

<b>Project:</b>	<u>Central Wastewater Treatment Plant</u>	<b>Project Number:</b>	<u>88</u>
<b>Owner:</b>	<u>City of Pflugerville</u>		
<b>Contractor:</b>	<u>BAR Constructors, Inc</u>		<u>279</u>
<b>Engineer:</b>	<u>Freese and Nichols, Inc</u>		<u>PFL16607</u>

<b>Change Proposal No.:</b> <u>CP0002</u>	<b>Description:</b> <u>ThoroSeal Waterproofing of the Influent Lift Station and Headworks</u>
<b>Specification:</b> <u>03 30 00 Cast In Place Concrete</u>	
<b>Drawing No.:</b> <u>N/A</u>	<b>Detail Description:</b> <u>N/A</u>

**Reference Document:**

Request for a Change Proposal No.: \_\_\_\_\_
  Request for Information No.: \_\_\_\_\_  
 Shop Drawing Deviation Request No.: \_\_\_\_\_
  Field Order No.: \_\_\_\_\_

**Contractor proposes the following modifications to the Contract Documents:**

- Application of ThoroSeal foundation waterproofing coating on the exterior the influent lift station and headworks.

**Purpose of Change Proposal:**

During review of the 03 30 00 Cast In Place Concrete specification there is a section relating to foundation waterproofing but there are no call outs on the drawings indicating where this is to be applied. FNI recommended application of the ThoroSeal waterproofing on the influent lift station and headworks.

**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

<b>Total Change Proposal Amount:</b> <u>\$30,860.89</u>	<b>Adjustment in Contract Times (days):</b> <u>7</u>
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*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:** 6/10/2020

**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 CO0002 along with CP0001, CP0003, CP0005,CP0006 and CP0007

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



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  
CP002r1 Thoroseal

Dear Mr. Gaughan,

Please find the attached pricing and quotations for Thoroseal Waterproofing at the Influent Lift Station and Headworks. BAR Constructors, Inc. requests an ADD to the contract amount of \$30,860.89 and a time extension of 7 calendar days. Below are those inclusions and exclusions associated with this work.

Inclusions:

- Thoroseal @ the Influent Lift Station & Headworks
- All “Activities” associated with applying Thoroseal

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.

BAR Constructors, Inc. - Cost Detail Worksheet

Job Name: Central WWTP Expansion Phase 1

Job # 279

Date: 06/10/2020

Proposal No. CP002r1

Labor	Rate			Thoroseal @ ILS/HW							
Thoroseal @ ILS/HW				Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Total
Foreman Oversight	\$ 40.00		HR	32							\$ 1,280.00
Labor	\$ 24.00	5	MP	12	12	12	12	12	12	11	\$ 9,960.00
											\$ -
											\$ -
											\$ -
											\$ -
											\$ -
Subtotal											\$ 11,240.00
Payroll Taxes and Insurance (55%)											\$ 6,182.00
<b>Total Labor</b>											<b>\$ 17,422.00</b>

Non-Taxed Material	Rate			Thoroseal @ ILS/HW							
Thoroseal @ ILS/HW											
Gray 60 lb Thoroseal - Bucket	\$ 88.36	60	EA								\$ 5,301.60
ACRYL 60 Bonding Agent 1 Gal Unit	\$ 23.26	121	GAL								\$ 2,814.46
											\$ -
											\$ -
											\$ -
											\$ -
											\$ -
Subtotal											\$ 8,116.06

Taxed Material				Thoroseal @ ILS/HW							
											\$ -
Subtotal Taxed Material + 8.25%											\$ -

General Condition Material											
Small Tools 5% labor											\$ 562.00
<b>Total Material</b>											<b>\$ 8,678.06</b>

Equipment	Rate			Thoroseal @ ILS/HW							Total
Thoroseal @ ILS/HW											
											\$ -
											\$ -
											\$ -
											\$ -
											\$ -
											\$ -
											\$ -
											\$ -
Subtotal											\$ -
Fuel, Oil, Grease & Maintenance (40% fo Equipment)											\$ -
Tax @ 8.25%											\$ -
<b>Total Equipment</b>											<b>\$ -</b>

Subcontractor	Rate			Thoroseal @ ILS/HW							Total
											\$ -
											\$ -
											\$ -
											\$ -
											\$ -
											\$ -
<b>Total Subcontractor</b>											<b>\$ -</b>

Totals	Labor			Subcontractor	Material	Equipment					Total
	\$ 17,422.00				\$ 8,678.06	\$ -					\$ 26,100.06
Insurance (1.8%)											\$ 469.80
Overhead and Profit (5% for subs)											\$ -
Overhead and Profit (15% Self Performed Work)											\$ 3,985.48
Subtotal											\$ 30,555.34
Bond @ 1%											\$ 305.55
<b>Total</b>											<b>\$ 30,860.89</b>



**Austin**  
**8013 Exchange Drive**  
**Austin TX 78754**  
**Tel : (512)927-4200**  
**Fax: (512)928-0003**

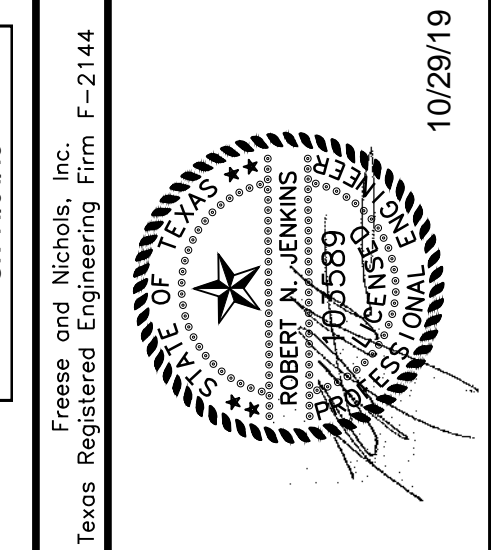
# Quotation

<b>Bill-To-Party : 109632</b>	<b>Information</b>	
BAR CONSTRUCTORS INCORPORATED P O BOX 10 LANCASTER TX 75146	<b>Quotation Number</b>	20736202
	<b>Quotation Created Date</b>	04/02/2020
	<b>Customer Number</b>	109632
<b>Ship-To-Party : 5398563</b>	<b>Inside Salesman</b>	Jeff Casaubon
CENTRAL WASTEWATER PLANT 15500 SUN LIGHT NEAR WAY PFLUGERVILLE TX 78660	<b>Outside Salesman</b>	Branch Manager TX04
	<b>Validity Start Date</b>	04/02/2020
	<b>Validity End Date</b>	05/02/2020

**Notes from the Customer:**

Item	Material	Quantity	Price Per	Unit	Amount
10	CHR-THOROSEAL GRAY GRAY THOROSEAL 60-LB PAIL	1 EA	88.36 \$	1 EA	88.36
20	CHR-55350538 A660 ACRYL 60 BONDING AGENT 1GAL UNIT	1 EA	23.26 \$	1 EA	23.26
<b>Items total:</b>					111.62
<b>Sales Tax:</b>					9.21
<b>Sales Coupon:</b>					0.00
<b>Total Amount:</b>					<b>\$ 120.83</b>

Signature \_\_\_\_\_ Date \_\_\_\_\_

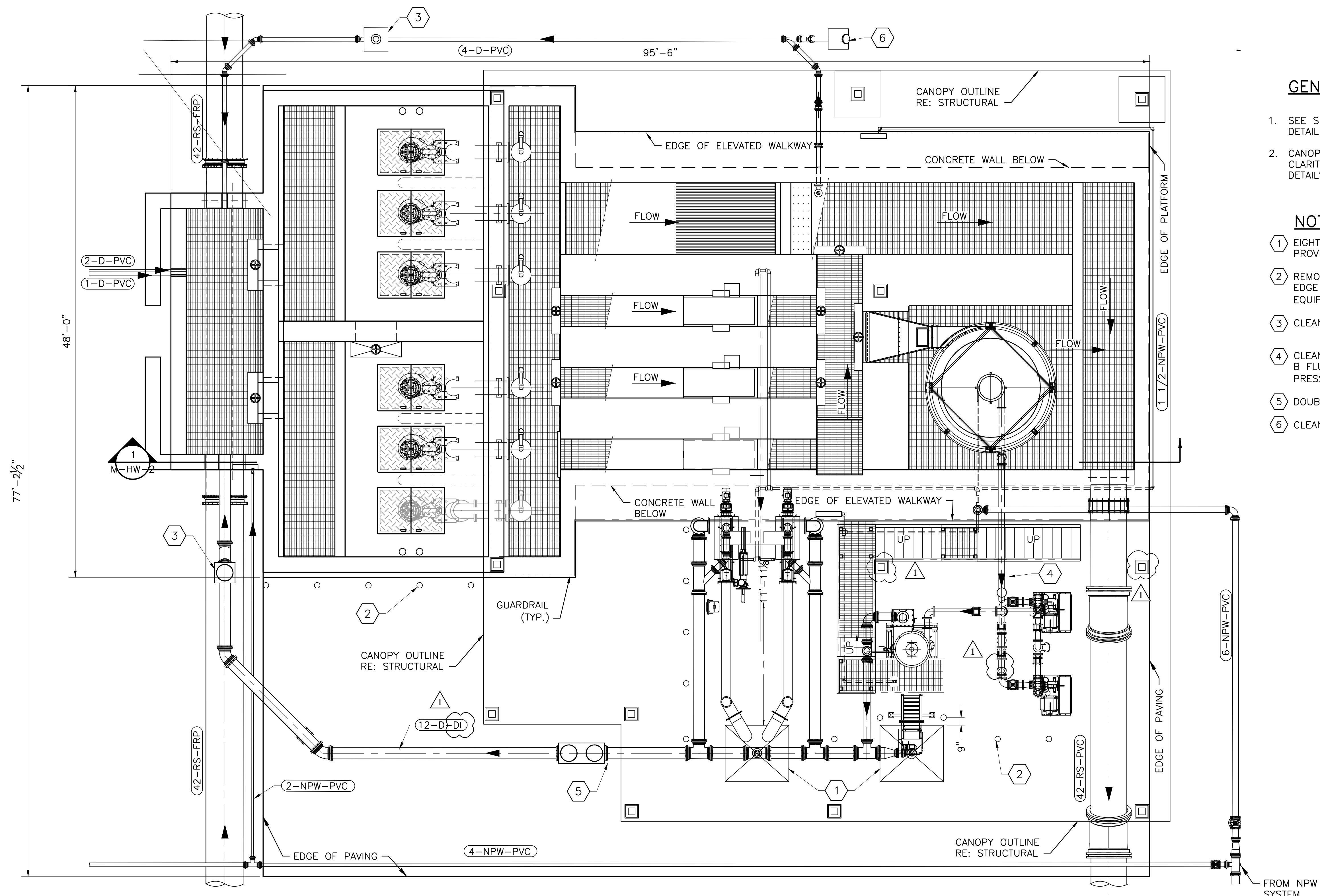


**FREES & NICHOLS**  
 10431 Morado Circle, Suite 300  
 Austin, Texas 78759  
 Phone - (512) 617-3100  
 Fax - (512) 617-3101

CITY OF PFLUGERVILLE  
**CENTRAL WWTG EXPANSION  
 PHASE I IMPROVEMENTS**  
 MECHANICAL  
**INFLUENT LIFT STATION & HEADWORKS AREA PLAN**

NO.	ISSUE	BY	DATE	DATE	DESIGNED	DRAWN	REVISION	CHECKED
				07/17/19	RHJ	MA		GHB
ISSUED FOR CONSTRUCTION				11/4/19				
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.								
VERIFY SCALE								
FILE NAME								
WW-HDW-PL.dwg								

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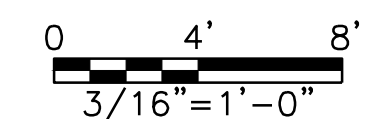
**GENERAL NOTES**

- SEE SHT M-HW-3 AND M-HW-4 FOR DETAILED CALLOUTS.
- CANOPY AND MONORAIL NOT SHOWN FOR CLARITY. SEE STRUCTURAL SHEETS FOR DETAILS.

**NOTES BY SYMBOL "⬡"**

- EIGHT CUBIC YARD DUMPSTERS TO BE PROVIDED BY OWNER.
- REMOVABLE PIPE BOLLARDS PLACED 5'-0" EDGE TO EDGE APART TO PROTECT EQUIPMENT. RE: 547 TYPE A/SD-1.
- CLEANOUT, RE: 311/SD-16.
- CLEANOUT WITH TAPPED FLANGE AND TYPE B FLUSHING CONNECTION FOR PRESSURIZED LINE, RE: 311/SD-16
- DOUBLE CLEANOUT, RE: 5/SD-17.
- CLEANOUT, RE: 310 B/SD-16

**1 OVERALL PLAN**  
 3/16" = 1'-0"

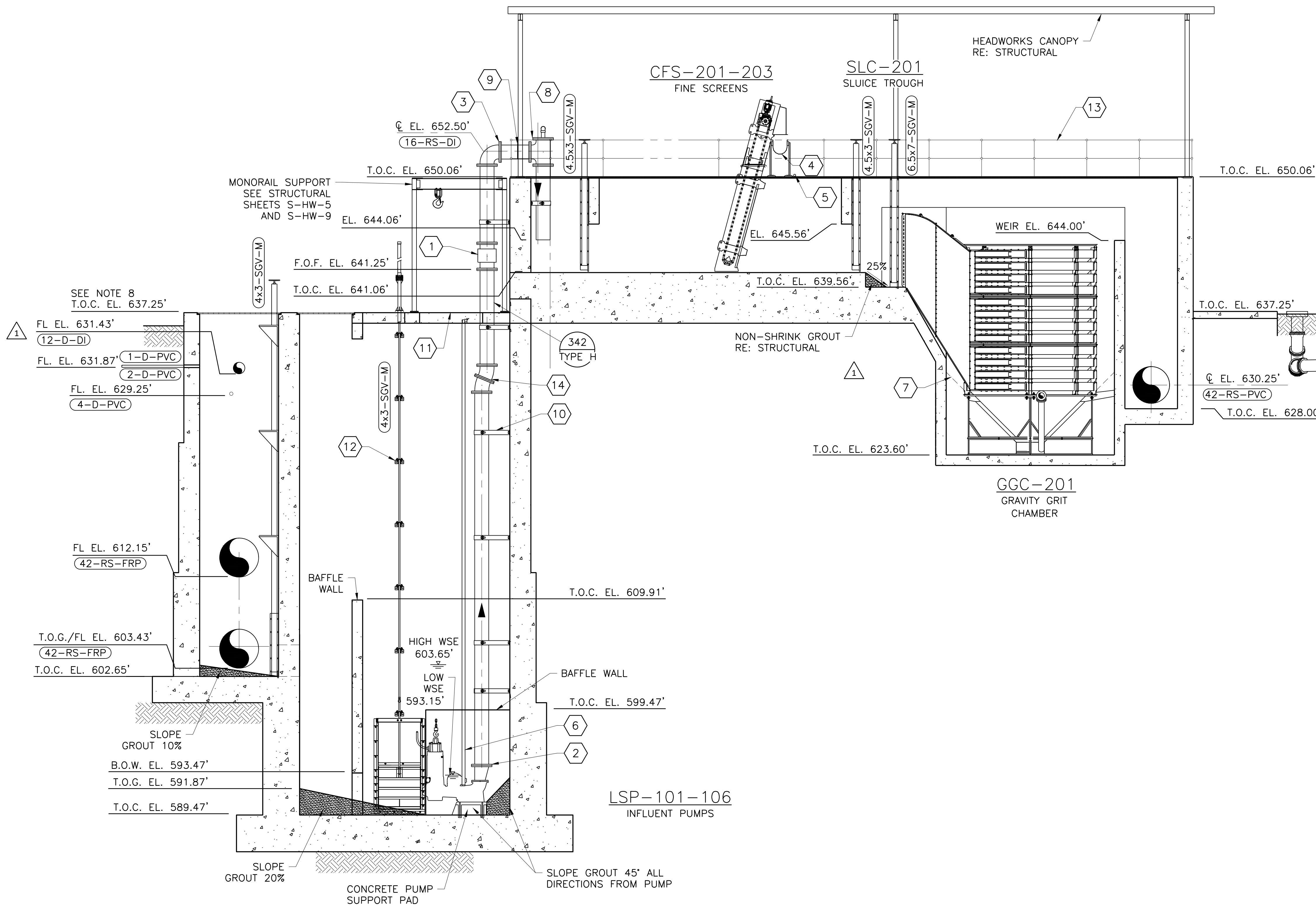


GENERAL NOTES

- REFER TO SPECIFICATION SECTION 01 35 00 FOR SPECIAL PROCEDURES AND CONSTRUCTION SEQUENCING.
- GROUT ALL CORNERS OF CHANNELS AND BASINS TO MINIMIZE SOLIDS ACCUMULATION. RE: 2/SD-17
- ALL INTERIOR CONCRETE SURFACES OF THE INFLUENT MIXING CHAMBER, INFLUENT LIFT STATION WET WELL, AND COMMON DISCHARGE CHANNEL SHALL BE COATED PER SPECIFICATION SECTION 09 96 01. SEE SPECIFICATION SECTION 46 21 23 FOR MULTIRAKE BAR SCREEN SYSTEM AND SPECIFICATION SECTION 46 23 23 FOR GRIT REMOVAL EQUIPMENT.
- ALL ABOVE GRADE NPW PIPING TO BE PVC AND SHALL BE SUPPORTED BY 316 STAINLESS STEEL PIPE STRAPS AT A MINIMUM SPACING AS SHOWN IN DETAIL 340, TABLE A. ALL OTHER ABOVE GRADE PIPING TO BE DUCTILE IRON, UNLESS OTHERWISE NOTED.
- ALL GROUTING TOWARDS PUMPS TO BE COORDINATED WITH PUMP MANUFACTURER.
- CONTRACTOR TO COORDINATE WITH PUMP MANUFACTURER ON SIZE AND POSITION OF PUMP ACCESS HATCHES.

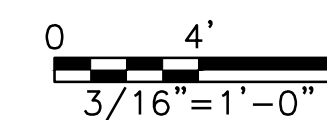
NOTES BY SYMBOL "◯"

- ◯1 16" MAG METER, SS, FLG
- ◯2 16"x12" ECCENTRIC REDUCER, DI, FLG
- ◯3 16" 90° BEND, DI, FLG
- ◯4 16" U-SHAPED WATER SLUICE, 304L SS
- ◯5 1 1/2" HDGP NPW SLUICE FEED, RE: 3/M-HW-5.
- ◯6 TYPICAL PUMP LIFTING AND CABLING SYSTEM. RE: 3/SD-17
- ◯7 CONTRACTOR TO COORDINATE WITH GRIT REMOVAL EQUIPMENT MANUFACTURER FOR GROUTING.
- ◯8 16" TEE, DI, FLG
- ◯9 PIPE SUPPORT, RE: 340 TYPE G/SD-12
- ◯10 PIPE SUPPORT, RE: 341 TYPE U/SD-9. SPACING EVERY 10'-0" OR PER MANUFACTURER'S RECOMMENDATIONS.
- ◯11 72"x48" ALUMINUM PUMP ACCESS HATCH WITH SAFETY GRATING. SEE NOTE 6.
- ◯12 STEM GUIDE LOCATION AND SPACING PER GATE MANUFACTURER (TYP.), RE: 374/SD-3.
- ◯13 GUARDRAIL WITH TOE BOARD TYP., RE: 1/SD-25
- ◯14 16" 22.5 DEGREE BEND, DI, FLG



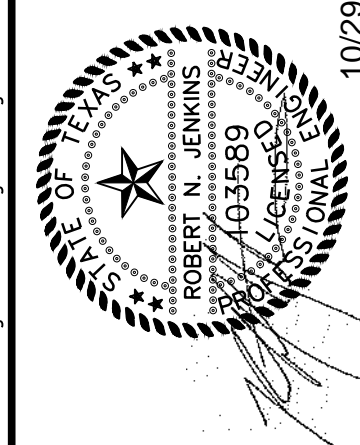
1 OVERALL SECTION  
M-HW-2 3/16"=1'-0"

POINT	LEVEL (feet)	ELEVATIONS	DESCRIPTION	
			RISING LEVEL	FALLING LEVEL
1	3.00	591.93	-	LOW/LOW FLOAT, ALL PUMPS OFF
2	4.00	592.93	-	LEAD PUMP @ 83% SPEED/OFF
3	6.00	594.93	LEAD PUMP ON @ MAX SPEED	PUMP 2 @ 86% SPEED/OFF
4	8.00	596.93	PUMP 1-2 ON @ 83% SPEED	PUMP 3 @ 89% SPEED/OFF
5	10.00	598.93	PUMP 1-3 ON @ 89% SPEED	PUMP 4 @ 92% SPEED/OFF
6	12.00	600.93	PUMP 1-4 ON @ 92% SPEED	PUMP 5 @ 95% SPEED/OFF
7	14.00	602.93	PUMP 1-5 ON @ 95% SPEED	-
8	14.50	603.43	HIGH/HIGH FLOAT ALARM	-



ISSUED FOR CONSTRUCTION ON 11/4/19

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



**FREES & NICHOLS**  
10431 Morado Circle, Suite 300  
Austin, Texas 78759  
Phone - (512) 617-3100  
Fax - (512) 617-3101

CITY OF PFLUGERVILLE  
CENTRAL WWTW EXPANSION  
PHASE I IMPROVEMENTS  
MECHANICAL  
OVERALL INFLUENT LIFT STATION & HEADWORKS SECTION

NO.	ISSUE	DATE	BY	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
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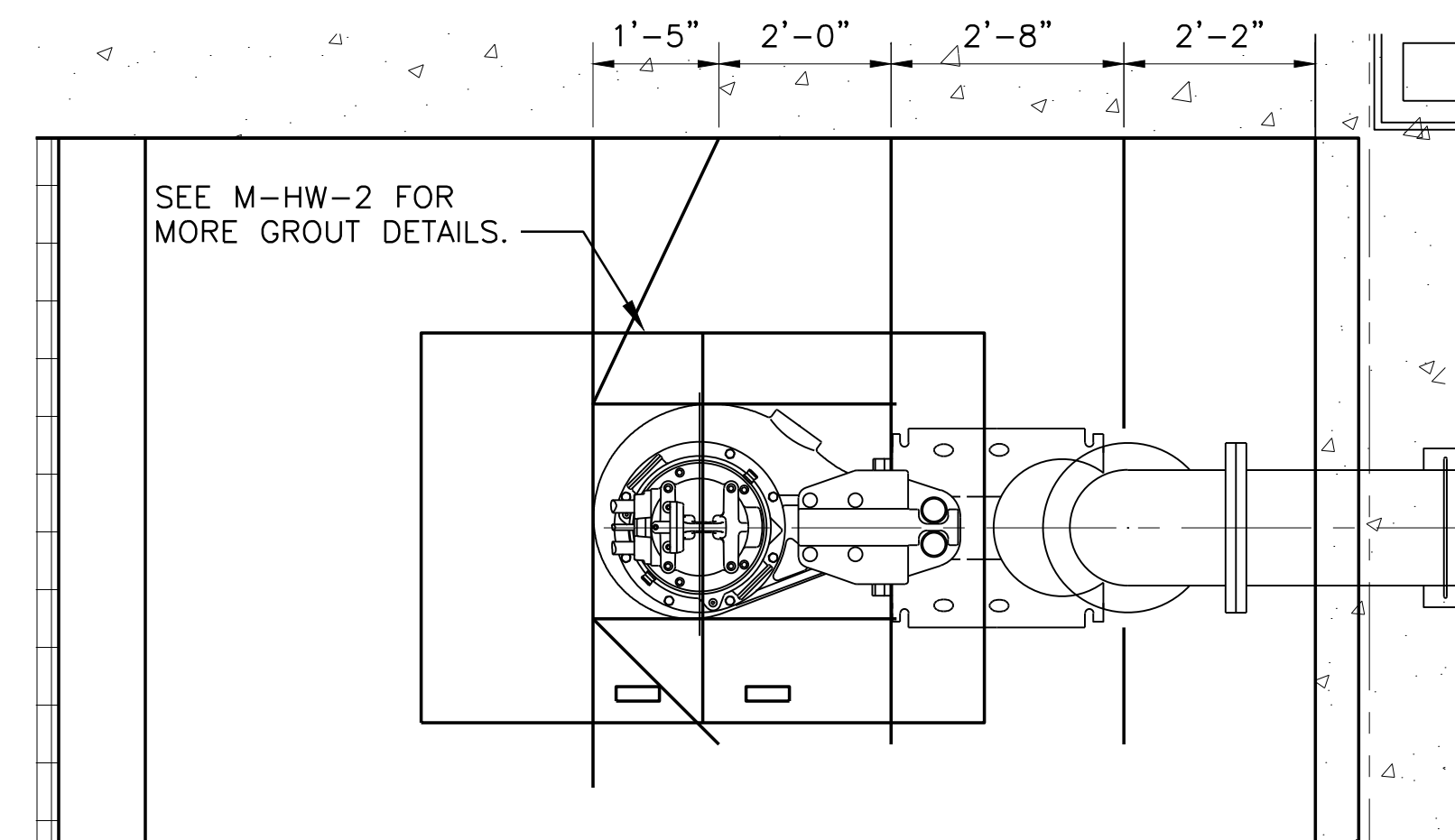
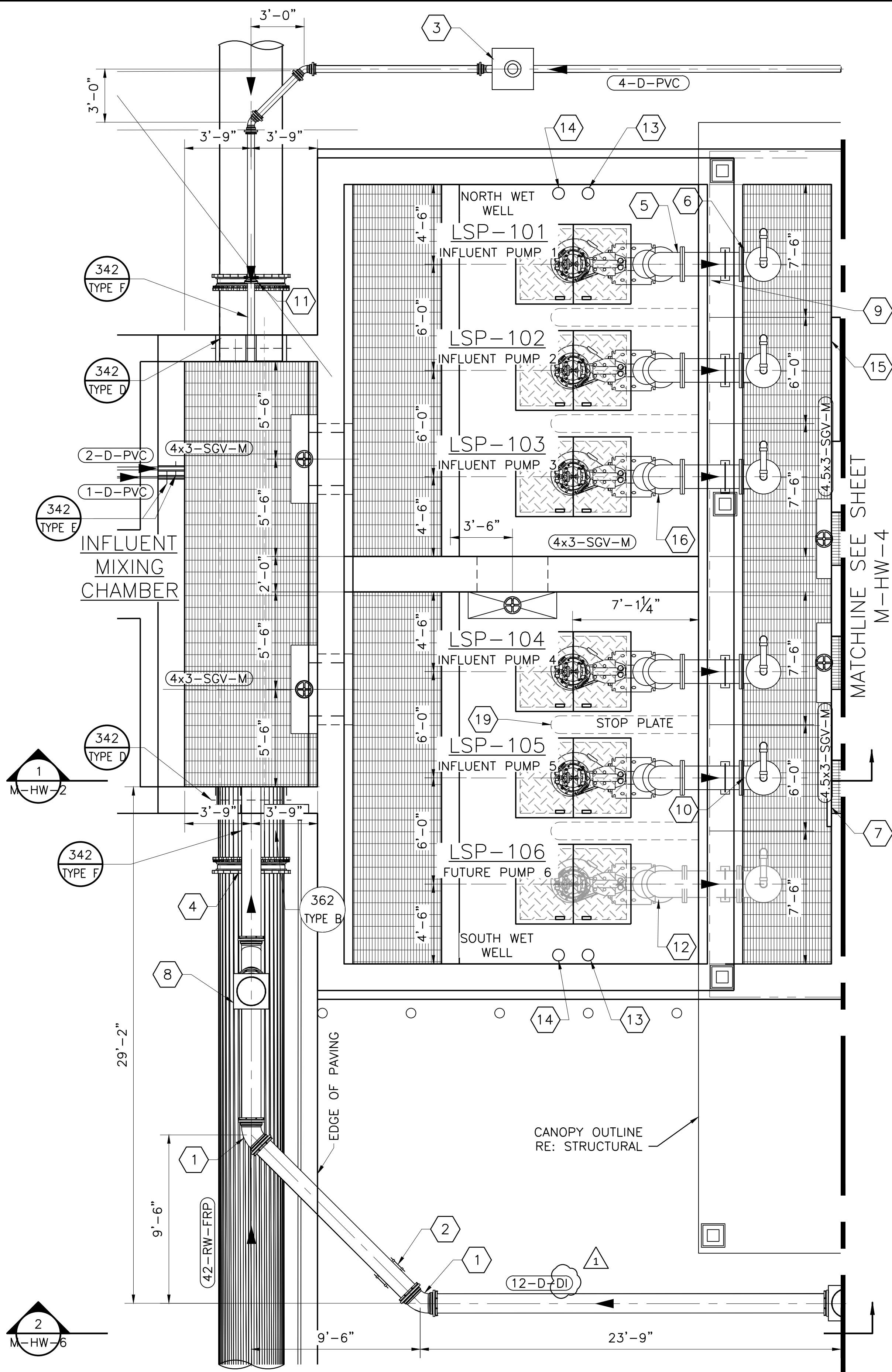
SHEET  
M-HW-2  
SEQ. 71

**GENERAL NOTES**

- REFER TO SPECIFICATION SECTION 01 35 00 FOR SPECIAL PROCEDURES AND CONSTRUCTION SEQUENCING.
- REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL DETAILS AND ELEVATIONS. REFER TO ELECTRICAL AND INSTRUMENTATION DRAWINGS FOR ELECTRICAL WIRING, ROUTING, LEVEL SENSORS AND OTHER PERTINENT DETAILS.
- MONORAIL AND SUPPORTS NOT SHOWN FOR CLARITY. SEE STRUCTURAL SHEETS S-HW-5 AND S-HW-6 AND S-HW-9 FOR DETAILS.
- ALL INTERIOR CONCRETE SURFACES OF THE HEADWORKS INFLUENT CHANNEL STRUCTURE SHALL BE COATED PER SPECIFICATION SECTION 09 96 01.
- SLOPE GROUT @ 20% MIN. TOWARD THE PUMPS TYPICAL. VERIFY DIMENSIONS WITH PUMP MANUFACTURER PRIOR TO CONSTRUCTION.
- ALL ABOVE GRADE NPW PIPING TO BE PVC AND SHALL BE SUPPORTED BY 316 STAINLESS STEEL PIPE STRAPS AT A MINIMUM SPACING AS SHOWN IN DETAIL 340, TABLE A. ALL OTHER ABOVE GRADE PIPING TO BE DUCTILE IRON, UNLESS OTHERWISE NOTED.
- INSTALL (72"x48") DUAL-DOOR HATCHES FOR ACCESS TO SUBMERSIBLE RAW SEWAGE PUMPS. CONTRACTOR SHALL COORDINATE WITH SUBMERSIBLE PUMP AND FLOOR ACCESS DOOR MANUFACTURERS TO PROVIDE NOTCH OPENING PER TYPICAL PUMP LIFTING AND CABLING STANDARD DETAIL TO ACCOMMODATE SUBMERSIBLE PUMP CABLES.
- 4" HDGP VENT ON EACH DISCHARGE LINE TO BE ROUTED TO HEADWORKS INFLUENT CHANNEL TO DISCHARGE ELEVATION OF 649.00'.
- FOR ALL PUMPS, CONTRACTOR TO COORDINATE WITH PUMP MANUFACTURER TO INSTALL PUMP LIFTING AND CABLING SYSTEM. RE: 3/SD-17.
- GROUT ALL CORNERS OF CHANNELS AND BASINS TO MINIMIZE SOLIDS ACCUMULATION, RE: 2/SD-17.

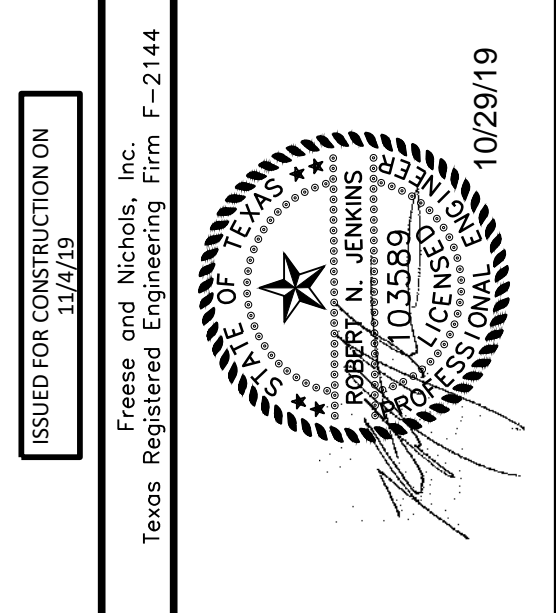
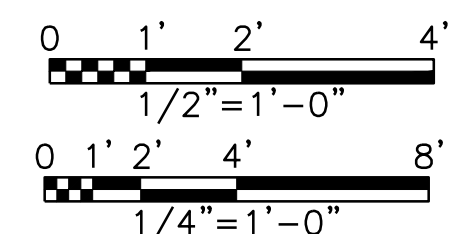
**NOTES BY SYMBOL "○"**

- 12" 45° BEND, DI, MJ
- 12" FLEXIBLE COUPLING ADAPTER
- CLEANOUT, RE: 311/SD-16
- 12" FLEXIBLE COUPLING ADAPTER
- 16" 90° BEND, DI, FLG (TYP. 5 PLACES)
- 4" HDGP VENT PIPING WITH 304 STAINLESS STEEL FASTENERS. (TYP. 5 PLACES)
- 316 STAINLESS STEEL REMOVABLE STOP PLATE.
- CLEANOUT, RE: 311/SD-16
- PIPE SUPPORT, RE: 340 TYPE G/SD-12 (TYP. 5 PLACES)
- 4" 90° BEND, HDGP (TYP. 5 PLACES)
- 4" FLEXIBLE COUPLING ADAPTER
- INSTALL CONCRETE PENETRATION WITH 20" 316 STAINLESS STEEL WALL SLEEVE, RE: 342 TYPE D/SD-8, AND INSTALL 316 STAINLESS STEEL BOLTED COVER OVER PENETRATION OPENING.
- 8" 316 SS SLEEVE FOR PRESSURE TRANSDUCER, RE:342 TYPE D/SD-8 AND ELECTRICAL SHEETS.
- 8" 316 SS SLEEVE FOR LEVEL FLOATS, RE:342 TYPE D/SD-8 AND ELECTRICAL SHEETS.
- STRAIGHT EDGE WEIR AND PLATE, OVERFLOW EL: 647.43' RE: 384/SD-3.
- 16" MAG METER, SS, FLG (TYP. 5 PLACES)



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

**PUMP GROUTING PLAN**  
1/2"=1'-0"



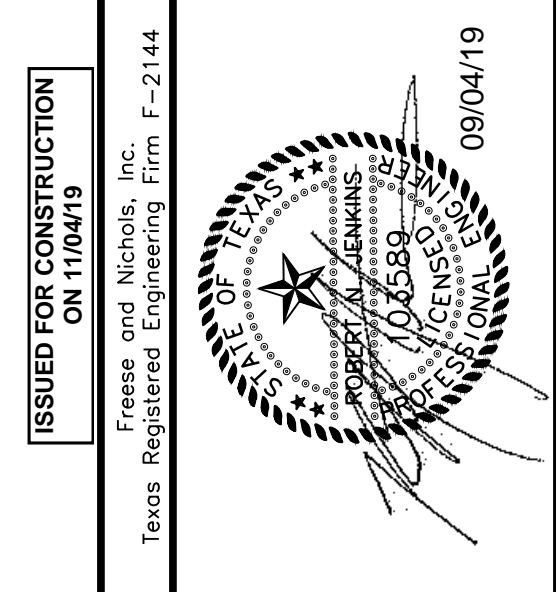
**FREES & NICHOLS**  
10431 Morado Circle, Suite 300  
Austin, Texas 78759  
Phone - (512) 617-3100  
Fax - (512) 617-3101

CITY OF PFLUGERVILLE  
**CENTRAL WWTG EXPANSION**  
PHASE I IMPROVEMENTS  
MECHANICAL  
**INFLUENT LIFT STATION PLAN**

NO.	ISSUE	BY	DATE	REVISED	CHECKED	FILE NAME
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2	Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.					

SHEET  
**M-HW-3**  
SEQ. 72





**FREESSE & NICHOLS**  
 10431 Morado Circle, Suite 300  
 Austin, Texas 78759  
 Phone - (512) 617-3100  
 Fax - (512) 617-3101

CITY OF PFLUGERVILLE  
**CENTRAL WWTW EXPANSION**  
 PHASE I IMPROVEMENTS  
 MECHANICAL  
**HEADWORKS PLAN AND SECTION**

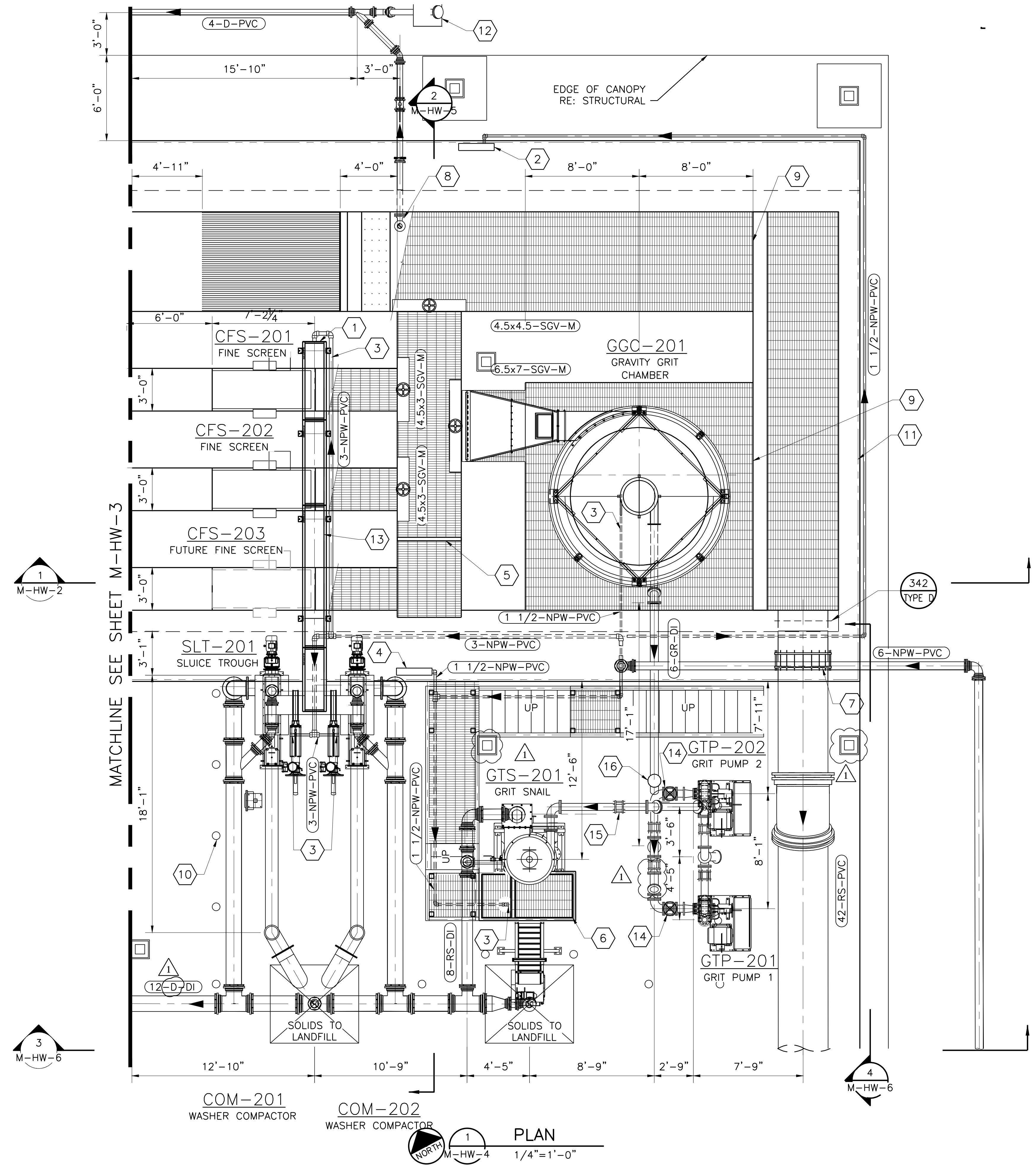
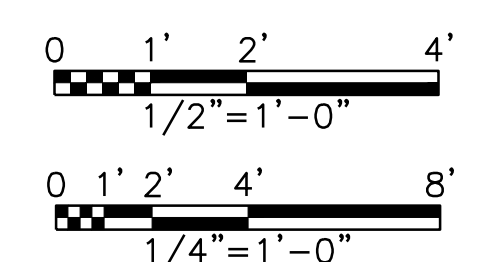
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**GENERAL NOTES**

- REFER TO SPECIFICATION SECTION 01 35 00 FOR SPECIAL PROCEDURES AND CONSTRUCTION SEQUENCING.
- HEADWORKS CANOPY NOT SHOWN FOR CLARITY. SEE STRUCTURAL SHEETS FOR CLARITY.
- ALL ABOVE GRADE NPW PIPING TO BE PVC AND SHALL BE SUPPORTED BY 316 STAINLESS STEEL PIPE STRAPS AT A MINIMUM SPACING AS SHOWN IN DETAIL 340, TABLE A. ALL OTHER ABOVE GRADE PIPING TO BE DUCTILE IRON, UNLESS OTHERWISE NOTED.
- ALL PIPING, VALVES AND APPURTENANCES ASSOCIATED WITH THE GRIT REMOVAL EQUIPMENT MUST USE PORCELAIN GLASS LINING.
- GROUT ALL CORNERS OF CHANNELS AND BASINS TO MINIMIZE SOLIDS ACCUMULATION. RE: 2/SD-17
- REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL DETAILS AND ELEVATIONS. REFER TO ELECTRICAL AND INSTRUMENTATION DRAWINGS FOR ELECTRICAL WIRING, ROUTING, LEVEL SENSORS AND OTHER PERTINENT DETAILS.

**NOTES BY SYMBOL "⬡"**

- CONTRACTOR AND FINE SCREEN MANUFACTURER RESPONSIBLE FOR COORDINATING ALL PIPING AND UTILITY SERVICE LINES TO AND FROM SLUICE CHANNEL AND WASHER/COMPACTOR EQUIPMENT. THIS VARIES PER MANUFACTURER.
- UTILITY STATION, RE: 362 TYPE B/SD-6.
- CONTRACTOR TO COORDINATE WITH EQUIPMENT MANUFACTURER TO ROUTE NPW TO THESE CONNECTIONS.
- UTILITY STATION, RE: 362 TYPE C/SD-6.
- 316 STAINLESS STEEL REMOVABLE STOP PLATE.
- CONFIRM HEIGHT OF PLATFORM WITH GRIT DEWATERING EQUIPMENT MANUFACTURER PRIOR TO FABRICATION.
- 42" FLEXIBLE COUPLING ADAPTER.
- 4" FLOOR DRAIN, RE: 345 TYPE A/SD-8
- STRAIGHT EDGE WEIR AND PLATE, OVERFLOW ELEV. 644.00' RE: 384/SD-3
- REMOVABLE PIPE BOLLARDS, RE: 547 TYPE A/SD-1 (TYP)
- GUARDRAIL WITH TOE BOARD, RE: 1/SD-25
- CLEANOUT, RE: 310 B/SD-16
- INSTALL REMOVABLE COVER ON WATER SLUICE FOR FUTURE SCREEN DISCHARGE.
- 6" PINCH VALVE, DI, FLG
- 6" DISMANTLING COUPLING
- CLEANOUT WITH TAPPED FLANGE AND TYPE B FLUSHING CONNECTION FOR PRESSURIZED LINE, RE: 311/SD-16.

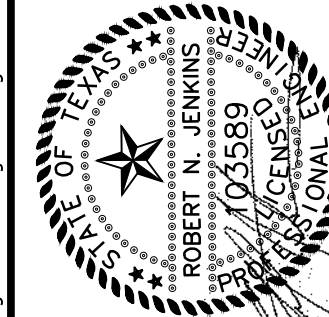


**PLAN**  
 1/4" = 1'-0"

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 Saved By: 90119

ISSUED FOR CONSTRUCTION ON 11/4/19

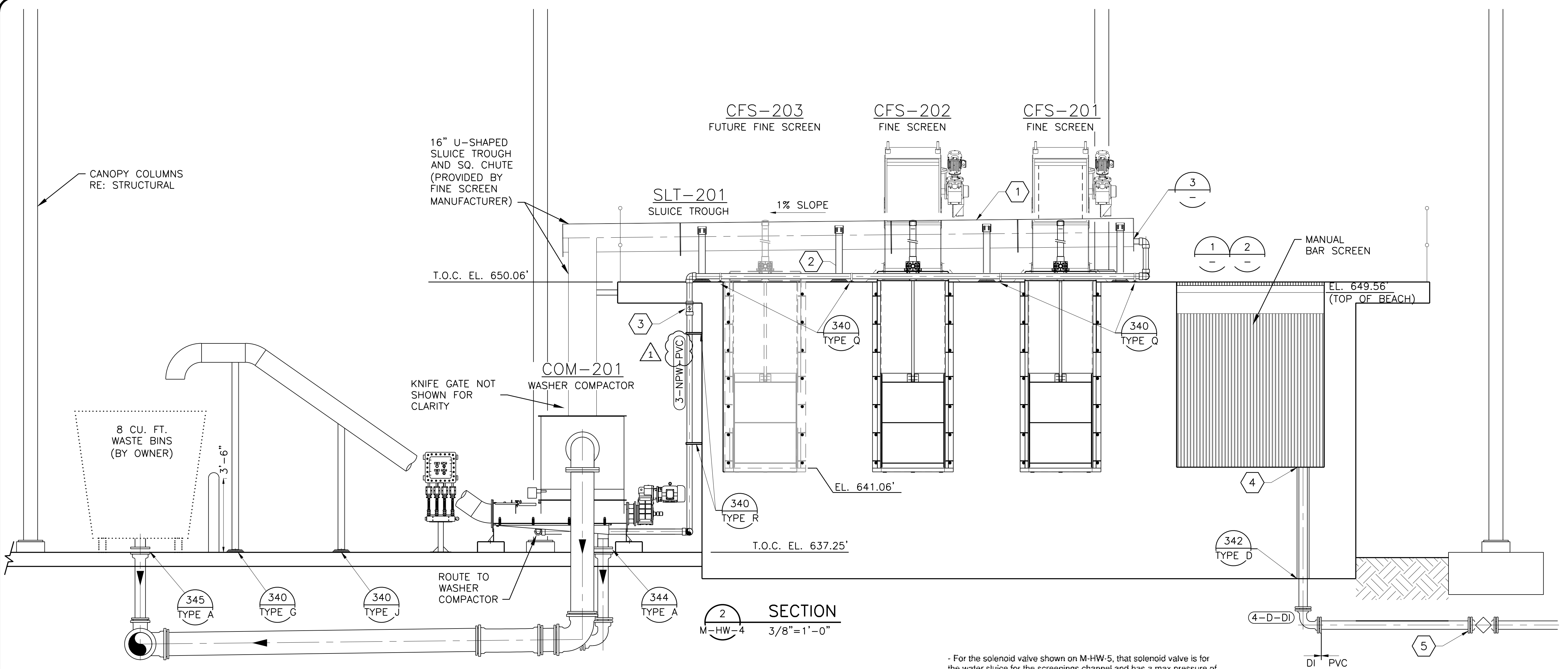
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Texas Registered Engineering Firm F-2144



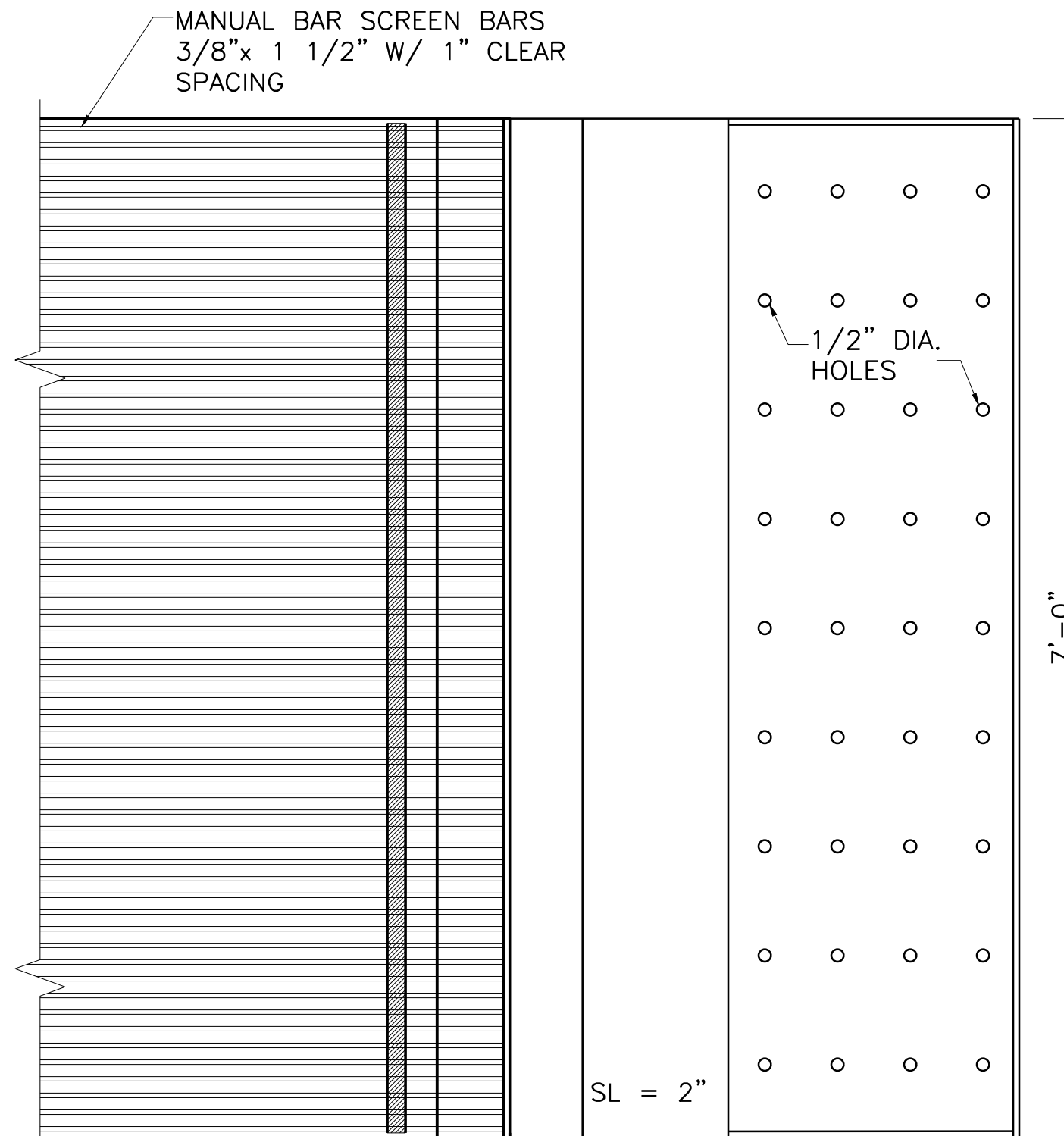
**FREES & NICHOLS**  
10431 Morado Circle, Suite 300  
Austin, Texas 78759  
Phone - (512) 617-3100  
Fax - (512) 617-3101

**CITY OF PFLUGERVILLE**  
**CENTRAL WWT EXPANSION**  
**PHASE I IMPROVEMENTS**  
MECHANICAL

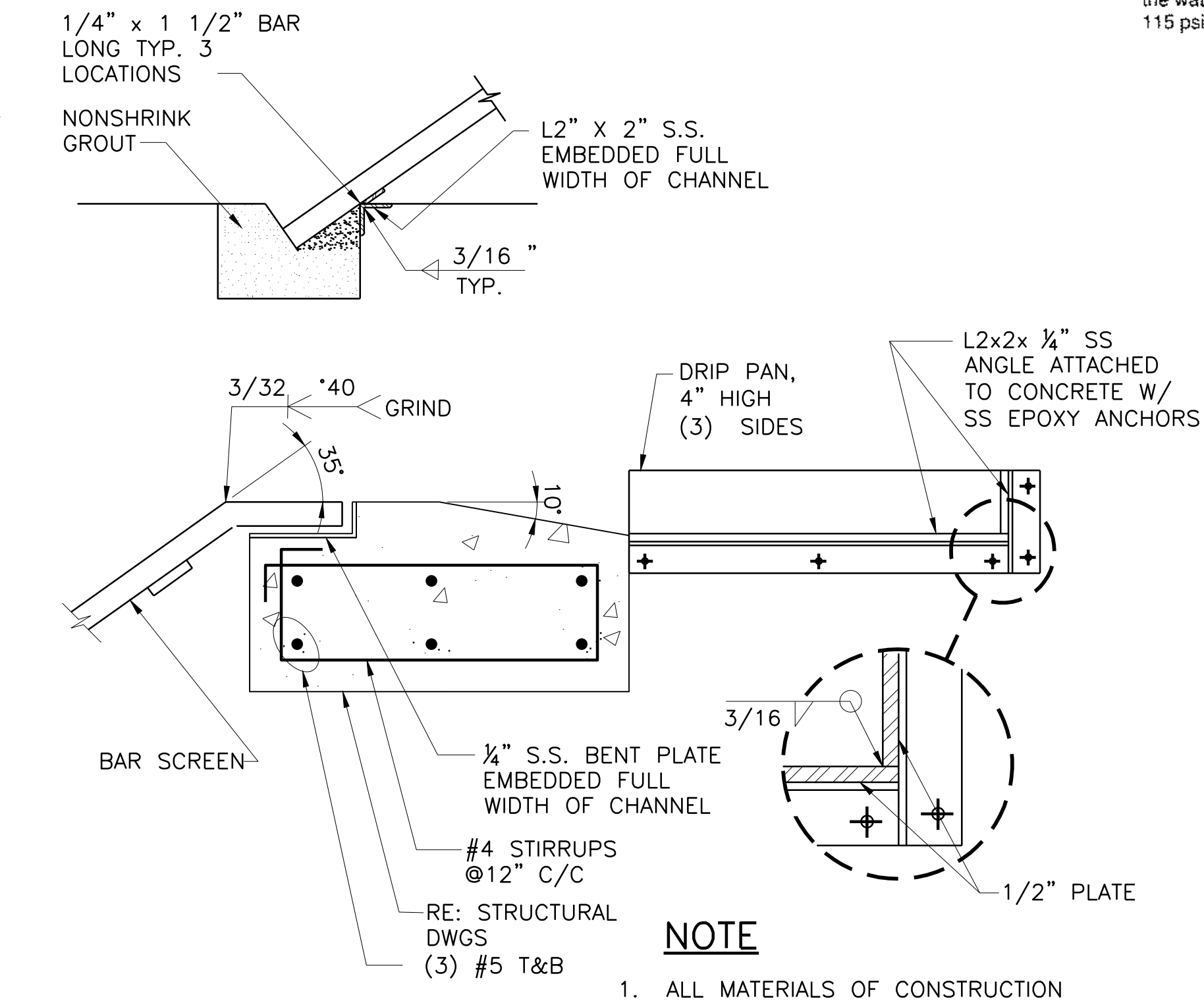
**HEADWORKS SCREEN CHANNELS SECTION**



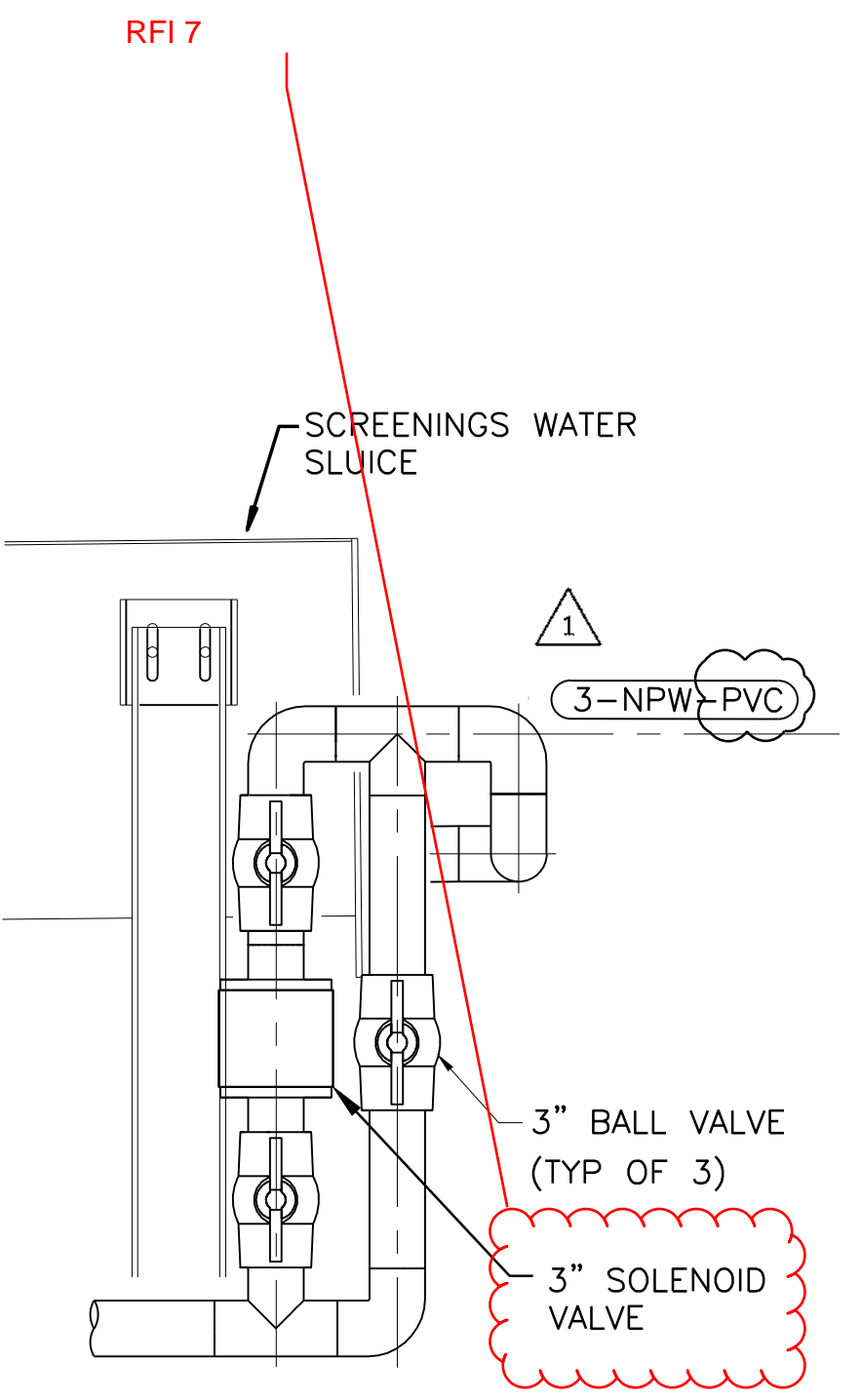
**SECTION 2**  
M-HW-4 3/8"=1'-0"



**1**  
**DETAIL-DRIP PAN**  
1"=1'-0"



**2**  
**DETAIL-MANUAL BAR SCREEN**  
1 1/2"=1'-0"



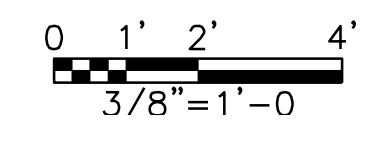
**3**  
**DETAIL-NPW CONNECTION**  
N.T.S.

**GENERAL NOTES**

- REFER TO SPECIFICATION SECTION 01 35 00 FOR SPECIAL PROCEDURES AND CONSTRUCTION SEQUENCING.
- ALL EQUIPMENT SHOWN ON THIS SHEET IS DESIGNED AROUND SPECIFIC MANUFACTURERS. IF ANOTHER APPROVED MANUFACTURER IS SELECTED BY THE CONTRACTOR, THE CONTRACTOR SHALL MODIFY THE DESIGN/LAYOUT PER SELECTED MANUFACTURER'S RECOMMENDATIONS AT NO COST TO THE OWNER.
- ALL ABOVE GRADE NPW PIPING TO BE PVC AND SHALL BE SUPPORTED BY 316 STAINLESS STEEL PIPE STRAPS AT A MINIMUM SPACING AS SHOWN IN DETAIL 340, TABLE A. ALL OTHER ABOVE GRADE PIPING TO BE DUCTILE IRON, UNLESS OTHERWISE NOTED.
- GROUT ALL CORNERS OF CHANNELS AND BASINS TO MINIMIZE SOLIDS ACCUMULATION, RE:2/SD-17.

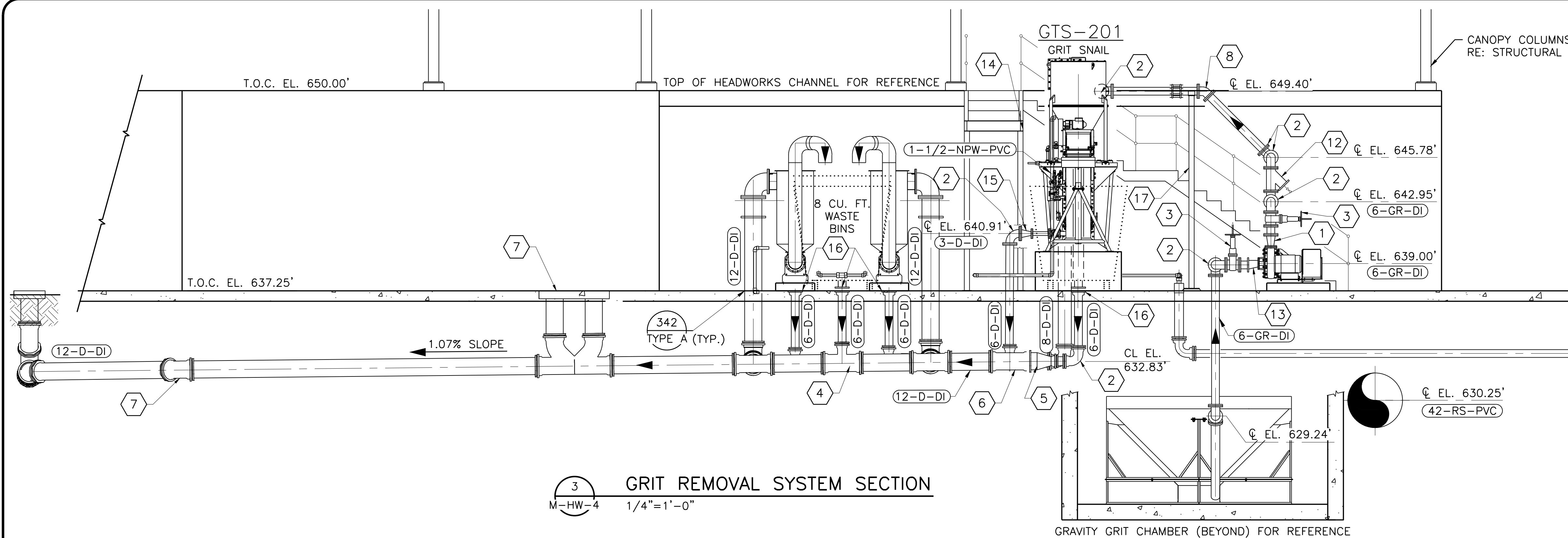
**NOTES BY SYMBOL "**

- CONTRACTOR SHALL COORDINATE WITH SCREEN AND WATER SLUICE MANUFACTURERS TO PROVIDE SEAMLESS TRANSITION FROM SCREEN DISCHARGE HOPPER TO WATER SLUICE INLET AND WASHER COMPACTOR INLET HOPPERS. CONTRACTOR SHALL COORDINATE WITH WATER SLUICE MANUFACTURER ON THE SIZE AND LOCATION OF THE NPW TIE-IN.
- WATER SLUICE MANUFACTURER SHALL BE RESPONSIBLE FOR DESIGN AND SPACING OF SUPPORTS.
- 3"x3"x1" TEE, HDGP
- 4" FLOOR DRAIN, RE: 345 TYPE A/SD-8
- 4" PLUG VALVE, DI, FLG



ACAD Rev: 21.0s (LMS Tech)  
Filename: N:\W\W-HW-HDW-SC.dwg  
Last Saved: 10/21/2019 10:20 AM Saved By: 90119

P&R JOB NO.	PFL16607	DATE	07/17/19	DESIGNED	RHJ	MA	CHECKED	GHB
BY				ISSUED FOR CONSTR	RJ	11/4/19	FILE NAME	WW-HDW-SC.dwg
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SHEET	M-HW-5							
SEQ.	74							



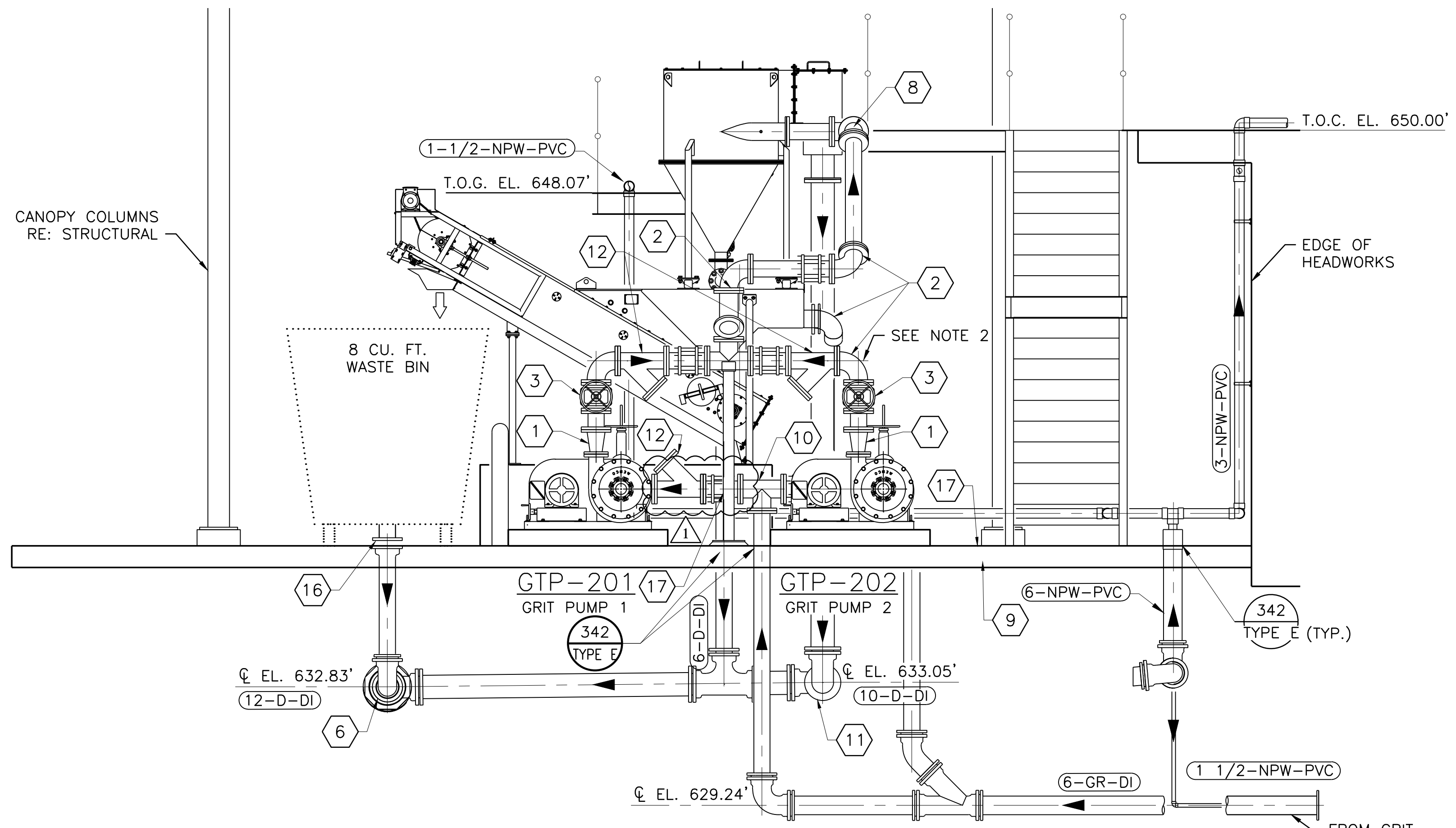
3 GRIT REMOVAL SYSTEM SECTION  
M-HW-4 1/4"=1'-0"

GENERAL NOTES

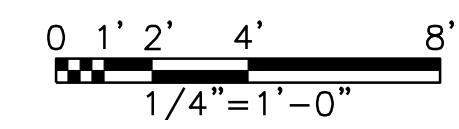
- REFER TO SPECIFICATION SECTION 01 35 00 FOR SPECIAL PROCEDURES AND CONSTRUCTION SEQUENCING.
- PIPING ELEVATIONS ARE NOTED IN SECTION 3, GRIT REMOVAL SYSTEM SECTION.
- ALL ABOVE GRADE NPW PIPING TO BE PVC AND SHALL BE SUPPORTED BY 316 STAINLESS STEEL PIPE STRAPS AT A MINIMUM SPACING AS SHOWN IN DETAIL 340, TABLE A. ALL OTHER ABOVE GRADE PIPING TO BE DUCTILE IRON, UNLESS OTHERWISE NOTED.
- ALL PIPING ASSOCIATED WITH THE GRIT REMOVAL EQUIPMENT MUST UTILIZE A PORCELAIN GLASS LINING LINING.
- CONTRACTOR TO COORDINATE WITH GRIT REMOVAL SYSTEM MANUFACTURER FOR NPW CONNECTIONS TO GRIT REMOVAL SYSTEM.
- GROUT ALL CORNERS OF CHANNELS AND BASINS TO MINIMIZE SOLIDS ACCUMULATION. RE: 2/SD-17.
- PIPING ELEVATIONS ARE NOTED IN SECTION 3, GRIT REMOVAL SYSTEM SECTION.

NOTES BY SYMBOL "⬡"

- ⬡ 1 6"x3" CONC. REDUCER, DI, MJ
- ⬡ 2 6" 90° BEND, DI, FLG
- ⬡ 3 6" PINCH VALVE, DI, FLG
- ⬡ 4 12"x6" TEE, DI, MJ
- ⬡ 5 12"x6" CONC. REDUCER, DI, MJ
- ⬡ 6 12"x6" TEE, DI, MJ
- ⬡ 7 DOUBLE CLEANOUT, RE: 5/SD-17
- ⬡ 8 6" 45° BEND, DI, FLG
- ⬡ 9 CLEANOUT WITH TAPPED FLANGE AND TYPE B FLUSHING CONNECTION FOR PRESSURIZED LINE, RE: 311 / SD-16.
- ⬡ 10 6" TEE, DI, MJ
- ⬡ 11 8" 90° BEND, DI, FLG
- ⬡ 12 6"x6" WYE WITH 2" BALL VALVE AND QUICK DISCONNECT CONNECTION. (TYP)
- ⬡ 13 6"x3" ECC. REDUCER, DI, MJ
- ⬡ 14 EQUIPMENT PLATFORM NOT SHOWN FOR CLARITY. CONFIRM HEIGHT OF PLATFORM WITH GRIT PUMP DEWATERING EQUIPMENT MANUFACTURER PRIOR TO FABRICATION.
- ⬡ 15 6"x3" CONC. REDUCER 90 BEND, DI, MJ
- ⬡ 16 FLOOR DRAIN, RE: 345 TYPE A/SD-8
- ⬡ 17 ADJUSTABLE PIPE SUPPORT, RE:340 TYPE F/SD-13

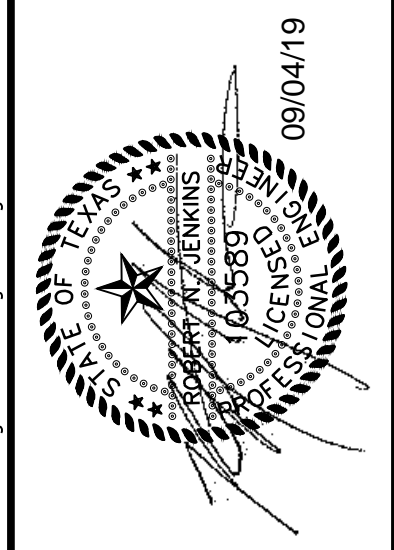


4 GRIT PUMPS AND TEACUP  
M-HW-4 1/4"=1'-0"



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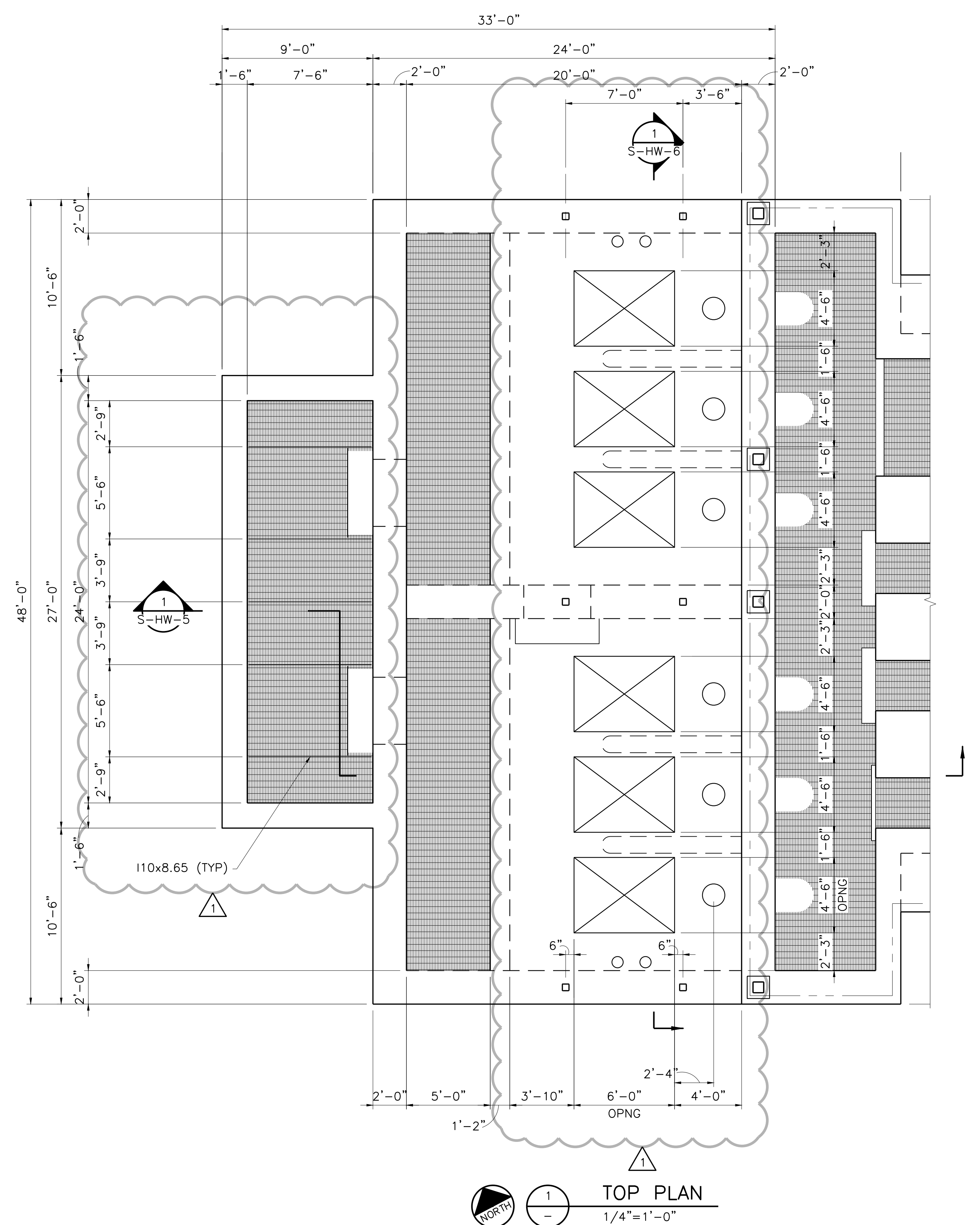
CITY OF PFLUGERVILLE  
CENTRAL WWTB EXPANSION  
PHASE I IMPROVEMENTS  
MECHANICAL  
GRIT REMOVAL SYSTEM SECTIONS


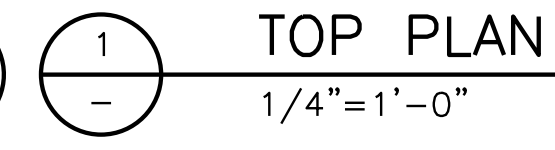
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		07/17/19						
		9/4/19	RJ					

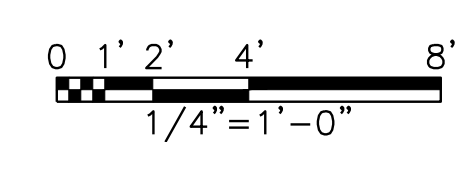
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VERIFY SCALE  
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

SHEET  
M-HW-6  
SEQ. 75

ACAD: Rel: 21.0s (LMS Tech)  
Filename: N:\WW\WW-HDW-SC.dwg  
Last Saved: 9/4/2019 9:21 AM  
Saved By: 90119





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



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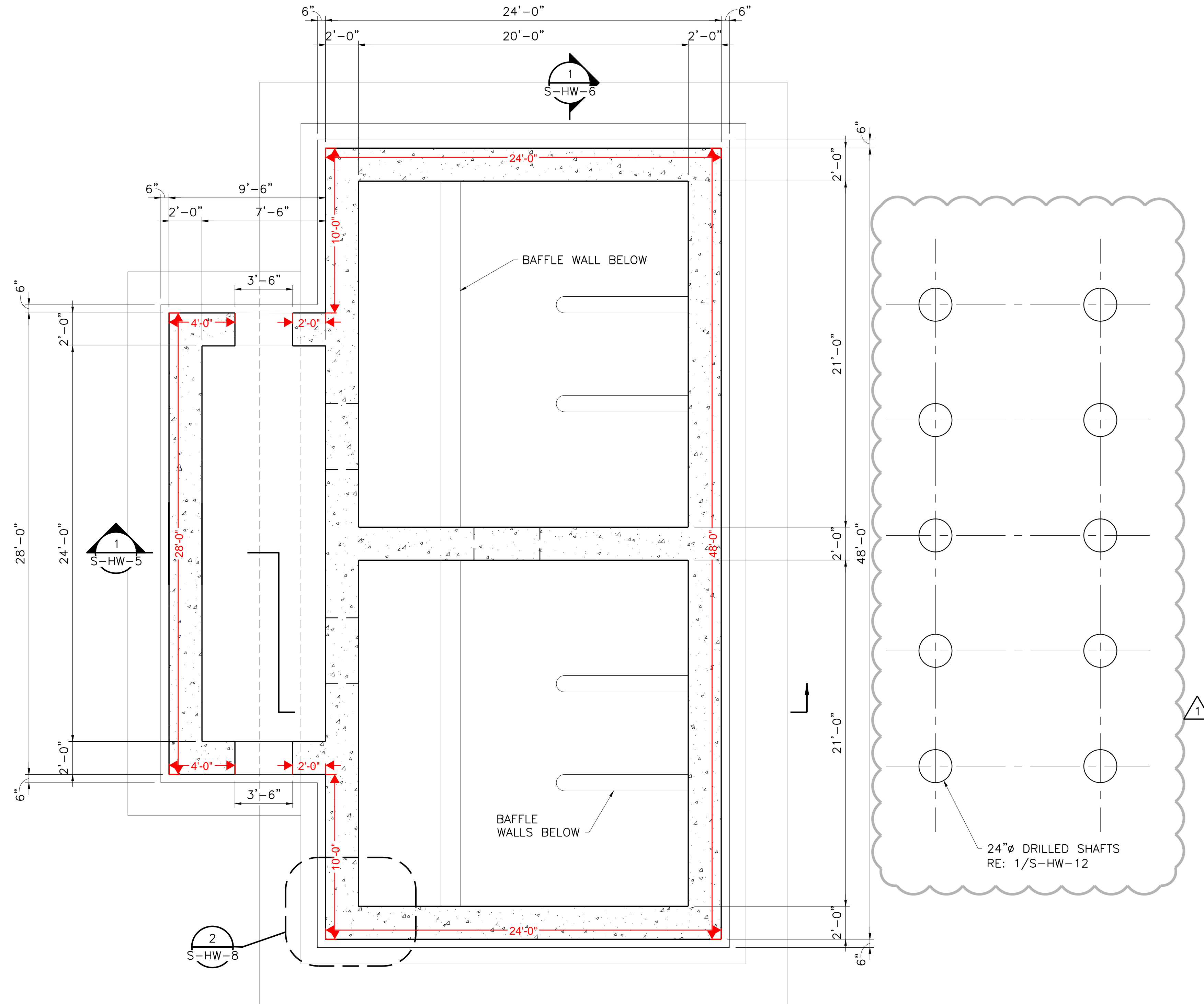
CITY OF PFLUGERVILLE  
**CENTRAL WWTB EXPANSION  
 PHASE I IMPROVEMENTS**  
 STRUCTURAL  
**INFLUENT LIFT STATION  
 TOP PLAN**

NO.	ISSUE	BY	DATE	FRM JOB NO.	DATE
				PFL16607	07/17/19
				DESIGNED	MFR
				DRAWN	JLM
				REVISED	
				CHECKED	AD
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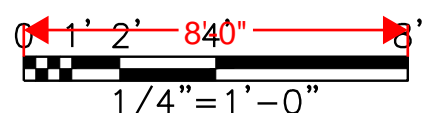
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 MRR 09/18/19  
 Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET  
**S-HW-1**  
 SEQ. 76

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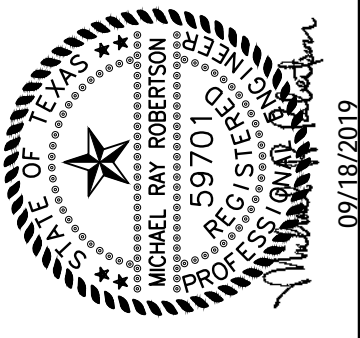


SECTIONAL PLAN @ EL 614.25'  
 1/4" = 1'-0"



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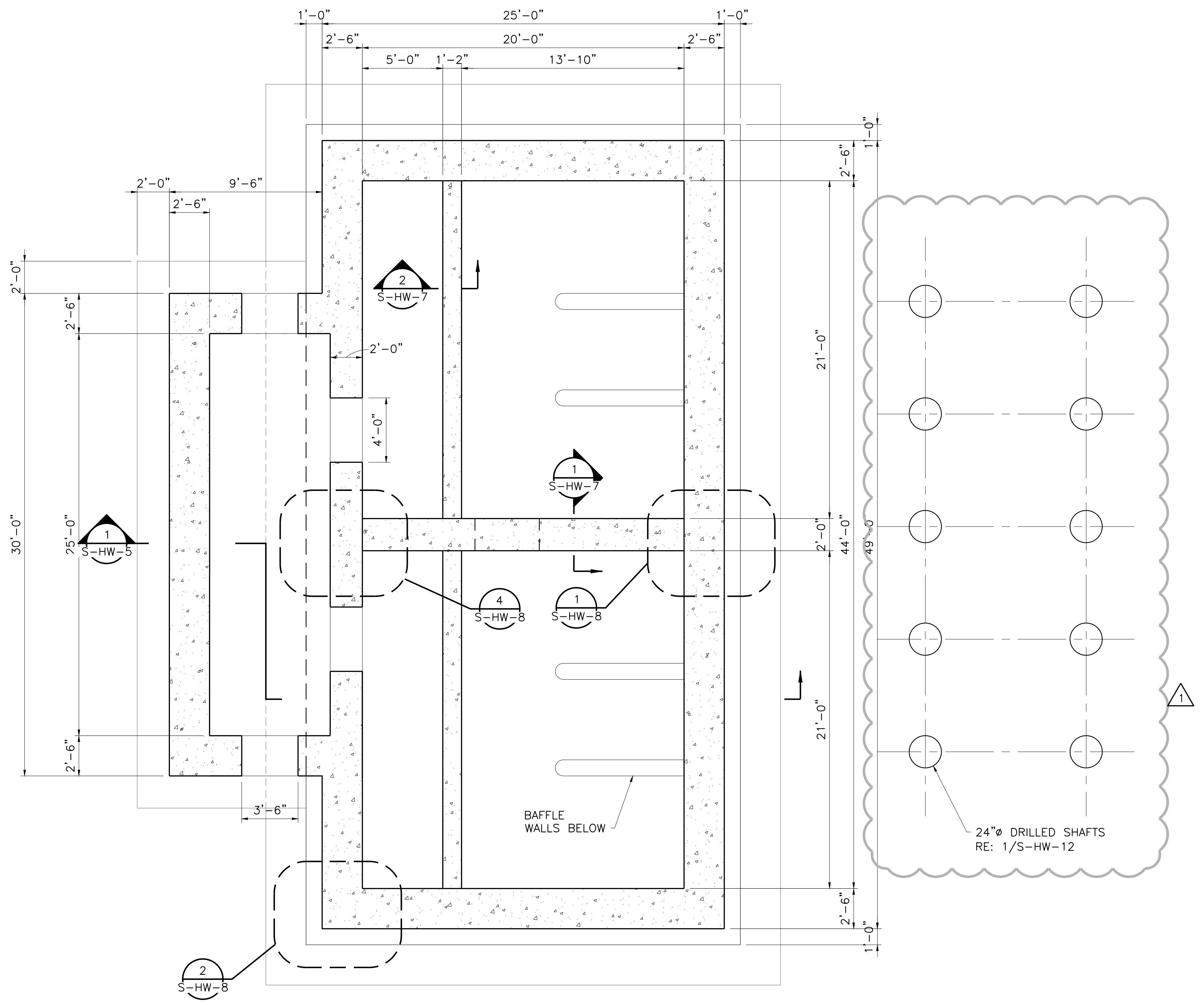
CITY OF PFLUGERVILLE  
**CENTRAL WWT EXPANSION**  
**PHASE I IMPROVEMENTS**  
 STRUCTURAL  
**INFLUENT LIFT STATION**  
**SECTIONAL PLAN @ EL 612.25'**

NO.	ISSUE	BY	DATE	FRAN JOB NO.
1	DESIGNED	MFR	07/17/19	PFL16607
2	DRAWN	JLM		
3	REVISOR		09/18/19	
4	CHECKED	AD		
5	FILE NAME			ST-LST-PL-SECT02.dwg

ADDENDUM NO. 5  
 Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET  
**S-HW-2**  
 SEQ.

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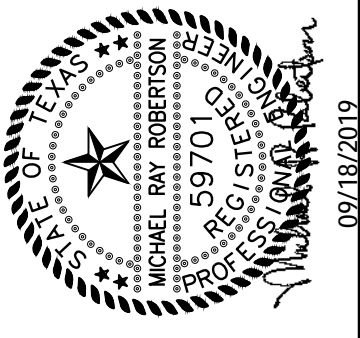


SECTIONAL PLAN @ EL 604.75'  
 1/4" = 1'-0"

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

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CITY OF PFLUGERVILLE  
 CENTRAL WWT EXPANSION  
 PHASE I IMPROVEMENTS  
 STRUCTURAL  
 INFLUENT LIFT STATION  
 SECTIONAL PLAN @ EL 602.25'

NO.	ISSUE	BY	DATE	FRM JOB NO.	DATE	DESIGNED	DRAWN	REVISION	CHECKED	AD
				PFL16607	07/17/19	MFR	JLM			
ADDENDUM NO.5		MFR	09/18/19							
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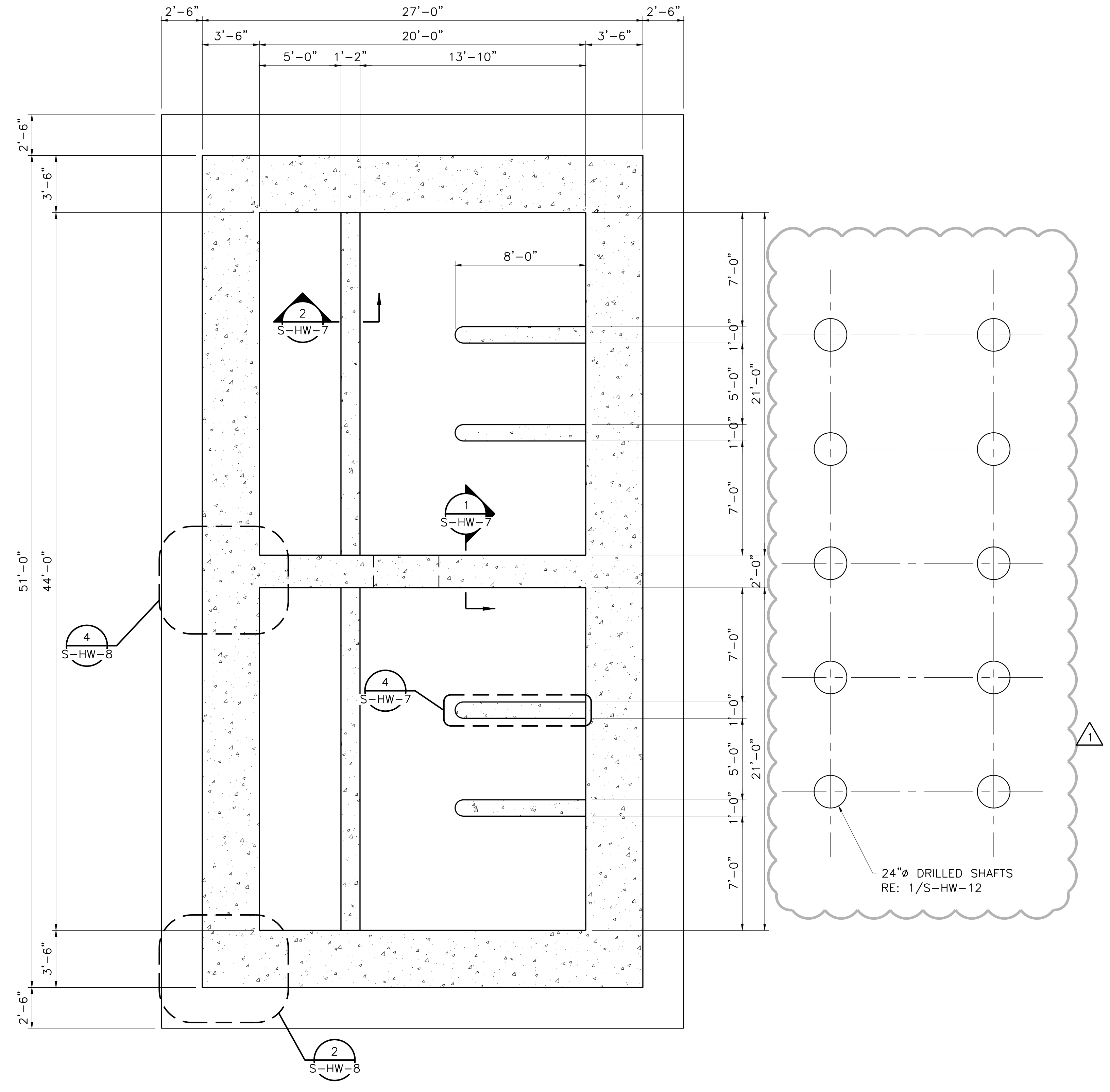


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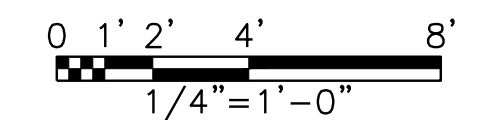
CITY OF PFLUGERVILLE  
**CENTRAL WWTPL EXPANSION  
PHASE I IMPROVEMENTS**  
STRUCTURAL  
**INFLUENT LIFT STATION  
SECTIONAL PLAN @ EL 589.05'**

NO.	ISSUE	BY	DATE	FRAN JOB NO.	PFL16607
				DATE	07/17/19
				DESIGNED	MFR
				DRAWN	JLM
				REVISION	
		MRR	09/18/19	CHECKED	AD
				FILE NAME	ST-LST-PL-SECT04.dwg

SHEET  
**S-HW-4**  
SEQ. 79



SECTIONAL PLAN @ EL 594.00'  
1/4" = 1'-0"

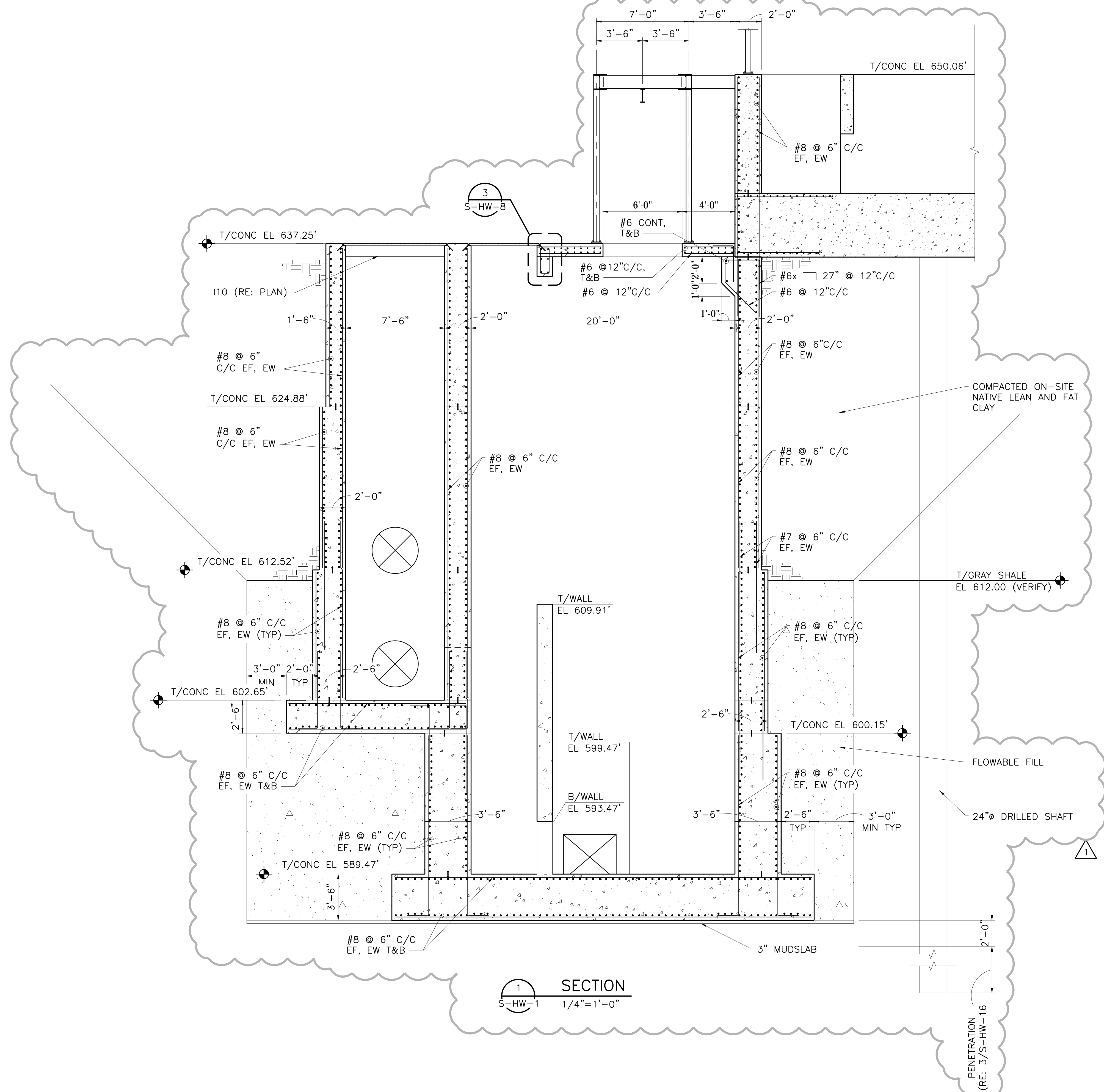


ISSUED FOR CONSTRUCTION  
ON 11/04/19

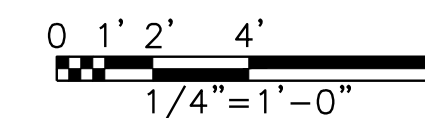
Freese and Nichols, Inc.  
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CITY OF PFLUGERVILLE  
**CENTRAL WWTP EXPANSION**  
PHASE I IMPROVEMENTS  
STRUCTURAL  
**INFLUENT LIFT STATION SECTION I**



**SECTION I**  
1/4" = 1'-0"

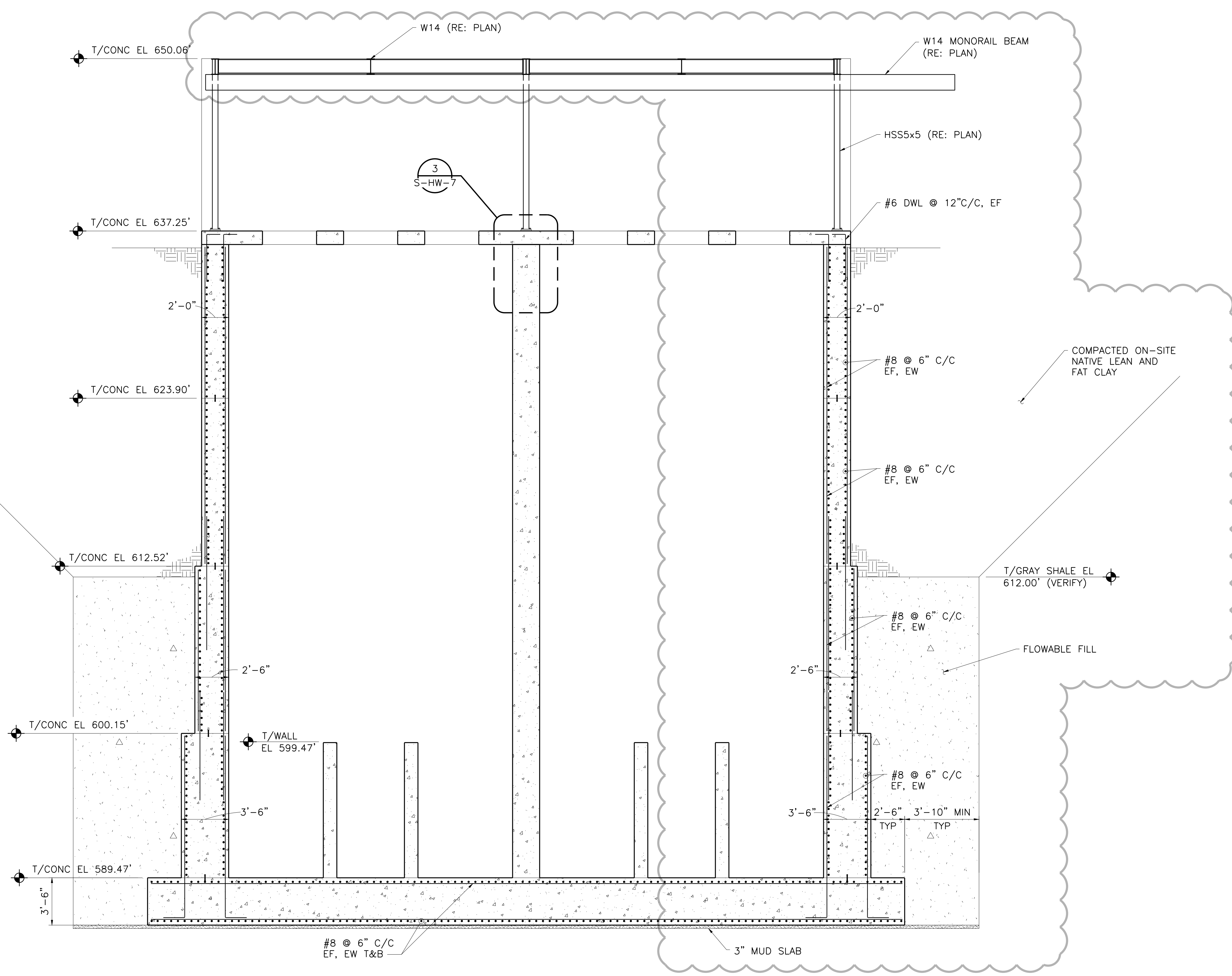


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				DATE	07/17/19
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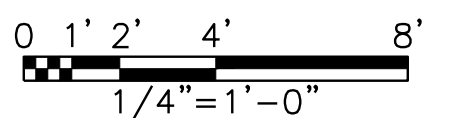
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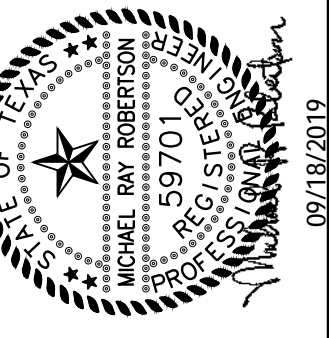


SECTION 1  
S-HW-1  
1/4" = 1'-0"



ISSUED FOR CONSTRUCTION  
ON 11/04/19

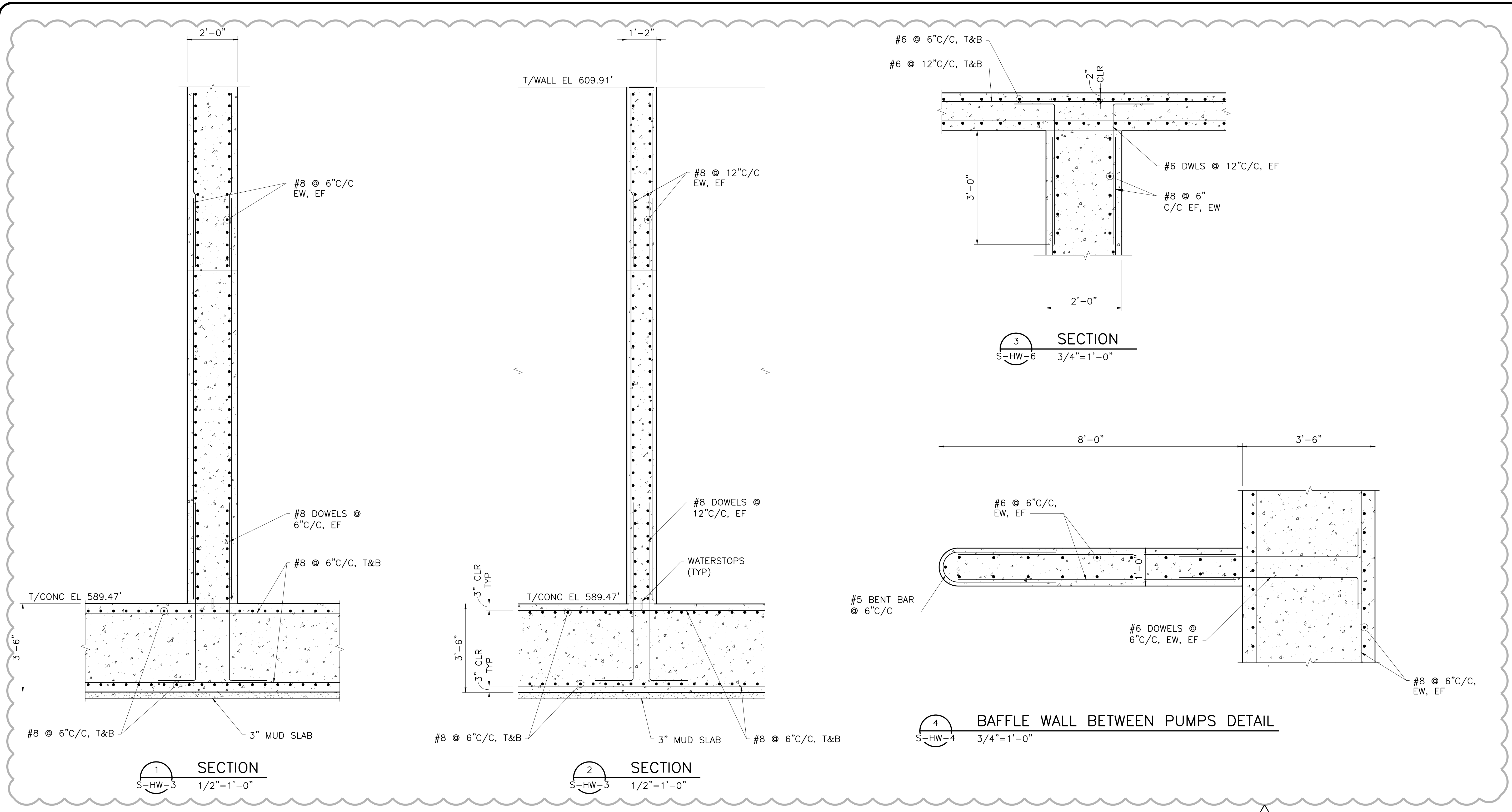
Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144  
09/18/2019



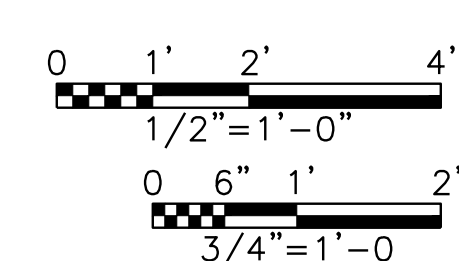
**FREES & NICHOLS**  
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 Austin, Texas 78759  
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CITY OF PFLUGERVILLE  
**CENTRAL WWTW EXPANSION**  
**PHASE I IMPROVEMENTS**  
 STRUCTURAL  
**INFLUENT LIFT STATION**  
**SECTION II**

NO.	ISSUE	BY	DATE	REVISION	NO.	ISSUE	BY	DATE	REVISION
1	ADDENDUM NO.5	MRR	09/18/19	REVISED	1	DESIGNED	MFR	07/17/19	DESIGNED
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3	Bar is one inch on original drawing, if not on inch on this sheet, adjust scale.			AD					AD
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ALAU Mei: 21.us (LMS Tech)  
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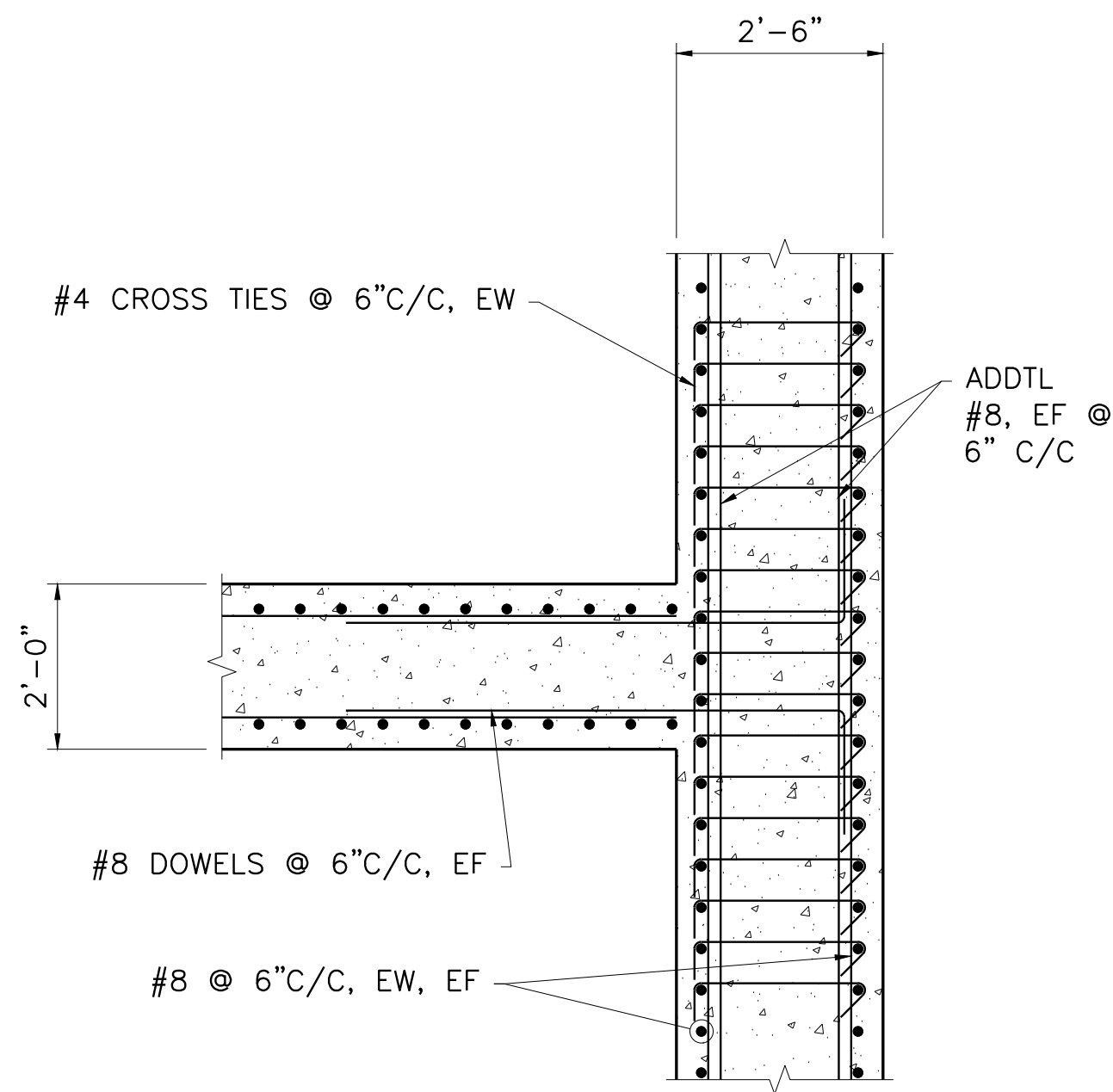
CITY OF PFLUGERVILLE  
**CENTRAL WWT EXPANSION**  
**PHASE I IMPROVEMENTS**  
 STRUCTURAL  
**INFLUENT LIFT STATION**  
**SECTIONS AND DETAILS I**

NO.	ISSUE	BY	DATE	FRM JOB NO.	PFL16607
				DATE	07/17/19
				DESIGNED	MFR
				DRAWN	JLM
				REVISD	
				CHECKED	AD
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				REVISD	09/18/19
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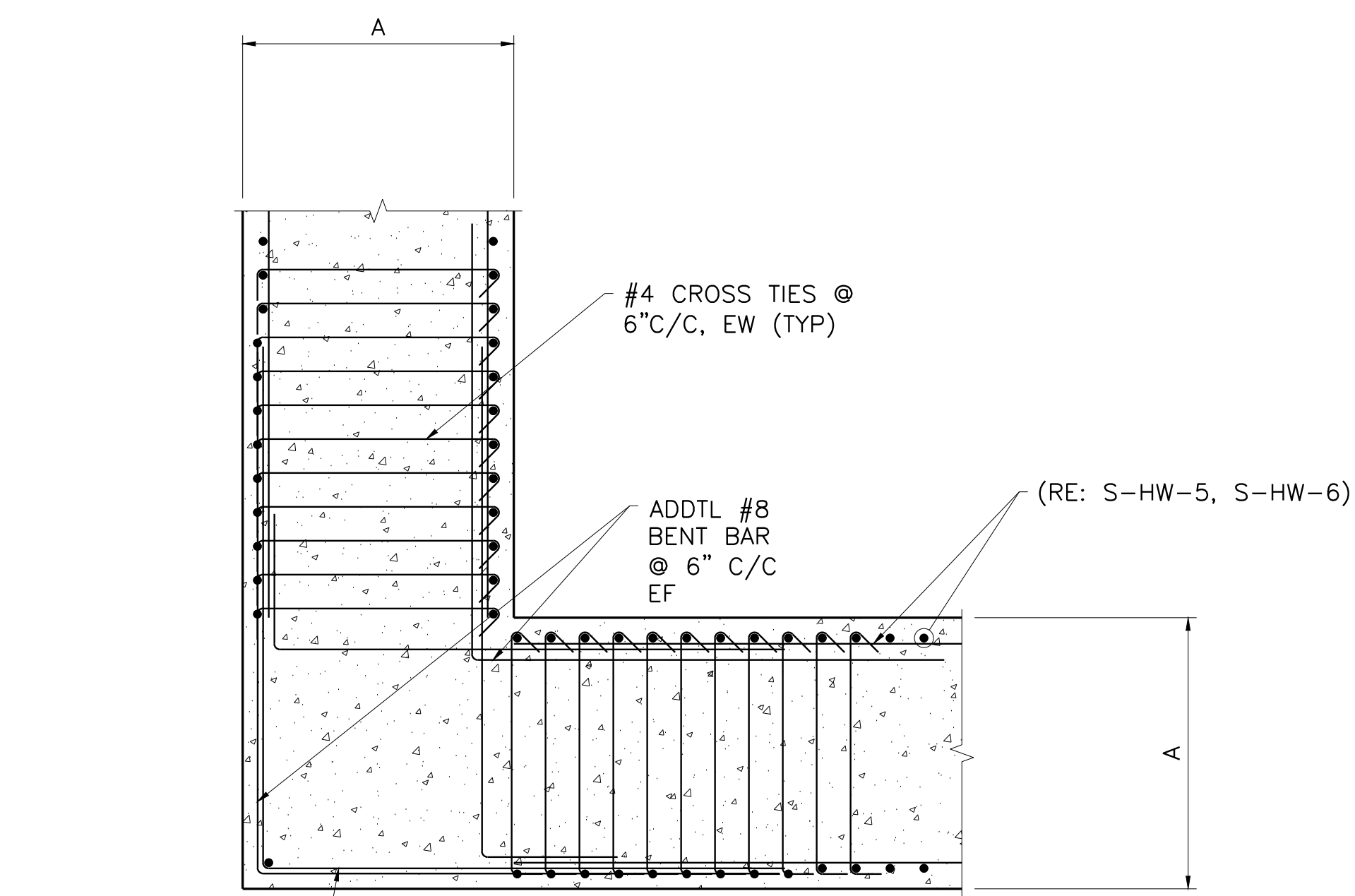
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SHEET  
**S-HW-7**

SEQ.  
 82



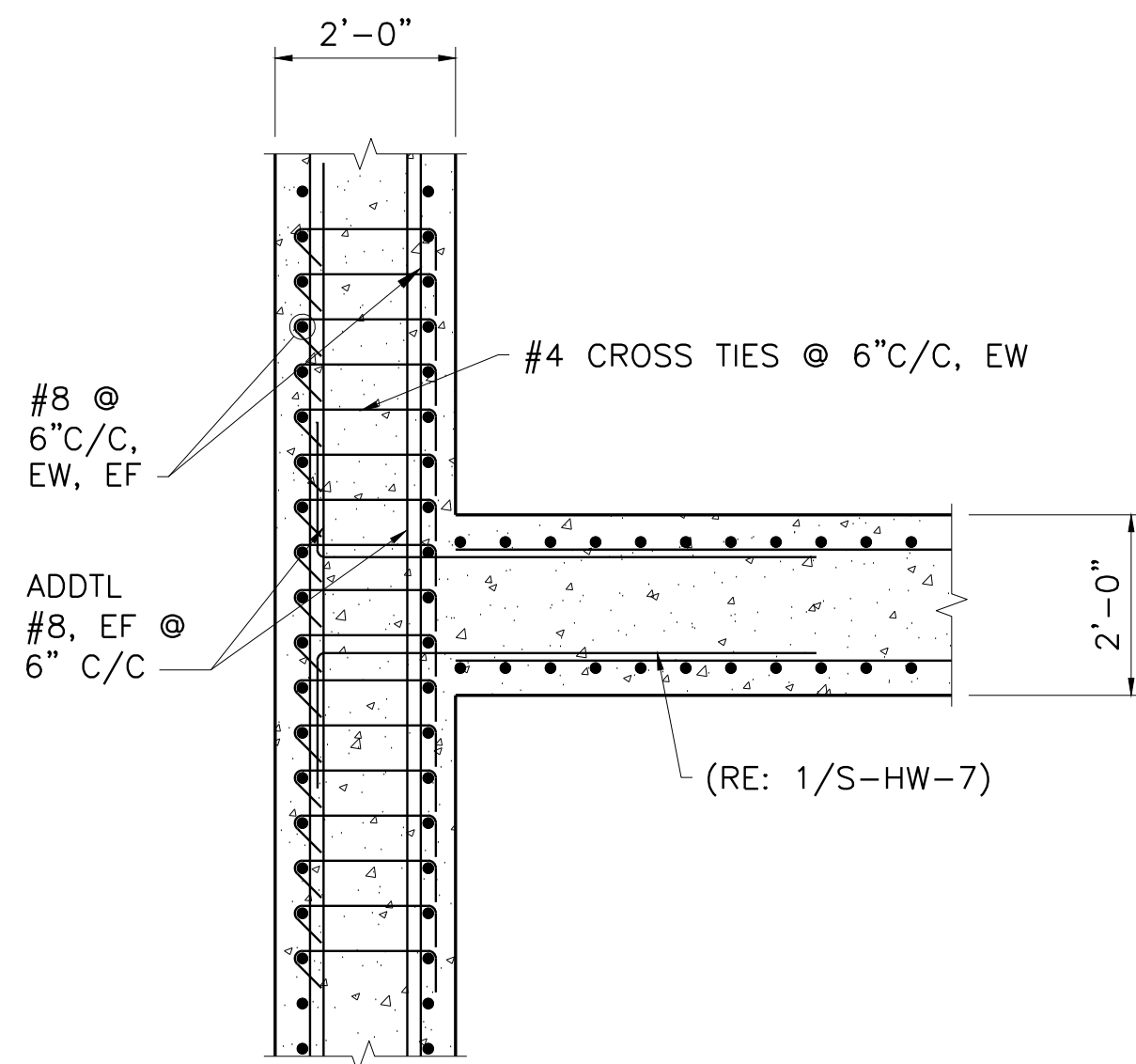
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S-HW-3  
DETAIL  
1/2"=1'-0"



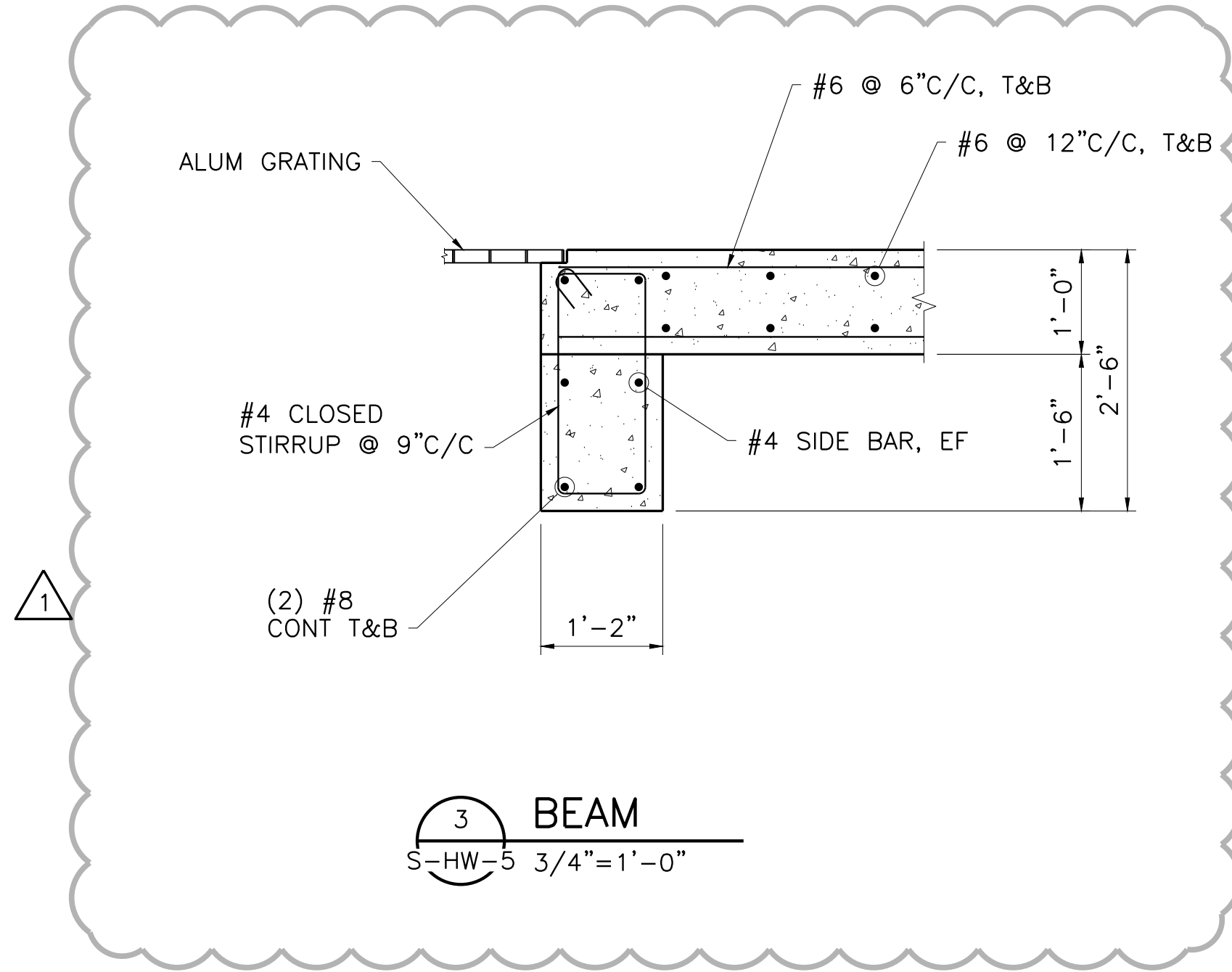
2  
S-HW-2  
CORNER REINFORCING DETAIL  
1/2"=1'-0"

NOTES/SCHEDULE

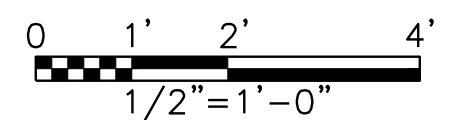
A	ELEVATION
2'-0"	612.52'
2'-6"	600.15'
3'-6"	589.47'



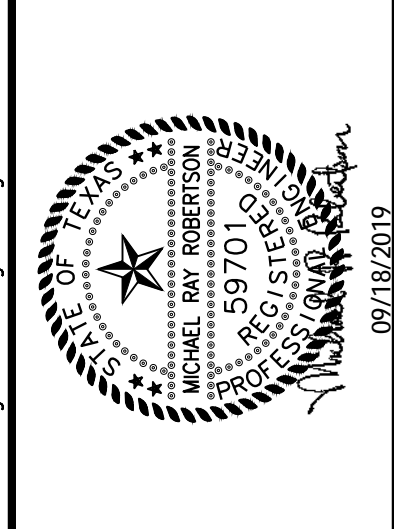
4  
S-HW-3  
DETAIL  
1/2"=1'-0"



3  
S-HW-5  
BEAM  
3/4"=1'-0"



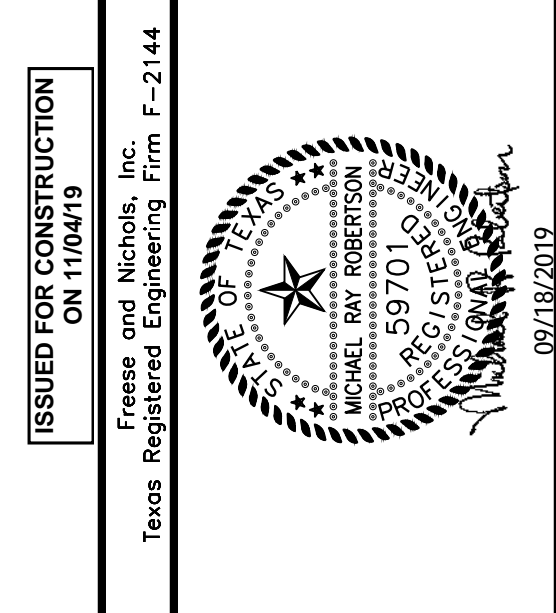
ISSUED FOR CONSTRUCTION  
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CITY OF PFLUGERVILLE  
**CENTRAL WWP EXPANSION  
PHASE I IMPROVEMENTS**  
STRUCTURAL  
**INFLUENT LIFT STATION  
SECTIONS AND DETAILS II**

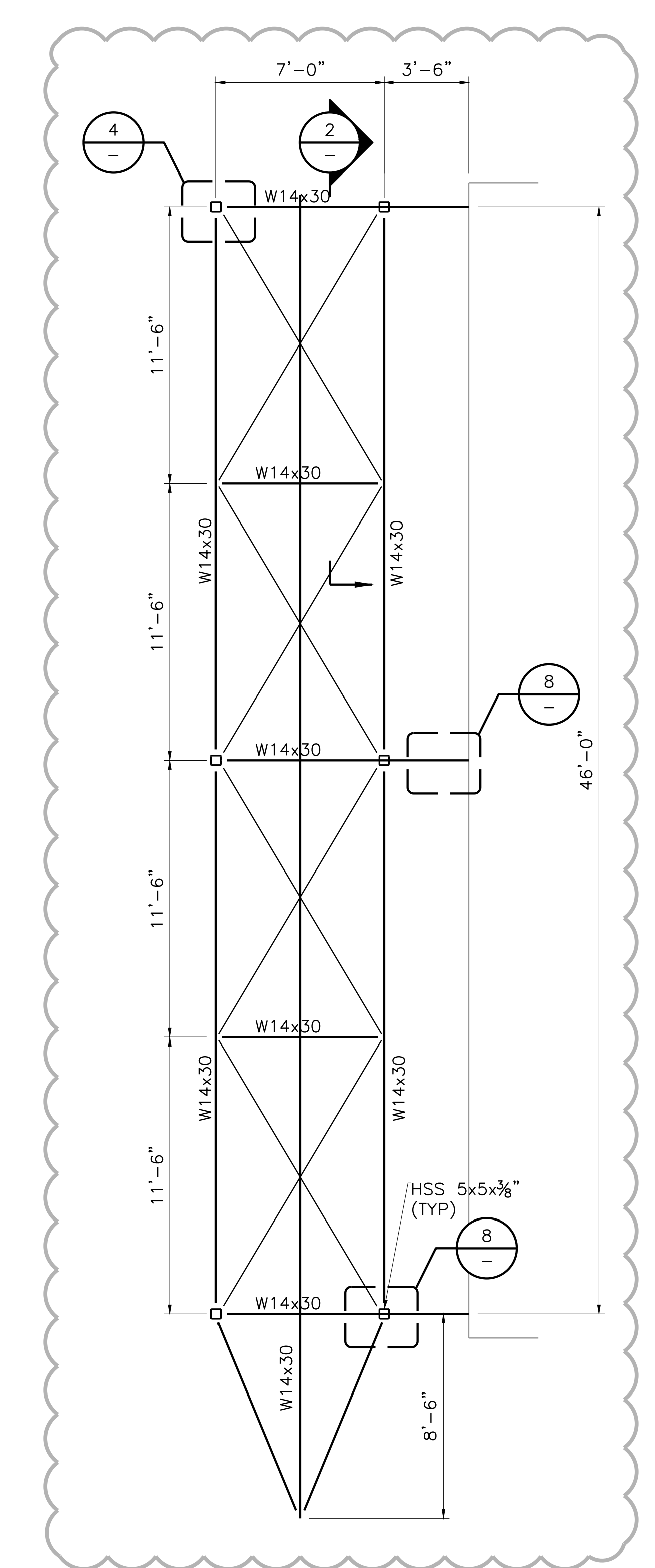
NO.	ISSUE	BY	DATE	FRN JOB NO.	DESIGNED	DRAWN	REVISD	CHECKED	AD
				PFL16607	MFR	JLM			
				DATE	07/17/19				
				ADDENDUM NO.5					
				VERIFY SCALE					
				Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.					
				FILE NAME					
				ST-LST-DT-CONC01.dwg					
SHEET	S-HW-8								
SEQ.	83								



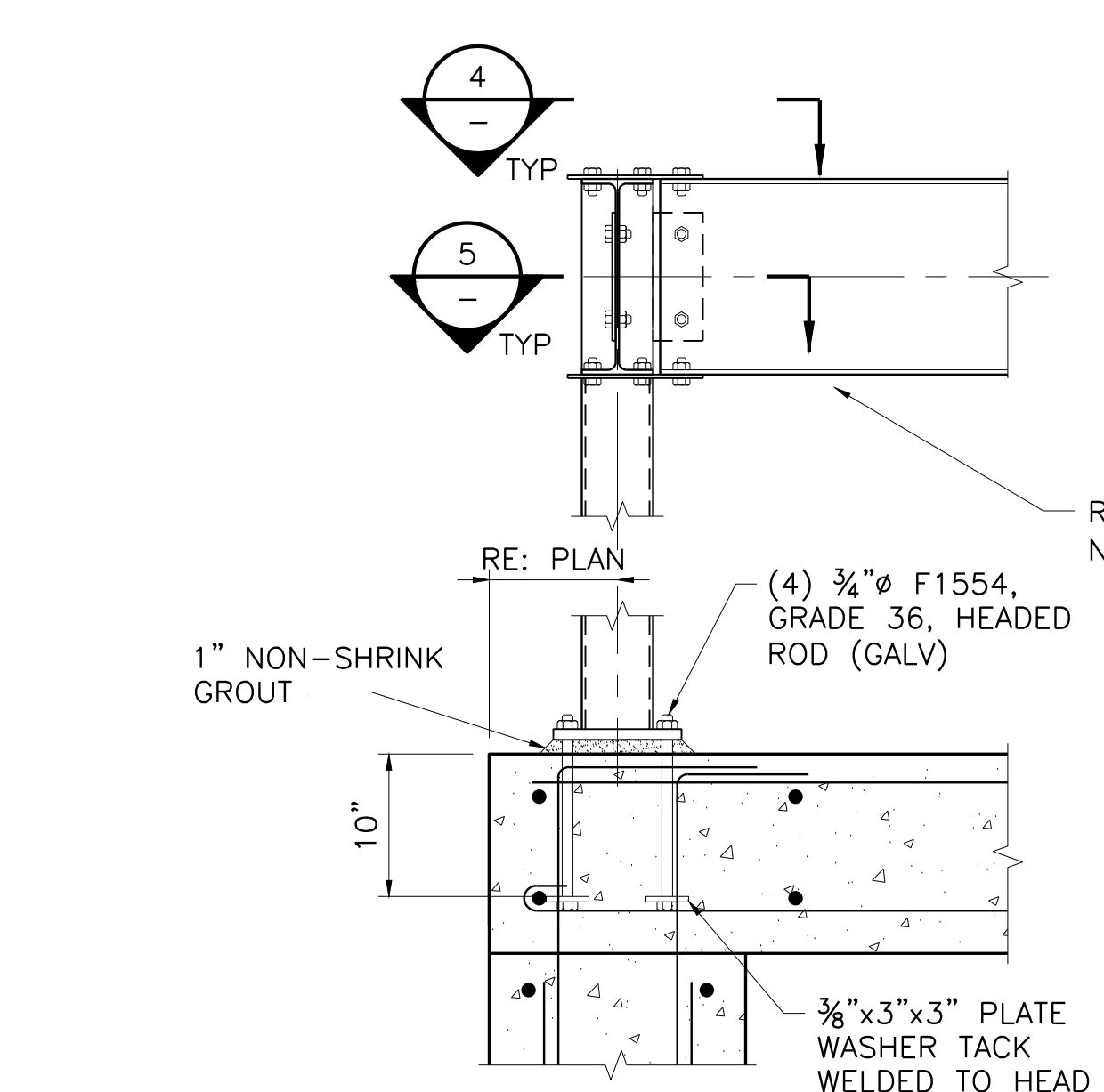
**FREES & NICHOLS**  
 10431 Marado Circle, Suite 300  
 Austin, Texas 78759  
 Phone - (512) 617-3100  
 Fax - (512) 617-3101

CITY OF PFLUGERVILLE  
**CENTRAL WWTP EXPANSION  
 PHASE I IMPROVEMENTS**  
 STRUCTURAL  
**INFLUENT LIFT STATION MONORAIL  
 FRAMING PLAN AND SECTIONS**

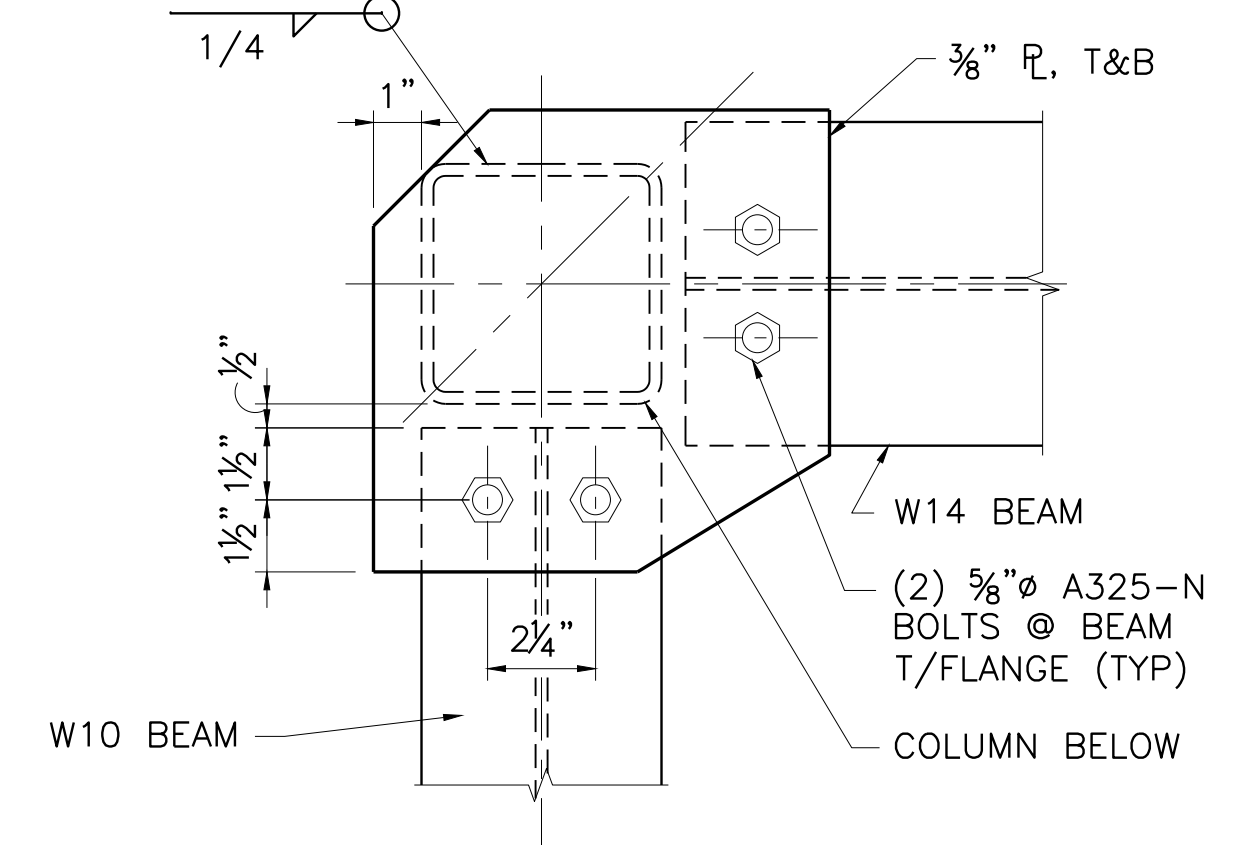
NO.	ISSUE	BY	DATE	FRM. JOB NO.	PFL16607
			07/17/19	DATE	07/17/19
				DESIGNED	MFR
				DRAWN	JLM
				REVISION	
				CHECKED	AD
				FILE NAME	ST-LST-PS-FRMG01.dwg
				ADDENDUM NO. 5	
				ADDENDUM NO. 2	
				VERIFY SCALE	
				Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.	
SHEET	S-HW-9				
SEQ.	84				



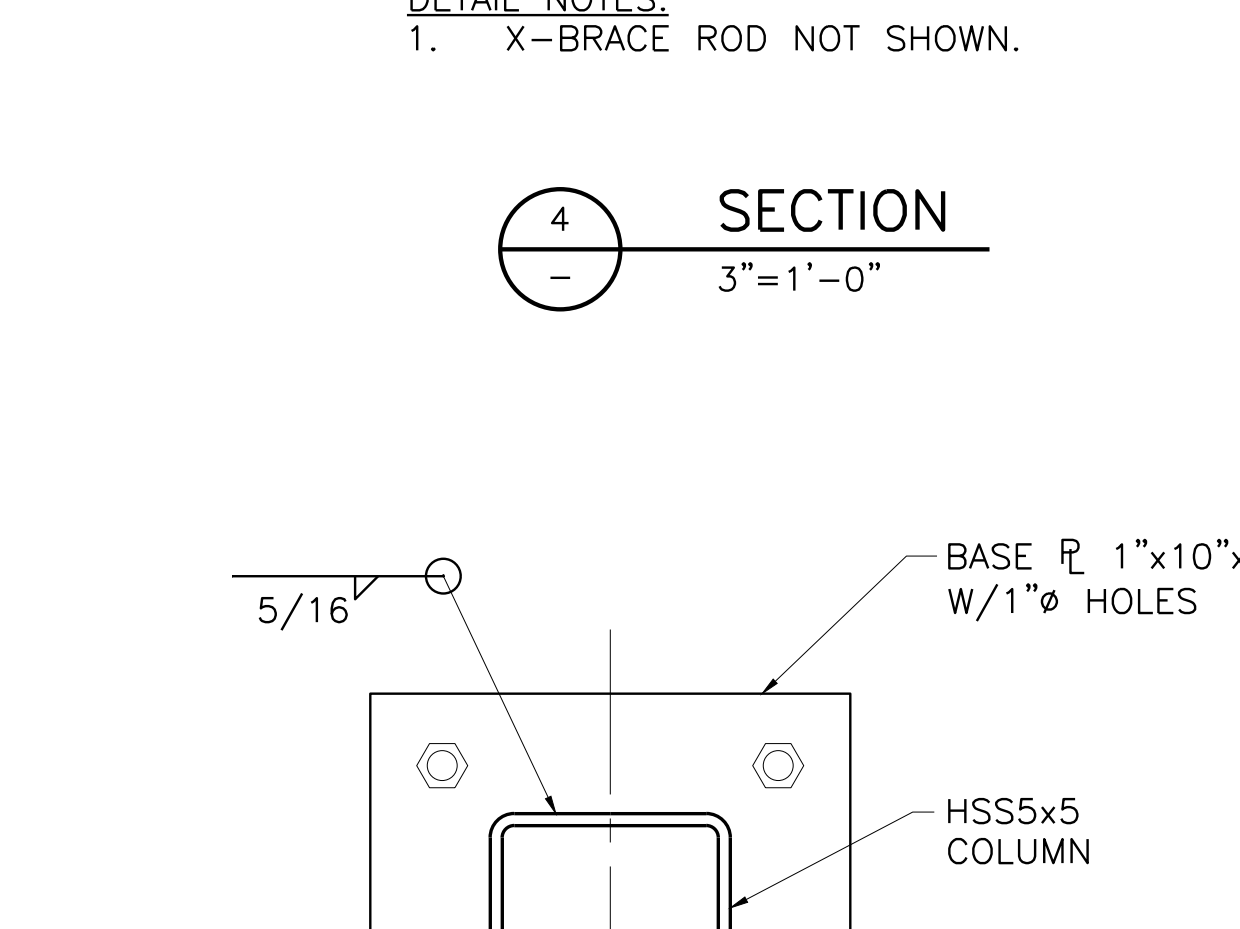
**1** MONORAIL SUPPORT FRAMING PLAN  
 1/4"=1'-0"



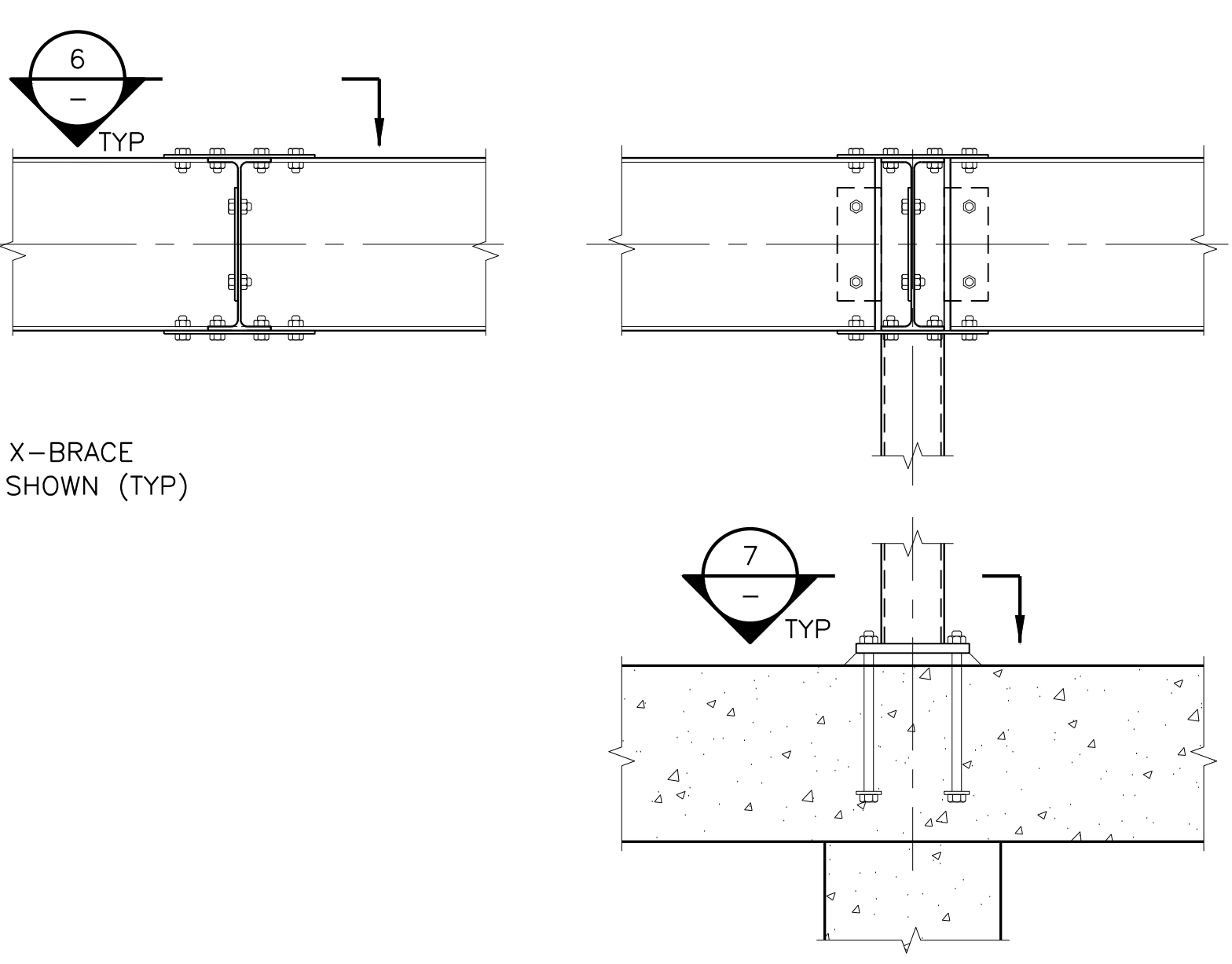
**2** SECTION  
 1"=1'-0"



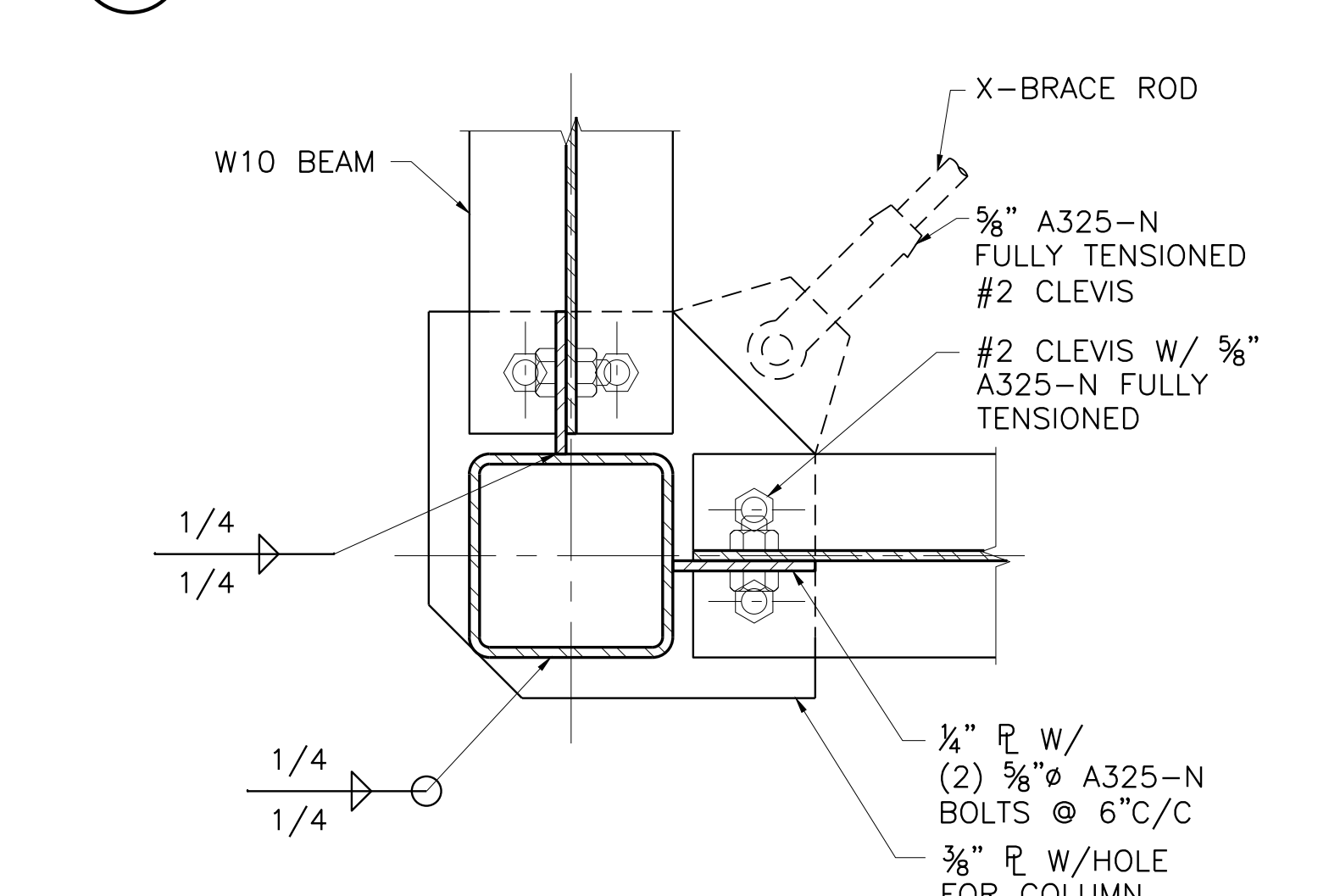
**4** SECTION  
 3"=1'-0"



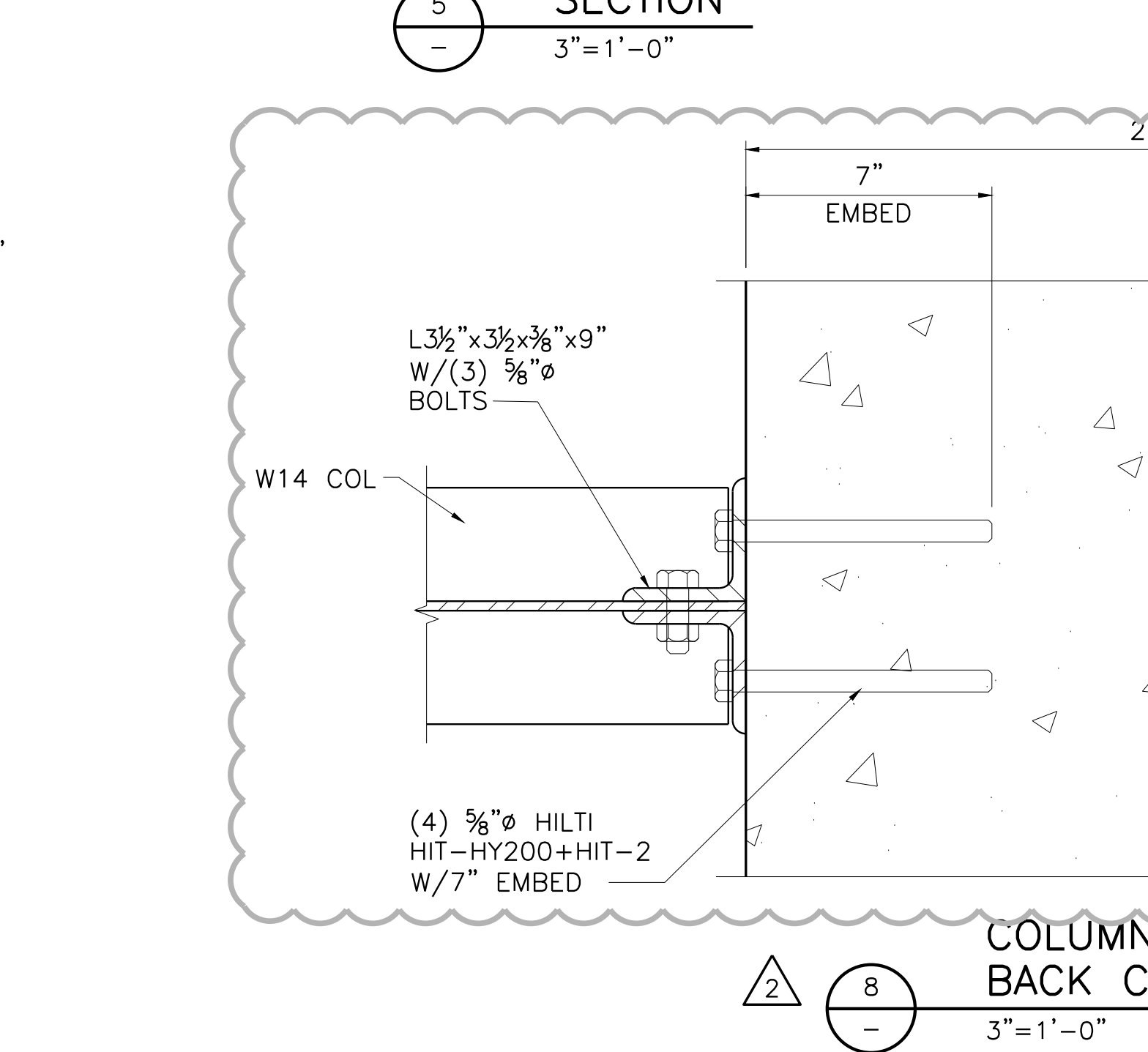
**7** SECTION  
 3"=1'-0"



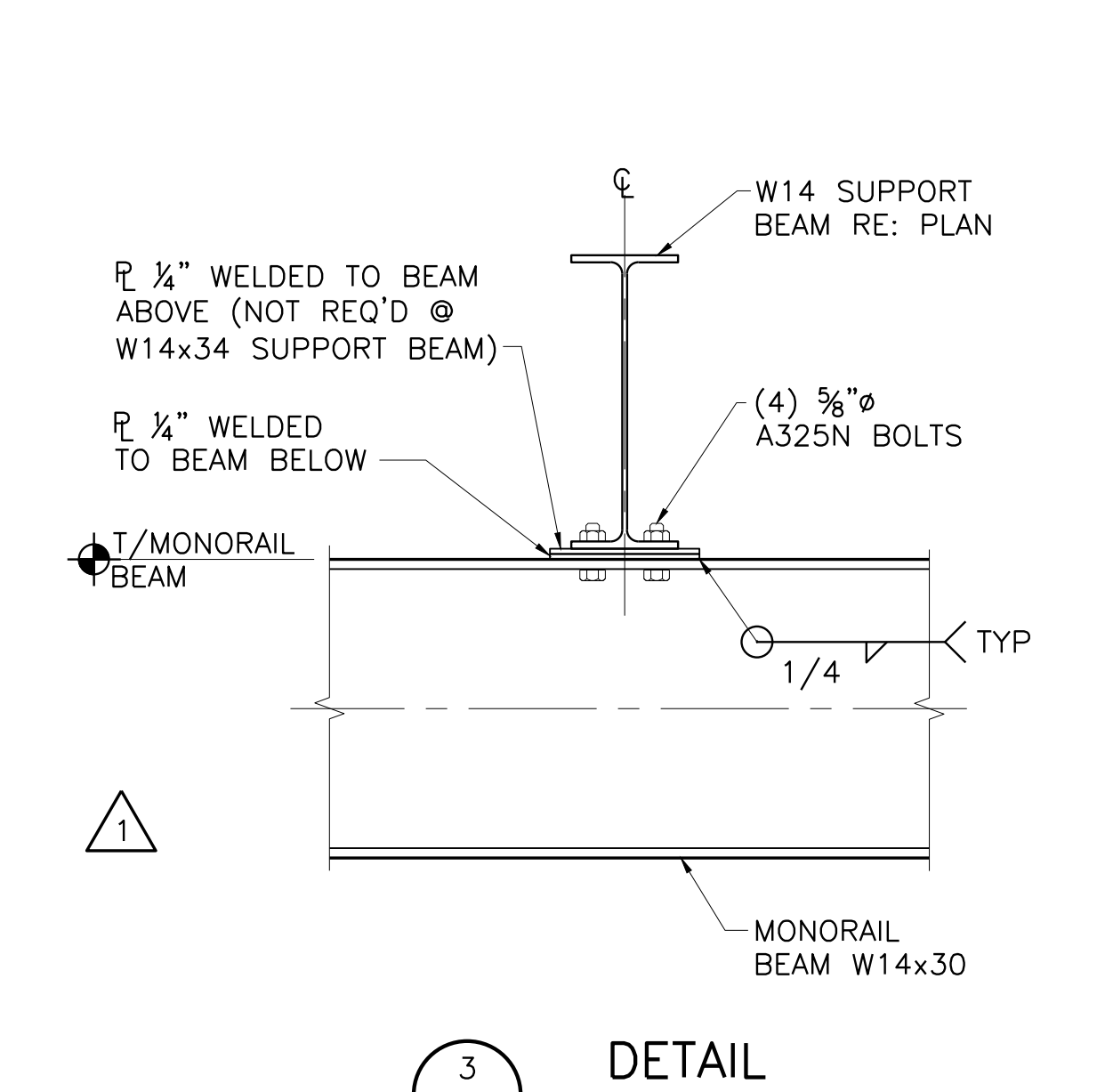
**5** SECTION  
 3"=1'-0"



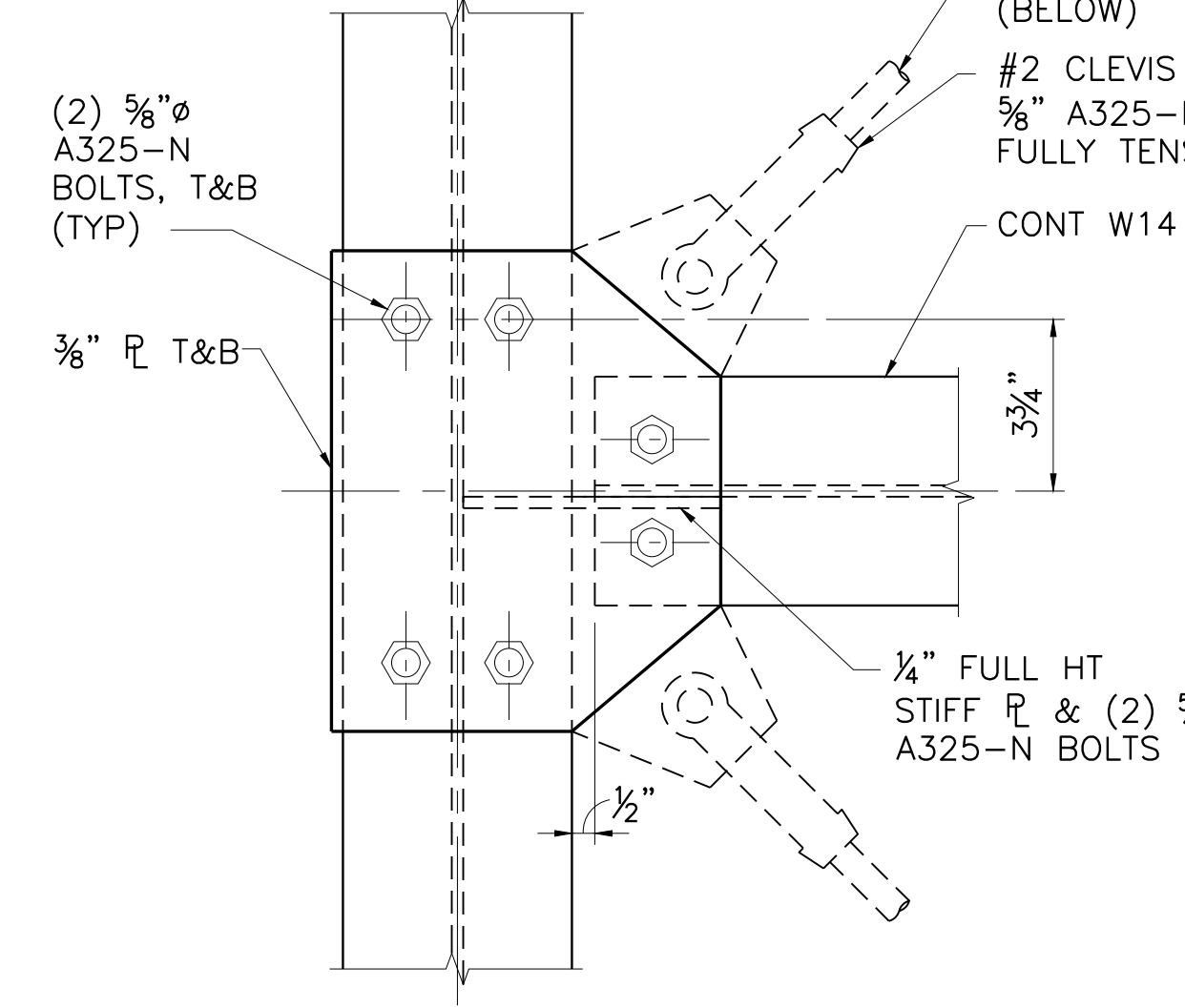
**6** SECTION  
 3"=1'-0"



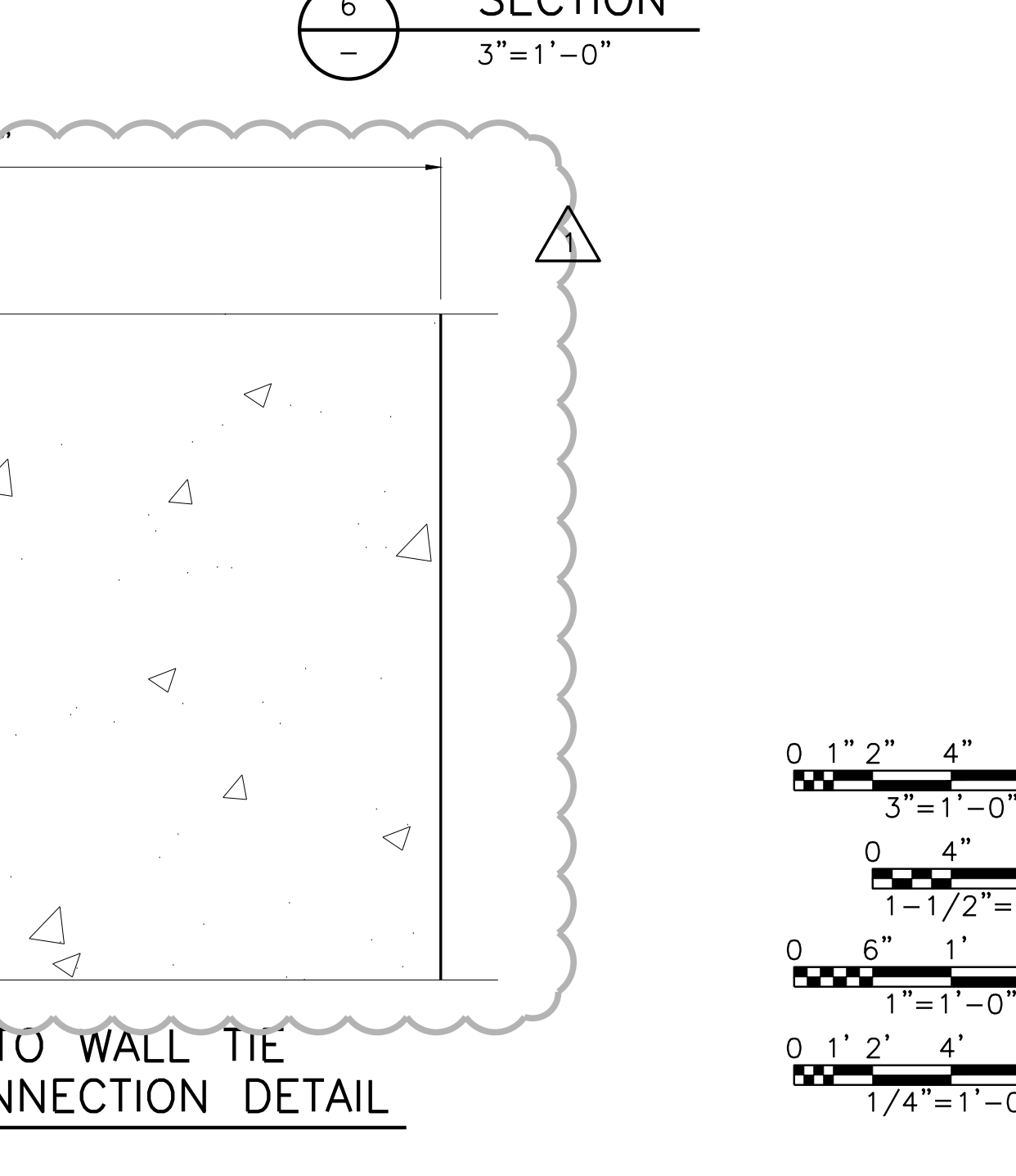
**8** SECTION  
 3"=1'-0"



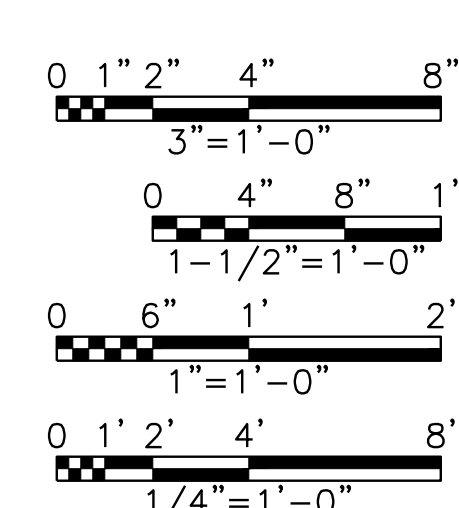
**3** SECTION  
 1 1/2"=1'-0"



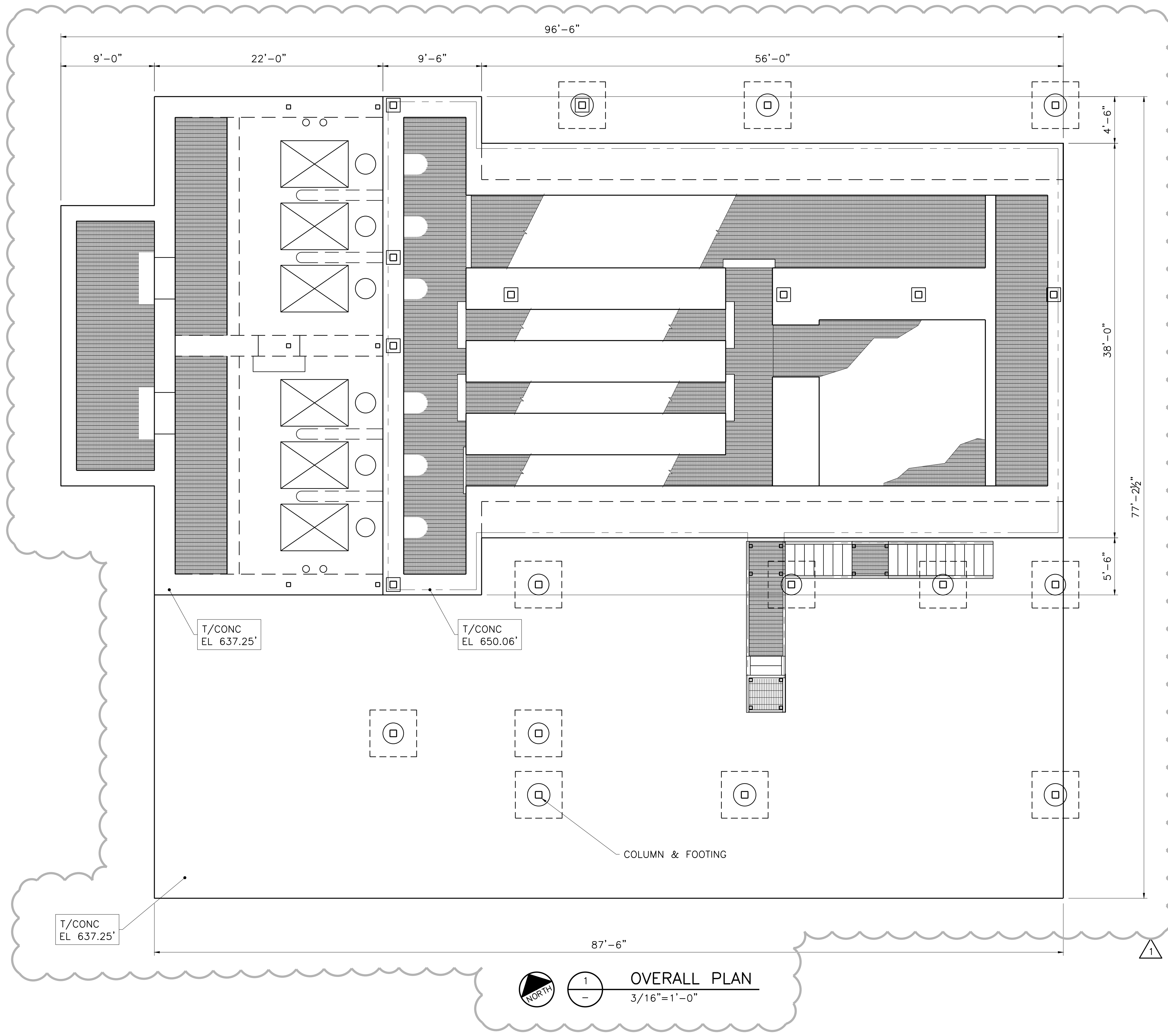
**1** SECTION  
 1 1/2"=1'-0"



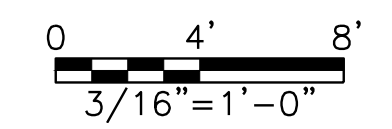
**2** COLUMN TO WALL TIE BACK CONNECTION DETAIL  
 3"=1'-0"



ALAU Mei: 21.us (LMS Tech)  
 Filename: N:\ST\ST-LST-PS-FRMG01.dwg  
 Last Saved: 9/18/2019 6:39 PM Saved By: jow

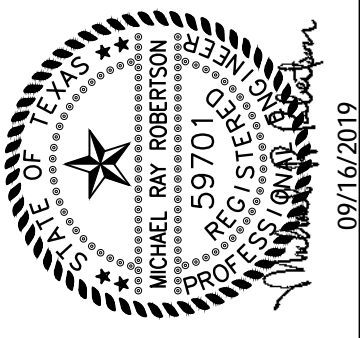


**OVERALL PLAN**  
 1 -  
 3/16" = 1'-0"



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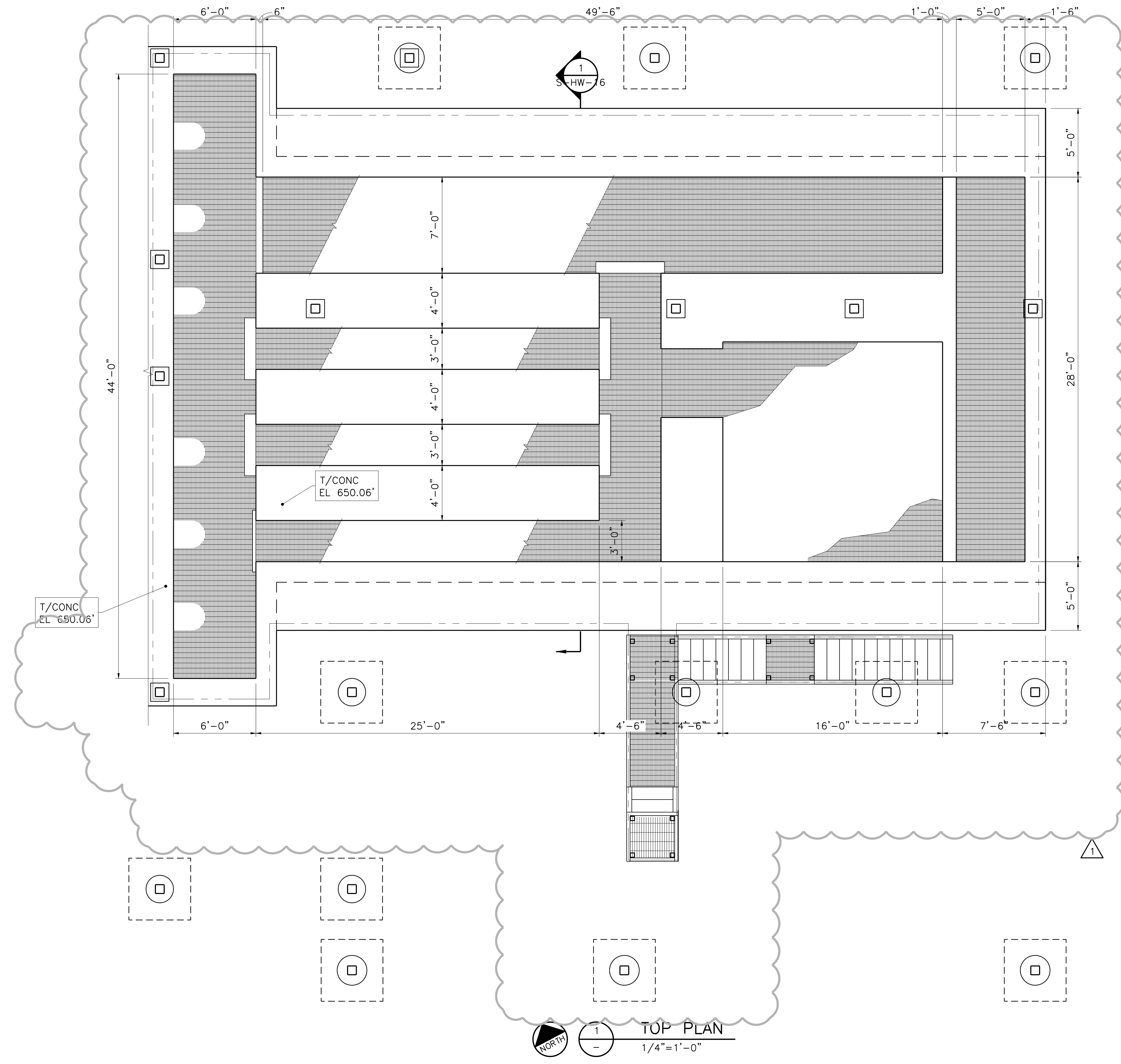
**FREES & NICHOLS**  
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 Austin, Texas 78759  
 Phone - (512) 617-3100  
 Fax - (512) 617-3101

CITY OF PFLUGERVILLE  
**CENTRAL WWTP EXPANSION**  
**PHASE I IMPROVEMENTS**  
 STRUCTURAL  
**OVERALL HEADWORKS PLAN**

NO.	ISSUE	BY	DATE	DESIGNED	DRAWN	CHECKED	REVISION
				MRR	MRR	JLM	
ADDENDUM NO. 4		MRR	09/16/19				
VERIFY SCALE: Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.							

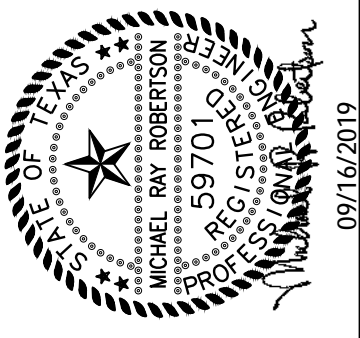
SHEET  
**S-HW-10**  
 SEQ. 85

ACAD: Rel: 21.0s (LMS Tech)  
Filename: N:\ST\ST-HDW-PL-SCRN01.dwg  
Last Saved: 9/16/2019 5:18 PM Saved By: 02856



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CITY OF PFLUGERVILLE  
**CENTRAL WWP EXPANSION  
PHASE I IMPROVEMENTS**  
STRUCTURAL  
**HEADWORKS  
SCREENING FACILITY TOP PLAN**

NO.	ISSUE	BY	DATE	DATE	DESIGNED	DRAWN	REVISION	CHECKED	AD
1	ADDENDUM NO. 4	MRR	09/16/19	07/17/19	MRR	JLM	REVISED		AD
0	VERIFY SCALE								

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

SHEET  
**S-HW-11**

SEQ. 86

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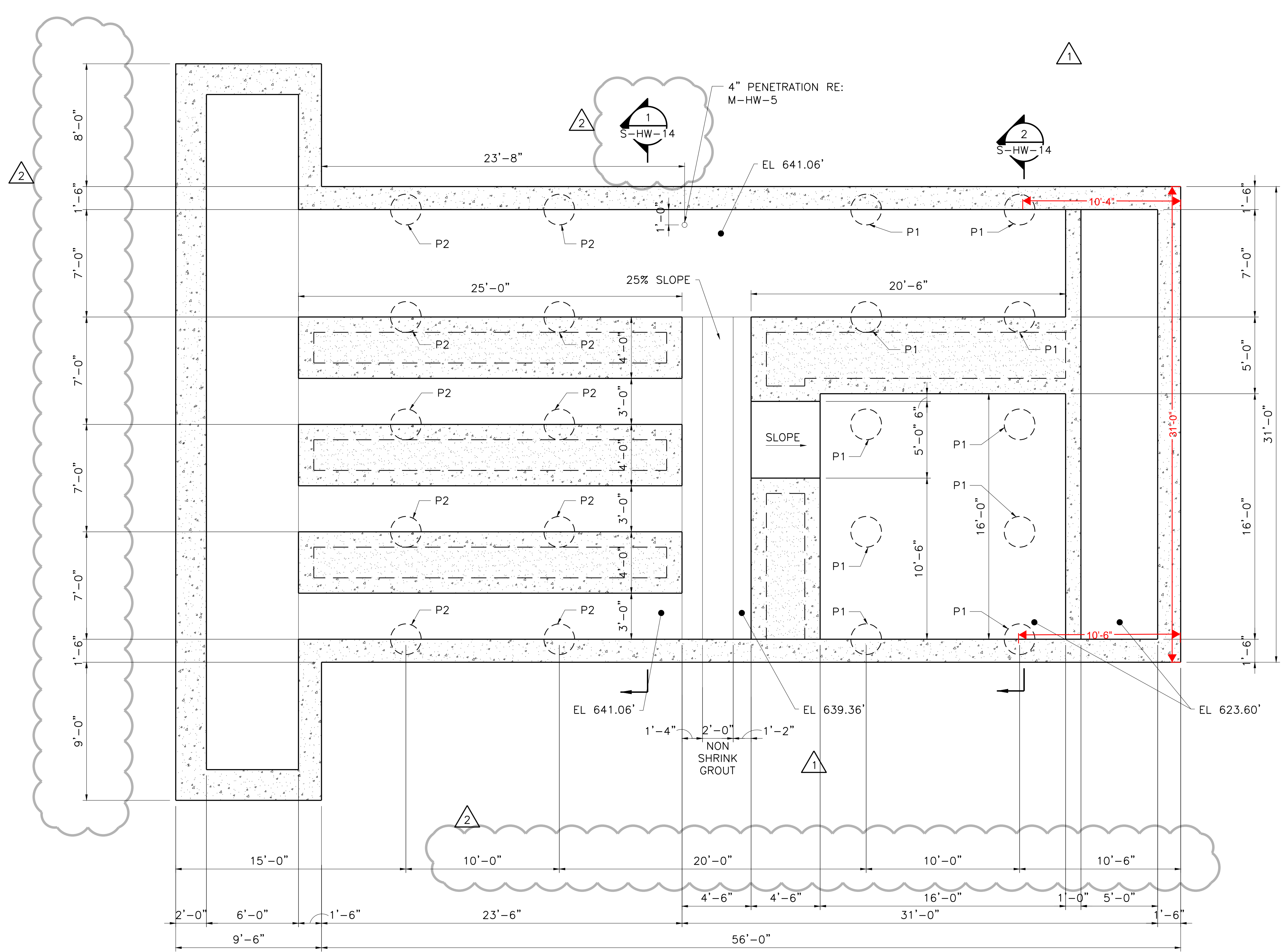


**FREES & NICHOLS**  
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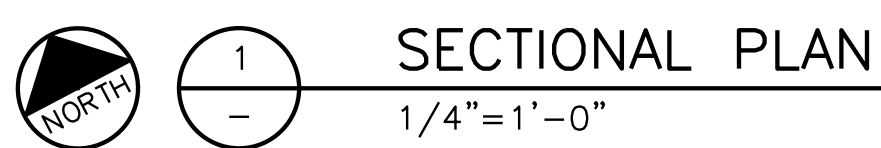
CITY OF PFLUGERVILLE  
**CENTRAL WWTW EXPANSION  
PHASE I IMPROVEMENTS**  
STRUCTURAL  
HEADWORKS  
**SCREENING FACILITY SECTIONAL PLAN**

NO.	ISSUE	BY	DATE	FRM JOB NO.	PFL16607
				DATE	07/17/19
				DESIGNED	MFR
				DRAWN	JLM
				REVISION	
				CHECKED	AD
				FILE NAME	ST-HDW-PL-SCRN02.dwg
				ADDENDUM NO. 5	
				ADDENDUM NO. 2	

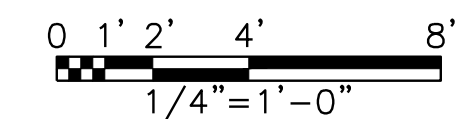
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.



**NOTES:**  
1. FOR P1 & P2 ELEVATIONS SEE SCHEDULE ON SHEET S-HW-16



**SECTIONAL PLAN**  
1/4"=1'-0"

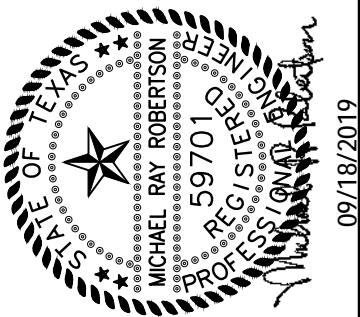


SHEET  
**S-HW-12**

SEQ. 87

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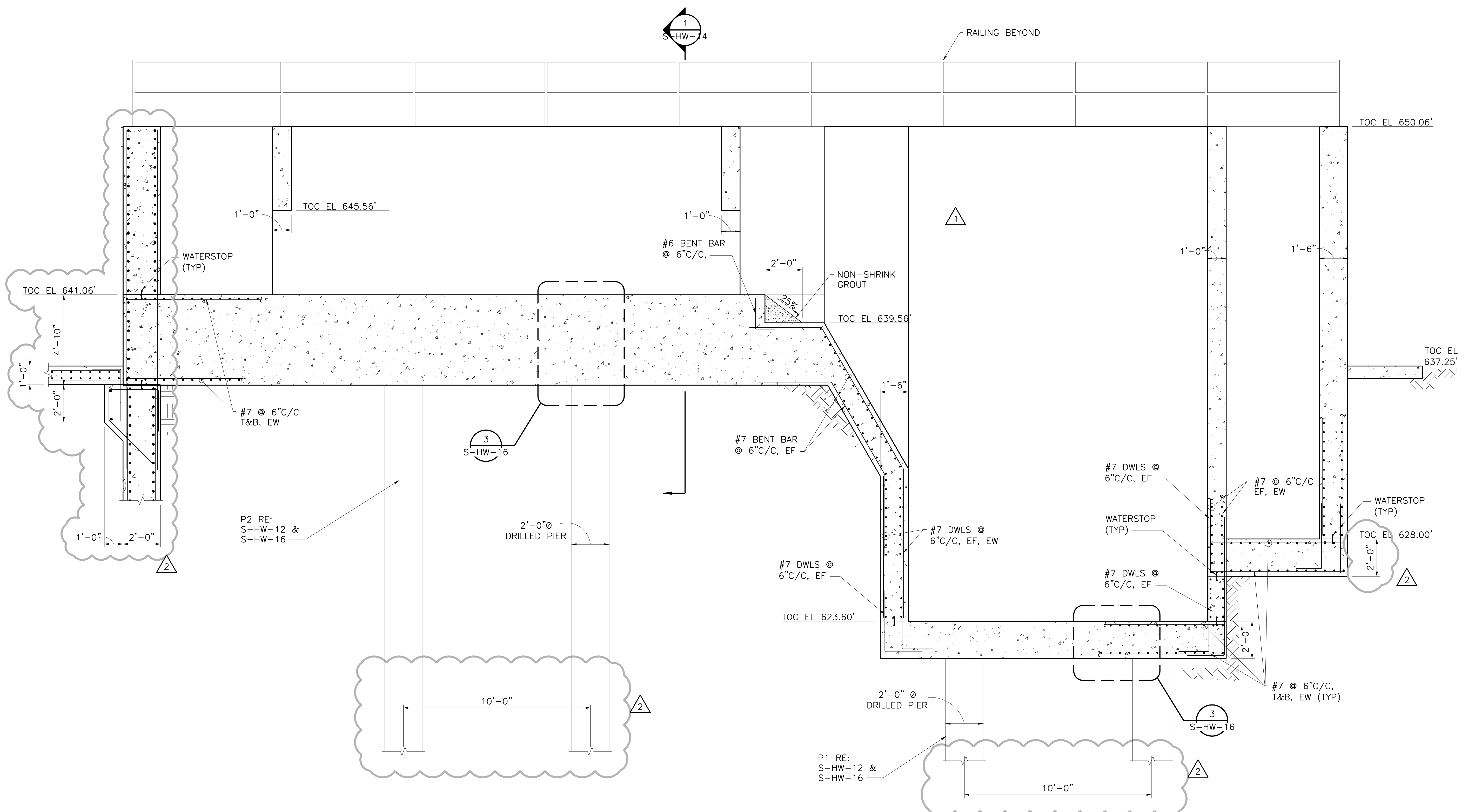
CITY OF PFLUGERVILLE  
**CENTRAL WWTp EXPANSION  
PHASE I IMPROVEMENTS**  
STRUCTURAL  
**HEADWORKS  
SCREENING FACILITY SECTION**

NO.	ISSUE	BY	DATE	DESCRIPTION
1	ISSUED FOR CONSTRUCTION	MRR	09/18/19	NO. 5
2	REVISION	MRR	09/04/19	NO. 2

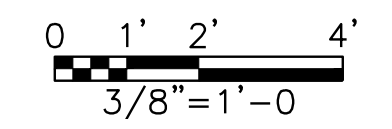
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

FILE NAME: ST-HDW-SC-SCRN01.dwg

NO. 5  
NO. 2

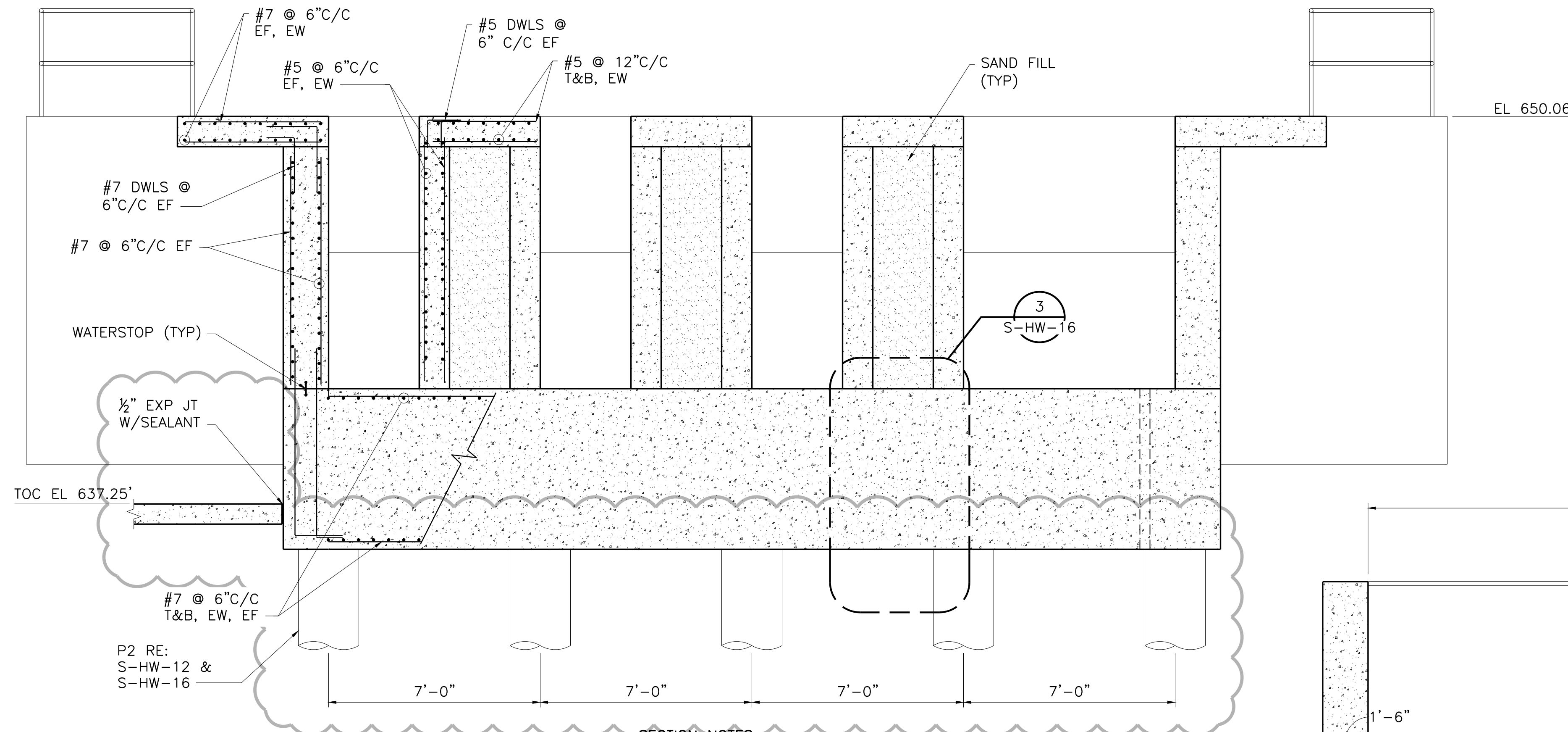


SECTION 1  
3/8" = 1'-0"



ALAU Mei: 21 us (LMS Tech)  
Filename: N:\ST\ST-HDW-SC-SCRN01.dwg  
Last Saved: 9/18/2019 6:08 PM Saved By: jow





SECTION NOTES:  
1. CANOPY NOT SHOWN.

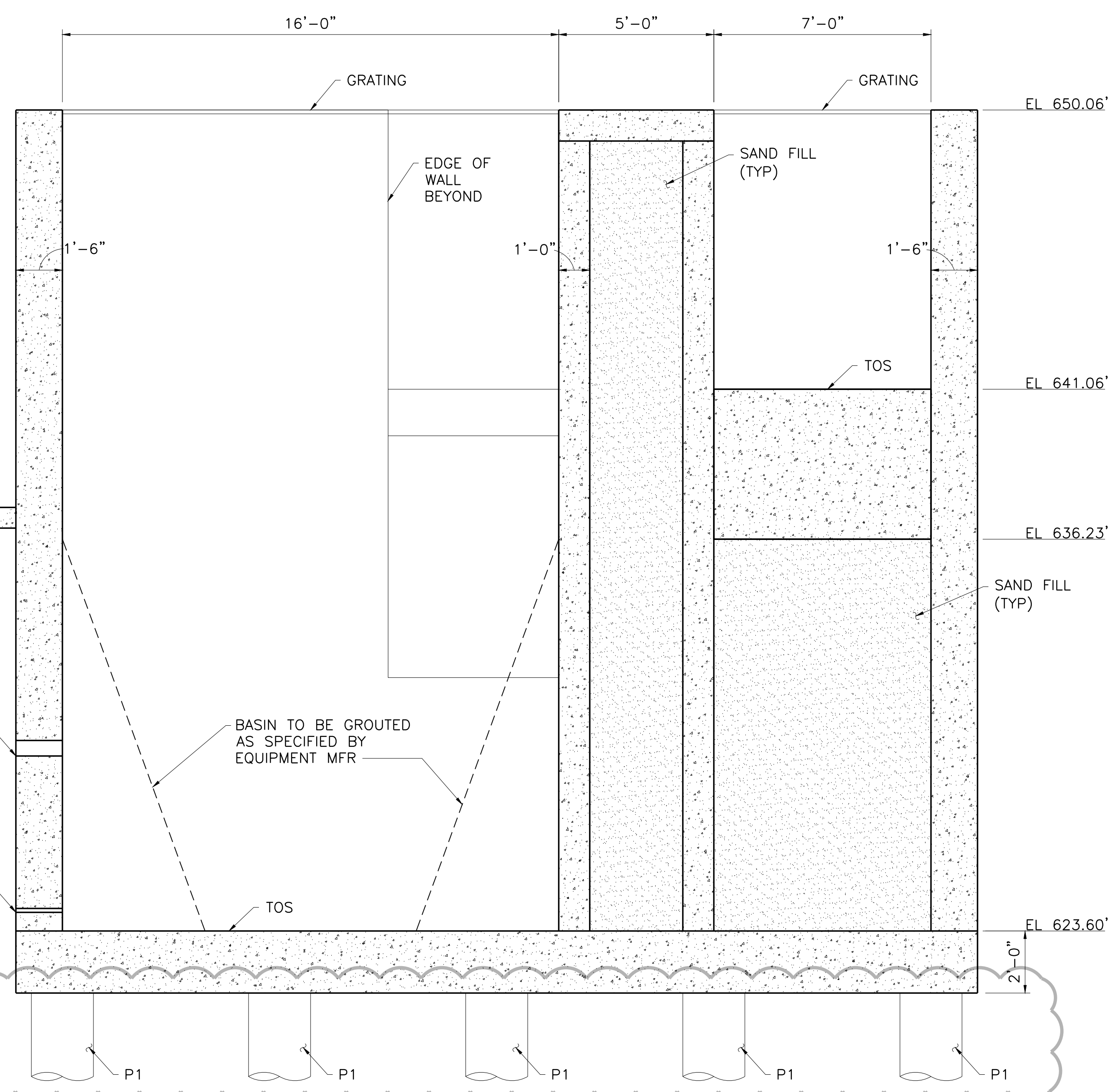
1 SECTION  
3/8" = 1'-0"



TOC EL 637.25'

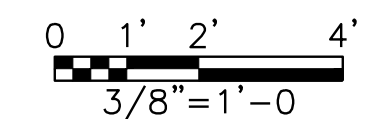
6" PENETRATION FOR GRIT PIPING FL EL 629.24'

1 1/2" PENETRATION FOR NPW PIPING FL EL 624.20'



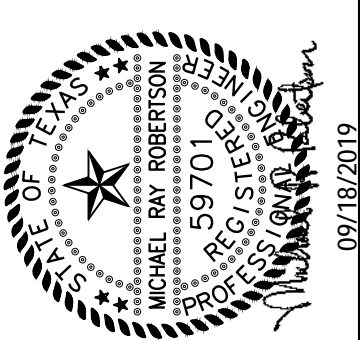
SECTION NOTES:  
1. CANOPY NOT SHOWN.  
2. REINFORCING NOT SHOWN.

2 SECTION  
3/8" = 1'-0"



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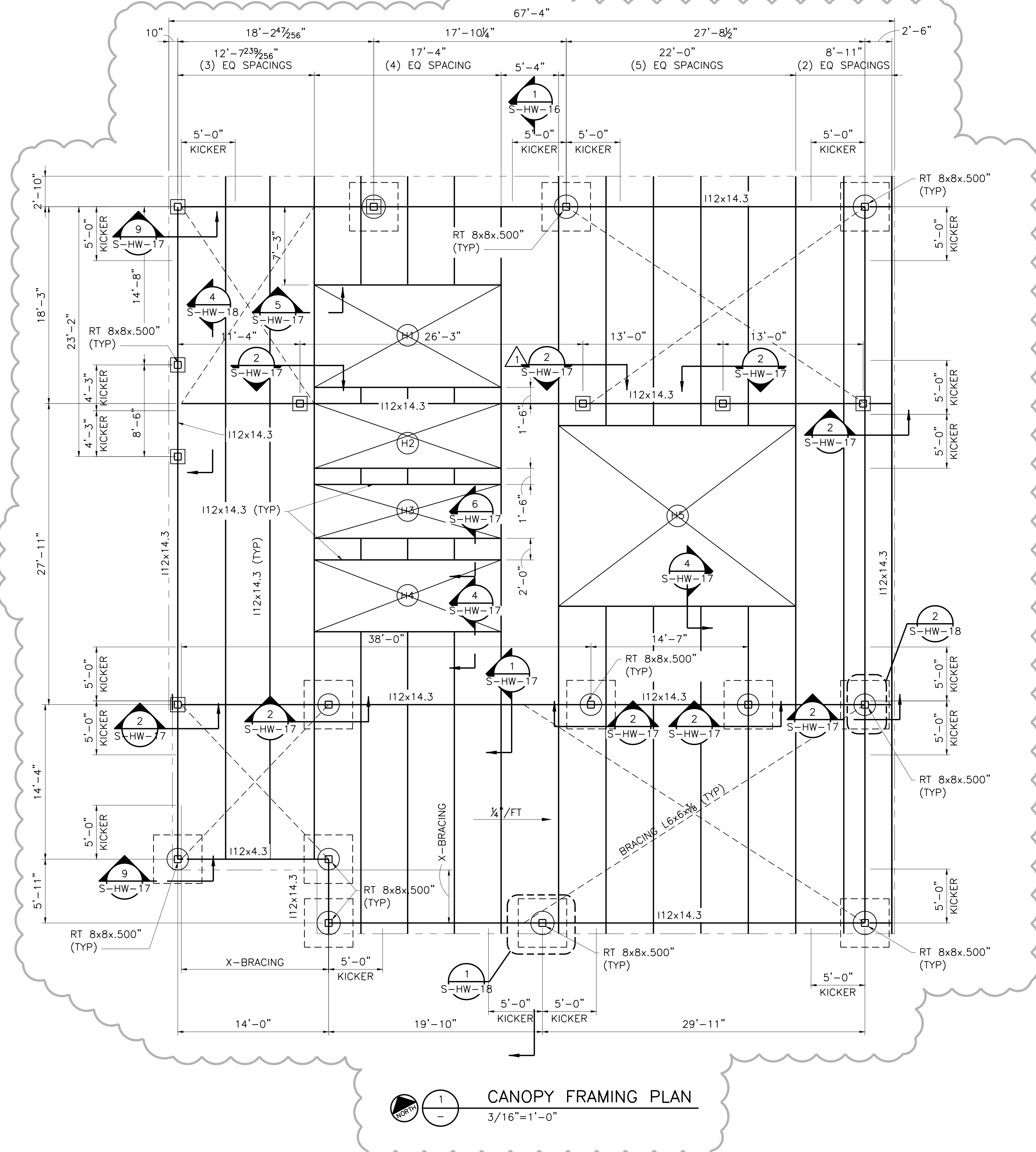


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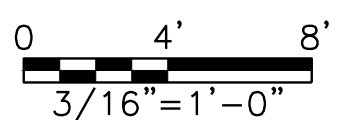
CITY OF PFLUGERVILLE  
**CENTRAL WWTB EXPANSION  
PHASE I IMPROVEMENTS**  
STRUCTURAL  
**HEADWORKS  
SCREENING FACILITY SECTIONS**

NO.	ISSUE	BY	DATE	FRN JOB NO.	PFL16607
				DATE	07/17/19
				DESIGNED	MRR
				DRAWN	JLM
				REVISION	
				CHECKED	AD
				FILE NAME	S-HW-SEC-SCRN02.dwg
				ADDENDUM NO. 5	
				ADDENDUM NO. 2	
				VERIFY SCALE	
				Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.	

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1  
 CANOPY FRAMING PLAN  
 3/16" = 1'-0"



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CITY OF PFLUGERVILLE  
**CENTRAL WWTP EXPANSION**  
**PHASE I IMPROVEMENTS**  
 STRUCTURAL  
**HEADWORKS**  
**CANOPY FRAMING PLAN**

NO.	ISSUE	BY	DATE	DATE	DESIGNED	DRAWN	CHECKED	AD
					MRR	MRR	MDB	AD
ADDENDUM NO. 4		MRR	09/16/19					
ADDENDUM NO. 2		MRR	09/03/19					
VERIFY SCALE								
0								

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

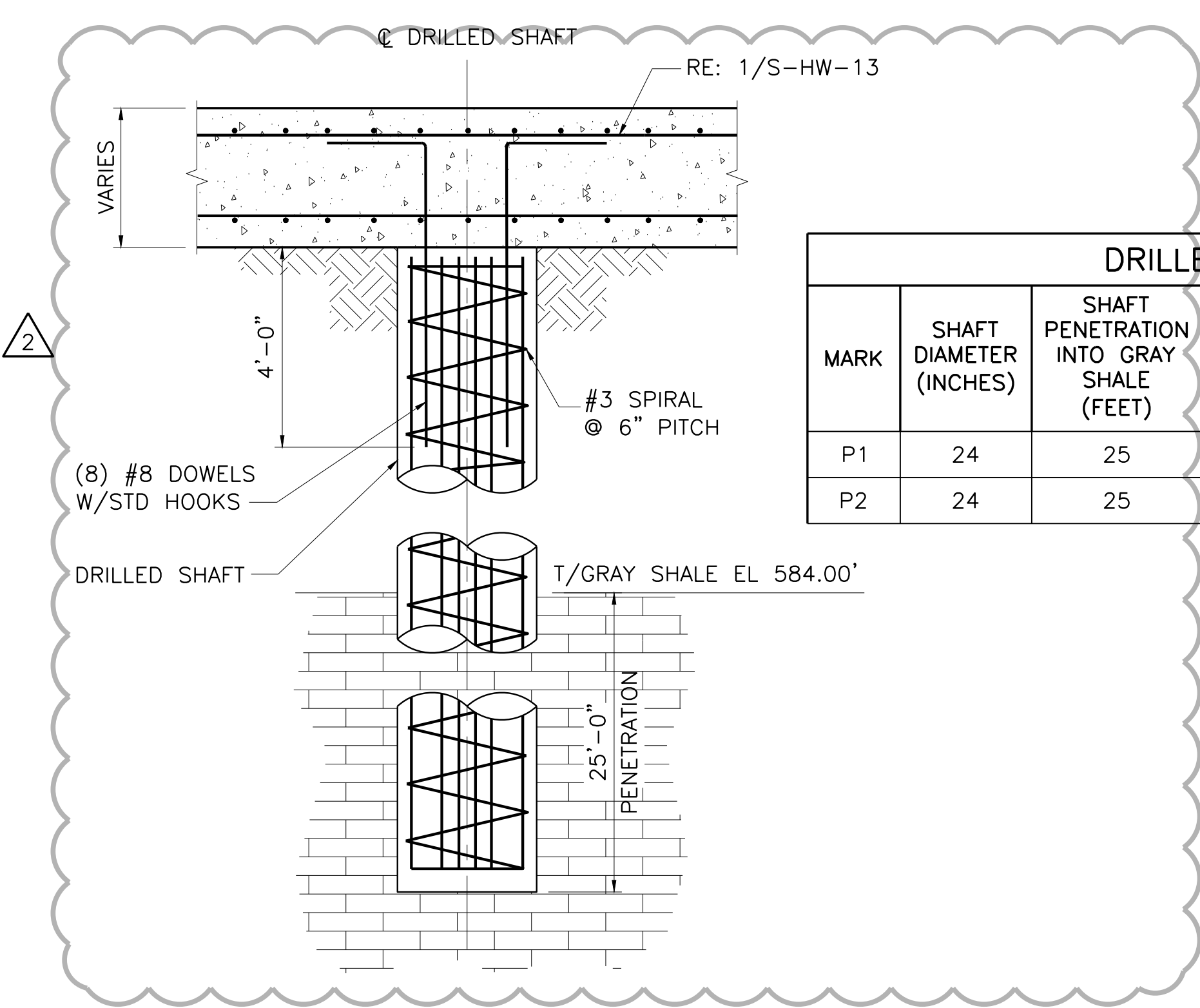
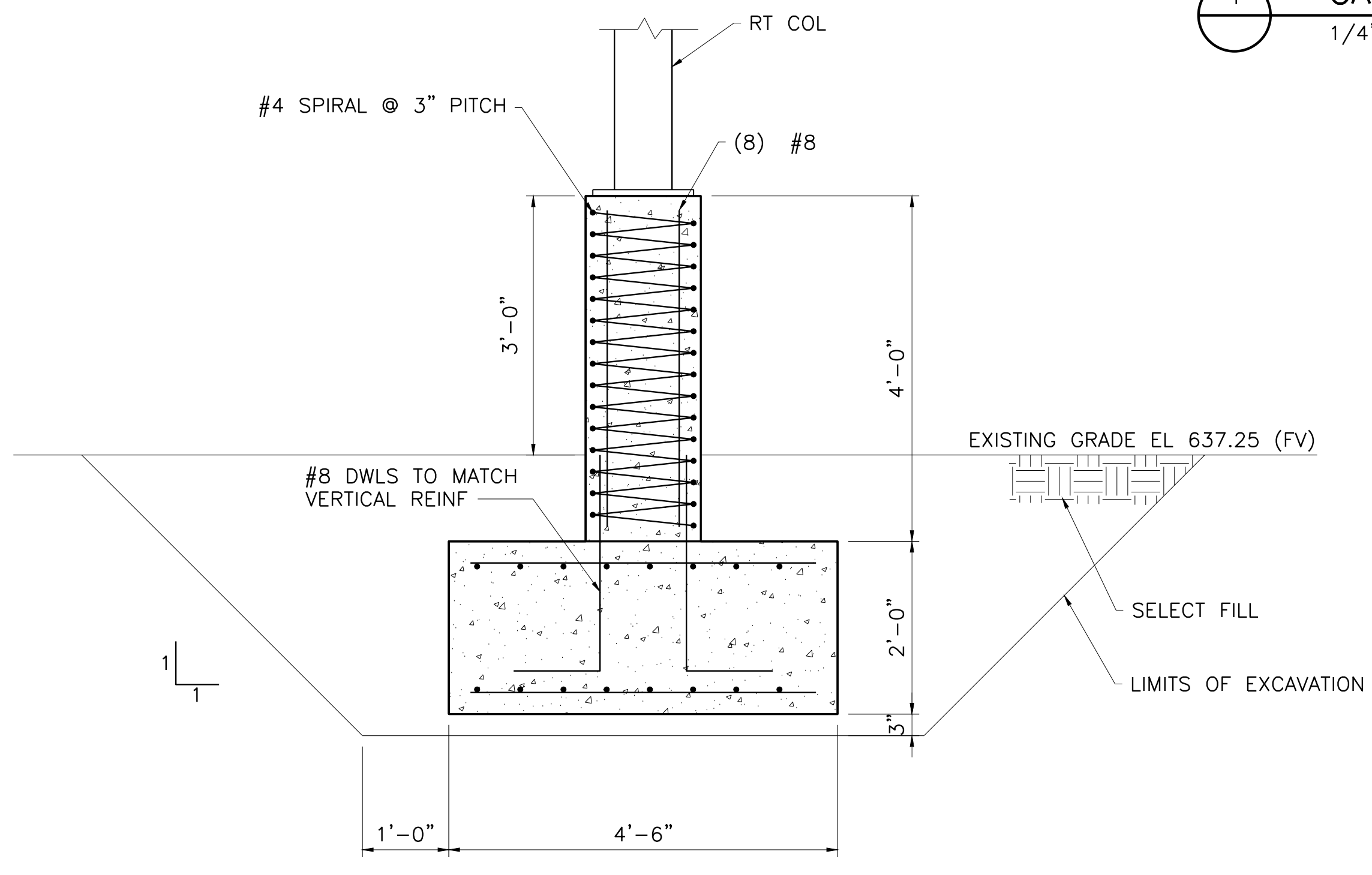
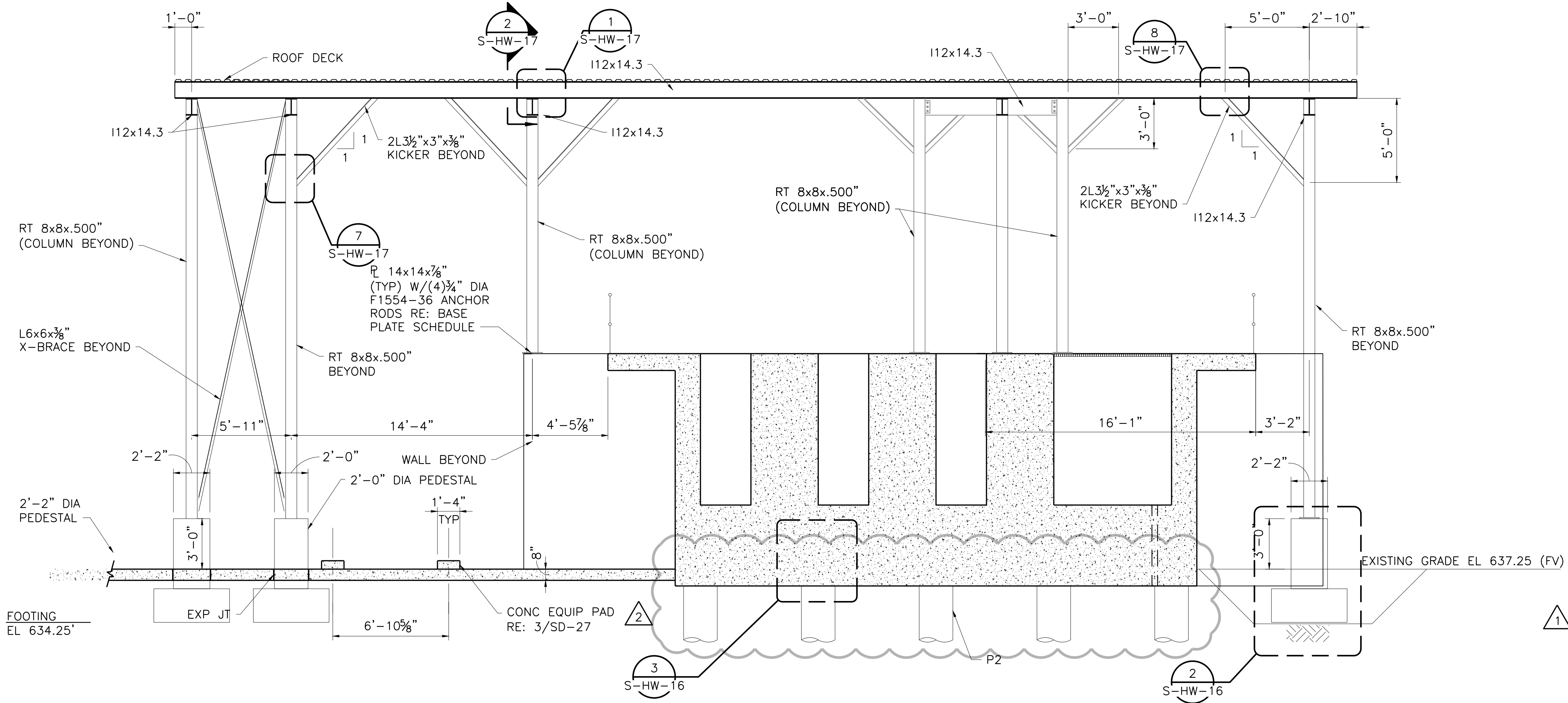
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Texas Registered Engineering Firm F-2144

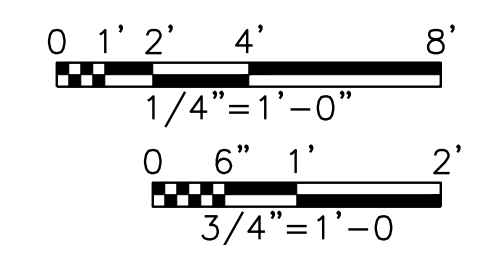


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CITY OF PFLUGERVILLE  
**CENTRAL WWTP EXPANSION  
PHASE I IMPROVEMENTS**  
STRUCTURAL  
**HEADWORKS  
CANOPY FRAMING SECTION & DETAILS**



MARK	SHAFT DIAMETER (INCHES)	SHAFT PENETRATION INTO GRAY SHALE (FEET)	NUMBER AND SIZE OF VERTICAL REINFORCEMENT	TOP OF SHAFT ELEVATION (FEET)	ALLOWABLE BEARING (KIP)
P1	24	25	(8) #8	621.60	565.0
P2	24	25	(8) #8	636.25	565.0



ALAU Ref: 2105 (LMS Tech)  
Filename: N:\ST\ST-HDW-SC-FRMG.dwg  
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NO.	ISSUE	BY	DATE	FRM JOB NO.	PFL16607	DATE	07/17/19	DESIGNED	MRR	DRAWN	JLM	CHECKED	AD
				ADDENDUM NO. 5	MRR	09/18/19		ADDENDUM NO. 4	MRR	09/16/19		FILE NAME	ST-HDW-SC-FRMG.dwg

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

SHEET  
**S-HW-16**  
SEQ.

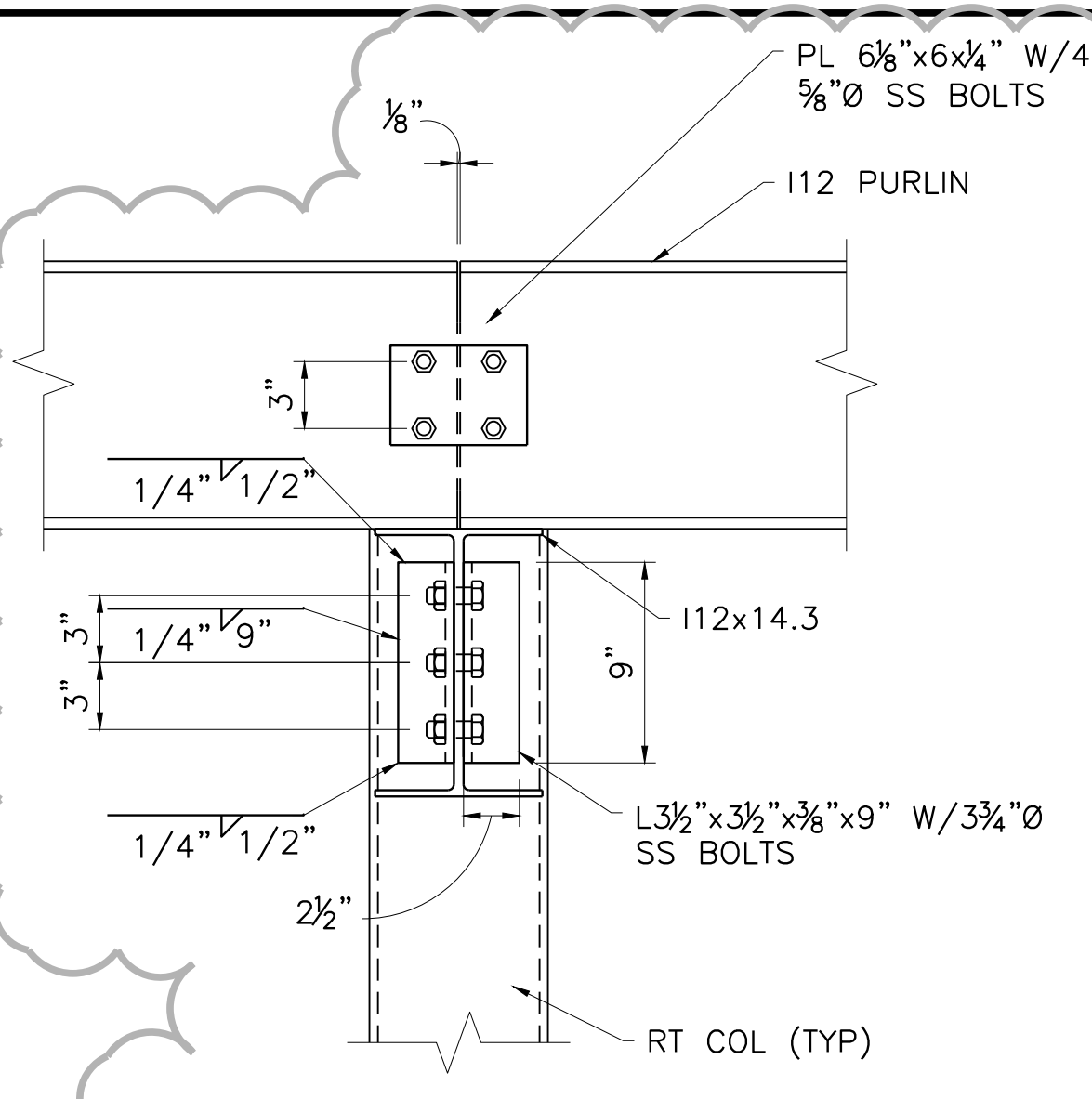
ISSUED FOR CONSTRUCTION  
ON 11/04/19

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Texas Registered Engineering Firm F-2144

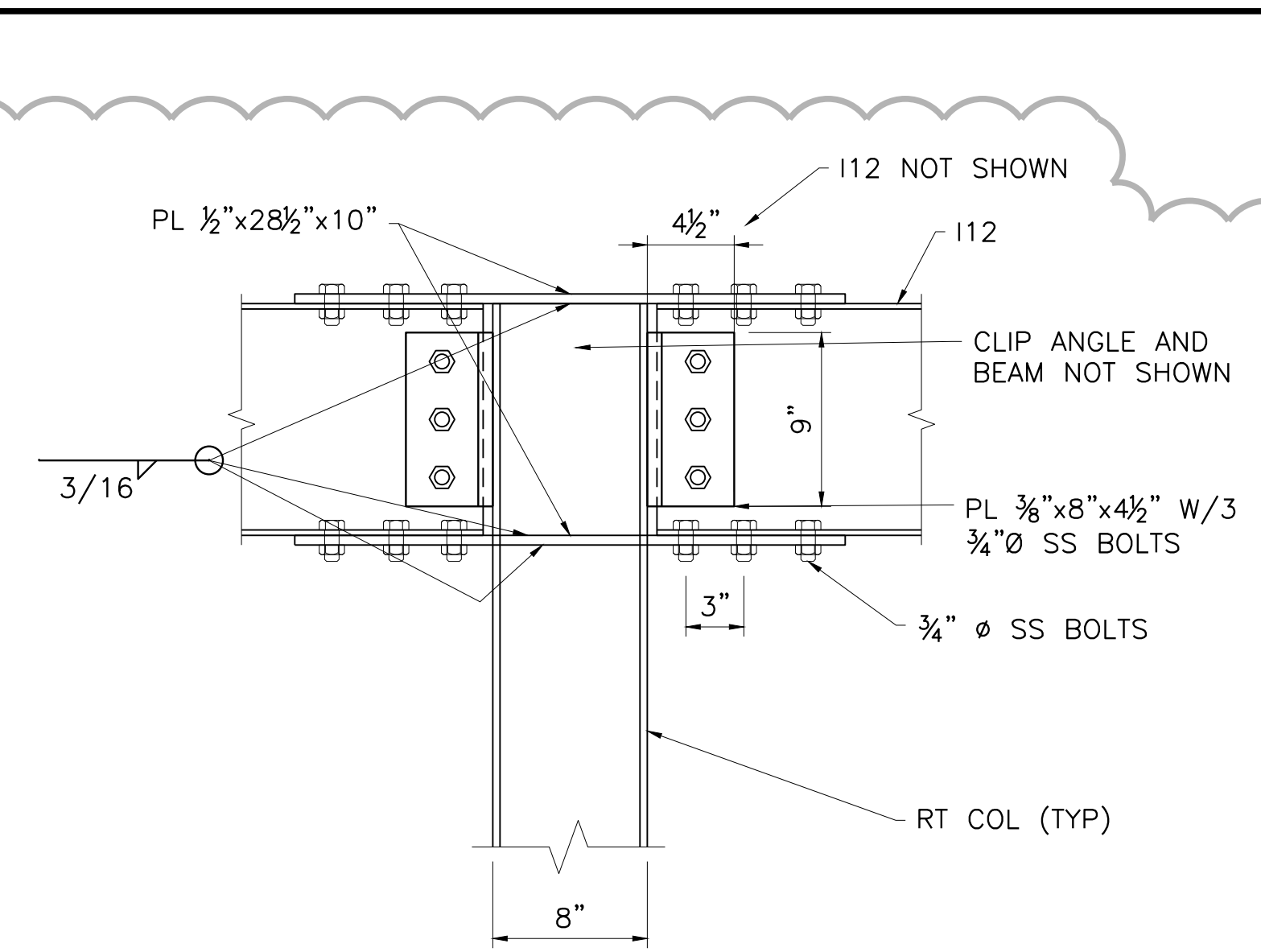
**FREES & NICHOLS**  
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Austin, Texas 78759  
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CITY OF PFLUGERVILLE  
**CENTRAL WWP EXPANSION  
PHASE I IMPROVEMENTS**  
STRUCTURAL  
**HEADWORKS  
CANOPY FRAMING DETAILS I**

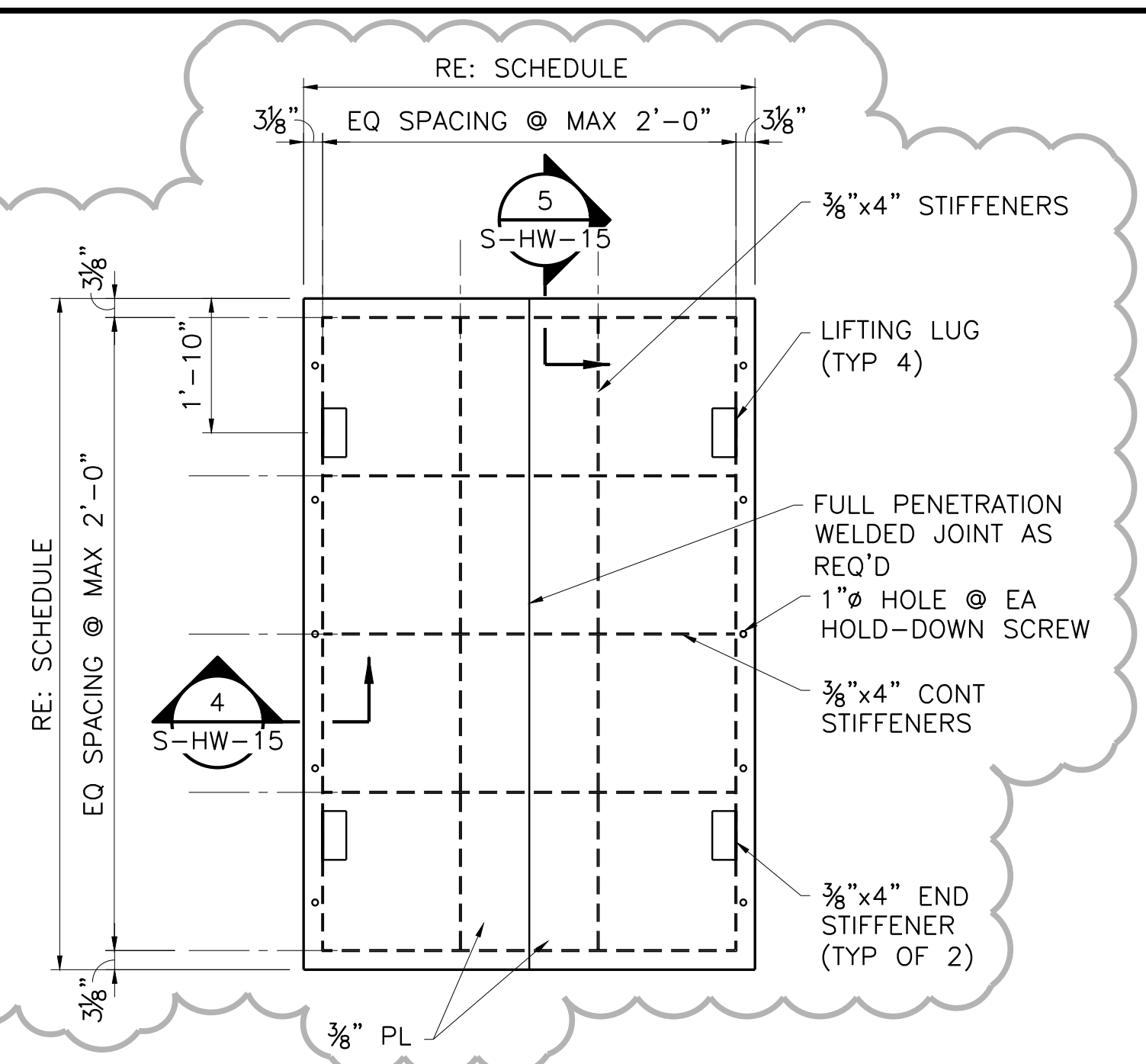
NO.	ISSUE	DATE	DESIGNED	DRAWN	REVISION	CHECKED	AD
			MRR	JLM			
ADDENDUM NO. 4		MRR 09/16/19					
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.							
SHEET <b>S-HW-17</b>							
SEQ. 92							



**1 PURLIN SPLICE DETAIL**  
S-HW-15 NOT TO SCALE



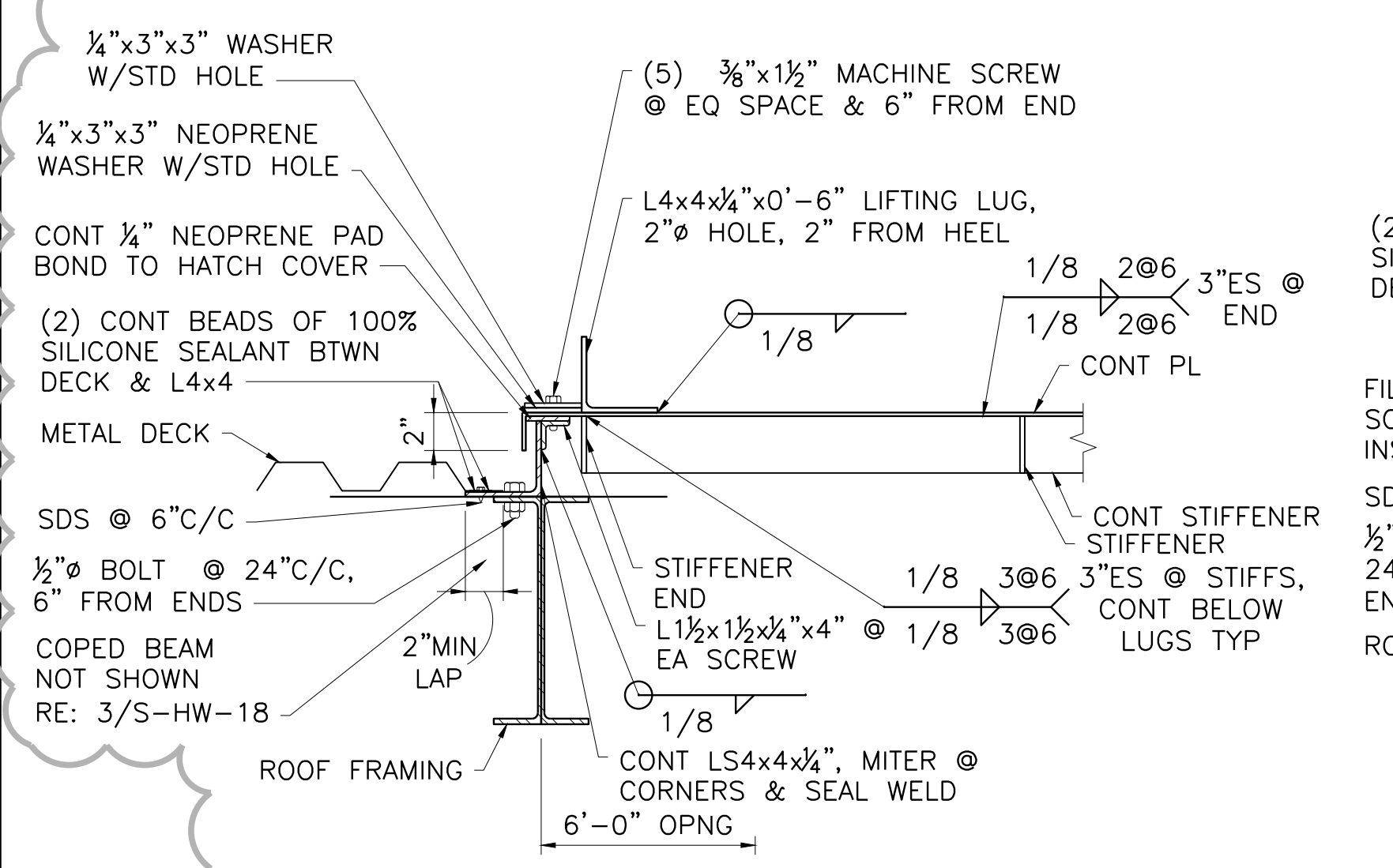
**2 MOMENT CONNECTION DETAIL**  
S-HW-15 NOT TO SCALE



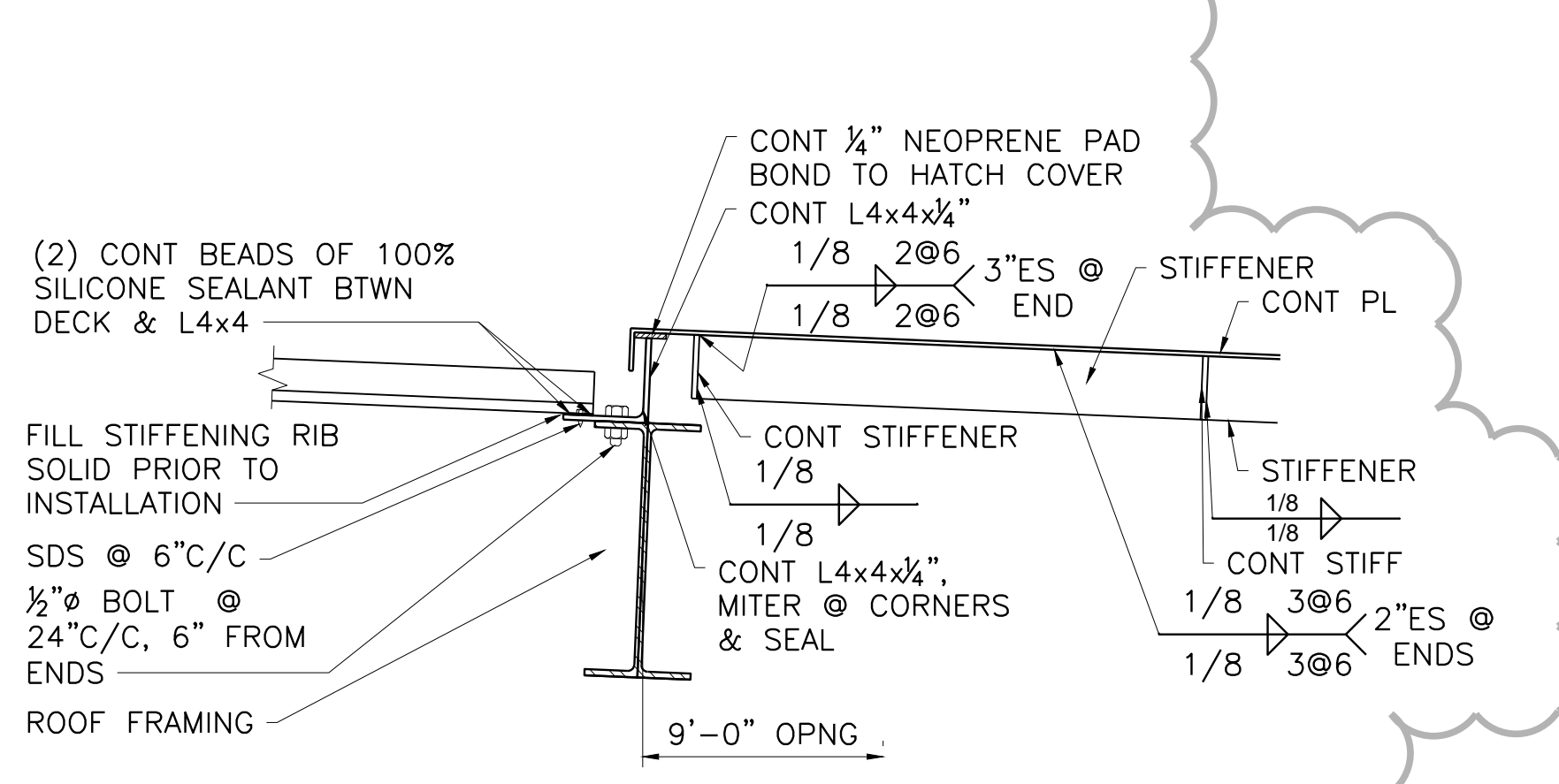
**DETAIL SCHEDULE**

MARK	LENGTH (FEET' - INCHES")	WIDTH (FEET' - INCHES")
H1	17' - 4"	9' - 6"
H2	17' - 4"	6' - 0"
H3	17' - 4"	5' - 0"
H4	17' - 4"	6' - 8"
H5	22' - 0"	16' - 9"

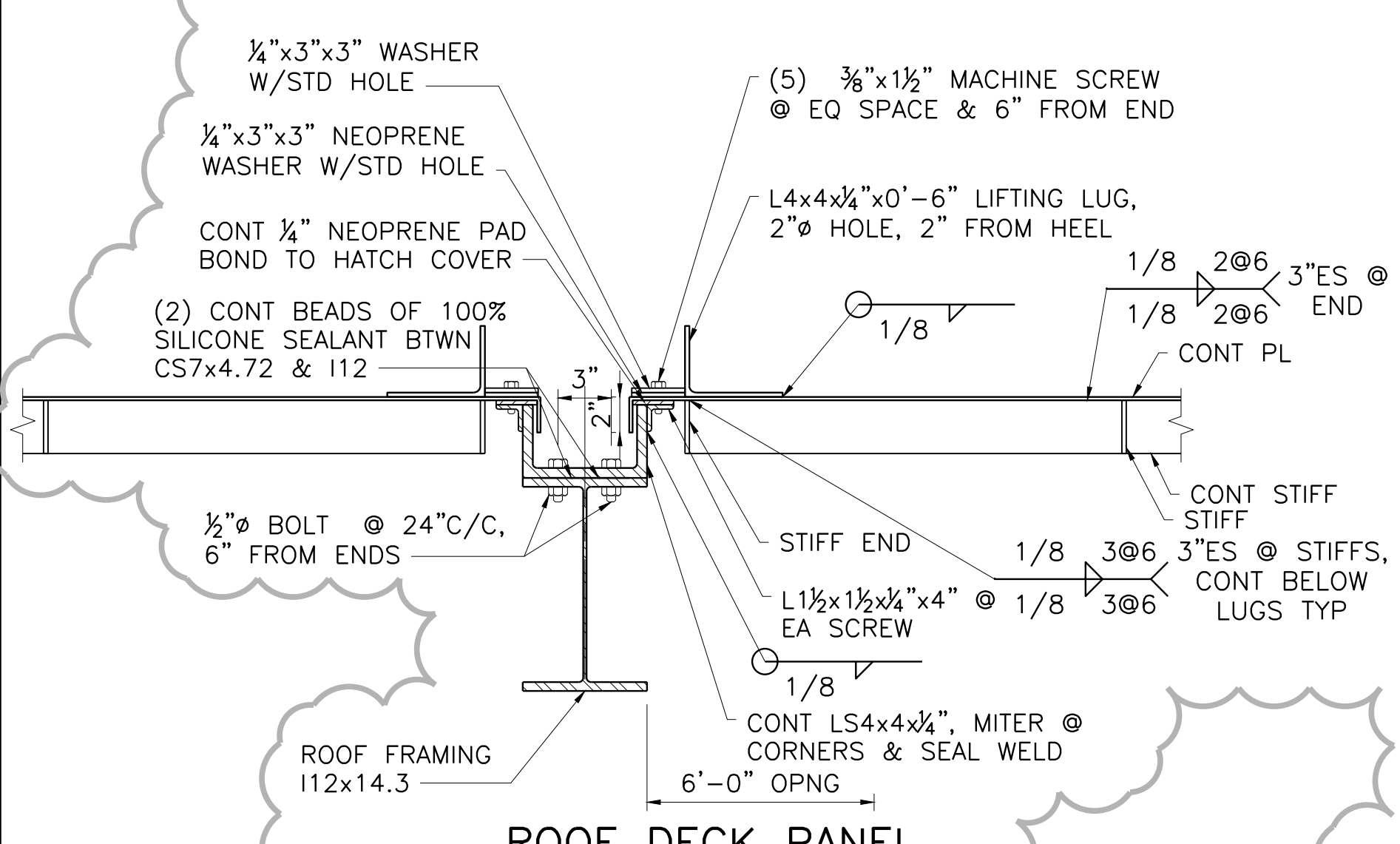
**3 HATCH COVER PLAN**  
NOT TO SCALE



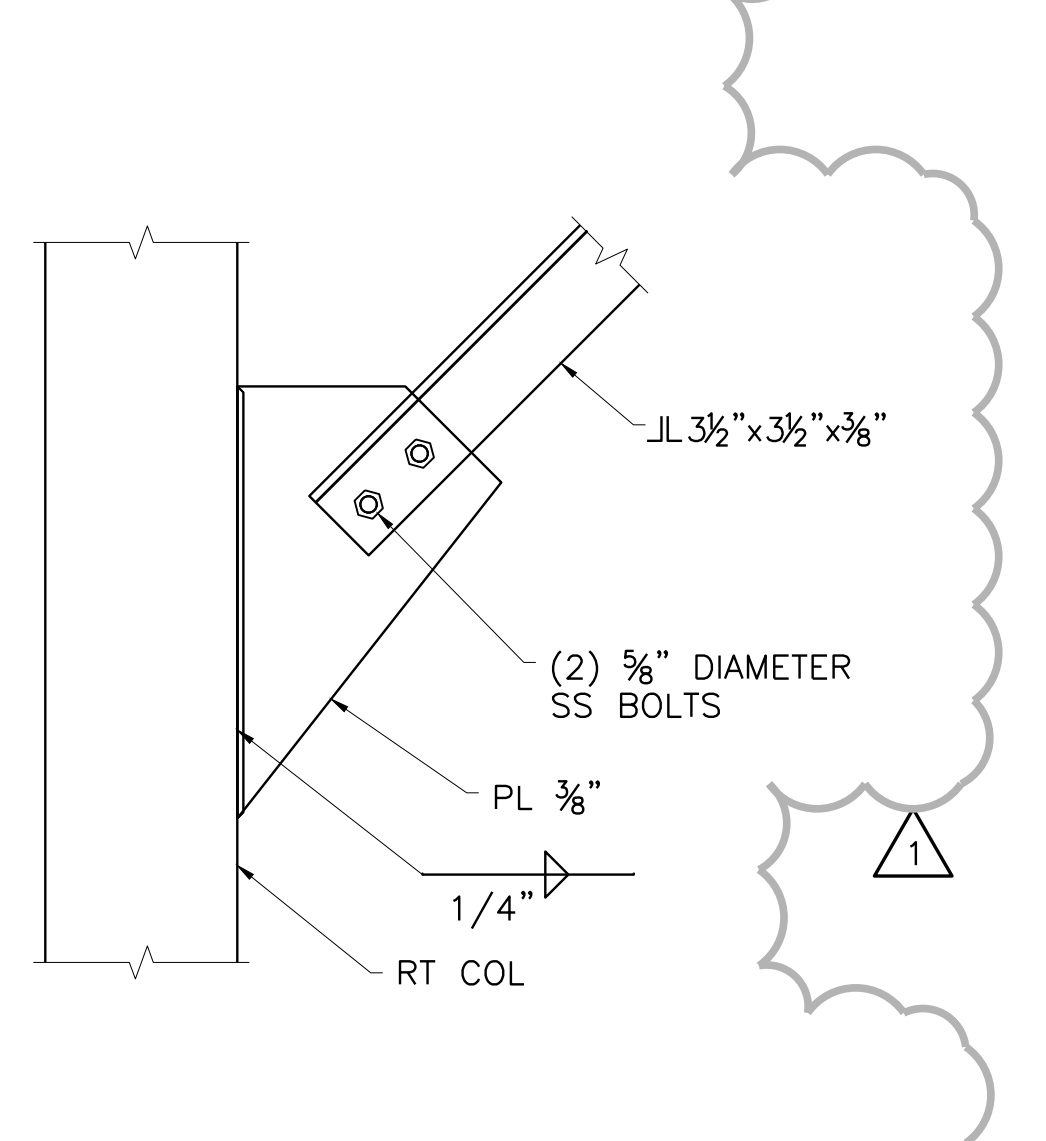
**4 ROOF DECK PANEL OPENING SECTION**  
S-HW-17 NOT TO SCALE



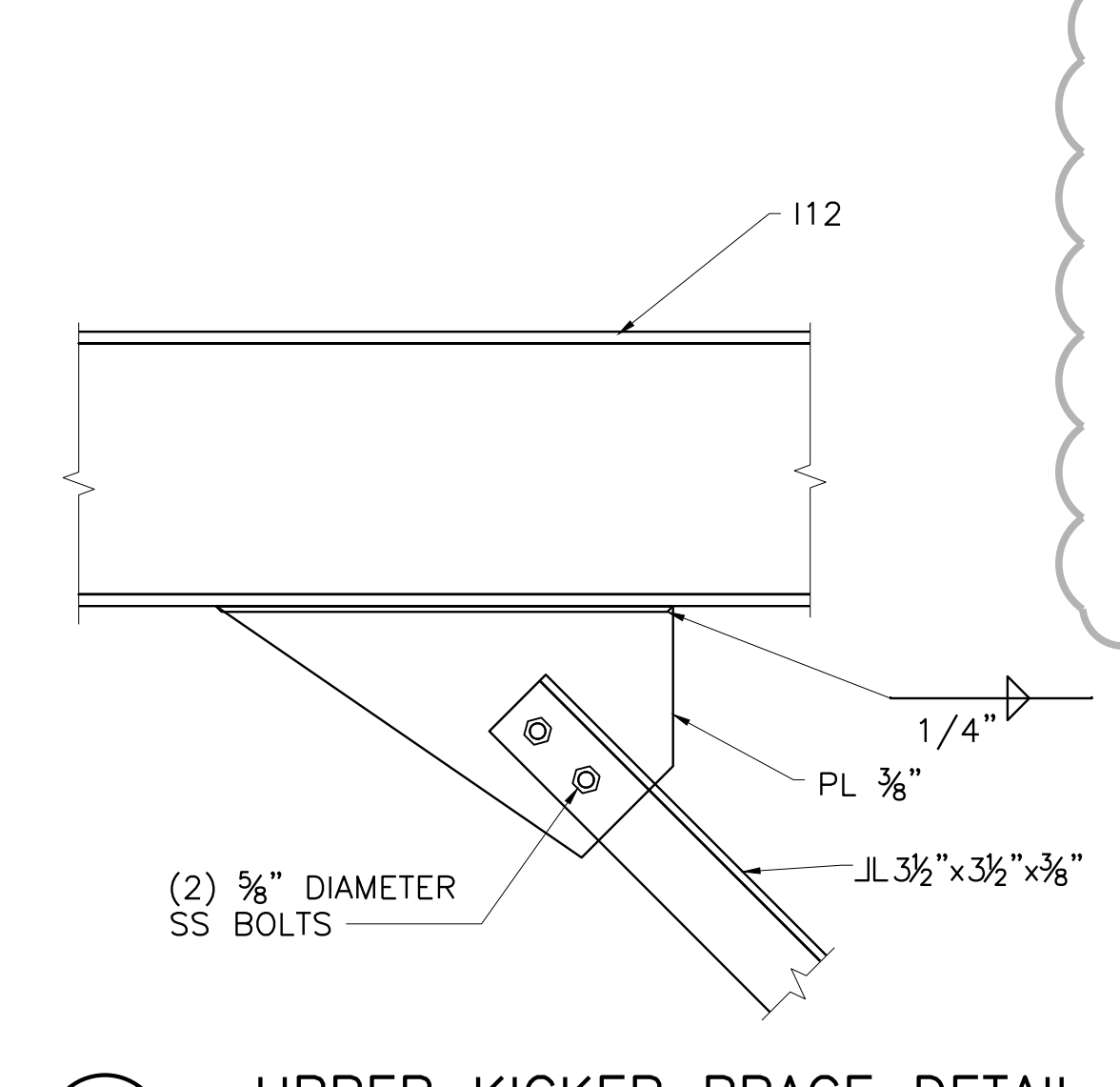
**5 ROOF DECK PANEL OPENING SECTION**  
S-HW-17 NOT TO SCALE



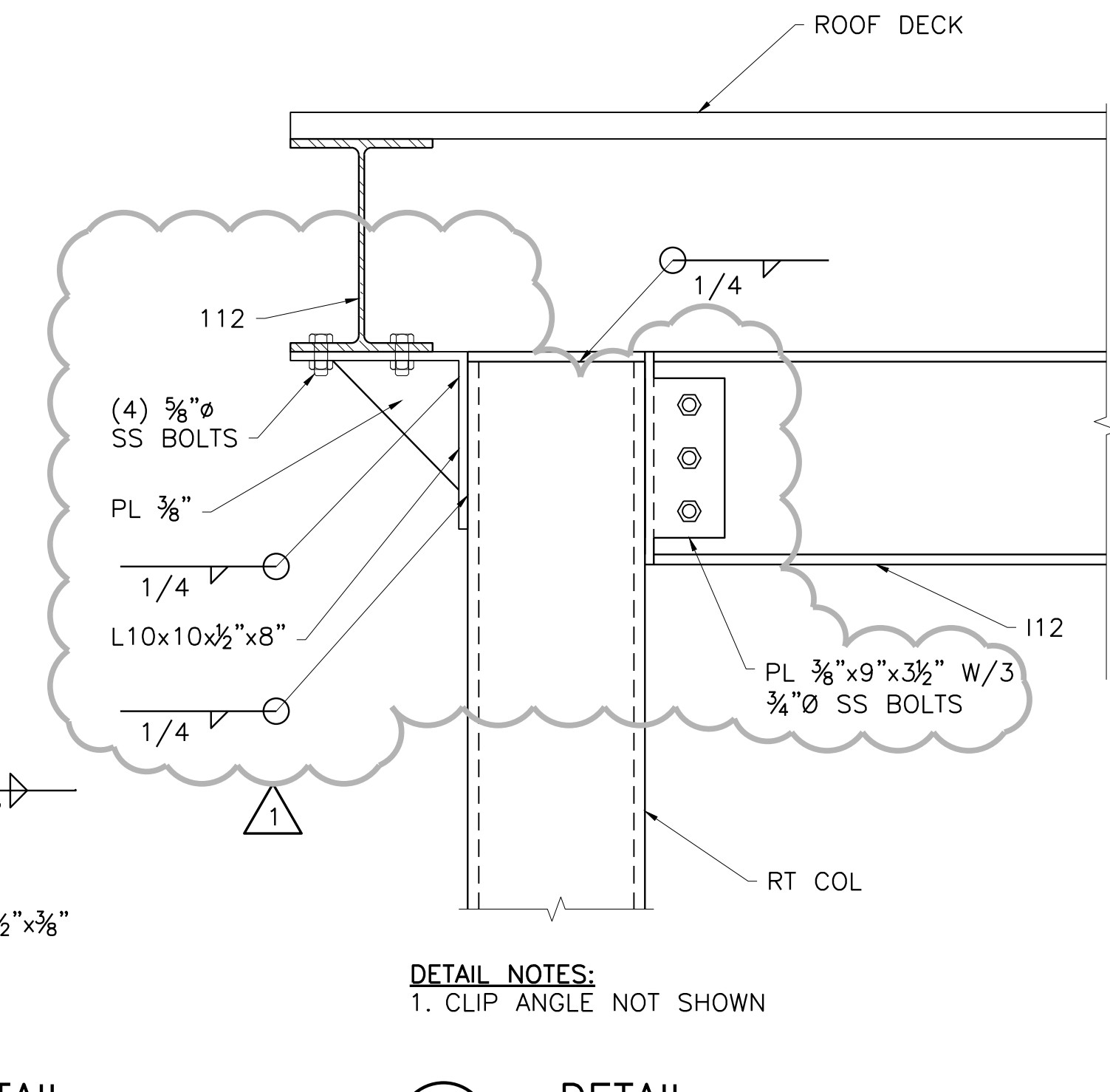
**6 ROOF DECK PANEL OPENING SECTION**  
NOT TO SCALE



**7 LOWER KICKER BRACE DETAIL**  
S-HW-16 NOT TO SCALE



**8 UPPER KICKER BRACE DETAIL**  
S-HW-16 NOT TO SCALE



**9 DETAIL**  
S-HW-15 NOT TO SCALE

**NOTES:**  
1. FILLING OF RIBS SHALL BE PERFORMED WITH WATERPROOF, UV RESISTANT MATERIAL TO PREVENT WATER INTRUSION.

**DETAIL NOTES:**  
1. CLIP ANGLE NOT SHOWN

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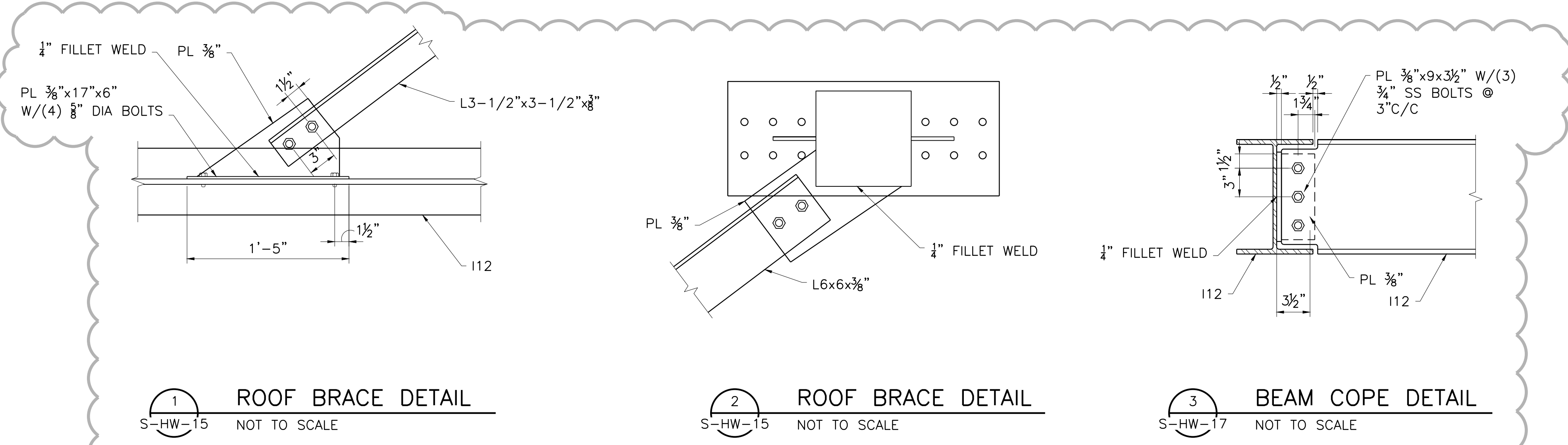


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CITY OF PFLUGERVILLE  
**CENTRAL WTP EXPANSION  
PHASE I IMPROVEMENTS**  
###  
**HEADWORKS  
CANOPY FRAMING DETAILS II**

NO.	ISSUE	BY	DATE	DESCRIPTION
ADDENDUM NO. 4		MRR	09/16/19	REVISED
VERIFY SCALE				CHECKED JWM
0				FILE NAME
				ST-HDW-DT-FRMG01.dwg

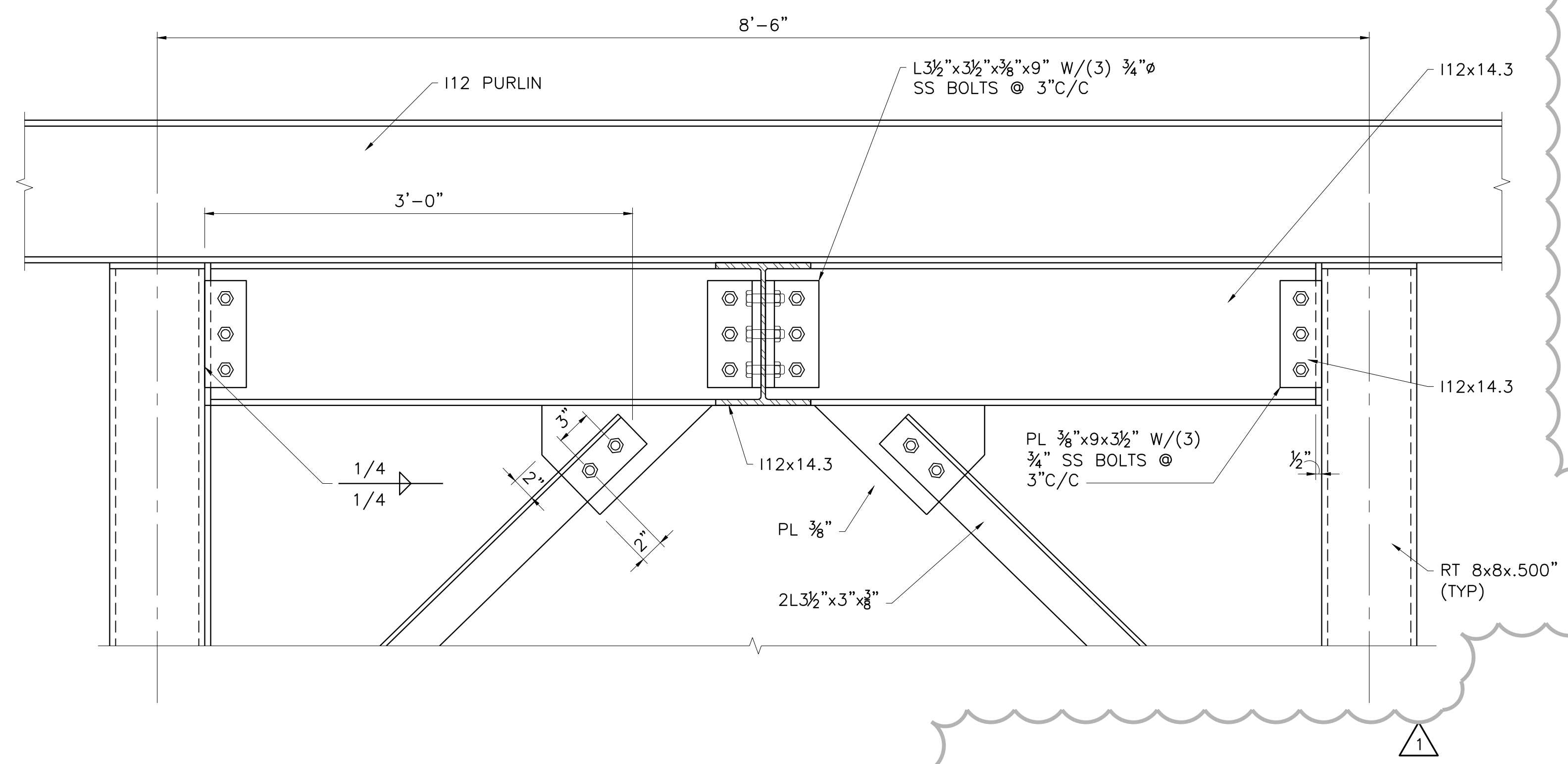
SHEET  
**S-HW-18**  
SEQ.



**1 ROOF BRACE DETAIL**  
S-HW-15 NOT TO SCALE

**2 ROOF BRACE DETAIL**  
S-HW-15 NOT TO SCALE

**3 BEAM COPE DETAIL**  
S-HW-17 NOT TO SCALE



**DETAIL NOTES:**  
1. DECK NOT SHOWN.

**4 SECTION**  
S-HW-18 1 1/2"=1'-0"

ACAD\_Ret: 21.0s (LMS\_Tech)  
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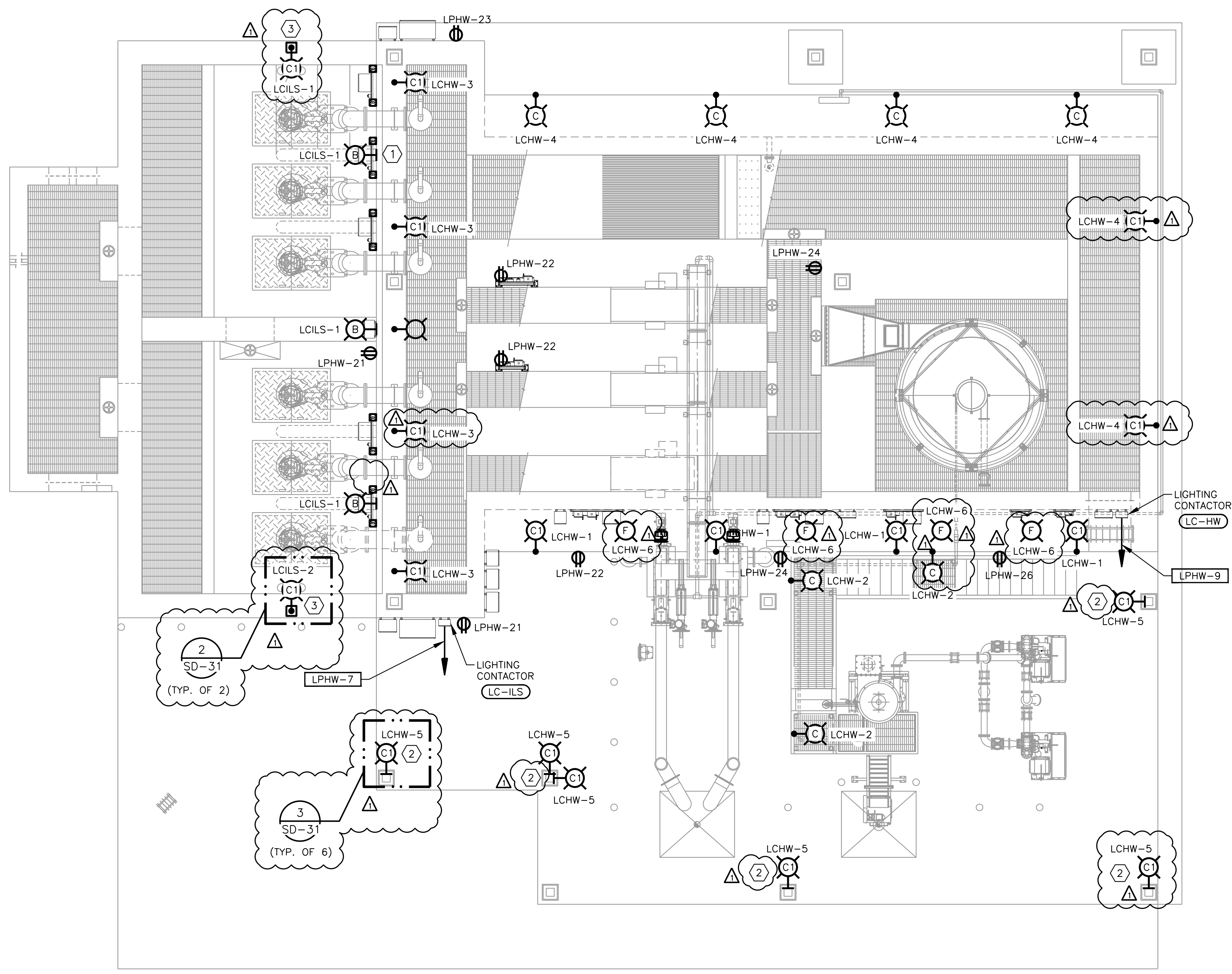
**GAI**  
 Gupta & Associates, Inc.  
 CONSULTING ENGINEERING  
 Registration No. E-2693

Freese and Nichols, Inc.  
 Texas Registered Professional Engineering Firm F-2144  
 09/16/19

**FREES & NICHOLS**  
 10431 Morado Circle, Suite 300  
 Austin, Texas 78759  
 Phone - (512) 617-3100  
 Fax - (512) 617-3101

CITY OF PFLUGERVILLE  
**CENTRAL WWT EXPANSION  
 PHASE I IMPROVEMENTS**  
 ELECTRICAL  
**INFLUENT LIFT STATION  
 AND HEADWORKS LIGHTING PLAN**

NO.	ISSUE	BY	DATE	TRAN. JOB NO.	PFL16607
				DATE	08/05/19
				DESIGNED	MA
				DRAWN	MAC
				REVISION	
				CHECKED	VKG
				FILE NAME	1621_E-HW-01.dwg
ADDENDUM NO. 4		VKG 09/16/19			
VERIFY SCALE		Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.			
SHEET		E-HW-1			
SEQ.		94			



- GENERAL NOTES:**
- REFER TO SHEET E-18 FOR LIGHTING SCHEDULE.
  - INSTALL WEATHER-PROOF RECEPTACLE WITH WHILE-IN-USE COVER 4" ABOVE GRADE.
  - INSTALL TYPE "F" FIXTURE ON CEILING.

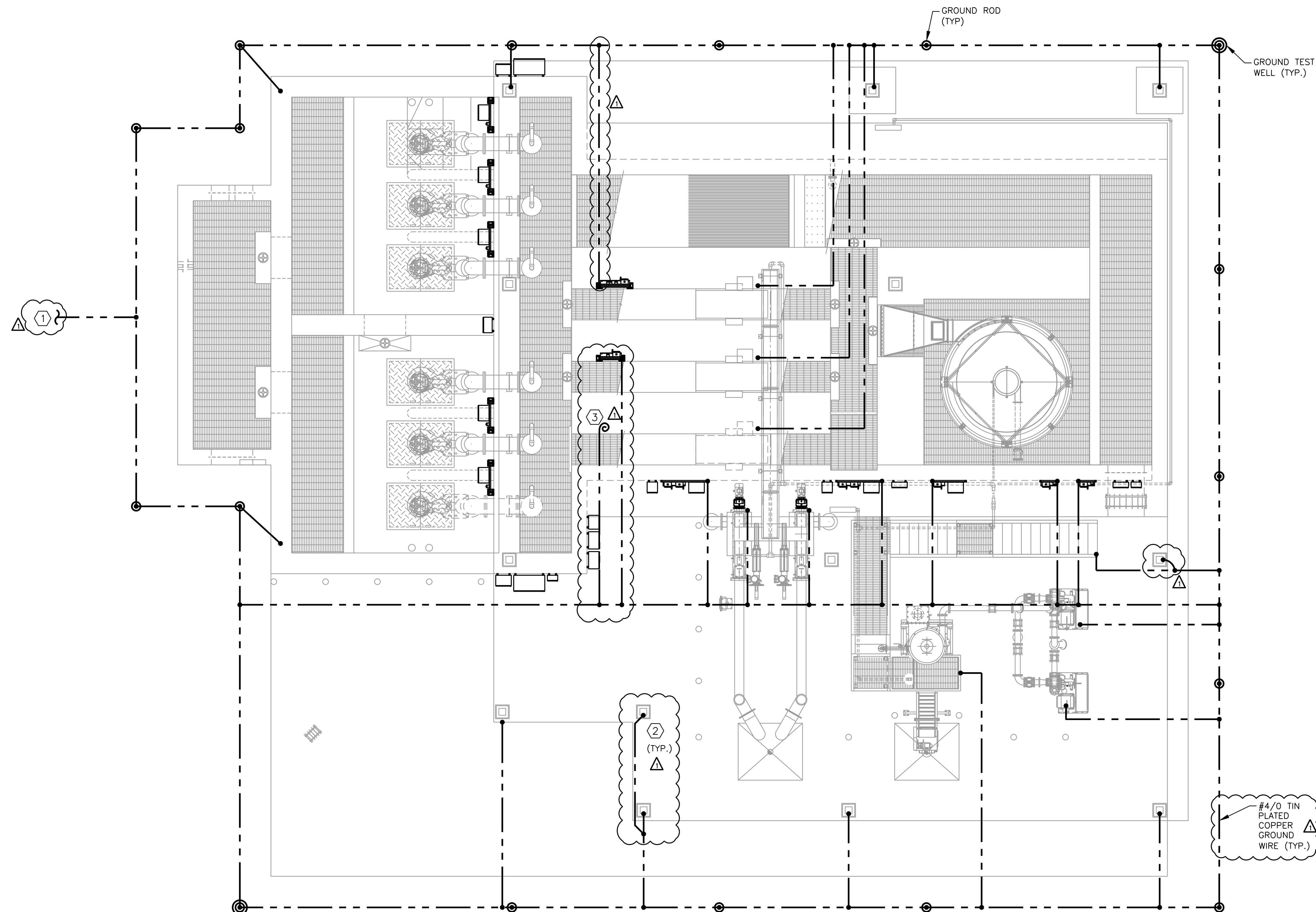
- NOTES BY SYMBOL "F":**
- INSTALL TYPE "B" FIXTURE 9' AFF.
  - MOUNT TELESCOPING POLE ON COLUMN.
  - MOUNT TELESCOPING POLE ON CONCRETE PEDESTAL.

CONDUIT TAG	SHEET REFERENCE
VFD-XX	E-30
MCHWB-XX	E-31, E-32
LPHW-XX	E-46
R12-XX	E-50

**INFLUENT LIFT STATION  
 LIGHTING PLAN**  
 3/16"=1'-0"

ACAD Rel 23.1s (LMS Tech) User: erangel Office: Z:\1621\_Pflugerville Central WWT Expansion\Drawings\Electrical\Archive - CAD Files\Addendum No.4\1621\_E-HW-01.dwg LAYOUT: Layout1  
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ACAD: Rel 23.1s (LMS Tech) User: erangel\Office: Z:\1621\_Pflugerville\_Central WWTP\_Expansion\Drawings\Electrical\Archive - CAD Files\Addendum No.4\1621\_E-HW-02.dwg LAYOUT: Layout1  
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**INFLUENT LIFT STATION  
GROUNDING PLAN**  
3/16" = 1'-0"

- GENERAL NOTES:**
- CONNECT GROUND LOOP TO DUCTBANK GROUND GRID.
  - GROUND ALL METAL PARTS.
  - GROUND ALL METAL STANDS FOR EQUIPMENT.
  - FIELD ROUTE GROUND WIRE THROUGH SLAB.
- NOTES BY SYMBOL "△":**
- CONNECT TO ELECTRICAL BUILDING GROUND LOOP.
  - GROUND COLUMN.
  - PROVIDE 12" SPARE GROUND WIRE STUBBED OUT FROM BENEATH THE SLAB.

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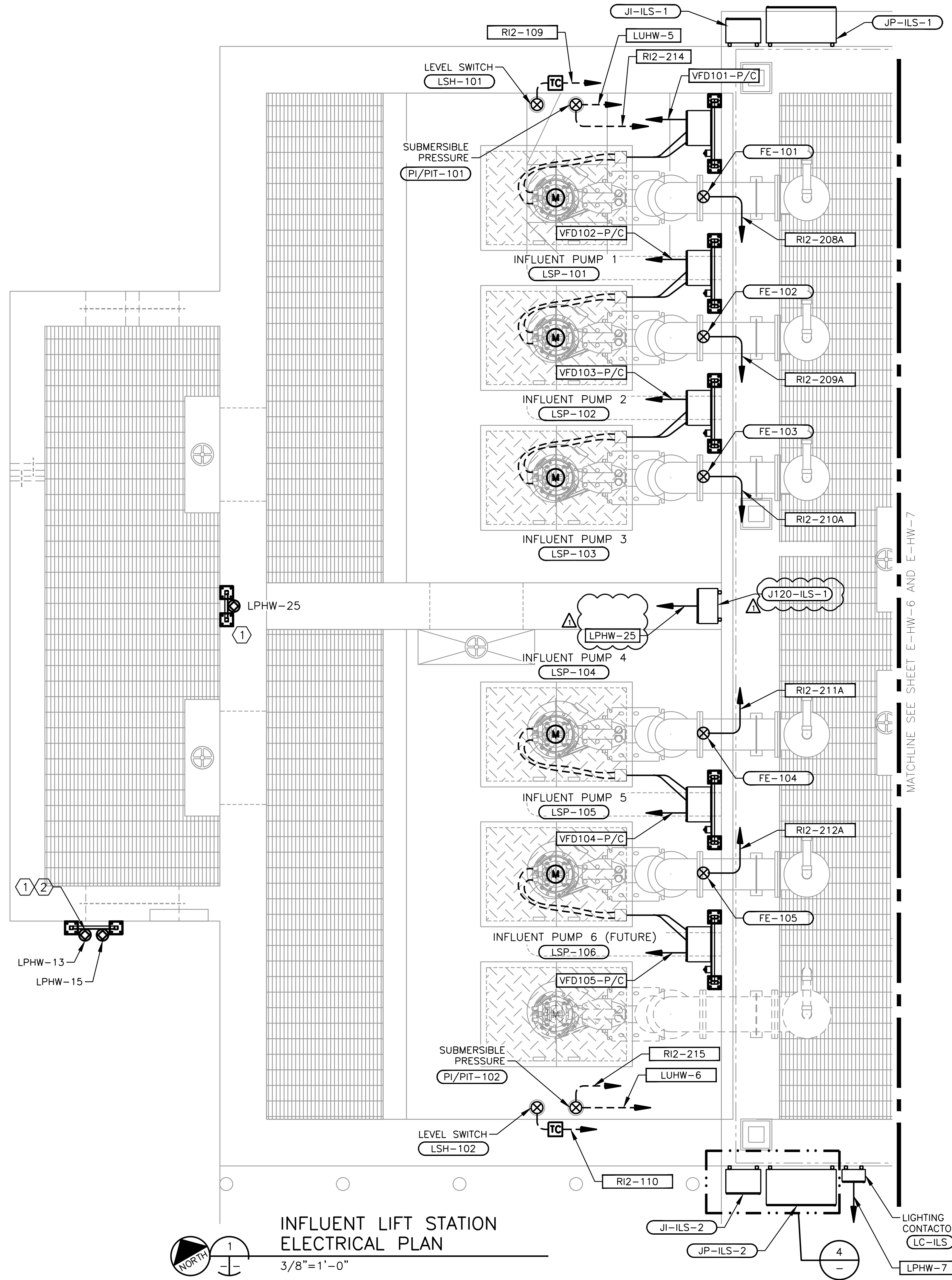
**ISSUED FOR CONSTRUCTION  
ON 11/04/19**

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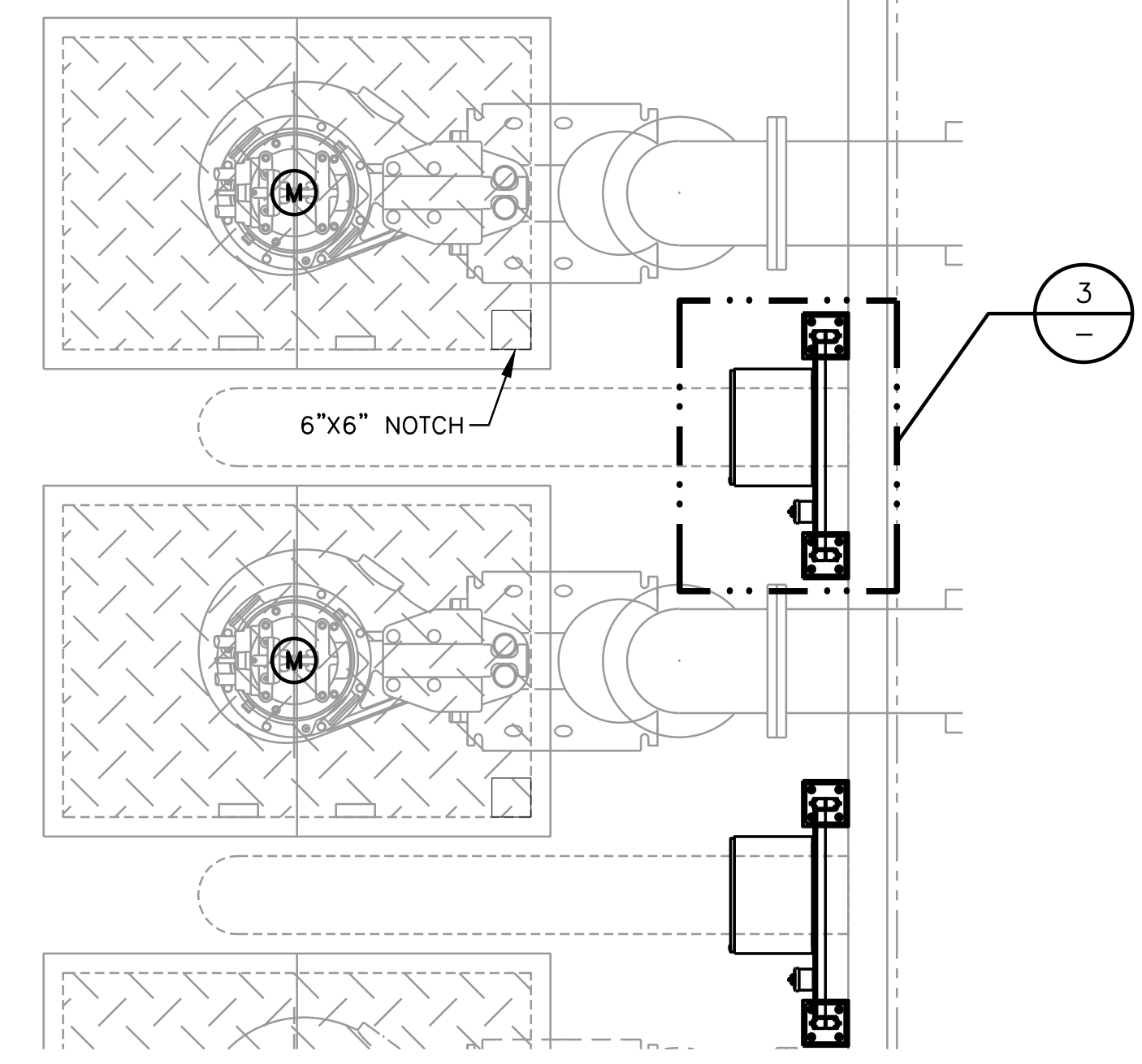
CITY OF PFLUGERVILLE  
**CENTRAL WWTP EXPANSION  
PHASE I IMPROVEMENTS**  
ELECTRICAL  
**INFLUENT LIFT STATION AND  
HEADWORKS GROUNDING PLAN**

NO.	ISSUE	BY	DATE	TRAN. JOB NO.	PFL16607
				DATE	08/05/19
				DESIGNED	MA
				DRAWN	MAC
				REVISION	
		VKG	09/16/19	CHECKED	VKG
				FILE NAME	1621_E-HW-02.dwg
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SHEET <b>F-HW-2</b>					
SEQ. 95					

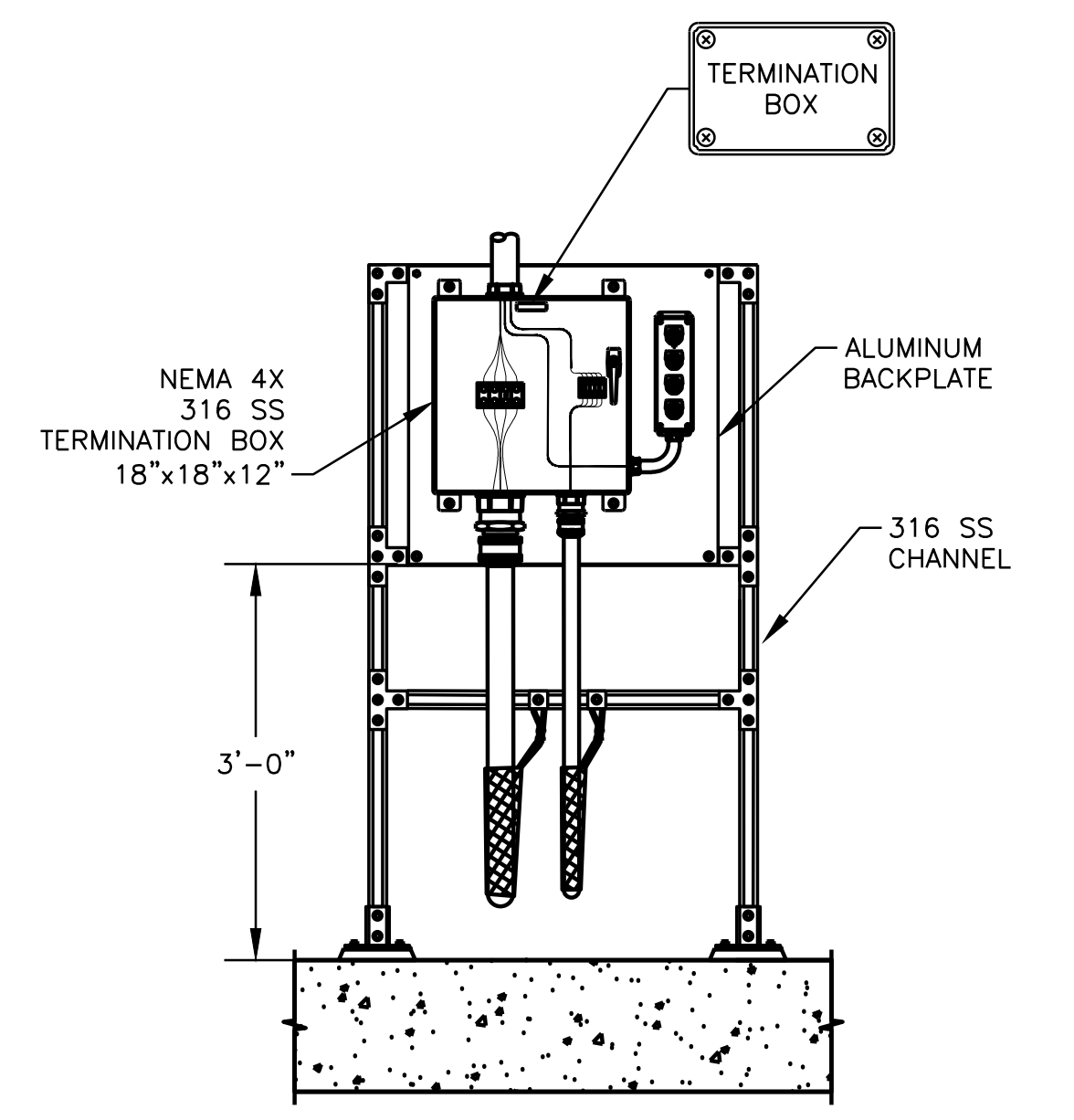
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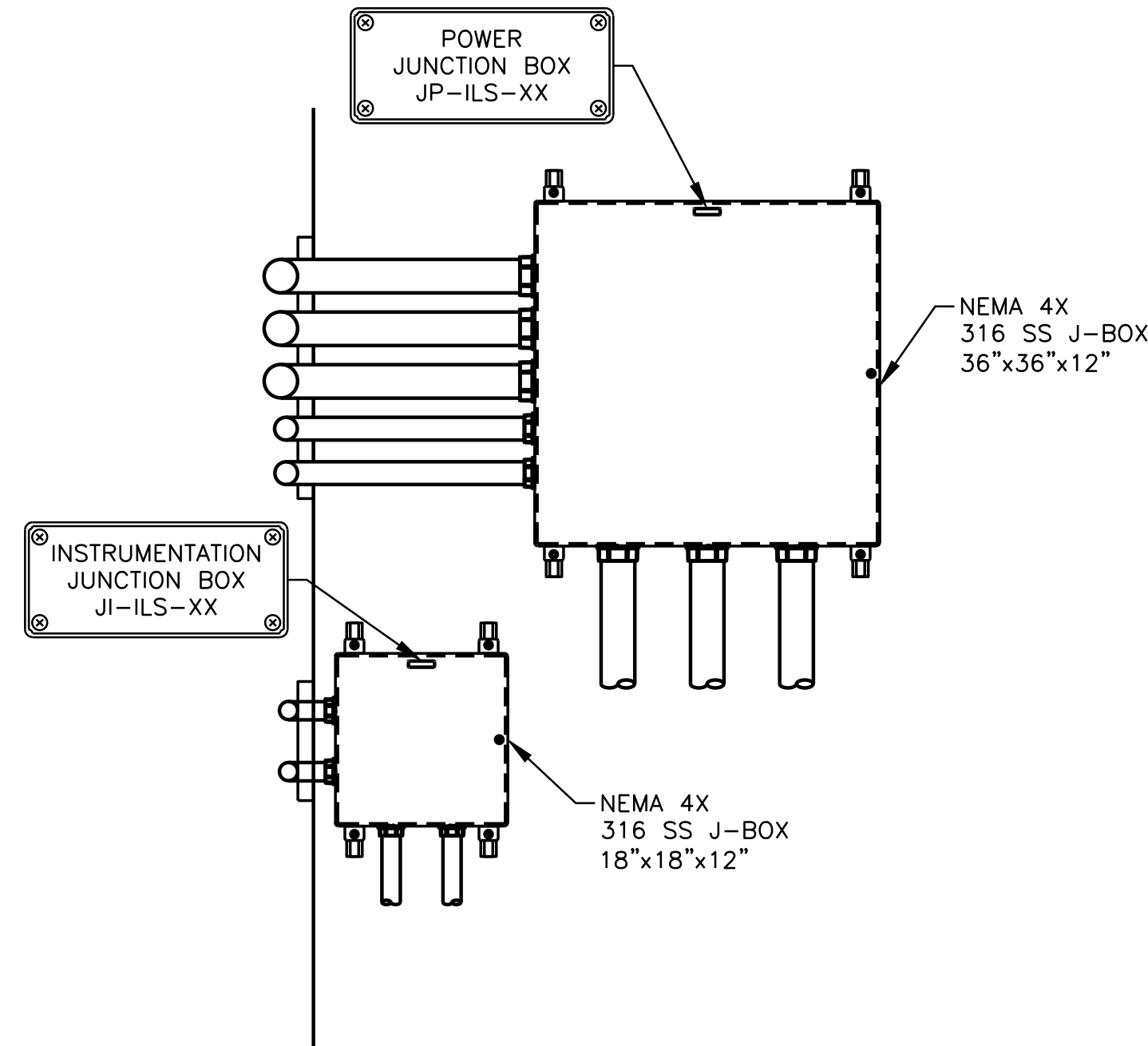
**INFLUENT LIFT STATION ELECTRICAL PLAN**  
 3/8"=1'-0"



**INFLUENT PUMP ENLARGED PLAN**  
 1/2"=1'-0"



**INFLUENT PUMP CONTROL PANEL DETAIL**  
 3 NTS



**PULL BOX MOUNTING DETAIL**  
 4 NTS

CONDUIT TAG	SHEET REFERENCE
VFD-XX	E-30
MCHWB-XX	E-31, E-32
LPHW-XX	E-46
RI2-XX	E-50

**GENERAL NOTES:**

- NOT ALL CONDUITS ARE SHOWN. REFER TO SHEET E-HW-5 FOR RISER DIAGRAM.
- INSTALL PUSHBUTTON STATION FLUSH WITH TERMINATION BOX.
- REFER TO MECHANICAL DRAWING FOR EXACT LOCATION OF EQUIPMENT.
- FIELD ROUTE ALL CONDUIT.
- ADJUST ELECTRICAL EQUIPMENT PLACEMENT TO AVOID CONFLICTS. EXTEND CONDUIT WIRE ON NECESSARY FOR A COMPLETE OPERATIONAL SYSTEM.

**NOTES BY SYMBOL "△":**

- INSTALL EXPLOSION PROOF TWISTLOCK RECEPTACLE 4'-0" AFF.
- HEAT TRACE RECEPTACLE FOR HOSE STATION.

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 5309  
 V. K. GUPTA  
 11/08/19

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CITY OF PFLUGERVILLE  
**CENTRAL WWP EXPANSION  
 PHASE I IMPROVEMENTS**  
 ELECTRICAL  
**INFLUENT LIFT STATION  
 POWER PLAN**

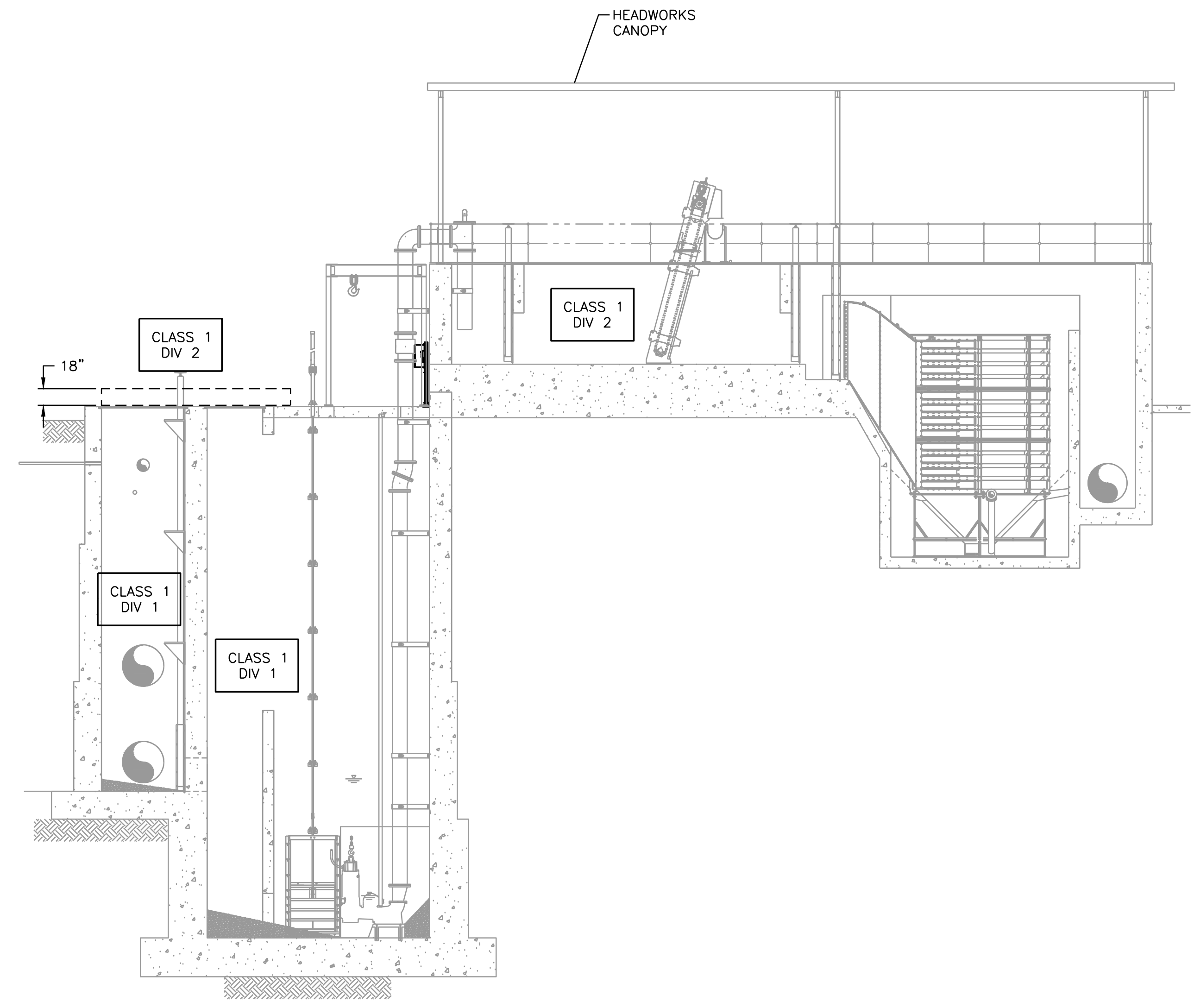
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SHEET **E-HW-3**  
 SEQ. 96

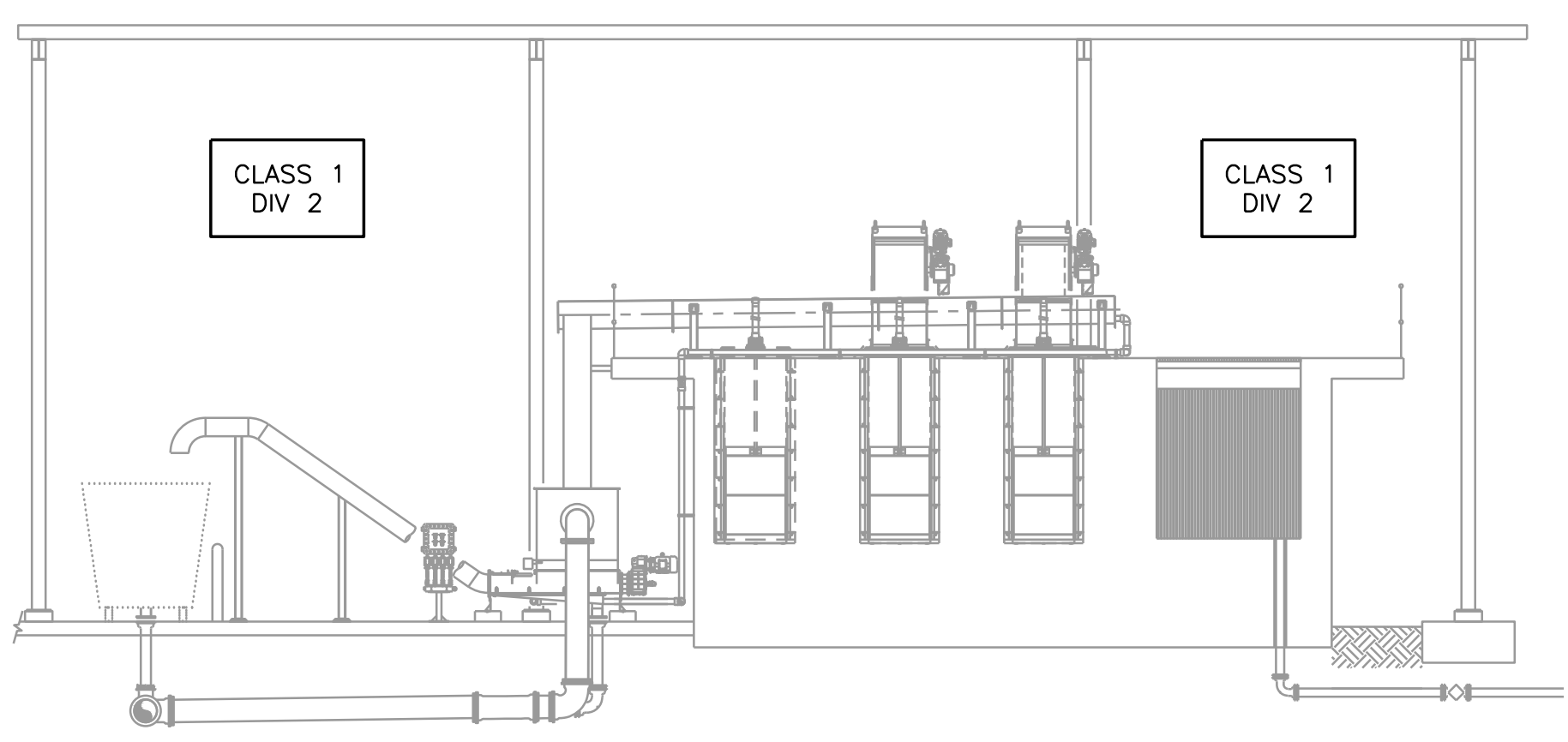


GENERAL NOTES:

- 1. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL CONDUITS AND EQUIPMENT PER NFPA AND NEC REQUIREMENTS.

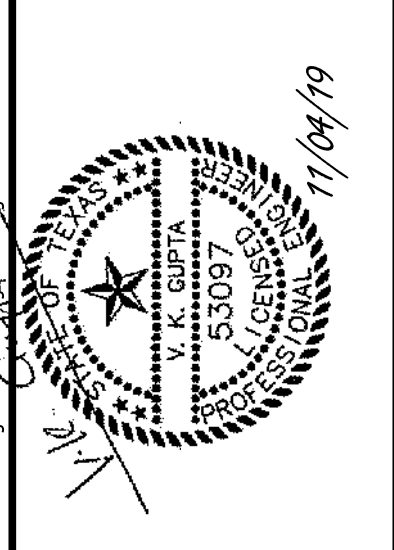


1  
LIFT STATION SECTION  
NTS



2  
LIFT STATION SECTION  
NTS

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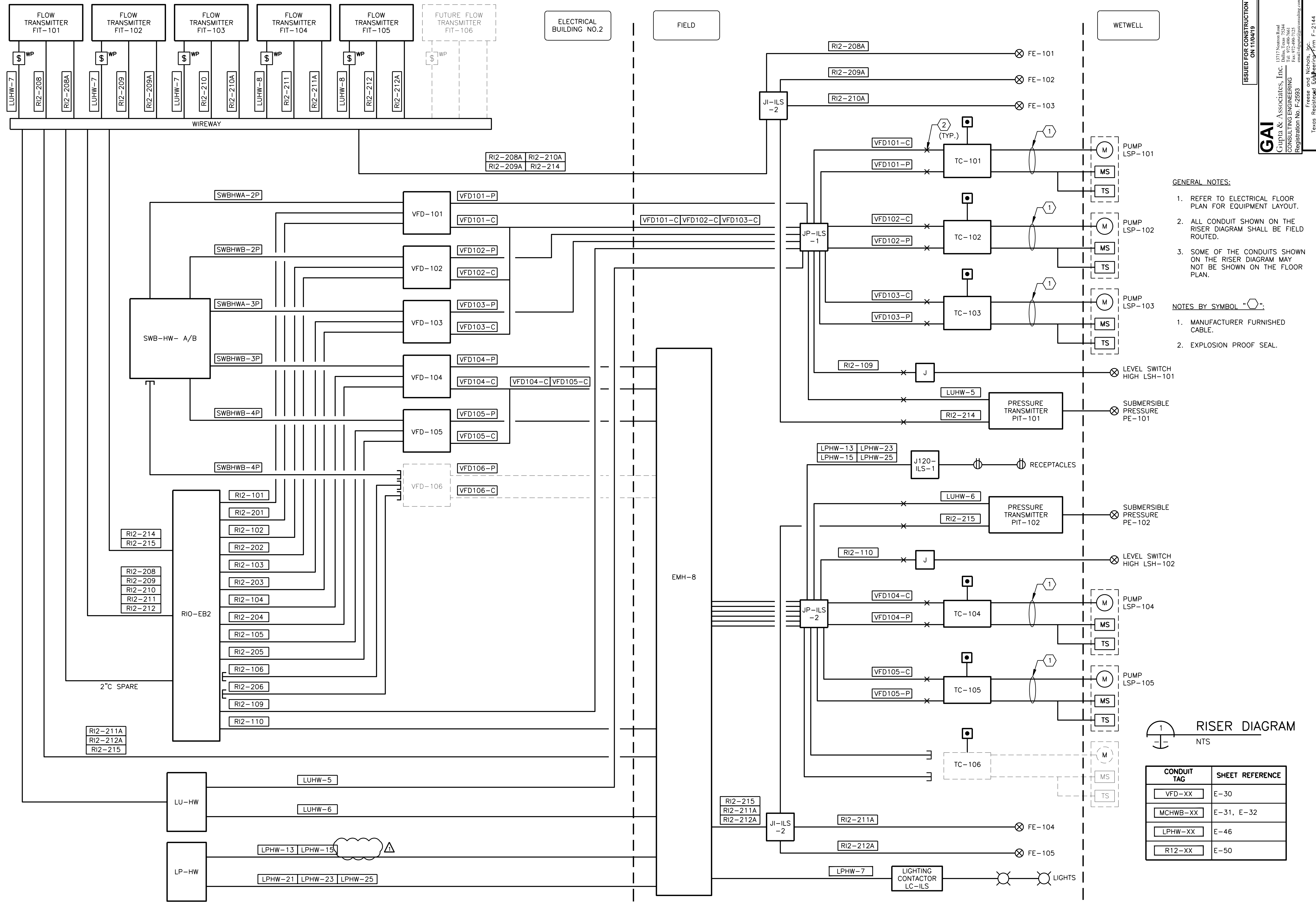
ISSUED FOR CONSTRUCTION  
ON 11/04/19

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CITY OF PFLUGERVILLE  
CENTRAL WWTP EXPANSION  
PHASE I IMPROVEMENTS  
ELECTRICAL  
INFLUENT LIFT STATION  
SECTION AND DETAILS

NO.	ISSUE	BY	DATE	REV. NO.	DATE	DESIGNED	DRAWN	CHECKED	FILE NAME
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PFL16607 08/05/19 11/4/2019 VKG 0									

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- GENERAL NOTES:**
- REFER TO ELECTRICAL FLOOR PLAN FOR EQUIPMENT LAYOUT.
  - ALL CONDUIT SHOWN ON THE RISER DIAGRAM SHALL BE FIELD ROUTED.
  - SOME OF THE CONDUITS SHOWN ON THE RISER DIAGRAM MAY NOT BE SHOWN ON THE FLOOR PLAN.
- NOTES BY SYMBOL "⊗":**
- MANUFACTURER FURNISHED CABLE.
  - EXPLOSION PROOF SEAL.

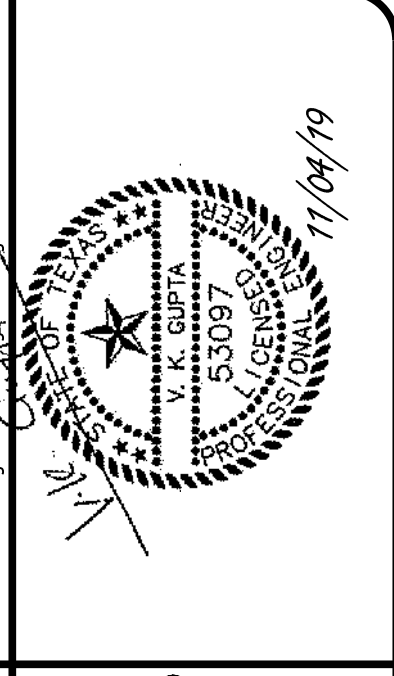
**RISER DIAGRAM**  
NTS

CONDUIT TAG	SHEET REFERENCE
VFD-XX	E-30
MCHWB-XX	E-31, E-32
LPHW-XX	E-46
R12-XX	E-50

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CITY OF PFLUGERVILLE  
**CENTRAL WWP EXPANSION  
PHASE I IMPROVEMENTS**  
ELECTRICAL  
**INFLUENT LIFT STATION  
RISER DIAGRAM**

NO.	ISSUE	BY	DATE	DATE	DESIGNED	BROWN	MAC	MAC	REVISION	CHECKED	VKG
				08/05/19	MA						

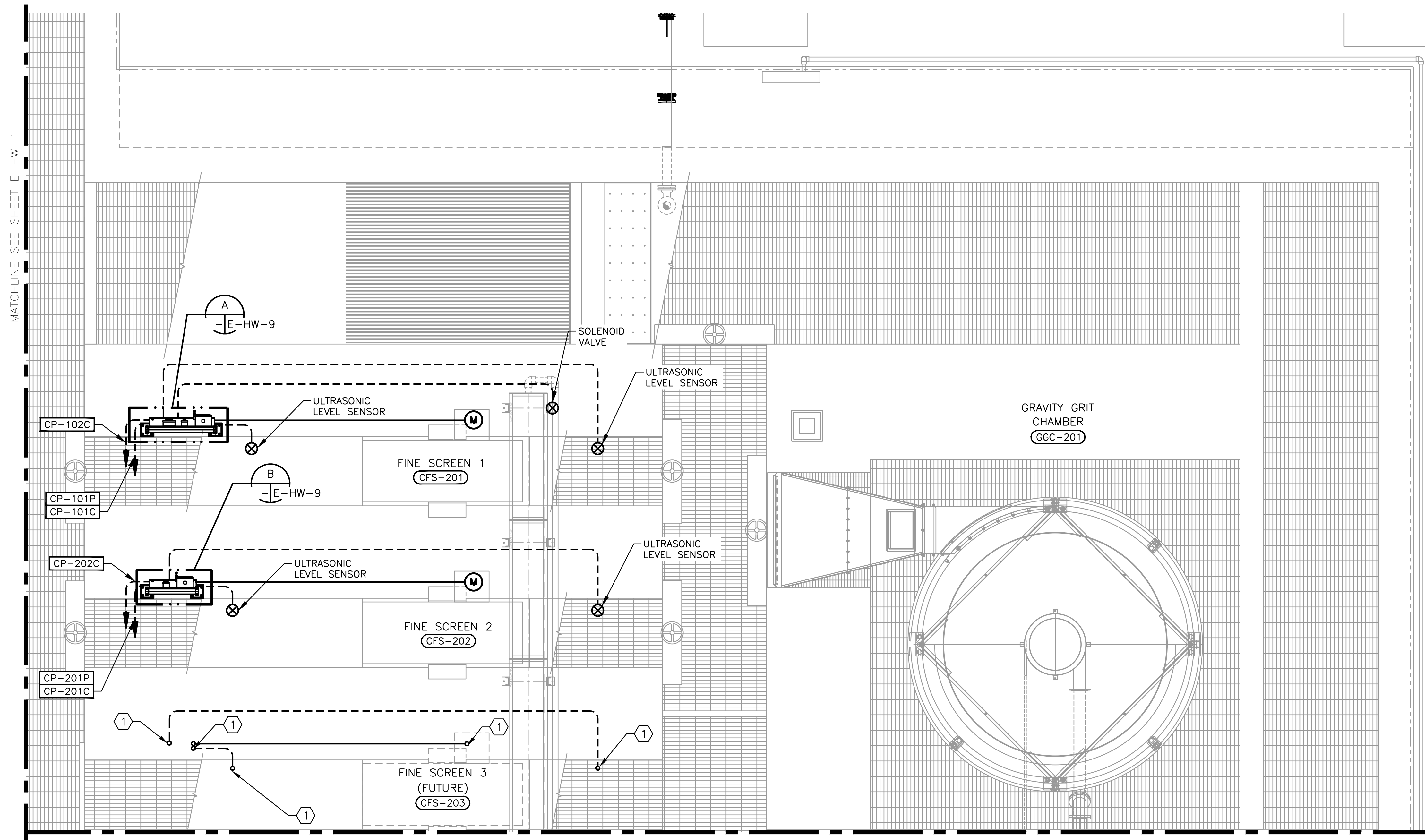
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VERIFY SCALE  
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.

NO. 11/4/2019  
FILE NAME  
1621\_E-HW-05.dwg

SHEET  
**E-HW-5**

SEQ. 98

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User: mac19 Office:  
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Nov 05, 2019 - 8:51am  
LIS: 0.5 PSLTS: 1  
REFERENCES: 34BORDER\_GAI.dwg, Z:\GAI Symbol Library\Drawings\Stamps\ape-vkg (Texas)\_ima-related.dwg



MATCHLINE SEE SHEET E-HW-1

MATCHLINE SEE SHEET E-HW-7

**FINE SCREEN AREA ENLARGED POWER PLAN**  
 3/8" = 1'-0"

**GENERAL NOTES:**

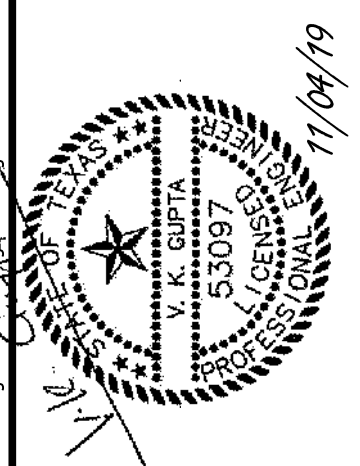
1. NOT ALL CONDUITS ARE SHOWN. REFER TO SHEET E-HW-8 FOR RISER DIAGRAM.
2. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF EQUIPMENT.
3. FIELD ROUTE ALL CONDUITS.
4. ADJUST ELECTRICAL EQUIPMENT PLACEMENT TO AVOID CONFLICT. EXTEND WIRE AND CONDUIT AS NECESSARY FOR A COMPLETE OPERATIONAL SYSTEM.

**NOTES BY SYMBOL "1":**

1. CAP CONDUIT FOR FUTURE INSTALLATION.

CONDUIT TAG	SHEET REFERENCE
VFD-XX	E-30
MCHWB-XX	E-31, E-32
LPHW-XX	E-46
RI2-XX	E-50

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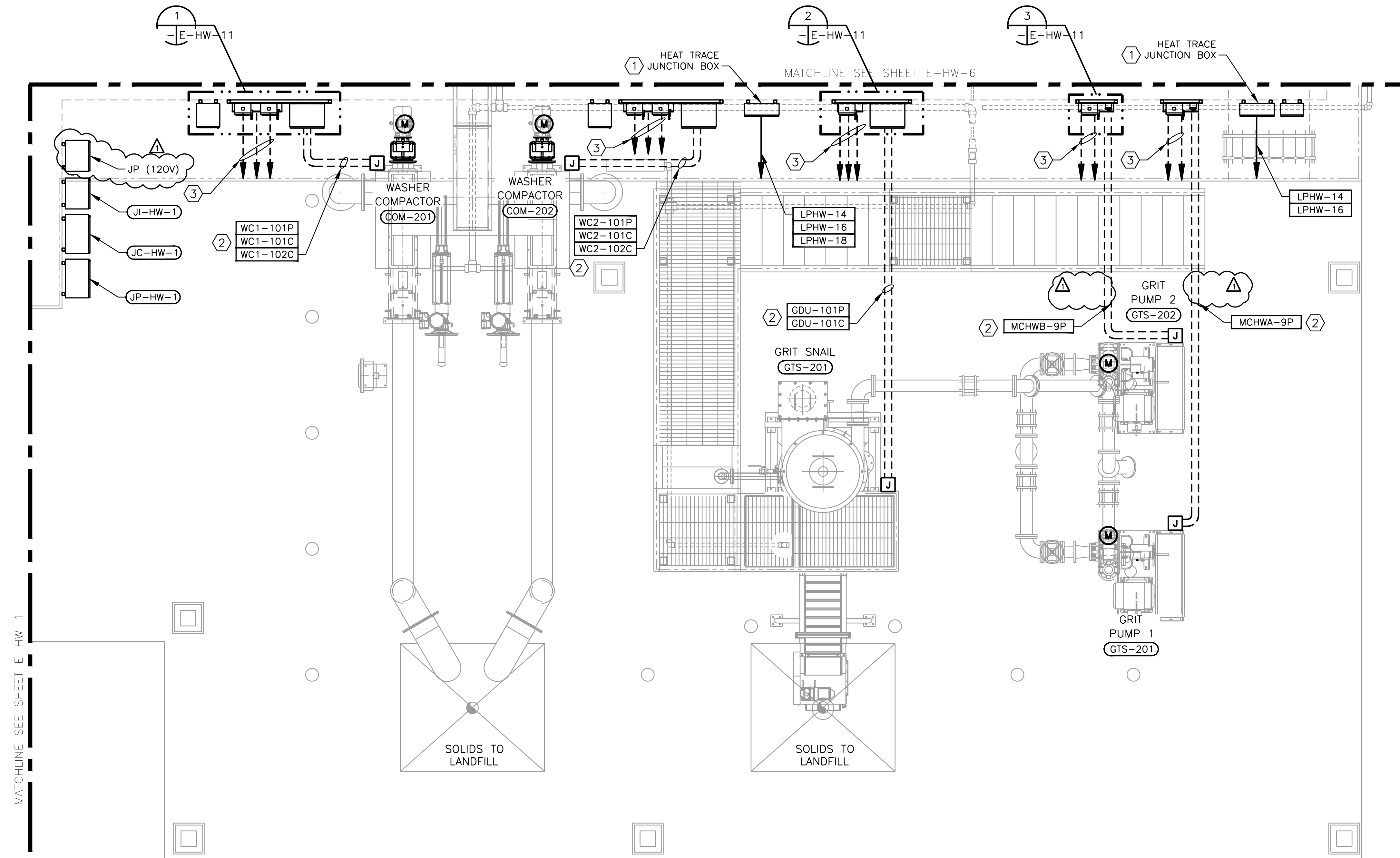
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 ON 11/04/19

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CITY OF PFLUGERVILLE  
**CENTRAL WWT EXPANSION  
 PHASE I IMPROVEMENTS**  
 ELECTRICAL  
**HEADWORKS SYSTEM  
 POWER PLAN**

NO.	ISSUE	BY	DATE	REV. NO.	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
	ISSUED FOR CONSTRUCTION				11/4/2019					
	VERIFY SCALE									
	Bar is one inch on original drawing; if not one inch on this sheet, adjust scale.									

User: mac19 Office: H:\GAI Projects\1621\_Pflugerville Central WWT Expansion\5 Drawings\Electrical\Working\1621\_E-HW-06.dwg LAYOUT: Layout1  
 Nov 05, 2019 - 8:52am LIS: 0.5 PSLTS: 1 TWIST: 1  
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GENERAL NOTES:

1. NOT ALL CONDUITS ARE SHOWN. REFER TO SHEET E-HW-8 FOR RISER DIAGRAM.
2. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION EQUIPMENT.
3. FIELD ROUTE ALL CONDUITS.
4. ADJUST ELECTRICAL EQUIPMENT PLACEMENT TO AVOID CONFLICTS. EXTEND CONDUIT AND WIRE NECESSARY FOR A COMPLETE OPERATIONAL SYSTEM.
5. LOCATION OF CONDUIT STUB-UP SHALL BE COORDINATED WITH THE EQUIPMENT MANUFACTURER.

NOTES BY SYMBOL "⚠️":

1. INSTALL HEAT TAPE TO PIPES 8" AND BELOW. CONNECT HEAT TRACE TO HEAT TRACE JUNCTION BOX.
2. INSTALL CONDUITS IN CONCRETE INCASED DUCTBANK.
3. REFER TO DUCTBANK SECTIONS FOR CONTINUATION.

CONDUIT TAG	SHEET REFERENCE
VFD-XX	E-30
MCHWB-XX	E-31, E-32
LPHW-XX	E-46
⚠️ RI2-XX	E-50



GRIT AREA  
ENLARGED POWER PLAN  
3/8" = 1'-0"

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11/04/19

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CITY OF PFLUGERVILLE  
CENTRAL WWTP EXPANSION  
PHASE I IMPROVEMENTS  
ELECTRICAL  
GRIT REMOVAL SYSTEM  
ELECTRICAL PLAN

NO. ISSUE	DATE	BY	FOR CONSTRUCTION
	08/05/19		

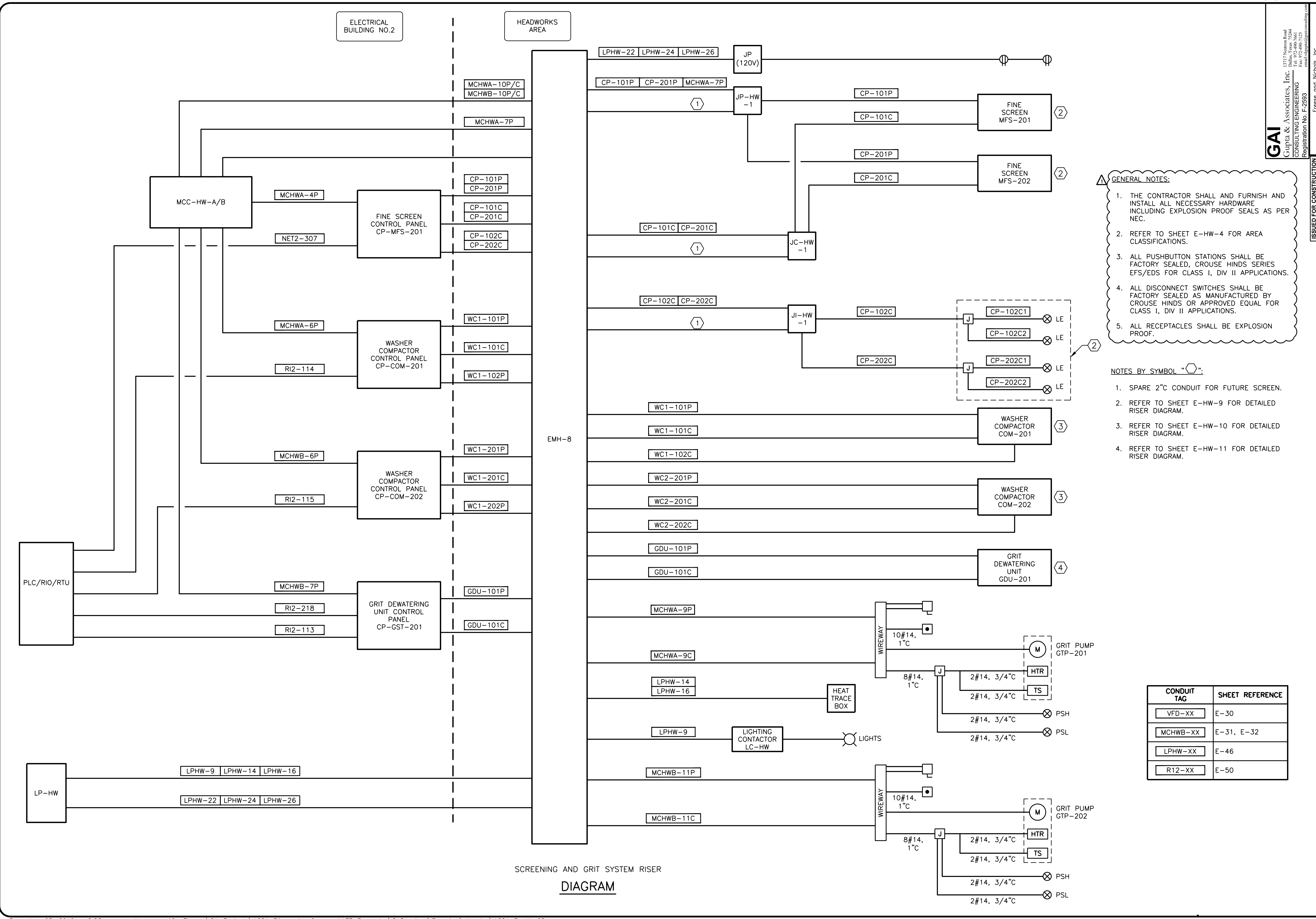
NO. ISSUE	DATE	BY	FOR CONSTRUCTION
	11/4/2019	VKG	

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SHEET  
**E-HW-7**  
SEQ. 100

ACAD: Rel 23.1s (LWS Tech) User: mac19 Office: H:\GAI Projects\1621\_Pflugerville Central WWTP Expansion\5 Drawings\Electrical\Working\1621\_E-HW-07.dwg LAYOUT: Layout1  
Nov 05, 2019 - 8:53am LIS: 0.5 PSLTS: 1 TWIST: 1  
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 Nov 05, 2019 - 8:53am LIS: 0.5 PSLTS: 1  
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SCREENING AND GRIT SYSTEM RISER  
 DIAGRAM

- GENERAL NOTES:**
1. THE CONTRACTOR SHALL AND FURNISH AND INSTALL ALL NECESSARY HARDWARE INCLUDING EXPLOSION PROOF SEALS AS PER NEC.
  2. REFER TO SHEET E-HW-4 FOR AREA CLASSIFICATIONS.
  3. ALL PUSHBUTTON STATIONS SHALL BE FACTORY SEALED, CROUSE HINDS SERIES EFS/EDS FOR CLASS I, DIV II APPLICATIONS.
  4. ALL DISCONNECT SWITCHES SHALL BE FACTORY SEALED AS MANUFACTURED BY CROUSE HINDS OR APPROVED EQUAL FOR CLASS I, DIV II APPLICATIONS.
  5. ALL RECEPTACLES SHALL BE EXPLOSION PROOF.

- NOTES BY SYMBOL "⬡":**
1. SPARE 2" CONDUIT FOR FUTURE SCREEN.
  2. REFER TO SHEET E-HW-9 FOR DETAILED RISER DIAGRAM.
  3. REFER TO SHEET E-HW-10 FOR DETAILED RISER DIAGRAM.
  4. REFER TO SHEET E-HW-11 FOR DETAILED RISER DIAGRAM.

CONDUIT TAG	SHEET REFERENCE
VFD-XX	E-30
MCHWB-XX	E-31, E-32
LPHW-XX	E-46
R12-XX	E-50

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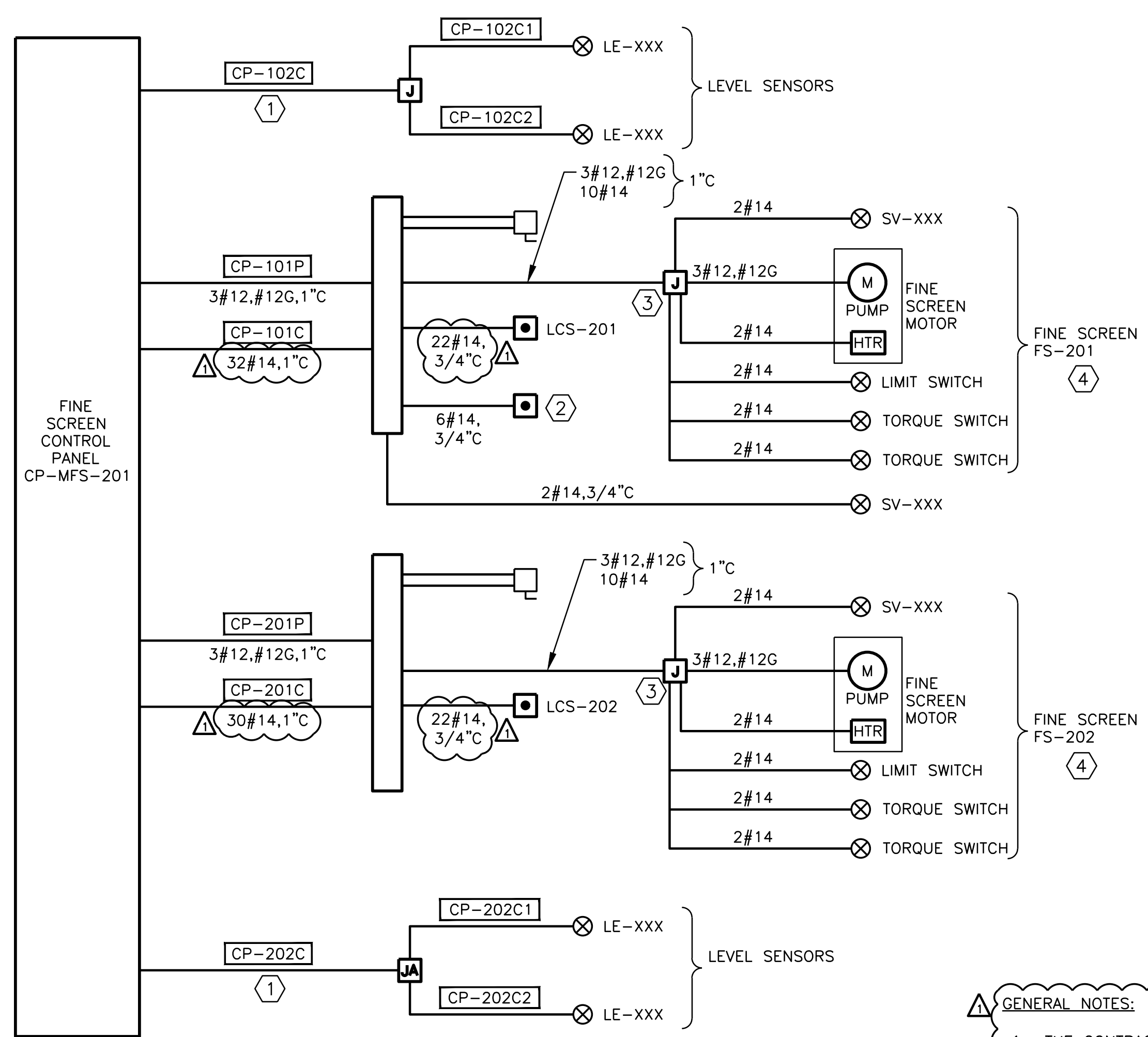
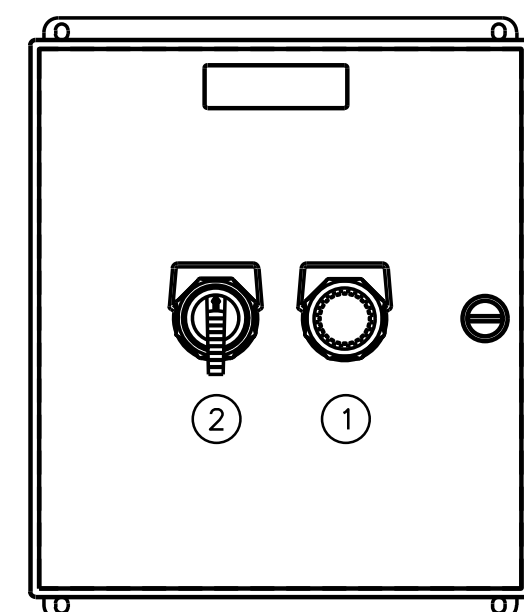
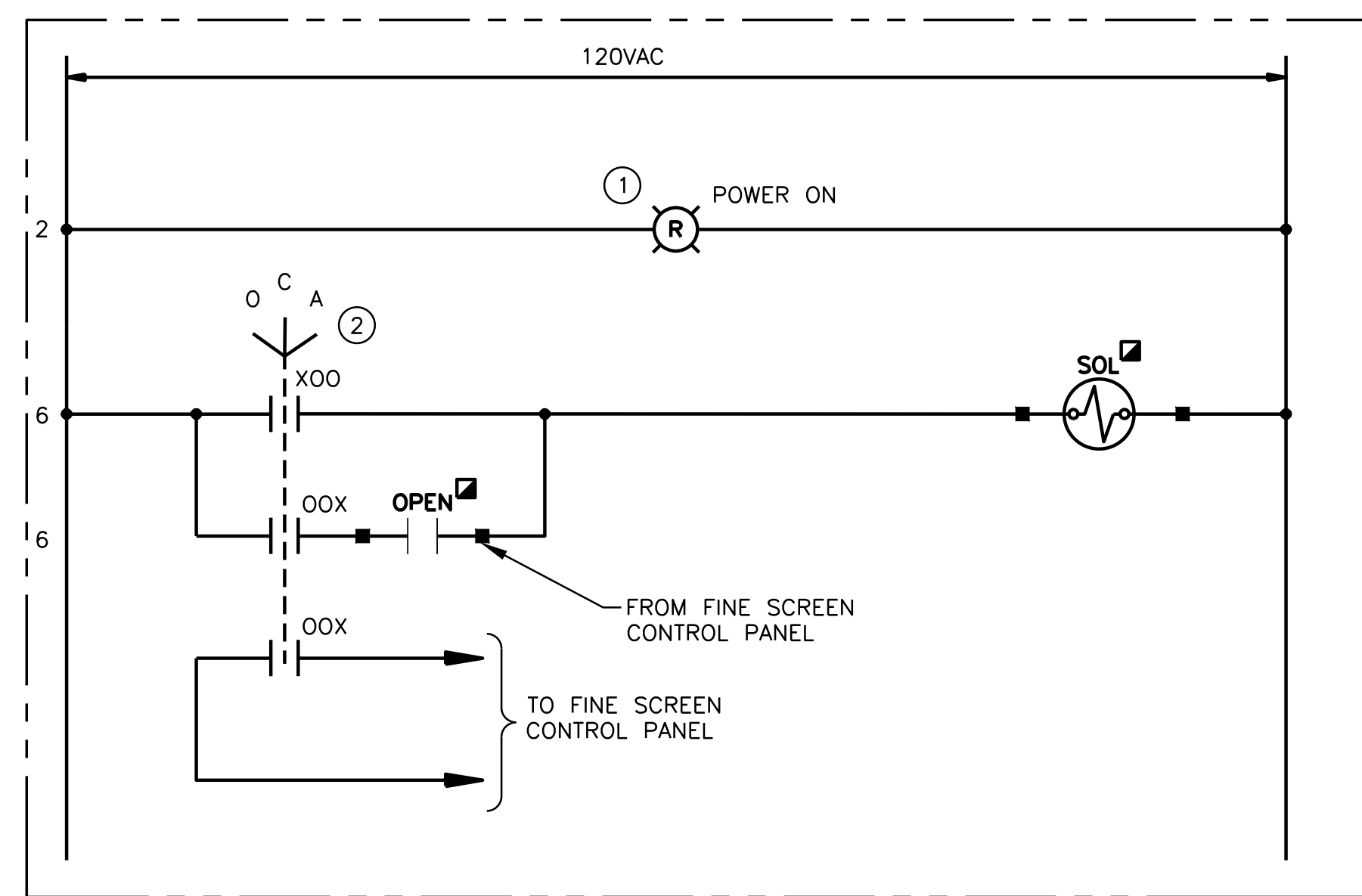
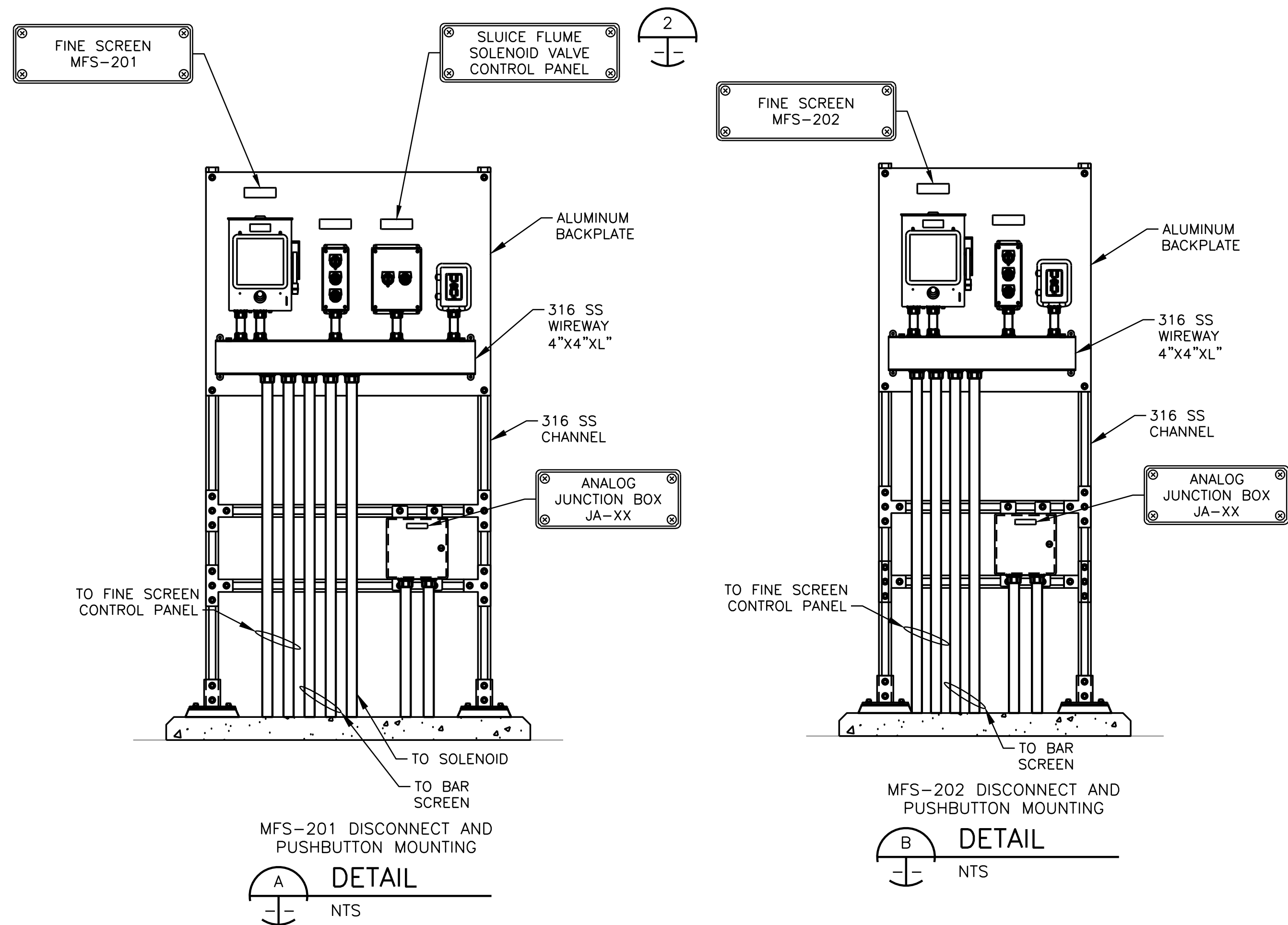
CITY OF PFLUGERVILLE  
 CENTRAL WWP EXPANSION  
 PHASE I IMPROVEMENTS  
 ELECTRICAL  
 HEADWORKS SYSTEM  
 RISER DIAGRAM - I

NO.	ISSUE	DATE	BY	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
					MA	MAC			1621_E-HW-08.dwg

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

SHEET  
**E-HW-8**

SEQ. 101



- GENERAL NOTES:**
1. THE CONTRACTOR SHALL AND FURNISH AND INSTALL ALL NECESSARY HARDWARE INCLUDING EXPLOSION PROOF SEALS AS PER NEC.
  2. REFER TO SHEET E-HW-4 FOR AREA CLASSIFICATIONS.
  3. ALL PUSHBUTTON STATIONS SHALL BE FACTORY SEALED, CROUSE HINDS SERIES EFS/EDS FOR CLASS I, DIV II APPLICATIONS.
  4. ALL DISCONNECT SWITCHES SHALL BE FACTORY SEALED AS MANUFACTURED BY CROUSE HINDS OR APPROVED EQUAL FOR CLASS I, DIV II APPLICATIONS.
  5. ALL RECEPTACLES SHALL BE EXPLOSION PROOF.

- NOTES BY SYMBOL "⬡":**
1. MANUFACTURER FURNISHED CABLE.
  2. SLUDGE FLUME CONTROL STATION
  3. JUNCTION BOX MOUNTED ON FINE SCREEN BY MANUFACTURER.
  4. PRE-WIRED BY THE MANUFACTURER.
  5. NUMBER OF CONTROL WIRES SHALL BE ADJUSTED UP OR DOWN BASED ON MANUFACTURED REQUIREMENTS.

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 Gupta & Associates, Inc.  
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 Fax: 972-908-7125  
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 email: gai@gaiconsulting.com

Freese and Nichols, Inc.  
 Texas Registered Professional Engineer Firm F-2144  
 11/04/19

**FRESE & 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**  
 ELECTRICAL  
**HEADWORKS AREA  
 RISER DIAGRAM - II**

RAW JOB NO.	PFL16607
DATE	08/05/19
DESIGNED	MA
DRAWN	MAC
REVISION	
CHECKED	VKG
FILE NAME	1621_E-HW-09.dwg
ISSUED FOR CONSTRUCTION	VKG 11/4/2019
Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.	

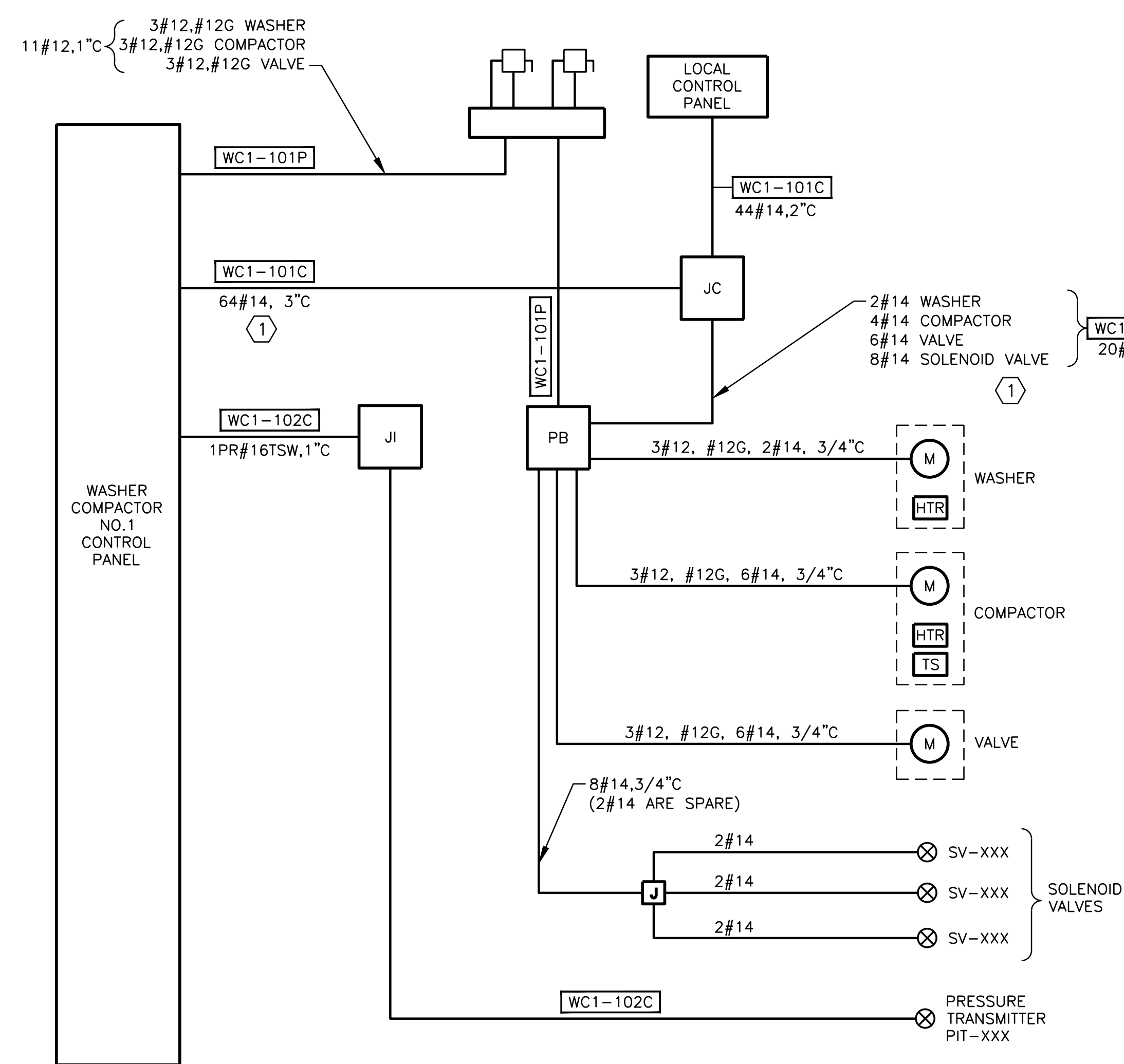
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 REFERENCES: 34BORDER GAL.dwg, Z:\GAI\_Symbol\_Library\Drawings\Stamps\pe-vkg (Texas)\_ima-related.dwg

NOTES BY SYMBOL "⬡":

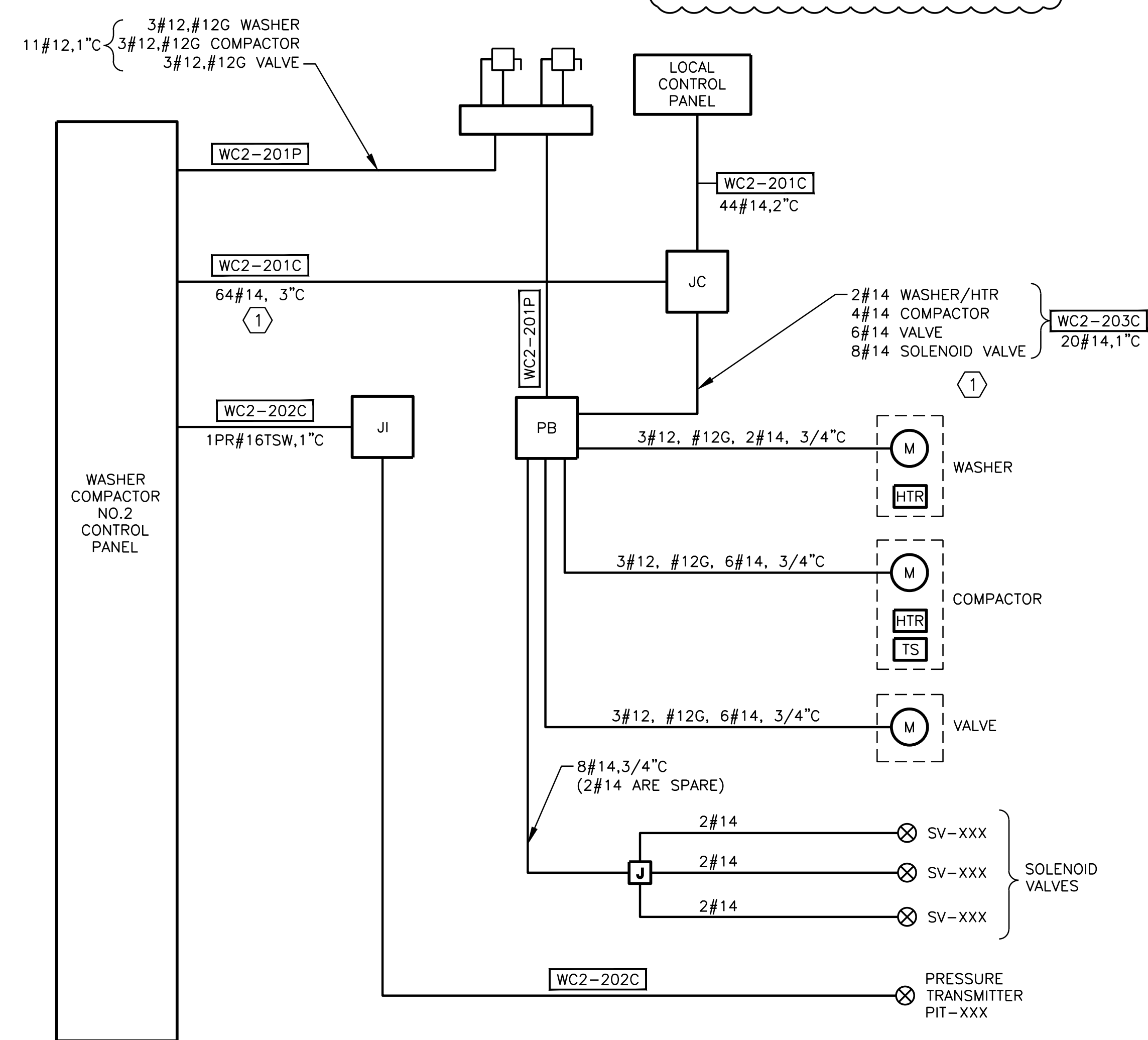
1. NUMBER OF CONTROL WIRES SHALL BE ADJUSTED UP OR DOWN BASED ON MANUFACTURED REQUIREMENTS.

GENERAL NOTES:

1. THE CONTRACTOR SHALL AND FURNISH AND INSTALL ALL NECESSARY HARDWARE INCLUDING EXPROSION PROOF SEALS AS PER NEC.
2. REFER TO SHEET E-HW-4 FOR AREA CLASSIFICATIONS.
3. ALL PUSHBUTTON STATIONS SHALL BE FACTORY SEALED, CROUSE HINDS SERIES EFS/EDS FOR CLASS I, DIV II APPLICATIONS.
4. ALL DISCONNECT SWITCHES SHALL BE FACTORY SEALED AS MANUFACTURED BY CROUSE HINDS OR APPROVED EQUAL FOR CLASS I, DIV II APPLICATIONS.
5. ALL RECEPTACLES SHALL BE EXPLOSION PROOF.



WASHER/COMPACTOR NO.1 RISER  
**DIAGRAM**



WASHER/COMPACTOR NO.2 RISER  
**DIAGRAM**

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13717 Neutron Road  
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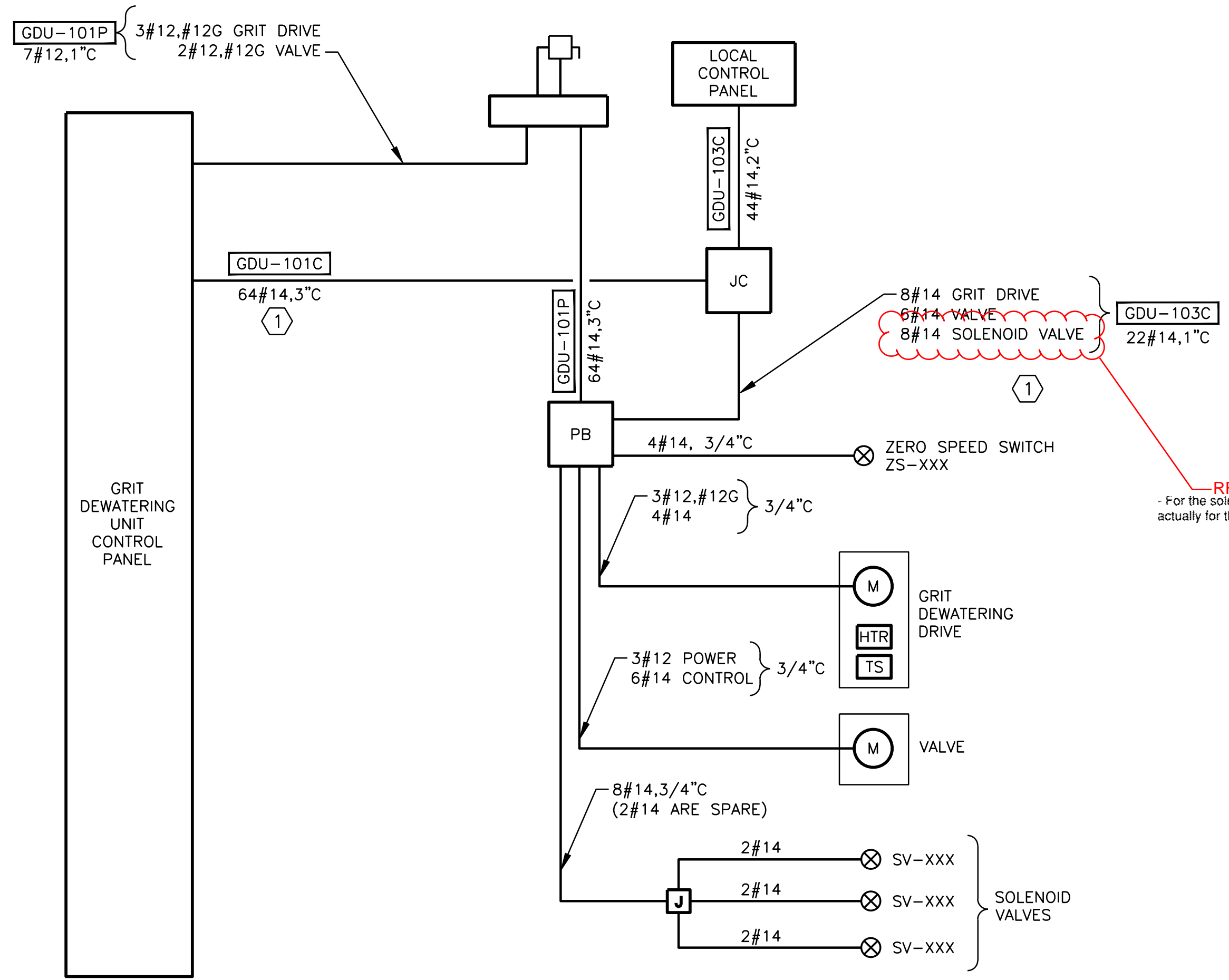
**FRESE & NICHOLS**  
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Austin, Texas 78759  
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CITY OF PFLUGERVILLE  
**CENTRAL WWTP EXPANSION  
PHASE I IMPROVEMENTS**  
ELECTRICAL  
**HEADWORKS AREA  
RISER DIAGRAM - III**

NO.	ISSUE	BY	DATE	RAW JOB NO.	PFL16607
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				DESIGNED	MA
				BROWN	MAC
				REVISION	
				CHECKED	VKG
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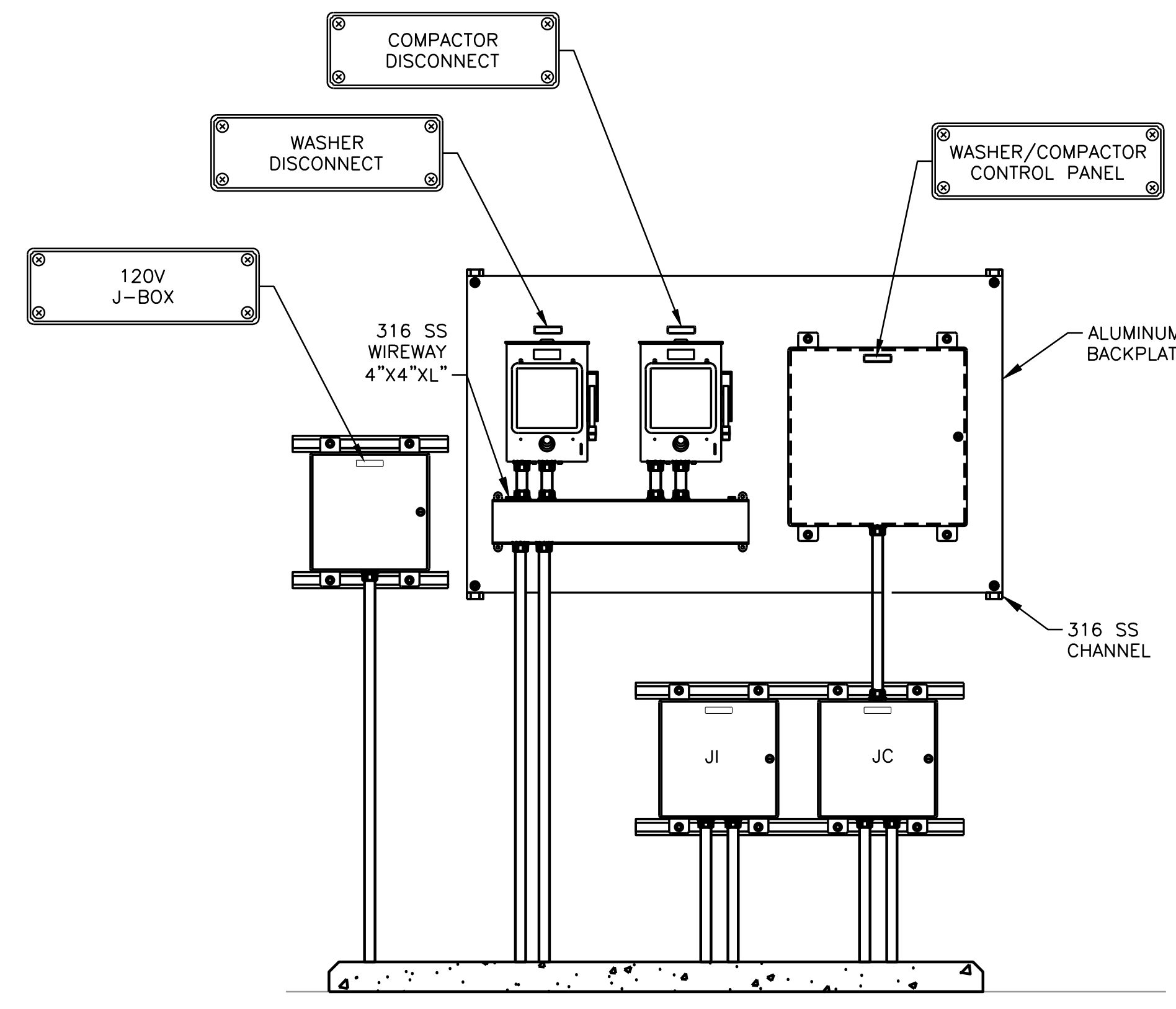
ISSUED FOR CONSTRUCTION  
Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

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Nov 05, 2019 - 8:53am LIS: 0:5 PSLTS: 1 TWIST: 0  
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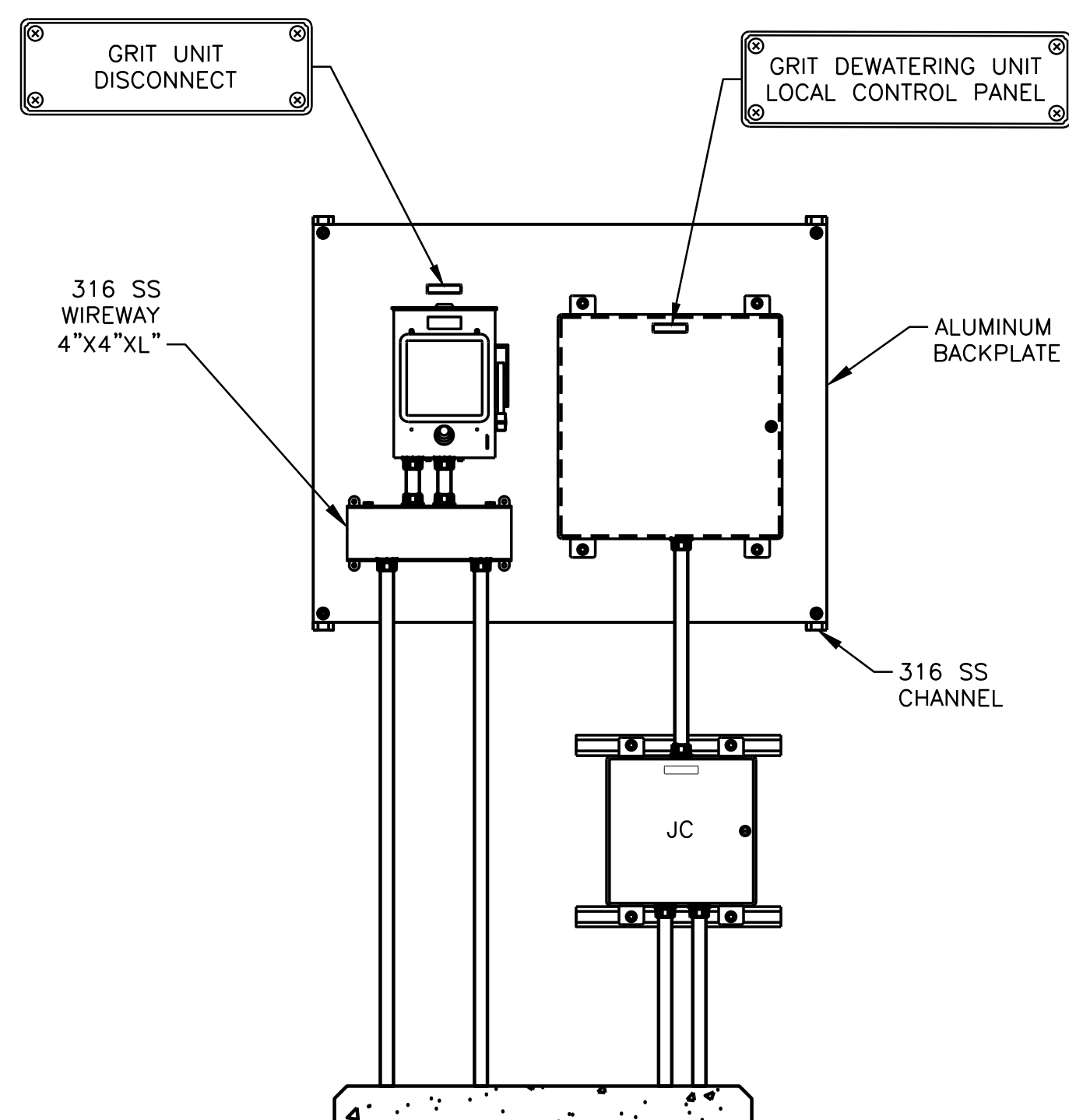


GRIT DEWATERING UNIT RISER  
DIAGRAM

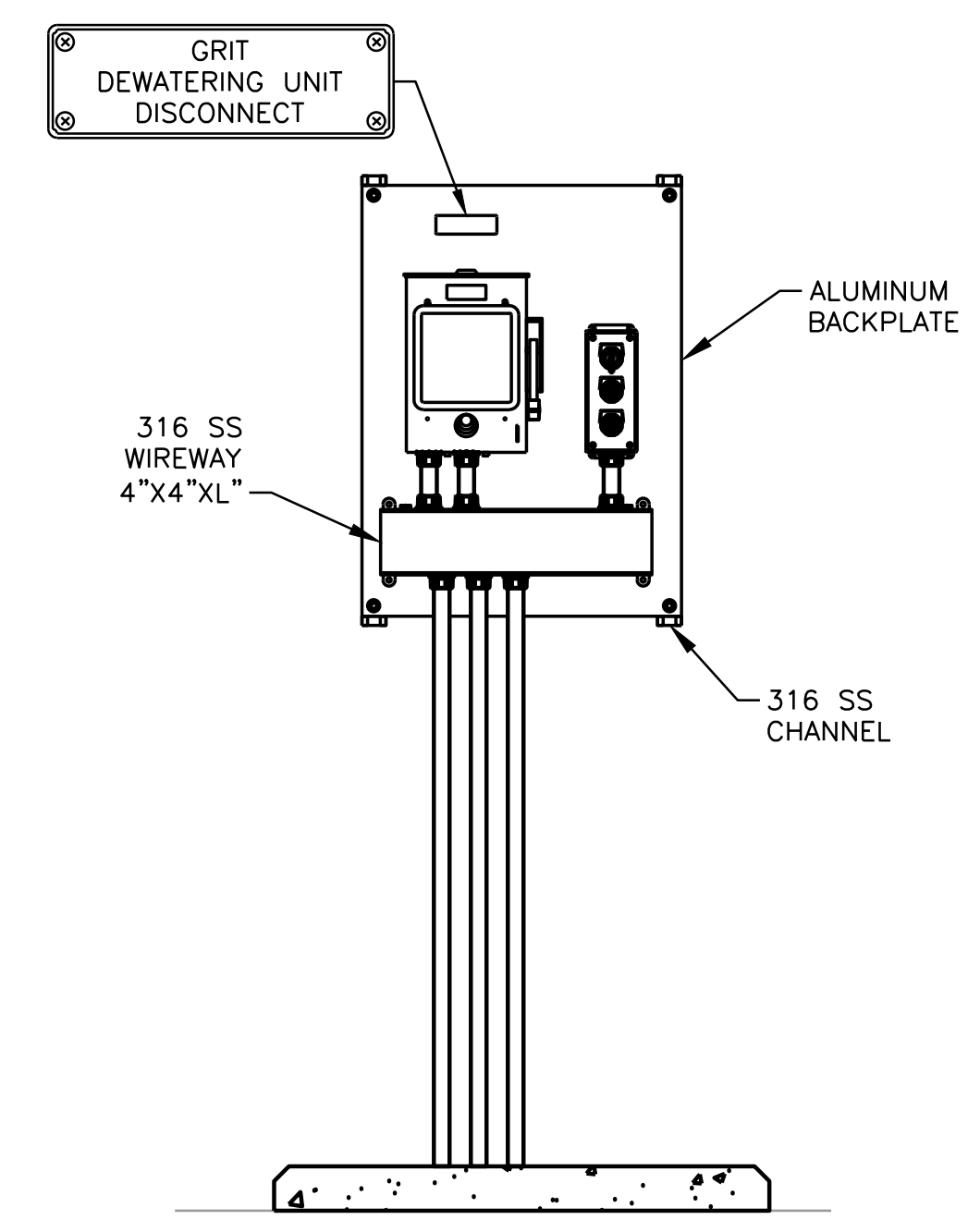
NOTES BY SYMBOL: :  
1. NUMBER OF CONTROL WIRES SHALL BE ADJUSTED UP OR DOWN BASED ON MANUFACTURED REQUIREMENTS.



WASHER/COMPACTOR  
DETAIL  
NTS (TYP OF 2)



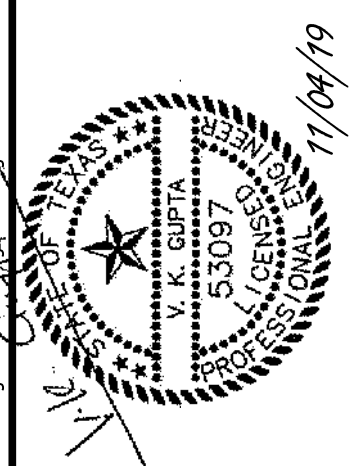
GRIT DEWATERING UNIT  
DETAIL  
NTS



GRIT DEWATERING UNIT  
DETAIL  
NTS

- GENERAL NOTES:
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CITY OF PFLUGERVILLE  
CENTRAL WWTP EXPANSION  
PHASE I IMPROVEMENTS  
ELECTRICAL  
HEADWORK RISER DIAGRAM  
AND DETAILS

NO.	ISSUE	BY	DATE	REV. JOB NO.	DATE	DESIGNED	DRAWN	REVISION	CHECKED	FILE NAME
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1	Bar is one inch on original drawing, if not one inch on this sheet, adjust scale.									

ACAD: Rel 23.1s (LWS Tech)  
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LIS: 0.5 PLS: 1 TWIST:  
REFERENCES: 34BORDER-GAI.dwg, Z:\GAI Symbol Library\Drawings\Stamps\ape-vkg (Texas) ima-related.dwg