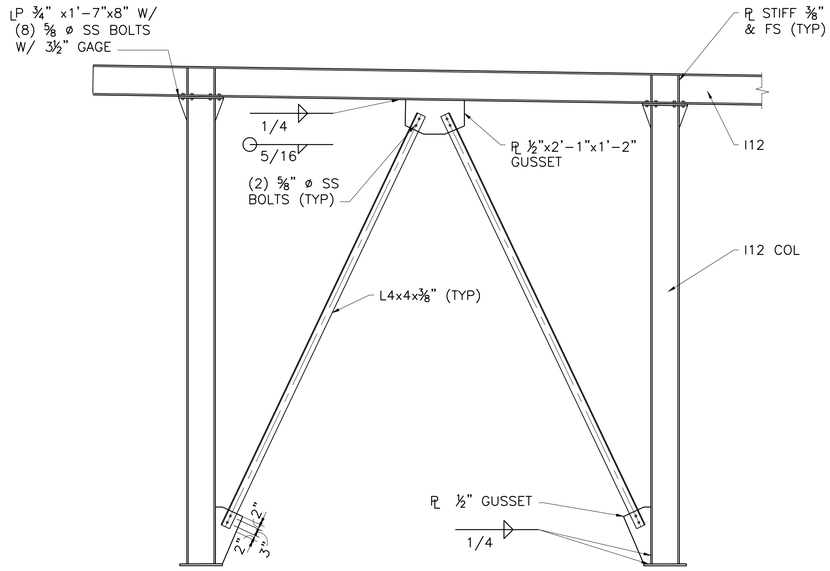
VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

PFN JOB NO. PFL16607
DATE 07/17/19
DESIGNED MRR
DRAWN JLM
REVISED
CHECKED AD
FILE NAME ST-UV-DT-FRGM01.dwg

SHEET S-UV-7
SEQ. 187

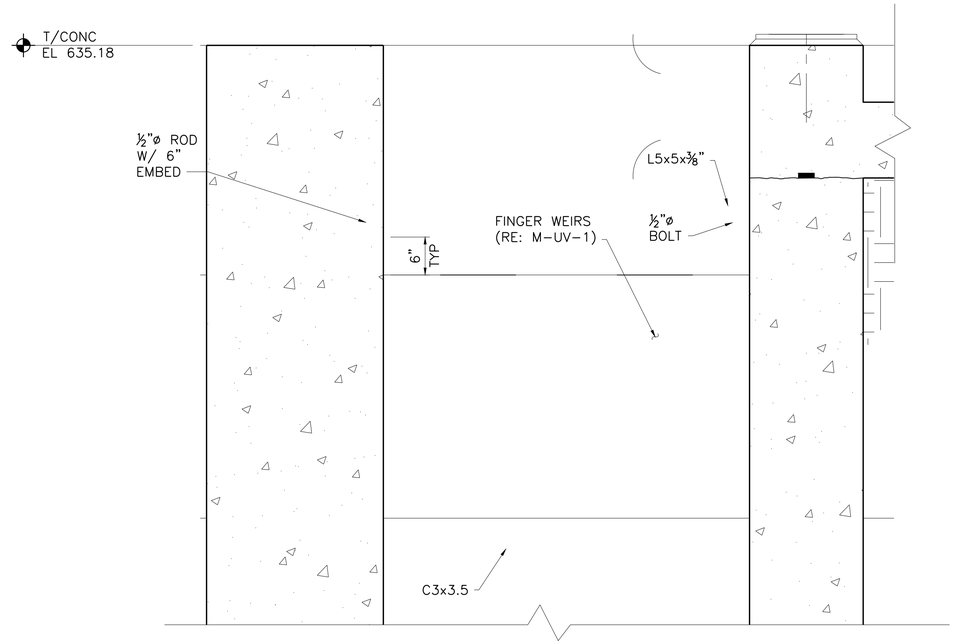
ISSUED FOR BID

ACAD Rel: 21.0s (LMS Tech)
Filename: N:\ST\ST-UV-DT-FRGM01.dwg
Last Saved: 2/11/2020 9:39 AM Saved By: 02198
Plot Date: 2/11/2020 9:57 AM Plot By: 02198 Filename: N:\ST\ST-UV-DT-FRGM01.dwg

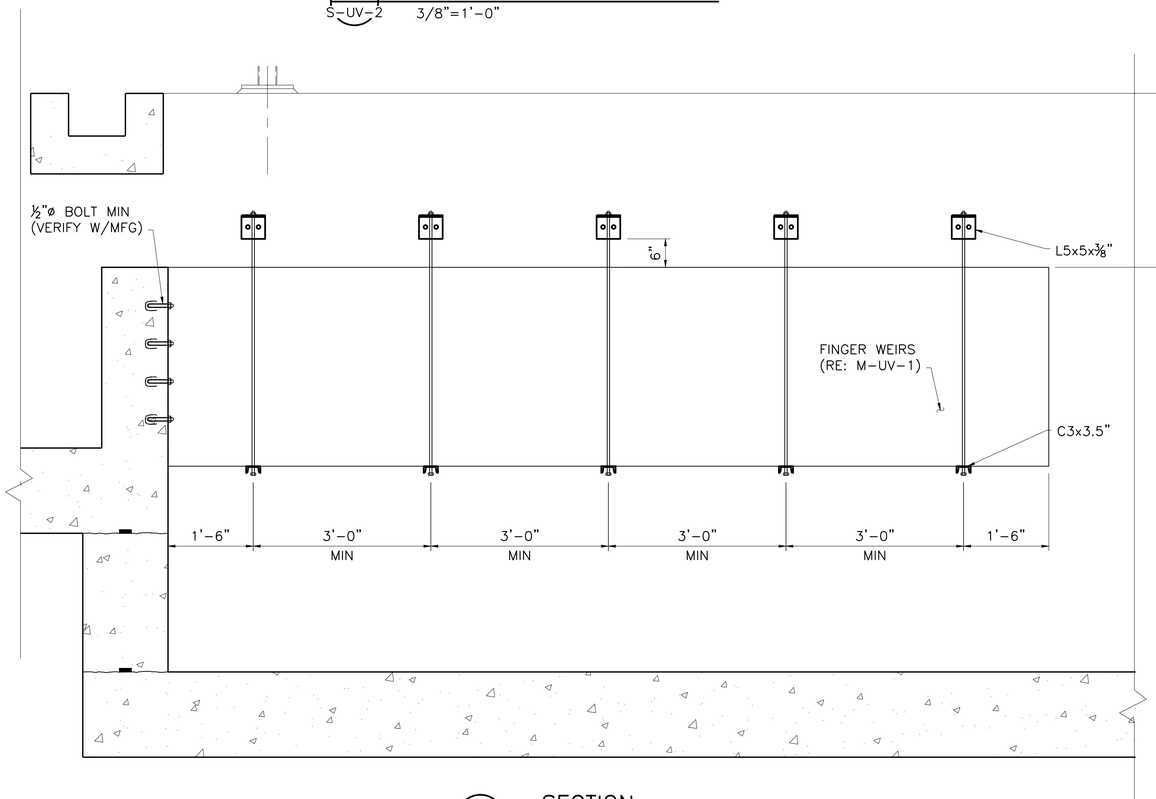


DETAIL NOTES:
1. PURLINS AND DECK NOT SHOWN.

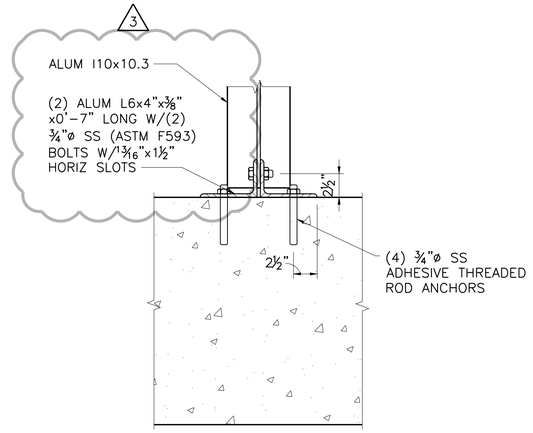
1 S-UV-2 CHEVRON BRACE SECTION
3/8"=1'-0"



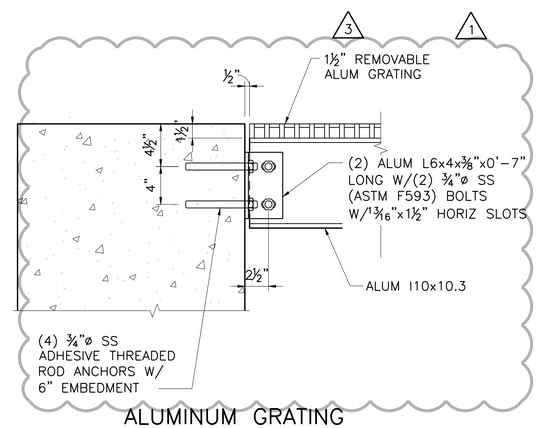
2 S-UV-2 SECTION
1"=1'-0"



3 S-UV-2 SECTION
3/4"=1'-0"



4 – ALUMINUM GRATING SUPPORT BEAM PLAN
1 1/2"=1'-0"



5 – ALUMINUM GRATING SUPPORT BEAM SECTION
1 1/2"=1'-0"

ISSUED FOR BID

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144
FREESE AND NICHOLS
10431 Morado Circle, Suite 300
Austin, Texas 78759
Phone - (512) 617-3100
Fax - (512) 617-3101

CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION
PHASE I IMPROVEMENTS
STRUCTURAL
UV DISINFECTION BASIN & SYSTEM
FRAMING DETAILS II

NO.	ISSUE	BY	DATE
1	RCP NO. 1 – ITEM NO. 3	MRR	02/10/20
2	ISSUED FOR CONSTRUCTION	MRR	11/04/19
3	ADDENDUM NO. 2	MRR	09/04/19

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

F&N JOB NO.	PFL16607
DATE	07/17/19
DESIGNED	MRR
DRAWN	JLM
REVIEWED	-
CHECKED	AD
FILE NAME	ST-UV-DT-FRGM02.dwg

SHEET
S-UV-8
SEQ.
188

ACAD Rel: 21.0s (LMS Tech)
Filename: N:\ST\ST-UV-DT-FRGM02.dwg
Last Saved: 2/10/2020 2:24 PM Saved By: 02198

Plot Date: 2/11/2020 9:57 AM Plot By: 02198 Filename: N:\ST\ST-UV-DT-FRGM02.dwg

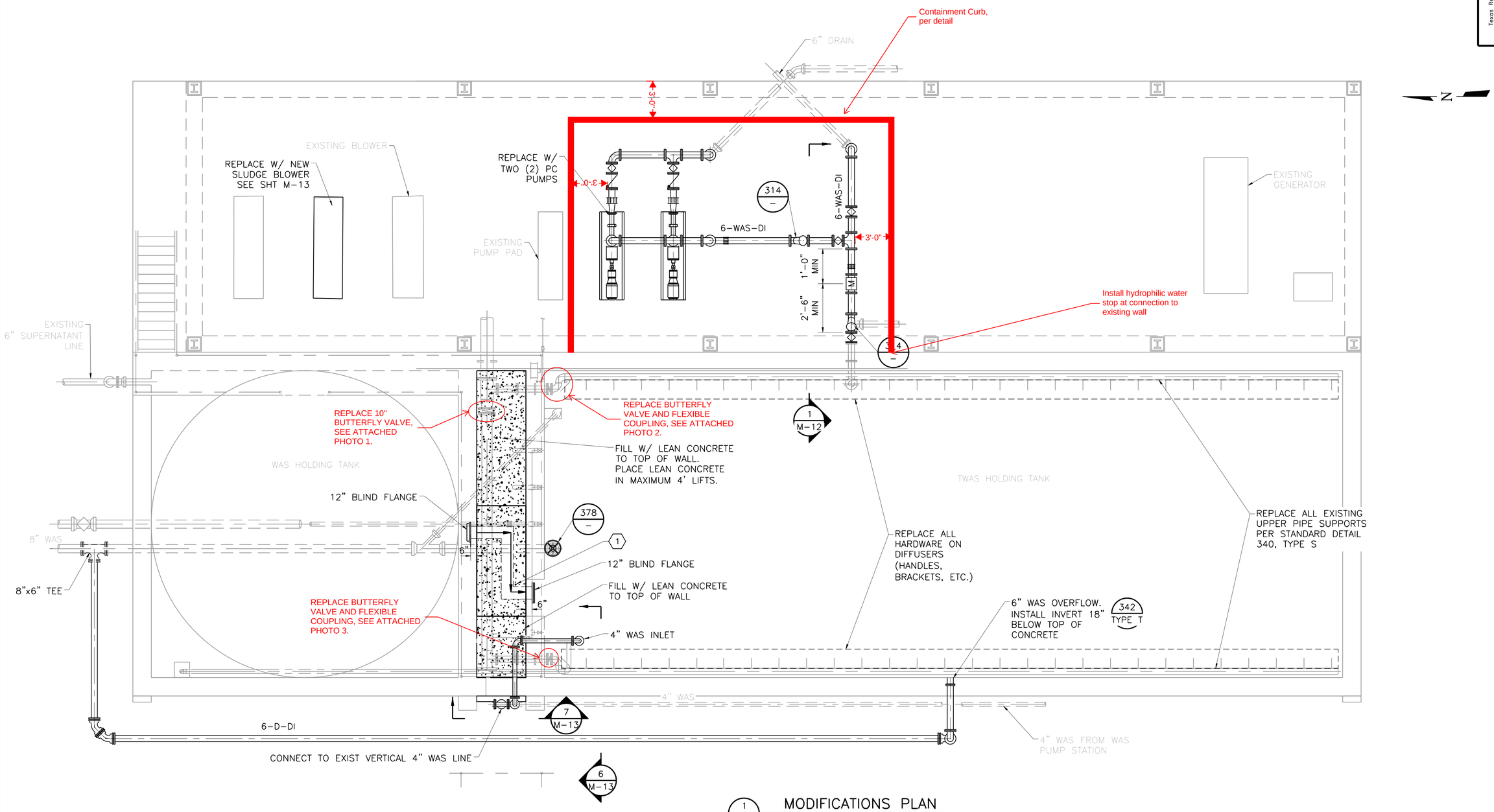
Item 4 & 5: PC Pump Containment Curb and Blower Header Rehabilitation

NOTES BY '⬡' SYMBOL:

1. INSTALL 12" DIP WALL PIPE ALONG EXISTING CUTOUT BETWEEN HOLDING TANKS. PIPE INVERT SHALL BE 3'-0" BELOW TOP OF WALL. INSTALL 1" WIDE STRIP OF HYDROPHILIC WATER STOP (ADEKA ULTRASEAL OR APPROVED EQUAL) AT EACH END OF PIPE APPROXIMATELY 4" FROM EDGE OF WALL. FILL ABOVE PIPE WITH LEAN CONCRETE TO TOP OF WALL IN MAX. 4' LIFTS.

NOTES:

1. PROTECTIVE COATINGS SHALL BE APPLIED PER SECTION 09 96 00.01.
2. PIPING INSULATION SHALL BE APPLIED TO ALL NEW PIPING PER SECTION 44 00 00.02.



1 MODIFICATIONS PLAN
1/4" = 1'-0"

0 1' 2' 4' 8'
1/4"=1'-0"

Freese and Nichols, Inc.
Texas Registered Engineering Firm F-2144
FREESE NICHOLS
10431 Morado Circle, Suite 300
Austin, Texas 78759
Phone - (512) 617-3100
Fax - (512) 617-3101

CITY OF PFLUGERVILLE
CENTRAL WWTP INTERIM IMPROVEMENTS
SOLIDS HANDLING SYSTEM EQUIPMENT AND PIPING PLAN

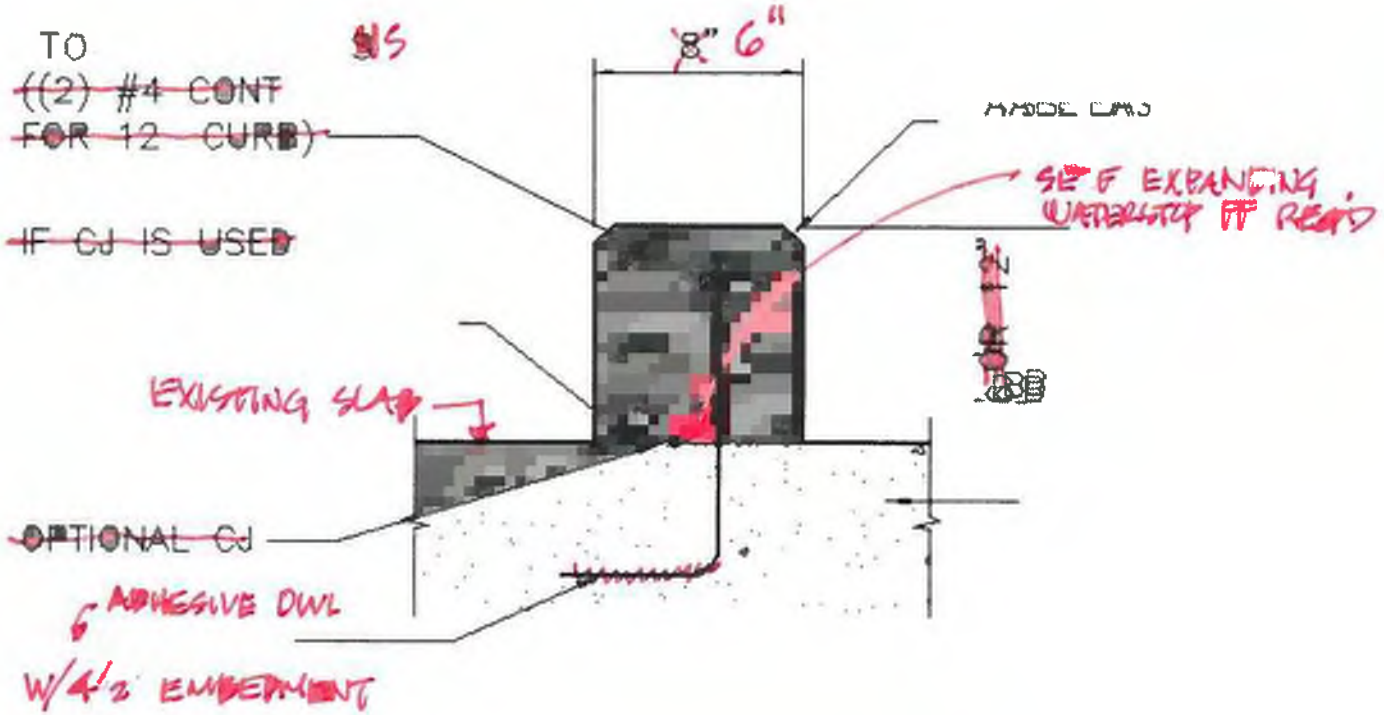
F&N JOB NO.	PFL16607
DATE	12/19/17
DESIGNED	JSG
DRAWN	DWS
CHECKED	ED
REVISED	
FILE NAME	WW-PL-SLUDGE.dwg

NO.	ISSUE	BY	DATE

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET M-11
SEQ.

ITEM 4: CONTAINMENT CURB DETAIL



DETAIL NOTE:

12" CURB REQUIRED AT HEADWORKS ONLY UNLESS NOTED OTHERWISE. 6" CURB TYPICAL.

ENTIRE

ITEM 5: BLOWER HEADER REHABILITATION PHOTOS

1. BUTTERFLY VALVE AND FLANGE ADAPTER ON 10" SS AIR HEADER

2. BUTTERFLY VALVE AND FLEXIBLE EXPANSION COUPLING ON 6" SS AIR HEADER

3. BUTTERFLY VALVE AND FLEXIBLE EXPANSION COUPLING ON 6" SS AIR HEADER

BAR CONSTRUCTORS, INC.
P.O. Box 10 • Lancaster, TX 75146

June 10, 2020

Mr. Matt Gaughan
Plus Six Engineering
15500 Sun Light Near Way B
Pflugerville, TX 78660

Re: City of Pflugerville, Texas
Central WWTP Expansion Phase I Improvements
Project No. PFL16607
CO001 – Includes Change Proposals listed below

Dear Mr. Gaughan,

Please find the attached pricing and quotations CP001, CP002, CP003, CP005, CP006, CP007. BAR Constructors, Inc. requests an ADD to the contract amount of $288,607.76 and a time extension of 34 calendar days. Below are those inclusions and exclusions associated with this work.

Inclusions:

- As stated in the related Change Proposals.
- All "Assumptions" as stated in the related Change Proposals.

Exclusions:

- Any exclusions stated in the attached quotation(s).
- Anything not explicitly stated as an inclusion.

Sincerely,

Dennis J. Berger
Project Manager
BAR Constructors, Inc.

805 Katy Street • Telephone (972) 227-3287 • Fax (972) 227-9043

Pflugerville CWWTP
Phase I Improvements
Change Order 001
6/10/2020

Cost Proposal	Name	Reference Document	Approval Status	Requested Additional Days		CP Cost
CP001	Phos., Clar Drain, Sludge and Misc. Items	RCP0001	Approved	21	$	140,472.72
CP002	Thoroseal	Email Request	Approved	7	$	30,860.89
CP003	Change of Embeds to Aluminum & Additional Support Beams	RFI009 and Submittal	Approved	0	$	20,586.03
CP004	Temp Comms from EB4 to BioSolids		Canceled		$	-
CP005	Temp Comms Admin and Field Operations	Unknown Field Conditions	Approved	0	$	7,299.50
CP006	CIP 60in ML Splitter_Junction Box	RFI-32	Approved	0	$	(7,626.27)
CP007	Temporary LS for Interceptor	Email Request	Approved	6	$	97,014.89
			Total:	34	$	288,607.76

Project:	Central Wastewater Treatment Plant	**Project Number:**	
Owner:	City of Pflugerville		88
Contractor:	BAR Constructors, Inc		279
Engineer:	Freese and Nichols, Inc		PFL16607

Change Proposal No.: CP0001 **Description:** Phosphorus/Clarifier/Sludge Handling and UV Structure Modifications

Specification: N/A

Drawing No.: Attached **Detail Description:**

Reference Document:

☒ Request for a Change Proposal No.: 0001 ☐ Request for Information No.: _____

☐ Shop Drawing Deviation Request No.: _____ ☐ Field Order No.: _____

Contractor proposes the following modifications to the Contract Documents:

1. Repurposing of the existing phosphorus analyzer building and equipment and addition of a new phosphorus analyzer building.
2. Addition of a new Clarifier sump and associated 8: PVC drain line to tie into existing 10" drain line.
3. Addition of new grating support beams and grating over finger weirs and change the size of the existing grating support beams.
4. Installation of 6" concrete containment curb around progressing cavity pumps in solids handling area
5. Blower head rehabilitation, replacement of leaking valves and couplings at the solids handling area.
6. Addition of a sludge holding tank level sensor.

Purpose of Change Proposal:

Attachments:

CP0001

Requested Action:

☐ Issue a Field Order ☒ Issue a Work Change Directive or Change Order for the described changes

Basis of Compensation:

☐ Unit Prices ☒ Lump Sum calculated using Cost of Work provisions in General Conditions Paragraph 13.01

☐ Time and Materials using Cost of Work provisions in General Conditions Paragraph 13.01

Required Documentation:

☒ Detailed cost breakdown attached showing labor, materials, equipment, and all other costs for this change

☐ Schedule attached to show impacts and justification for requested change in Contract Times

Total Change Proposal Amount: $140,472.72 **Adjustment in Contract Times (days):** 21

Project:	Central Wastewater Treatment Plant	**Project Number:**	
Owner:	City of Pflugerville		88
Contractor:	BAR Constructors, Inc		279
Engineer:	Freese and Nichols, Inc		PFL16607

The compensation offered for this Change Proposal is the full, complete, and final compensation for all costs the Contractor may incur as a result of or relating to this change whether said costs are known, unknown, foreseen, or unforeseen at this time, including without limitation, any cost for delay, extended overhead, ripple or impact cost, or any other effect on changed or unchanged Work as a result of this Contract Modification. Requested changes in Contract Times are the complete and final adjustments for direct impacts to the ability of the Contractor to complete the Work within the Contract Times and are the only adjustments to which the Contractor is entitled. Except as modified hereby, the Contract Documents and all of the terms and provisions thereof remain in full force and effect.

Certified by: Dennis Berger **Date:** 6/8/2020

Action:

☐ Field Order No.: _____ Issued ☒ Change Order No.: 0001 Issued

☐ Contract Amendment No.: _____ Issued ☐ Work Change Directive No.: _____ Issued

☐ Change Proposal Not Accepted ☐ Additional information required. See comments. ☐ Cancelled

Comments:

To be included in CO0001 along with CP0002, CP0003, CP0005,CP0006 and CP0007

Response by:  **Date:** 6/10/2020

BAR CONSTRUCTORS, INC.
P.O. Box 10 • Lancaster, TX 75146

June 8, 2020

Mr. Matt Gaughan
Plus Six Engineering
15500 Sun Light Near Way B
Pflugerville, TX 78660

Re: City of Pflugerville, Texas
Central WWTP Expansion Phase I Improvements
Project No. PFL16607
CP001r3 Phos. Analyzer Repurposing, Clarifier Drain Line, Sludge Handling Items and Submersible Influent Sump Pumps

Dear Mr. Gaughan,

Please find the attached pricing and quotations for RCP-001. BAR Constructors, Inc. requests an ADD to the contract amount of $140,472.72 and a time extension of 21 calendar days. Below are those inclusions and exclusions associated with this work.

Inclusions:

- As stated in RCP-001
- All "Assumptions" as stated in RCP-001

Exclusions:

- Any exclusions stated in the attached quotation(s).
- Anything not explicitly stated as an inclusion.

Sincerely,

Dennis J. Berger
Project Manager
BAR Constructors, Inc.

805 Katy Street • Telephone (972) 227-3287 • Fax (972) 227-9043

BAR Constructors, Inc. - Cost Detail Worksheet
Job Name: Central WWTP Expanison Phase 1
Job # 279
Date: 06/08/2020
Proposal No. CP001r3

Labor					Phosporus Analyzer Repurposing				Clarifier Drain				UV Structural Drawing Correction				PC Pump Containment Curb			Blower Header Rehab				Sludge HT Level Sensor			
Phosporus Analyzer Repurposing	Rate	Manpower	OT Rate	Unit	Day 1	Day 2	Day 3	Day 4	Day 1	Day 2	Day 3	Day 4	Day 1	Day 2	Day 3	Day 4	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3	Day 4	Day 1	Day 2	Day 3	Total
Foreman Oversight of Phosporus	$ 40.00	1		HR	4	4	4	4																			$ 640.00
1" Install Crushed Stone Under Slab (Labors)	$ 24.00	2		HR	2																						$ 96.00
1" Install Crushed Stone Under Slab (Operator)	$ 32.00	1		HR	1																						$ 32.00
Select Fill Under Slab (Labors)	$ 24.00	2		HR	4																						$ 192.00
Select Fill Under Slab (Operator)	$ 32.00	1		HR	1																						$ 32.00
Fine Grade Drit (Labors)	$ 24.00	2		HR	3																						$ 144.00
Fine Grade Dirt (Operator)	$ 32.00	1		HR	3																						$ 96.00
Form Slab for Phosporus Building (Form Setters)	$ 30.00	2		HR		4																					$ 240.00
Pour Slab for Phosporus Building (Concrete)	$ 26.00	4		HR			5																				$ 520.00
DLB 2" Drain (Pipe Layer)	$ 30.00	1		HR	8	8																					$ 480.00
DLB 2" Drain (Labor)	$ 24.00	2		HR	8	8																					$ 768.00
DLB 2" Drain (Operator)	$ 32.00	1		HR	8	8																					$ 512.00
Hydro Test Drain (Pipe Layer)	$ 30.00	1		HR		8																					$ 240.00
Hydro Test Drain (Labor)	$ 24.00	1		HR		8																					$ 192.00
Install New FRP Building (Labors)	$ 24.00	4		HR			8																				$ 768.00
Install New FRP Building (Operator)	$ 32.00	1		HR			3																				$ 96.00
Relocate Building and Equipment (Operator)	$ 32.00	1		HR				4																			$ 128.00
Relocate Building and Equipment (Labors)	$ 24.00	4		HR				8																			$ 768.00
Sample Piping (Labors)	$ 24.00	2		HR				4																			$ 192.00
Clarifier Drain																											$ -
Foreman Oversight of Clarifier Drain	$ 40.00	1		HR					8	8																	$ 640.00
DLB 8" Drain (Operator)	$ 32.00	1		HR					8	8																	$ 512.00
DLB 8" Drain (Pipe Layer)	$ 30.00	1		HR					8	8																	$ 480.00
DLB 8" Drain (Labor)	$ 24.00	2		HR					8	8																	$ 768.00
Install Wall Sleeve (Labor)	$ 24.00	2		HR					2																		$ 96.00
F&P CO Pads (Labors)	$ 24.00	2		HR						4																	$ 192.00
Hydro Test Drain (Pipe Layer)	$ 30.00	1		HR						8																	$ 240.00
Hydro Test Drain (Labor)	$ 24.00	1		HR						8																	$ 192.00
Installation of Plug Valves (Labors)	$ 24.00	2		HR							4																$ 192.00
Form Concrete Sump(Form Setters)	$ 30.00	2		HR								2															$ 120.00
Pour Concrete Sump (Concrete)	$ 26.00	2		HR								1															$ 52.00
PC Pump Containment Curb																											$ -
Foreman Oversight of Pump Containment Curb	$ 40.00	1		HR													4	4									$ 320.00
Roughen Slab (Labors)	$ 24.00	2		HR													8										$ 384.00
Drill and Epoxy Dowels (Labors)	$ 24.00	2		HR														4									$ 192.00
Install Hydrophilic WS (Labors)	$ 24.00	2		HR														4									$ 192.00
Form Curb (form Setters)	$ 30.00	4		HR														8									$ 960.00
Pour Curb (Concrete)	$ 26.00	3		HR															4								$ 312.00
Blower Header Rehab																											$ -
Foreman Oversight of Blower Header Rehab	$ 40.00	1		HR																8	8						$ 640.00
Replace Valves and Adapters (Pipe Layers)	$ 30.00	4		HR																8							$ 960.00
																											$ -
																											$ -
																											$ -
																											$ -
																											$ -
																											$ -
Subtotal																											$ 13,580.00
Payroll Taxes and Insurance (55%)																											$ 7,469.00
Total Labor																											**$ 21,049.00**

BAR Constructors, Inc. - Cost Detail Worksheet
Job Name: Central WWTP Expanison Phase 1
Job # 279
Date: 06/08/2020
Proposal No. CP001r3

Non-Taxed Material	Rate			Phosporus Analyzer Repurposing			Clarifier Drain			UV Structural Drawing Correction			PC Pump Containment Curb			Blower Header Rehab			Sludge HT Level Sensor			
Phosporus Analyzer Repurposing																						
1" Crushed Stone Under Slab	$ 36.00	CY		3																		$ 108.00
Select Fill Under Slab	$ 25.00	CY		3																		$ 75.00
RSS Rebar for Phos Slab and Clarifier	$ 1,400.00	LS		1																		$ 1,400.00
Ferguson Pipe Material for Phos	$ 1,834.23	LS		1																		$ 1,834.23
Concrete for Slab	$ 150.00	CY		4																		$ 600.00
Pipe Embedment for 2" Drain	$ 29.00	CY		10	10	10																$ 870.00
New FRP Building	$ 9,970.00	LS		1																		$ 9,970.00
Misc Materials for hanging 1" Sample Line	$ 500.00	LS		1																		$ 500.00
Clarifier Drian																						$ -
Ferguson Credit for Clarifier Drain	$ (1,893.67)	LS					1															$ (1,893.67)
Ferguson Pipe for Clarifier Dain	$ 8,484.51	LS					1															$ 8,484.51
8" Pipe Bedding	$ 30.00	CY					18															$ 540.00
Concrete Encasement	$ 2.00	CY					150															$ 300.00
Concrete and Misc Materials for CO Pads	$ 200.00	CY					1															$ 200.00
Concrete and Misc Materials for Sump	$ 290.00	LS					1															$ 290.00
UV Structural Drawing Correction																						$ -
Cody Builders Material Change	$ 26,937.00	LS								1												$ 26,937.00
PC Pump Containment Curb																						$ -
Misc Forming Material for Curb	$ 650.00	LS											1									$ 650.00
Concrete for Curb	$ 150.00	CY											2									$ 300.00
Epoxy Dowels	$ 200.00	LS											1									$ 200.00
Epoxy	$ 576.00	LS											1									$ 576.00
Blower Header Rehab	-																					$ -
Ferguson Pipe and Valves	$ 5,520.46	LS														1						$ 5,520.46
																						$ -
																						$ -
Subtotal																						$ 57,461.53

Taxed Material				Phosporus Analyzer Repurposing			Clarifier Drain			UV Structural Drawing Correction			PC Pump Containment Curb			Blower Header Rehab			Sludge HT Level Sensor			
																						$ -
																						$ -
Subtotal Taxed Material + 8.25%																						$ -

General Condition Material																						
Small Tools 5% labor																						$ 679.00
Total Material																						**$ 58,140.53**

Equipment	Rate			Phosporus Analyzer Repurposing			Clarifier Drain			UV Structural Drawing Correction			PC Pump Containment Curb			Blower Header Rehab			Sludge HT Level Sensor			Total
Phosporus Analyzer Repurposing																						
Rubber Tire Backhoe Delivery & Pickup Charge	$ -	LS		1																		$ -
Rubber Tire Backhoe 1" Crushed Stone	$ 410.00	DAY		0.5																		$ 205.00
Rubber Tire Backhoe Select Fill	$ 410.00	DAY		0.5																		$ 205.00
Rubber Tire Backhoe Fine Grade Dirt	$ 410.00	DAY		1																		$ 410.00
35k Excavator Delivery & Pickkup Charge	$ -	DAY		1																		$ -
35k Excavator 2" Drain	$ 1,080.00	DAY		1																		$ 1,080.00
Compactor	$ 95.00	DAY		2																		$ 190.00
Hydrostatic Test Pump	$ 500.00	LS		1																		$ 500.00
Clarifier Drian	-																					$ -
35k Excavator Delivery & Pickkup Charge	$ -	LS					1															$ -
35k Excavator 2" Drain	$ 1,080.00	DAY					2															$ 2,160.00
Hydrostatic Test Pump	$ 500.00	LS					1															$ 500.00
PC Pump Containment Curb																						$ -
Air Compressor	$ 500.00	EA											1									$ 500.00
																						$ -
																						$ -
																						$ -
Subtotal																						$ 5,750.00
Fuel, Oil, Grease & Maintenance (40% fo Equipment)																						$ 2,300.00
Tax @ 8.25%																						$ 474.38
Total Equipment																						**$ 8,524.38**

Subcontractor	Rate			Phosporus Analyzer Repurposing			Clarifier Drain			UV Structural Drawing Correction			PC Pump Containment Curb			Blower Header Rehab			Sludge HT Level Sensor			Total
K&A Steel for Phos Slab & Clarifier	$ 280.00	LS		1																		$ 280.00
T. Morales Total	$ 32,380.00	LS		1																		$ 32,380.00
Heat Trace Sample Line	$ 1,332.00	LS		1																		$ 1,332.00
																						$ -
																						$ -
																						$ -
																						$ -
																						$ -
																						$ -
																						$ -
																						$ -
Total Subcontractor																						**$ 33,992.00**

	Labor			Subcontractor	Material	Equipment		Subcontractor	Material	Equipment		Subcontractor	Material	Equipment		Subcontracto	Material	Equipment		Subcontractor	Material	Equipment		Subcontractor	Material	Equipment	Total
Totals	$ 21,049.00			$ 33,992.00	$ 58,140.53	$ 8,524.38																					$ 121,705.91
Insurance (1.8%)																											$ 2,190.71
Overhead and Profit (5% for subs)																											$ 1,699.60
Overhead and Profit (15% Self Performed Work)																											$ 13,485.69
Subtotal																											$ 139,081.90
Bond @ 1%																											$ 1,390.82
Total																											**$ 140,472.72**

BLAND INSULATION INC

PO BOX 589
Mabank TX 75147
blandinsulation@embarqmail.com

Proposal

Date	Estimate #
3/17/2020	596

Name / Address
BAR CONSTRUCTORS, INC. P.O. BOX 10 LANCASTER, TX 75146-0010

Project

Description	Qty	Rate	Total
City of Pflugerville - Change Order #1 Change Order - Insulate with Rubber Insulation & Aluminum Jacketing per Section 44.00.00. Chromalox Heat Trace per Section 40-41-00. Sheet C-15: Yard Piping - 1" Sample Line Insulation L&M: Heat Trace L&M: Exclusions: Electrical Connections, Conduit and Pipe Saddles.		300.00 1,032.00	300.00 1,032.00

Applicable taxes will be added unless a tax exemption certificate is furnished.

Subtotal	$1,332.00
Sales Tax (8.25%)	$0.00
Total	$1,332.00

FERGUSON WATERWORKS

FERGUSON ENTERPRISES, LLC
FERGUSON WATERWORKS #1254
200 PARK CENTRAL BLVD
GEORGETOWN, TX 78626
Phone: 512-930-2262
Fax: 512-930-2388

Deliver To:
From: **Daniel Shimek**
Comments:

FERGUSON WATERWORKS #1106
Price Quotation
Phone: 512-930-2262
Fax: 512-930-2388

Bid No: B442889
Bid Date: 03/12/20
Quoted By: XXA

Cust Phone: 972-227-3287
Terms: NET 10TH PROX

Customer:
BAR CONSTRUCTORS INC
279-23 PFLUGERVILLE-CENTR
805 KATY ST
LANCASTER, TX 75146

Ship To:
BAR CONSTRUCTORS INC
279-23 PFLUGERVILLE-CENTR
805 KATY ST
LANCASTER, TX 75146

Cust PO#: RCP-1

Job Name: 279-23 PFLUGERVILLE-CENTR

Item	Description	Quantity	Net Price	UM	Total
	ITEM 1 ANALYZER REPURPOSING ----				
SP-ZZS415SS5SSAR	2 CI FLR DRN W/ SS GRT & ACID REST WITH SS 304 GRATE & ACID RESISTING EPOXY COATED CAST IRON	1	105.000	EA	105.00
SP-S3906020PT	2 PVC P-TRAP SCH80	1	50.760	EA	50.76
P80BK	2 X 20 FT PVC S80 BE PIPE	200	205.740	C	411.48
P80SCK	2 PVC S80 SXS COUP	5	6.160	EA	30.80
P80S4K	2 PVC S80 SXS 45 ELL	6	11.620	EA	69.72
P40SBPK	4X2 PVC S40 SPXSLIP BUSH	1	6.360	EA	6.36
MUL067259	15X4 PVC HW SWR GXGXG WYE	1	380.690	EA	380.69
MUL067483	15 PVC HW SWR GXG REP COUP	1	347.490	EA	347.49
P80PG	1 X 20 FT PVC S80 PE PIPE	40	92.340	C	36.94
P80SCG	1 PVC S80 SXS COUP	3	3.490	EA	10.47
P80S9G	1 PVC S80 SXS 90 ELL	4	2.860	EA	11.44
SP-SC9202	2 HDG ADJ PIPE CLAMP SUPPORT	2	186.540	EA	373.08
	SUBTOTAL				1834.23
	---- ITEM 2 CLARIFIER DRAIN LINE ---- **DELETED DI DRAIN ITEMS**				
MJTP4LA12	12 MJ C153 P-401 TEE L/A	1	0.000	EA	0.00
SSLDE12	12 DI MJ WDG REST GLND *ONELOK	3	0.000	EA	0.00
BFP412	12 DI P-401 125# BLND FLG	1	0.000	EA	0.00
SP-12DIPFABSPOOL	12 DIP FAB SPL - DESCRIPTION BELOW 12" x 3'6" FLxCxPE DI PRO401 L	1	0.000	EA	0.00
SP-FBSS16S12	12 SS 316 FLG BOLT SET	1	0.000	EA	0.00
	SUBTOTAL				0.00
	TOTAL FOR REMOVED ITEMS $1893.67 **END OF DELETED ITEMS** ----				
SDR26HWSPX14	8X14 SDR26 HW PVC GJ SWR PIPE	112	5.190	FT	581.28
MUL067251	10X8 PVC HW SWR GXGXG FAB WYE	1	298.750	EA	298.75

FERGUSON WATERWORKS

FERGUSON WATERWORKS #1106
Price Quotation

Fax: 512-930-2388

17:03:08 MAR 19 2020
Reference No: B442889

Item	Description	Quantity	Net Price	UM	Total
MUL067480	10 PVC HW SWR GXG FAB REP COUP	1	125.340	EA	125.34
MUL067328	8 PVC HW SWR GXG 45 ELL	1	82.480	EA	82.48
MJYP4LAX	8 MJ C153 P-401 WYE L/A	2	624.400	EA	1248.80
MJ4P4LAX	8 MJ C153 P-401 45 BEND L/A	2	285.600	EA	571.20
FPPP4X12	8X12'0 FLGXPE P-401 BT DI SPL	2	1195.360	EA	2390.72
BFP4X	8 DI P-401 125# BLND FLG	2	287.200	EA	574.40
SSLDE8	8 DI MJ WDG REST GLND *ONELOK	6	34.480	EA	206.88
SSLCE8	8 PVC WDG REST GLND *ONELOK	6	42.450	EA	254.70
R051MJSDR08	8 MJ X SDR35 TRAN GSKT	6	16.500	EA	99.00
SP-IMJBCGASX	8 MJ CORTEN BLUE BOLT & GSKT PK	12	41.250	EA	495.00
FBSS16SX	8 SS 316 FLG BLT SET	2	27.540	EA	55.08
D118MJX	8 MJ N/LUBE PLUG VLV W/A	1	1425.880	EA	1425.88
PSVB562SW	2PC SCRW 16T/24B COMP CI VLV BX WTR	1	75.000	EA	75.00
	SUBTOTAL				8484.51

	ITEM 5				
	BLOWER HEADER VALVES				

SP-J815L113600XZ10	10 SS SS LUG 150# XT BFV	1	1141.250	EA	1141.25
SP-S91050008910000	10" ALL 316 SS FLG COUP ADPT 10.75	1	1761.490	EA	1761.49
J815W113600XZU	6 SS SS 150# WAFER HP BFV XT BS	2	632.500	EA	1265.00
SP-S41100066302002	6" ALL 316 SS FLG COUP ADPT 6.625	2	579.320	EA	1158.64
FBSS16S10	10 SS 316 FLG BLT SET	2	51.720	EA	103.44
FBSS16SU	6 SS 316 FLG BLT SET	4	22.660	EA	90.64
	SUBTOTAL				5520.46

Net Total:	$15839.20
Tax:	$0.00
Freight:	$0.00
Total:	$15839.20

Quoted prices are based upon receipt of the total quantity for immediate shipment (48 hours). SHIPMENTS BEYOND 48 HOURS SHALL BE AT THE PRICE IN EFFECT AT TIME OF SHIPMENT UNLESS NOTED OTHERWISE. QUOTES FOR PRODUCTS SHIPPED FOR RESALE ARE NOT FIRM UNLESS NOTED OTHERWISE.

CONTACT YOUR SALES REPRESENTATIVE IMMEDIATELY FOR ASSISTANCE WITH DBE/MBE/WBE/SMALL BUSINESS REQUIREMENTS.

Seller not responsible for delays, lack of product or increase of pricing due to causes beyond our control, and/or based upon Local, State and Federal laws governing type of products that can be sold or put into commerce. This Quote is offered contingent upon the Buyer's acceptance of Seller's terms and conditions, which are incorporated by reference and found either following this document, or on the web at https://www.ferguson.com/content/website-info/terms-of-sale
Govt Buyers: All items are open market unless noted otherwise.

LEAD LAW WARNING: It is illegal to install products that are not "lead free" in accordance with US Federal or other applicable law in potable water systems anticipated for human consumption. Products with *NP in the description are NOT lead free and can only be installed in non-potable applications. Buyer is solely responsible for product selection.

T. Morales Company
Electric / Controls & Instrumentation

Project: **Pflugerville Central Plant WWTP** Expansion Phase 1
Owner: City of Pflugerville

Date: **04/02/20**
TMC Change #: **COR-03 Rev 01**
Project Change #: **N/A**

Change Order Request

Per the request of the engineer, T. Morales Company offers a change in pricing for consideration by the owner to provide services for the updated drawings.

TMC will provide the following scope of work:

Item 1 Existing Phosphorus Analyzer Repurposing-

- Install power wire to account for the required amperage and voltage drop from EB-1 to the relocated phosphorous building.
- Install analog wires from EB-1 to the relocated phosphorous building.
- From EMH-6 to the proposed location, install concrete encased Ductbank with Qty-2 new 2" PVC Conduits for the power and analog wire.
- Miscellaneous modifications to the PLC and power source (LP-BNR1)

Item 6 Sludge Holding Tank Level Sensor-

- Install Radar Senor on Existing Sludge Holding Tank
- Control Wiring to tie reading into SCADA

TMC Exclusions from Scope of Work:

Item 1 Existing Phosphorus Analyzer Repurposing-

- New 6'x6'x7.5' Fiberglass Building for housing P-Analyzer and turbidimeters at effluent filters

Item 6 Sludge Holding Tank Level Sensor-

- Calibration for the Level Transmitter.

Extension in Time Request:

- Approx time for installation: 2 weeks.

The Total Lump Sum Cost for the updated changes will equate to a total of: $32,380.00

Change Initiated By:	Luis Varela / Freese&Nichols	Change Prepared By:	Tye Eldridge / TMC
Change Delivered To:	Dennis Berger / Bar Const	Response Rqst'd By:	ASAP
Carbon Copy To:	Randy Eldridge / TMC		

PO Box 859
Florence, Texas 76527
Phone: 254-793-4344

601 South Patterson Avenue
Florence, Texas 76527
Fax: 254-793-3044

JOB 1425 2019050: 2019-050 COPVille ...
ESTIMATE 2 COR03: COR 03 Updated Dr...
DATA SET 9 TMC WTP - NECA dataset
DATE 4/2/2020 10:39:53 AM

Bid: #1 - Lump Sum

T Morales Company
PO Box 859
Florence, Tx 76527
254-793-4344 / 254-793-3044
tdeldridge@moralescompany.com

Index	Description	Reference Type	Reference	Ref Amount	Operation	Rate	Amount
1	MATERIALS / QUOTES:						0.00
2	Misc Materials:	Material	Total	14,579.93	*	1.00	14,579.93
3	CPUSA	Calculated		2,271.00	*	1.00	2,271.00
4	Quote #2	Calculated		0.00	*	1.00	0.00
5	SUBTOTAL						16,850.93
6	##########						0.00
7	SALES TAX:	Material	Total	14,579.93	%		0.00
8	SUBTOTAL						0.00
9	##########						0.00
10	LABOR:						0.00
11	Straight Time Labor	Labor	Total	116.57	*	46.22	5,387.82
12	Overtime Labor	Calculated		0.00	*	69.33	0.00
13	Exec Order 13706 Hours	Labor	Total	116.57	*		0.00
14	Exec Order 13706 Rate	Component	13	0.00	*	46.22	0.00
15	Gen Foreman Hours	Labor	Total	116.57	%	10.00	11.66
16	Gen Foreman Rate	Component	15	11.66	*	50.97	594.15
17	Material Hndler Hrs	Labor	Total	116.57	%	5.00	5.83
18	Material Hndler Rate	Component	17	5.83	*	35.04	204.23
19	Update As Built Dwgs	Calculated		1.00	*	49.00	49.00
20	SUBTOTAL						6,235.20
21	##########						0.00
22	DIRECT JOB EXPENSES:						0.00
23	Expendable Tools	Material	Total	14,579.93	%	6.00	874.80
24	Equipment						0.00
25	Warranty on Material	Component	5	16,850.93	%	3.00	505.53
26	Warranty on Labor	Component	20	6,235.20	%	3.00	187.06
27	SUBTOTAL						1,567.38
28	##########						0.00
29	SUBCONTRACTS:						0.00
30	Sub #1	Calculated		0.00	*		0.00
31	Sub #2	Calculated		0.00	*		0.00
32	SUBTOTAL						0.00
33	##########						0.00
34	JOB SUBTOTAL						24,653.51
35	##########						0.00
36	MARKUPS:						0.00
37	Liability/Bldrs Risk	Component	34	24,653.51	%	2.00	493.07
38	WrkComp/SS/Unmplymnt	Component	20	6,235.20	%	25.00	1,558.80
39	Overhead @ 10%	Component	34	24,653.51	%	10.00	2,465.35
40	JOB TOTAL						29,170.73
41	##########						0.00
44	Perf _Payment Bond	Component	43	32,087.80	%	2.00	641.76
45	ADD BOND	Component	44	641.76	*	1.00	32,729.56
46	##########						0.00
47	BID TOTAL						~~32,729.56~~

32,380.00

Combined All - Job File Pricing

JOB 1425 2019050: 2019-050 COPVille ...
ESTIMATE 2 COR03: COR 03 Updated Dr...
DATA SET 9 TMC WTP - NECA dataset

T Morales Company
PO Box 859
Florence, Tx 76527
254-793-4344 / 254-793-3044
tdeldridge@moralescompany.com

PRINTED 4/2/2020 10:35:51 AM
MATERIAL Primary
LABOR Primary

NOTES

Item				Material			Labor		
Size	Item Desc	Qty	UOM	Mat Unit	Mat Adj	Mat Ext	Lbr Unit	Lbr Adj	Lbr Ext
2"	PVC Sch 40 Carlon #49011010	313.00	FEET						
3/4"	ALUM CONDUIT	40.00	FEET						
2"	ALUM CONDUIT	15.00	FEET						
2"	PVC Sch 40 Elbow Carlon #UA9AJ	3.00	EACH						
3/4"	ALUM 90 ELBOW	2.00	EACH						
2"	PVC Coup Carlon #E940J	6.00	EACH						
2"	PVC Male Adapt Carlon #E943J	4.00	EACH						
2"	PVC T CONDULET/COVER	1.00	EACH						
3/4"	ALUM LB W/CVR & GASK	2.00	EACH						
2"	MYERS HUBS GRDG	6.00	EACH						
2"	PLASTIC BUSHINGS	2.00	EACH						
3/4"	CUT/THREAD-LABOR	4.00	EACH						
2"	CUT/THREAD-LABOR	4.00	EACH						
3/4"	ALUM COUPLING	2.00	EACH						
3/4"	ALUM MYERS HUBS GRDG	2.00	EACH						
2"	HOLE DRILL & PATCH	2.00	EACH						
3/8X1-1/2	FENDER WASHER	5.00	EACH						
1/4-20	CONCRETE DROP IN ANCHOR	44.00	EACH						
3/8-16	CONCRETE DROP IN ANCHOR	5.00	EACH						
3/4"	S.S.STRUT STRAPS	5.00	EACH						
2"	S.S.STRUT STRAPS	44.00	EACH						
1 1/2.	ALUM STRUT	46.00	FEET						
3/4"	FLEX CONDUIT	3.00	FEET						
3/4"	FLEX ANGLE CONN	2.00	EACH						
2"	KO LABOR ONLY	2.00	EACH						
	NYLON LINE	363.00	FEET						
12	XHHW STR CU	3,229.00	FEET						
10	XHHW STR CU	150.00	FEET						
8	XHHW STR CU	1,292.00	FEET						
6.	THHN CU GREEN	14.00	FEET						
4/0	Bare Cu STR (Tinned)	150.00	FEET						
SMALL	WIRE TERM-LABOR ONLY	12.00	EACH						
20/2	CIRCUIT BREAKER	1.00	EACH						
7.5	1PH TRANSFORMERS	1.00	EACH						
100A	HD 3PNF 600V NEMA 3R	1.00	EACH						
2X3	BASE SPACER	20.00	EACH						
6W X 24D	TRENCHER DITCHING	150.00	FEET						
6W X 24D	BACKFILL TRENCHER	150.00	FEET						
	6" WARNING TAPE MAG.	150.00	FEET						
	#4 STEEL REBAR	150.00	FEET						
	#5 STEEL REBAR	300.00	FEET						
	3000# CONCRETE	10.00	CYD						
	Red Dye (Lbs)	32.00	LBS						
2"	Pack/Pour Seal Off Ftg	4.00	EACH						
Grand Totals						14,579.93			116.5690

To: Bar Constructor Inc.
Attn: Dennis Berger

Cody Builders Supply
12002 N Lamar Blvd
Austin, TX 78753
Ph 512/339-9834
Fax 512/339-0165
metals@codybuilderssupply.com

CHANGE ORDER

Date: 05/27/2020

CO NO.: PF-CO-01R2

Project: Pflugerville Central WWTP Phase1

SUBJECT Additional aluminum support beams, ledge angles, grates UV per RCP#1

REFERENCE (RFI/Dwg/Etc): RCP#1

REQUESTED BY: Dennis Berger

Information/Explanation of Change:

This change order request includes change of aluminum support beams, additional grate over finger weirs.

Pricing:

Cost of aluminum support beam changes	+$19,917
Additional grate and embeds over finger weirs	+$ 7,020
This change order total	+$26,937

Attachments: None

SCHEDULE IMPACT? ☐ YES ☒ NO ☐ TBD ADD ☐ SUBTRACT ☐ _____ number of _____

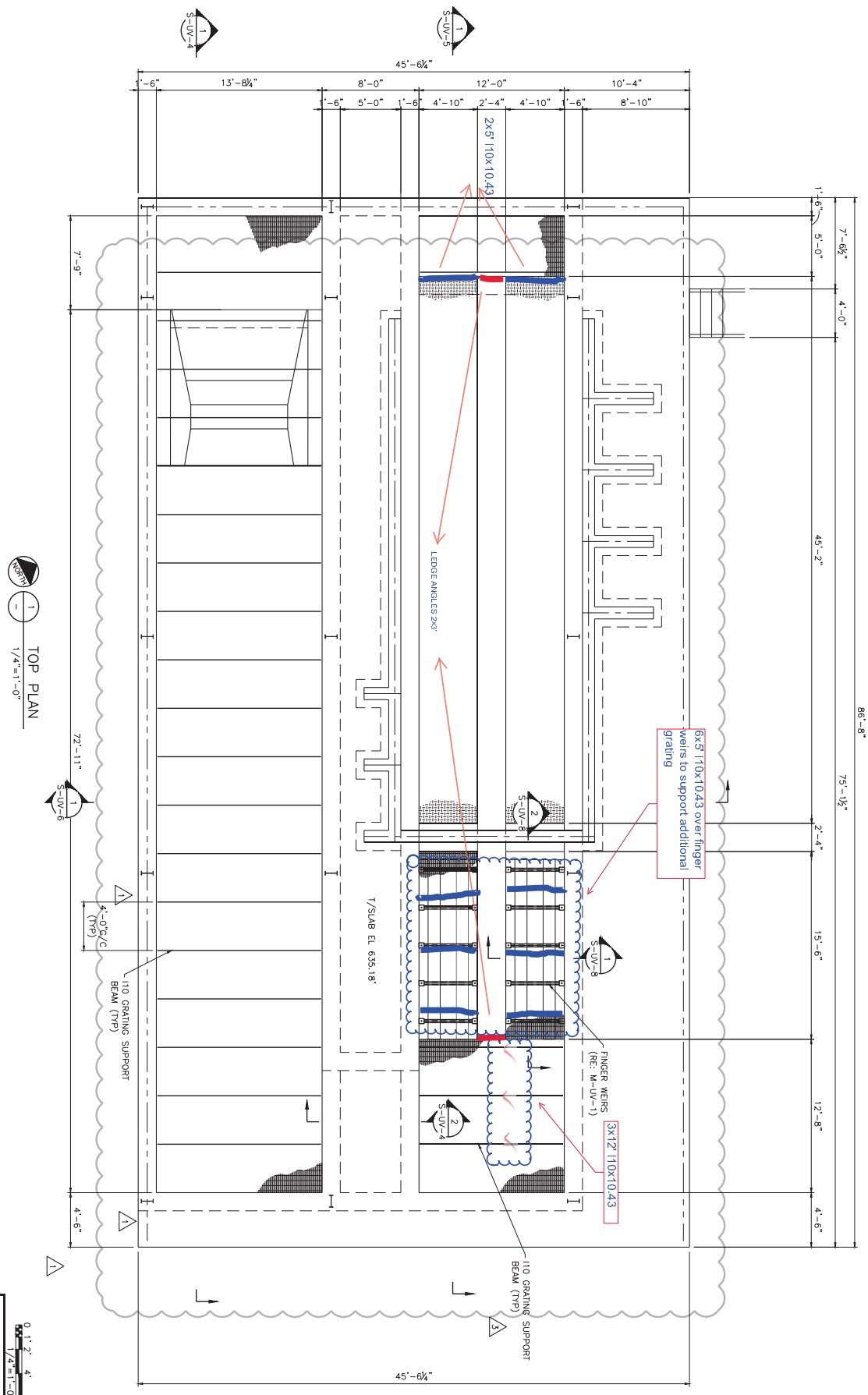
PREPARED BY: Erdem Biyikli APPROVED BY: _____

Note: Notice to proceed is considered acceptance of price quoted.

COR-1		Contract drawings				RCP No1						
Sheet	Item	Item	Qty.	Length	Weight Lbs.	Item	Qty.	Length	Weight Lbs.	Diff. Lbs	Unit Price	Cost
S-UV-2	Alm. Beam	I8x7.02	1	12	84.24	I10x10.3	3	12	370.8	286.56	7.02	2,011.65
S-UV-2	Alm. Beam					I10x10.3	2	5	103	103	7.02	723.06
S-UV-1	Ledge angle					2x2x1/4	2	3	6.66	6.66	7.02	46.75
S-UV-2	Alm. Beam	I8x7.02	15	14	1474.2	I10x10.3	19	14	2739.8	1265.6	7.02	8,884.51
S-UV-2	Alm. Beam					I10x10.3	6	5	309	309	7.02	2,169.18
S-UV-2	Alm. Bent plates/hardware									240	25.34	6,081.60
						Alm. Total				**2210.82**	**9.01**	**19,916.76**
						Additional Grates						**7,020.00**
						COR-01 Total						**26,936.76**

ACAD Rel: 21.0s (LMS Tech)
Filename: N:\ST\ST-UVB-PL-TOPP.dwg
Last Saved: 2/10/2020 2:07 PM Saved By: 02198

Plot Date: 2/11/2020 9:56 AM Plot By: 02198 Filename: N:\ST\ST-UVB-PL-TOPP.dwg



TOP PLAN
1/4"=1'-0"

0 1' 2' 4' 8'
1/4"=1'-0"

ISSUED FOR BID

NO.	ISSUE	BY	DATE
3	RCP NO. 1 – ITEM NO. 3	MRR	02/10/20
2	ISSUED FOR CONSTRUCTION	MRR	11/04/19
1	ADDENDUM NO.2	MRR	09/04/19

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

FAN JOB NO. PFL16607
DATE 07/17/19
DESIGNED MRR
DRAWN JLM
REVISED
CHECKED AD
FILE NAME ST-UVB-PL-TOPP.dwg

SHEET S-UV-2
SEQ. 182

CITY OF PFLUGERVILLE
CENTRAL WWTP EXPANSION PHASE I IMPROVEMENTS
STRUCTURAL
UV DISINFECTION BASIN & SYSTEM TOP PLAN

FREESE NICHOLS
10431 Morado Circle, Suite 300
Austin, Texas 78759
Phone – (512) 617-3100
Fax – (512) 617-3101

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

02/11/2020

Change Order CO # 001

RSS Reinforcing Steel Supply
13730 Avenue K
Austin, Texas 78728
Phone 512.521.0606
www.rsstexas.com

Customer: Bar Constructors

AUSTIN TX 78130

Attn: Trevor Wofe
Phone no: 214-869-4403
Fax no:

Date: 03/27/20
RSS Project no: D19542
Project name: Pflugerville Central WWTP
Placing Drawings:

Associated RFI: RCP#1
Contract Drawing Reference:
Detail/Section/Elevation Reference:

Detailed Description

1 ton additional reinforcing due to changes in th UV Disinfection Basin
11 hours re-detailing

Cost Breakout:

Additional Labor	
Additional Material	1,400.00
Delivery Charge	
Total	$1,400.00

Authorization:

RSS Representative: Tim Martin

Title: Project Manager

Signature _____

Date _____

Contractor Representative: _____

Title: _____

Signature _____

Date _____