

TOWN OF MILFORD KOSCIUSKO COUNTY, INDIANA

WATER UTILITY IMPROVEMENTS DIVISION A - WATER TREATMENT IMPROVEMENTS

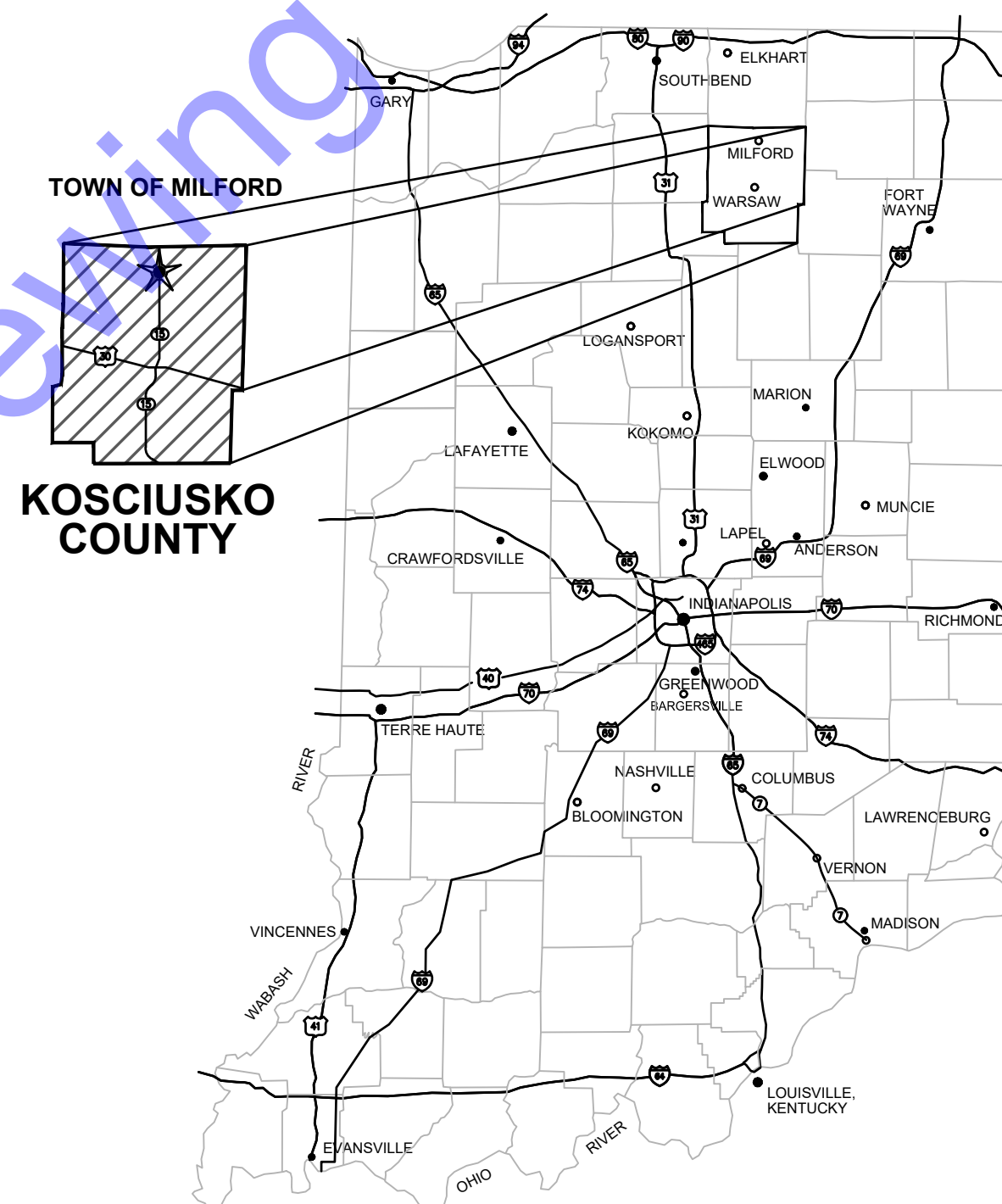
JANUARY 2025

TOWN COUNCIL

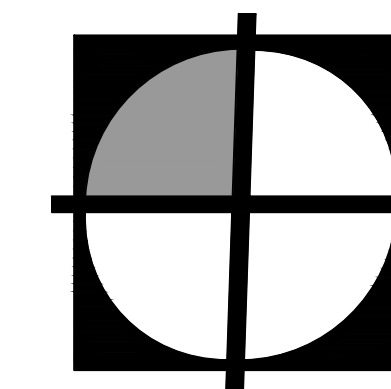
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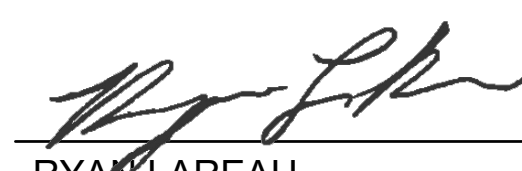
GENERAL LOCATION MAP

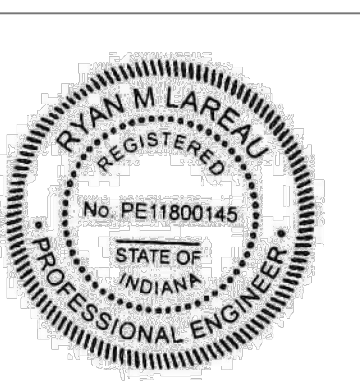


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QA/QC BY : JOHN WETZEL, P.E. _____ 12/23/2024
 DATE :

CERTIFIED BY :  _____ 12/18/2024
 RYAN LAREAU
 INDIANA P.E. No. 11800145
 DATE :



CONTRACT NO. : W24161



VICINITY MAP
SCALE: 1"=1,500'-0"
0 1,500' 3,000'

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RYAN M LAREAU
 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA
 Signature: *[Signature]* Date: 12-18-2024

TOWN OF MILFORD, KOSCIUSKO COUNTY, INDIANA

WATER UTILITY IMPROVEMENTS DIVISION "A" - WATER TREATMENT IMPROVEMENTS

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No.	Submittal / Revision	Date	By

Designed By: RLM	Drawn By: GCR	Checked By: AMR
Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

VICINITY MAP AND DRAWING SET INDEX

GENERAL ABBREVIATIONS

A	AIR	FLD	FILTRATE DRAIN	P/L	MATERIAL
AB	ANCHOR BOLT	FLG	FLANGE	P/J	PROPERTY LINE
AFF	ABOVE FINISH FLOOR	FL	FLUSHING LINE	POJ	PUSH ON JOINT
ALT	ALTERNATE	FLR	FLOOR	PSF	POUNDS PER SQUARE FOOT
ALUM	ALUMINUM	FM	FORCE MAIN	PSI	POUNDS PER SQUARE INCH
@	AT	FRP	FIBER REINFORCED PLASTIC	PVC	POLYVINYL CHLORIDE
APP.	APPARENT	FT	FEET OR FOOT	PW	POTABLE WATER
ATT	AERATION TANK TRANSFER	FTG	FOOTING	R	RECIRCULATION
AUTO	AUTOMATIC	FW	FINISHED WATER	RAD	RADIUS
AVG	AVERAGE	G	GAS	RAS	RETURN ACTIVATED SLUDGE
B	BAFFLE	GALV	GALVANIZED	RCP	REINFORCED CONCRETE PIPE
BLDG	BUILDING	GEN	GENERAL	RD	ROOF DRAIN
BM	BENCH MARK	GRD	GROUND OR GRADE	REINF	REINFORCING
BOT	BOTTOM	HB	HOSE BIBB	REQ'D	REQUIRED
BRG	BEARING	HORIZ	HORIZONTAL	R/W (ROW)	RIGHT-OF-WAY
CFM	CUBIC FEET PER MINUTE	HP	HORSEPOWER	SAN	SANITARY
CL	CENTERLINE	HW	HOT WATER	SAS	SANITARY SEWER
CO	CLEAN OUT	ID	INSIDE DIAMETER	SCH	SCHEDULE
COL/C	COLUMN	IJ	ISOLATION JOINT	SECT	SECTION
CONC	CONCRETE	INV	INVERT	SF	SQUARE FEET
COP	COPPER	IP	IRON PIN	SHT	SHEET
CJ	CONSTRUCTION JOINT	LAV	LAVATORY	SL	SAMPLE LINE
CW	COLD WATER	LB	POUND	SOS	STORM SEWER
CY	CUBIC YARD	LL	LIVE LOAD	SP	STOP PLATE
D	DRAIN	LLV	LONG LEG VERTICAL	SQ	SQUARE
DEC	DECANT	LTG	LIGHTING	STD	STANDARD
DIA	DIAMETER	MAX	MAXIMUM	S STL. SS	STAINLESS STEEL
DIM	DIMENSION	MCC	MOTOR CONTROL CENTER	STL	STEEL
DI	DUCTILE IRON PIPE	MGD	MILLIONS GALLONS PER DAY	SUP	SUPERNATANT
DL	DEAD LOAD	MH	MANHOLE	SY	SQUARE YARD
DSPT	DOWN SPOUT	MIN	MINIMUM, MINUTE	TOS	TOP OF SLAB
DWG	DRAWING	MJ	MECHANICAL JOINT	TOW	TOP OF WALL
E	ELECTRICAL CONDUIT	NC	NORMALLY CLOSED	TW	TERTIARY WATER
EA	EACH	NG	NATURAL GAS	TYP	TYPICAL
EF	EACH FACE	NIC	NOT IN CONTACT	V	VACUUM OR VALVE
EFFL	EFFLUENT	NO	NORMALLY OPEN	VAR	VARIES
EL	ELEVATION	NO.	NUMBER	VERT	VERTICAL
EW	EACH WAY	NPW	NON-POTABLE WATER	W	WEIR
EX	EXISTING	OC	ON CENTER	W/	WITH
EXF	EXHAUST FAN	OD	OUTSIDE DIAMETER	W/O	WITHOUT
EXP JP	EXPANSION JOINT	OPG	OPENING	WAS	WASTE ACTIVATED SLUDGE
F	FILTER	OPP	OPPOSITE	WC	WATER CLOSET
FCAR	FLANGED COUPLING ADAPTER, RESTRAINED	PE	PULL BOX	WH	WATER HEATER
FD	FLOOR DRAIN		POLYETHYLENE EXP. JT.	WL	WATER LINE
FDN	FOUNDATION			WWF	WELDED WIRE FABRIC
FH	FIRE HYDRANT			YH	YARD HYDRANT

GENERAL NOTES

- ALL PROPERTY AND RIGHT-OF-WAY LINE INFORMATION SHOWN IN DRAWING SET ARE APPARENT AND SHALL NOT BE DEEMED EXACT LOCATIONS, UNLESS OTHERWISE NOTED. INFORMATION WAS OBTAINED VIA "INDIANA ON-LINE" GIS SHAPE FILES.
- EXISTING UTILITY INFORMATION SHOWN IN DRAWING SET, MEETS "ASCE 36-02" QUALITY LEVEL "C", UNLESS OTHERWISE NOTED.

UTILITY COORDINATION AND PROJECT DIRECTION OF EXISTING SUBSURFACE UTILITY DATA:

UTILITY QUALITY LEVEL DESCRIPTIONS:

UTILITY QUALITY LEVEL A - PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATIONS OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES, USUALLY AT A SPECIFIC POINT. ACCURACY OF LOCATION MATCHES PROJECT SURVEY TOLERANCE.

UTILITY QUALITY LEVEL B - INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION SUBSURFACE UTILITIES. THE RELIABILITY OF THIS INFORMATION IS SURVEYED TO PROJECT CONTROL AND SUBJECT TO ACCURACY LEVELS OF THE GEOPHYSICAL TOLERANCE DEFINED BY THE PROJECT.

UTILITY QUALITY LEVEL C - INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE GROUND UTILITY FEATURES AND CORRELATING QUALITY LEVEL "D" INFORMATION.

UTILITY QUALITY LEVEL D - INFORMATION DERIVED FROM EXISTING RECORDS OR VERBAL RECOLLECTIONS.

GENERAL SCHEMATIC LEGEND

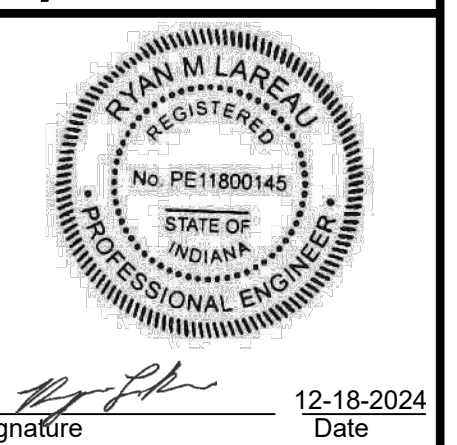
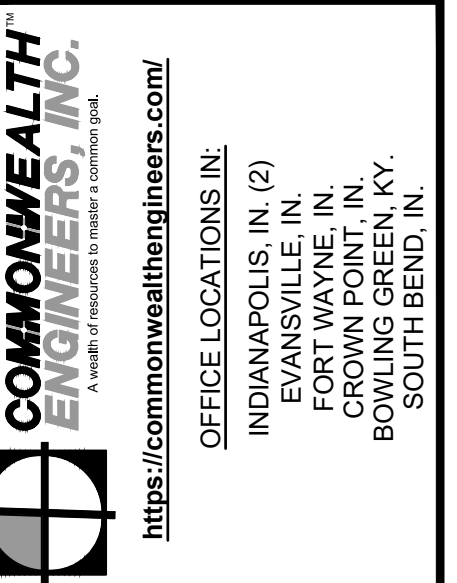
	QUICK DISCONNECT		BOOSTER PUMP
	FLANGED SPOOL SECTION		AIR RELIEF VALVE
	PRESSURE REDUCER VALVE		FLOW METER
	FLANGED COUPLING ADAPTER		GATE VALVE
	BALL CHECK VALVE		FLOW CONTROL VALVE
	MOTOR ACTUATOR		VALVE
	FLEXIBLE CONNECTION		ECCENTRIC PLUG VALVE
	FLANGE FILLER & S.S. MESH SCREEN		CHECK VALVE
	90° V-NOTCH WEIR		INCREASER / REDUCER
	MAGNETIC FLOW METER		BUTTERFLY VALVE
	ULTRASONIC SENSOR		PIPE THROUGH FLOOR / WALL
	SUBMERSIBLE PUMP		BALL VALVE
	NEW PIPING AND EQUIPMENT		BLIND FLANGE OR PLUG
	EXISTING PIPING AND EQUIPMENT		HOSE BIBB
	FUTURE PIPING AND EQUIPMENT		STOP PLATE
			WEIR

HATCHING SYMBOLS

	-CMU WALL (PLAN VIEW)
	-GRANULAR BACKFILL (PROFILE VIEW)
	-DEMOLITION (CONTRACTOR SHALL REFER TO DETAILED SPECIFICATIONS)
	-GROUT
	-CONCRETE
	-STEEL
	-COMPACTED GRANULAR BACKFILL OR COMPACTED FOUNDATION
	-ABANDONED IN PLACE

DRAWING SET LEGEND

	EXISTING OVERHEAD TELEPHONE LINE		AC UNIT		TELEPHONE MANHOLE
	EXISTING GAS LINE AND VALVE		BOLLARD		TELEPHONE LINE MARKER
	EXISTING WATER LINE AND VALVE		BOULDER / LARGE ROCK		TRAFFIC MANHOLE
	EXISTING FIBER OPTIC LINE		CL CENTER LINE MONUMENT		WATER LINE MARKER
	EXISTING OVERHEAD ELECTRIC LINE		RW CENTER LINE MONUMENT		WATER METER
	EXISTING BURIED ELECTRIC		CONTROL POINT / BENCH MARK		VALVE
	EXISTING NON-POTABLE WATER LINE		DRILL HOLE		IRRIGATION CONTROL VALVE
	EXISTING POTABLE WATER LINE		MAIL BOX		FIRE HYDRANT
	EXISTING BURIED TELEPHONE LINE		FLAG POLE		FLUSH HYDRANT
	EXISTING FENCE		POST		YARD HYDRANT
	APP. R/W		STUMP		WALL SPIGOT
	APP. P/L		BUSH / HEDGE		EXISTING PIPE PLUG
	EDGE OF ROAD		DECIDUOUS TREE		STORM CATCH BASIN (SQUARE)
	EDGE OF ROAD WITH CURB		CONIFEROUS TREE		STORM CATCH BASIN (ROUND)
	785		SIGN		STORM CURB INLET
	784		UTILITY LOCATE FLAG		STORM MANHOLE
	NEW WATER LINE		GAS LINE MARKER		SANITARY MANHOLE
	785		GAS VALVE		SANITARY VALVE
	784		GAS METER		CLEANOUT
			GUY POLE		VENT
			POWER POLE		NEW VALVE
			LIGHT POLE		NEW FIRE HYDRANT
			GUY WIRE		NEW FLUSH HYDRANT
			ELECTRIC METER		NEW WET SADDLE AND VALVE BODY
			ELECTRIC PANEL		NEW LINE STOP
			ELECTRIC TRANSFORMER		NEW CUT AND CAP
			HAND HOLE BOX		NEW SANITARY MH
			FIBER OPTIC MARKER		
			TEL/TV PEDESTAL		



TOWN OF MILFORD
KOSCIUSKO COUNTY,
INDIANA
WATER UTILITY IMPROVEMENTS
DIVISION "A" - WATER TREATMENT
IMPROVEMENTS



Date	
By	
Submitted / Revision	
No.	

Designed By:	Drawn By:	Checked By:
RLM	GCR	AMR
Issue Date:	Project No:	Scale:
1-14-2025	W24161	AS SHOWN

GENERAL ABBREVIATIONS, LEGENDS, SYMBOLS, AND NOTES

FILE: Z:\SHARED\CLIENTS\24\ML\COMMONW161 - WATER UTILITY IMPROVEMENTS\CADD\CURRENT FILES\ DRAWINGS\DWG A\WTP02 GENERAL DRAWINGS.DWG
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PLAN VIEW

SCALE: 1"=30'-0"
 0 30' 60'

HORIZONTAL CONTROL INFORMATION			
IDENTIFIER	NORTHING	EASTING	DESCRIPTION
HCV #47002	2243098.82	276600.56	MAG NAIL W/"BFA" I.D. WASHER

BENCHMARK INFORMATION		
IDENTIFIER	ELEVATION	DESCRIPTION
BM #7403	827.79	RR SPIKE PWP, INSIDE FCE AT TREATMENT PLANT
BM #7404	828.4000	RR SPIKE PWP 1-058-469 AT HOUSE 11687 ON SR 15

Project coordinates are based on the following:
HORIZONTAL-US State plane coordinates: NAD83 (North American Datum) Indiana East Zone (1301)
VERTICAL- Based on NGS Benchmark Disc Stamped, "R 160 1946" Whose Elev. = 833.33 FT. (NAVD 88)

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RYAN M LAREAU
 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA

Signature: *[Signature]* Date: 12-18-2024

**TOWN OF MILFORD
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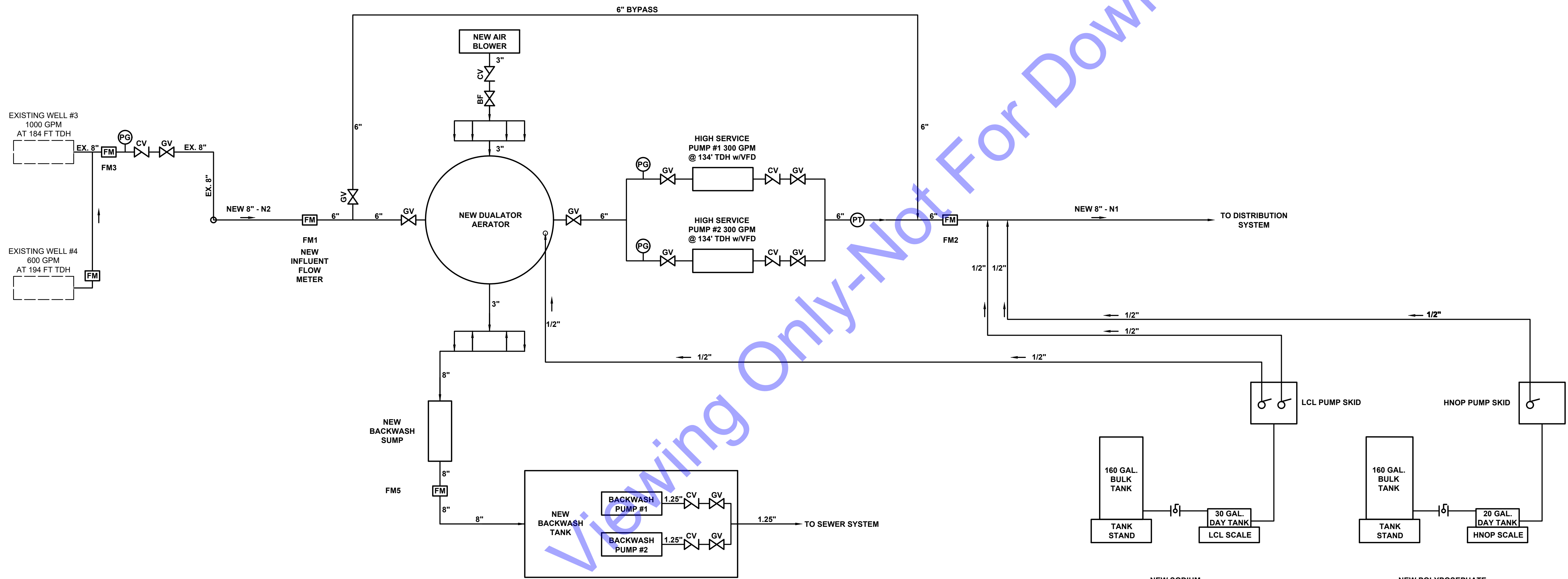
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Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

SURVEY DATA

Drawing No:
G4
 Sheet: 04 OF 75

FILE: Z:\SHARED\CLIENTS\MILFORD\W24161 - WATER UTILITY IMPROVEMENTS\CADD\CURRENT FILES\DRAWINGS\DWG\WTP02 GENERAL DRAWINGS.DWG
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PROCESS FLOW SCHEMATIC
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REGISTERED
No. PE1800145
STATE OF INDIANA
PROFESSIONAL ENGINEER
R. M. Lareau
Signature Date 12-18-2024

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WATER UTILITY IMPROVEMENTS
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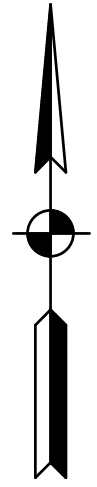
PROCESS FLOW SCHEMATIC

Drawing No:
G5
Sheet: 05 OF 75

FILE: Z:\MILFORD\CLIENTS\MILFORD\W24161 - WATER UTILITY IMPROVEMENTS\CADD\CURRENT FILES\DRAWINGS\DWY A WTP03 SITE PLAN.DWG
 Sheet: 11/20/2025 8:46:07 AM Plotted: 11/20/2025 8:05:35 AM Comment: User: George Roper User: George Roper User: George Roper



SITE PLAN
 SCALE: 1"=20'-0"
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RYAN M LAREAU
 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA

[Signature]
 Signature Date: 12-18-2024

TOWN OF MILFORD, INDIANA

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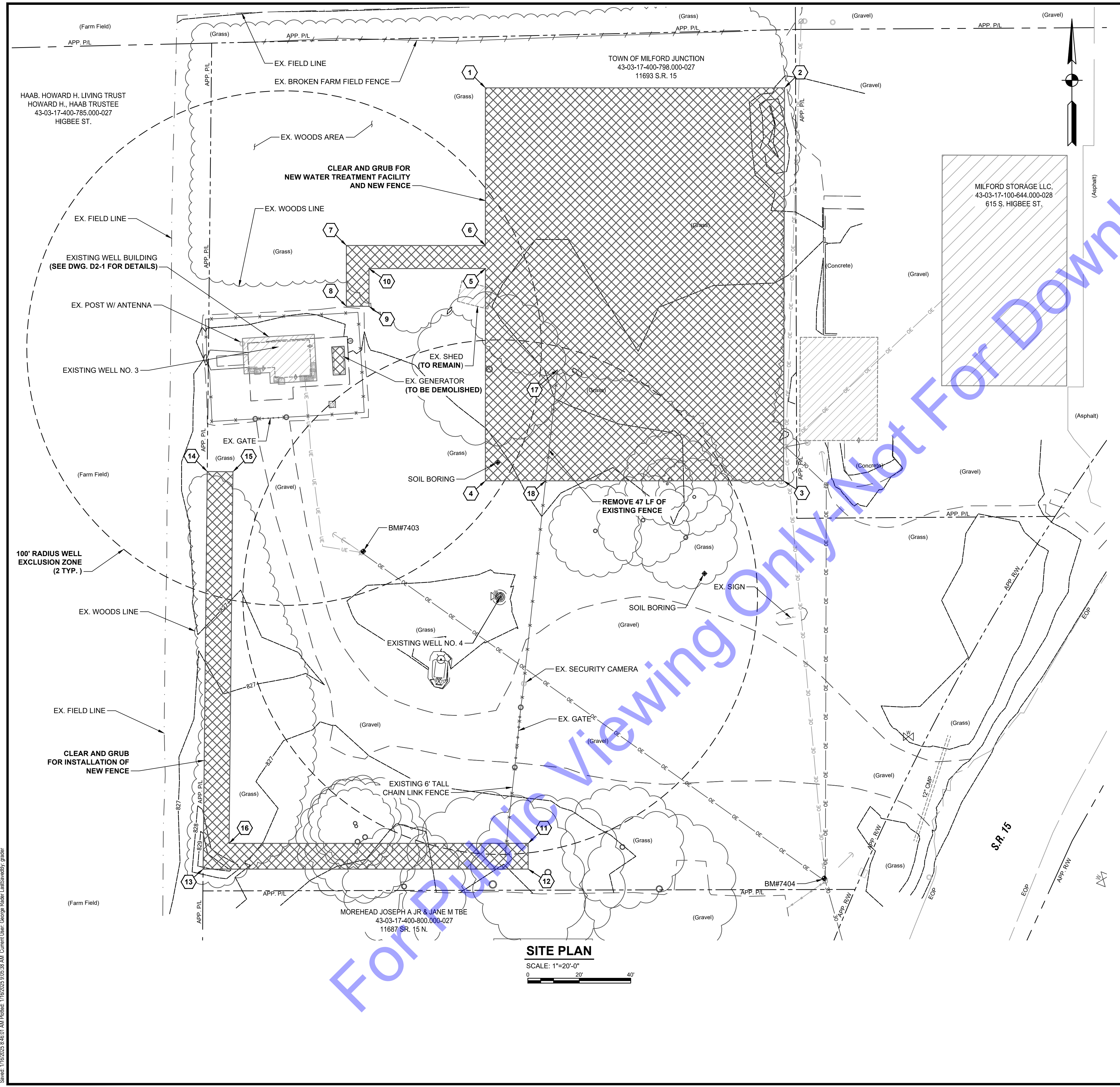
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OVERALL PROPERTY PLAN

Drawing No:
C1-1
 Sheet: 06 OF 75

FILE: Z:\DWG\IN CLIENTS\Z\MILFORD\21611 - WATER UTILITY IMPROVEMENTS\CADD\CURRENT FILES\DRAWINGS\DWG A\WTP03 SITE PLAN.DWG
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CLEAR AND GRUB LIMITS COORDINATES			
IDENTIFIER	DESCRIPTION	NORTHING	EASTING
01	CLEAR AND GRUB LIMIT NORTHWEST CORNER	2241763.87	276262.14
02	CLEAR AND GRUB LIMIT NORTHEAST CORNER	2241763.87	276378.41
03	CLEAR AND GRUB LIMIT SOUTHEAST CORNER	2241611.13	276378.01
04	CLEAR AND GRUB LIMIT SOUTHWEST CORNER	2241611.13	276262.14
05	CLEAR AND GRUB LIMIT WEST CORNER	2241693.65	276262.14
06	CLEAR AND GRUB LIMIT WEST CORNER	2241702.60	276262.14
07	CLEAR AND GRUB LIMIT WEST CORNER	2241702.60	276208.10
08	CLEAR AND GRUB LIMIT WEST CORNER	2241678.95	276208.10
09	CLEAR AND GRUB LIMIT WEST CORNER	2241678.95	276216.90
10	CLEAR AND GRUB LIMIT WEST CORNER	2241693.64	276216.90
11	CLEAR AND GRUB LIMIT NORTHEAST CORNER	2241470.21	276278.76
12	CLEAR AND GRUB LIMIT SOUTHEAST CORNER	2241460.21	276278.76
13	CLEAR AND GRUB LIMIT SOUTHWEST CORNER	2241460.20	276152.41
14	CLEAR AND GRUB LIMIT NORTHWEST CORNER	2241614.76	276154.02
15	CLEAR AND GRUB LIMIT NORTHEAST CORNER	2241614.66	276164.02
16	CLEAR AND GRUB LIMIT EAST CORNER	2241470.19	276162.51
17	NORTH LIMIT OF CHAIN LINK FENCE REMOVAL	2241654.34	276290.17
18	SOUTH LIMIT OF CHAIN LINK FENCE REMOVAL	2241611.13	276285.54

SITE PLAN
 SCALE: 1"=20'-0"
 0 20' 40'

- GENERAL NOTES:**
- ALL EQUIPMENT AND CHEMICALS SUCH AS FUEL NEED TO BE KEPT OUTSIDE OF THE 100' SANITARY SETBACKS AROUND EXISTING WELL NO. 3 AND EXISTING WELL NO. 4.
 - CONTRACTOR SHALL PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
 - REFER TO DS SPECIFICATIONS FOR ADDITIONAL INFORMATION PERTAINING TO DEMOLITION, SALVAGE, ABANDONMENT, AND REMOVAL WORK ITEMS.
 - ALL ITEMS SCHEDULED TO BE DEMOLISHED AND REMOVED SHALL BE DONE COMPLETE AND IN A LAWFUL MANNER THAT COMPLIES WITH ALL APPLICABLE RULES AND REGULATIONS.
 - OWNER MAY ELECT TO SALVAGE EXISTING EQUIPMENT AND ASSOCIATED APPURTENANCES. PROVIDE MINIMUM 7 DAYS NOTICE PRIOR TO THE REMOVAL OF EQUIPMENT AS SPECIFIED TO BE REMOVED IN THE CONTRACT DOCUMENT.

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RYAN M. LAREAU
REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA

Signature: _____ Date: 12-18-2024

**TOWN OF MILFORD
 KOSCIUSKO COUNTY,
 INDIANA**

**WATER UTILITY IMPROVEMENTS
 DIVISION "A" - WATER TREATMENT
 IMPROVEMENTS**

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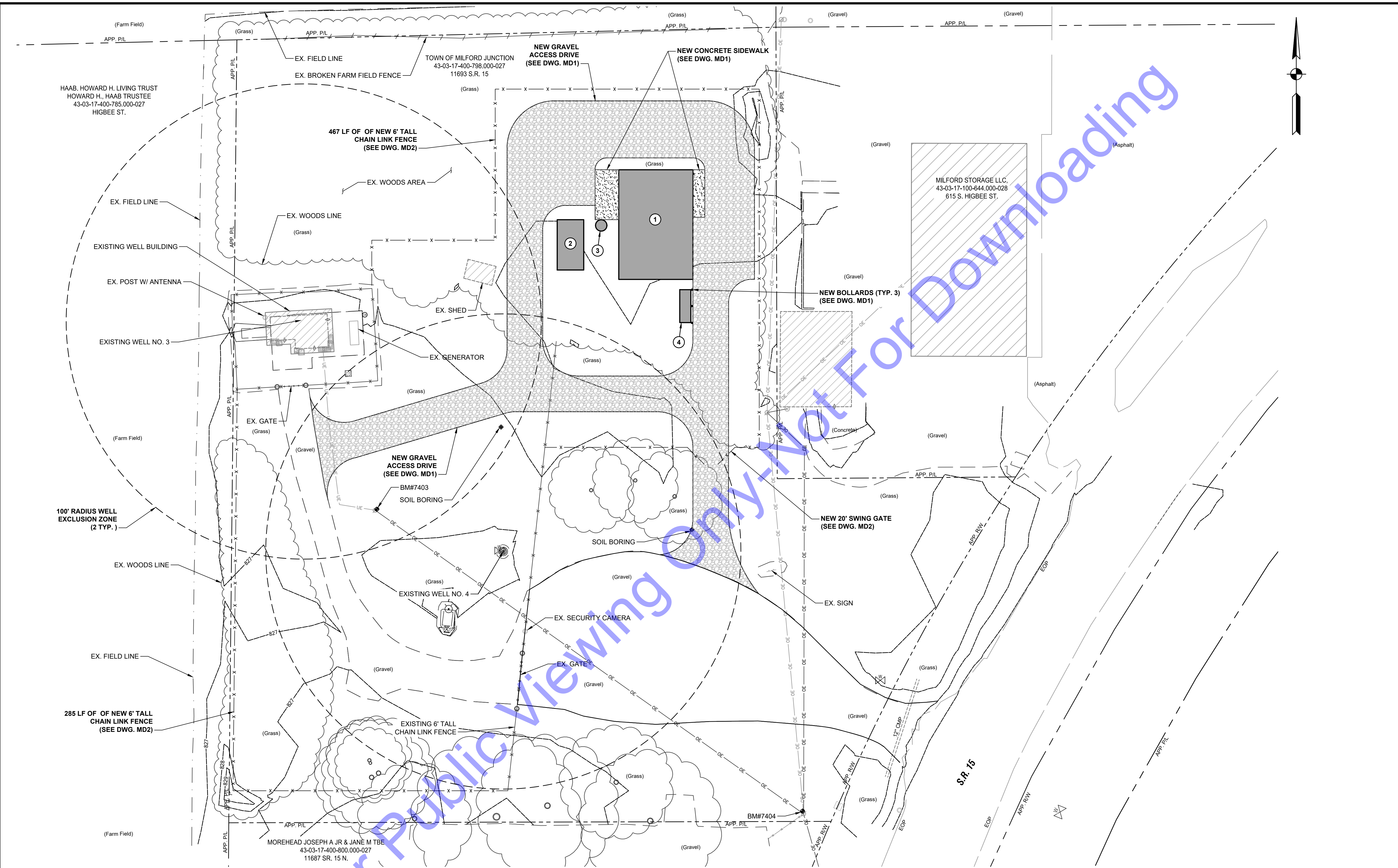
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				RLM	GCR	AMR
				Issue Date:	Project No:	Scale:
				1-14-2025	W24161	AS SHOWN

EXISTING WELL AND TREATMENT FACILITY SITE AND DEMOLITION PLAN

Drawing No:
C1-2

Sheet: 07 OF 75

FILE: Z:\DRAWING\CLIENTS\MILFORD\W24161 - WATER UTILITY IMPROVEMENTS\CADD\CURRENT FILES\DRAWINGS\DIVISION A\WTP03 SITE PLAN.DWG
 SHEET: 11/20/25 8:46:07 AM Plotted: 11/20/25 3:05:40 AM Comment: User: George Roper User: George Roper



SITE PLAN
SCALE: 1"=20'-0"

NEW STRUCTURE LEGEND	
STRUCTURE	DESCRIPTION
1	NEW WATER TREATMENT FACILITY (SEE DWG. D1-1 THRU D1-8)
2	NEW BACKWASH TANK (SEE DWG. D4-1 AND D4-2)
3	NEW BACKWASH MAG METER (SEE DWG. MD5)
4	NEW EMERGENCY GENERATOR

GENERAL NOTES:

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RYAN M. LAREAU
 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA

Signature: *[Signature]* Date: 12-18-2024

**TOWN OF MILFORD
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**WATER UTILITY IMPROVEMENTS
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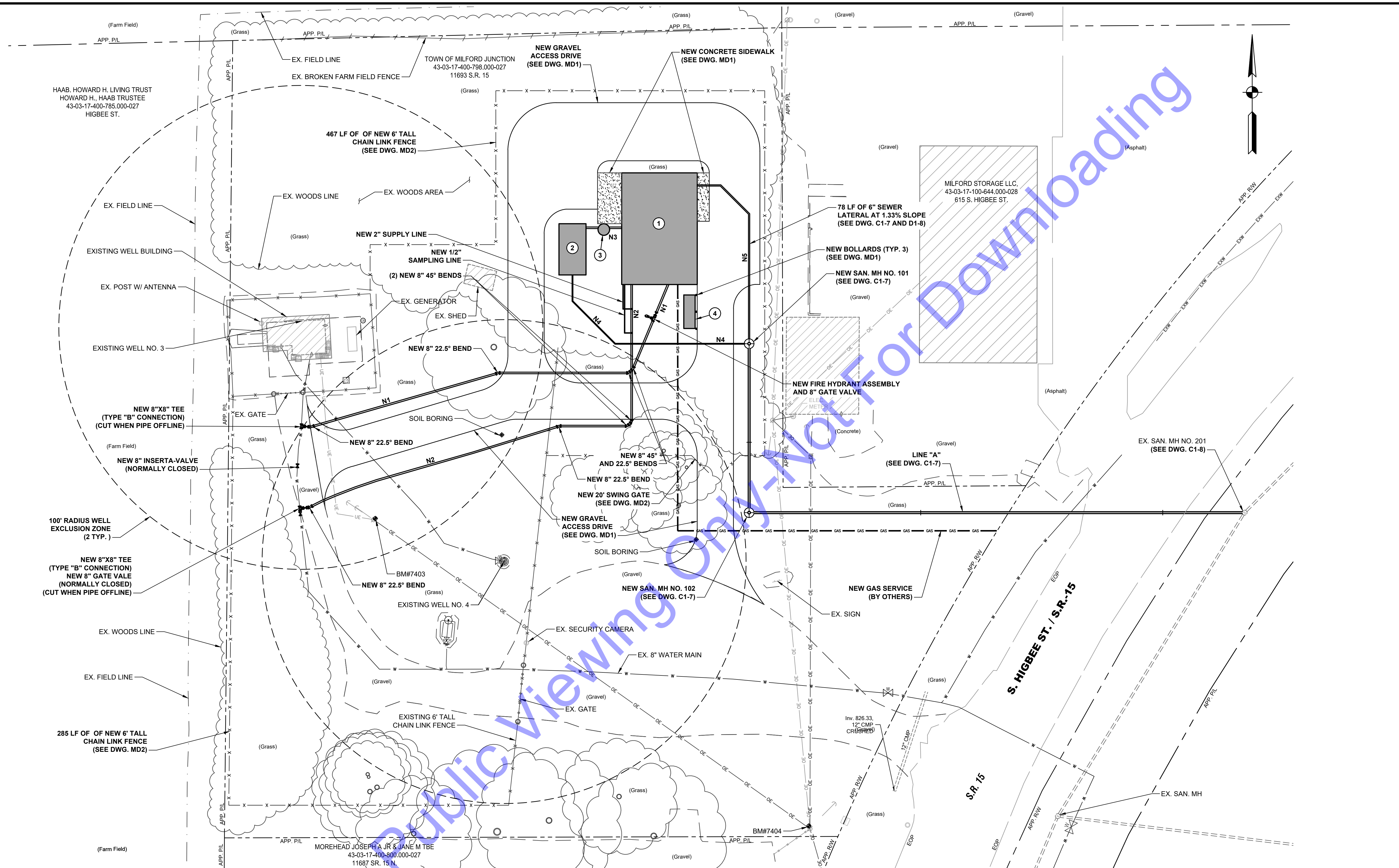
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**EXISTING SITE PLAN
 IMPROVEMENTS**

File: Z:\SHARED\CLIENTS\2416\FORM\DWG\161 - WATER UTILITY IMPROVEMENTS\CADD\CURRENT FILES\DRAWINGS\DWG\161\WTP03 SITE PLAN.DWG
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SITE PLAN
SCALE: 1"=20'-0"

NEW PROCESS PIPING	
IDENTIFIER	DESCRIPTION
N-1	NEW 8" RAW WATER MAIN FROM EXISTING WELLS #3 AND #4
N-2	NEW 8" FINISHED WATER MAIN FROM NEW WATER TREATMENT FACILITY
N-3	NEW 8" DRAIN FROM DETENTION SUMP TO BACKWASH TANK
N-4	NEW 1.25" FORCE MAIN TO NEW SANITARY SEWER MANHOLE NO. 101
N-5	NEW 6" SEWER LATERAL TO NEW SANITARY SEWER MANHOLE NO. 101

NEW STRUCTURE LEGEND	
STRUCTURE	DESCRIPTION
1	NEW WATER TREATMENT FACILITY (SEE DWG. D1-1 THRU D1-8)
2	NEW BACKWASH TANK (SEE DWG. D4-1 AND D4-2)
3	NEW BACKWASH MAG METER (SEE DWG. MD5)
4	NEW EMERGENCY GENERATOR

GENERAL NOTES:
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 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA
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TOWN OF MILFORD, INDIANA
 WATER UTILITY IMPROVEMENTS
 DIVISION "A" - WATER TREATMENT IMPROVEMENTS

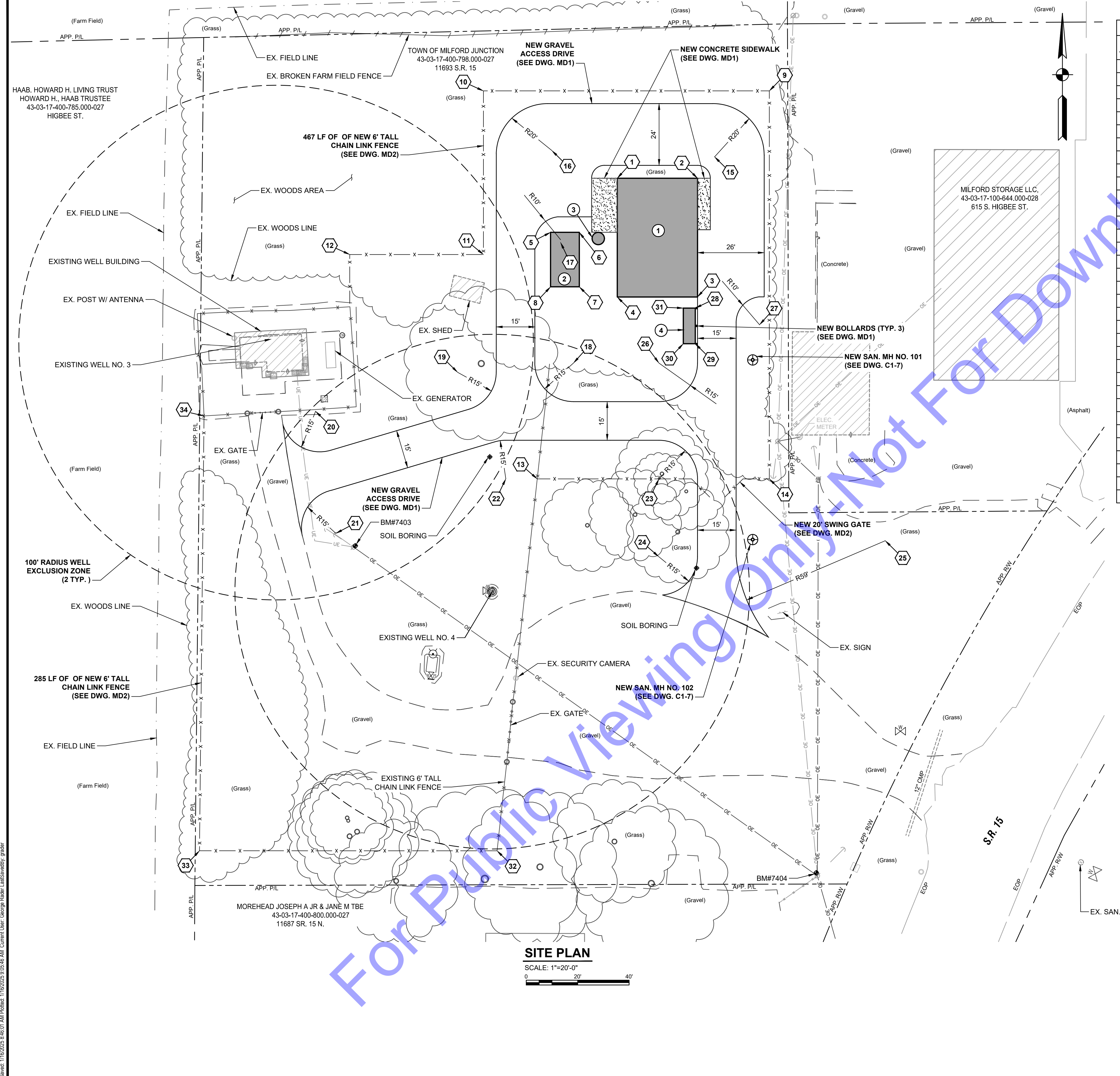
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EXISTING SITE IMPROVEMENTS PLAN - PIPING PLAN
 Drawing No: **C1-4**
 Sheet: 09 OF 75

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SITE PLAN
 SCALE: 1"=20'-0"
 0 20' 40'

NEW STRUCTURE COORDINATES			
IDENTIFIER	DESCRIPTION	NORTHING	EASTING
01	NEW WATER TREATMENT FACILITY - NORTHWEST CORNER	2241726.56	276316.49
02	NEW WATER TREATMENT FACILITY - NORTHEAST CORNER	2241726.56	276347.70
03	NEW WATER TREATMENT FACILITY - SOUTHWEST CORNER	2241680.41	276347.70
04	NEW WATER TREATMENT FACILITY - SOUTHWEST CORNER	2241680.41	276316.49
05	NEW BACKWASH TANK - NORTHWEST CORNER	2241705.55	276290.57
06	NEW BACKWASH TANK - NORTHEAST CORNER	2241705.55	276301.74
07	NEW BACKWASH TANK - SOUTHWEST CORNER	2241684.38	276301.74
08	NEW BACKWASH TANK - SOUTHWEST CORNER	2241684.38	276290.57
09	NEW 6' TALL CHAIN LINK FENCE - NORTHEAST CORNER	2241760.52	276375.60
10	NEW 6' TALL CHAIN LINK FENCE - NORTHWEST CORNER	2241760.52	276264.47
11	NEW 6' TALL CHAIN LINK FENCE - WEST CORNER	2241696.92	276264.47
12	NEW 6' TALL CHAIN LINK FENCE - WEST CORNER	2241696.92	276212.52
13	NEW 6' TALL CHAIN LINK FENCE - CONNECT TO EX. FENCE	2241609.74	276285.38
14	NEW 6' TALL CHAIN LINK FENCE - SOUTHWEST CORNER	2241609.74	276375.60
15	NEW 24' WIDE GRAVEL ACCESS DRIVE - NORTHEAST RADIUS	2241734.87	276354.32
16	NEW 24' WIDE GRAVEL ACCESS DRIVE - NORTHEAST RADIUS	2241737.33	276291.08
17	NEW 15' WIDE GRAVEL ACCESS DRIVE - WEST RADIUS	2241702.69	276294.46
18	NEW 15' WIDE GRAVEL ACCESS DRIVE - WEST RADIUS	2241654.75	276299.46
19	NEW 15' WIDE GRAVEL ACCESS DRIVE - WEST RADIUS	2241651.15	276254.47
20	NEW 15' WIDE GRAVEL ACCESS DRIVE - WEST RADIUS	2241636.01	276199.24
21	NEW 15' WIDE GRAVEL ACCESS DRIVE - WEST RADIUS	2241588.55	276207.12
22	NEW 15' WIDE GRAVEL ACCESS DRIVE - WEST RADIUS	2241609.75	276273.18
23	NEW 15' WIDE GRAVEL ACCESS DRIVE - EAST RADIUS	2241609.73	276332.69
24	NEW 15' WIDE GRAVEL ACCESS DRIVE - EAST RADIUS	2241579.48	276332.64
25	NEW 15' WIDE GRAVEL ACCESS DRIVE - EAST RADIUS	2241585.72	276420.67
26	NEW 15' WIDE GRAVEL ACCESS DRIVE - EAST RADIUS	2241654.74	276332.69
27	NEW 15' WIDE GRAVEL ACCESS DRIVE - EAST RADIUS	2241669.64	276371.80
28	NEW EMERGENCY GENERATOR - NORTHEAST CORNER	2241676.10	276346.82
29	NEW EMERGENCY GENERATOR - SOUTHWEST CORNER	2241662.26	276346.82
30	NEW EMERGENCY GENERATOR - SOUTHWEST CORNER	2241662.26	276342.16
31	NEW EMERGENCY GENERATOR - NORTHWEST CORNER	2241676.10	276342.16
32	NEW 6' TALL CHAIN LINK FENCE - EAST CORNER	2241465.21	276269.78
33	NEW 6' TALL CHAIN LINK FENCE - WEST CORNER	2241465.23	276154.12
34	NEW 6' TALL CHAIN LINK FENCE - NORTHWEST CORNER	2241634.21	276155.88

NEW STRUCTURE LEGEND	
STRUCTURE	DESCRIPTION
1	NEW WATER TREATMENT FACILITY (SEE DWG. D1-1 THRU D1-8)
2	NEW BACKWASH TANK (SEE DWG. D4-1 AND D4-2)
3	NEW BACKWASH MAG METER (SEE DWG. MD5)
4	NEW EMERGENCY GENERATOR

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RYAN M. LARAU
REGISTERED
No. PE1800145
STATE OF INDIANA
PROFESSIONAL ENGINEER

Signature: *[Signature]* Date: 12-18-2024

**TOWN OF MILFORD
KOSCIUSKO COUNTY,
INDIANA**

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DIVISION "A" - WATER TREATMENT
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DATE: _____
 BY: _____
 SUBMITTAL / REVISION: _____

DESIGNED BY: RLM DRAWN BY: GCR CHECKED BY: AMR
 ISSUE DATE: 1-14-2025 PROJECT NO: W24161 SCALE: AS SHOWN

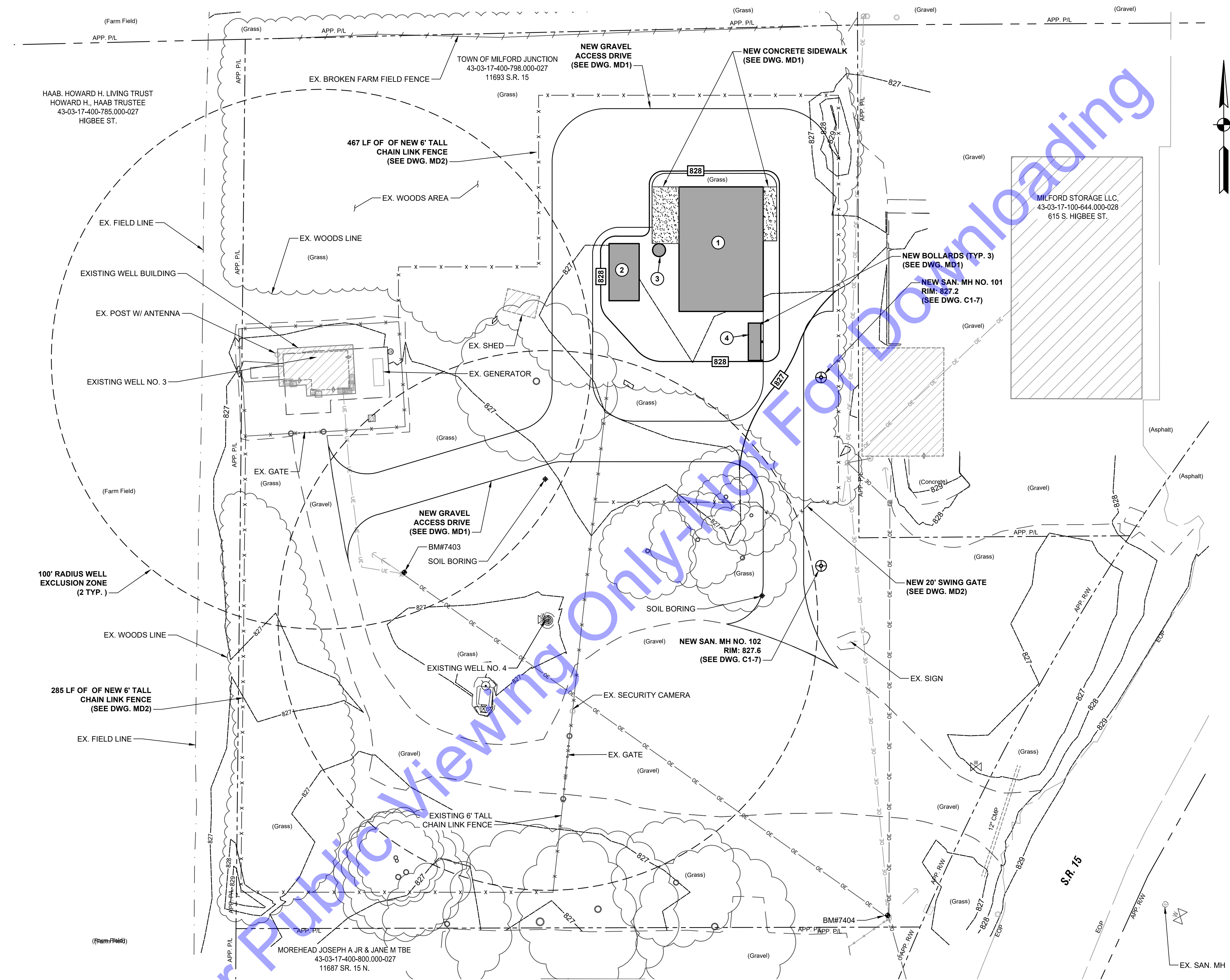
EXISTING SITE IMPROVEMENTS - DIMENSIONING PLAN

Drawing No:
C1-5

Sheet: 10 OF 75

GENERAL NOTES:
 1. ALL EQUIPMENT AND CHEMICALS SUCH AS FUEL NEED TO BE KEPT OUTSIDE OF THE 100' SANITARY SETBACKS AROUND EXISTING WELL NO. 3 AND EXISTING WELL NO. 4.

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SITE PLAN
 SCALE: 1"=20'-0"
 0 20' 40'

NEW STRUCTURE LEGEND	
STRUCTURE	DESCRIPTION
1	NEW WATER TREATMENT FACILITY (SEE DWG. D1-1 THRU D1-8)
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 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA
 Signature: [Signature] Date: 12-18-2024

TOWN OF MILFORD, INDIANA
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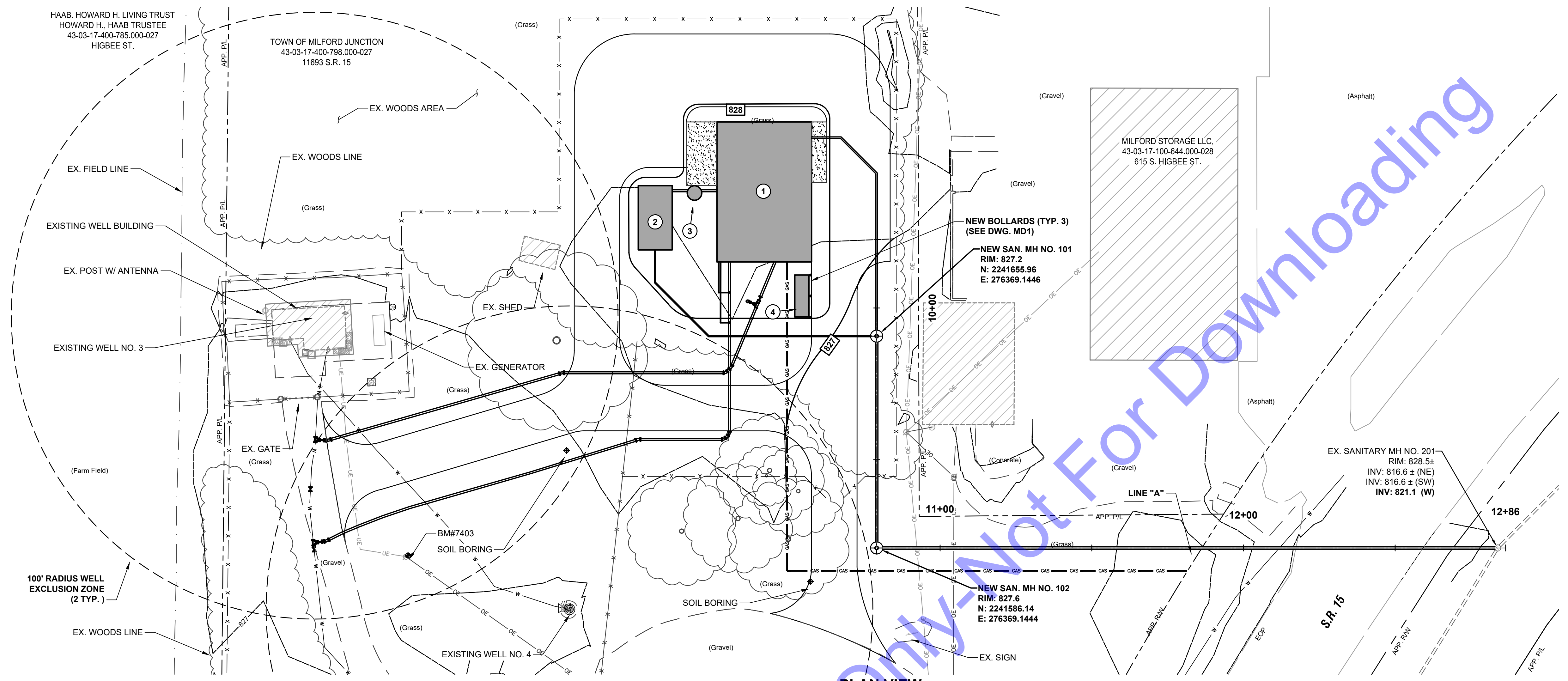
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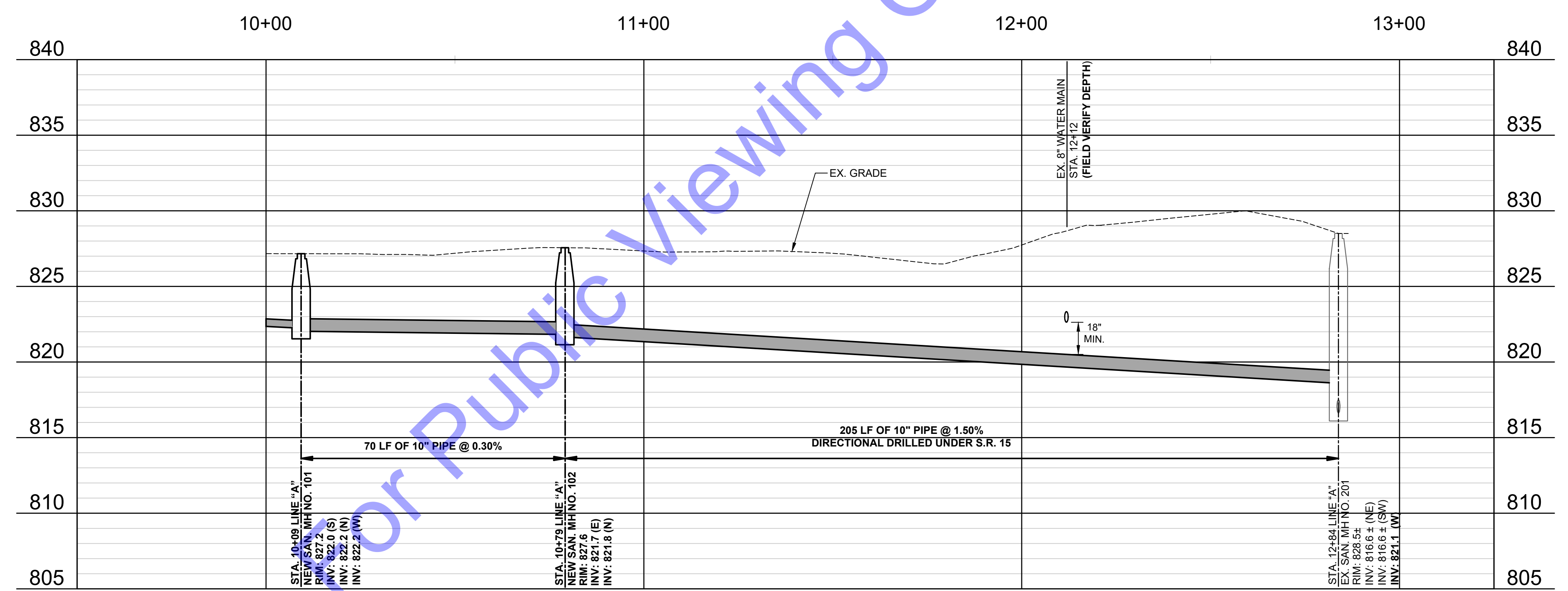
EXISTING SITE IMPROVEMENTS - GRADING PLAN

Drawing No:
C1-6
 Sheet: 11 OF 75

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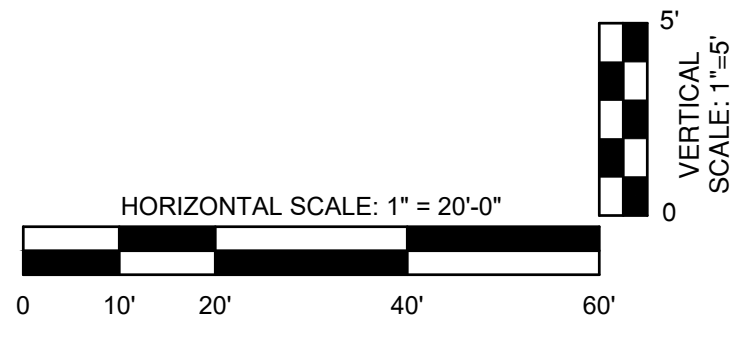
PLAN VIEW



PROFILE VIEW

NEW STRUCTURE LEGEND	
STRUCTURE	DESCRIPTION
1	NEW WATER TREATMENT FACILITY (SEE DWG. D1-1 THRU D1-8)
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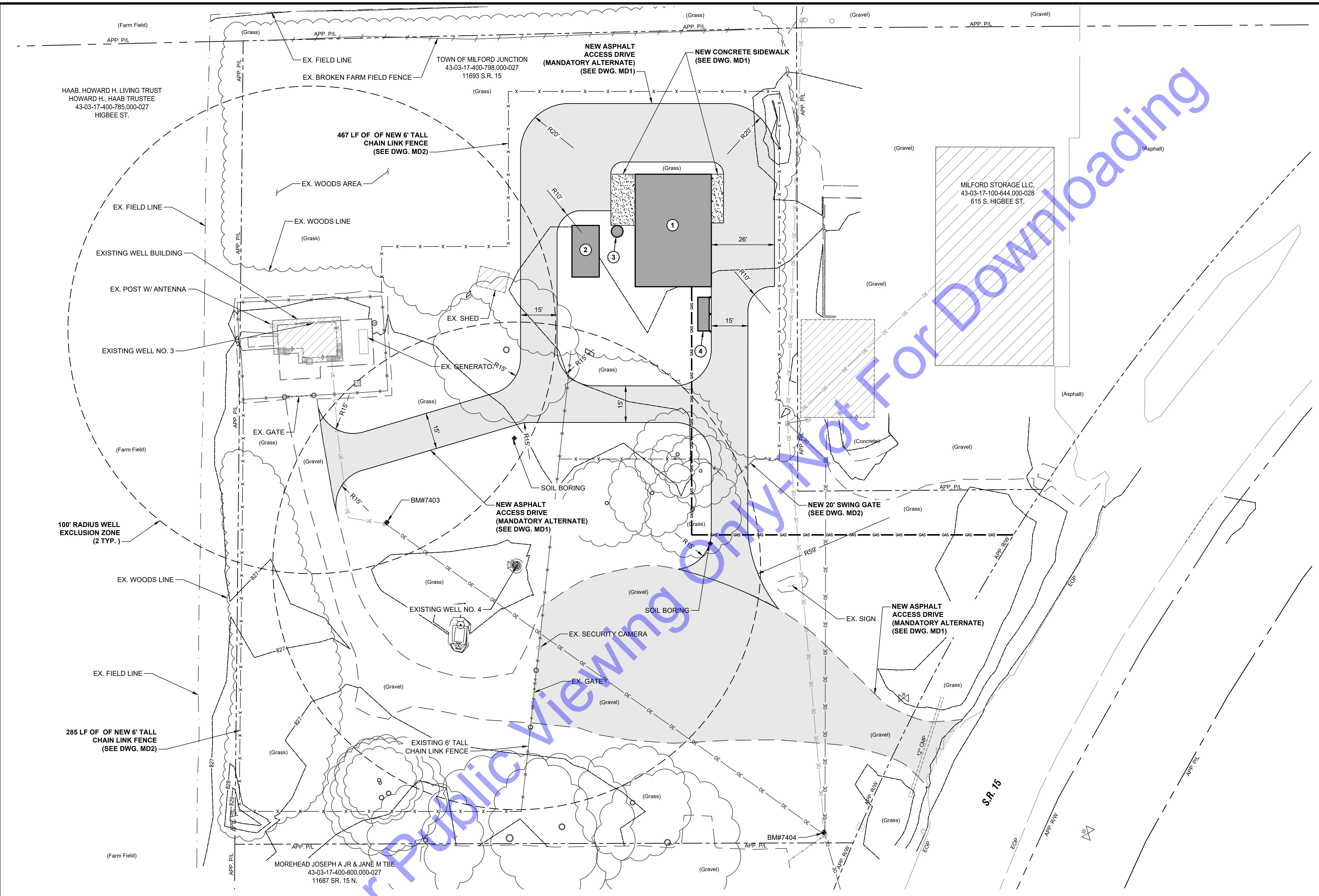
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**PLAN AND PROFILE -
 LINE "A"**

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 SHEET: 11/20/25, 8:46:07 AM, Project: 11/20/25, 0:05:57 AM, Comment: User: George Foster, User: George Foster



SITE PLAN

SCALE: 1"=20'-0"
 0 20' 40'

NEW STRUCTURE LEGEND	
STRUCTURE	DESCRIPTION
1	NEW WATER TREATMENT FACILITY (SEE DWG. D1-1 THRU D1-8)
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 REGISTERED PROFESSIONAL ENGINEER
 STATE OF INDIANA
 No. PE11800145

Signature: _____ Date: 12-18-2024

TOWN OF MILFORD, KOSCIUSKO COUNTY, INDIANA

WATER UTILITY IMPROVEMENTS
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EXISTING SITE PLAN IMPROVEMENTS - MANDATORY ALTERNATE

Drawing No: **MA-1**
 Sheet: 13 OF 75

CONSTRUCTION PLAN - GENERAL PLAN COMPONENTS (SECTION A)

A1 INDEX OF THE LOCATION OF REQUIRED PLAN ELEMENTS IN THE CONSTRUCTION PLAN:

THIS DOCUMENT REPRESENTS THE PLAN INDEX. THE CONTENT IS ORGANIZED AROUND THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT CONSTRUCTION STORMWATER GENERAL PERMIT CONSTRUCTION/STORMWATER POLLUTION PREVENTION PLAN DEVELOPMENT GUIDANCE. DETAILS ARE SPECIFIC TO THE MILFORD WATER UTILITY IMPROVEMENTS CONSTRUCTION, DIVISION A AND DIVISION B.

A2 A VICINITY MAP DEPICTING THE PROJECT SITE LOCATION IN RELATIONSHIP TO RECOGNIZABLE LOCAL LANDMARKS, TOWNS AND MAJOR ROADS:

THIS INFORMATION HAS BEEN INCLUDED AND IS SHOWN IN THE PLANS. A USGS SITE MAP ILLUSTRATING THE APPROXIMATE EXTENT OF THE PROJECT IS ALSO SHOWN IN THE PLANS. ALL CONSTRUCTION WILL TAKE PLACE IN EXISTING RIGHTS-OF-WAY OR REGULATED DRAIN EASEMENTS.

A3 NARRATIVE OF THE NATURE AND PURPOSE OF THE PROJECT:

THE TOWN OF MILFORD SUFFERS FROM LOW PRESSURE, FLOW AND WASTEWATER SYSTEM CONNECTIVITY. THIS PROJECT AIMS TO IMPROVE THESE CONDITIONS AND REPLACE SERVICE LINES THAT HAVE BEEN DETERMINED TO CONTAIN LEAD OR CONNECTIONS CONTAINING LEAD. THIS PROJECT IS SEPARATED INTO TWO DIVISIONS, DIVISION A, THE NEW WASTEWATER TREATMENT FACILITY, AND DIVISION B, THE LEAD SERVICE LINE REPLACEMENTS. BOTH ARE INCLUDED IN THIS SWPPP.

THE PROPOSED PROJECT IS SHOWN IN THE PLAN SHEETS. THE GENERAL LOCATION OF THE PROJECT IS SHOWN ON A USGS TOPOGRAPHIC MAP IN THE PLANS.

A4 LATITUDE AND LONGITUDE TO THE NEAREST FIFTEEN (15) SECONDS:

THIS APPROXIMATE LATITUDE AND LONGITUDE FOR THE PROJECT SITE IS 39.80688°, -86.16814°, AND -86.16753°, 39.79640°. THE PROJECT IS SPREAD THROUGHOUT THE TOWN OF MILFORD AND THESE COORDINATES MARK THE NORTH AND SOUTH EDGES OF THIS PROJECT.

A5 LEGAL DESCRIPTION OF THE PROJECT SITE:

THERE ARE 6 SEPARATE PLANNING AREAS FOR THIS PROJECT. THEY INCLUDE THE FOLLOWING: ALONG E. SARACUSE RD FROM TWO HUNDRED (200) FEET NORTH OF E. BEER RD., E. BEER RD, S.R. 15 ALONG E. BEER RD, S.R. 15 EAST OF N. ORN RD, S.R. 15 NORTH OF N. ORN RD AND S.R. 15 SOUTH OF C.R. W 1250 N. LATITUDE AND LONGITUDE ARE SHOWN IN TABLE 1 BELOW.

A6 11X 17-INCH PLAT SHOWING BUILDING LOT NUMBERS/BOUNDARIES AND ROAD LAYOUT/NAMES:

ALL LOT BOUNDARIES AND ROAD NAMES ARE SHOWN ON THE PLANS. ALL CONSTRUCTION WILL TAKE PLACE IN EXISTING RIGHT OF WAYS, UTILITY EASEMENTS, OR LAND OWNED BY THE TOWN. A USGS MAP ILLUSTRATING THE APPROXIMATE EXTENT OF THE PROJECT IS SHOWN IN THE PLANS.

A7 BOUNDARIES OF THE ONE HUNDRED (100) YEAR FLOODPLAINS, FLOODWAY FRINGES, AND FLOODWAYS:

THE FLOODPLAINS, FLOODWAY FRINGES, AND FLOODWAYS LOCATED WITHIN THE PROJECT AREA ARE SHOWN IN EXHIBIT #1. NONE OF THE PROPOSED WORK IS WITHIN THE FLOODWAY.

A8 LAND USE OF ALL ADJACENT PROPERTIES:

LAND USE AT THE PROJECT SITE AND THE SURROUNDING AREAS IS SHOWN IN EXHIBIT #2. LAND USE IN THE PROJECT SITE IS PRIMARILY CULTIVATED CROPS, HAY/PASTURE, AND DEVELOPED LOW INTENSITY. LAND USE ADJACENT TO THE PROJECT AREAS INCLUDES CULTIVATED CROPS, DECIDUOUS FOREST, AND DEVELOPED LOW INTENSITY.

A9 IDENTIFICATION OF A U.S. EPA APPROVED OR ESTABLISHED TMDL:

THE PROJECT AREA IS LOCATED WITHIN THE TURKEY CREEK (HUC 12) WATERSHED. TURKEY CREEK IS INCLUDED IN THE TURKEY CREEK APPROVED TMDL FOR E. COLI.

A10 NAME(S) OF THE RECEIVING WATER(S):

RUNOFF FROM THE PROJECT INTO THESE RECEIVING WATERS IS NOT ANTICIPATED; HOWEVER, PROPER MEASURES WILL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE CREEK AND TO PREVENT ANY CONVEYANCE OF SEDIMENT TO TURKEY CREEK.

A11 IDENTIFICATION OF DISCHARGES TO A WATER ON THE CURRENT 303(D) LIST OF IMPAIRED WATERS AND THE POLLUTANT FOR WHICH IT IS IMPAIRED:

TURKEY CREEK IS NOT ON THE CURRENT 303(D) LIST OF IMPAIRED WATERS.

A12 SOILS MAP OF THE PREDOMINATE SOIL TYPES:

THE SOILS MAP FOR THIS PROJECT IS SHOWN IN EXHIBIT #3. THE SOILS IN THE PROJECT AREA CONSIST MAINLY OF "ORA" "ORMAS LOAMY SAND," WHICH HAS SLOPES BETWEEN 0 AND 2 PERCENT, "KOA," "KOSCIUSKO SANDY LOAM," WHICH HAS SLOPES BETWEEN 0 AND 2 PERCENT, AND "GO," "GRAVELTON LOAMY SAND," WHICH OCCASIONALLY FLOODS.

CONSTRUCTION PROJECTS ARE NOT EXPECTED TO HAVE ANY DETRIMENTAL, LONG-TERM IMPACTS ON THE SOIL. SHORT TERM IMPACTS WILL RELATE ONLY TO EXCAVATION ACTIVITIES FOR THE PROPOSED SYSTEM IMPROVEMENTS AND WILL BE MINIMAL. THESE IMPACTS CAN BE MITIGATED USING APPROPRIATE TECHNIQUES FOR EROSION CONTROL AND SURFACE RESTORATION DURING AND AFTER CONSTRUCTION.

SEASONAL WETNESS IS LIKELY TO BE THE MAIN LIMITATION OF THE SOIL IN THE CONSTRUCTION AREA. FOR THIS PROJECT, CONSTRUCTION PROBLEMS ASSOCIATED WITH WET SOILS WILL BE BEST OVERCOME BY COMPLETING OPEN EXCAVATION WORK DURING FAVORABLE CONDITIONS AND COORDINATING WORK ACTIVITIES BASED UPON WEATHER AND SOIL CONDITIONS. UNDER SEVERE SOIL WETNESS CONDITIONS, QUICKCLIME MAY BE USED TO HELP DRY WET SOILS FOR SITE ACCESS PURPOSES AND TO REDUCE DOWNTIME. THE DEPTH TO WATER TABLE IN THE PROJECT AREA VARIES SIGNIFICANTLY, FROM 0 CM TO GREATER THAN 200 CM.

A13 IDENTIFICATION AND LOCATION OF ALL KNOWN WETLANDS, LAKES, AND WATER COURSES ON OR ADJACENT TO THE PROJECT SITE (CONSTRUCTION PLAN, EXISTING LAYOUT):

ALL WETLANDS, LAKES, AND WATER COURSES LOCATED WITHIN AND NEARBY THE PROJECT AREA HAVE BEEN IDENTIFIED AND ARE SHOWN IN EXHIBIT #4 AND #5. THE MAJOR WATERWAY IN THE PROJECT AREA IS TURKEY CREEK. STORMWATER DERIVED FLOW WILL NOT DRAIN INTO TURKEY CREEK. THERE ARE TWO WETLANDS ADJACENT TO THE PROJECT SITE; HOWEVER, NO WORK IS PROPOSED WITHIN THE WETLANDS, ONLY ON RESIDENTIAL PROPERTY AND ROADWAYS NEARBY.

A14 IDENTIFICATION OF ANY OTHER STATE OR FEDERAL WATER QUALITY PERMITS OR AUTHORIZATIONS THAT ARE REQUIRED FOR CONSTRUCTION ACTIVITIES:

THIS PROJECT WILL NOT REQUIRE AN IDEM 401 WQC AS WELL AS NOTIFICATION TO THE USACE. NO DNR CONSTRUCTION IN A FLOODWAY PERMIT IS REQUIRED. ALL WATER QUALITY PERMITS DETERMINED TO BE REQUIRED BY THE PROJECT WILL BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.

A15 IDENTIFICATION AND DELINEATION OF EXISTING VEGETATIVE COVER, INCLUDING NATURAL BUFFERS:

LAND USE AT THE PROJECT SITE AND THE SURROUNDING AREAS IS SHOWN IN EXHIBIT #2. MOST OF THE LAND USE IN THE PROJECT CONSTRUCTION AREA IS DEVELOPED LAND FOR COMMERCIAL AND RESIDENTIAL PROPERTIES AND WITHIN THE UPSTREAM WATERSHED IS AGRICULTURAL. LAND USE ADJACENT TO THE PROJECT AREAS INCLUDES CULTIVATED CROPS, GRASSLANDS, AND WOODY WETLANDS. THIS PROJECT INVOLVES THE INSTALLATION OF STORM SEWER FACILITIES ON ROAD RIGHT-OF-WAY, UTILITY EASEMENTS, AND TOWN OWNED PROPERTY. PROPER TECHNIQUES FOR EROSION CONTROL AND SURFACE RESTORATION, INCLUDING STABILIZATION WITH APPROPRIATE VEGETATIVE COVER, WILL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN DS-09 "TEMPORARY EROSION CONTROL" AND WM-24 "SEEDING AND SODDING," BOTH UNDER SEPARATE ATTACHMENT.

A16 EXISTING SITE TOPOGRAPHY AT AN INTERVAL APPROPRIATE TO SHOW DETAILED DRAINAGE PATTERNS:

A USGS TOPOGRAPHIC MAP IS SHOWN IN THE PLANS. MORE DETAILED CONTOUR LINES ARE ALSO SHOWN ON INDIVIDUAL PLAN SHEETS TO INDICATE DRAINAGE PATTERNS WITHIN THE CONSTRUCTION LIMITS.

A17 LOCATION(S) WHERE RUN-OFF ENTERS THE PROJECT SITE:

A USGS TOPOGRAPHIC MAP IS SHOWN IN THE PLANS. MORE DETAILED CONTOUR LINES ARE ALSO SHOWN ON INDIVIDUAL PLANS SHEETS TO INDICATE DRAINAGE PATTERNS WITHIN THE CONSTRUCTION LIMITS.

A18 LOCATION(S) WHERE RUN-OFF DISCHARGES FROM THE PROJECT SITE PRIOR TO LAND DISTURBANCE:

A USGS TOPOGRAPHIC MAP IS SHOWN IN THE PLANS. MORE DETAILED CONTOUR LINES ARE ALSO SHOWN ON INDIVIDUAL PLAN SHEETS TO INDICATE DRAINAGE PATTERNS WITHIN THE CONSTRUCTION LIMITS.

A19 LOCATION OF ALL EXISTING STRUCTURES ON THE PROJECT SITE:

THE LOCATION OF ALL EXISTING STRUCTURES ON THE PROJECT SITE CAN BE SEEN IN THE PLANS.

A20 EXISTING PERMANENT RETENTION OR DETENTION FACILITIES, INCLUDING MANMADE WETLANDS, DESIGNED FOR THE PURPOSE OF STORMWATER MANAGEMENT:

THERE IS NO EXISTING PERMANENT RETENTION OR DETENTION FACILITIES LOCATED WITHIN THE PROJECT AREA(S).

A21 LOCATIONS WHERE STORMWATER MAY BE DIRECTLY DISCHARGED INTO GROUND WATER, SUCH AS ABANDONED WELLS, SINKHOLES, OR KARST FEATURES:

THERE ARE TWO ABANDONED WELLS LOCATED ADJACENT TO THE WATER TREATMENT FACILITY, BUT THERE ARE NO SINKHOLES, OR KARST FEATURES LOCATED WITHIN THE PROJECT AREA.

A22 SIZE OF THE PROJECT AREA EXPRESSED IN ACRES:

THE TOTAL PROJECT AREA IS APPROXIMATELY 43 ACRES.

A23 TOTAL EXPECTED LAND DISTURBANCE EXPRESSED IN ACRES:

THE TOTAL EXPECTED LAND DISTURBANCE FOR THE PROJECT IS APPROXIMATELY 2.33 ACRES.

A24 PROPOSED FINAL TOPOGRAPHY:

THE INDIVIDUAL PLAN SHEETS SHOW PROPOSED SITE TOPOGRAPHY AND DRAINAGE PATTERNS.

A25 LOCATIONS AND APPROXIMATE BOUNDARIES OF ALL DISTURBED AREAS:

THE PLANS SHOW THE LOCATIONS AND BOUNDARIES OF ALL DISTURBED AREAS/CONSTRUCTION LIMITS.

A26 LOCATIONS, SIZE AND DIMENSIONS OF ALL STORMWATER DRAINAGE SYSTEMS SUCH AS CULVERTS, STORMWATER SEWER, AND CONVEYANCE CHANNEL:

THE EXISTING AND PROPOSED STORMWATER DRAINAGE SYSTEMS ARE SHOWN ON THE PLANS. ALL EXISTING STORMWATER SYSTEMS WILL BE PROTECTED AND MAINTAINED DURING CONSTRUCTION. IF DURING CONSTRUCTION ANY DAMAGE IS DONE TO AN EXISTING STORMWATER SYSTEM, DAMAGED STRUCTURES WILL BE EITHER REPAIRED OR REPLACED TO EQUAL OR BETTER CONDITION THAN EXISTING.

A27 LOCATIONS OF SPECIFIC POINTS WHERE STORMWATER AND NON-STORMWATER DISCHARGES WILL LEAVE THE PROJECT SITE:

LOCATIONS WHERE STORMWATER AND NON-STORMWATER DISCHARGES WILL LEAVE THE PROJECT SITE CAN BE SEEN ON THE PLANS.

A28 LOCATION OF ALL PROPOSED SITE IMPROVEMENTS, INCLUDING ROADS, UTILITIES, LOT DELINEATION AND IDENTIFICATION, PROPOSED STRUCTURES, AND COMMON AREAS:

LOCATIONS OF ALL PROPOSED SITE IMPROVEMENTS, INCLUDING PROPOSED UTILITIES, STRUCTURES, AND LOT BOUNDARIES, ARE SHOWN ON THE PLANS. NO OFF-SITE CONSTRUCTION IS ANTICIPATED FOR THIS PROJECT.

A29 LOCATIONS OF ALL ON-SITE AND OFF-SITE SOIL STOCKPILES AND BORROW AREAS:

STOCKPILES LEFT INACTIVE FOR SEVEN (7) DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY SEED AND SURROUNDED BY SILT FENCE OR OTHER PERIMETER CONTROLS ALL STOCKPILES AND BORROW AREAS, IF REQUIRED FOR THE PROJECT, WILL BE LOCATED ON-SITE AND THE CONTRACTOR WILL BE REQUIRED TO OBTAIN A PERMIT OR RELEASE FOR PROPER DISPOSAL OF EXCAVATED MATERIALS.

A30 CONSTRUCTION SUPPORT ACTIVITIES THAT ARE EXPECTED TO BE PART OF THE PROJECT:

CONCRETE WASHOUT AREAS ARE EXPECTED TO BE PART OF THE PROJECT.

A31 LOCATION OF ANY IN-STREAM ACTIVITIES THAT ARE PLANNED FOR THE PROJECT INCLUDING, BUT NOT LIMITED TO, STREAM CROSSINGS AND PUMP AROUNDS:

NOT APPLICABLE. NO WORK IN STREAMS IS ANTICIPATED.

STORMWATER POLLUTION PREVENTION PLAN - CONSTRUCTION COMPONENT (SECTION B)

STORMWATER POLLUTION PREVENTION MEASURES SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AUTHORITY AND THE APPLICABLE MS4 STORMWATER QUALITY STANDARDS.

B1 DESCRIPTION OF THE POTENTIAL POLLUTANT GENERATING SOURCES AND POLLUTANTS, INCLUDING ALL POTENTIAL NON-STORMWATER DISCHARGES:

Table with 2 columns: OPERATION and POTENTIAL POLLUTANTS. Rows include: CLEARING, GRADING, EXCAVATING (SEDIMENT, DEBRIS); SOIL STOCKPILES (SEDIMENT); DEWATERING OPERATIONS (SEDIMENT); PAVING REPAIR (SEDIMENT, DEBRIS); VEHICLE FUELING, MAINTENANCE (OIL, GREASE, FUEL); GENERAL CONSTRUCTION ACTIVITY (TRASH, SANITATION CHEMICALS); PAVEMENT RESTORATION (BITUMINOUS DEBRIS).

EXCAVATION, STOCKPILING: STOCKPILE MANAGEMENT PROCEDURES AND PRACTICES WILL BE IMPLEMENTED TO MINIMIZE OR ELIMINATE THE DISCHARGE OF STOCKPILED MATERIAL (SOIL, TOPSOIL, BASE MATERIAL) FROM ENTERING DRAINAGE SYSTEMS OR SURFACE WATERS.

FOR ANY STOCKPILES OR LAND CLEARING DEBRIS COMPOSED, IN WHOLE OR IN PART, OF SEDIMENT OR SOIL, THE CONTRACTOR WILL BE REQUIRED TO COMPLY WITH THE FOLLOWING REQUIREMENTS:

- 1. LOCATE PILES WITHIN THE DESIGNATED LIMITS OF DISTURBANCE.
2. PROTECT FROM CONTACT WITH STORMWATER USING A TEMPORARY PERIMETER SEDIMENT BARRIER.
3. WHERE PRACTICABLE, PROVIDE COVER OR APPROPRIATE TEMPORARY VEGETATIVE OR STRUCTURAL STABILIZATION TO AVOID DIRECT CONTACT WITH PRECIPITATION OR TO MINIMIZE THE DISCHARGE OF SEDIMENTS.
4. NEVER HOSE DOWN OR SWEEP SOIL OR SEDIMENT ACCUMULATED ON PAVEMENT OR OTHER IMPERVIOUS SURFACES INTO ANY STORMWATER CONVEYANCE, STORM DRAIN INLET, OR SURFACE WATER.
5. TO THE MAXIMUM EXTENT PRACTICABLE, CONTAIN AND SECURELY PROTECT STOCKPILES FROM WIND.

DEWATERING:

EQUIPMENT OPERATORS ARE PROHIBITED FROM DISCHARGING GROUNDWATER OR ACCUMULATED STORMWATER THAT IS REMOVED FROM EXCAVATIONS, TRENCHES, VAULTS, OR OTHER SIMILAR POINTS OF ACCUMULATION, UNLESS SUCH WATERS ARE FIRST EFFECTIVELY MANAGED BY APPROPRIATE CONTROL MEASURES.

EXAMPLES OF APPROPRIATE CONTROL MEASURES INCLUDE TEMPORARY SEDIMENT BASINS OR SEDIMENT TRAPS, SEDIMENT SOCKS, DEWATERING TANKS AND BAGS, OR FILTRATION SYSTEMS (E.G., BAG OR SAND FILTERS) THAT ARE DESIGNED TO REMOVE SEDIMENT, UNCONTAMINATED, NON-TURBID DEWATERING WATER CAN BE DISCHARGED WITHOUT BEING ROUTED TO A CONTROL.

AT A MINIMUM, THE FOLLOWING DISCHARGE REQUIREMENTS MUST BE MET FOR DEWATERING ACTIVITIES:

- 1. ALLOW NO DISCHARGE OF VISIBLE SEDIMENT OR SOLIDS.
2. AT ALL POINTS WHERE DEWATERING WATER IS DISCHARGED, UTILIZE VELOCITY DISSIPATION DEVICES.
3. DEWATERING PRACTICES MUST INVOLVE THE IMPLEMENTATION OF APPROPRIATE CONTROL MEASURES AS APPLICABLE (I.E., CONTAINMENT AREAS FOR DEWATERING EARTH MATERIALS, PORTABLE SEDIMENT TANKS AND BAGS, PUMPING SETTLING BASINS, AND PUMP INTAKE PROTECTION).

VEHICLE FUELING:

VEHICLE FUELING SHALL NOT TAKE PLACE WITHIN REGULATED DRAIN AREAS WETLANDS OR BUFFER ZONE AREAS, OR WITHIN 50-FEET OF THE STORM DRAIN SYSTEM. DESIGNATED AREAS SHALL BE DEPICTED ON THE PLANS OR SHALL BE APPROVED BY THE SITE OWNER.

VEHICLE MAINTENANCE AND WASHING SHALL OCCUR OFF-SITE, OR IN DESIGNATED AREAS DEPICTED ON THE PLANS OR APPROVED OF BY THE SITE OWNER. MAINTENANCE OR WASHING AREAS SHALL NOT BE WITHIN REGULATED WETLANDS OR BUFFER ZONE AREAS, OR WITHIN 50-FEET OF THE STORM DRAIN SYSTEM. MAINTENANCE AREAS SHALL BE CLEARLY DESIGNATED, AND BARRIERS SHALL BE USED AROUND THE PERIMETER OF THE MAINTENANCE AREA TO PREVENT STORMWATER CONTAMINATION.

CONSTRUCTION VEHICLES SHALL BE INSPECTED FREQUENTLY FOR LEAKS. REPAIRS SHALL TAKE PLACE IMMEDIATELY. DISPOSAL OF ALL USED OIL, ANTIFREEZE, SOLVENTS, AND OTHER AUTOMOTIVE-RELATED CHEMICALS SHALL BE ACCORDING TO APPLICABLE REGULATIONS; AT NO TIME SHALL ANY MATERIAL BE WASHED DOWN THE STORM DRAIN OR INTO ANY ENVIRONMENTALLY SENSITIVE AREA.

AFTER THE SWPPP IS IMPLEMENTED, ALL DISTURBED AREAS WILL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS THROUGH THE ADMINISTRATION OF A SELF-MONITORING PROGRAM. THE PURPOSE OF THE SELF-MONITORING PROGRAM REPORTS, WHICH ARE TO BE COMPLETED BY A TRAINED INDIVIDUAL, IS TO ASSESS PERFORMANCE OF POLLUTANT CONTROL MEASURES. BASED ON THESE INSPECTIONS, IT WILL BE DETERMINED IF ADDITIONAL MEASURES ARE NECESSARY TO PREVENT POLLUTANTS FROM LEAVING THE SITE. THE CONTRACTOR WILL BE REQUIRED TO REPAIR, MODIFY, MAINTAIN, OR TAKE ADDITIONAL STEPS AS NECESSARY TO ACHIEVE EFFECTIVE POLLUTANT CONTROL. REFER ALSO TO DS-09, "TEMPORARY EROSION CONTROL" WHICH IS INCLUDED AS A PART OF THE CONSTRUCTION SPECIFICATIONS AND CONTRACT DOCUMENTS FOR THE PROJECT AND IS LOCATED UNDER SEPARATE ATTACHMENT.

B2 STABLE CONSTRUCTION ENTRANCE LOCATIONS AND SPECIFICATIONS:

THE PROJECT DOES REQUIRE A CONSTRUCTION ENTRANCE AS SHOWN IN DIVISION A PLAN SHEETS. DIVISION B DOES NOT REQUIRE A CONSTRUCTION ENTRANCE AS THE RIGHT-OF-WAY WILL BE UTILIZED. UPON COMPLETION OF CONSTRUCTION ALL SURFACES SHALL BE RESTORED TO MATCH PRE-CONSTRUCTION CONDITIONS. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE WILL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL RESTORE EXISTING SURFACES ACTING AS CONSTRUCTION ENTRANCES/EXITS TO PRE-CONSTRUCTION CONDITIONS. REFER ALSO TO DS-09, "TEMPORARY EROSION CONTROL" FOR STABLE CONSTRUCTION ENTRANCE REQUIREMENTS (UNDER SEPARATE ATTACHMENT).

B3 SPECIFICATIONS FOR TEMPORARY AND PERMANENT STABILIZATION:

TEMPORARY AND PERMANENT SEED SURFACE STABILIZATION WILL BE UTILIZED WHERE NEEDED. SEE DS-09, "TEMPORARY EROSION CONTROL" AND WM-24 "SEEDING AND SODDING" (LOCATED UNDER SEPARATE ATTACHMENT) FOR ADDITIONAL INFORMATION.

IN ORDER TO REDUCE THE EXTENT OF EXPOSED AREAS AND THE DURATION OF EXPOSURE, CLEARING, GRADING, AND VEGETATIVE RE-STABILIZATION MUST BE PROPERLY TIMED AND COORDINATED. SEEDING AND MULCHING OR TEMPORARY SEEDING WILL BE PERFORMED AS SOON AS PRACTICABLE ON AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION. UNVEGETATED AREAS THAT ARE LEFT IDLE OR SCHEDULED TO BE LEFT UNACTIVE MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITH MEASURES APPROPRIATE FOR THE SEASON TO MINIMIZE EROSION POTENTIAL. STABILIZATION MUST BE INITIATED BY THE END OF THE SEVENTH DAY THE AREA IS LEFT IDLE. THE STABILIZATION ACTIVITY MUST BE COMPLETED WITHIN FOURTEEN (14) DAYS AFTER INITIATION. INITIATION OF STABILIZATION INCLUDES SEEDING AND APPLYING MULCH OR OTHER TEMPORARY SURFACE STABILIZATION METHODS WHERE APPROPRIATE.

B4 SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS:

PROTECTIVE MEASURES FOR AREAS OF CONCENTRATED FLOW WILL INCLUDE TEMPORARY AND PERMANENT VEGETATION, MULCHES, EROSION CONTROL BLANKETS, OR OTHER PRACTICES TO CORRESPOND WITH CONSTRUCTION ACTIVITIES. SEDIMENT CONTROL MEASURES FOR AREAS OF CONCENTRATED FLOW ARE NOT ANTICIPATED AS NECESSARY FOR ANY SPECIFIC AREAS OF THE PROPOSED PROJECT. SEDIMENT CONTROL MEASURES FOR AREAS OF CONCENTRATED FLOW WILL BE PROVIDED AS REQUIRED BY THE CONTRACTOR. REFER TO DS-09, "TEMPORARY EROSION CONTROL" (UNDER SEPARATE ATTACHMENT) FOR MORE INFORMATION.

B5 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS:

ALL DISTURBED AREAS, WHERE RUNOFF WILL BE IN SHEET FLOW CONDITION AND WHICH ARE NOT TO BE DISTURBED FOR SEVEN (7) DAYS OR MORE, SHALL RECEIVE TEMPORARY SEEDING. DISTURBED AREAS SHALL BE PERMANENTLY SEEDDED IMMEDIATELY AFTER LAND DISTURBANCE ACTIVITIES ARE COMPLETED. PERIMETER PROTECTION, SUCH AS SILT FENCE AND INLET PROTECTION, SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS. IN GENERAL, SILT FENCES WILL BE INSTALLED APPROXIMATELY FIVE (5) FEET FROM PROPERTY BOUNDARIES/RIGHT OF WAY BOUNDARIES AS APPLICABLE. INSTALLATION OF SILT FENCES WILL TYPICALLY BE REQUIRED ON THE DOWNSLOPE SIDE OF ALL OPEN TRENCHES EXCAVATED FOR STORM SEWER INSTALLATION. THE PLANS SHOW ADDITIONAL EROSION CONTROL MEASURES PROPOSED FOR THIS PROJECT. REFER TO DS-09, "TEMPORARY EROSION CONTROL" (UNDER SEPARATE ATTACHMENT) FOR MORE DETAIL.

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Professional Engineer seal for RYAN M. LAREAU, State of Indiana, No. PE11800145.

Signature and Date fields for the document.

TOWN OF MILFORD KOSCIUSKO COUNTY, INDIANA

WATER UTILITY IMPROVEMENTS DIVISION "A" - WATER TREATMENT IMPROVEMENTS

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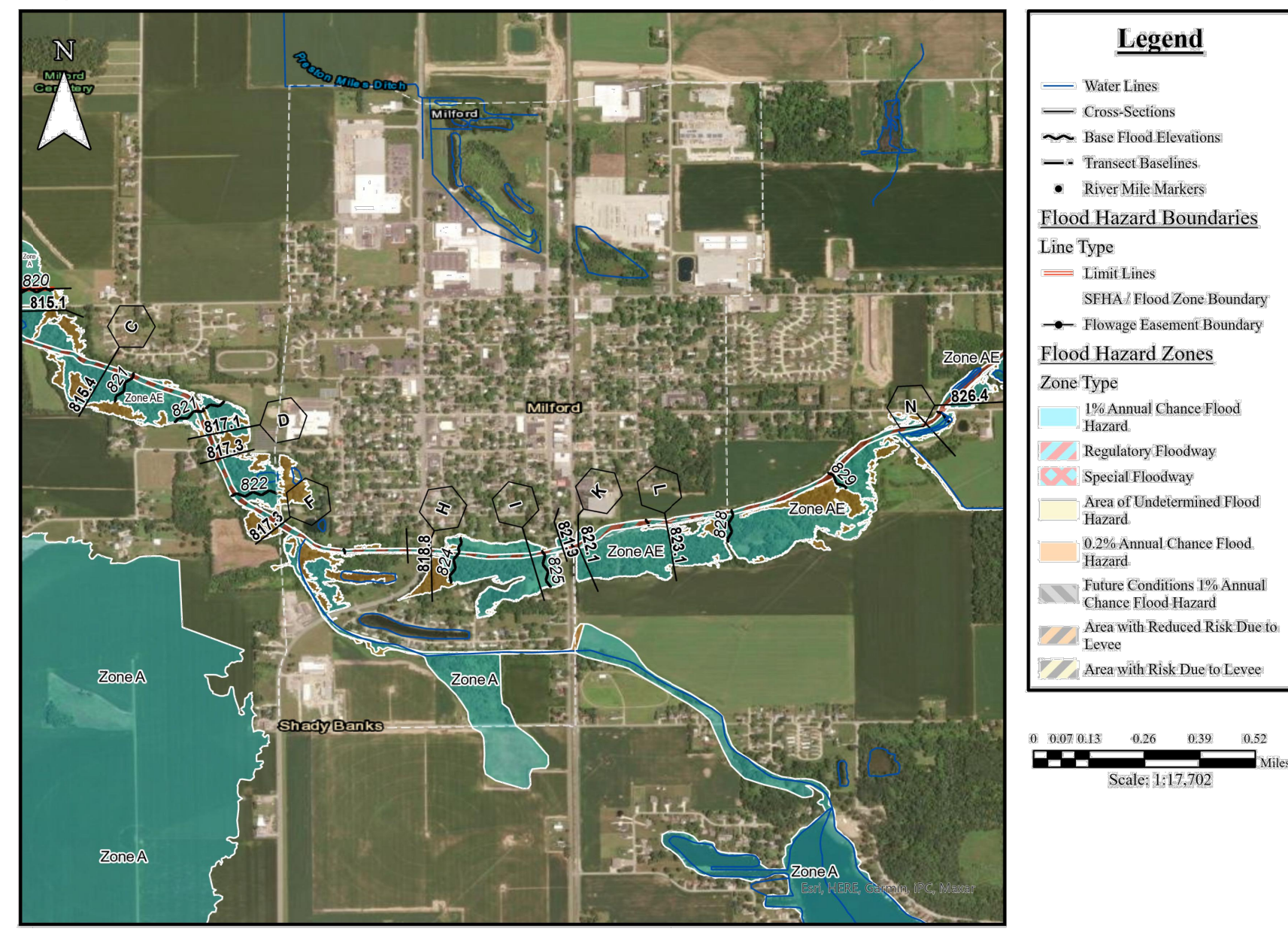
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STORMWATER POLLUTION PREVENTION PLAN

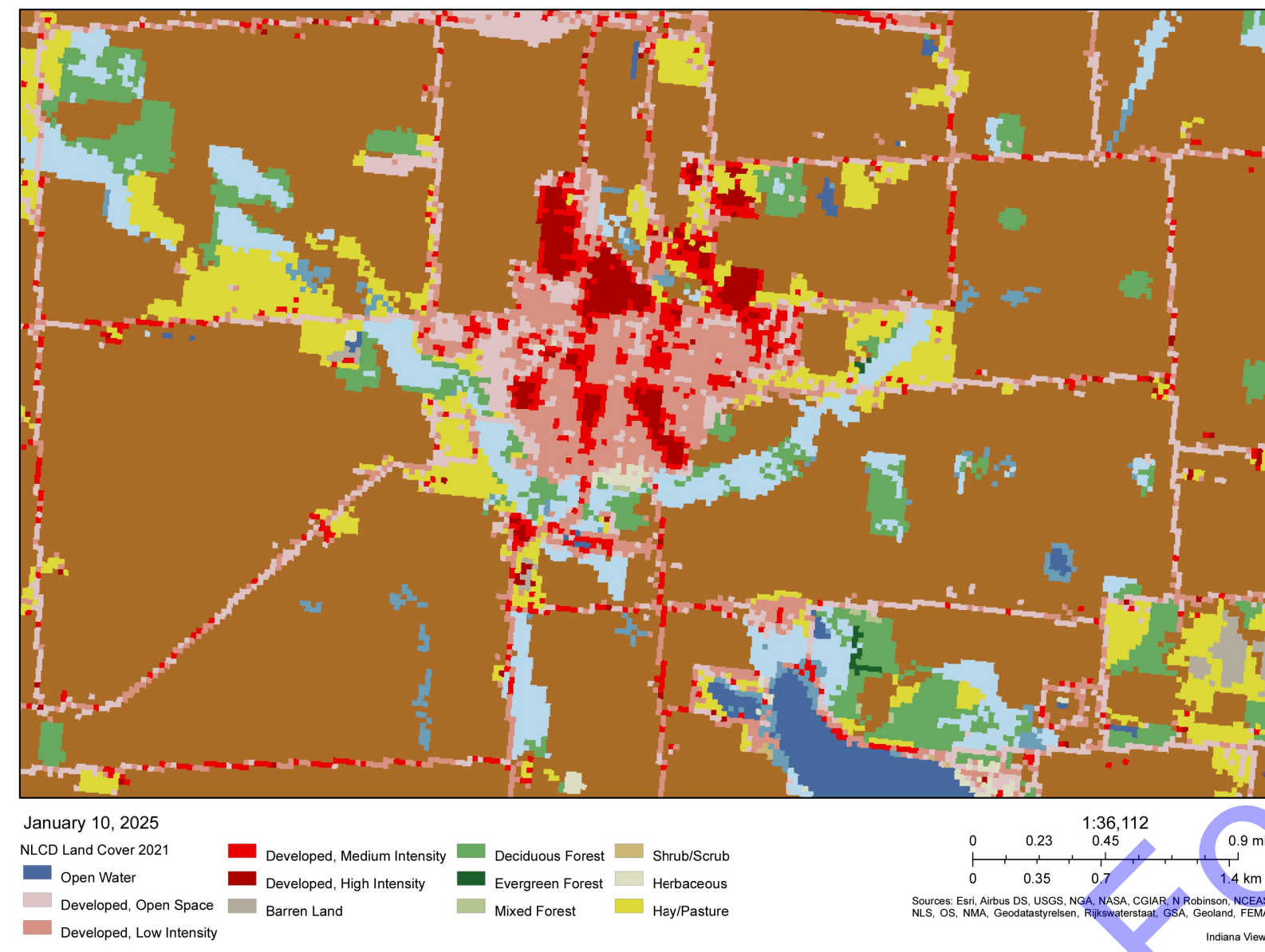
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FEMA's National Flood Hazard Layer (NFHL)

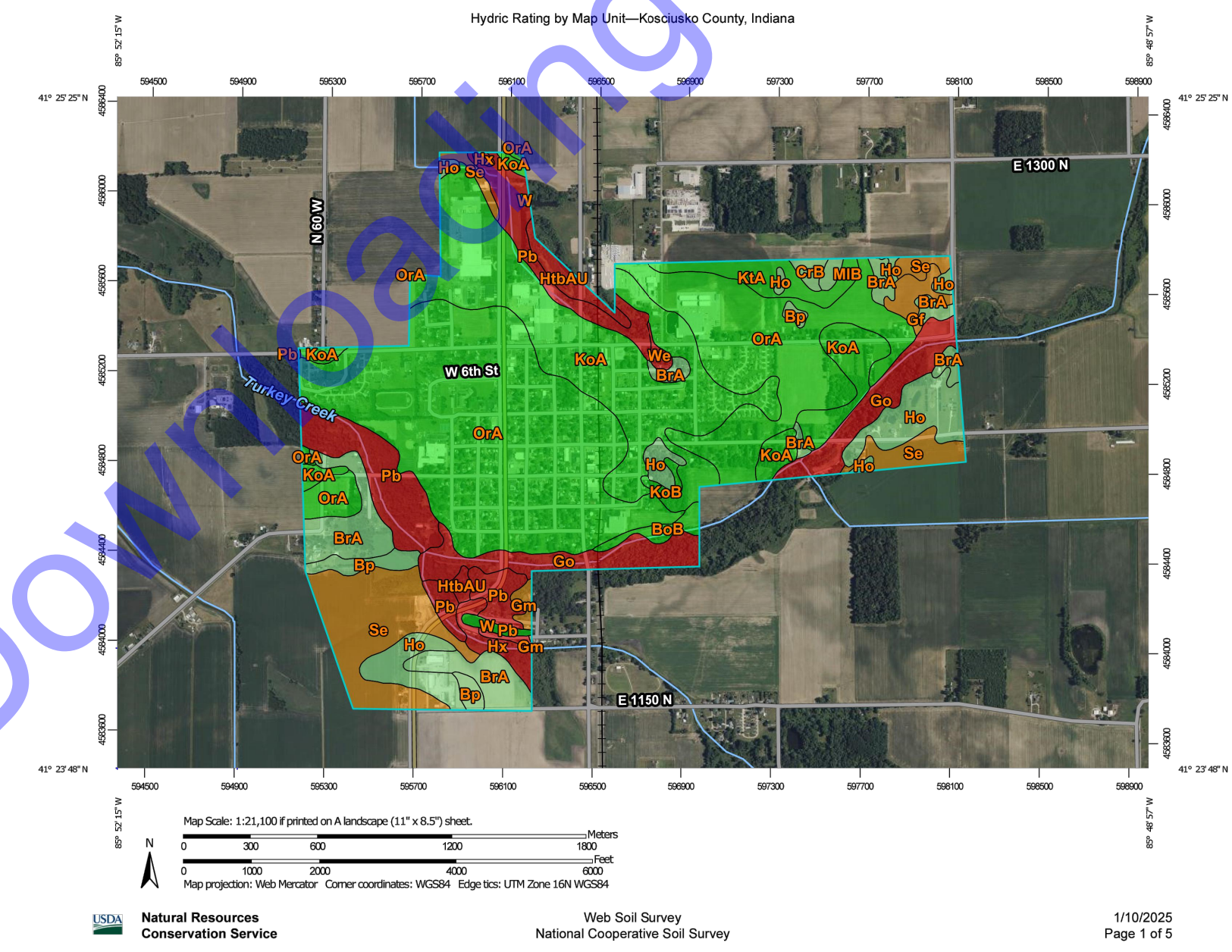


FLOODPLAIN MAP

Land Use

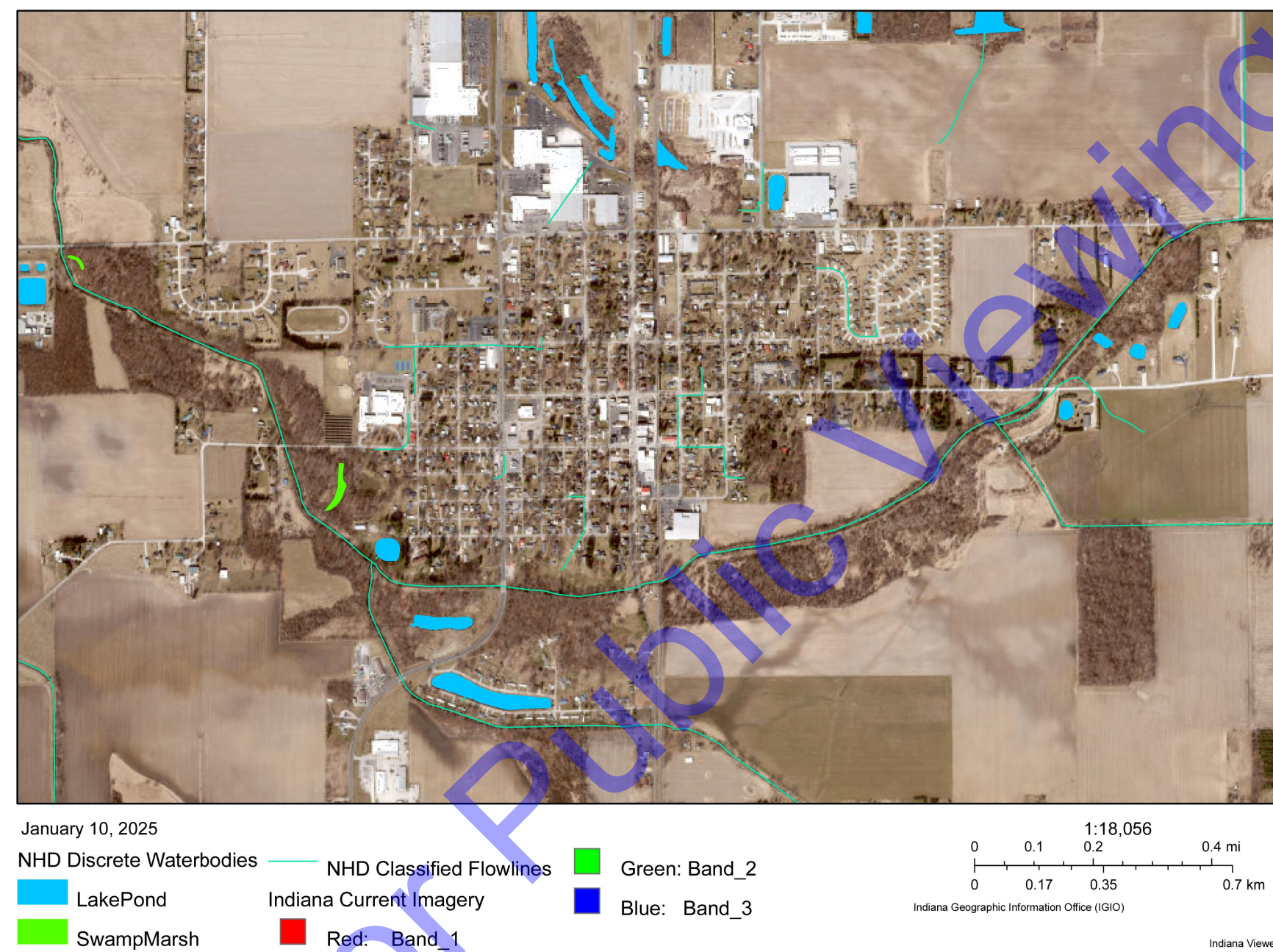


LAND USE MAP



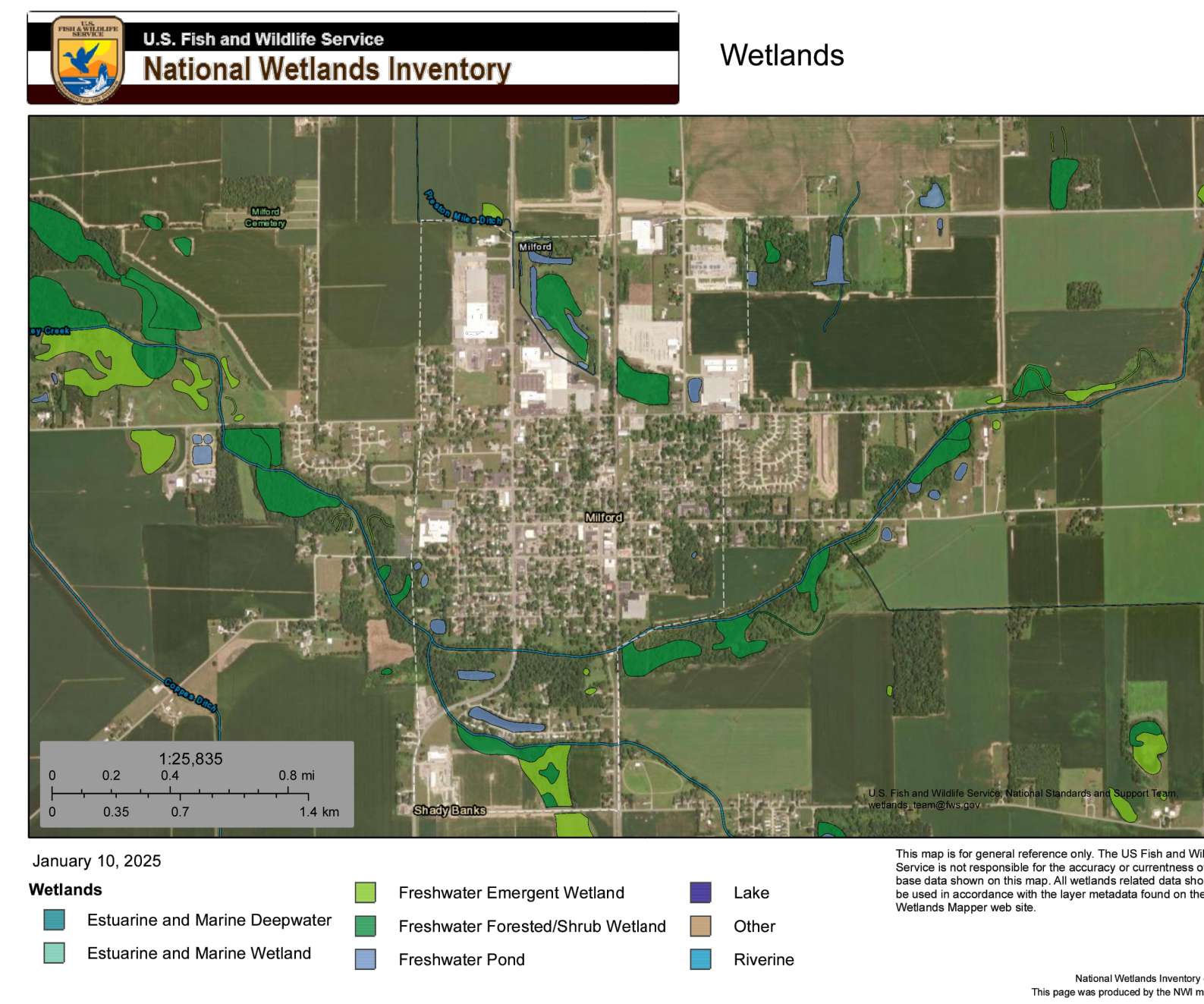
HYDRIC SOILS MAP

Surface Waters



SURFACE WATERS MAP

Wetlands



WETLANDS MAP

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RYAN M. LAREAU
 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA
 Signature: [Signature] Date: 12-18-2024

TOWN OF MILFORD, KOSCIUSKO COUNTY, INDIANA
 WATER UTILITY IMPROVEMENTS
 DIVISION "A" - WATER TREATMENT IMPROVEMENTS

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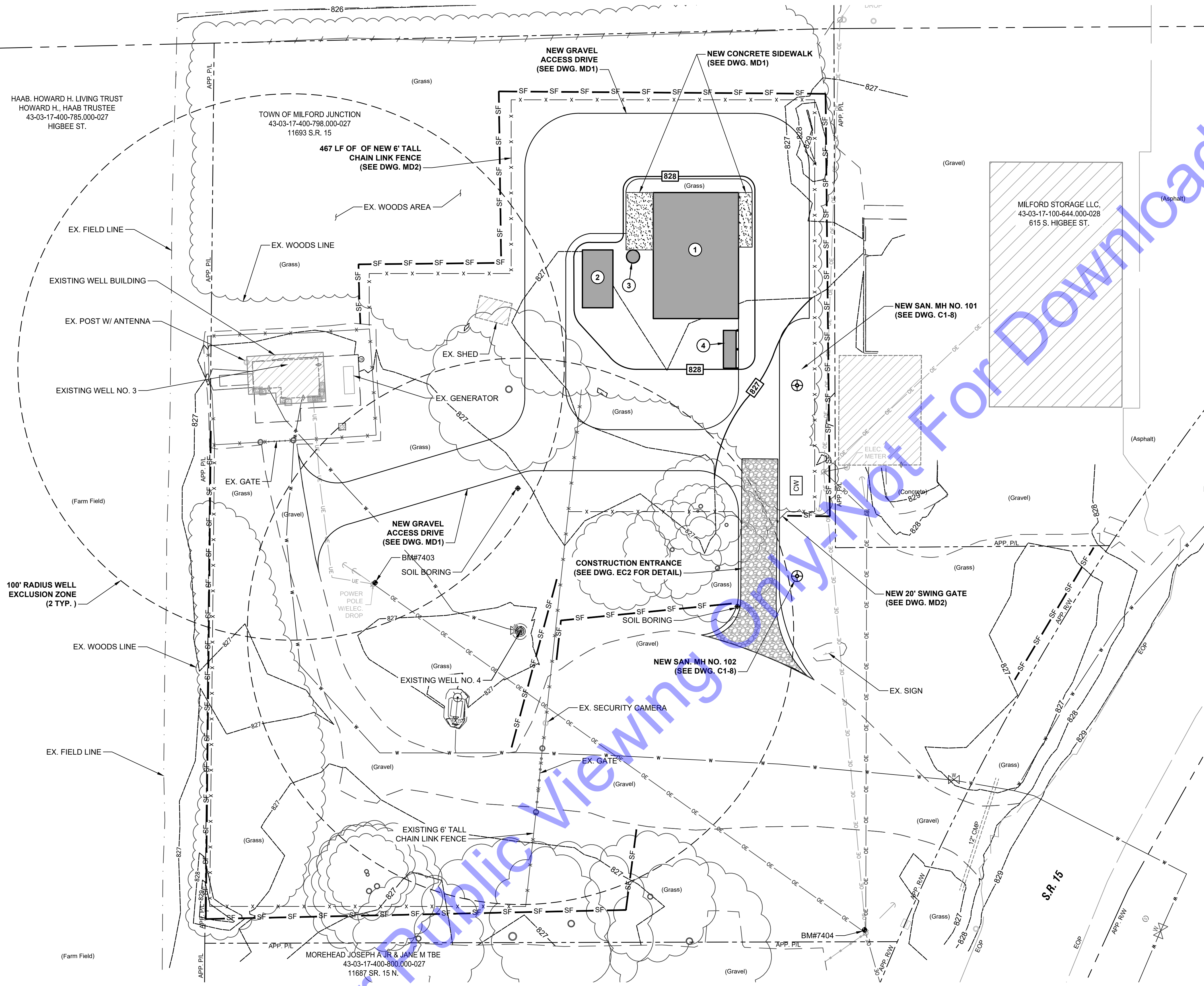
Designed By: RLM Drawn By: GCR Checked By: AMR
 Issue Date: 1-14-2025 Project No: W24161 Scale: AS SHOWN

STORMWATER POLLUTION PREVENTION PLAN

Drawing No:
EC3
 Sheet: 16 OF 75

File: Z:\SHARED\CLIENTS\TOWN OF MILFORD\W24161 - WATER UTILITY IMPROVEMENTS\CADD\CURRENT FILES\DRAWINGS\DIVISION A\WTP03 SITE PLAN.DWG
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SITE PLAN
 SCALE: 1"=20'-0"
 0 20' 40'

NEW STRUCTURE LEGEND	
STRUCTURE	DESCRIPTION
1	NEW WATER TREATMENT FACILITY (SEE DWG. D1-1 THRU D1-8)
2	NEW BACKWASH TANK (SEE DWG. D4-1 AND D4-2)
3	NEW BACKWASH MAG METER (SEE DWG. MD5)
4	NEW EMERGENCY GENERATOR

EROSION CONTROL LEGEND:

— SF —	SILT FENCE
□ CW	CONCRETE WASHOUT

GENERAL NOTES:

- CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL MEASURES AS SPECIFIED IN THE DETAILED SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO CONCRETE WASHOUT STATIONS, TEMPORARY CONSTRUCTION ENTRANCES, TEMPORARY SEEDING, ETC. AS REQUIRED DURING THE DURATION OF THE PROJECT TO MAINTAIN COMPLIANCE WITH THE GENERAL STORM WATER CONSTRUCTION PERMIT. CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF THE GENERAL STORM WATER CONSTRUCTION PERMIT, INCLUDING PROVIDING REQUIRED NOTIFICATIONS TO THE REQUIRED AGENCIES.
- SEE DRAWING EC5 FOR EROSION CONTROL DETAILS.

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RYAN M. LAREAU
 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA
 Signature: [Signature] Date: 12-18-2024

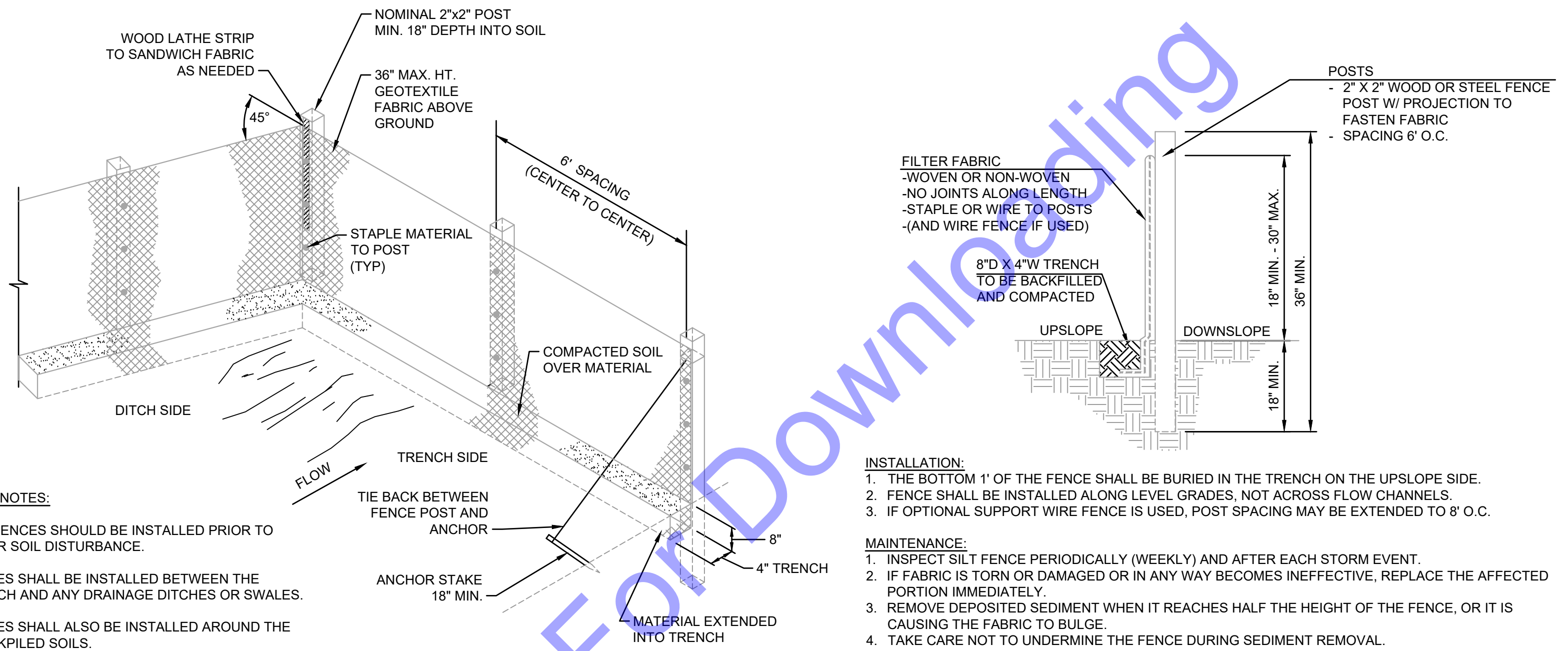
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No.	Submital / Revision	Date	By

Designed By: RLM	Drawn By: GCR	Checked By: AMR
Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

EROSION CONTROL PLAN



GENERAL NOTES:

1. SILT FENCES SHOULD BE INSTALLED PRIOR TO MAJOR SOIL DISTURBANCE.
2. FENCES SHALL BE INSTALLED BETWEEN THE TRENCH AND ANY DRAINAGE DITCHES OR SWALES.
3. FENCES SHALL ALSO BE INSTALLED AROUND THE STOCKPILED SOILS.
4. THE GEOTEXTILE SHALL BE FREE FROM DEFECTS, TEARS, PUNCTURES, FLAWS, DETERIORATION OR DAMAGE INCURRED DURING MANUFACTURE, TRANSPORTATION, STORAGE, OR INSTALLATION.
5. TIE BACKS SHALL BE PLACED AS REQUIRED.

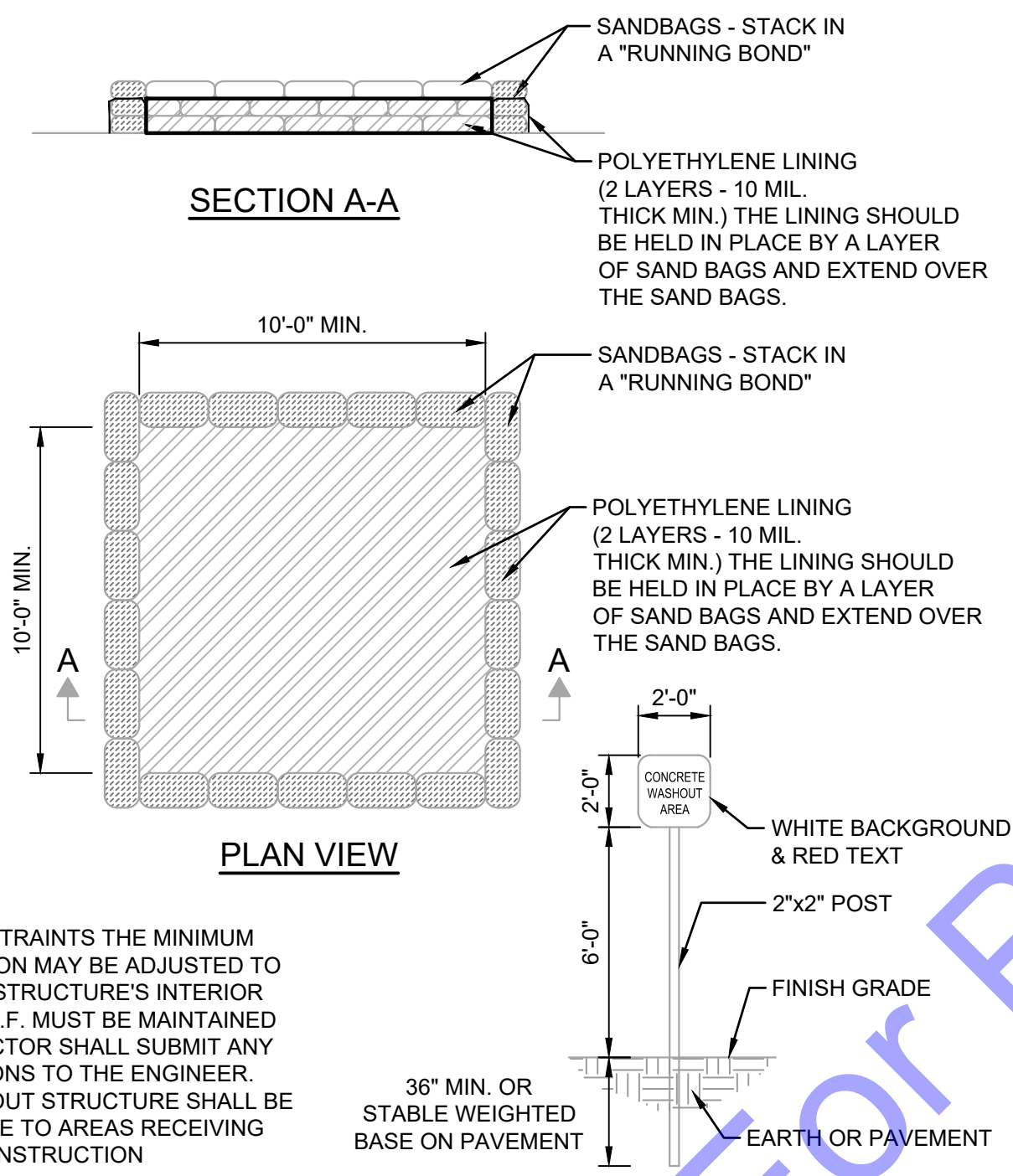
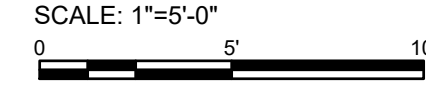
INSTALLATION:

1. THE BOTTOM 1' OF THE FENCE SHALL BE BURIED IN THE TRENCH ON THE UPSLOPE SIDE.
2. FENCE SHALL BE INSTALLED ALONG LEVEL GRADES, NOT ACROSS FLOW CHANNELS.
3. IF OPTIONAL SUPPORT WIRE FENCE IS USED, POST SPACING MAY BE EXTENDED TO 8' O.C.

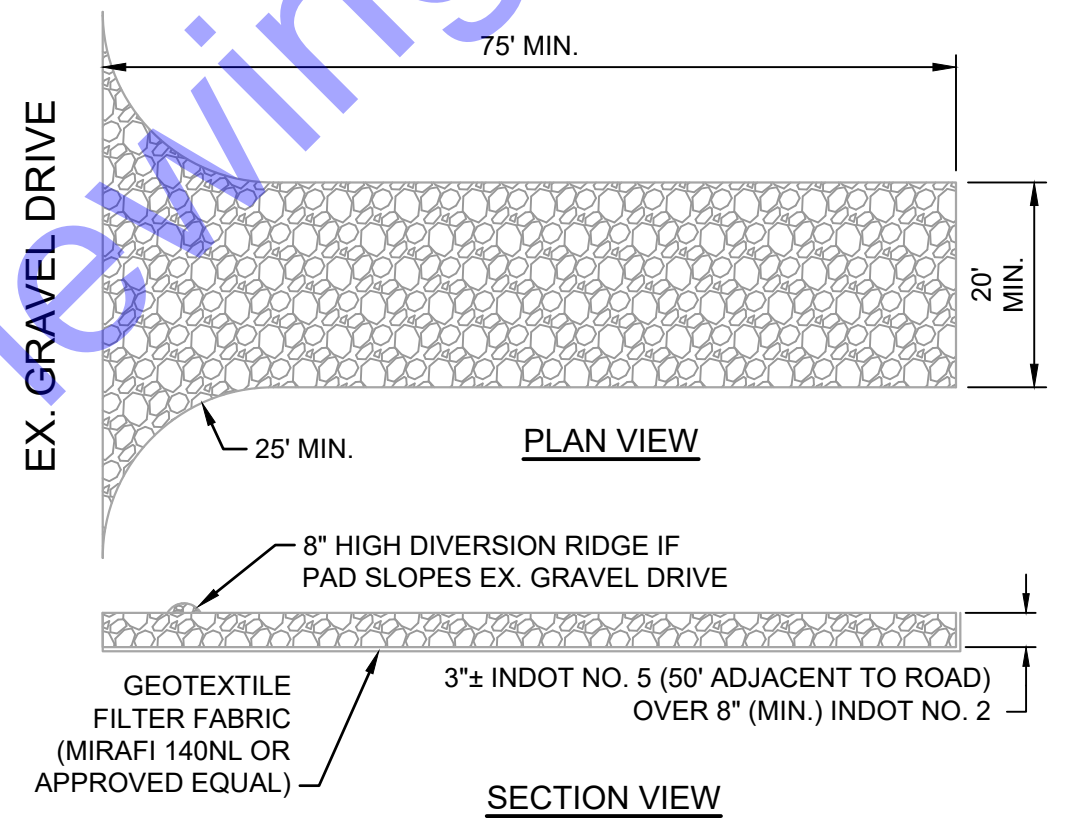
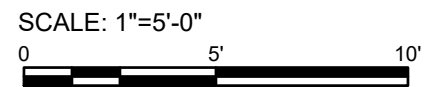
MAINTENANCE:

1. INSPECT SILT FENCE PERIODICALLY (WEEKLY) AND AFTER EACH STORM EVENT.
2. IF FABRIC IS TORN OR DAMAGED OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY.
3. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FENCE, OR IT IS CAUSING THE FABRIC TO BULGE.
4. TAKE CARE NOT TO UNDERMINE THE FENCE DURING SEDIMENT REMOVAL.
5. AFTER THE CONTRIBUTING AREA HAS BEEN STABILIZED, REMOVE THE FENCE AND REMAINING SEDIMENT, BRING THE DISTURBED AREA TO GRADE, AND STABILIZE.

SILT FENCE DETAIL



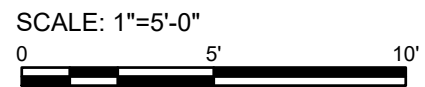
CONCRETE WASHOUT PIT DETAIL



MAINTENANCE:

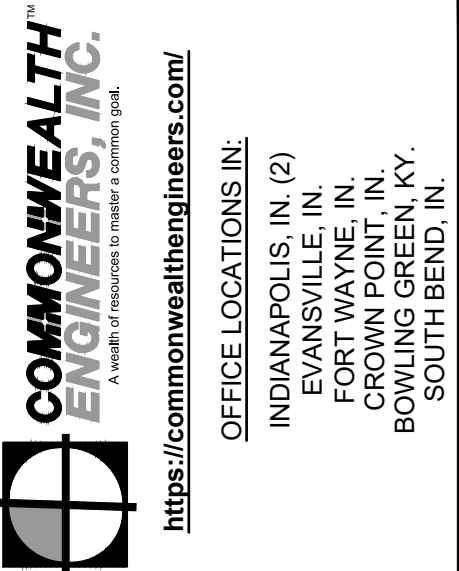
1. INSPECT DAILY, AND AFTER EACH STORM EVENT OR HEAVY USE.
2. RESHAPE AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOPDRESS WITH CLEAN STONE AS REQUIRED. MAINTAIN MINIMUM DEPTH THROUGHOUT CONSTRUCTION.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY SWEEPING OR BRUSHING. (DO NOT FLUSH AREA WITH WATER UNLESS WATER IS CONVEYED TO SEDIMENT TRAP.)
5. REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE DETAIL



GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE INDIANA STORM WATER QUALITY MANUAL FROM THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND LOCAL EROSION AND SEDIMENT CONTROL ORDINANCE, OR SWCD.
2. THE NOTICE OF INTENT (NOI) AND PUBLIC NOTICE FOR THE PROJECT SHALL BE POSTED ON A SIGN INSTALLED AT OR NEAR THE SITE CONSTRUCTION TRAILER. THE NOI SHALL LIST THE CONTACT INFORMATION FOR THE SITE CONTACT PERSON. THE SIGN AND INFORMATION SHALL BE MAINTAINED AND REMAIN LEGIBLE THROUGHOUT CONSTRUCTION.
3. A COPY OF THIS EROSION AND SEDIMENT CONTROL PLAN AND THE EROSION AND SEDIMENT CONTROL REPORT SHALL BE AVAILABLE AT THE PROJECT SITE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
4. THE CONTRACTOR SHALL CONTROL WASTE, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES ON THE SITE SO THEY WILL NOT BE TRANSPORTED FROM THE SITE BY THE ACTION OF WIND, STORM WATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OR MANAGEMENT OF ALL WASTES AND UNUSED BUILDING MATERIAL APPROPRIATE TO THE NATURE OF THE WASTE OR MATERIAL IS REQUIRED.
5. PUBLIC OR PRIVATE ROADWAYS SHALL BE KEPT CLEAR OF ACCUMULATED SEDIMENT. ALL SEDIMENT THAT IS CLEARED MUST BE RETURNED TO THE LIKELY POINT OF ORIGIN OR OTHER SUITABLE LOCATION. CLEARING OF LARGE AMOUNTS OF SEDIMENT SHALL NOT INCLUDE FLUSHING THE AREA WITH WATER.
6. MINIMIZE THE EXPOSURE OF BARE EARTH BY LIMITING THE WORK AREA TO THAT NECESSARY TO PERFORM THE WORK, AND BY PROPER SCHEDULING OF MANPOWER AND EQUIPMENT.
7. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED, CLEANED, AND MAINTAINED FOLLOWING EACH STORM EVENT.
8. WHEREVER POSSIBLE, MAINTAIN EXISTING VEGETATIVE COVER. USE NON-VEGETATIVE MATERIAL INCLUDING MULCH, EROSION BLANKETS, OR STONE TO CONTROL EROSION FROM DISTURBED AREAS.
9. A LOG SHALL BE MAINTAINED OF ALL INSPECTIONS (WEEKLY, AND FOLLOWING STORM EVENTS), MAINTENANCE AND REPAIR OF EROSION AND SEDIMENT CONTROL MEASURES. THE LOG SHALL BE MAINTAINED ON SITE AND BE AVAILABLE UPON REQUEST TO THE OWNERS REPRESENTATIVES AND THE OPERATING AUTHORITIES HAVING JURISDICTION OVER THE SITE.



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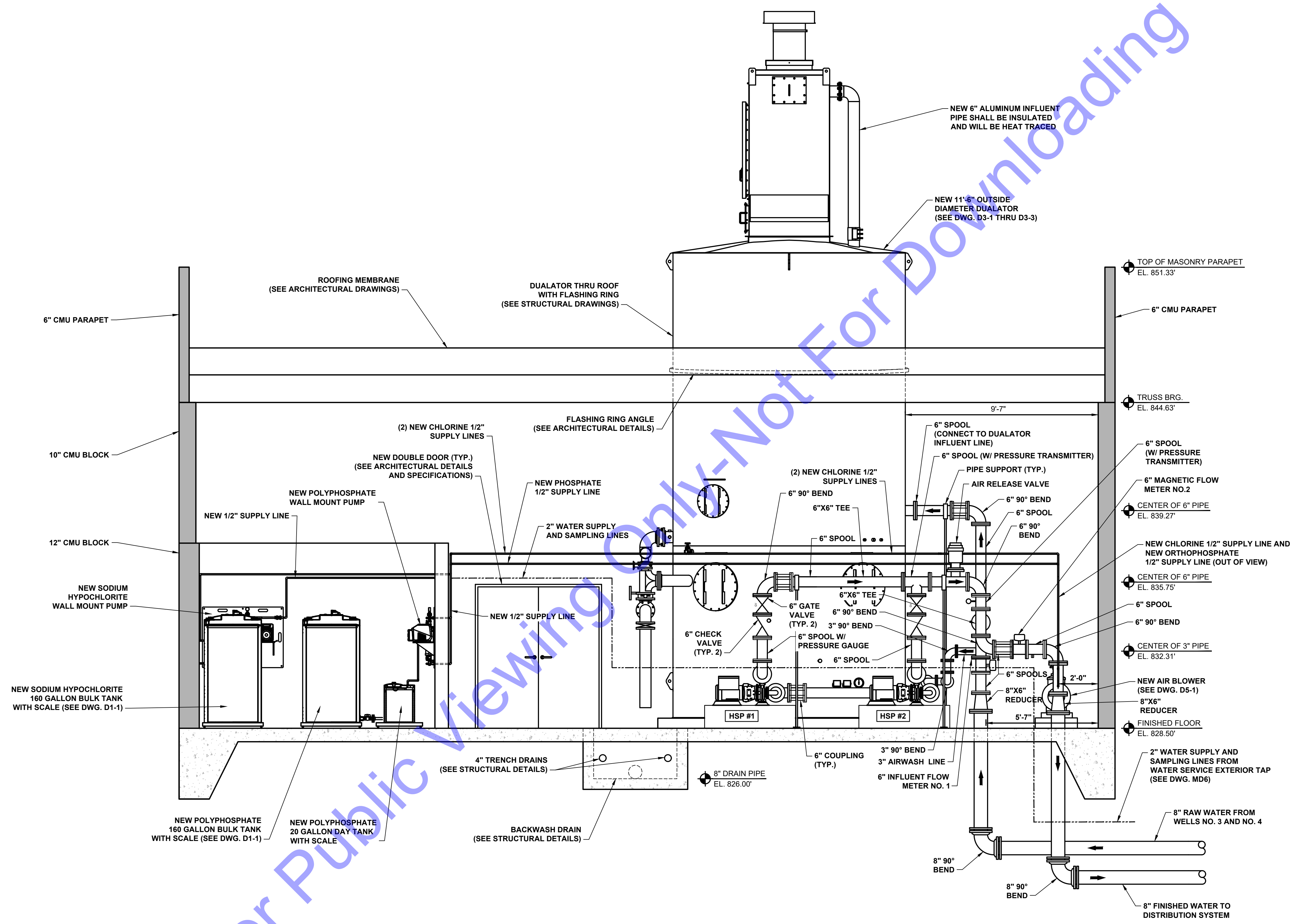
**EROSION CONTROL
DETAILS**

Drawing No:
EC5

Sheet: 18 OF 75

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SECTION VIEW
SCALE: 3/8"=1'-0"
0 2 4 6

A
D1-1

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RYAN M LAREAU
REGISTERED PROFESSIONAL ENGINEER
No. PE11800145
STATE OF INDIANA

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Signature

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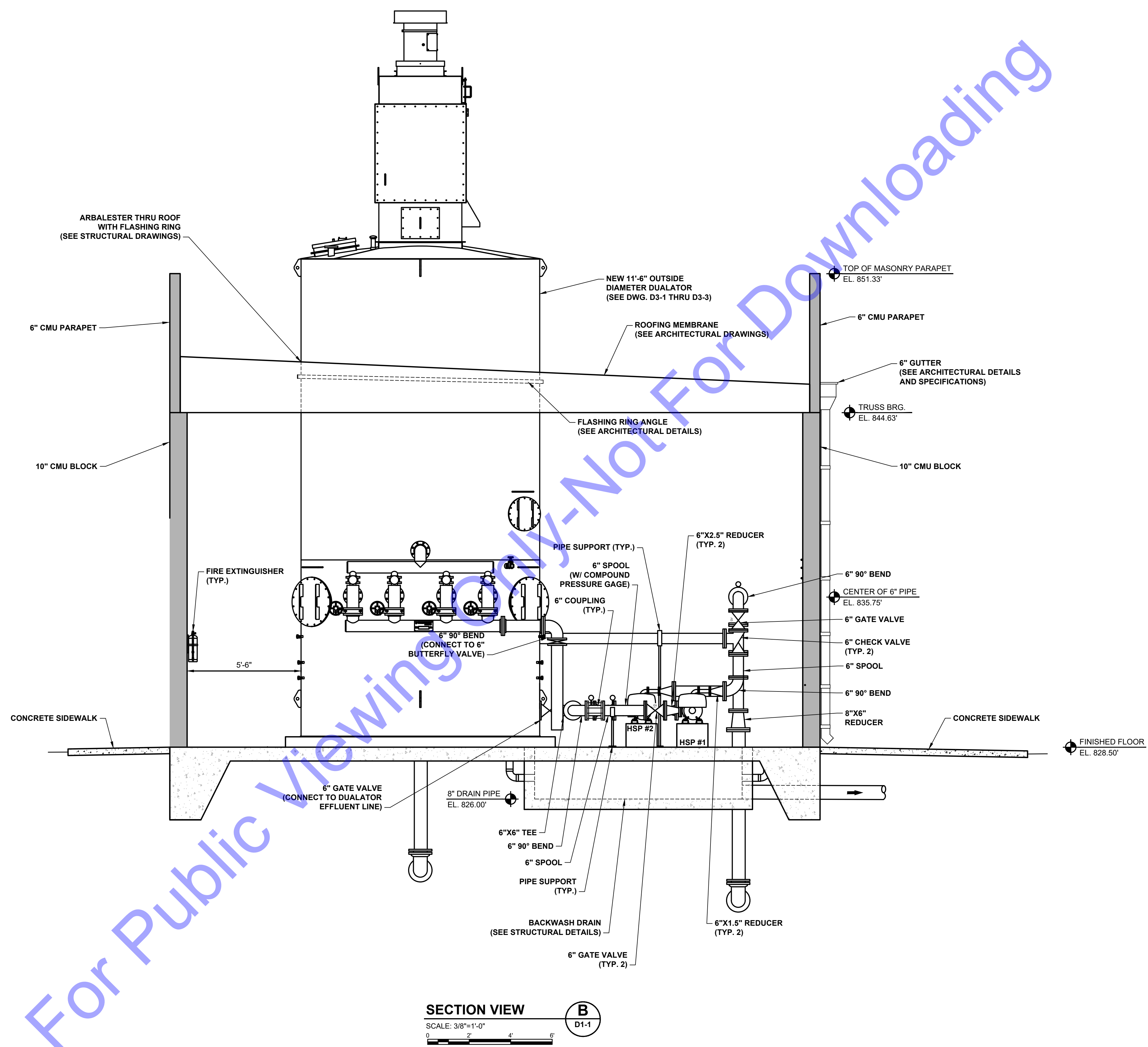
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**NEW WATER
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FACILITY - SECTION
VIEW "A"**

Drawing No:
D1-2
Sheet: 20 OF 75

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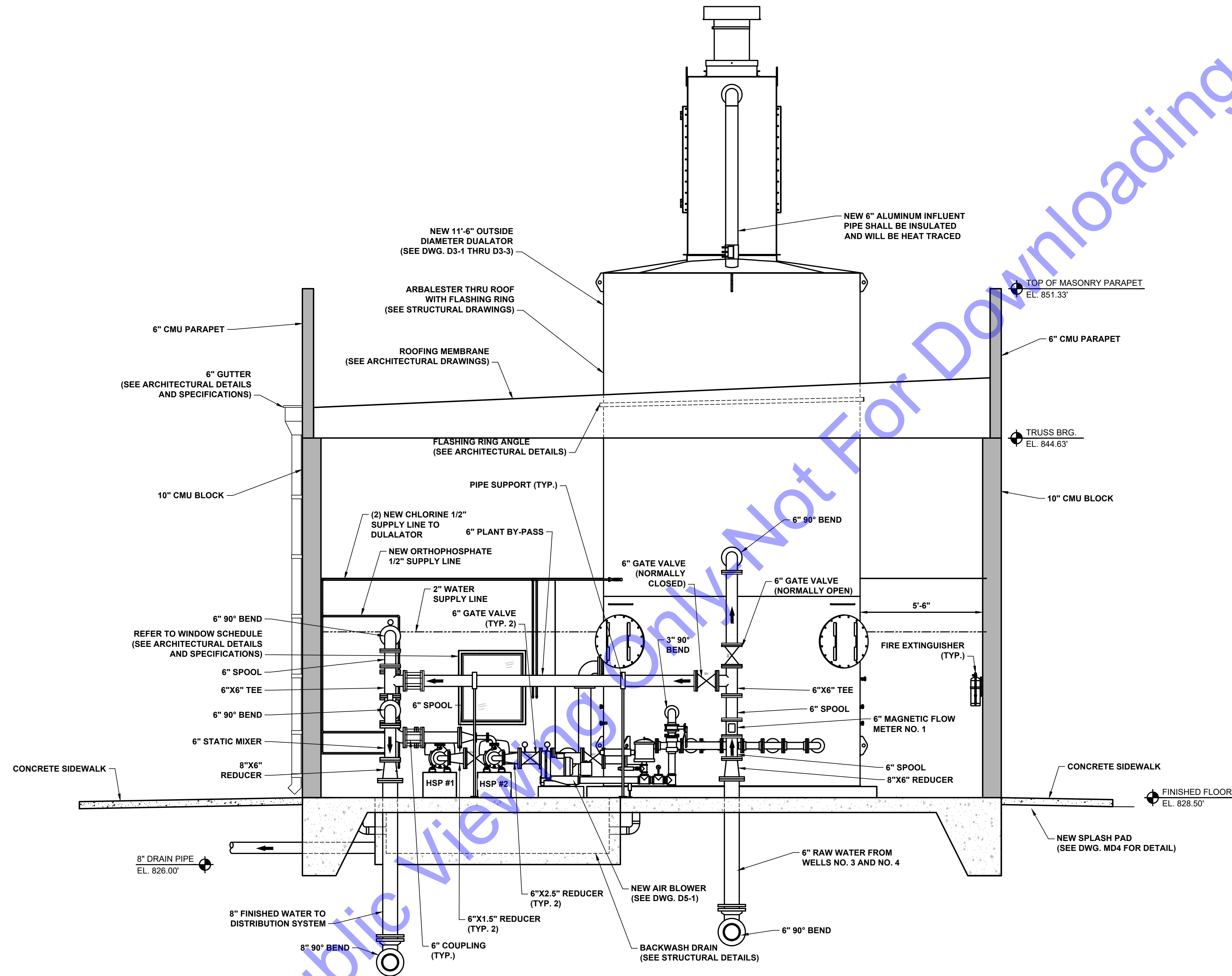
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**NEW WATER
 TREATMENT PLANT
 FACILITY - SECTION
 VIEW "B"**

Drawing No:
D1-3
 Sheet: 21 OF 75

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SECTION VIEW
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 C
 D1-1

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 No. PE1800145
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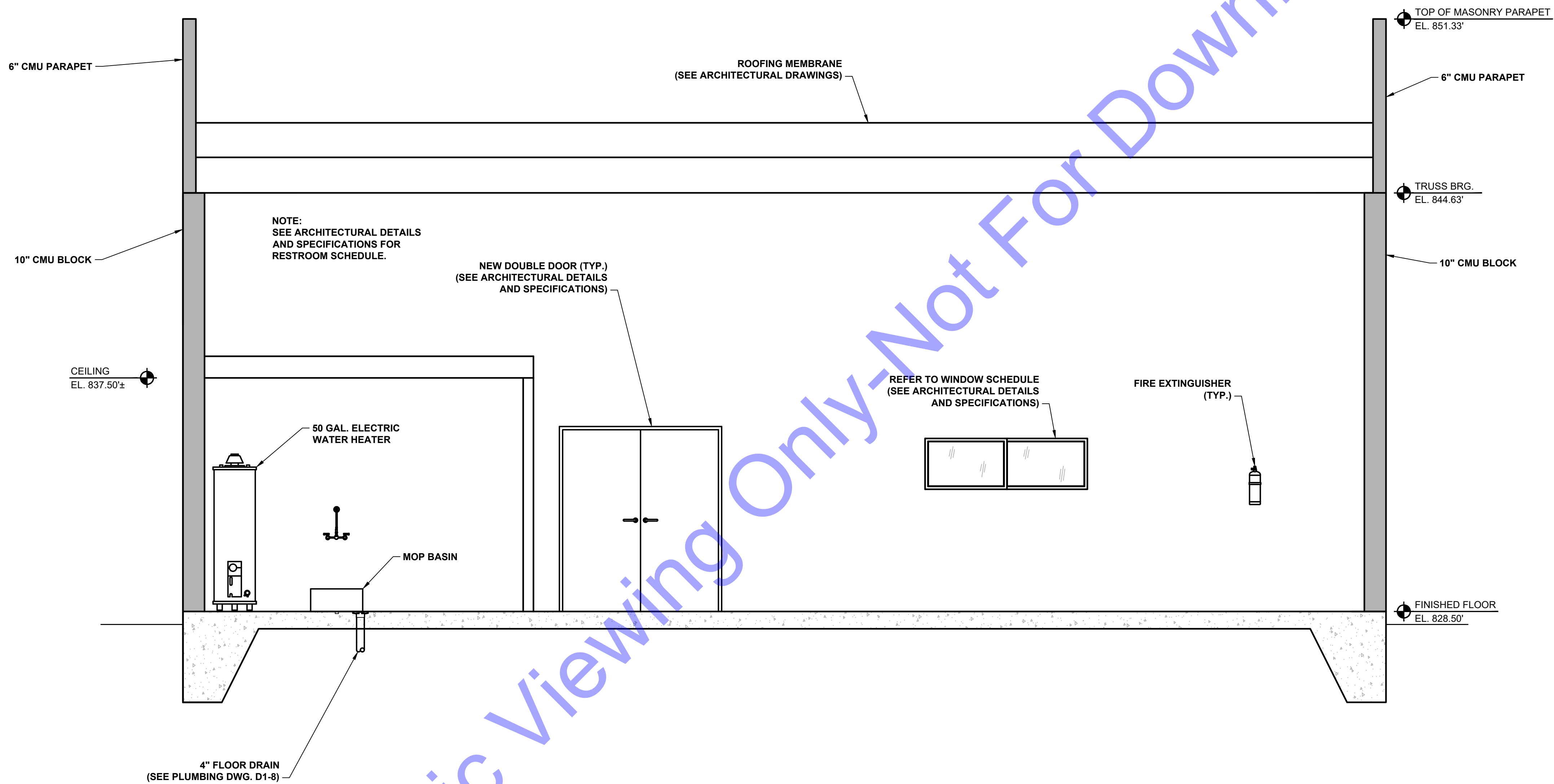
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NEW WATER TREATMENT PLANT FACILITY - SECTION VIEW "C"

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SECTION VIEW
 SCALE: 3/8"=1'-0"
 0 2 4 6
D
 D1-1

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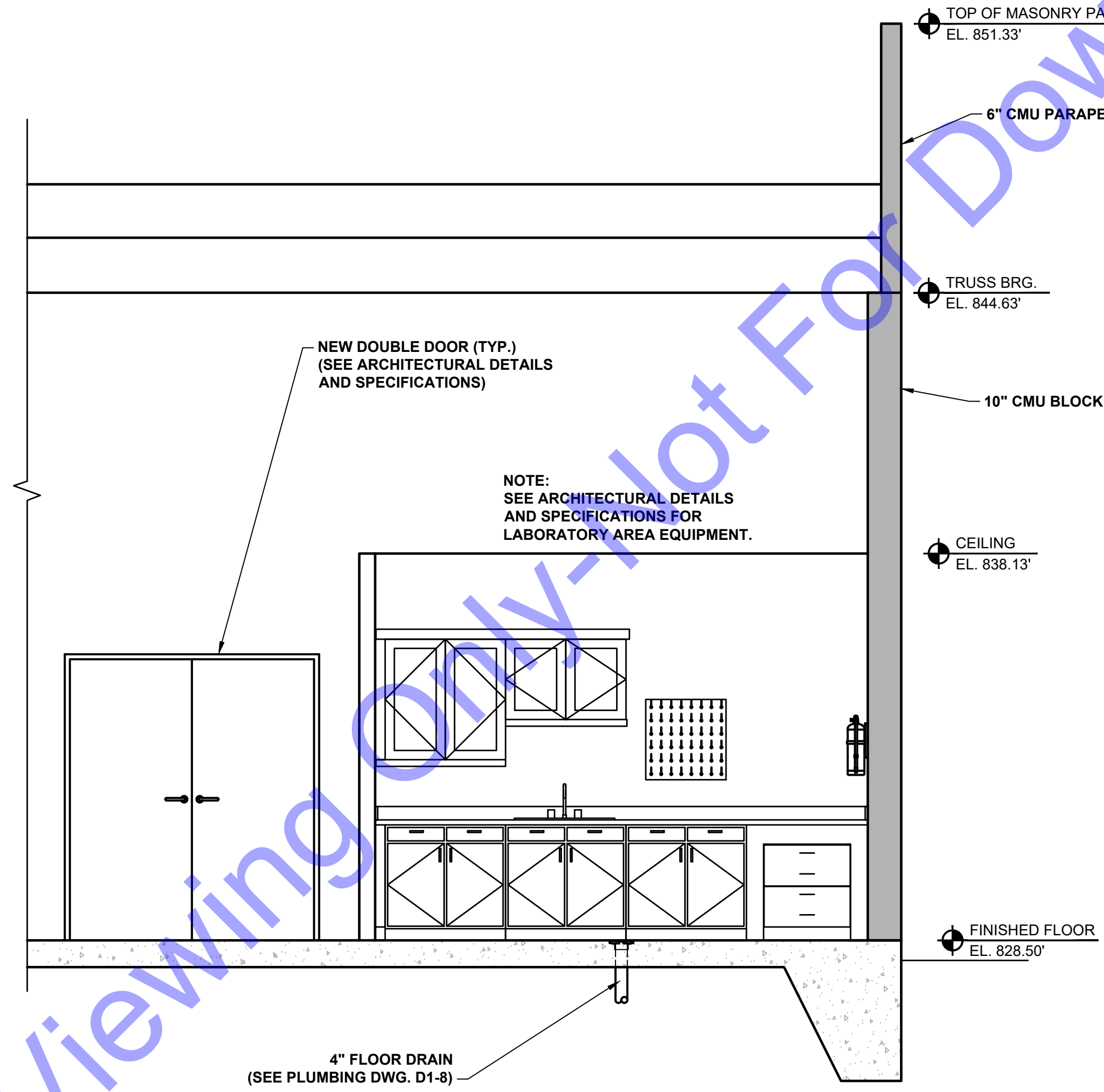
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NEW WATER
 TREATMENT PLANT
 FACILITY - SECTION
 VIEW "D"

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SECTION VIEW

SCALE: 3/8"=1'-0"



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 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA

[Signature]
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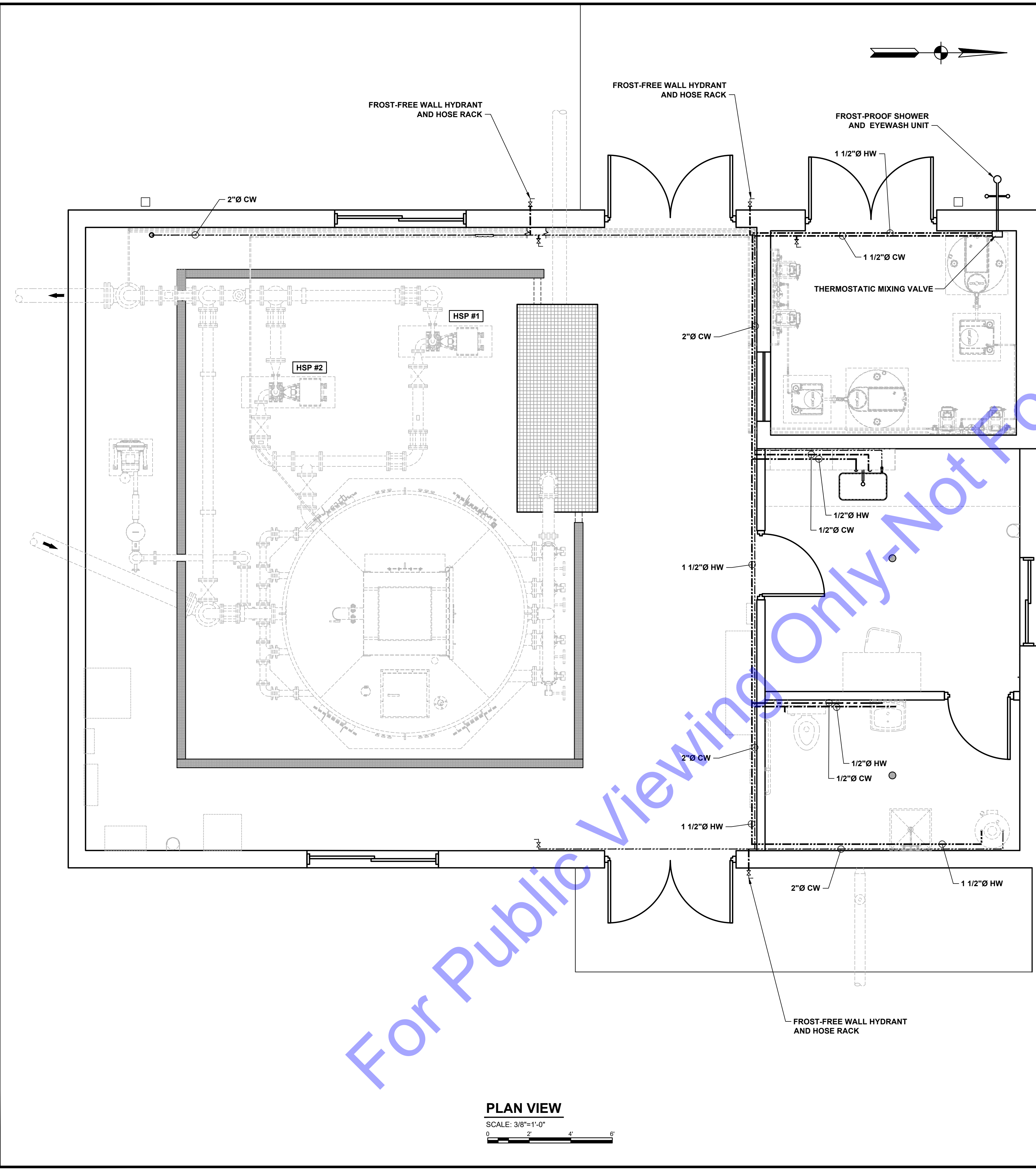
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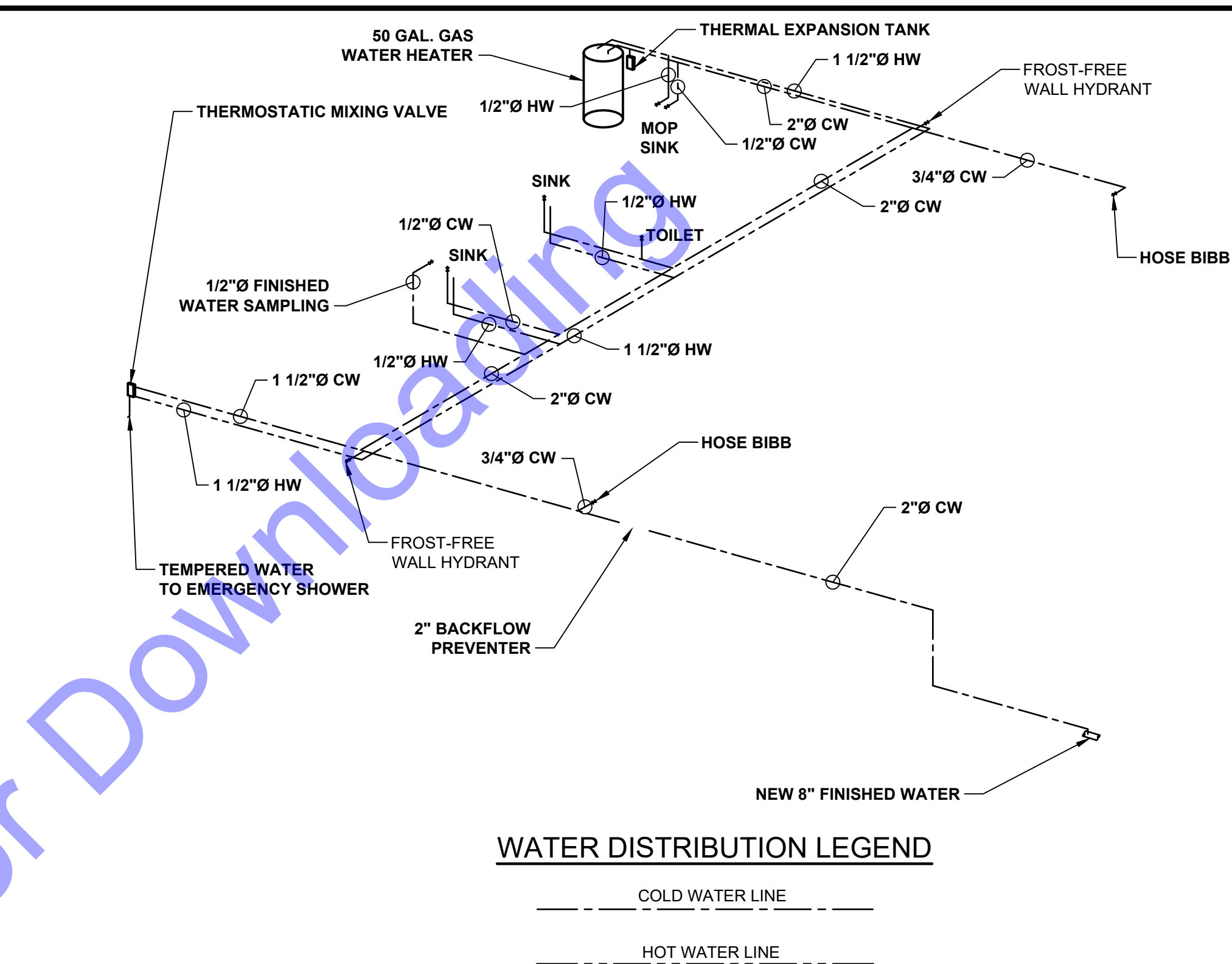
NEW WATER TREATMENT PLANT FACILITY - SECTION VIEW "E"

Drawing No:
D1-6
 Sheet: 24 OF 75

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PLAN VIEW
 SCALE: 3/8"=1'-0"



WATER DISTRIBUTION LEGEND
 --- COLD WATER LINE
 --- HOT WATER LINE

WATER DISTRIBUTION SCHEMATIC
 NOT TO SCALE

WATER DISTRIBUTION NOTES:

- UNLESS OTHERWISE SPECIFIED ALL MATERIALS AND EQUIPMENT INCORPORATED IN THE WORK SHALL BE NEW. ALL WORKMANSHIP SHALL BE FIRST CLASS AND SHALL BE PERFORMED BY PERSONS QUALIFIED IN THEIR RESPECTIVE TRADES.
- ALL WORK INSTALLED BY THIS CONTRACTOR SHALL BE IN COMPLIANCE WITH ALL GOVERNING CODES, REGULATIONS AND THE RECOMMENDED INSTALLATION DETAILS OF THE PRODUCT MANUFACTURERS, UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS, LICENSES, AND INSPECTIONS GOVERNING HIS PORTION OF THE CONTRACT FROM THE AUTHORITIES HAVING JURISDICTION, AND SHALL PAY THE COST OF SUCH UNLESS SPECIFIED OTHERWISE.
- ALL MATERIAL NOT CALLED OUT SHALL BE PVC SCH. 80.
- CONDUITS FOR PEX IN BATHROOM SHALL BE PVC SCH. 40.

START-UP

- THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE START UP OF ALL PLUMBING EQUIPMENT. PRIOR TO START UP OF ANY EQUIPMENT THE CONTRACTOR SHALL CHECK AND REVIEW ALL MANUFACTURERS RECOMMENDATIONS FOR PROPER PROCEDURE.

WATER PIPING

- ALL WATER PIPING SHALL BE INSTALLED & CONNECTED BY THE PLUMBING CONTRACTOR.
- ALL WATER PIPING SHALL BE SUPPORTED @ MAX. 8'-0" INTERVALS AND AT ALL CHANGES IN DIRECTION USING STANDARD CLAMPS AND HANGERS AS REQUIRED AS PER MANUFACTURERS RECOMMENDATIONS.
- HORIZONTAL AND VERTICAL RUNS OF PIPING SHALL BE INSTALLED PARALLEL AND PERPENDICULAR TO THE WALLS. VERTICAL PIPING SHALL BE PLUMB AND PERPENDICULAR TO THE FLOORS AND CEILINGS UNLESS NOTED OTHERWISE.

PIPE INSULATION

- ALL HOT AND COLD WATER PIPING SHALL BE INSULATED WITH 1/2" THICK ELECTROMETRIC INSULATION INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS ALL INSULATION SHALL BE INSTALLED BY QUALIFIED PERSONNEL TO PROVIDE A PROFESSIONAL VAPOR TIGHT SEAL ON ALL PIPING.

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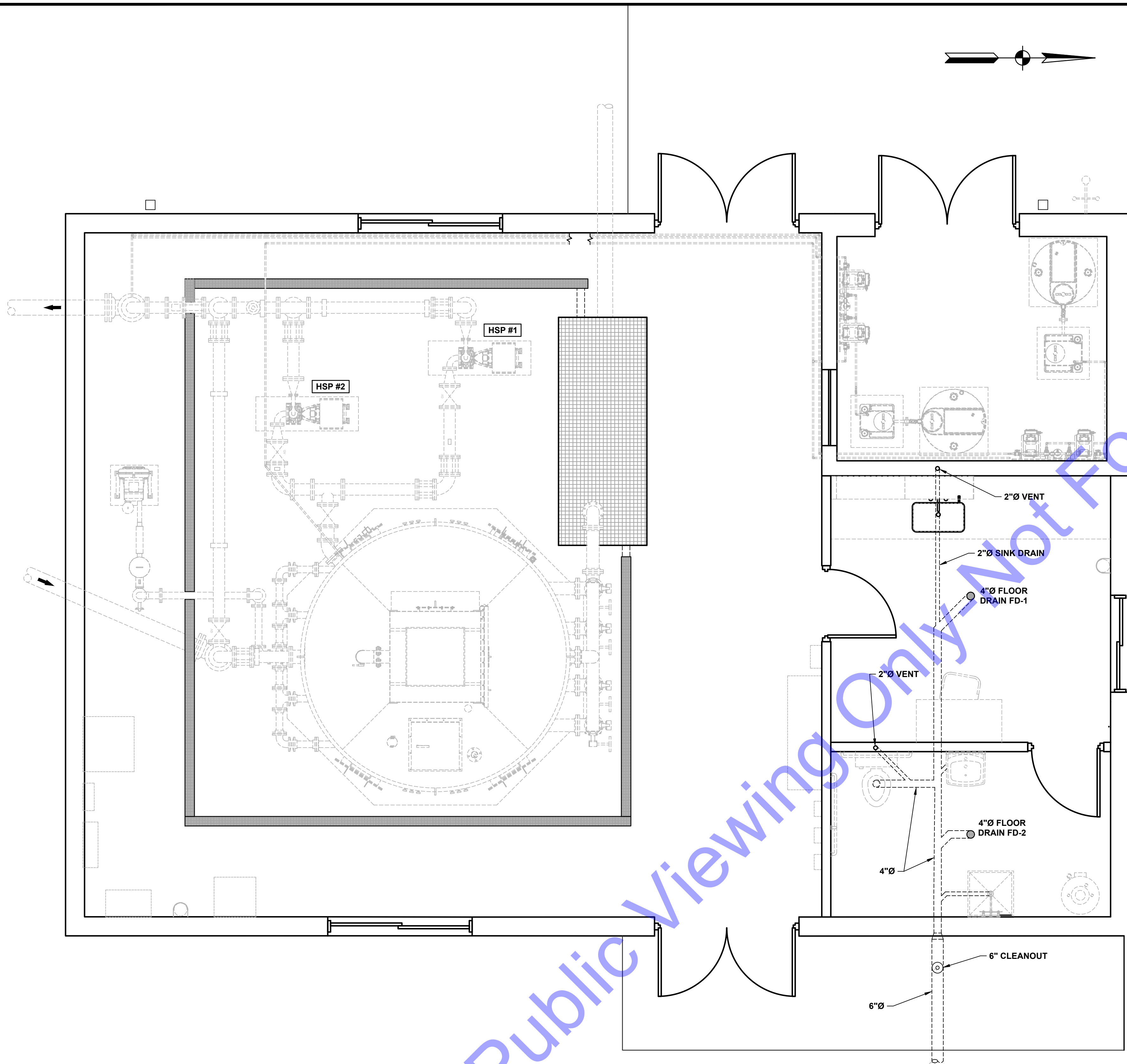
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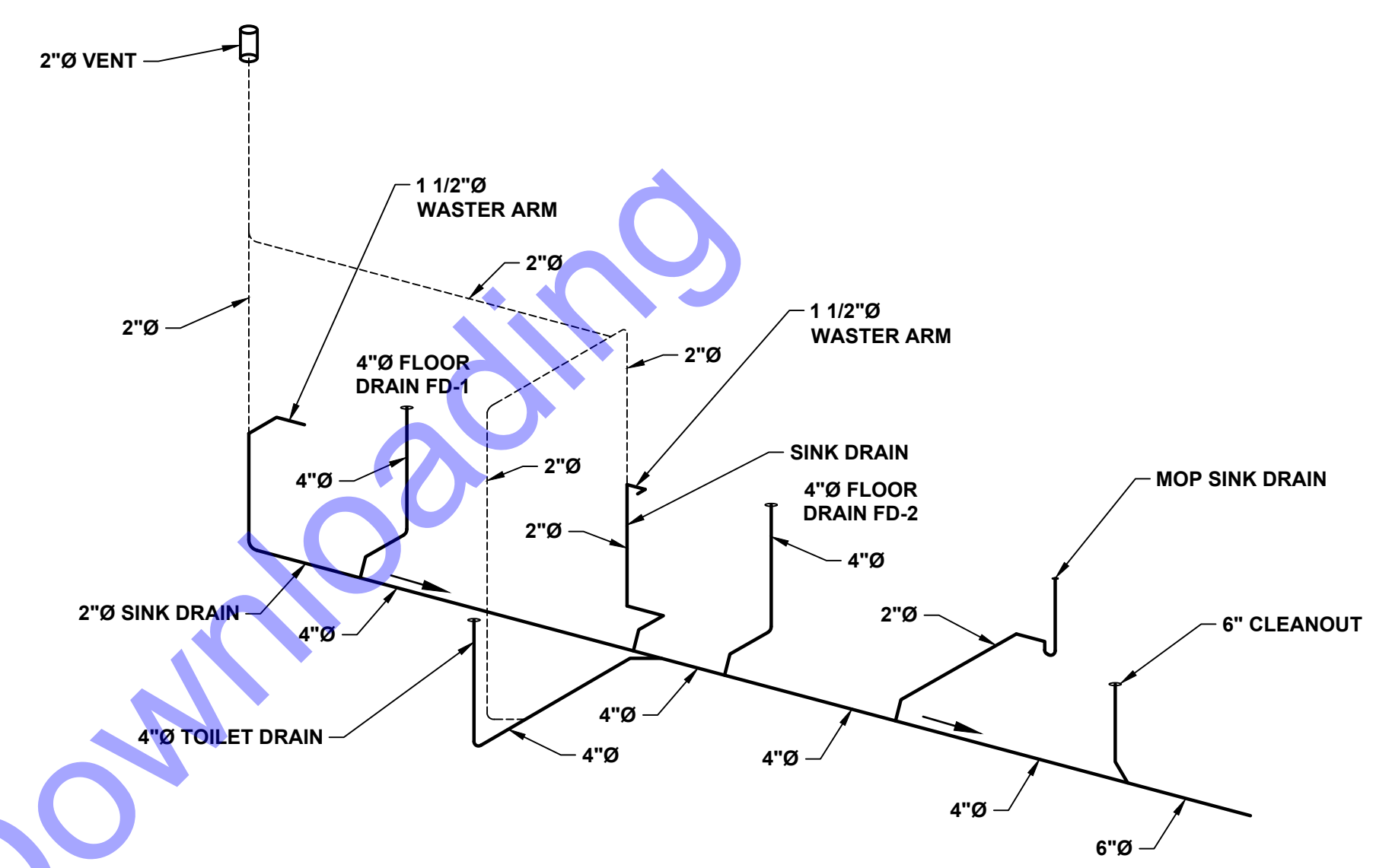
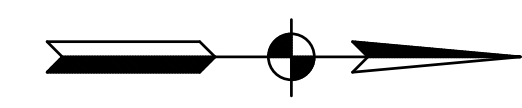
NEW WATER TREATMENT PLANT FACILITY - WATER DISTRIBUTION PLAN

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PLAN VIEW

SCALE: 3/8"=1'-0"



DRAIN, WASTE, AND VENT LEGEND

NOTE:
 VENT PIPE IN WALL SHALL BE OFFSET TO AVOID DISTURBANCE OF BOND BEAM.

————— DRAIN AND WASTE PIPING
 - - - - - VENT PIPING

DRAIN, WASTE AND VENT SCHEMATIC
 NOT TO SCALE

SANITARY WASTE & VENT NOTES:

GENERAL

- UNLESS OTHERWISE SPECIFIED ALL MATERIALS AND EQUIPMENT INCORPORATED IN THE WORK SHALL BE NEW. ALL WORKMANSHIP SHALL BE FIRST CLASS AND SHALL BE PERFORMED BY PERSONS QUALIFIED IN THEIR RESPECTIVE TRADES.
- ALL WORK INSTALLED BY THIS CONTRACTOR SHALL BE IN COMPLIANCE WITH ALL GOVERNING CODES, REGULATIONS AND THE RECOMMENDED INSTALLATION DETAILS OF THE PRODUCT MANUFACTURERS, UNLESS NOTED OTHERWISE.
- THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS, LICENSES, AND INSPECTIONS GOVERNING HIS PORTION OF THE CONTRACT FROM THE AUTHORITIES HAVING JURISDICTION, AND SHALL PAY THE COST OF SUCH UNLESS SPECIFIED OTHERWISE.

START-UP

- THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE START UP OF ALL PLUMBING EQUIPMENT. PRIOR TO START UP OF ANY EQUIPMENT THE CONTRACTOR SHALL CHECK AND REVIEW ALL MANUFACTURERS RECOMMENDATIONS FOR PROPER PROCEDURE.

SANITARY WASTE AND VENT PIPING

- ALL SANITARY WASTE AND VENT PIPING ABOVE AND BELOW GRADE SHALL BE PVC DWV SCH. 40, SOLVENT JOINT PIPING AND FITTINGS.
- ALL PIPING TO BE INSTALLED ON FIRM EARTH TO SLOPE AT A MINIMUM 1/8" PER FOOT. VERIFY ALL INVERTS PRIOR TO CONSTRUCTION START. PROVIDE STANDPIPE AS PER THE BOCA PLUMBING CODE.
- NO SANITARY WASTE PIPING SMALLER THAN 2"Ø SHALL BE INSTALLED UNDER SLABS.

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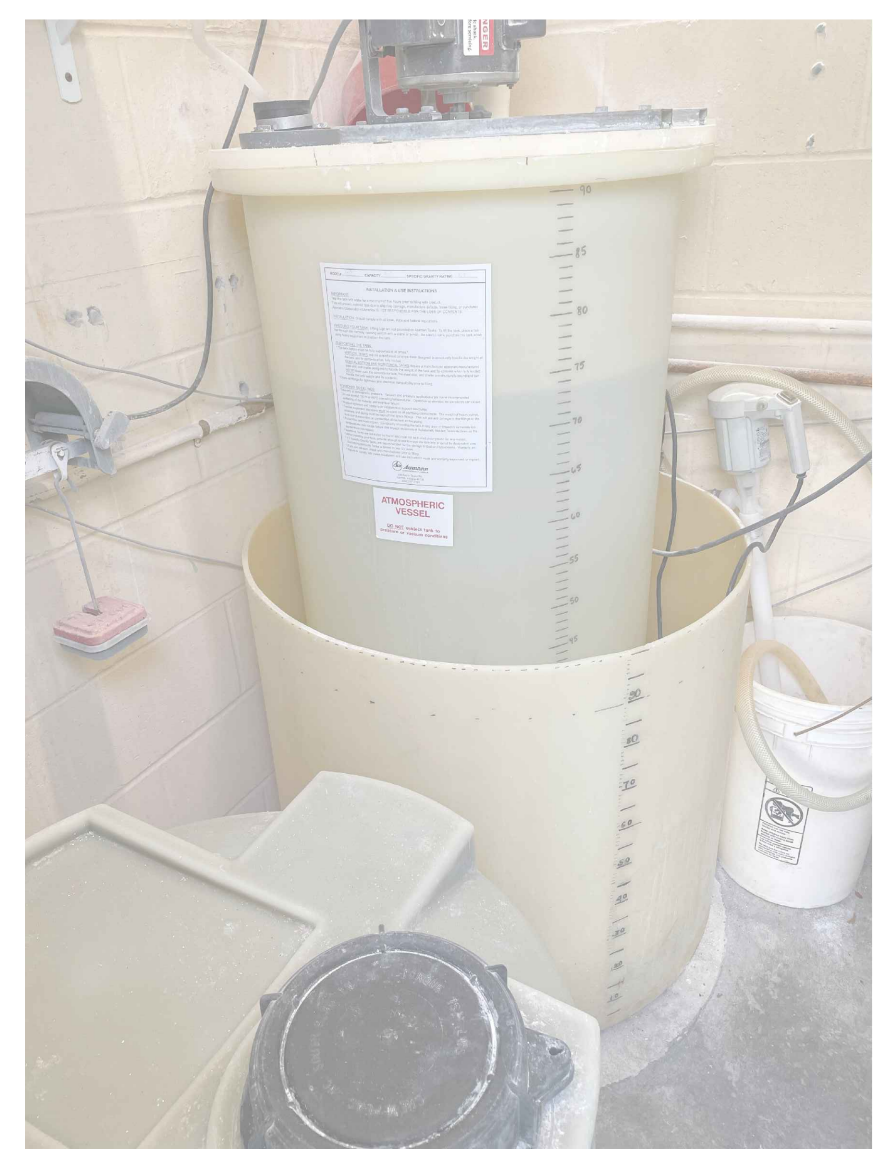
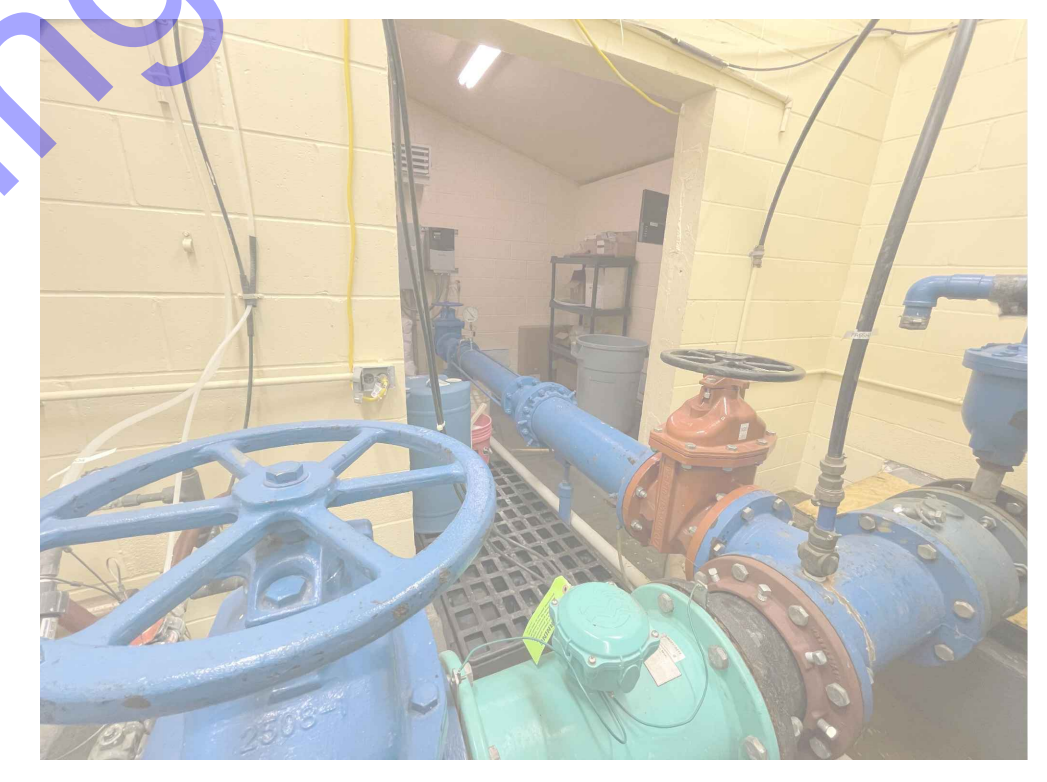
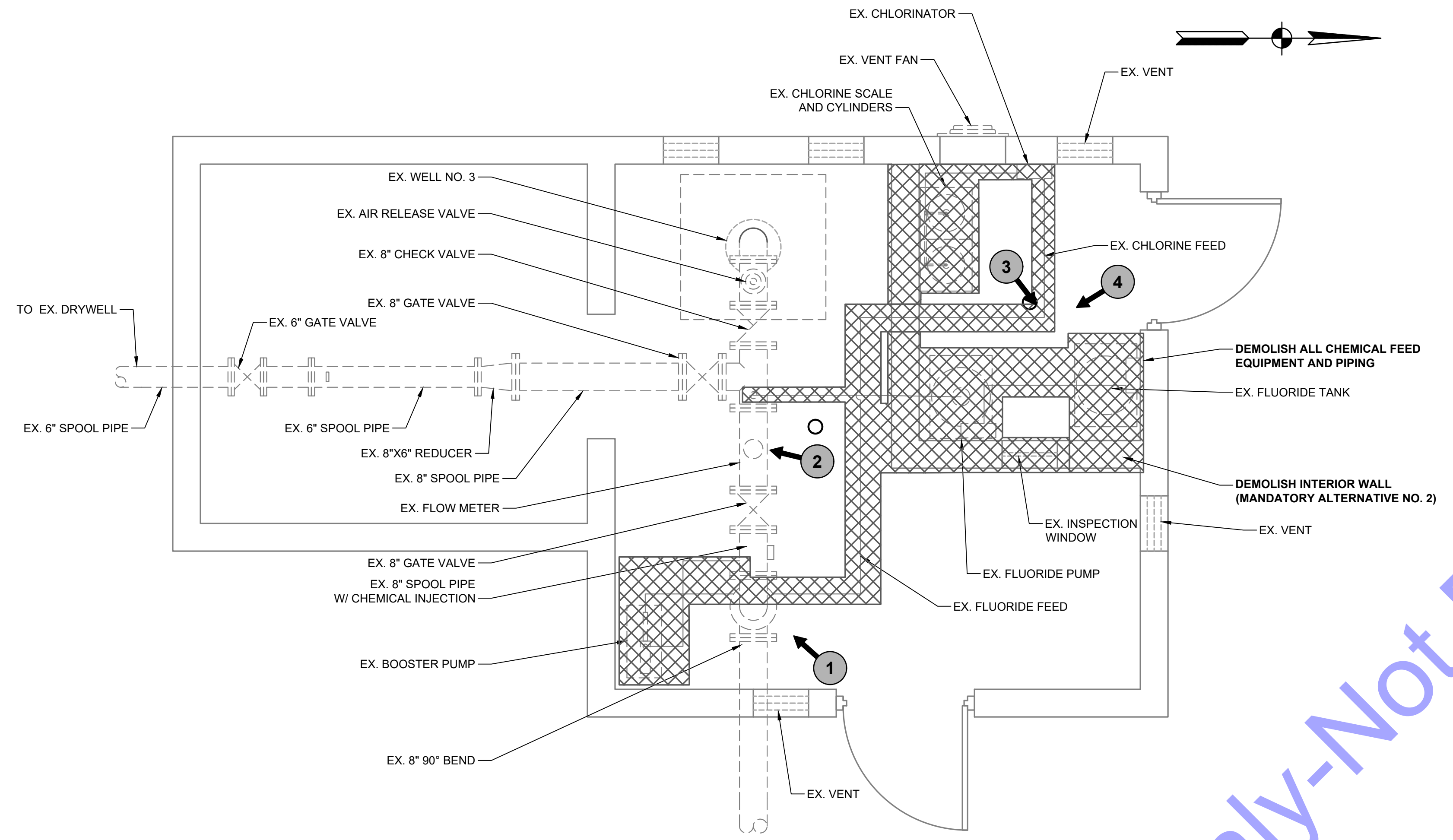
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**NEW WATER
 TREATMENT PLANT
 FACILITY - PLUMBING
 DISTRIBUTION PLAN**

Drawing No:
D1-8
 Sheet: 26 OF 75

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GENERAL NOTES:

1. DEMOLITION SHALL NOT TAKE PLACE PRIOR TO THE NEW WATER TREATMENT PLANT BECOMING FULLY OPERATIONAL.
2. CONTRACTOR SHALL PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
3. REFER TO DS SPECIFICATIONS FOR ADDITIONAL INFORMATION PERTAINING TO DEMOLITION, SALVAGE, ABANDONMENT, AND REMOVAL WORK ITEMS.
4. ALL ITEMS SCHEDULED TO BE DEMOLISHED AND REMOVED SHALL BE DONE COMPLETE AND IN A LAWFUL MANNER THAT COMPLIES WITH ALL APPLICABLE RULES AND REGULATIONS.
5. OWNER MAY ELECT TO SALVAGE EXISTING EQUIPMENT AND ASSOCIATED APPURTENANCES. PROVIDE MINIMUM 7 DAYS NOTICE PRIOR TO THE REMOVAL OF EQUIPMENT AS SPECIFIED TO BE REMOVED IN THE CONTRACT DOCUMENT.
6. EXISTING INFORMATION OBTAINED FROM SITE VISIT, AND WATER WORKS IMPROVEMENTS AS-BUILTS.

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 REGISTERED PROFESSIONAL ENGINEER
 No. PE11800145
 STATE OF INDIANA
 Signature: [Signature] Date: 12-18-2024

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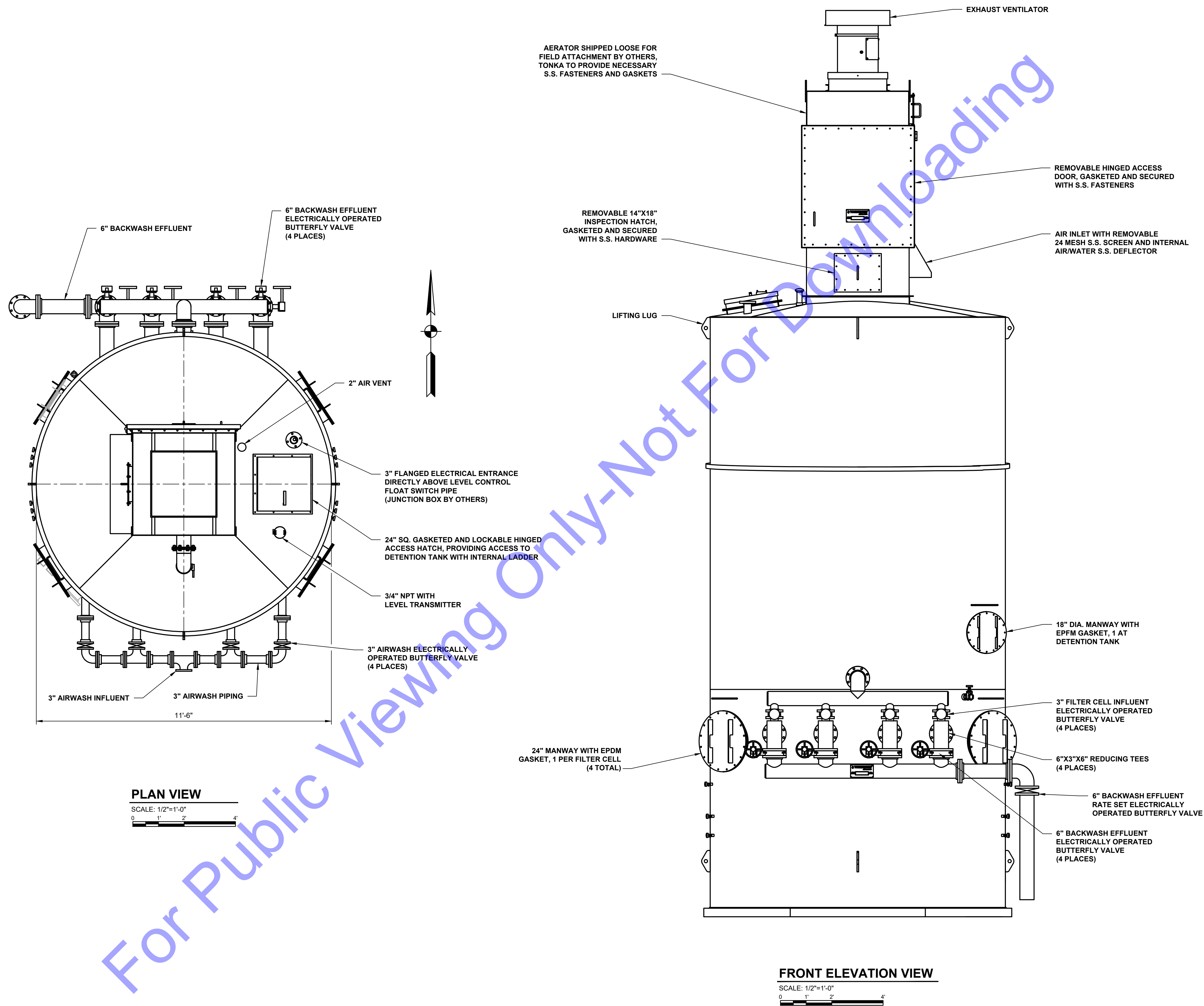
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Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

EXISTING WELL
 DEMOLITION AND
 IMPROVEMENTS PLAN
 AND SECTION VIEWS

FILE: Z:\SHARED\CLIENTS\24M\FORD\W24161 - WATER UTILITY IMPROVEMENTS\DWG\CAD\CURRENT FILES\DRAWINGS\DWG\WTP6S-PROCESS-EQUIPMENT-DRAWINGS.DWG
 Sheet: 11/18/2025 8:45:52 AM Plotted: 11/20/25 0:07:42 AM. Current User: George Fisher. User: George Fisher.



PLAN VIEW
 SCALE: 1/2"=1'-0"
 0 1' 2' 4'

FRONT ELEVATION VIEW
 SCALE: 1/2"=1'-0"
 0 1' 2' 4'

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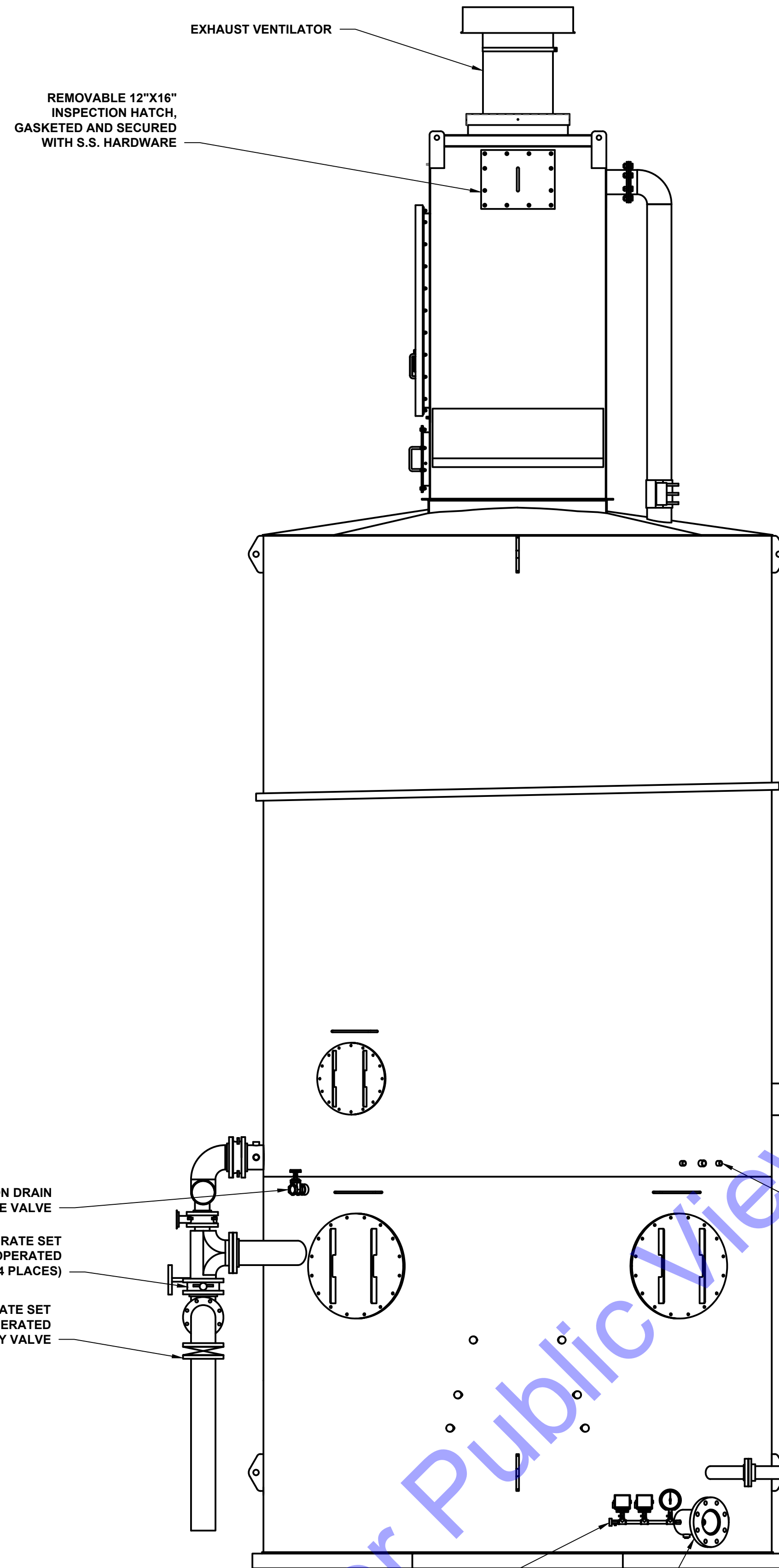
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**NEW DUALATOR - PLAN
 AND ELEVATION VIEWS**

Drawing No:
D3-1

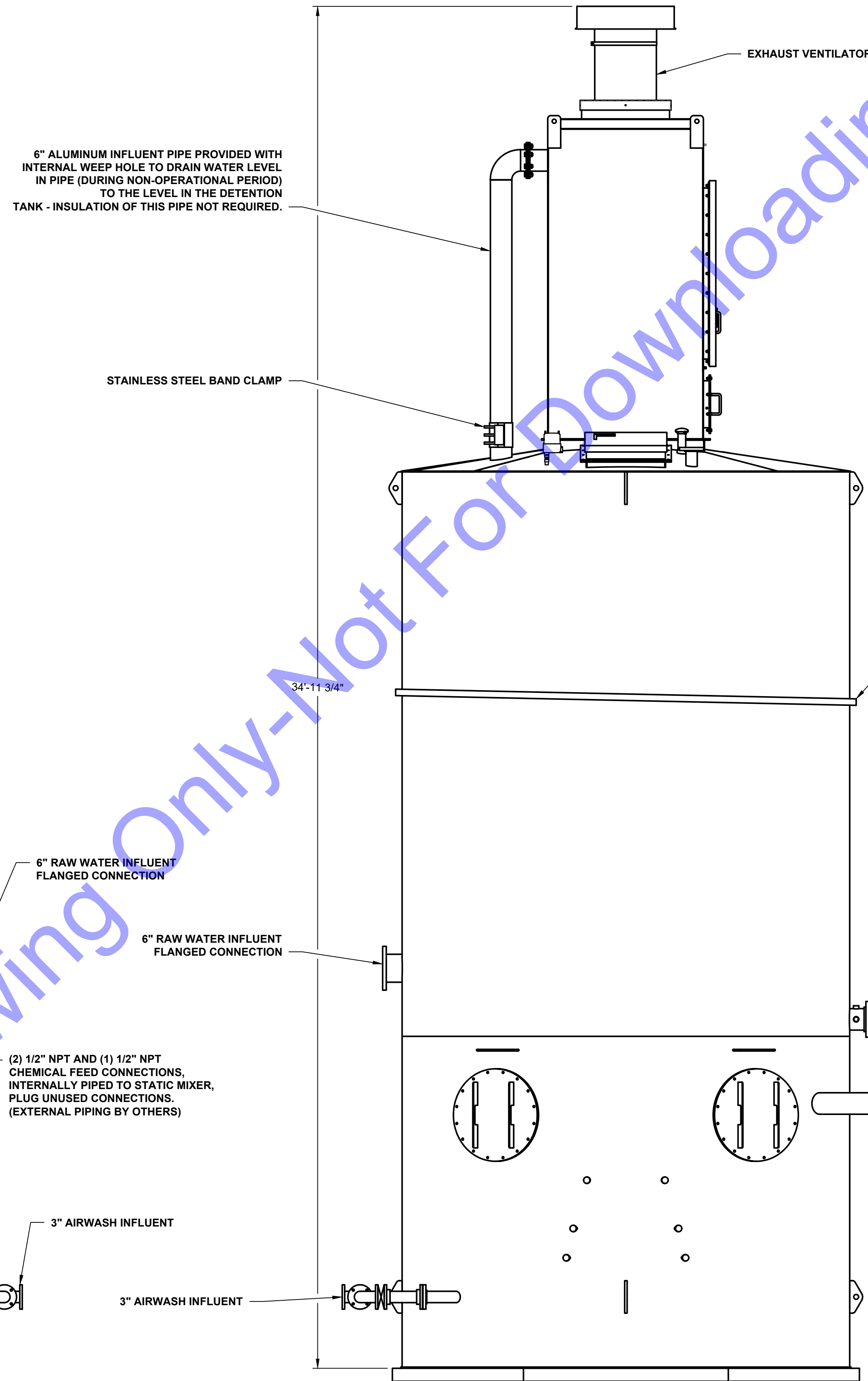
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RIGHT SIDE ELEVATION VIEW

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



LEFT SIDE ELEVATION VIEW

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

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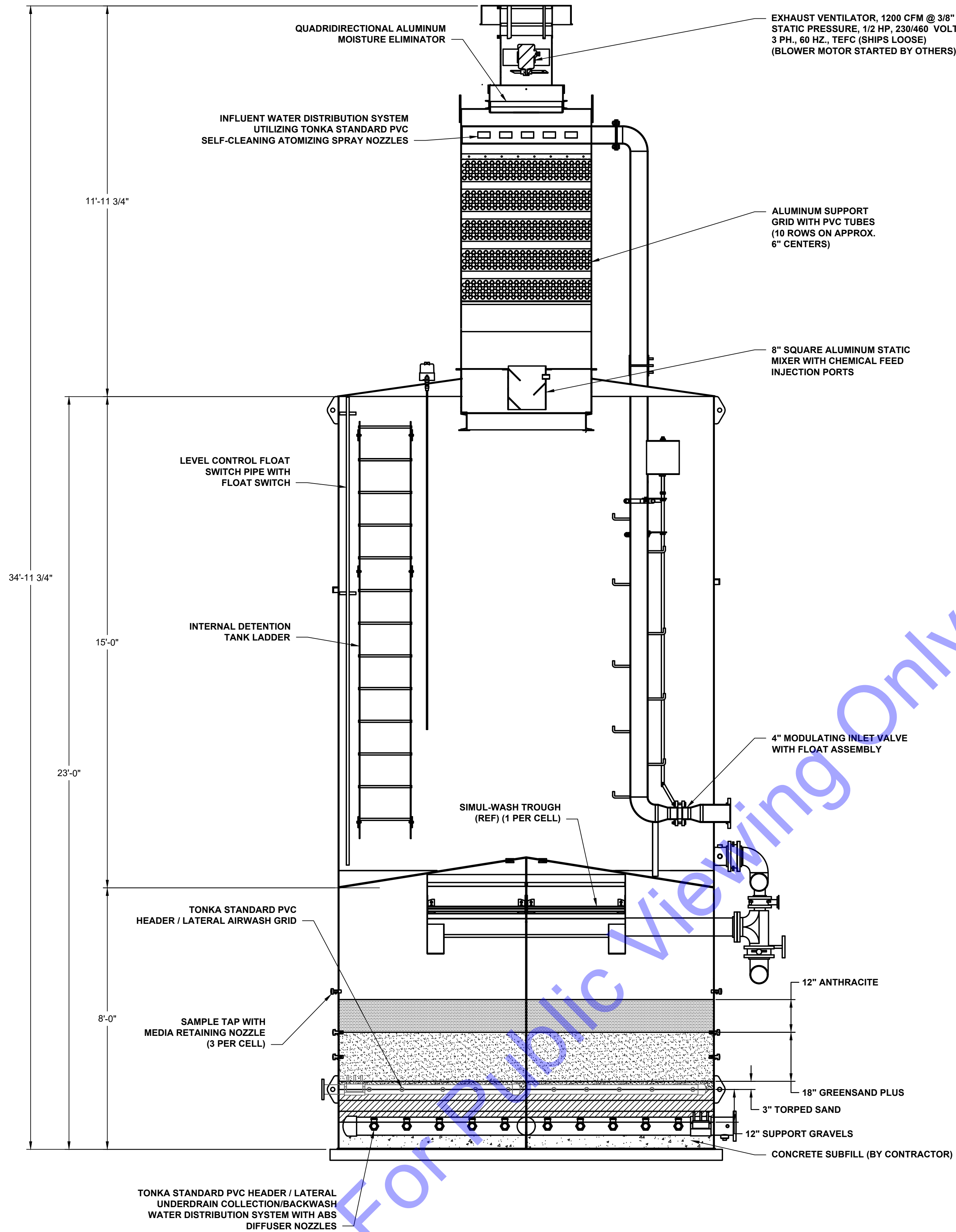
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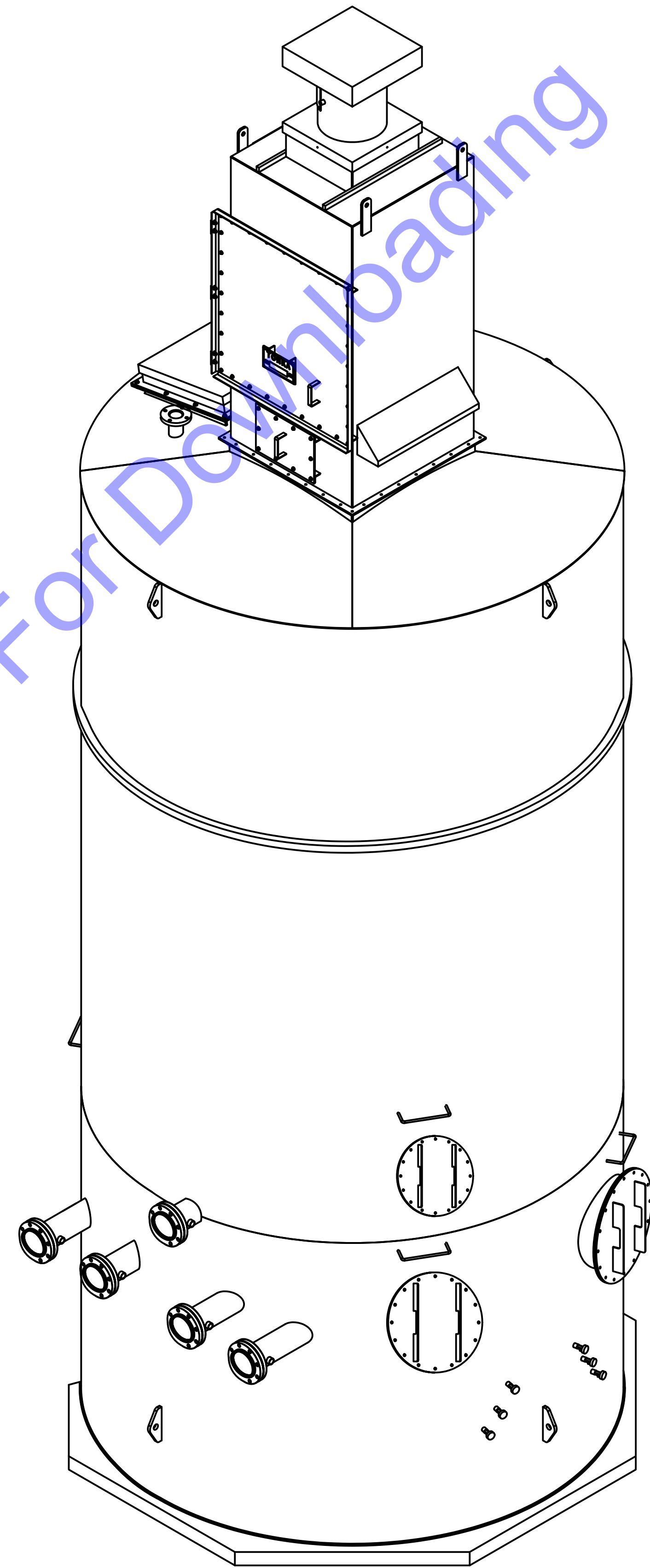
NEW DUALATOR - ELEVATION VIEWS

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TYPICAL SECTION VIEW

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



FRONT ISOMETRIC VIEW

NOT TO SCALE

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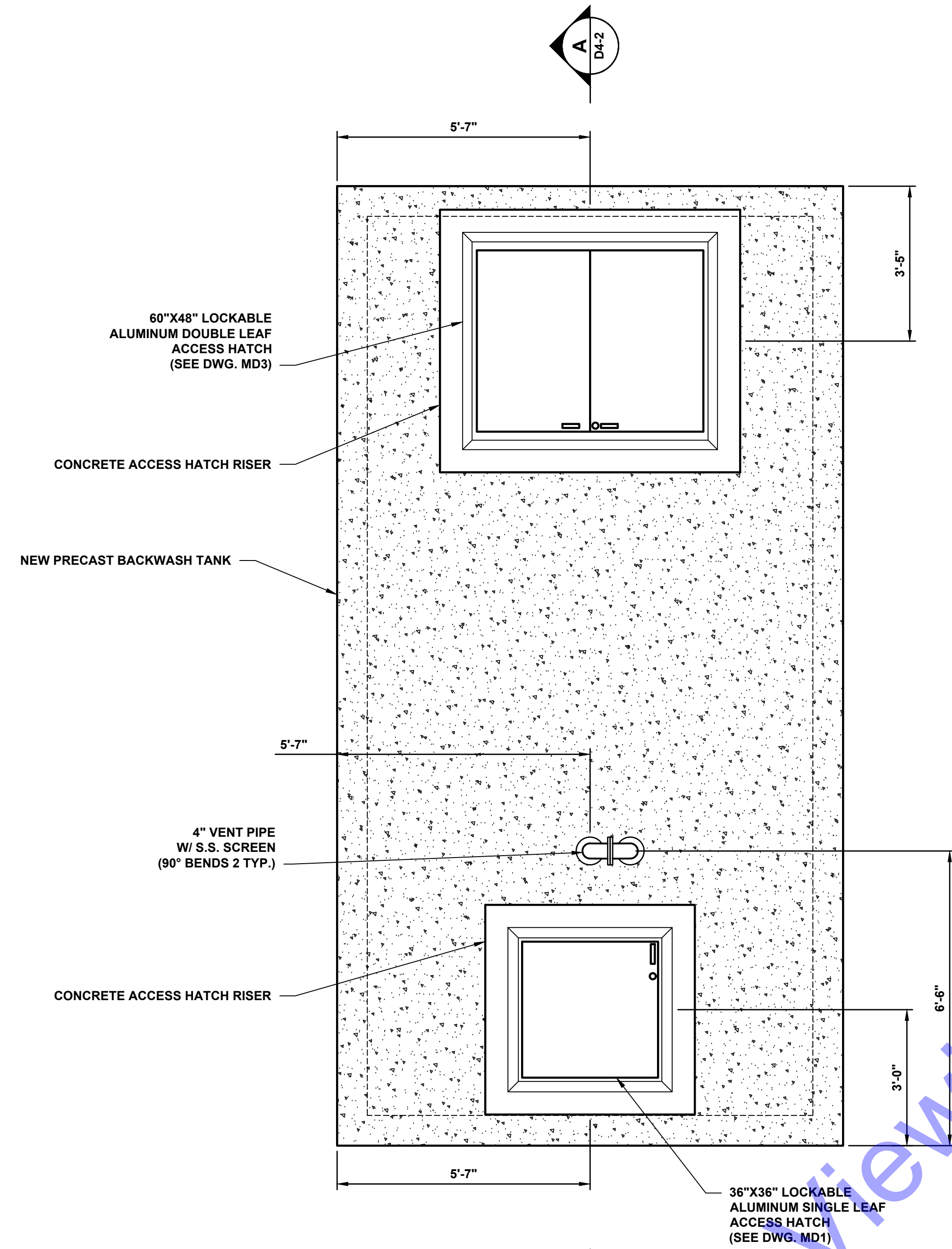
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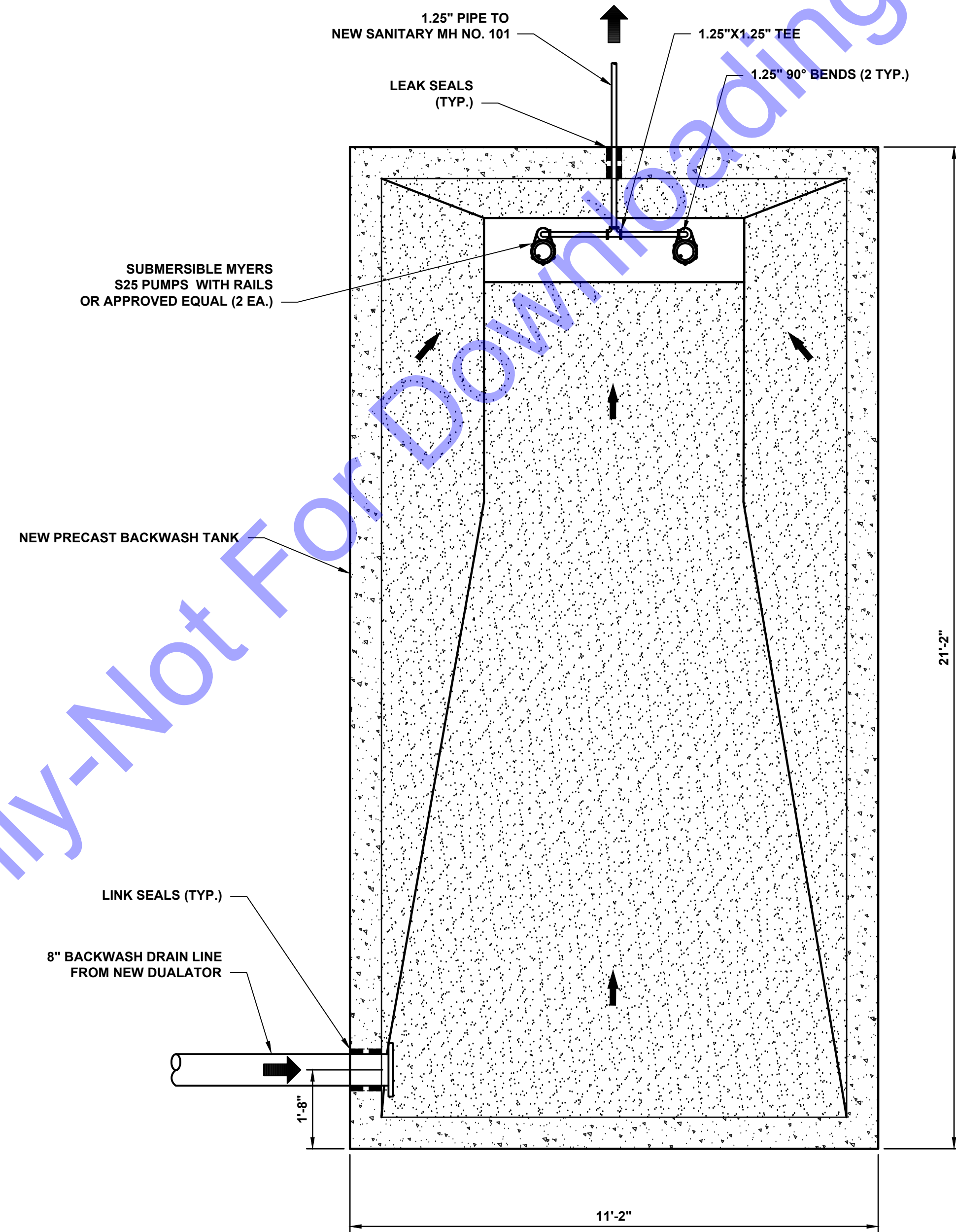
**NEW DUALATOR -
 TYPICAL SECTION AND
 ISOMETRIC VIEWS**

Drawing No:
D3-3
 Sheet: 30 OF 75

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UPPER PLAN VIEW
 SCALE: 1/2"=1'-0"
 0 1' 2' 4'



LOWER PLAN VIEW
 SCALE: 1/2"=1'-0"
 0 1' 2' 4'

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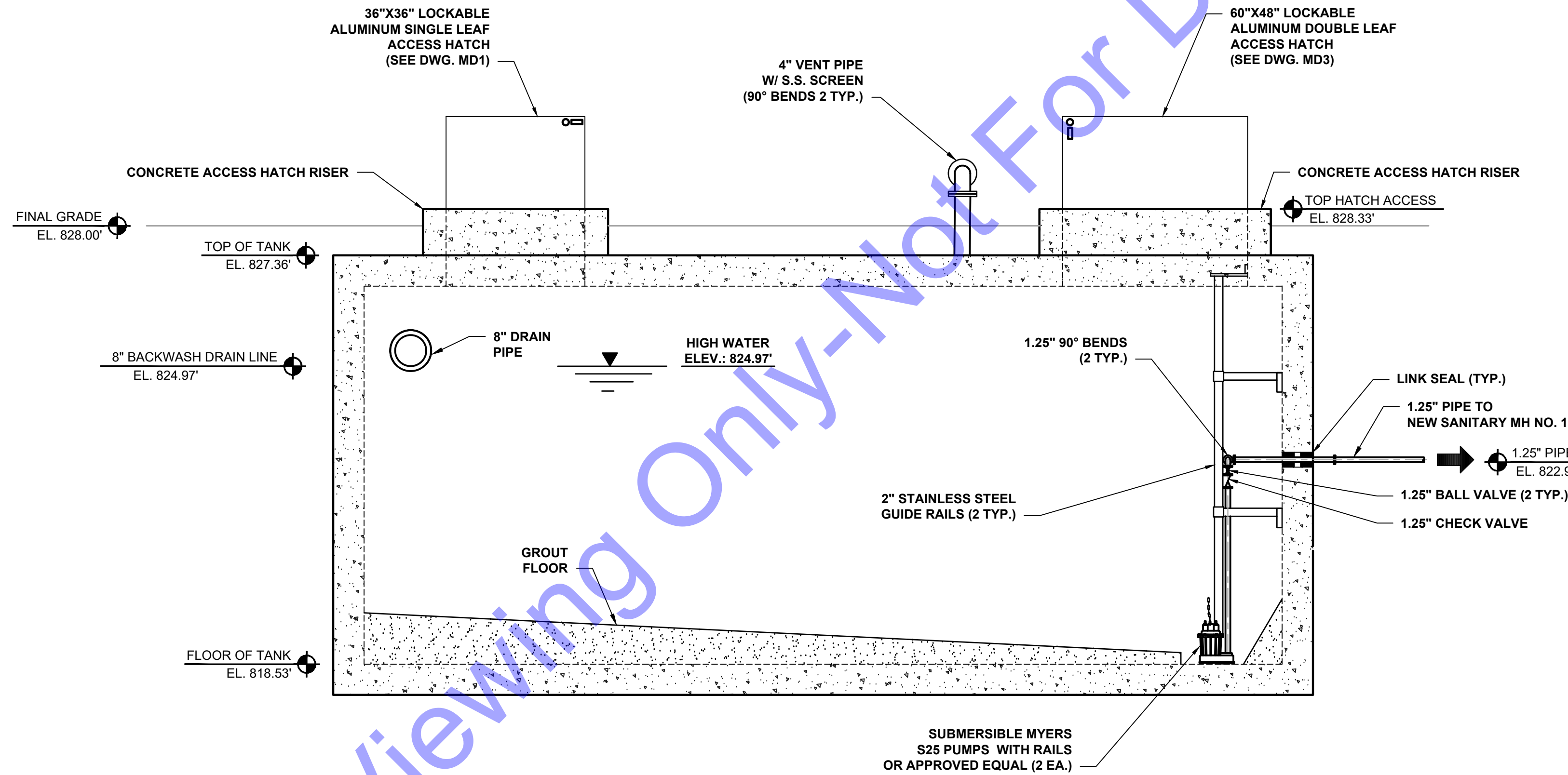
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**NEW BACKWASH TANK
 - UPPER AND LOWER
 PLAN VIEWS**

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SECTION VIEW
 SCALE: 1/2"=1'-0"
 0 1' 2' 4'
A
 D4-1

GENERAL NOTES:

- SEE GEOTECHNICAL REPORT IN THE DETAIL SPECIFICATIONS FOR SUBBASE AND BACKFILL RECOMMENDATIONS AND REQUIREMENTS.

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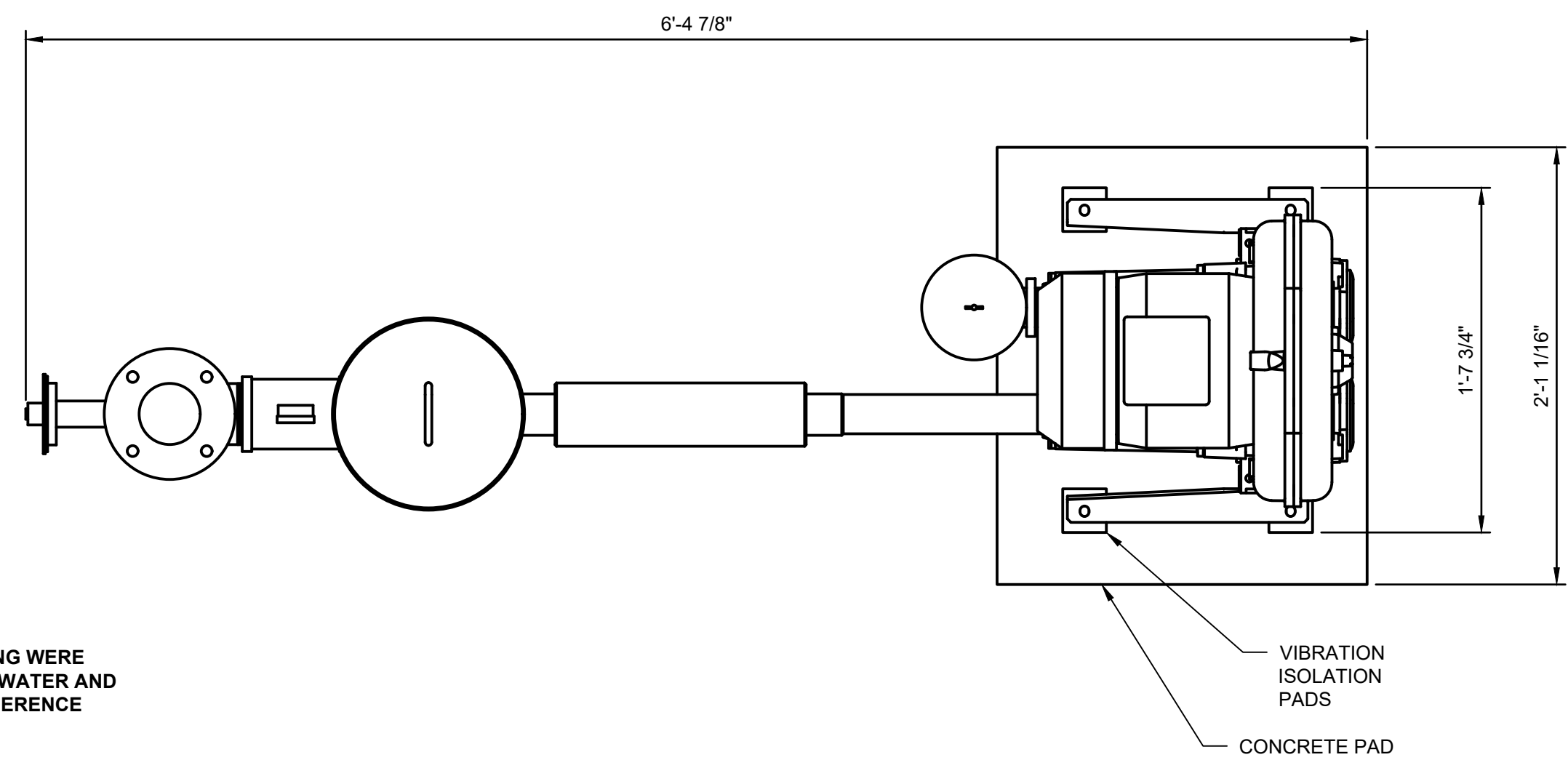
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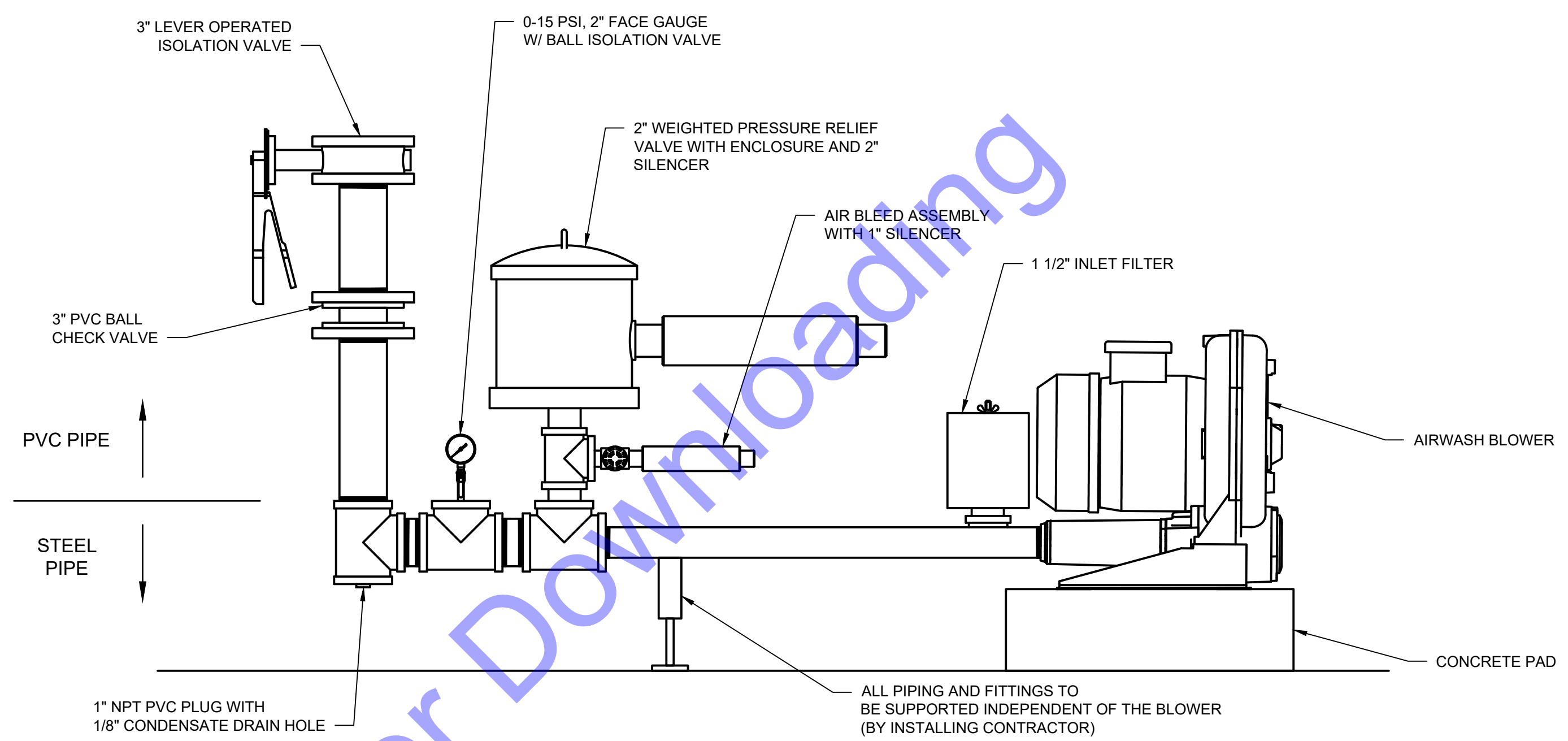
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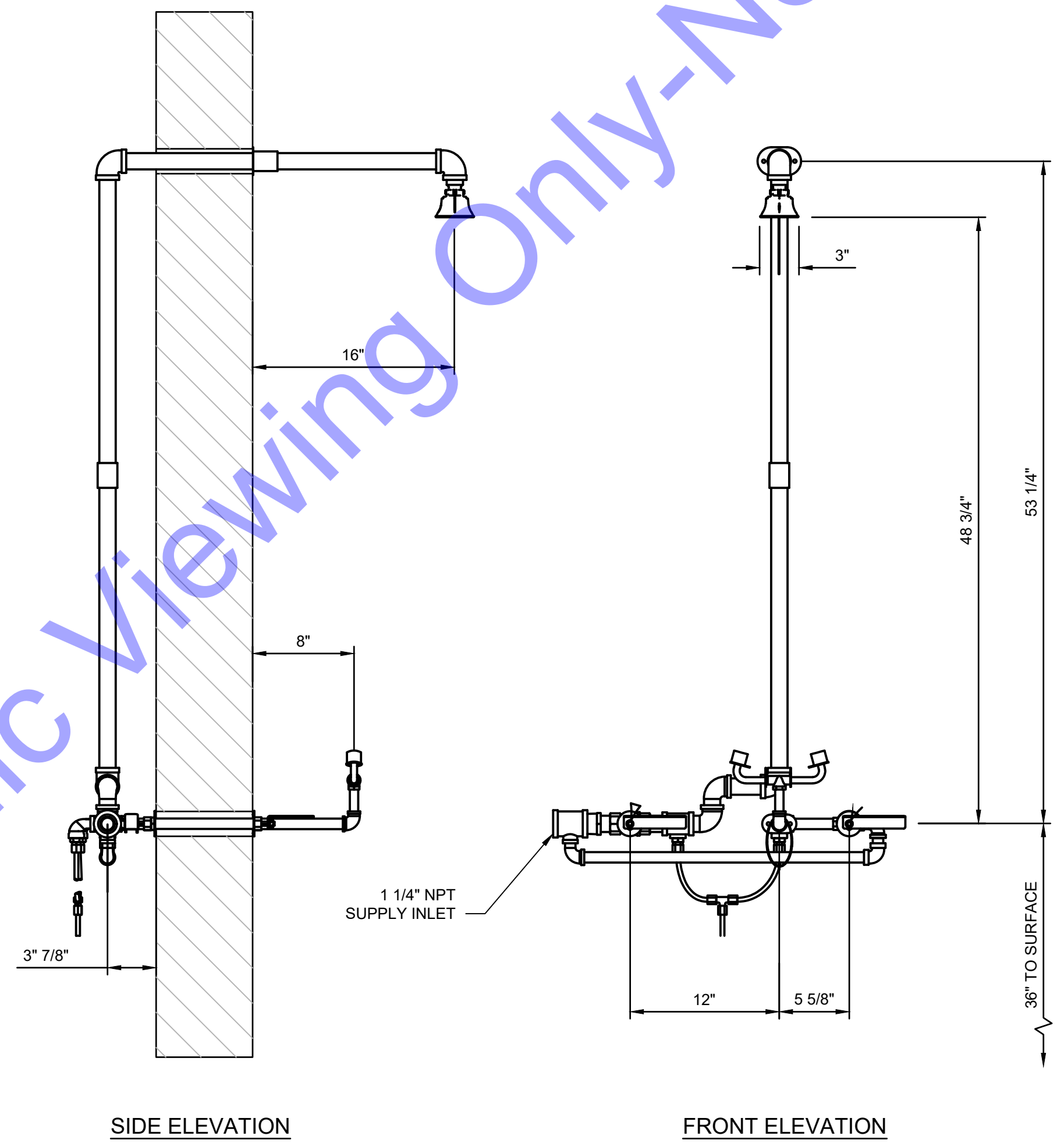
**NEW BACKWASH TANK
 - SECTION VIEW**



BLOWER PLAN VIEW
SCALE: 1 1/2"=1'-0"
0 1/2" 1" 1 1/2"



BLOWER RIGHT ELEVATION
SCALE: 1 1/2"=1'-0"
0 1/2" 1" 1 1/2"



FROST-PROOF DRENCH SHOWER AND EYEWASH UNIT - DETAIL
NOT TO SCALE

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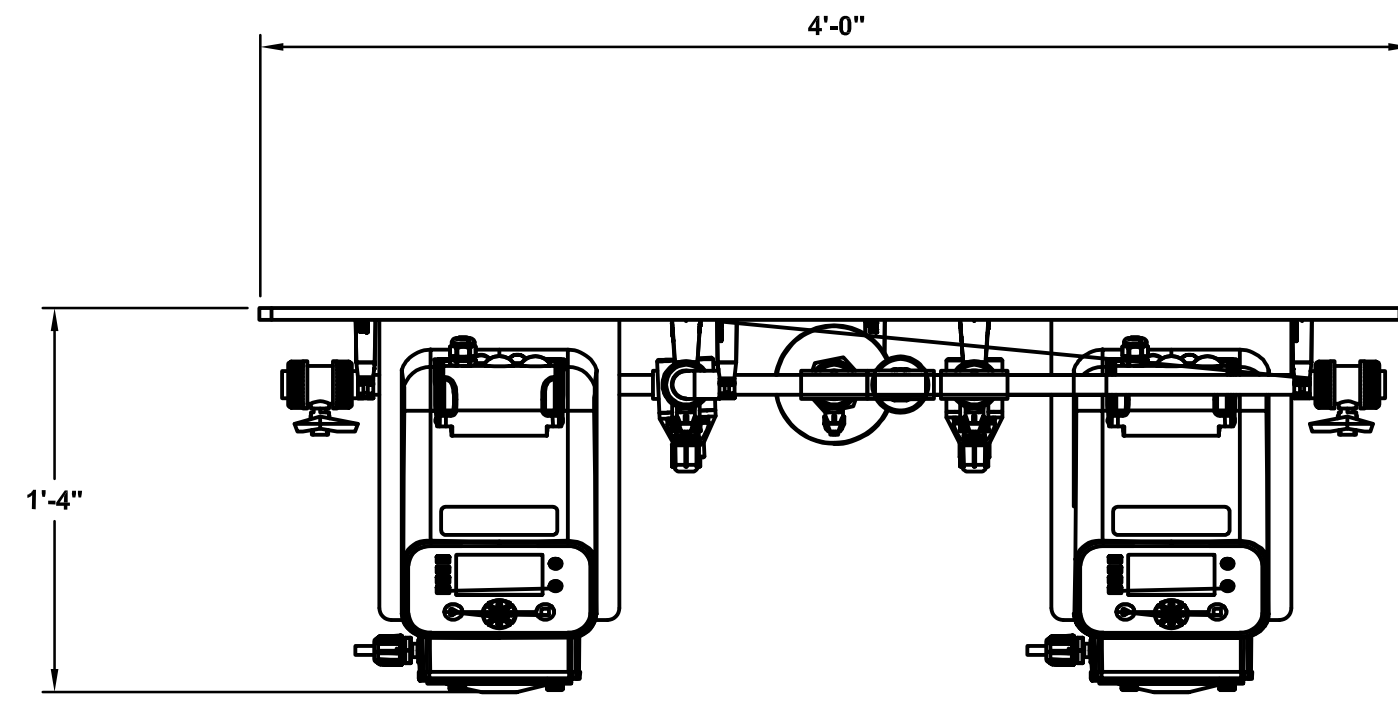
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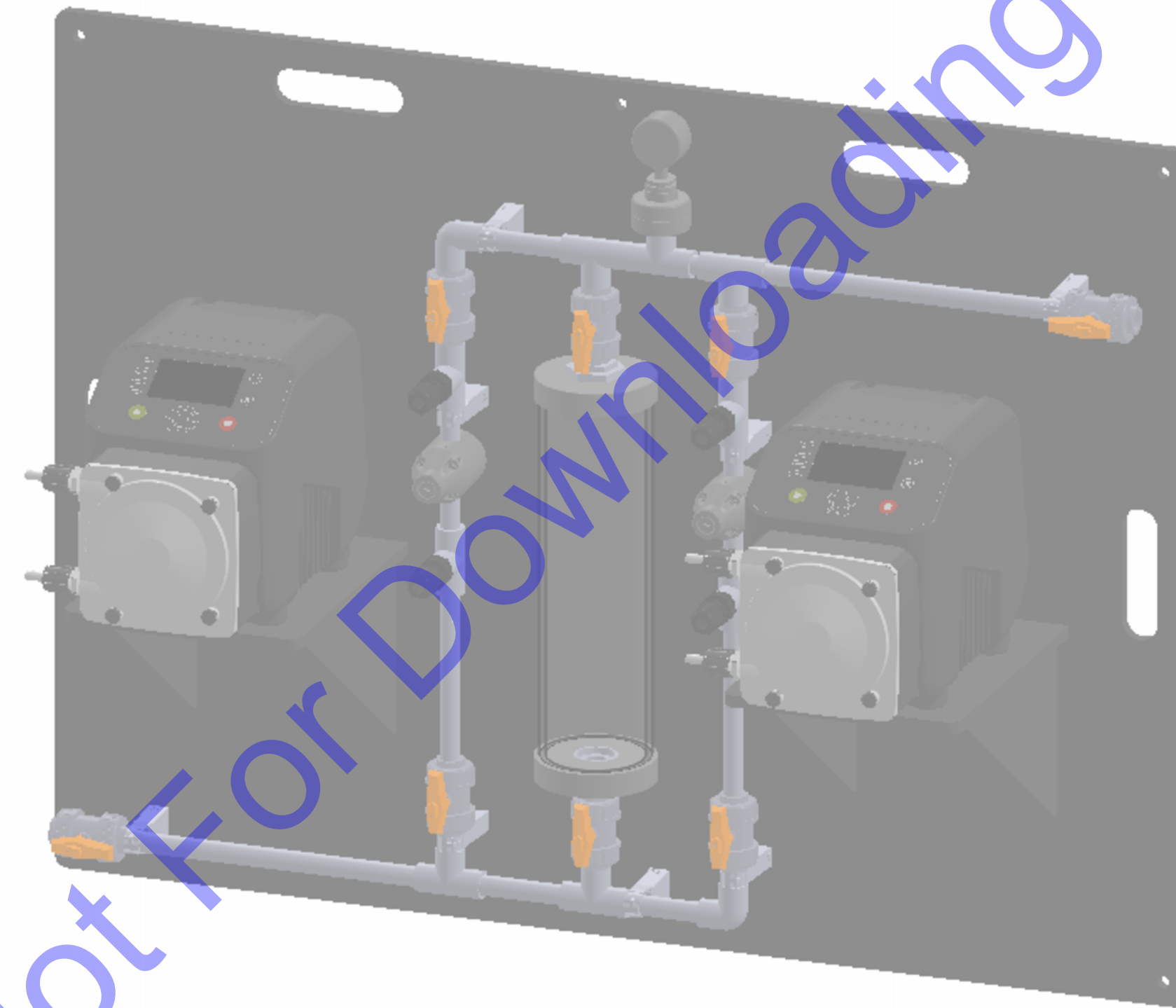
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NEW AIR BLOWER AND FROST-FREE DRENCH SHOWER AND EYEWASH



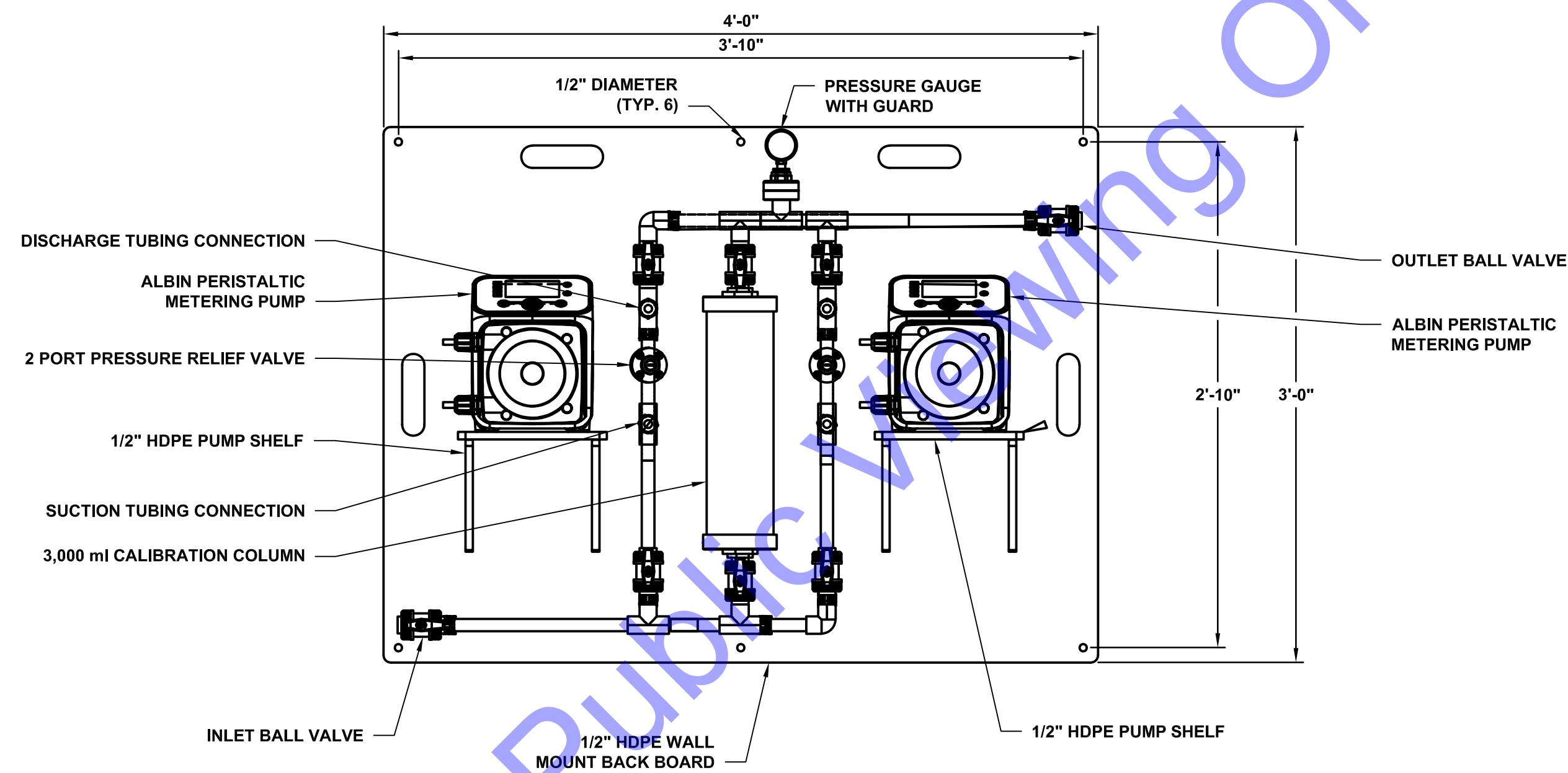
DOSING SKID PLAN VIEW

SCALE: 1 1/2"=1'-0"
 0 1/2 1 1 1/2



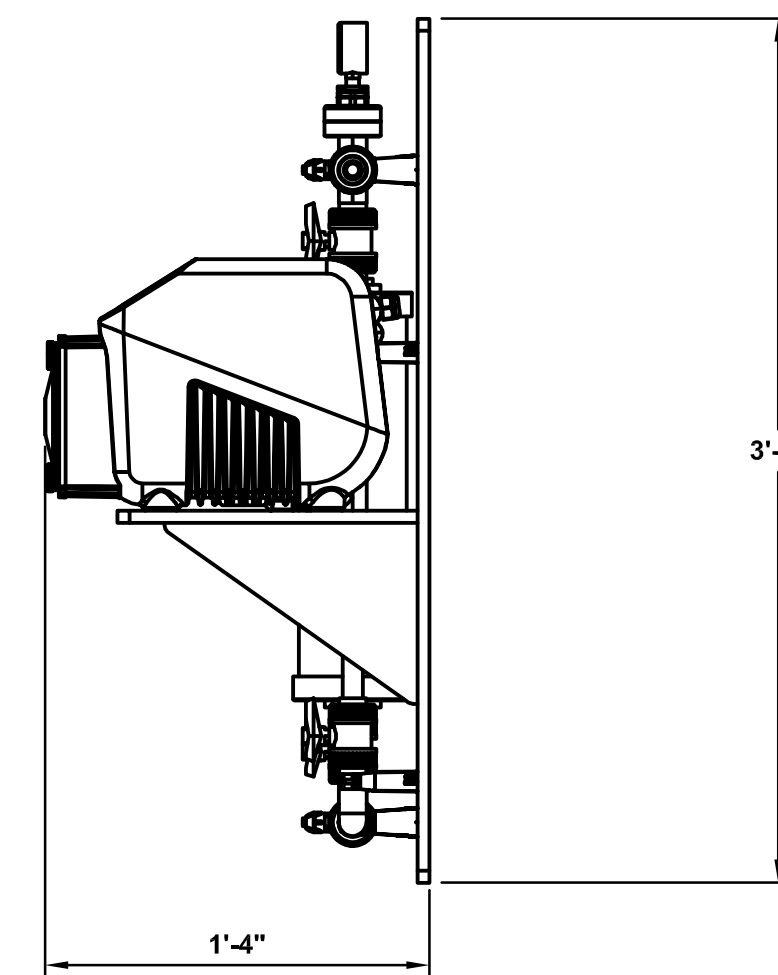
DOSING SKID ISOMETRIC VIEW

NOT TO SCALE



DOSING SKID FRONT VIEW

SCALE: 1 1/2"=1'-0"
 0 1/2 1 1 1/2



DOSING SKID SIDE VIEW

SCALE: 1 1/2"=1'-0"
 0 1/2 1 1 1/2

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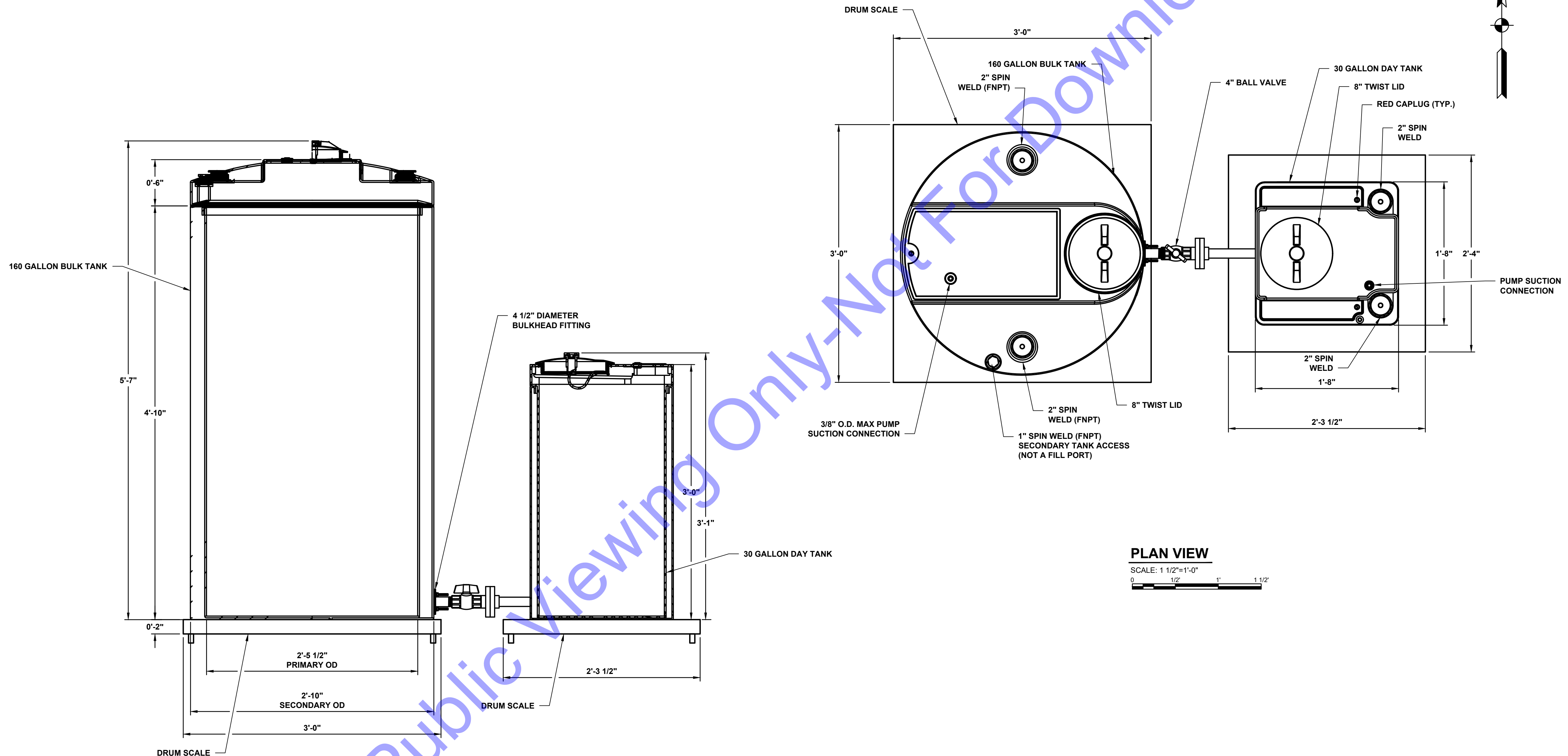
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SODIUM HYPOCHLORITE DOSING SKID - PLAN VIEWS

Drawing No:
D6-1
 Sheet: 34 OF 75

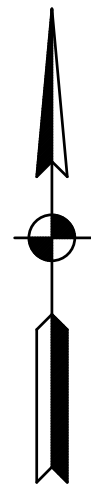
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ELEVATION VIEW
 SCALE: 1 1/2"=1'-0"
 0 1/2' 1' 1 1/2'

PLAN VIEW
 SCALE: 1 1/2"=1'-0"
 0 1/2' 1' 1 1/2'



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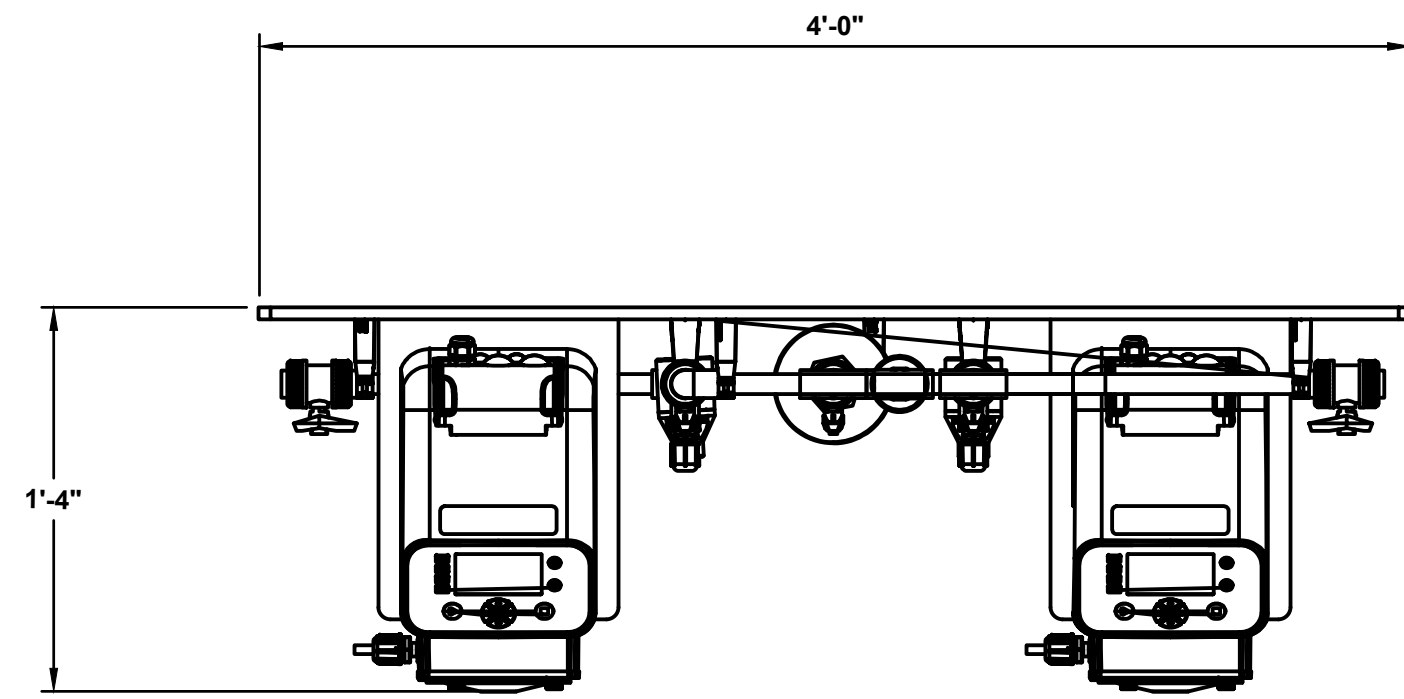
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**SODIUM
 HYPOCHLORITE BULK
 AND DAY TANKS - PLAN
 AND ELEVATION VIEWS**

Drawing No:
D7-1
 Sheet: 35 OF 75

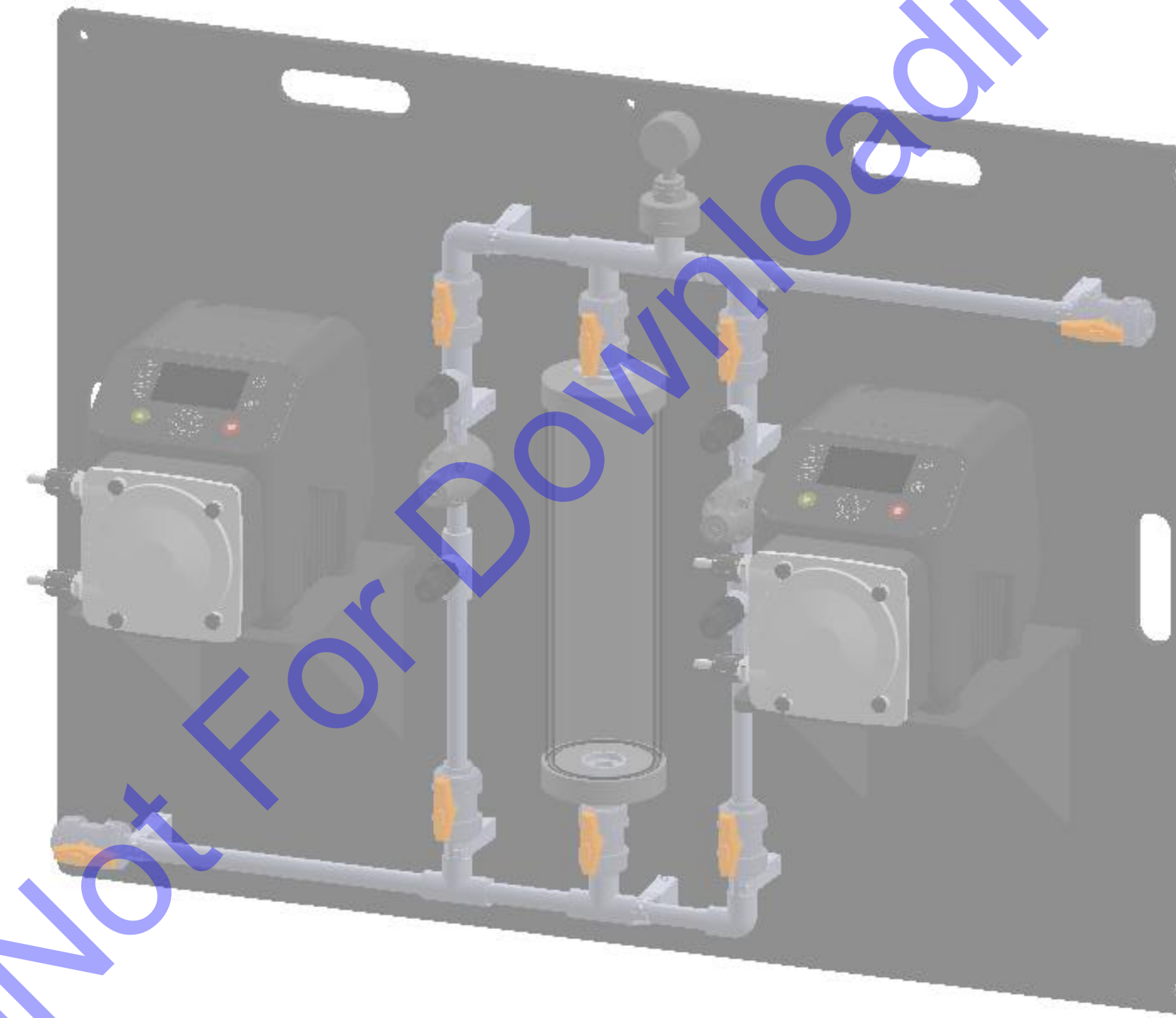
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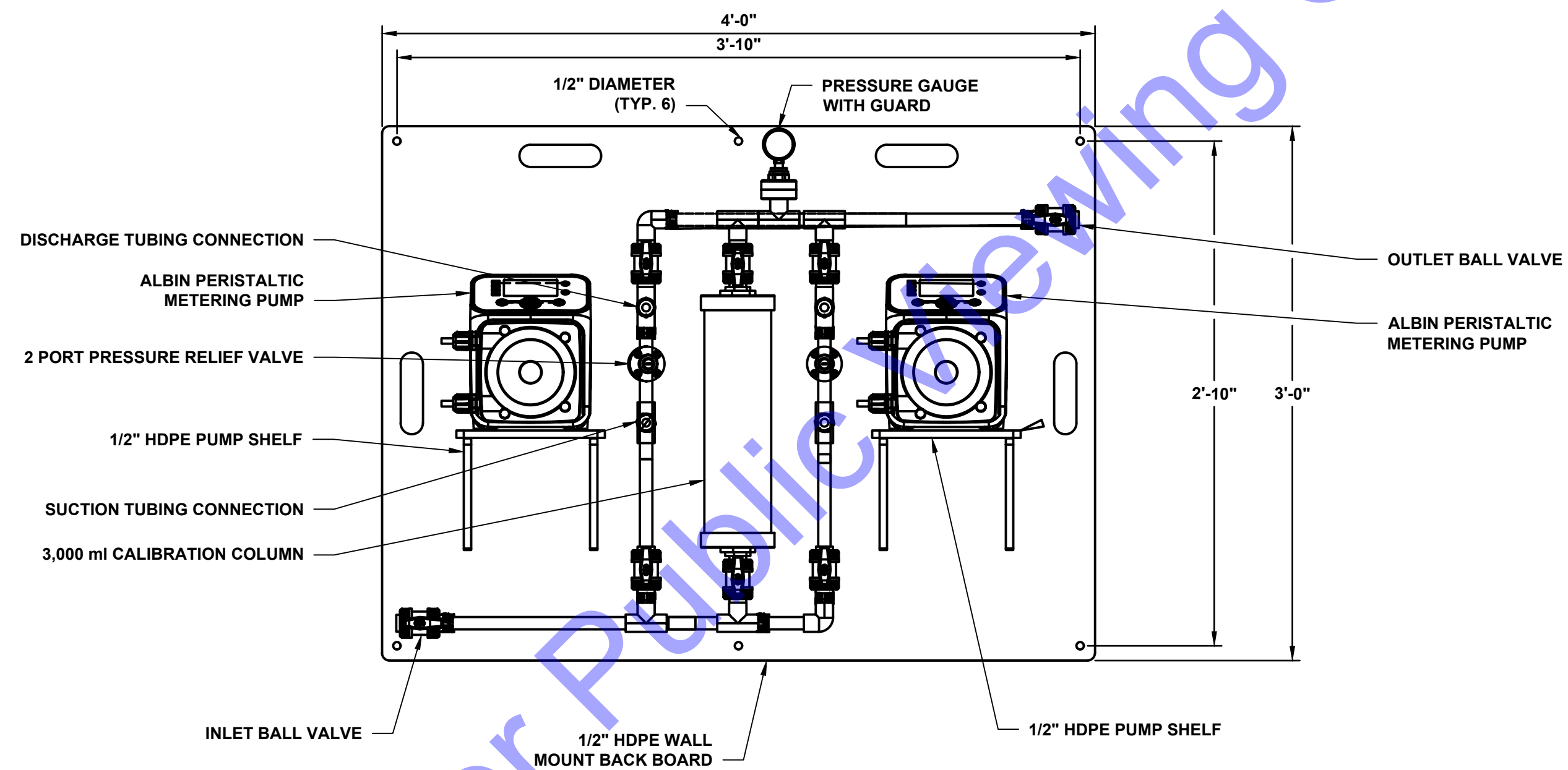
DOSING SKID PLAN VIEW

SCALE: 1 1/2"=1'-0"
 0 1/2' 1' 1 1/2'



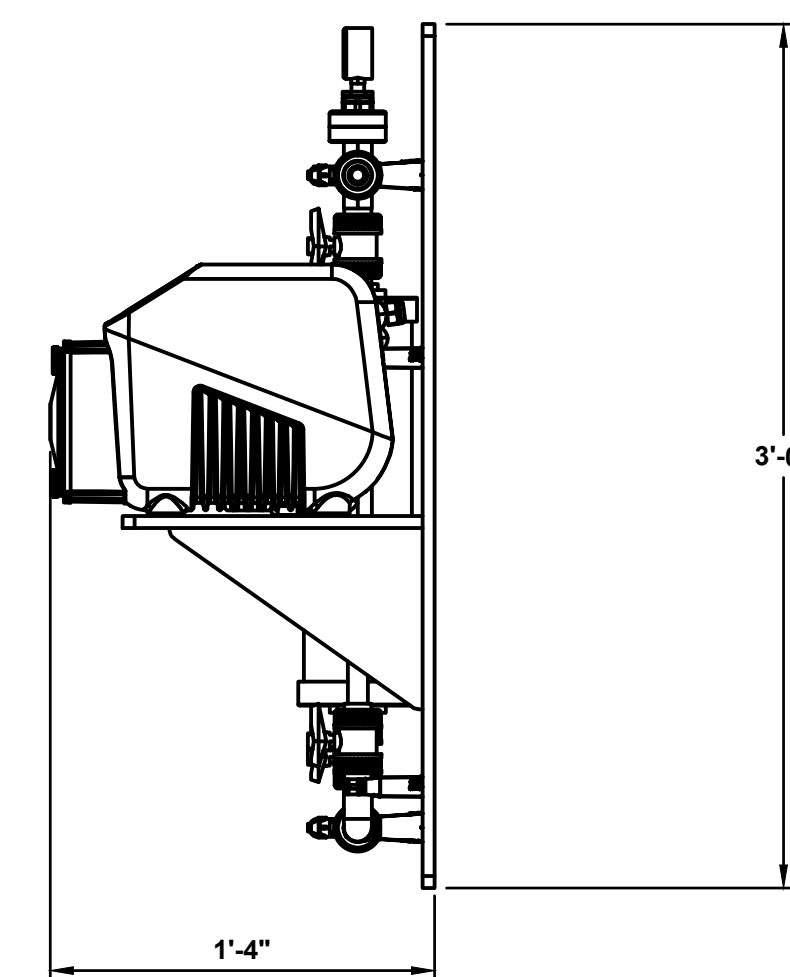
DOSING SKID ISOMETRIC VIEW

NOT TO SCALE



DOSING SKID FRONT VIEW

SCALE: 1 1/2"=1'-0"
 0 1/2' 1' 1 1/2'



DOSING SKID SIDE VIEW

SCALE: 1 1/2"=1'-0"
 0 1/2' 1' 1 1/2'

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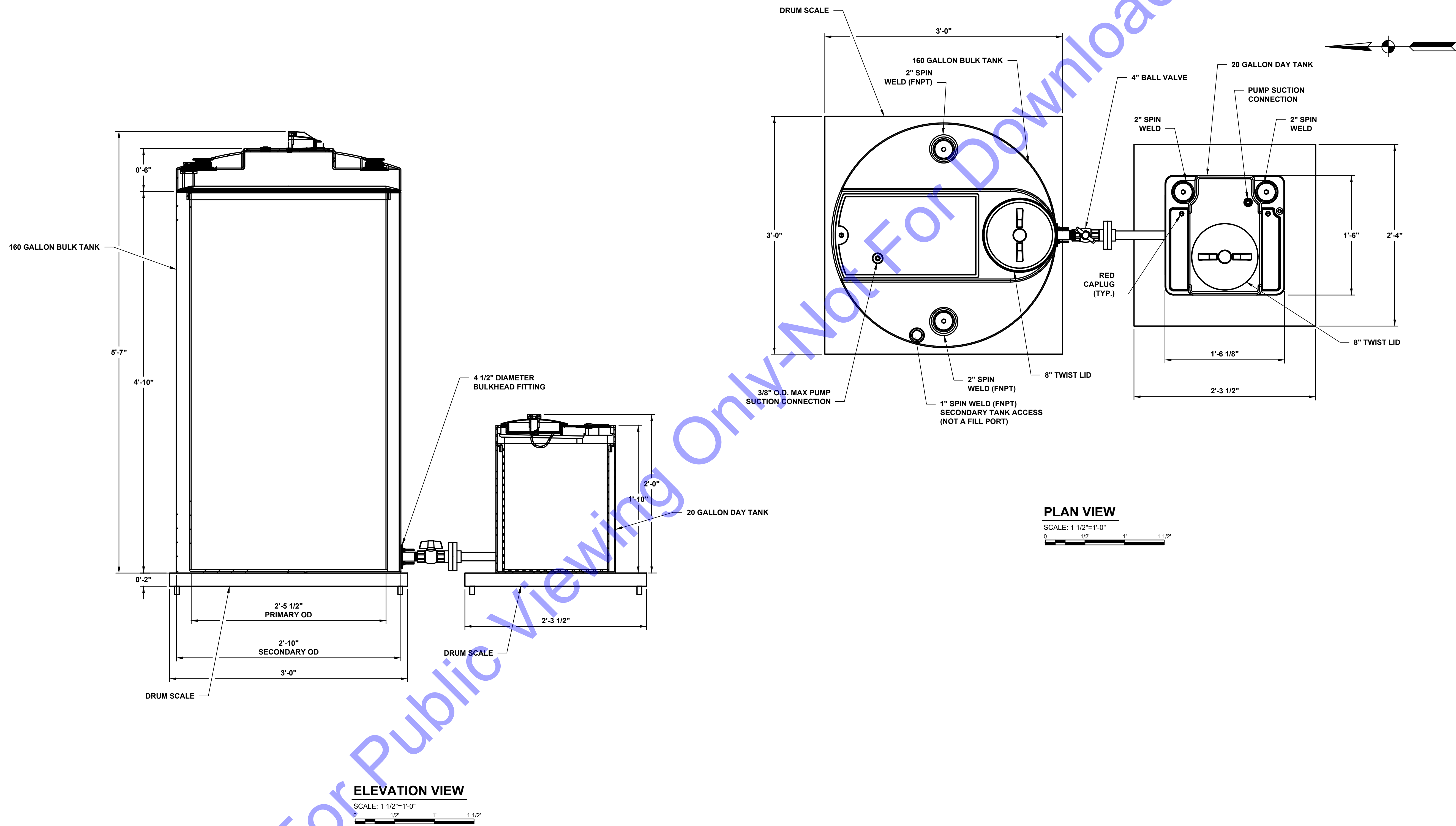
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POLYPHOSPHATE
 DOSING SKID PLAN
 VIEWS

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ELEVATION VIEW
 SCALE: 1 1/2"=1'-0"
 0 1/2 1 1 1/2

PLAN VIEW
 SCALE: 1 1/2"=1'-0"
 0 1/2 1 1 1/2

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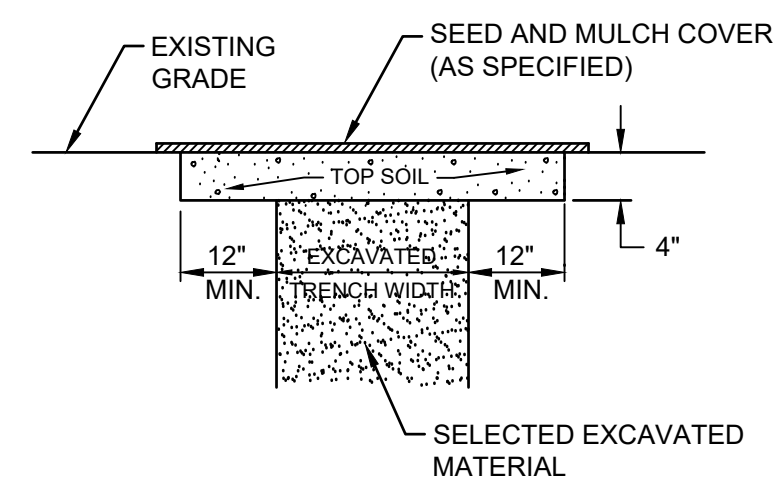
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POLYPHOSPHATE BULK AND DAY TANKS - PLAN AND ELEVATION VIEWS

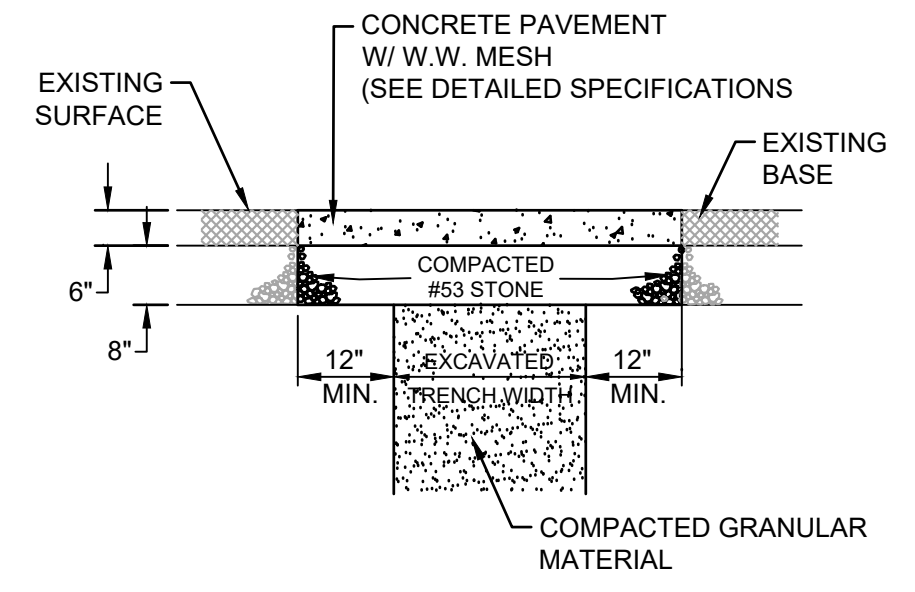
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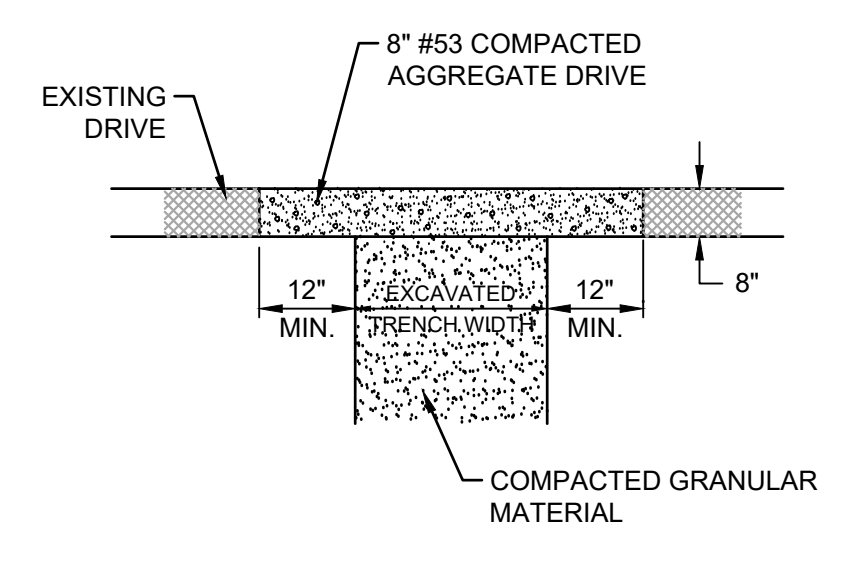
**SURFACE RESTORATION
DETAIL FOR GRASS AREAS**

SCALE: 1"=5'-0"
0 5 10'



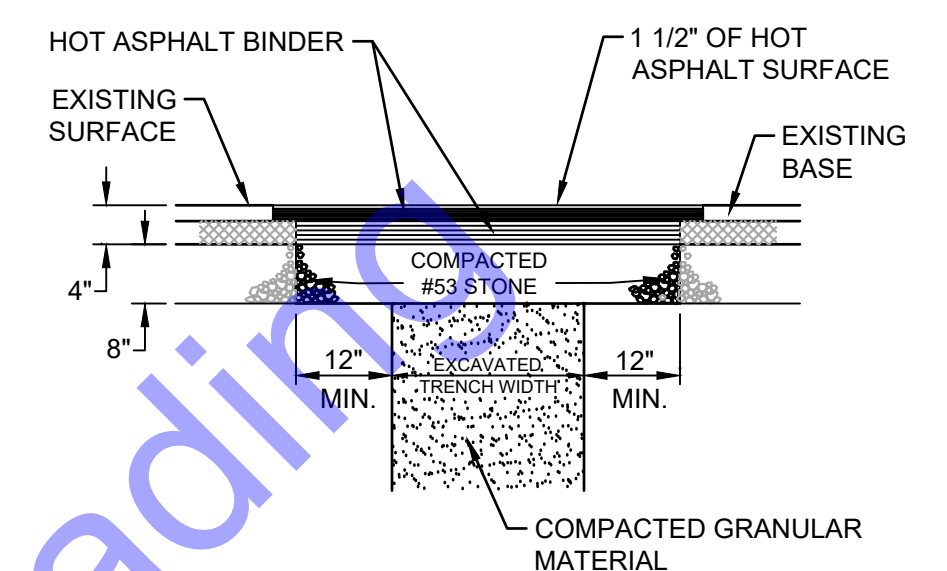
**SURFACE RESTORATION DETAIL
FOR CONCRETE PAVEMENT - DRIVE**

SCALE: 1"=5'-0"
0 5 10'



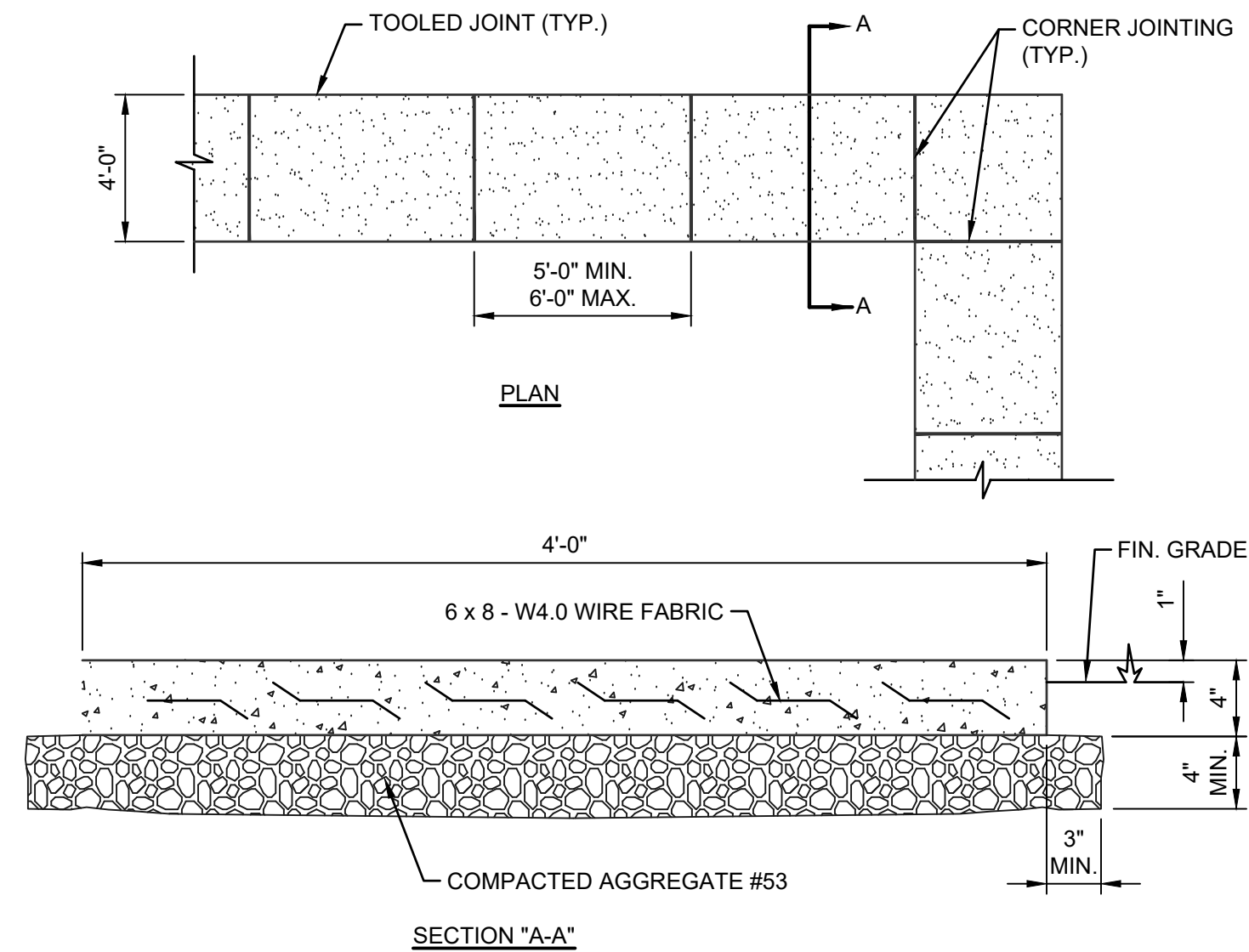
**SURFACE RESTORATION DETAIL
FOR GRAVEL PAVEMENT - ROAD**

SCALE: 1"=5'-0"
0 5 10'



**SURFACE RESTORATION DETAIL
FOR ASPHALT PAVEMENT - ROAD**

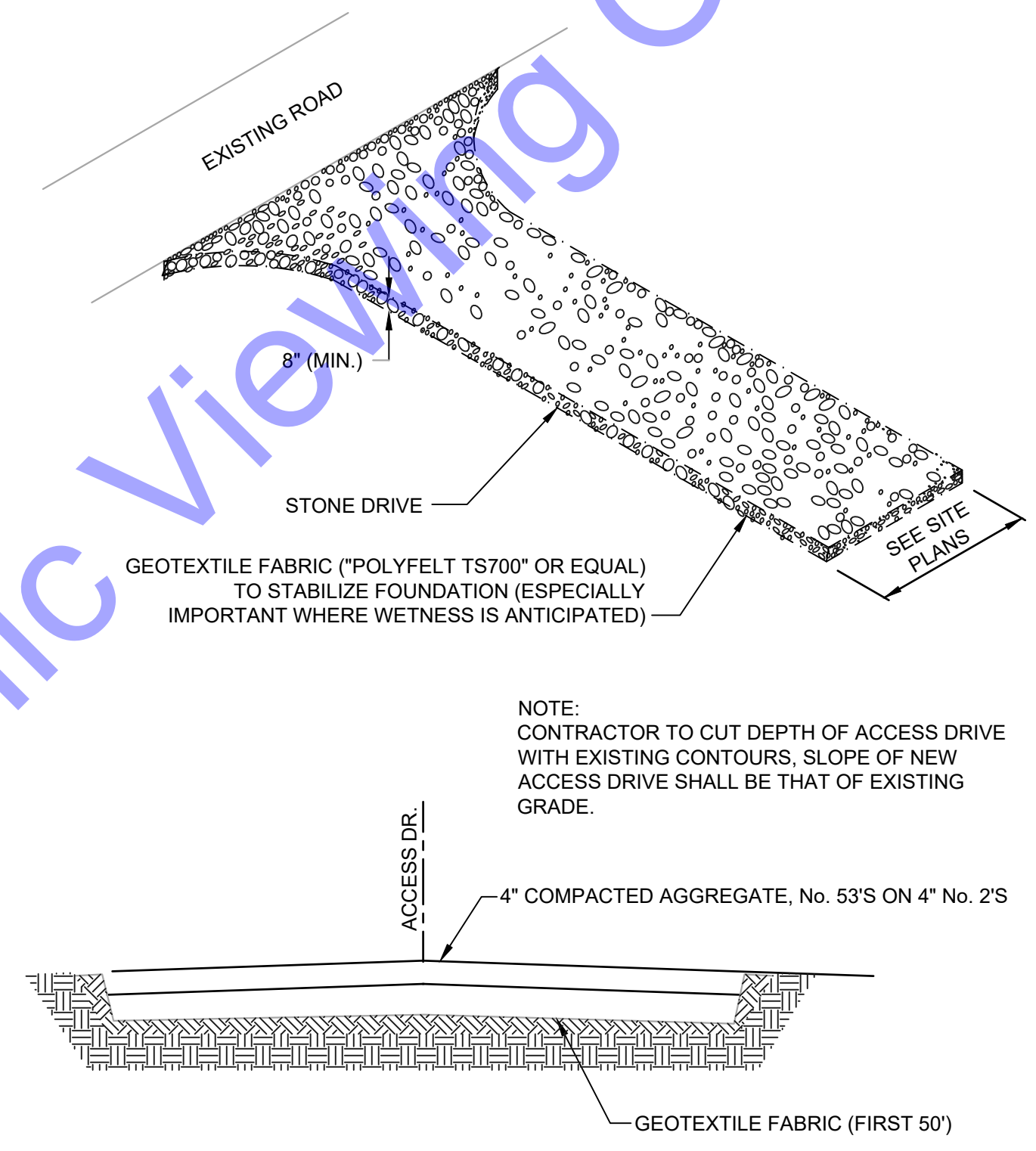
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CONCRETE SIDEWALK DETAIL

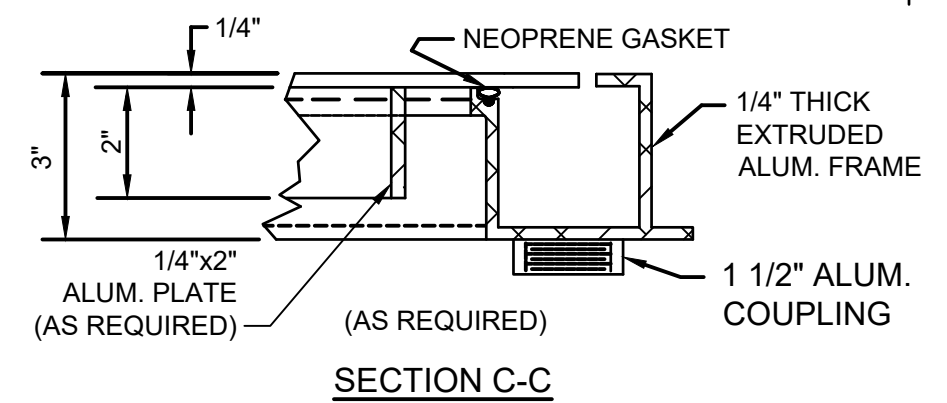
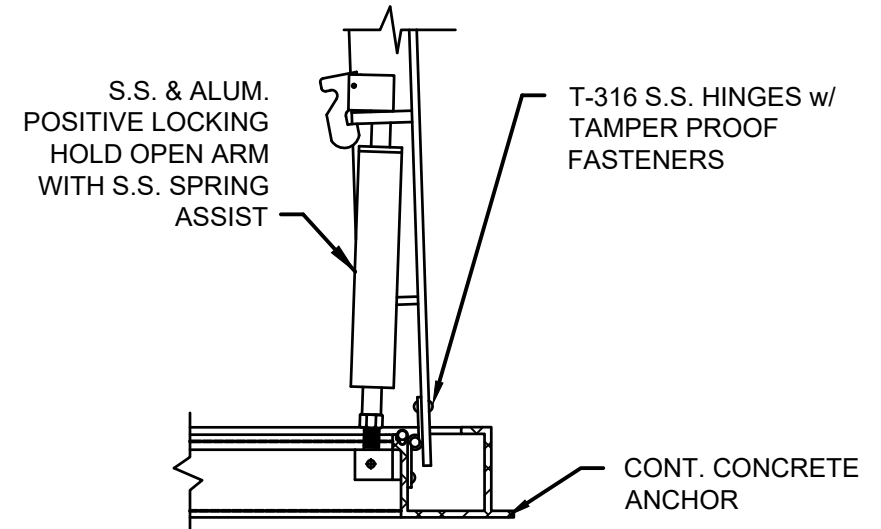
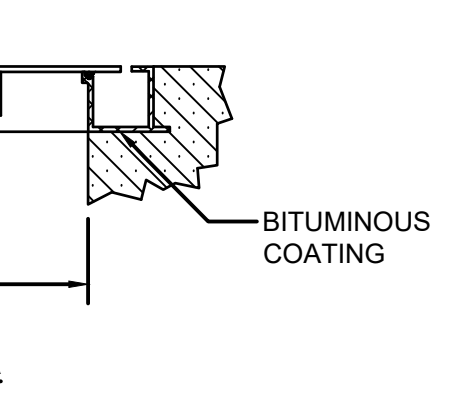
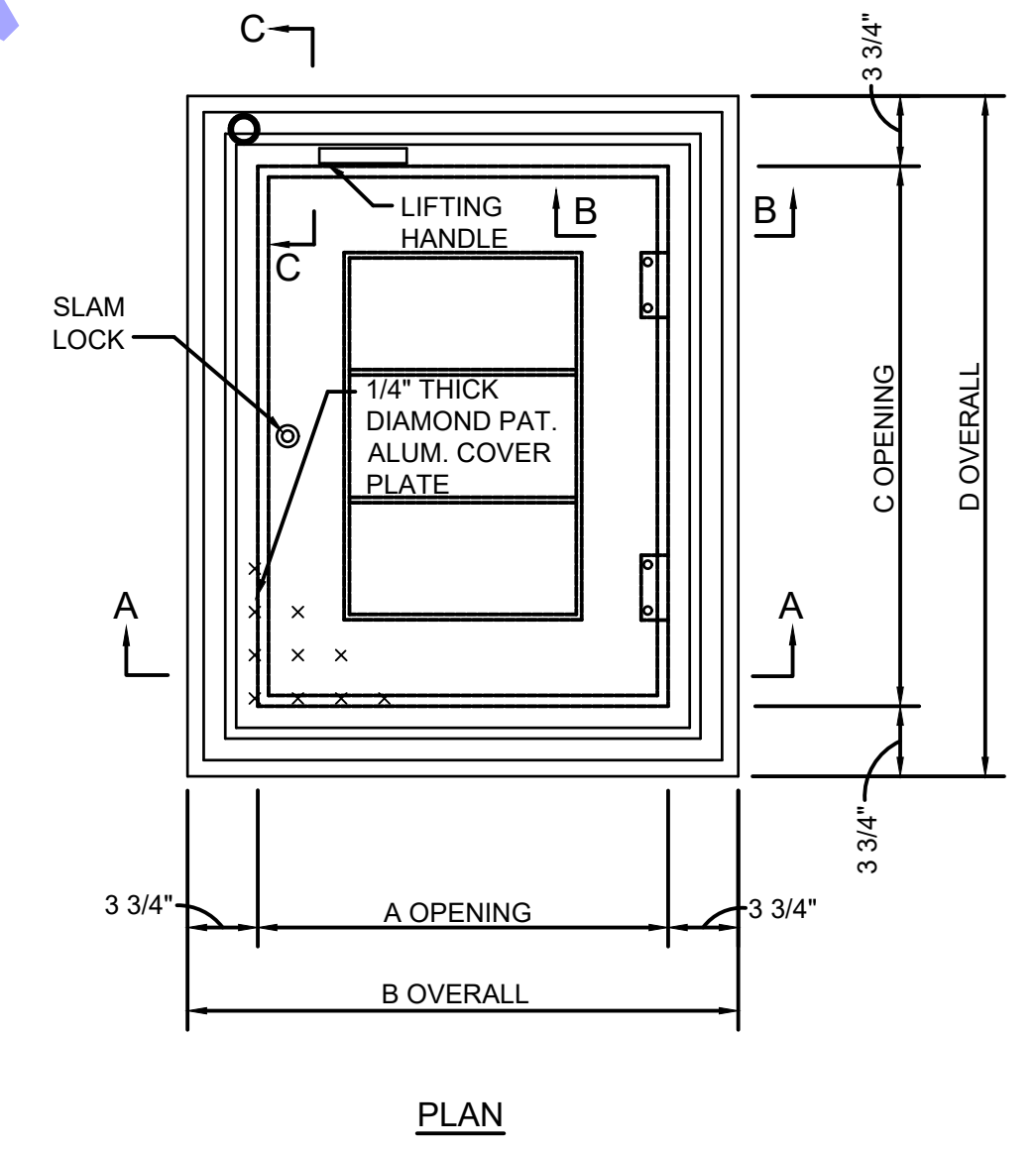
SCALE: 1"=5'-0"
0 5 10'

- GENERAL NOTES:**
- TRANSVERSE JOINTS SHALL BE CUT WITH A JOINTER HAVING A RADIUS OF 1/4" AT SPACING AT A MINIMUM OF 6'-0"
 - APRONS SHALL BE 6" THICK WITH 8" OF COMPACTED AGGREGATE NO. 53 AT ALL OVERHEAD DOORS.
 - SIDEWALK SHALL BE 6" THICK WITH 8" OF COMPACTED AGGREGATE NO. 53 AT ALL DRIVEWAY CROSSINGS
 - SIDE SLOPE SHALL BE 1/4" / FT.



GRAVEL ACCESS DRIVE DETAIL

SCALE: 1"=5'-0"
0 5 10'



NOMINAL OPENING (INCHES)	DIMENSIONS (VARY PER MANUFACTURER)			
	A	B	C	D
24x24	24"	31 1/2"	24"	31 1/2"
30x30	30"	37 1/2"	30"	37 1/2"
36x36	36"	43 1/2"	36"	43 1/2"
30x48	30"	37 1/2"	48"	55 1/2"
36x48	36"	43 1/2"	48"	55 1/2"

TYPICAL SINGLE LEAF ACCESS HATCH DETAIL

SCALE: 1"=5'-0"
0 5 10'

NOTE:
CONTRACTOR SHALL PIPE DRAIN TO EXTERIOR OF STRUCTURE (REFER TO PROCESS DRAWINGS AND SPECIFICATIONS FOR MORE DETAILS).

BOLLARD DETAIL

SCALE: 1"=5'-0"
0 5 10'

NOTE:
CONTRACTOR SHALL PROVIDE 1/4" NOMINAL THICKNESS POLYETHYLENE COVERS OVER ALL BOLLARDS COORDINATE COLOR WITH OWNER

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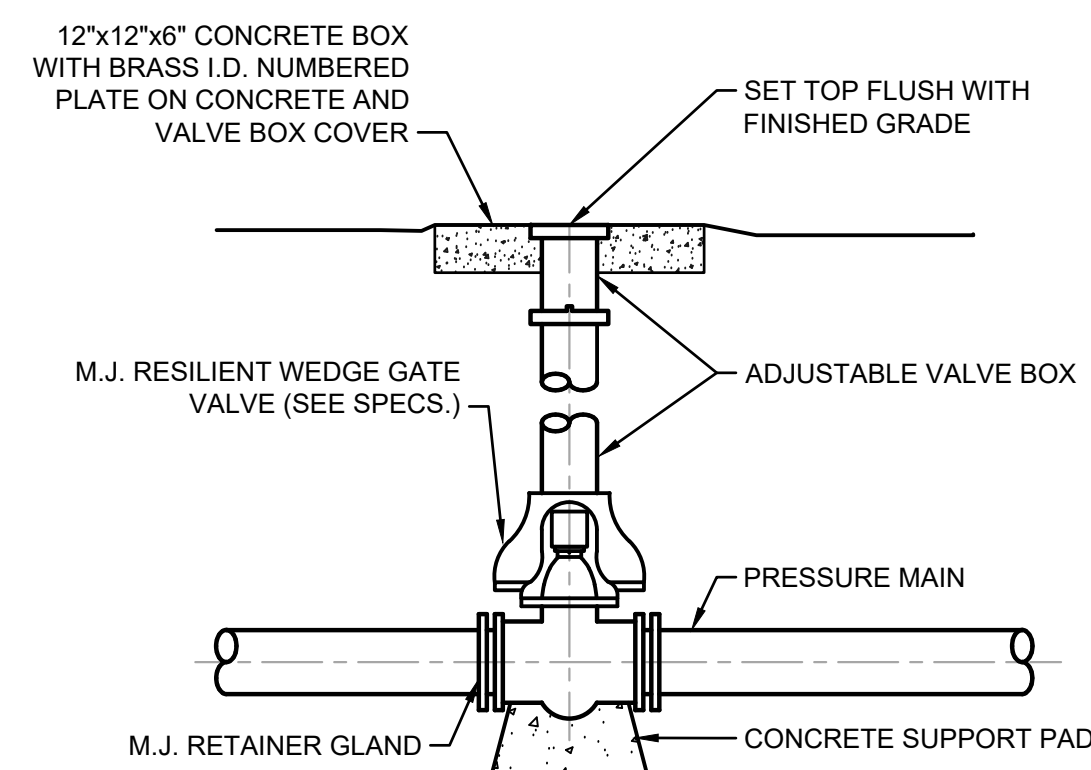
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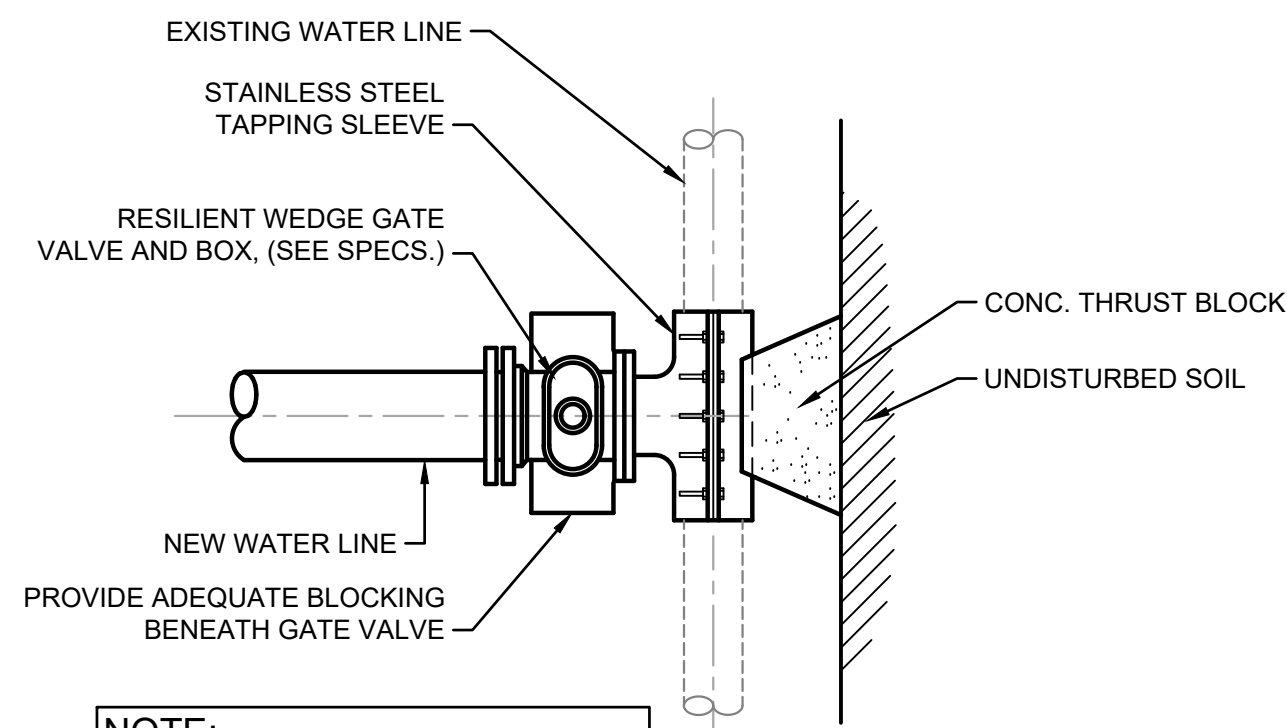
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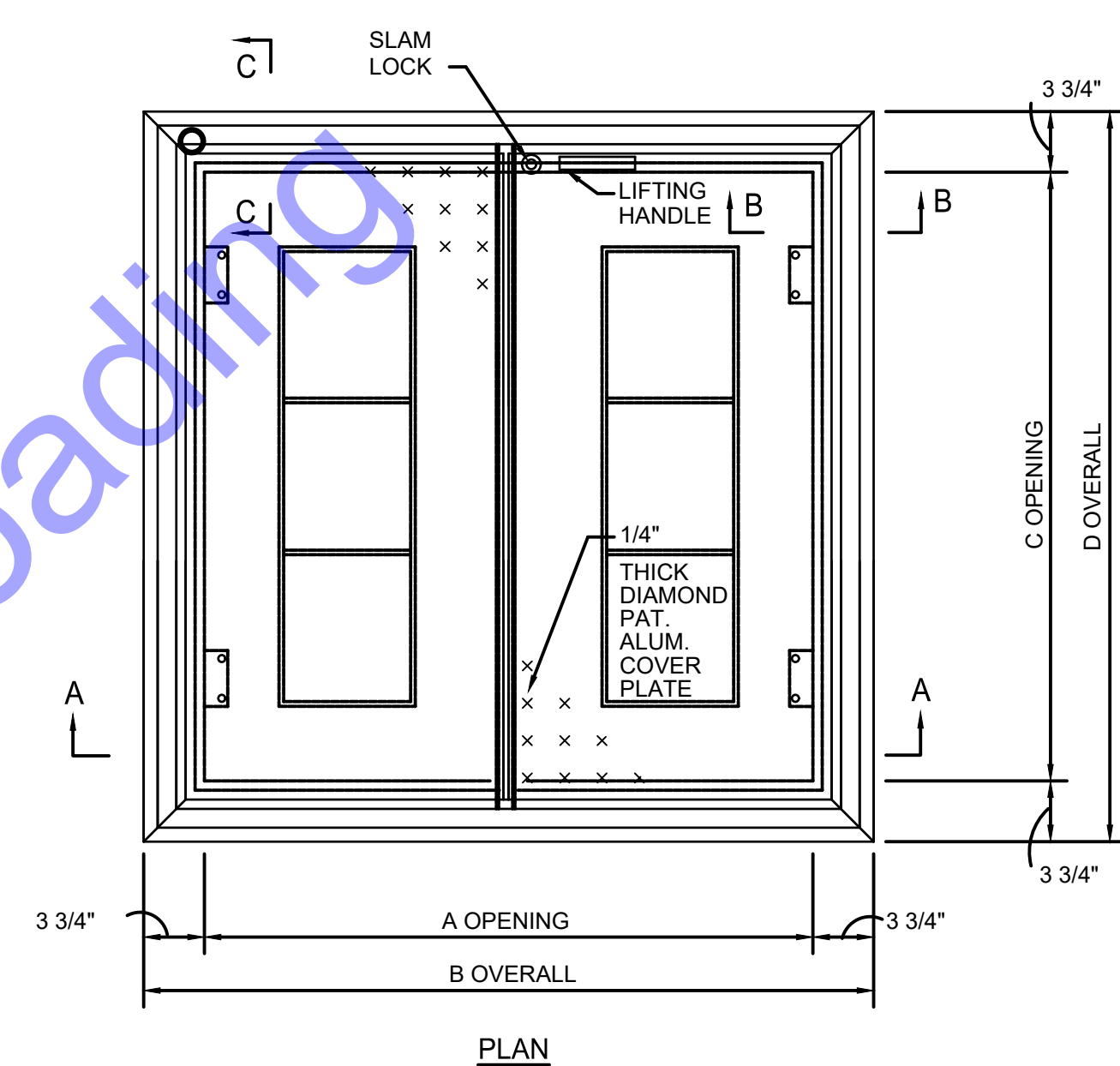
BURIED PLUG/GATE VALVE AND BOX DETAIL

SCALE: 1"=5'-0"
0 5 10'

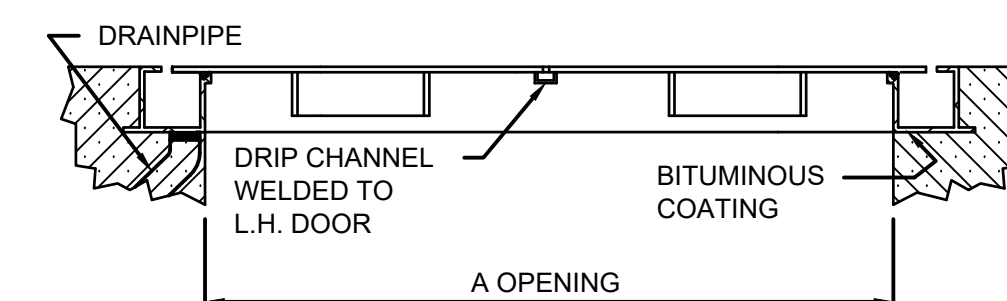


TYPE "A" CONNECTION TO EXISTING WATER MAIN

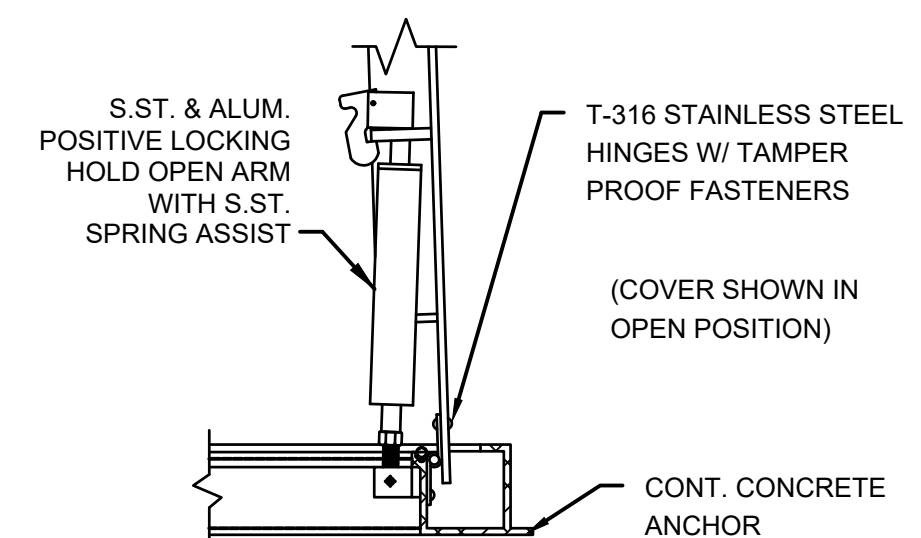
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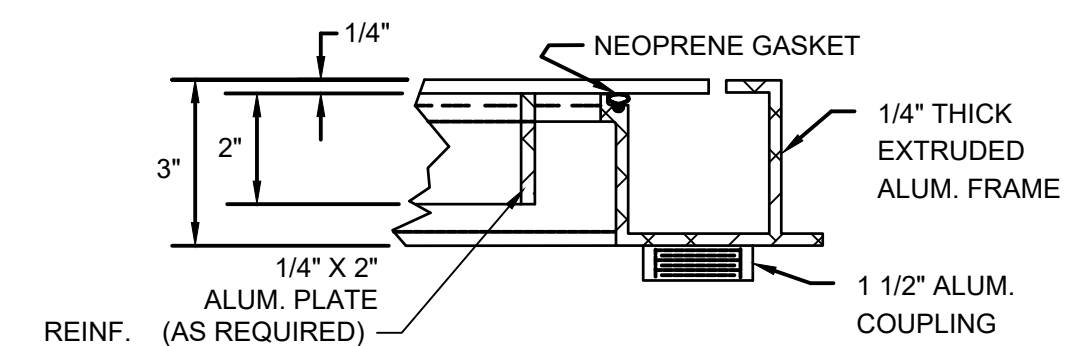
PLAN



SECTION A-A



SECTION B-B

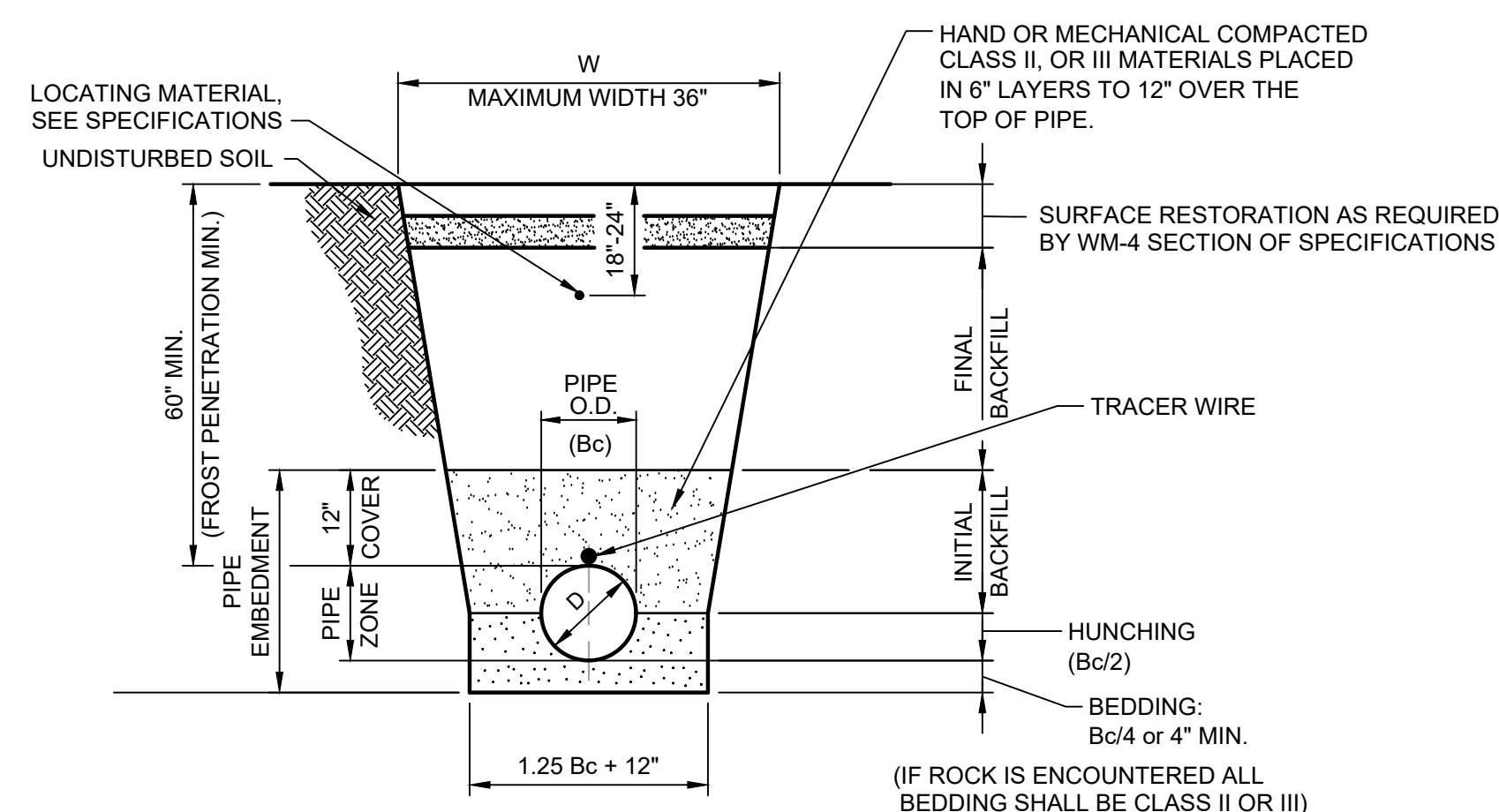


SECTION C-C

NOMINAL OPENING (INCHES)	DIMENSIONS (VARY PER MANUFACTURER)			
	A	B	C	D
42x42	42"	49 1/2"	42"	49 1/2"
48x48	48"	55 1/2"	48"	55 1/2"
48x60	60"	67 1/2"	48"	55 1/2"
72x48	72"	79 1/2"	48"	55 1/2"
60x60	60"	67 1/2"	60"	67 1/2"
72x60	72"	79 1/2"	60"	67 1/2"

TYPICAL DOUBLE LEAF ACCESS HATCH DETAIL

SCALE: 1"=5'-0"
0 5 10'



W = MAX. ALLOWABLE TRENCH WIDTH FOR PIPE SHALL NOT TO EXCEED 30 INCHES FOR 4" THROUGH 8" PIPE, 36" FOR 8" THROUGH 12" PIPE.

D = PIPE DIAMETER (INTERNAL)

Bc = PIPE DIAMETER (EXTERNAL)

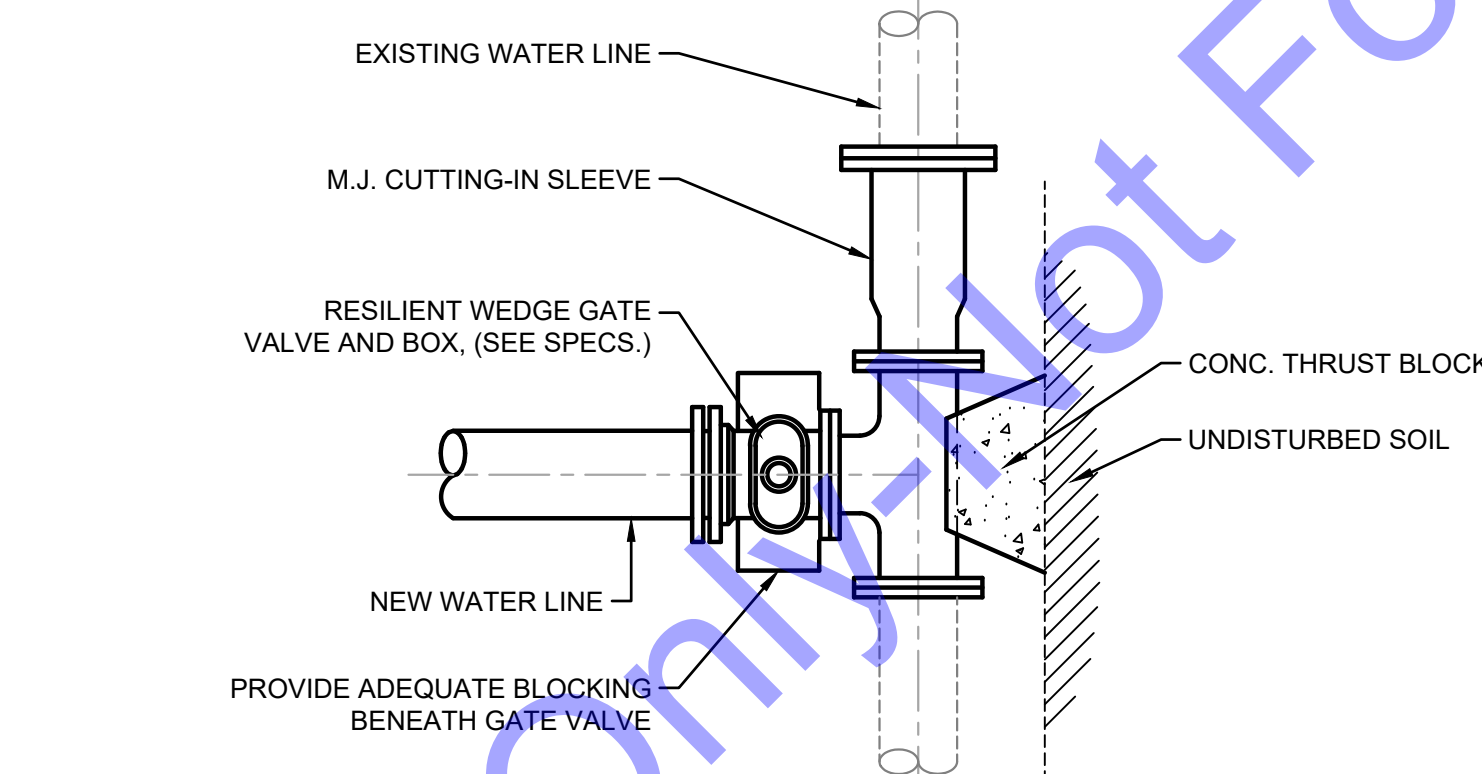
APPLICATION	BEDDING & HUNCHING INITIAL BACKFILL	FINAL BACKFILL
GRASSY AREA OR NEW PAVED AREAS	CLASS I, OR II MATERIAL (REFER TO WORKMANSHIP & MATERIALS SPECIFICATIONS)	SELECTED EXCAVATED MATERIAL
PAVEMENT AREA OR ANY AREA SUBJECT TO VEHICULAR TRAFFIC	CLASS I, II OR III MATERIAL (REFER TO WORKMANSHIP & MATERIALS SPECIFICATIONS)	COMPACTED GRANULAR MATERIAL

NOTES:

- INITIAL BACKFILL STOPS AT A POINT 12" ABOVE THE TOP OF THE PIPE. BACKFILLING ABOVE THIS POINT SHALL BE IN ACCORDING WITH THE SPECIFICATIONS AND AS REQUIRED BY HEREIN.
- BEDDING, HUNCHING AND INITIAL BACKFILL SHALL BE CLASS I, II, OR III MATERIALS ACCORDING TO THE WORKMANSHIP AND MATERIALS SPECIFICATIONS.
- WORK FALLING UNDER THE JURISDICTION OF THE INDIANA DEPARTMENT OF TRANSPORTATION (INDOT) SHALL UTILIZE COMPACTED GRANULAR BACKFILL MATERIAL FOR INITIAL AND FINAL BACKFILL ANYWHERE WITHIN 12 FEET OF THE EDGE OF PAVEMENT.
- WORK NOT FALLING UNDER THE JURISDICTION OF INDIANA DEPT. OF TRANSPORTATION SHALL UTILIZE COMPACTED GRANULAR BACKFILL MATERIAL FOR INITIAL AND FINAL BACKFILL ANYWHERE WITHIN 5 FEET OF THE EDGE OF PAVEMENT.

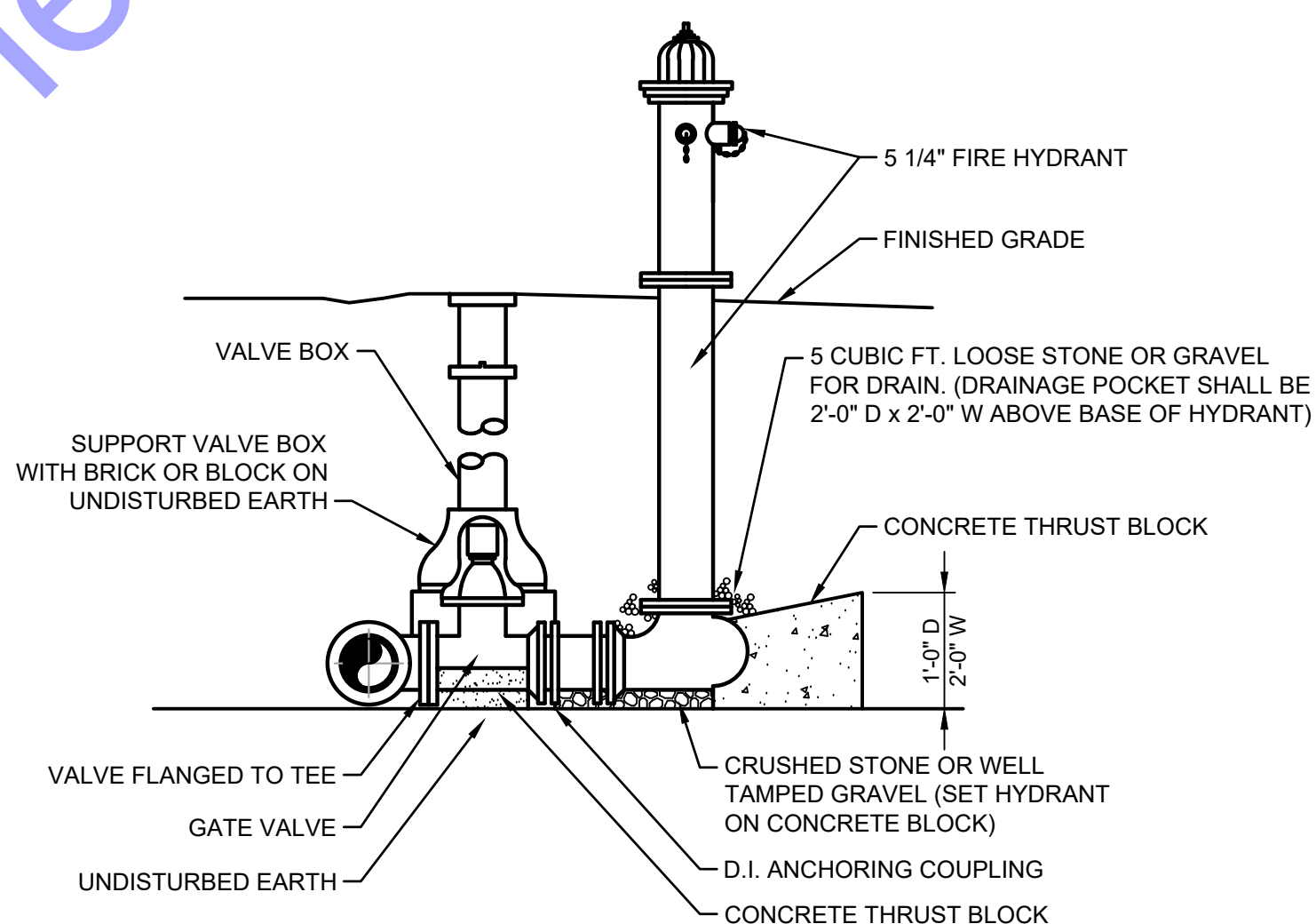
TRENCH DETAIL FOR WATER MAIN

SCALE: 1"=5'-0"
0 5 10'



TYPE "B" CONNECTION TO EXISTING WATER MAIN

SCALE: 1"=5'-0"
0 5 10'



FIRE HYDRANT DETAIL

SCALE: 1"=5'-0"
0 5 10'

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 No. PE11800145
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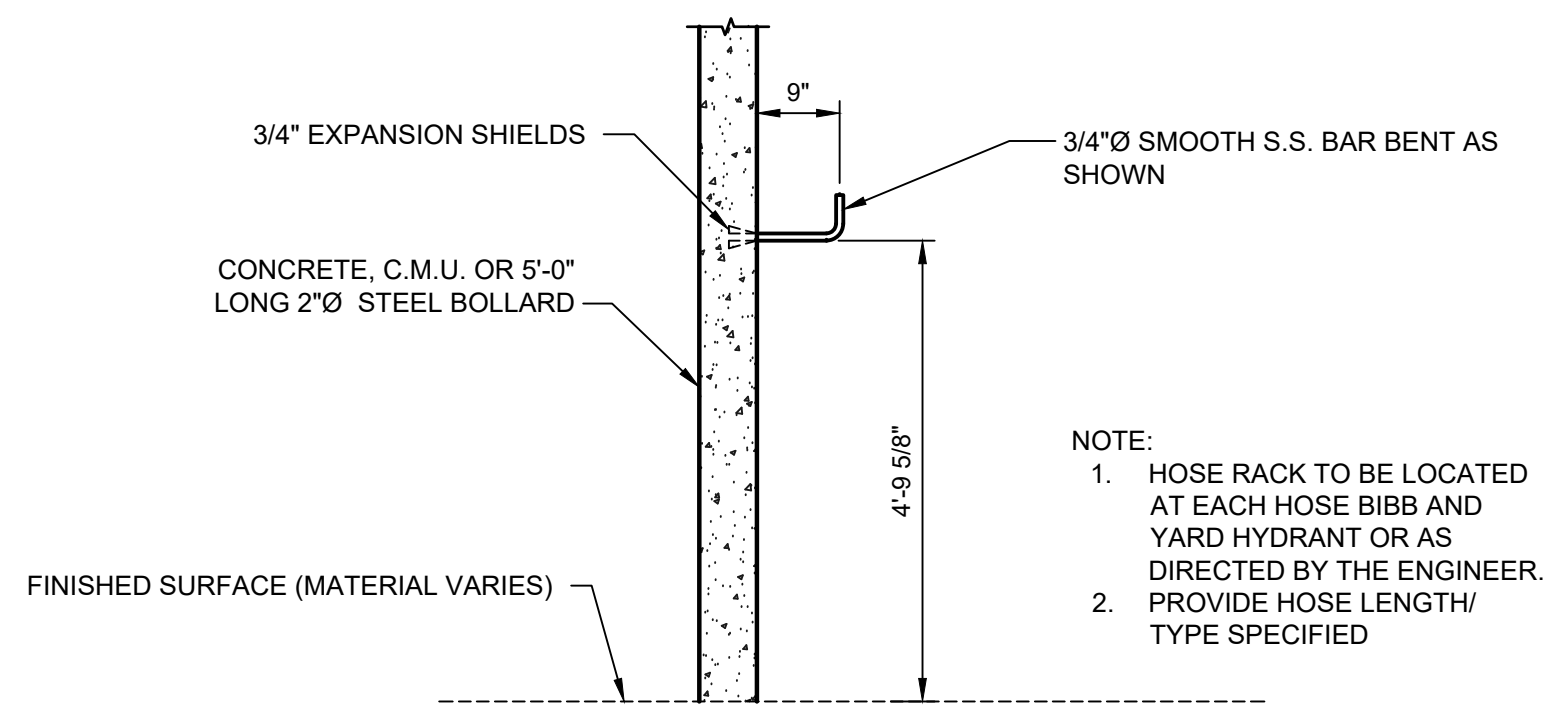
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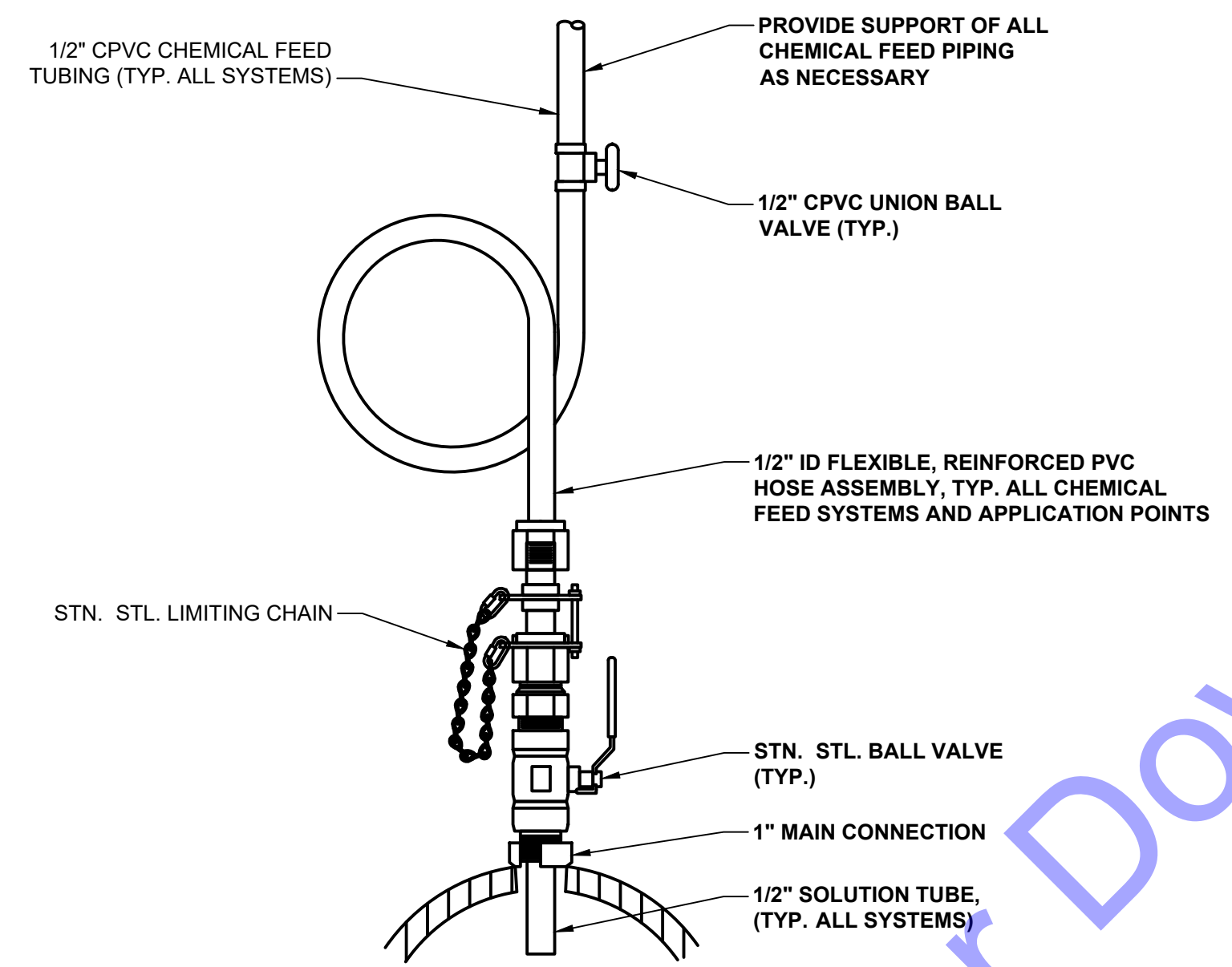
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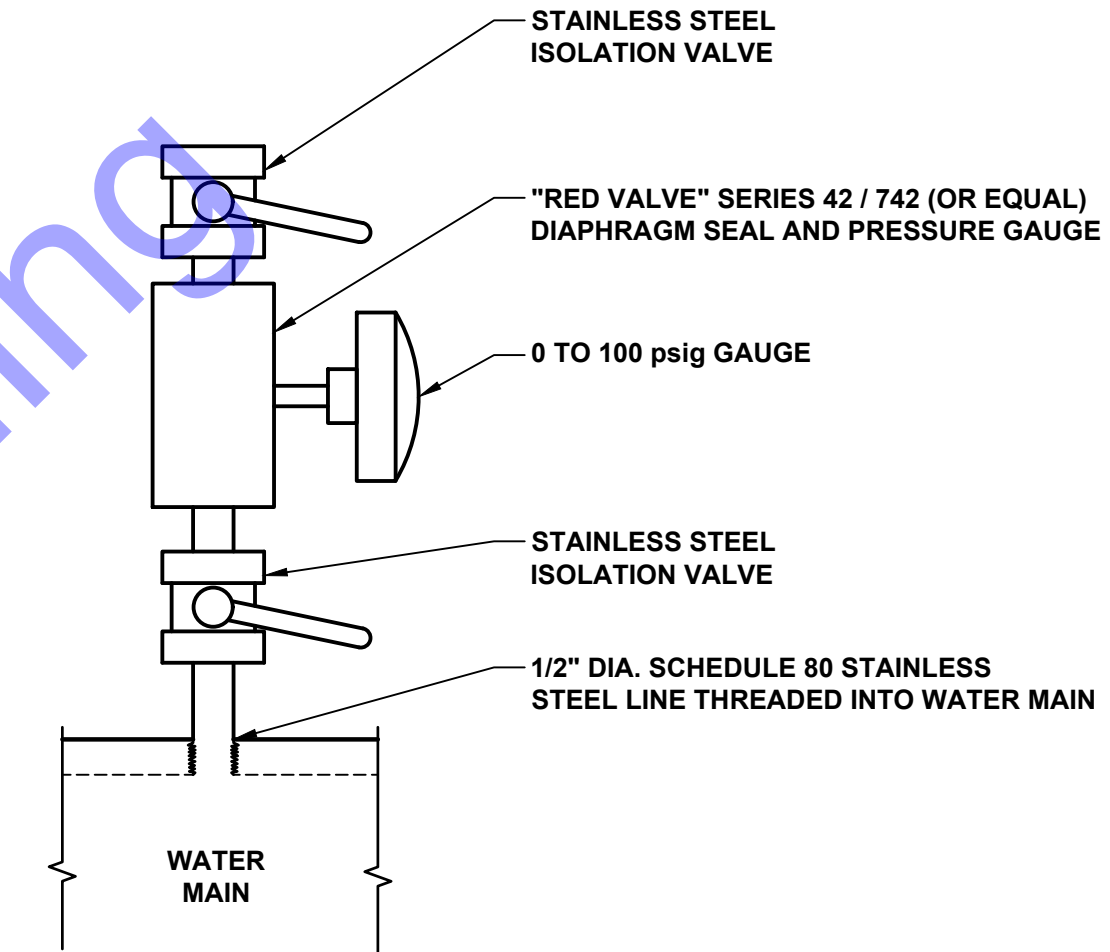
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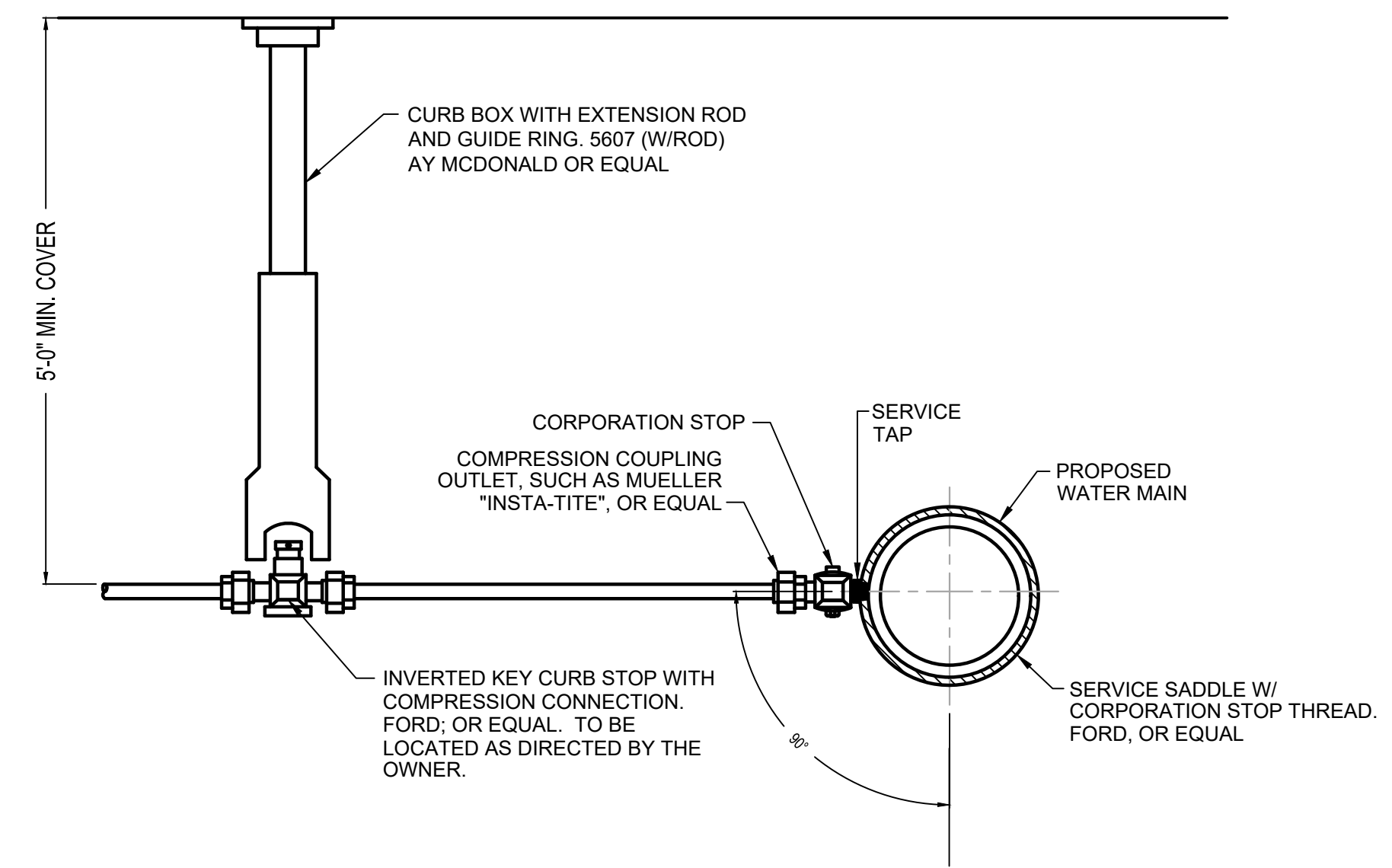
HOSE RACK DETAIL
SCALE: 1"=5'-0"
0 5' 10'



TYPICAL CHEMICAL INJECTION POINT DETAIL
SCALE: 1"=5'-0"
0 5' 10'



PRESSURE GAUGE DETAIL
SCALE: 1"=5'-0"
0 5' 10'



WATER SERVICE WITH CURB BOX DETAIL
NOT TO SCALE

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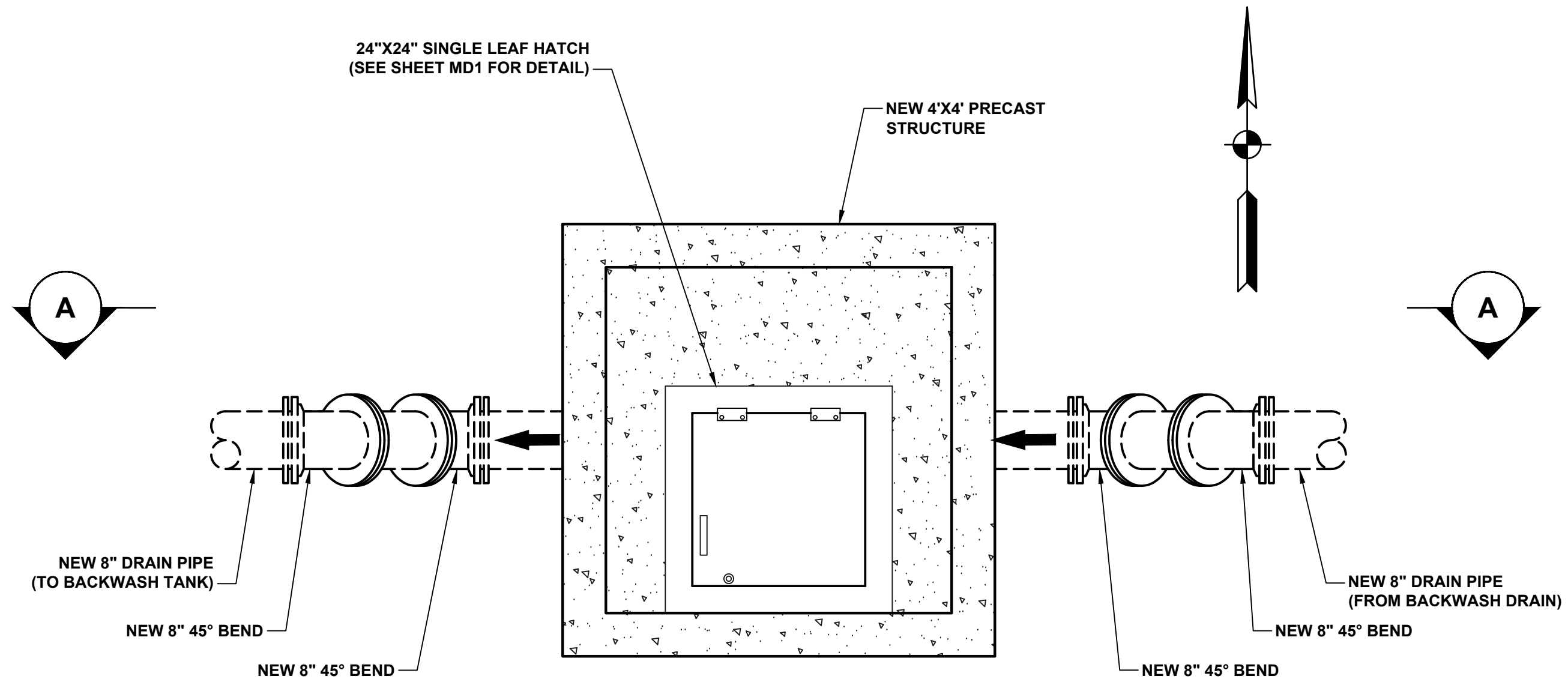
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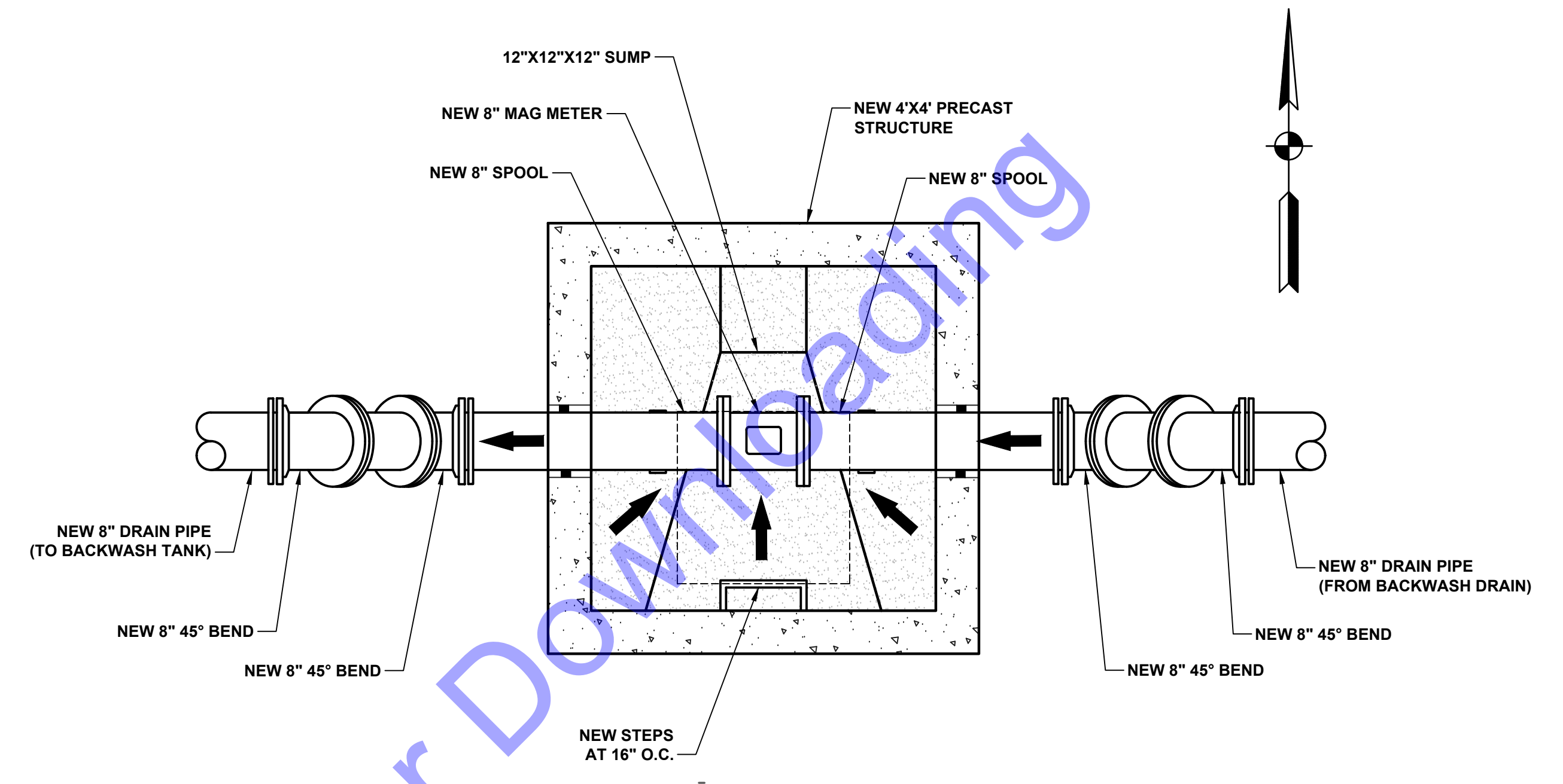
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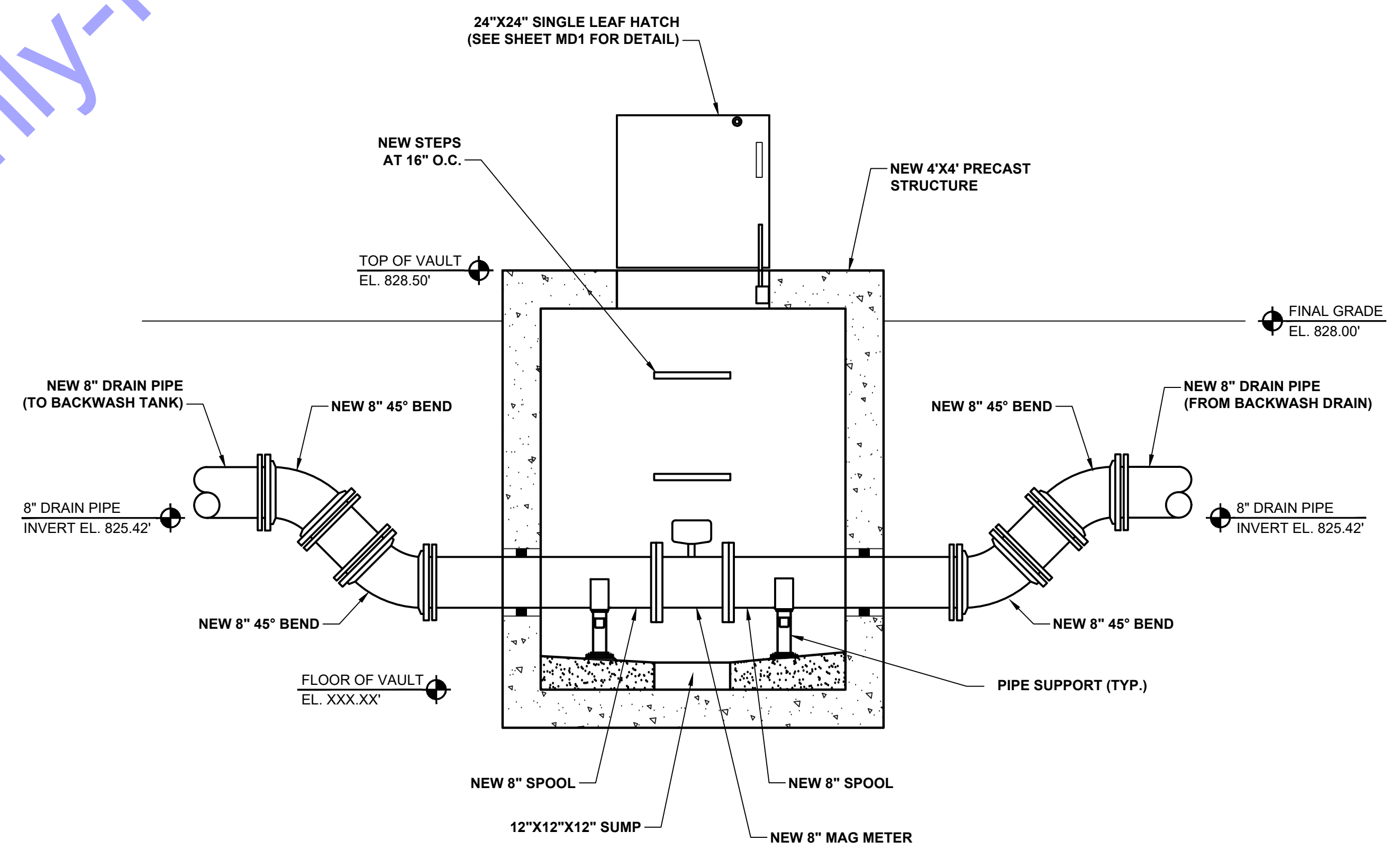
BACKWASH MAG METER VAULT - UPPER PLAN VIEW

SCALE: 1"=5'-0"
 0 5 10'



BACKWASH MAG METER VAULT - UPPER PLAN VIEW

SCALE: 1"=5'-0"
 0 5 10'



SECTION VIEW

SCALE: 1"=5'-0"
 0 5 10'

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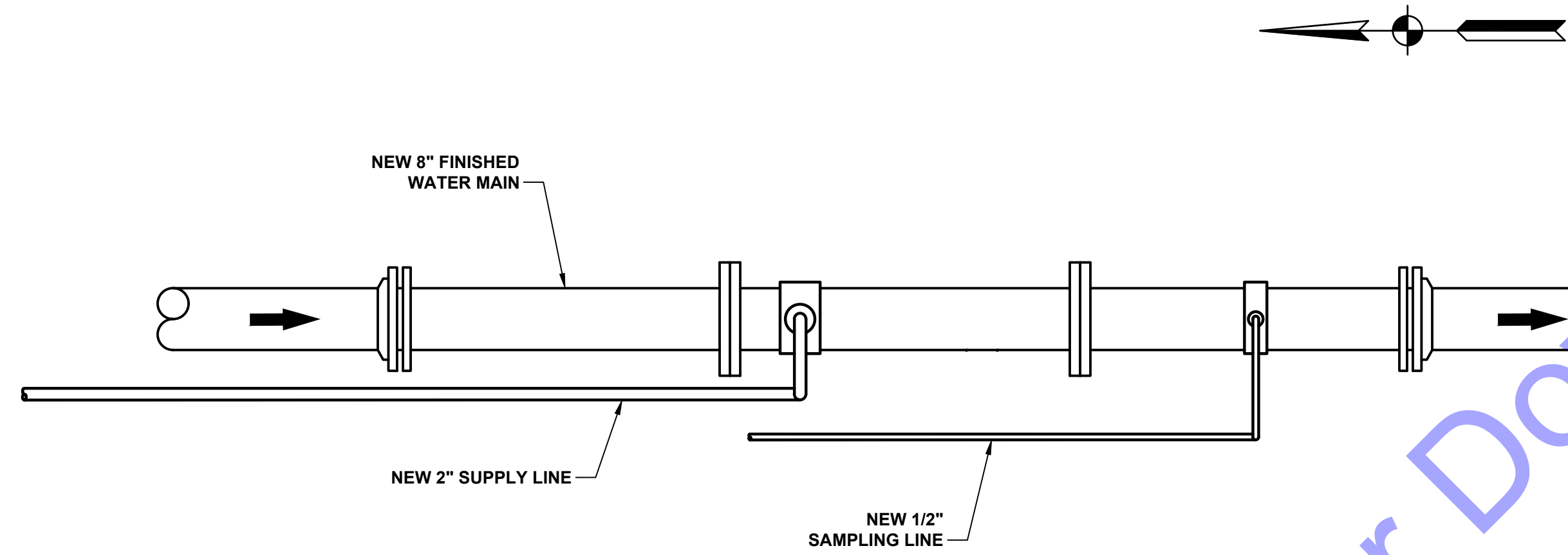
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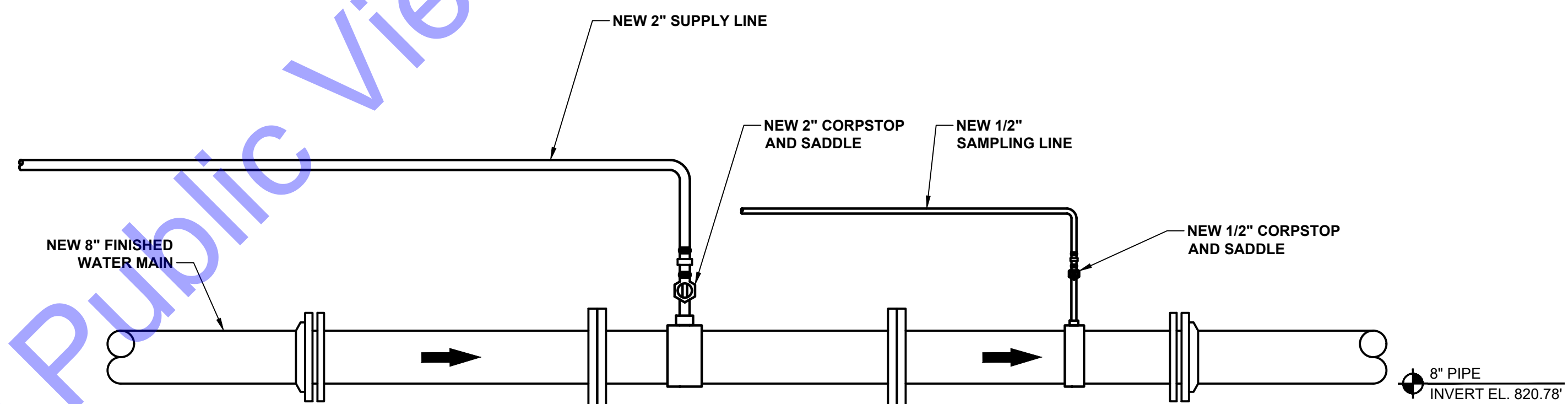
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WATER SERVICE - PLAN VIEW

SCALE: 1"=5'-0"
 0 5' 10'

FINAL GRADE
 EL. 828.00'



SECTION VIEW

SCALE: 1"=5'-0"
 0 5' 10'

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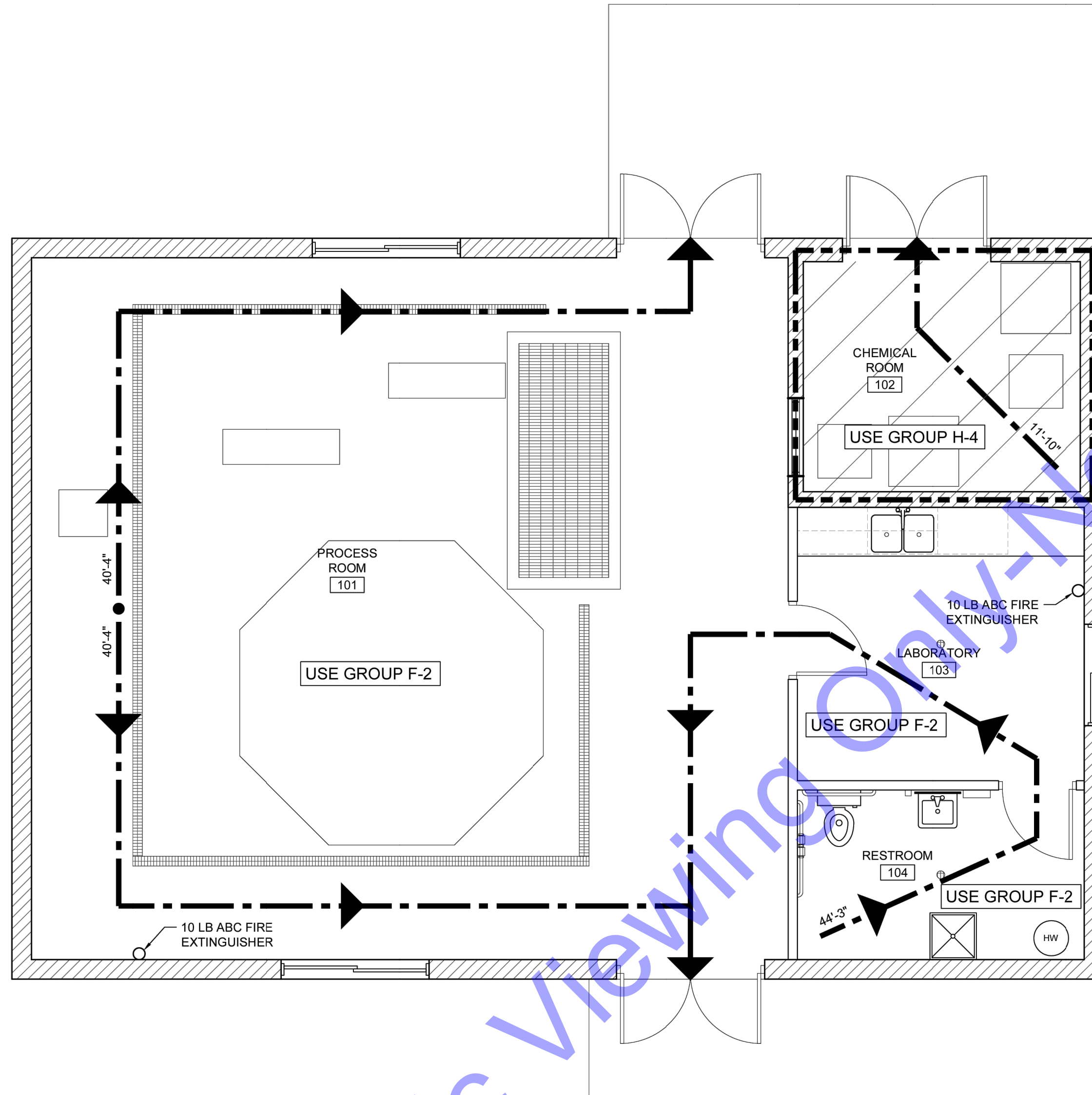
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LIFE SAFETY PLAN
 SCALE: 1/4"=1'-0"
 0 2' 4' 8'

CODE REVIEW:

2012 INTERNATIONAL BUILDING CODE (IBC) WITH 2014 INDIANA AMENDMENTS

USE GROUP - CHAPTER 3:
 USE GROUP DESIGNATION

GROUP F-2 (1,350 SQ. FT.)
 ACCESSORY HAZARD GROUP H-4 (SEPARATED BY 2-HR FIRE BARRIER) (117 SQ. FT.)

DESCRIPTION WATER TREATMENT PLANT PROCESS BUILDING

CHAPTER 4
 A REPORT INDICATING QUANTITIES OF HAZARD MATERIALS TO BE STORED WILL BE SUBMITTED TO THE LOCAL BUILDING OFFICIAL (414.1.3)

TABLE 414.2.2. SINGLE CONTROL AREA IS ON FLOOR LEVEL 1 ABOVE GRADE, CONTAINS 99.6% < 100% ALLOWED QUANTITY AND REQUIRES 1 HOUR HORIZONTAL AND VERTICAL FIRE RESISTANCE

BUILDING HEIGHT/AREA - CHAPTER 5:
 CONSTRUCTION TYPE COMBUSTIBLE, NON-SPRINKLERED (TYPE V-B CONSTRUCTION)

TABLE 503 ALLOWABLE HEIGHT/STORIES (F-2) 40 FEET / 2 STORY
 ACTUAL HEIGHT 23 FEET / 1 STORY

SECTION 508: MIXED USE AND OCCUPANCIES
 ALLOWABLE AREA 13,000 SQ. FT.
 ACTUAL AREA 1,350 SQ. FT.

508.2 ACCESSORY OCCUPANCIES
 508.2.1 (117/1,350)100 = 8.67<10%
 508.2.2 H-4
 508.2.2 TABLE 503:
 ALLOWABLE HEIGHT/STORIES 40 FEET / 1 STORY
 ACTUAL HEIGHT 18 FEET / 1 STORY
 ALLOWABLE AREA 6,500 SQ. FT.
 ACTUAL AREA 117 SQ. FT.

508.4 SEPARATION OF OCCUPANCIES 2-HR BETWEEN F-2 AND H-4

TYPE OF CONSTRUCTION - CHAPTER 6:
 TABLE 601 FIRE RATING FOR BLDG. ELEMENTS NO RATINGS REQ'D. FOR ANY BUILDING ELEMENT

TABLE 602 FIRE SEPARATION DISTANCE NO OCCUPIED BUILDINGS OR STRUCTURES ARE WITHIN 30 FEET

FIRE RESISTANT CONSTRUCTION - CHAPTER 7:
 TABLE 707.3.1 H-4: 2-HR
 SECTION 708 FIRE PARTITIONS NOT REQUIRED PER TABLE 1018.1 (OCCUPANCY LOAD < 30 IN CORRIDORS)

FIRE PROTECTION SYSTEMS - CHAPTER 9:
 F-2 GROUP SPRINKLERS NOT REQUIRED

CHAPTER 903
 PROVIDE AUTOMATIC SPRINKLER HEADS IN GROUP H ONLY (DOMESTIC HEADS)
 - CHEMICAL ROOM 102 TO HOUSE 190 GALLONS SODIUM HYPOCHLORITE AND 180 GALLONS POLYPHOSPHATE. CHEMICALS ARE NON-FLAMMABLE AND NON-COMBUSTIBLE. THE PROJECT WILL SEEK VARIANCE TO NOT SPRINKLE

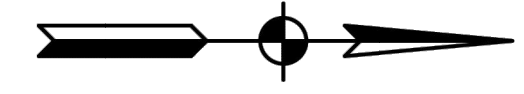
MEANS OF EGRESS - CHAPTER 10:
 TABLE 1004 OCCUPANT LOAD
 PROCESS USE (F-2) 1,233 SQ. FT. / 100 SQ. FT. PERSON = 13 PERSONS
 HAZARDOUS STORAGE (H-4) 117 SQ. FT. / 300 SQ. FT. PERSON = 1 PERSON

EXITS (1006.0.1)
 MINIMUM # OF EXITS REQ'D. PER STORY: 2 (>30 PERSONS)
 ACTUAL: 3

TRAVEL DISTANCE (1016.2) WITHOUT SPRINKLING:
 EXIT ACCESS TRAVEL DISTANCE: 200'
 ACTUAL LONGEST TRAVEL DISTANCE: 44'-3"

LEGEND:

- INDICATES EGRESS PATH
- INDICATES 2 HR FIRE BARRIER



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TOWN OF MILFORD, INDIANA
 KOSCIUSKO COUNTY, INDIANA
 WATER UTILITY IMPROVEMENTS PROJECT
 DIVISION "A"-WATER TREATMENT IMPROVEMENTS

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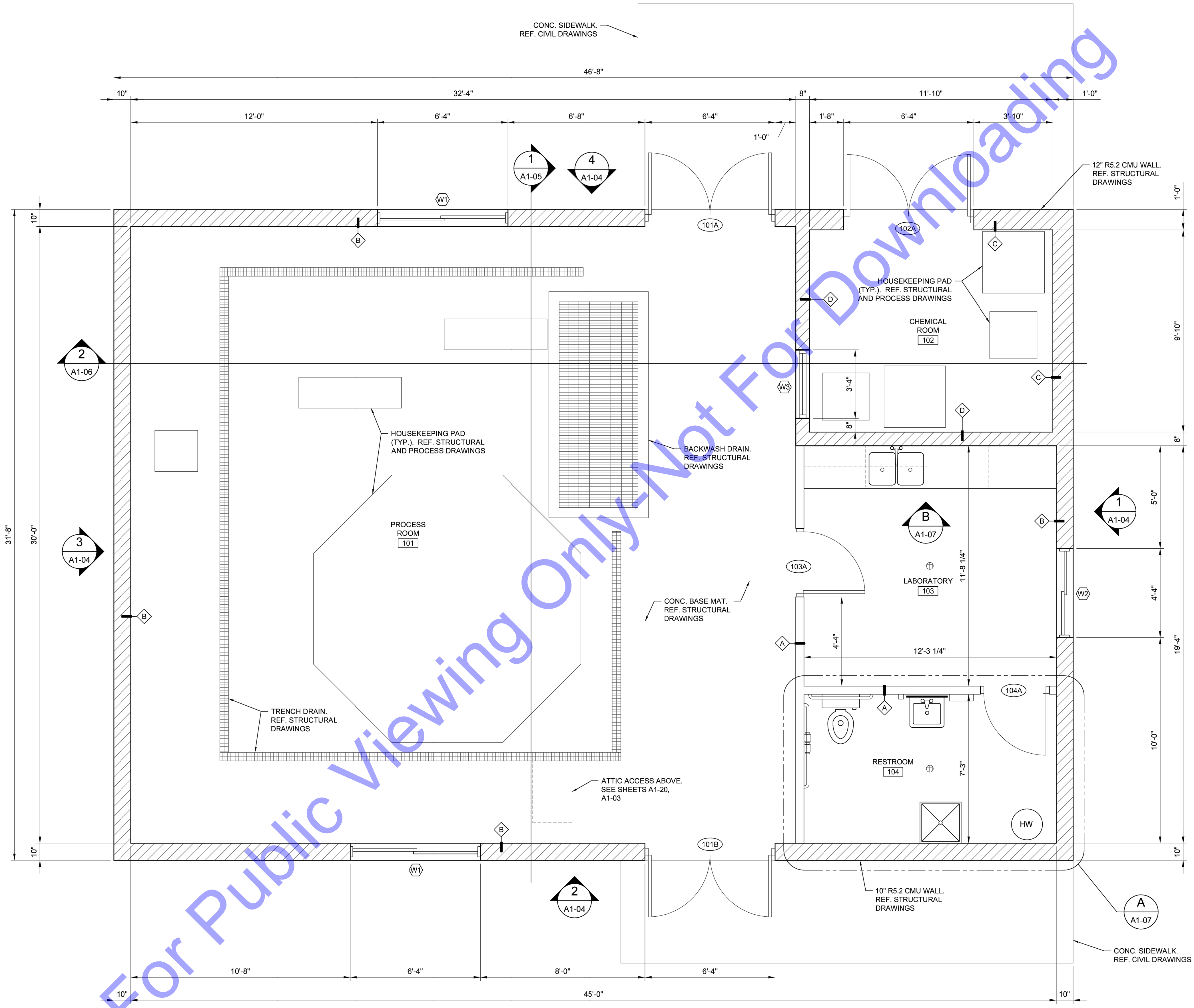
No.	Submitted / Revision	By	Date

Designed By: AK	Drawn By: JAS	Checked By: DKS
Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

NEW WATER TREATMENT PLANT FACILITY LIFE SAFETY PLAN

Drawing No:
A1-00
 Sheet: 44 OF 75

FILE: C:\USERS\STENGER\FIRST ELECTRIC SUPPLY\ACTIVE - PROJECTS\2024\24-008 - COMMONWEALTH MILFORD WTP\CD\ARCH\A1-01.DWG
 Saved: 1/14/2025 2:31:14 PM
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FLOOR PLAN

SCALE: 3/8"=1'-0"



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 REGISTERED PROFESSIONAL ENGINEER
 No. 10200106
 STATE OF INDIANA
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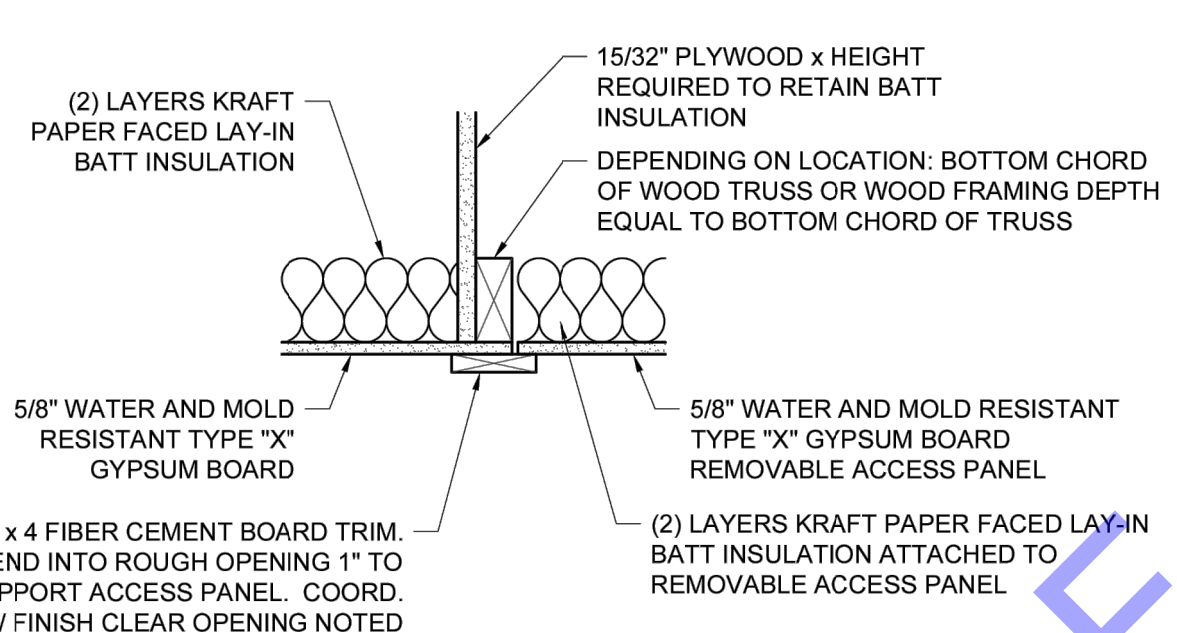
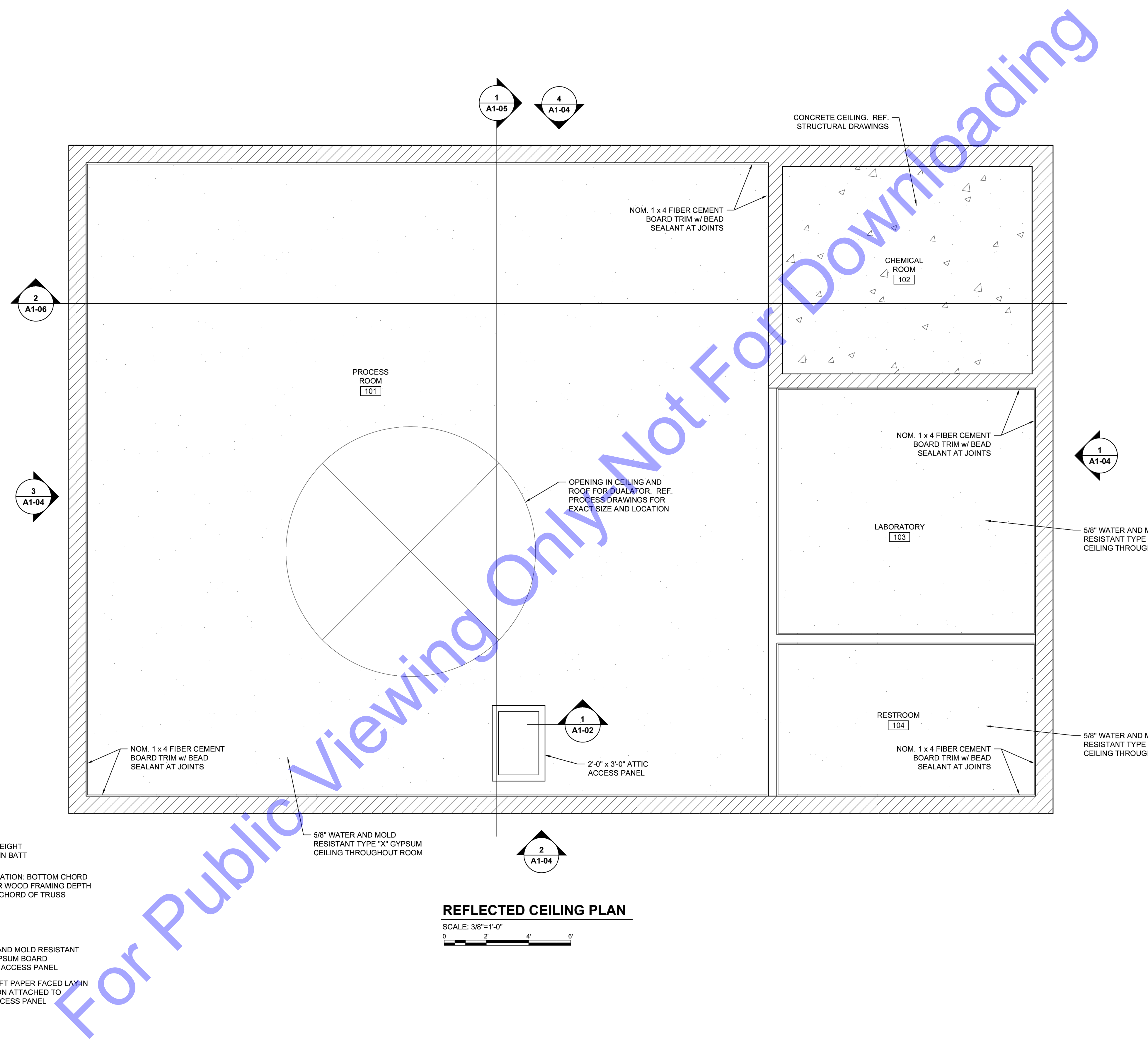
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NEW WATER TREATMENT PLANT FACILITY FLOOR PLAN

Drawing No:
A1-01
 Sheet: 45 OF 75

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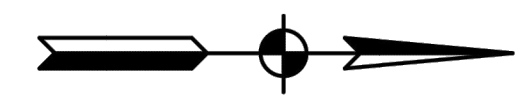


TYPICAL ATTIC ACCESS DETAIL

SCALE: 1 1/2"=1'-0"
 0 1/2 1 1 1/2

REFLECTED CEILING PLAN

SCALE: 3/8"=1'-0"
 0 2 4 6



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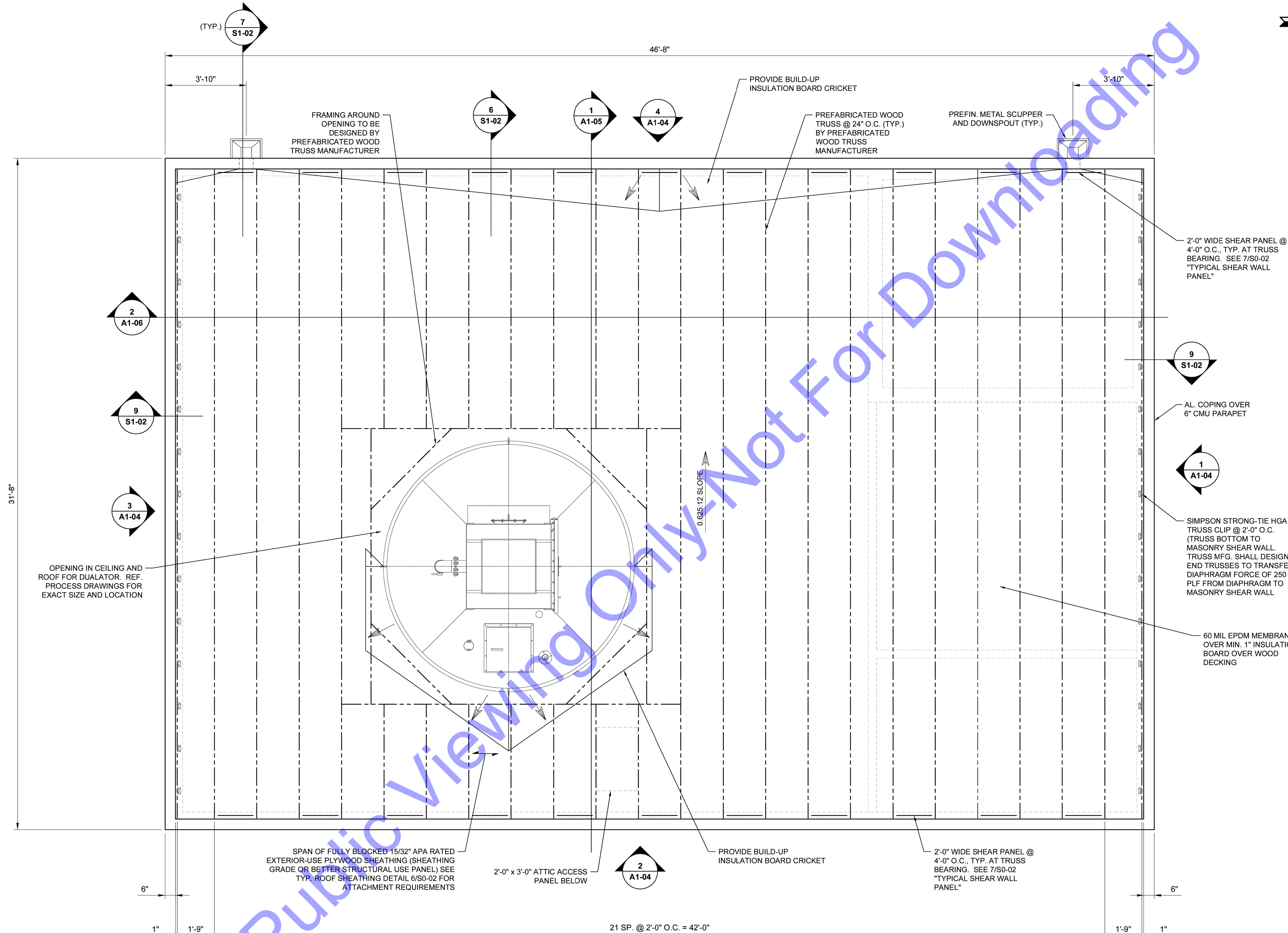
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1-14-2025	W24161	AS SHOWN

NEW WATER TREATMENT PLANT FACILITY REFLECTED CEILING PLAN

Drawing No:
A1-02
 Sheet: 46 OF 75

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ROOF PLAN
 SCALE: 3/8"=1'-0"
 0 2' 4' 6'

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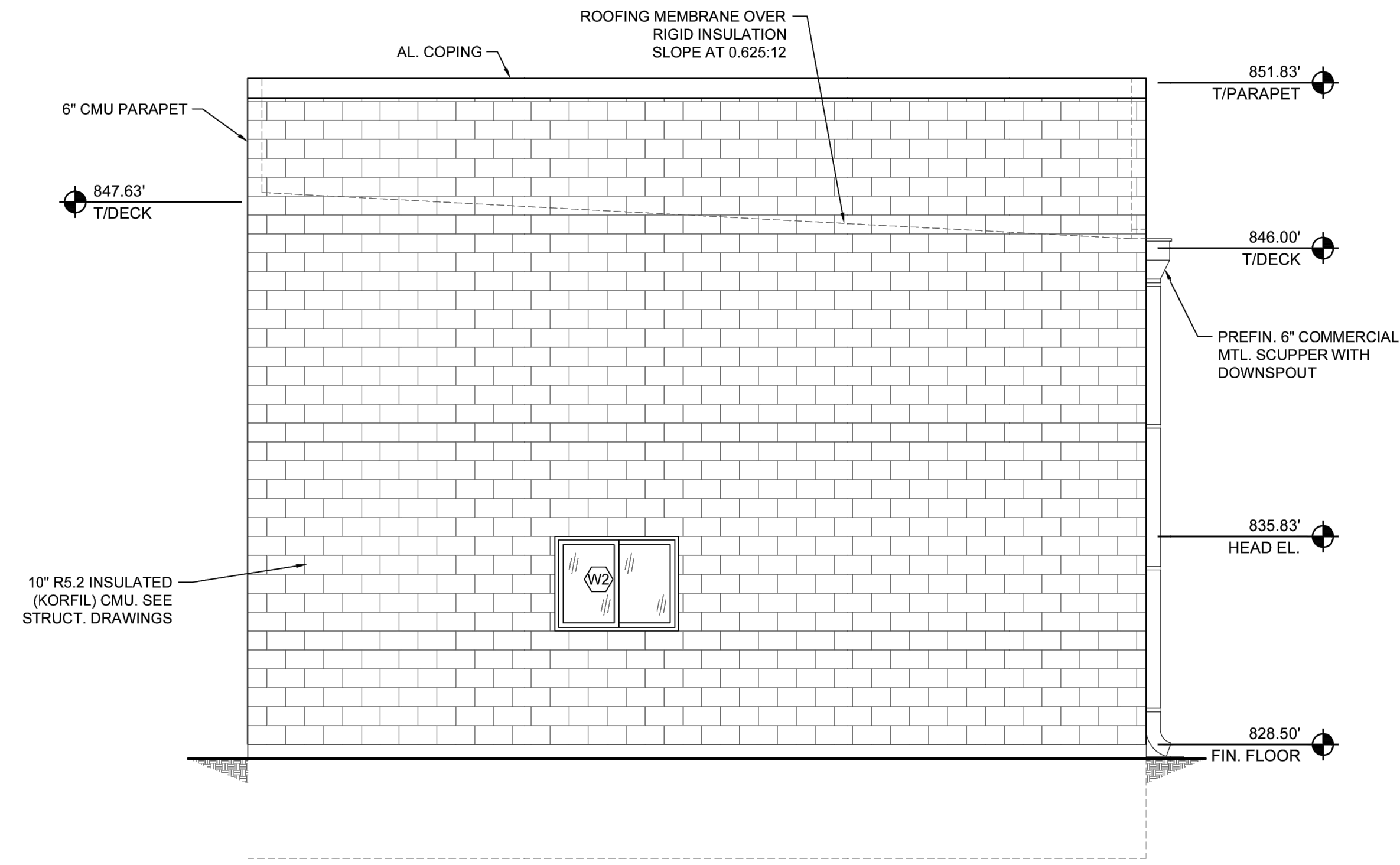
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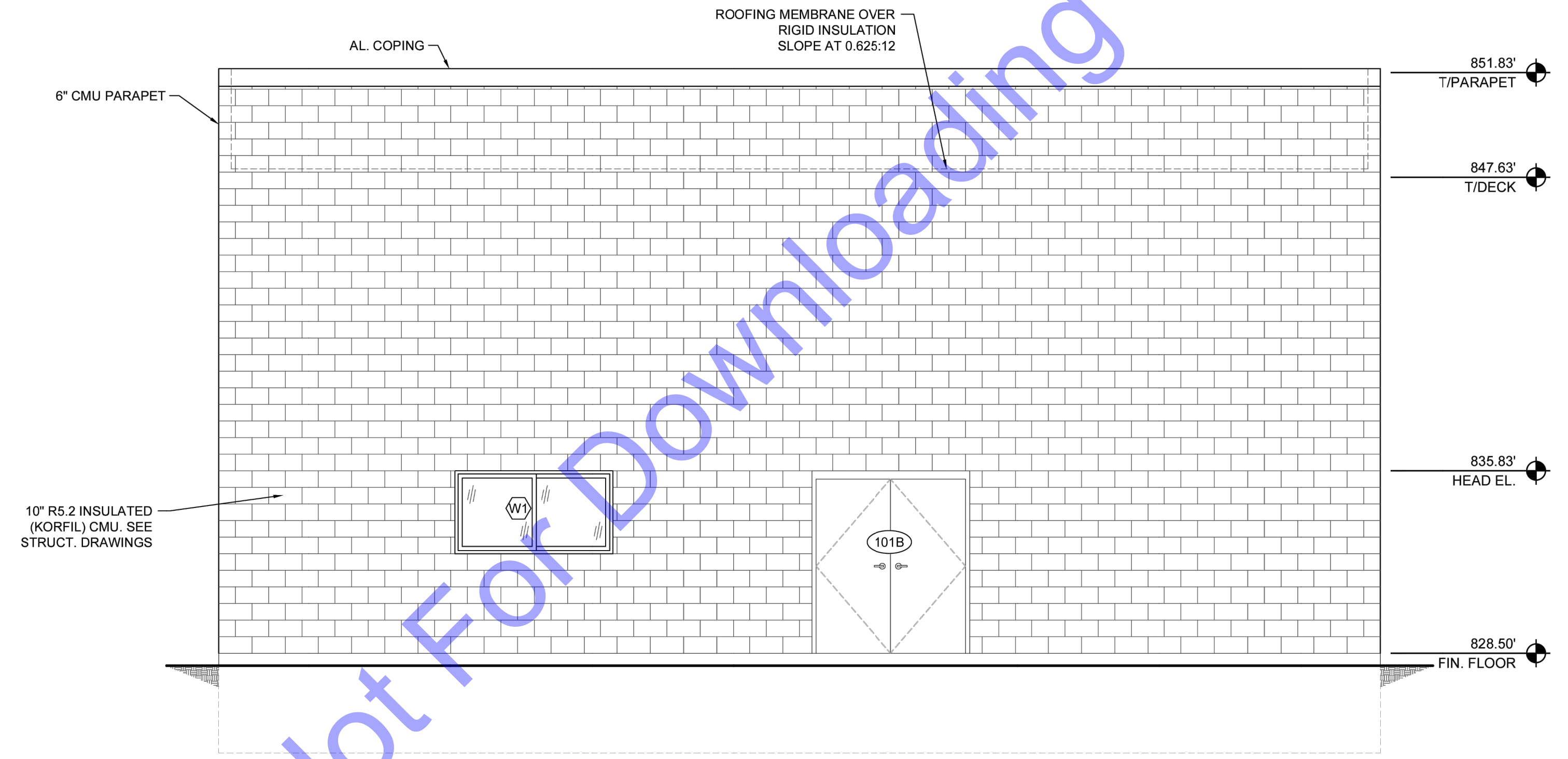
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NEW WATER TREATMENT PLANT FACILITY ROOF PLAN

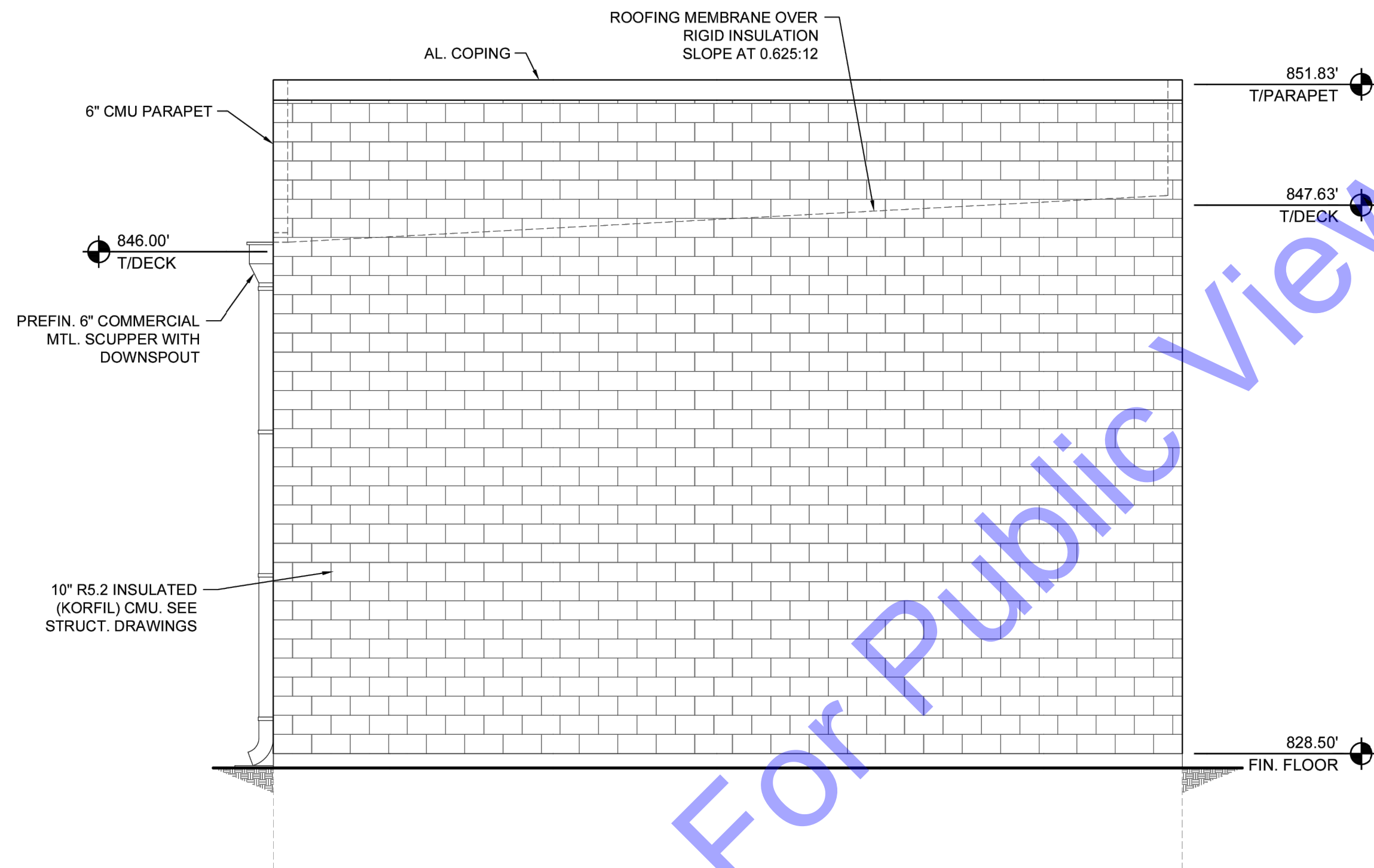
Drawing No:
A1-03
 Sheet: 47 OF 75



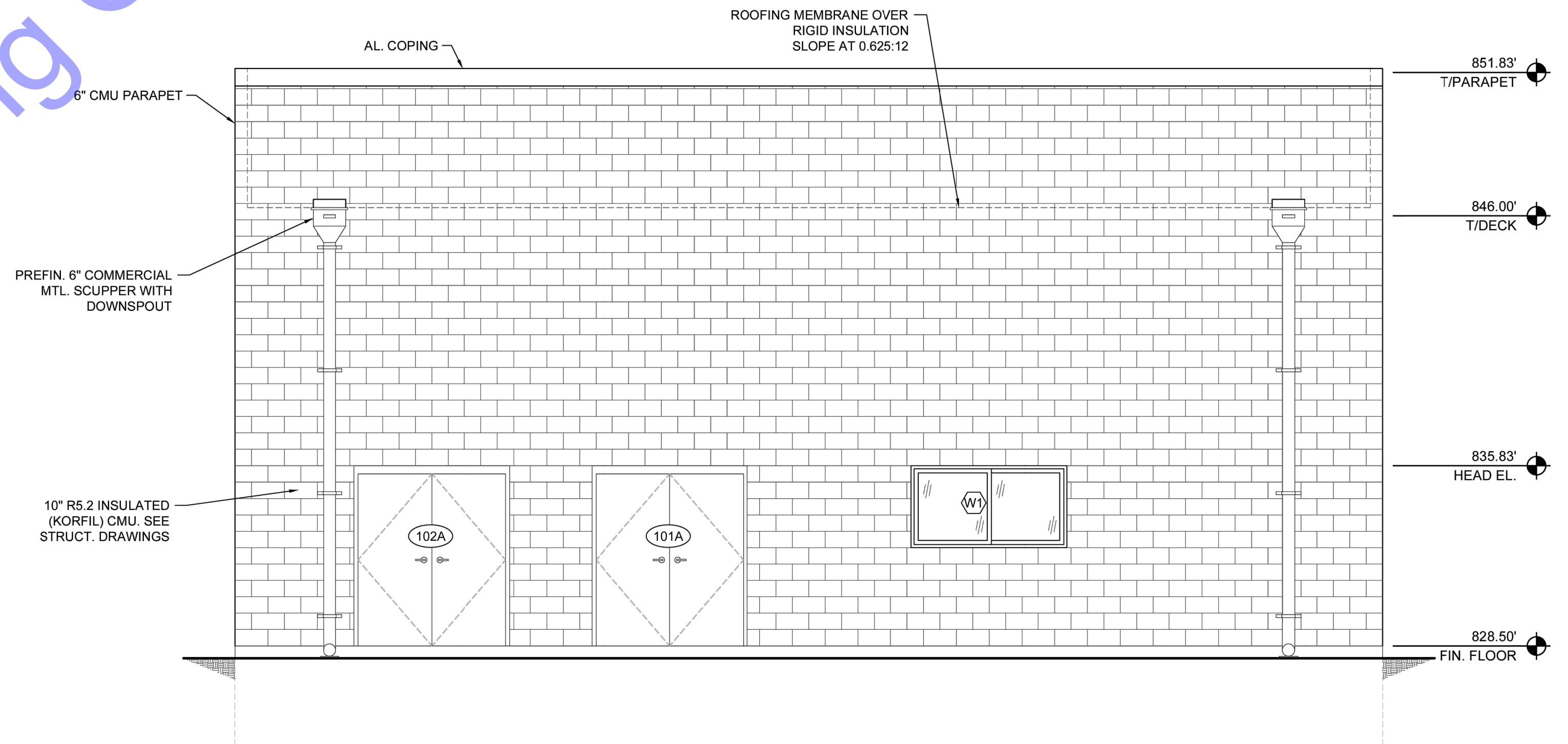
NORTH ELEVATION 1
SCALE: 1/4"=1'-0"
0 2 4 8



EAST ELEVATION 2
SCALE: 1/4"=1'-0"
0 2 4 8



SOUTH ELEVATION 3
SCALE: 1/4"=1'-0"
0 2 4 8



WEST ELEVATION 4
SCALE: 1/4"=1'-0"
0 2 4 8

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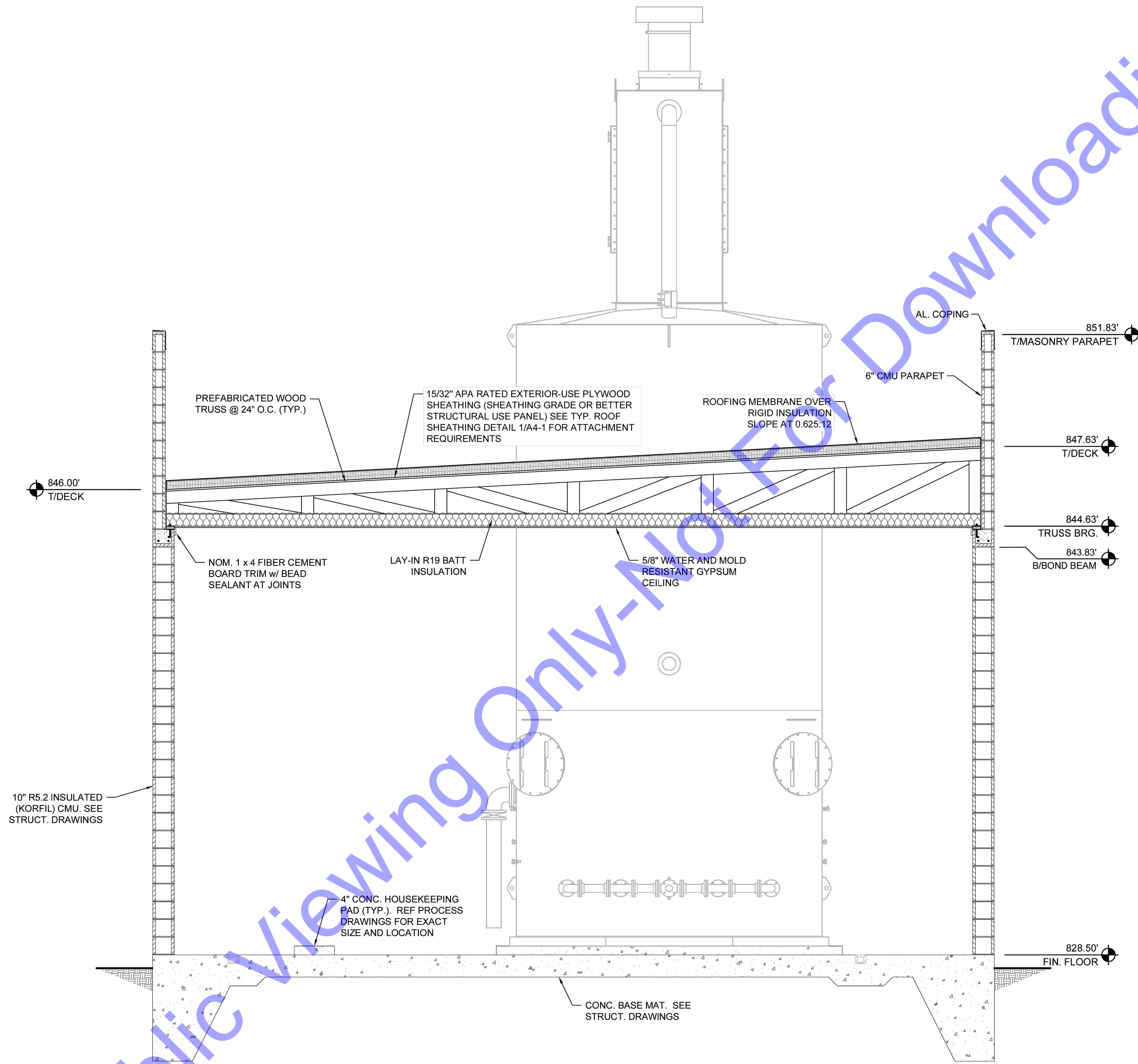
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NEW WATER TREATMENT PLANT FACILITY EXTERIOR ELEVATIONS

Drawing No:
A1-04
 Sheet: 48 OF 75

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BUILDING SECTION 1
 SCALE: 3/8"=1'-0"
 0 2' 4' 6'

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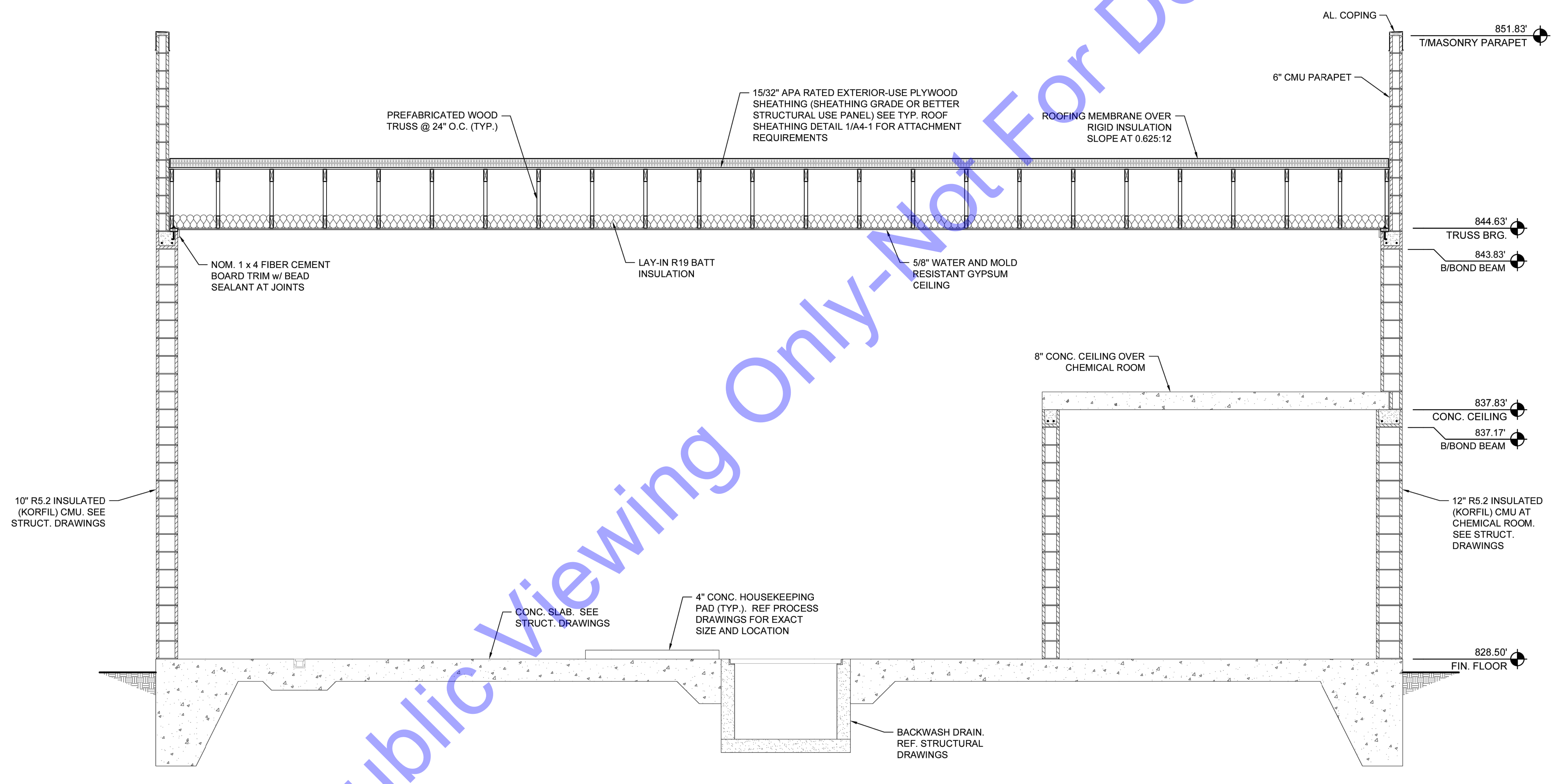
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NEW WATER TREATMENT PLANT FACILITY BUILDING SECTION

Drawing No:
A1-05
 Sheet: 49 OF 75

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BUILDING SECTION ②
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 0 2' 4' 6'

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Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

NEW WATER
 TREATMENT PLANT
 FACILITY BUILDING
 SECTION

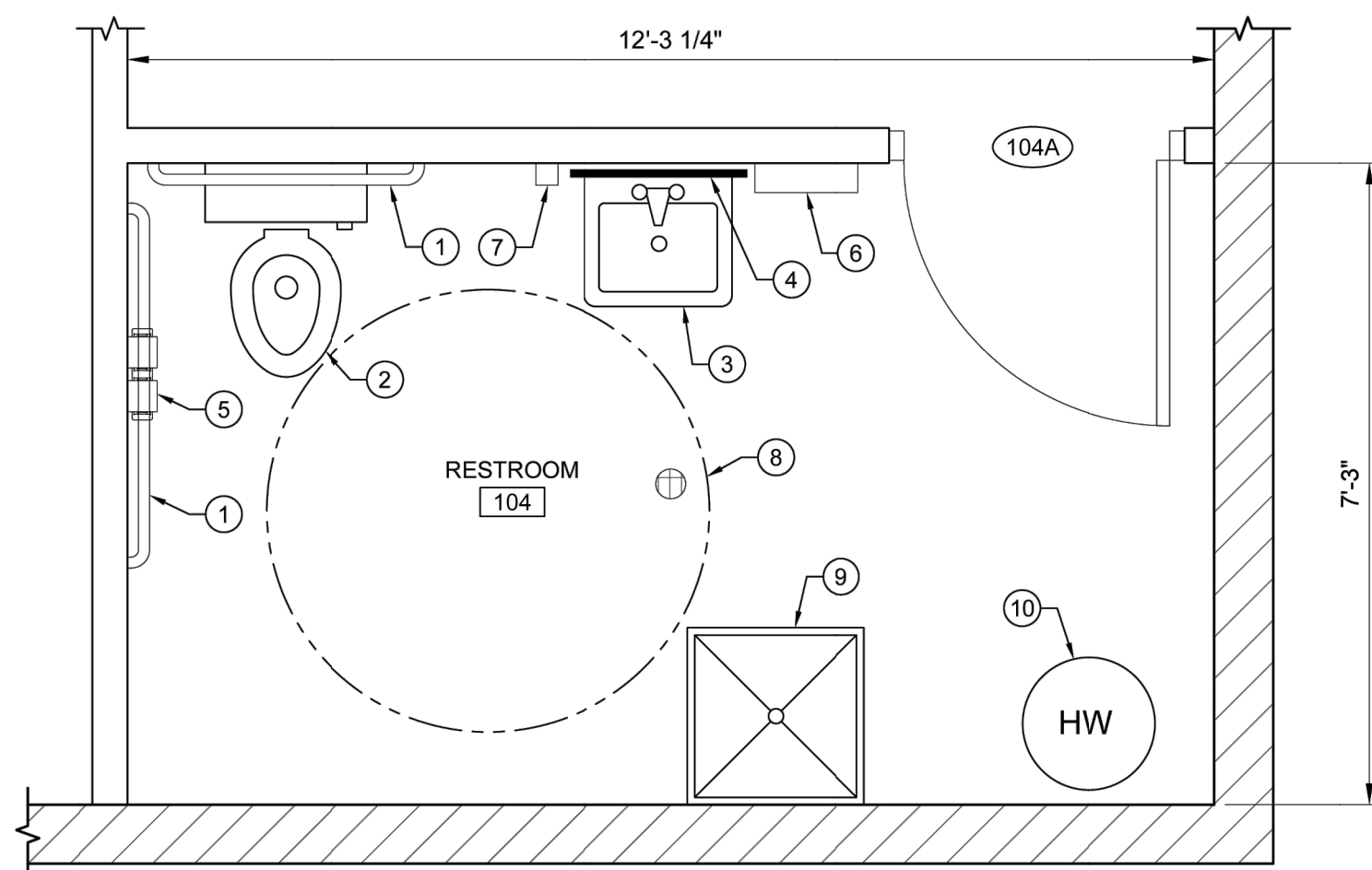
Drawing No:
A1-06
 Sheet: 50 OF 75

ROOM FINISH SCHEDULE:

ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS				CEILING	CEILING HT	REMARKS
				NORTH	SOUTH	EAST	WEST			
101	PROCESS ROOM	SC	-	PD/PB	PB	PB	PB	PD	16'-1"	
102	CHEMICAL ROOM	SC	VB	PB	PB	PB	PB	PC	9'-4"	
103	LABORATORY	SC	VB	PB	PD	PB	PD	PD	8'-0"	
104	RESTROOM	SC	VB	PB	PD	PD	PB	PD	8'-0"	

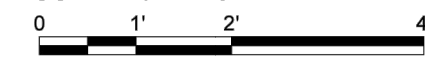
FINISH LEGEND

FLOOR	
SC	SEALED CONCRETE. LAB TO BE SEALED/STAINED CONC.
BASE	
VB	4" VINYL COVE BASE - MATCH COLORS SELECTED BY OWNER
WALLS	
PD	PAINTED DRYWALL - COLOR BY OWNER
PB	PAINTED BLOCK - COLOR BY OWNER
CEILING	
PD	PAINTED DRYWALL - COLOR BY OWNER
PC	PAINTED CONCRETE - COLOR BY OWNER



ENLARGED PLAN

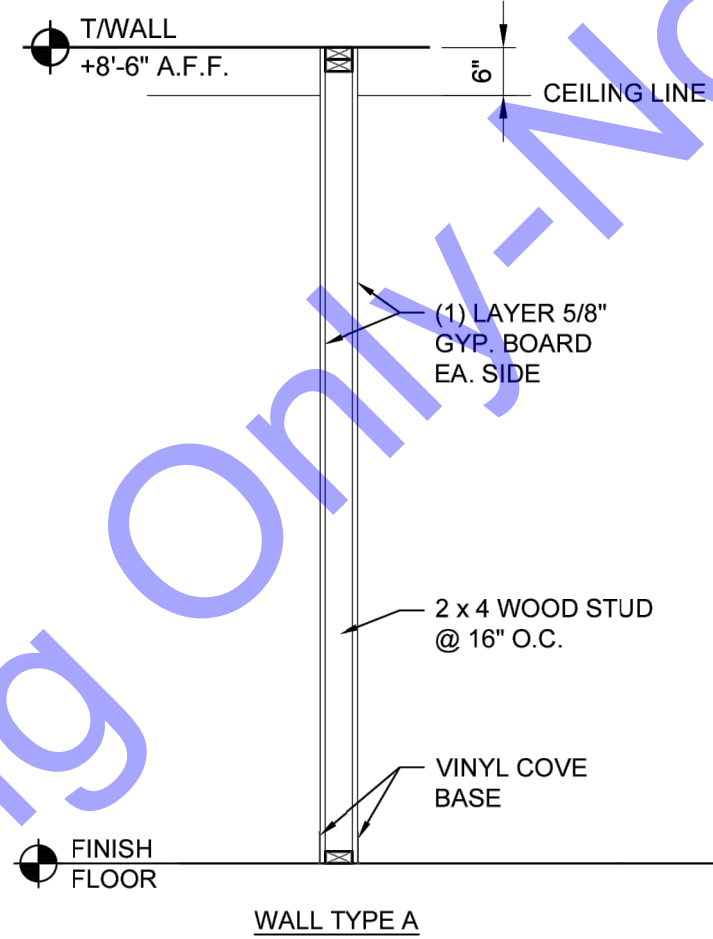
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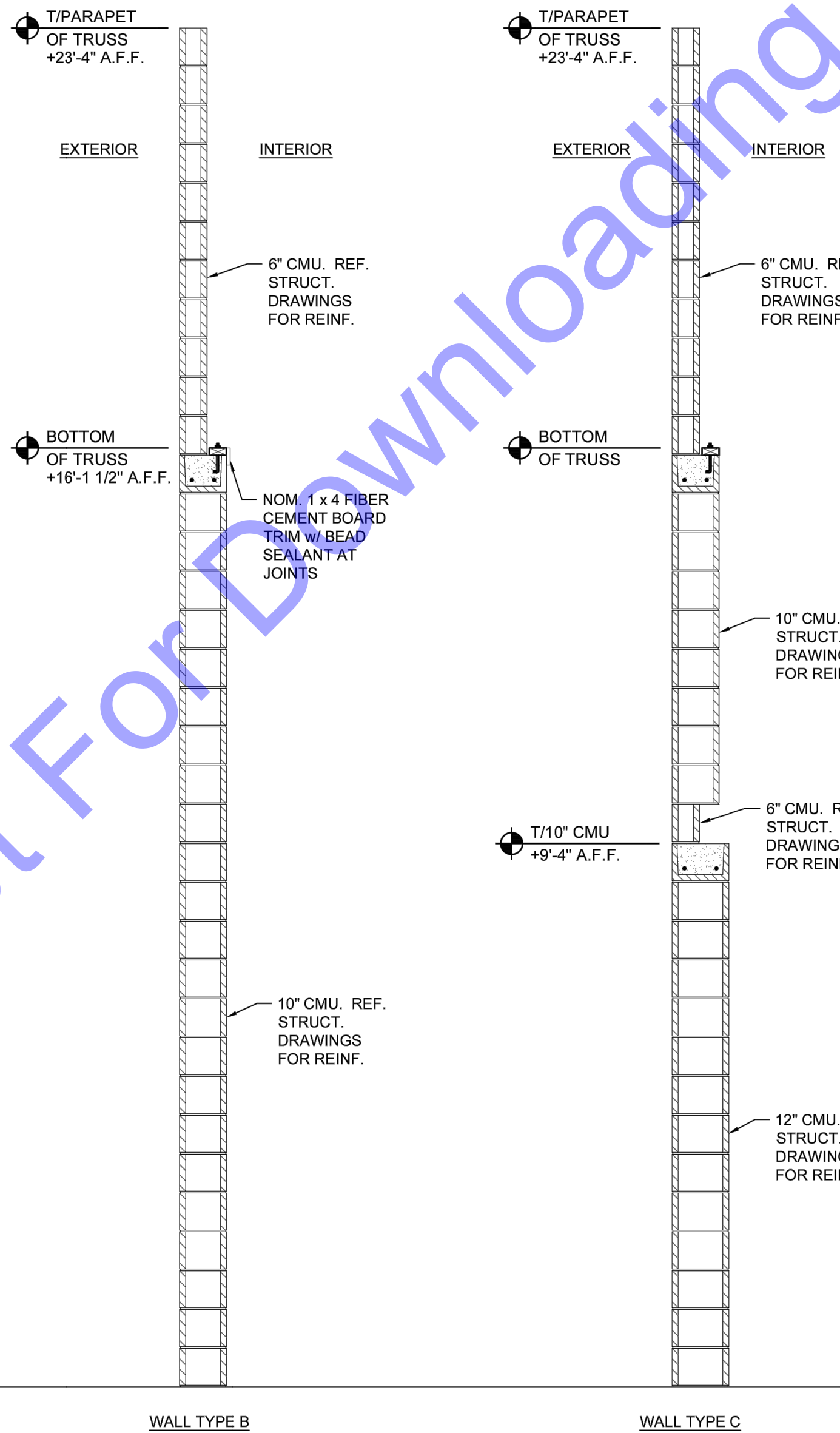
A

KEYNOTES:

1. HC GRAB BARS INSTALLED PER ICC A117.1-2009 SECTION 608 AND 609 & MANUF. STANDARD DETAILS
2. TOILET (REF. PLUMBING DRAWINGS)
3. WALL MOUNTED SINK (REF. PLUMBING DRAWINGS)
4. MIRROR (REF. SPECS)
5. TOILET PAPER HOLDER (REF. SPECS)
6. PAPER TOWEL DISPENSER (REF. SPECS)
7. SOAP DISPENSER (REF. SPECS)
8. 5'-0" DIAMETER HANDICAP TURNING RADIUS
9. MOP BASIN (REF. PLUMBING DRAWINGS)
10. WATER HEATER (REF. PLUMBING DRAWINGS)



WALL TYPE A



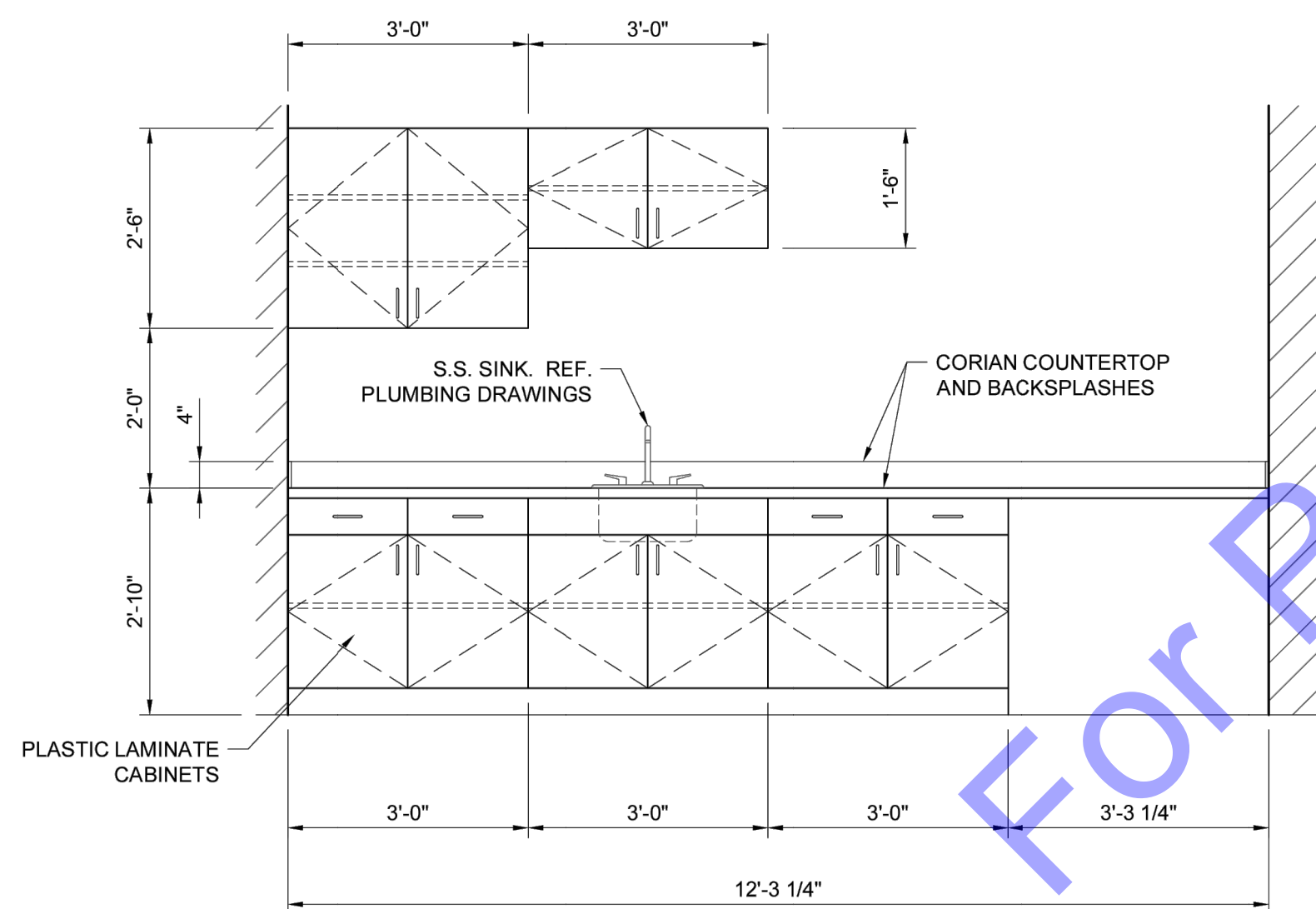
WALL TYPE B

WALL TYPE C

WALL TYPE D

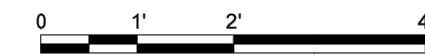
WALL TYPES

NOT TO SCALE

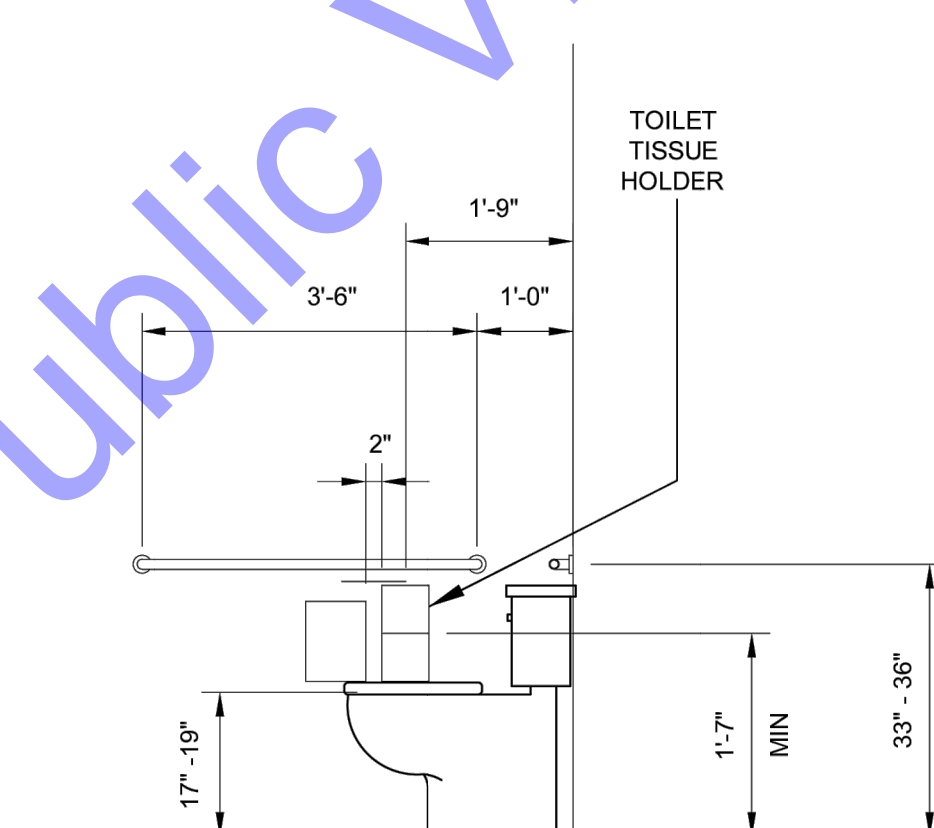


INTERIOR ELEVATION

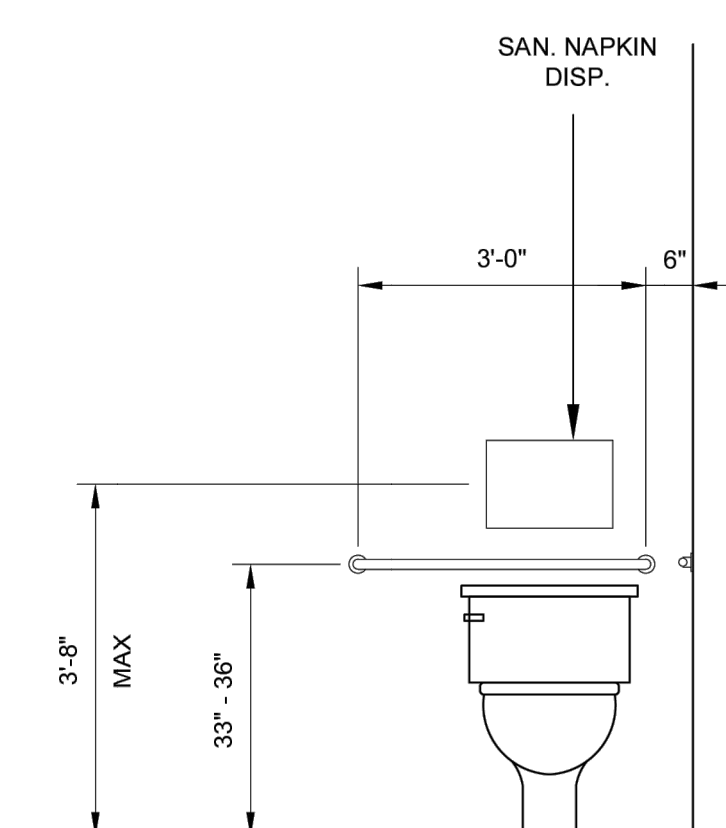
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B



NOTE: DIMENSIONS ARE TO TOP OF TOILET SEAT.



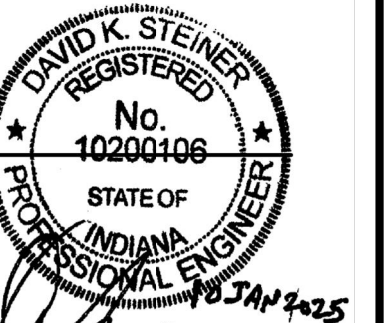
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TYPICAL MOUNTING HEIGHTS

NOT TO SCALE



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NEW WATER
TREATMENT PLANT
FACILITY INTERIOR
DETAILS

Drawing No:
A1-07
Sheet: 51 OF 75

DESIGN DATA

- 1. SOILS
ALLOWABLE NET BEARING PRESSURES (ASSUMED): 2,000 PSF
MODULUS OF SUBGRADE REACTION (Kg): 75 PCI
LATERAL PRESSURE DESIGN:
UNIT WEIGHT OF EARTH: 125 PCF
AT REST PRESSURE COEFFICIENT, Ka: 0.50
UNSATURATED EQUIPMENT FLUID PRESSURE: 63 PCF/SF
SATURATED EQUIPMENT FLUID PRESSURE: 94 PCF/SF

- 2. CONCRETE COMPRESSIVE STRENGTH SEE CONCRETE SCHEDULE

- 3. REINFORCING STEEL
WIDE FLANGE (W) SHAPES: ASTM A572 GR50 OR ASTM A992
NON WIDE FLANGE (N) SHAPES: ASTM A572 GR50 OR ASTM A992
HOLLOW STRUCTURAL SECTIONS (TUBING): A500, FY=48KSI
PLATE, BAR, ANGLE, AND CONN. MATL.: A36
ALUMINUM SHAPES & PLATES: ALLOY 6061-T6
CONNECTION BOLTS: 3/4" DIAMETER, A325N BEARING TYPE
WITH STD. 13/16" DIAMETER HOLES UNO
USE A316 SS BOLTS AT ALUMINUM STRUCTURES

- WELDED WIRE FABRIC: ASTM A-185
OTHERWISE: A615, GRADE 60

- 4. STRUCTURAL METALS
ANCHOR ROD: ASTM F1554 GRADE 36 UNO
WELDING RODS: AWS E70XX UNO

- 5. DESIGN LOADS
EQUIPMENT OPERATING LOAD:
DUALATOR TANK: 220 KIIPS
LIVE LOADS:
PROCESS AREA: 100 PSF

- SNOWDRIFT CONSIDERATIONS
GROUND SNOW LOAD (PG): 25 PSF
IMPORTANCE FACTOR: 1.10

- WIND LOADS:
BASIC WIND SPEED (3-SECOND GUST): 120 MPH
EXPOSURE CATEGORY: B
RISK CATEGORY: III
IMPORTANCE FACTOR: 1.00

- SEISMIC LOADS:
5% DAMPED SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (SS): 0.099G
5% DAMPED 1 SECOND PERIOD SPECTRAL RESPONSE ACCELERATION (S1): 0.059G
SEISMIC DESIGN CATEGORY: B
SITE CLASSIFICATION: D
SEISMIC USE GROUP: III
IMPORTANCE FACTOR: 1.25

GENERAL

THE STRUCTURE HAS BEEN DESIGNED FOR IN-SERVICE LOADS ONLY. THE MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE SAFE WORKING CONDITIONS AND MAINTAIN THE INTEGRITY OF THE STRUCTURE DURING ALL STAGES OF CONSTRUCTION.

EXISTING CONSTRUCTION

- 1. VERIFY ALL EXISTING ELEVATIONS AND CONDITIONS BEFORE PROCEEDING WITH NEW CONSTRUCTION. DEVELOP AND PROVIDE PHOTOGRAPHIC RECORD. NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK IN THE AREA UNDER QUESTION.
2. MONITOR THE EXISTING STRUCTURE(S) ADJACENT TO THE WORK FOR SETTLEMENT OR SIGNS OF DISTRESS.

COORDINATION WITH OTHER TRADES

- 1. THE GENERAL CONTRACTOR SHALL COORDINATE AND CHECK ALL DIMENSIONS RELATING TO ARCHITECTURAL FINISHES, MECHANICAL OPENINGS, EQUIPMENT, ETC. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK IN THE AREA UNDER QUESTION.
2. UNDER NO CIRCUMSTANCES SHALL ANY EQUIPMENT OR OTHER LOADS (SUCH AS PIPING, FIRE PROTECTION, CONDUIT, ETC.) BE SUPPORTED BY FLOOR OR ROOF DECKING BY ANY MEANS (SUCH AS DRILLED INSERTS, POWDER ACTUATED FASTENERS, SCREWS, WELDING, ETC.) WITHOUT THE EXPRESS WRITTEN CONSENT OF THE STRUCTURAL ENGINEER OF RECORD.
3. PROVIDE SUPPORT FOR ALL EQUIPMENT OR OTHER LOADS (SUCH AS PIPING, CONDUIT, ETC.) SUPPORTED FROM THE FRAMING (INCLUDING ANY NOT SHOWN ON THE STRUCTURAL DRAWINGS). PROVIDE PROPOSED SUPPORT FRAMING AND LAYOUT FOR REVIEW A MINIMUM OF TWO WEEKS PRIOR TO INSTALLATION.
4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY INCIDENTAL EQUIPMENT OR OTHER LOADS TO BE SUPPORTED BY THE STRUCTURE, NOT SHOWN ON THE STRUCTURAL CONSTRUCTION DOCUMENTS, WHOSE WEIGHT IS GREATER THAN 100 POUNDS.
5. THE CONTRACTOR SHALL VERIFY THAT ALL EQUIPMENT OR OTHER LOADS SUPPORTED BY THE FRAMING IS CAPABLE OF SPANNING THE DISTANCE BETWEEN THE FRAMING SUPPORTS PROVIDED BY THE STRUCTURAL CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND PROVIDE ADDITIONAL SUPPORT FRAMING AS REQUIRED.
6. THERE SHALL BE NO VERTICAL OR HORIZONTAL SLEEVES SET, OR HOLES CUT OR DRILLED IN ANY JOIST, BEAM OR COLUMN, UNLESS IT IS SHOWN ON THE STRUCTURAL CONSTRUCTION DOCUMENTS OR APPROVED BY THE ENGINEER IN WRITING.
7. OPENING THROUGH CONCRETE SLABS AND WALLS LARGER THAN 8 INCHES IN DIAMETER, NOT SHOWN ON THE STRUCTURAL DRAWINGS, MUST BE APPROVED BY THE ENGINEER. ALL OPENINGS 8 INCHES IN DIAMETER OR LESS SHALL HAVE AT LEAST 2'-0" CLEAR BETWEEN OPENINGS, UNLESS APPROVED BY THE ENGINEER. PROVIDE REINFORCING AT OPENING AS INDICATED BY THE "TYPICAL OPENING IN CONCRETE WALLS" DETAIL.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND INSTALLING EQUIPMENT ANCHOR BOLTS TO EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE AS REQUIRED SO AS TO NOT CUT OR OTHERWISE DAMAGE REINFORCING STEEL.

FOUNDATIONS

- 1. FOUNDATION EXCAVATIONS AND SOIL RELATED WORK SHALL BE PERFORMED WITH REFERENCE TO THE GEOTECHNICAL PROJECT NUMBER 21IN0255, PREPARED BY ALT & WITZIG ENGINEERING, INC., DATED AUGUST 16, 2021, AND SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER.
2. A TESTING AGENCY SHALL BE PRESENT IN ACCORD WITH DIVISION ONE OF THE PROJECT MANUAL, AND SHALL VERIFY THAT THE SOIL BEARING CAPACITY AND COMPACTION IS ACCEPTABLE IN ACCORD WITH THE SPECIFICATIONS. PROVIDE COPIES OF ALL REPORTS, VERIFICATIONS AND RECOMMENDATIONS TO THE STRUCTURAL ENGINEER.
3. PREPARE ALL AREAS OF THE SITE BY REMOVING UNSUITABLE MATERIALS, SUCH AS TOPSOIL, LOOSE FILL, ORGANICS, OR FROZEN, WET, SOFT OR LOOSE SOILS IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND SOILS REPORT.
4. FOUNDATION EXCAVATIONS SHALL BE MADE TO PLAN EXCAVATIONS. PROFFROLL THE EXPOSED SUB GRADE WITH A MEDIUM-WEIGHT ROLLER TO DETERMINE IF ANY POCKETS OF SOFT, UNSUITABLE MATERIAL EXIST BENEATH THE EXPOSED SUB GRADE. THE SOIL CONDITIONS BENEATH FOUNDATIONS SHALL THEN BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER. IF UNSUITABLE MATERIAL IS ENCOUNTERED, REESTABLISH THE BEARING ELEVATION OF THE FOOTING BY LOCALIZED UNDERCUTTING AND FILLING WITH SUITABLE COMPACTED ENGINEERED FILL OR CONCRETE AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. FOOTINGS NOT SUPPORTED BY ENGINEERED FILL SHOULD BEAR ON FIRM, UNDISTURBED MATERIAL. EXCAVATIONS FOR FOOTINGS SHALL BE CLEANED AND HAND TAMPED TO A UNIFORM SURFACE.
5. PLACE ALL GRANULAR FILL MATERIAL IN LAYERS NOT EXCEEDING 6 INCHES IN LOOSE THICKNESS. COMPACT ALL GRANULAR FILL BENEATH SLABS ON GRADE AND FOOTINGS TO 95 PERCENT MODIFIED MAXIMUM DRY DENSITY, ASTM D1557. COMPACT ALL BACKFILL NOT SUPPORTING SLABS, PAVEMENT OR FOOTINGS TO 90 PERCENT MODIFIED MAXIMUM DRY DENSITY, ASTM D1557. MATERIAL, PLACEMENT, AND COMPACTION USED TO FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER AND OVERSEEN BY THE TESTING AGENCY.
6. EXTERIOR FOOTINGS SHALL BEAR A MINIMUM OF 3'-0" BELOW FINISH GRADE.
7. PLACE FOOTINGS THE SAME DAY EXCAVATIONS ARE OPENED. IF THIS IS NOT POSSIBLE, ADEQUATELY PROTECT THE EXPOSED MATERIAL IN THE BASES OF THE FOOTING EXCAVATIONS FROM ANY DETRIMENTAL CHANGE IN CONDITION, SUCH AS DISTURBANCE, DRYING, RAIN OR FREEZING. SURFACE RUNOFF SHALL NOT BE ALLOWED TO ENTER THE EXCAVATIONS. JUST PRIOR TO CONCRETE PLACEMENT, SPRINKLE SURFACE OF FILL TO PROVIDE A SATURATED SURFACE DRY CONDITION.
8. PLACE ALL FOOTINGS IN WOOD FORMS.
9. PLACE SLABS ON GRADE ON MIN. 6 INCHES OF PROPERLY COMPACTED, FREE DRAINING GRANULAR MATERIAL APPROVED BY THE TESTING AGENCY, U.N.O.
10. ALL CONCRETE WALLS RETAINING EARTH (AND ASSOCIATED TOP AND BOTTOM SUPPORTING SLABS) MUST ATTAIN 90 PERCENT OF THE REQUIRED 28 DAY COMPRESSIVE STRENGTH BEFORE BACKFILLING OPERATIONS BEGIN.
11. ALL BACKFILL PLACED AGAINST CONCRETE WALLS SHALL BE A WELL GRADED, FREE DRAINING GRANULAR MATERIAL, APPROVED BY THE GEOTECHNICAL ENGINEER, AND BE PLACED AS INDICATED ON THE STRUCTURAL DRAWINGS.
12. ENGINEERED FILL SHALL BE CLEAN, WELL GRADED AND FREE DRAINING IN ITS COMPACTED STATE. THE MATERIAL SHALL CONFORM TO THE GRADATION REQUIREMENTS OF "B" BORROW SIZE LISTED IN THE INDOT STANDARD SPECIFICATIONS.
13. GRANULAR FILL MATERIAL SHALL BE A "PIT RUN GRAVEL" AS IT OCCURS IN THE NATURAL STATE WITH NO LUMPS OF CLAY OR ROCKS LARGER THAN 2 INCHES IN DIAMETER. IT MUST CONFORM TO THE FOLLOWING GRADATIONS: 10 TO 40 PERCENT SAND, 40 TO 80 PERCENT GRAVEL, AND 0 TO 15 PERCENT CLAY. OBTAIN FROM BORROW PIT APPROVED BY THE OWNER AND THE GEOTECHNICAL ENGINEER.
14. FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION, WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT, SHALL BE REPORTED TO THE STRUCTURAL ENGINEER, AND THE GEOTECHNICAL ENGINEER BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.
15. ALL SHEET PILING AND EXCAVATION SHORING SHALL BE DESIGNED BY AND PERFORMED UNDER SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF INDIANA AND IN ACCORD WITH THE CONSTRUCTION DOCUMENTS AND GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

CONCRETE

- 1. THE MIXING, HANDLING, PLACING AND CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH THE ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318, EDITION AS REFERENCED BY THE CURRENT BUILDING CODE).
2. ALL CONCRETE WORK AND MATERIALS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301, ACI 318 AND ACI 308. DO NOT PLACE DURING RAIN, SLEET OR SNOW WITHOUT ADEQUATE PROTECTION.
3. WHERE REINFORCING IS INTERRUPTED BY OPENINGS, ONE HALF OF THE INTERRUPTED STEEL SHALL BE ADDED EACH SIDE OF OPENING, IN ADDITION TO REINFORCING SHOWN AT OPENINGS ON THE DRAWINGS.
4. SUBMIT A MIX DESIGN FOR EACH CLASS OF CONCRETE SPECIFIED.
5. PROVIDE 1/4 INCH CHAMFERS ON ALL EXPOSED CORNERS OF CONCRETE EXCEPT THOSE ABUTTING MASONRY, U.N.O.
6. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED, EXCEPT SLABS WITH A HARD TOWELED FINISH.
7. SEE SECTION 03300, CAST-IN-PLACE CONCRETE, OF THE PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.

Table with 5 columns: CONCRETE CLASS, COMPRESSIVE STRENGTH, AIR CONTENT, CONCRETE PLACEMENT, REMARKS. Row 1: B1, 5000 PSI, 0%, STRUCTURAL CONCRETE, INTERIOR MAT & SLABS ON GROUND, HIGH-RANGE WATER-REDUCING ADMIXTURE REQUIRED. FOR ALL CONCRETE WITHIN THE BACKWASH TANK, CONCRETE DENSIFICATION/ PERMIABILITY REDUCING ADMIXTURE REQUIRED.

REINFORCING STEEL

- 1. ALL REINFORCING STEEL BENDS, HOOKS, LAP SPLICES AND MINIMUM CONCRETE COVER SHALL CONFORM TO THE ACI "BUILDING CODE REQUIREMENTS AND REINFORCED CONCRETE" (ACI 318, EDITION AS REFERENCED BY THE CURRENT BUILDING CODE), UNLESS OTHERWISE INDICATED.
2. SLAB BOLSTERS, HIGH CHAIRS, BEAM BOLSTERS AND ALL OTHER ACCESSORIES IN CONTACT WITH THE FORMS FOR EXPOSED CONCRETE, BOTH INTERIOR AND EXTERIOR, SHALL BE PLASTIC TIPPED. SUCH ACCESSORIES SHALL HAVE TURNED-UP LEGS.
3. ALL REINFORCED STEEL SHALL BE SUPPORTED AND SECURED AGAINST DISPLACEMENT IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTES "MANUAL OF STANDARD PRACTICE", LATEST EDITION. OVERHANGING TAILS SHALL BE SUPPORTED POSITIVELY. USE ONLY #5 BARS WITH INDIVIDUAL HIGH CHAIRS FOR SUPPORT OF TOP SLAB BARS. EACH SUPPORT, OF PROPER LENGTH, MAY REPLACE A TEMPERATURE BAR IN THE PARALLEL DIRECTION. SHOW SLAB BAR SUPPORTS ON SHOP DRAWINGS.
4. DETAILS OF FABRICATION AND PLACING OF REINFORCEMENT, NOT SHOWN ON THESE PLANS, SHALL FOLLOW THE CURRENT ISSUE OF THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION, AS ADOPTED BY THE AMERICAN CONCRETE INSTITUTE. ANCHOR ALL TOP BARS EITHER BY STANDARD EMBEDMENT OR BY 90-DEGREE HOOKS, UNLESS OTHERWISE INDICATED.
5. ALL CONCRETE REINFORCEMENT MATERIALS SHALL BE NEW, FREE FROM RUST AND ANY SUBSTANCE THAT WOULD PREVENT BONDING OF THE CONCRETE TO THE STEEL, AND COMPLY WITH THE FOLLOWING REFERENCE STANDARDS:
ALL REINFORCING BARS (EXCEPT AS NOTED BELOW) ASTM A-615 GRADE 60
STIRRUPS AND COLUMN TIE BARS: ASTM A-615 GRADE 60
WIRE REINFORCEMENT: ASTM A-82
WELDED WIRE FABRIC: ASTM A-185
6. THE SHOP DRAWINGS FOR REINFORCING STEEL SHALL INCLUDE 1/2" SCALE ELEVATIONS OF ALL CONCRETE WALLS AND BEAMS AND ALL SECTIONS REQUIRED TO MAKE CLEAR THE LOCATION OF THE REINFORCING STEEL. ALL DETAILS OF REINFORCING STEEL FABRICATION AND PLACEMENT SHALL CONFORM TO ACI "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" (ACI 315), LATEST EDITION, AND "MANUAL OF ENGINEERING AND PLACING DRAWINGS FOR REINFORCED CONCRETE STRUCTURES" (ACI 315R), LATEST EDITION, UNLESS OTHERWISE INDICATED.
7. CONCRETE REINFORCING SHALL HAVE THE FOLLOWING PROTECTION:
CONCRETE PLACED AGAINST EARTH 3"
CONCRETE PLACED IN FORMS BUT EXPOSED TO FLUIDS, WEATHER OR IN CONTACT WITH THE GROUND:
FOOTINGS 2" (#5 BARS AND SMALLER)
WALL 2 1/2" (#6 BARS AND LARGER)
ALL OTHER CONCRETE PLACEMENTS 2"
8. SET DOWELS AND COLUMN OR PIER MAIN BARS, WHICH EXTEND ABOVE CONSTRUCTION JOINTS, TO WOOD POSITIONING TEMPLATES AT TOP OF INTENDED CONCRETE PLACEMENT LEVEL. BRACE AGAINST DISPLACEMENT. SETS EMBED ITEMS, SUCH AS STEEL COLUMN ANCHOR BOLTS, USING WOOD POSITIONING TEMPLATES, AND BRACE AGAINST DISPLACEMENT.
9. SPREAD REINFORCING STEEL AROUND SMALL OPENINGS AND SLEEVES IN SLABS AND WALLS WHERE POSSIBLE AND WHERE BAR SPACING WILL NOT EXCEED 1.5 TIMES THE NORMAL SPACING. DISCONTINUE BARS AT OPENINGS WHERE NECESSARY AND PROVIDE AN AREA OF REINFORCEMENT EQUAL TO THE INTERRUPTED REINFORCEMENT, IN FULL LENGTH BARS, DISTRIBUTING ONE-HALF EACH SIDE OF THE OPENING. WHERE TEMPERATURE REINFORCING IS INTERRUPTED, ADD (2) #5 X (OPENING DIMENSION + 4'-0") ON EACH FACE OF ALL SIDES OF THE OPENING. PROVIDE (2) #5 X 6" DIAGONAL BARS IN BOTH FACES AT EACH CORNER OF OPENINGS LARGER THAN 12 INCHES IN ANY DIRECTION. BEND IF REQUIRED. SEE "TYPICAL REINFORCING AT CONCRETE WALL OPENINGS" DETAIL.

MASONRY

- 1. MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CHAPTER 21 OF THE 2012 EDITION OF THE "INTERNATIONAL BUILDING CODE", AS AMENDED BY THE 2014 "INDIANA BUILDING CODE" AND ACI 530-11 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", AND ACI 530.1-11 "SPECIFICATION FOR MASONRY STRUCTURES."
2. MINIMUM DESIGN MASONRY PRISM STRENGTH (fm) SHALL BE 1500 PSI.
3. PLACE ALL MASONRY COURSES IN A RUNNING BOND PATTERN.
4. HOLLOW LOAD BEARING BLOCK SHALL BE ASTM C90-70 TYPE 1, GRADE N, NOMINAL FACE DIMENSIONS AS INDICATED. PROVIDE NORMAL WEIGHT UNITS.
5. MORTAR SHALL BE TYPE "M" FOR BELOW GRADE AND TYPE "M" OR "S" FOR ABOVE GRADE APPLICATIONS, CONFORMING TO ASTM C270. MORTAR PROPORTIONING SHALL CONFORM TO TABLE NO. SC-1 ON PG. S-32 OF ACI 530.1-11.
6. GROUT PROPORTIONS SHALL CONFORM TO TABLE NO. SC-7 ON PG. S-48 OF ACI 530.1-11. PLACEMENT OF GROUT SHALL CONFORM TO TABLE NO. 7 ON PG. S-66 OF ACI 530.1-11.
7. HORIZONTAL JOINT REINFORCEMENT SHALL BE PLACED AT EVERY OTHER COURSE, EXCEPT AT PARAPETS, WHERE PLACEMENT SHALL OCCUR AT EVERY COURSE. USE "STANDARD DUR-O-WALL TRUSS" TYPE REINFORCEMENT (NO.9 SIDE RODS AND NO. 9 CROSS RODS OR ENGINEER'S APPROVED EQUAL).
8. ALL HORIZONTAL WALL REINFORCEMENT (JOINT AND BOND BEAM) SHALL BE INTERRUPTED AT ALL VERTICAL CONTROL JOINTS.
9. CONSTRUCT ALL INTERSECTING WALLS INTEGRAL WITH INTERSECTED WALL.
10. FILL CORES OF CONCRETE BLOCKS SOLID A MINIMUM OF 2 COURSES BELOW BEAMS BEARING ON THE MASONRY WALL.
11. ENGINEERED MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530).
12. UNLESS OTHERWISE NOTED, MASONRY CORES (WHERE SPECIFIED ON DRAWINGS) AND BOND BEAMS SHALL BE FILLED WITH MASONRY FILL OR GROUT.
13. BEARING FOR BEAMS, LINTELS, JOISTS, ETC. SHALL BE BOND BEAMS OR HOLLOW MASONRY UNITS WITH CORES FILLED SOLID WITH CONCRETE OR GROUT. SEE DRAWINGS FOR MINIMUM BEARING REQUIREMENTS.

MISCELLANEOUS METALS

- 1. WORK IN THIS SECTION INCLUDES STEEL OR ALUMINUM BAR GRATING OR FLAT PLANK COVERS, STAIRS, RAILINGS, PIPE GUARD POSTS AND ACCESSORIES NEEDED TO COMPLETE THE INSTALLATION.
2. ALL WORK IN THIS SECTION SHALL COMPLY WITH THE ADMINISTRATIVE BUILDING COUNCIL OF INDIANA CONSTRUCTION RULES AND REGULATIONS, THE AISC "SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", THE AISC "CODE OF STANDARD PRACTICE FOR BUILDINGS AND BRIDGES", THE AMERICAN IRON AND STEEL INSTITUTES "SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", AND THE ALUMINUM ASSOCIATION, INC. "SPECIFICATIONS FOR ALUMINUM STRUCTURES - ALUMINUM DESIGN MANUAL", EDITIONS AS REFERENCED BY THE CURRENT BUILDING CODE. IN THE ABSENCE OF A BUILDING CODE REFERENCE, USE THE LATEST EDITION.
3. MATERIALS:
STEEL SHAPES, BARS AND PLATES: ASTM A36
ANCHOR BOLTS: SECTIONS 1, 3 OF ASTM A307
STEEL PIPE: ASTM A53-80, GRADE B
ALUMINUM SHAPES: 6061-T6 ALLOY
OPEN ALUMINUM GRATING: 1 1/2 INCH X 5/16 INCH BEARING BAR AT 1-3/16" C-C (19-W-4) UNO.
(1) WELD ("ELECTRO-FORGE") SPIRAL SQUARE CROSS BARS INTO BEARING BARS. DO NOT NOTCH.
(2) BAND EDGES.
GRATING CLIPS: SADDLE CLIP FASTENER WITH S.S. BOLT, NUT, AND WASHER.
4. BOLTED CONNECTIONS SHALL BE BEARING-TYPE CONNECTIONS, USING 3/4 INCH DIAMETER A325 BOLTS WITH STANDARD, 13/16 INCH DIAMETER HOLES, UNLESS OTHERWISE DETAILED ON THE STRUCTURAL DRAWINGS. USE A316 SS BOLTS WHERE IN CONTACT WITH ALUMINUM.
5. BURNING OF HOLES IN MISCELLANEOUS METALS SHALL NOT BE ALLOWED.
6. SHOP PAINT METALS EXCEPT STEEL ENCASED IN CONCRETE, STAINLESS STEEL, ALUMINUM AND GALVANIZED STEEL. ALL STEEL TO BE SHOP PAINTED SHALL RECEIVE SURFACE PREPARATION AND ONE SHOP COAT OF PRIMER, THE DRY FILM THICKNESS SHALL NOT BE LESS THAN 2.0 MILS. APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SEE SECTIONS "05500, MISCELLANEOUS STEEL, STEEL SHOP PAINTING REQUIREMENTS", AND "09980" OF THE PROJECT MANUAL FOR ADDITIONAL PAINT REQUIREMENTS. PROVIDE CATHODIC BARRIER FOR ALUMINUM SHAPES WHERE PLACED AGAINST DISSIMILAR MATERIALS.
7. THE ERECTOR SHALL SPOT PAINT, IN THE FIELD, ALL ABRASIONS TO THE SHOP COAT, BOLTS, AND FIELD WELDS USING THE SAME AS PRIMER AND FINISH COAT.
8. WELDING, BOTH SHOP AND FIELD, SHALL BE ACCOMPLISHED BY WELDERS CERTIFIED FOR THE WELD TYPES AND POSITIONS INVOLVED, ACCORDING TO AWS D1.1, LATEST EDITION. USE ONLY SHIELDED ARC ELECTRODES OF STRUCTURAL TYPE. USE E-70 ELECTRODES. FOR STEEL, AS REQUIRED, TO MATCH ALUMINUM ALLOY FOR ALUMINUM.

NON-SHRINK GROUT

- 1. GROUT SHALL BE A PREMIXED, NON-METALLIC, SHRINKAGE RESISTANT (WHEN TESTED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM C827 OR CRD-C621), NON-CORROSIVE, NON-STAINING PRODUCT CONTAINING PORTLAND CEMENT, SILICA SANDS, SHRINKAGE COMPENSATING AGENTS, AND WATER-REDUCING AND PLASTICIZING ADDITIVES. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (FC) OF 7,000 PSI AT 28 DAYS.
2. GROUT COMPRESSIVE STRENGTH TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM C109.

PREFABRICATED WOOD TRUSSES

- 1. TRUSSES SHALL BE DESIGNED TO BE ABLE TO TRANSFER A ROLLOVER FORCE OF 300 LBS AT THE TRUSS BEARING LOCATIONS AND A HORIZONTAL, OUT OF PLANE BOTTOM CHORD FORCE OF 150 lbs. TRANSFERRED TO (2) ADJACENT TRUSSES, AT TOP OF INTERIOR WALL STABILIZING STRUCTURE LOCATIONS. ADDITIONAL BRACING BETWEEN TRUSSES IS AN ACCEPTABLE MEANS OF MEETING THESE REQUIREMENTS, HOWEVER SHALL BE DESIGNED AND PROVIDED BY TRUSS MFG.
2. DESIGN ALL TRUSSES FOR SELF-WEIGHT, ROOF LOADS INDICATED, AND A MINIMUM SUPERIMPOSED TOP CHORD DL OF 20 psf, BOTTOM CHORD DL OF 40 psf, AND A 200 lb POINT LOAD LOCATED AT ANY POINT ALONG THE TOP OR BOTTOM CHORD.
3. PREFABRICATED WOOD TRUSSES SHALL BE DESIGNED, DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE TIMBER CONSTRUCTION MANUAL BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC), THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION BY THE AMERICAN FOREST AND PAPER ASSOCIATED (AFPA) AND IN ACCORDANCE WITH THE NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION BY THE TRUSS PLATE INSTITUTE (TPI).
4. TEMPORARY AND PERMANENT BRACING OF WOOD TRUSSES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE TPI PUBLICATIONS BRACING OF WOODEN TRUSSES, SPECIFICATIONS FOR TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES, AND BCSI 1-03 GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING AND BRACING OF METAL PLATE CONNECTED WOOD TRUSSES.
5. TRUSSES SHALL CONFORM TO THE GEOMETRY SHOWN ON THE DRAWINGS. ALL OVERBUILD AREAS SHALL BE PART OF THE ENGINEERED TRUSS SYSTEM AND SHALL BE DESIGNED AND DETAILED ON THE TRUSS SHOP DRAWINGS.

WOOD STRUCTURAL USE PANELS

- 1. WOOD STRUCTURAL USE PANELS SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST CRITERIA ESTABLISHED BY THE AMERICAN PLYWOOD ASSOCIATION (APA) INCLUDING THE LATEST EDITION OF THE PLYWOOD DESIGN SPECIFICATION AND ITS SUPPLEMENTS.
2. WOOD STRUCTURAL USE PANELS SHALL BE IDENTIFIED WITH THE APPROPRIATE TRADEMARK OF THE APA AND SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE US PRODUCT STANDARD PS 1 FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD OR THE APA PRP-108 PERFORMANCE STANDARDS AND POLICIES FOR STRUCTURAL USE PANELS.
3. ROOF AND FLOOR PANELS SHALL BE INSTALLED WITH THE LONG DIMENSION (FACE GRAIN) ACROSS THE SUPPORTS WITH PANELS CONTINUOUS OVER 2 OR MORE SUPPORTS.
4. STAGGER PANEL END JOINTS. END JOINTS SHALL ONLY OCCUR OVER A SUPPORT. UNLESS RECOMMENDED OTHERWISE BY THE PANEL MANUFACTURER, PROVIDE A 1/8" GAP BETWEEN PANEL ENDS AND EDGES. PANEL EDGES SHALL BE TONGUE-AND-GROOVE OR SUPPORTED ON 2" NOMINAL LUMBER BLOCKING INSTALLED BETWEEN JOINTS.

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KOSCIUSKO COUNTY, INDIANA
WATER UTILITY IMPROVEMENTS PROJECT
DIVISION "A" WATER TREATMENT IMPROVEMENTS

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Table with 4 columns: No., Submitted/Revision, By, Date. Contains revision history table.

Table with 3 columns: Designed By, Drawn By, Checked By. Values: AK, JAS, DKS.

Table with 3 columns: Issue Date, Project No, Scale. Values: 1-14-2025, W24161, AS SHOWN.

NEW WATER TREATMENT PLANT FACILITY STRUCTURAL GENERAL NOTES
Drawing No: S0-01
Sheet: 53 OF 75

BAR SIZE	MIN LAP LENGTHS FOR						MIN EMBEDMENT LENGTHS				MIN STD. HOOKS		
	BEAMS AND COLUMNS*		SLABS AND WALLS **		FOR BEAMS AND COLUMNS *		FOR SLABS AND WALLS **		WITH STD HOOKS	90°			135°
	CLASS B	OTHERS	CLASS B	OTHERS	TOP***	OTHERS	TOP***	OTHERS		A OR G	A OR G	H	
#3	25	19	16	16	19	15	12	12	5	6	4	2.5	
#4	33	25	20	16	25	19	15	12	7	8	4.5	3	
#5	41	35	30	23	37	30	24	22	12	10	5.5	3.75	
#6	49	37	30	23	37	30	28	24	12	12	8	4.5	
#7	71	54	43	33	54	42	33	25	12	14	9	5.25	
#8	81	62	49	37	62	48	37	29	14	16	10.5	6	
#9	91	70	60	46	70	54	46	36	15	19	-	-	
#10	102	79	74	57	79	61	57	44	17	22	-	-	
#11	114	87	89	69	87	67	68	53	19	24	-	-	

REINFORCEMENT LAP SPlice, EMBEDMENT LENGTH AND STANDARD HOOKS TABLE IS BASED ON A MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 4000 PSI AND UNCOATED REINFORCING YIELD STRENGTH OF 60000 PSI.

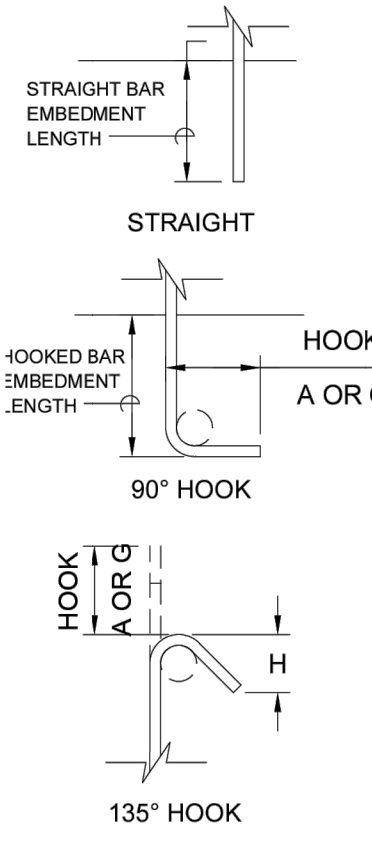
ALL LAP SPLICES SHALL BE CLASS B SPLICES.

* THE MINIMUM LAP LENGTH FOR BEAMS, COLUMNS, AND STRAIGHT EMBEDMENTS ARE BASED ON A MINIMUM 3 BAR DIAMETER CENTER TO CENTER BAR SPACING AND A MINIMUM 2 INCH BAR COVER. IF THE SPLICE AND/OR EMBEDMENT DOES NOT CONFORM TO THESE REQUIREMENTS, THEN CONTRACTOR SHALL APPLY APPROPRIATE ADJUSTMENT FACTORS IN COMPLIANCE WITH ACI 318 WITH APPROVAL BY ENGINEER.

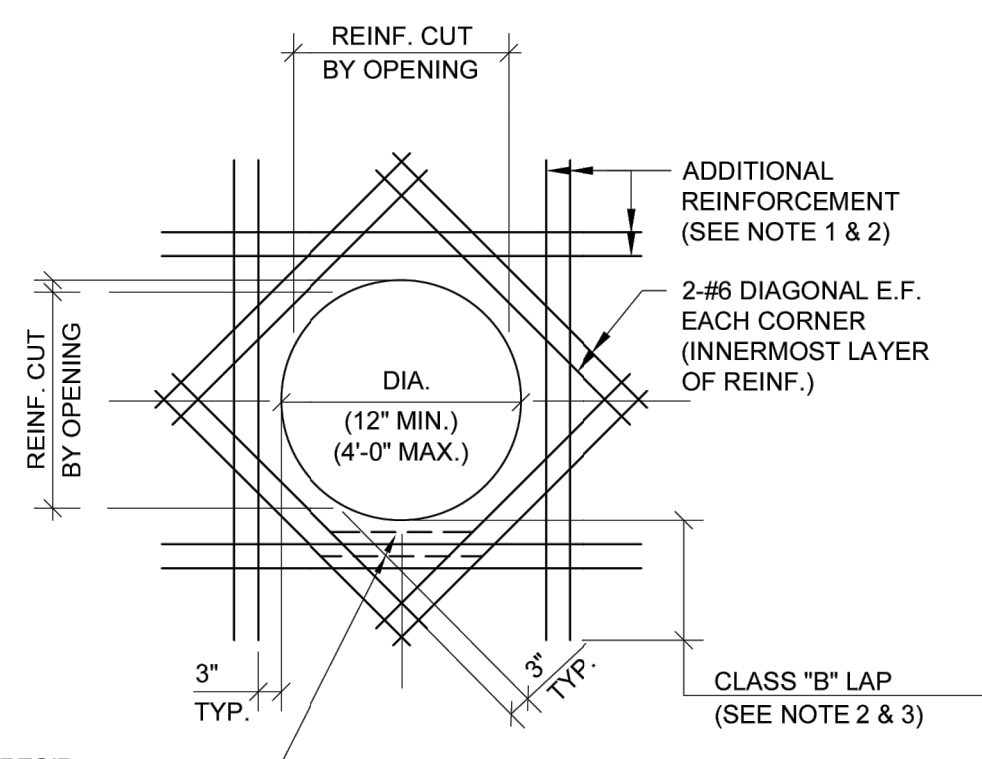
** THE MINIMUM LAP LENGTH FOR SLABS, WALLS, AND STRAIGHT EMBEDMENTS ARE BASED ON A MINIMUM 6 INCH BAR SPACING AND A MINIMUM 2 INCH BAR COVER. IF THE LAP CONDITION DOES NOT CONFORM TO THESE REQUIREMENTS, THEN USE BEAM LAP LENGTHS; OR COMPLY WITH LAP REQUIREMENTS OF ACI 318 WITH APPROVAL BY ENGINEER.

*** TOP BARS ARE DEFINED AS ALL HORIZONTAL BARS, EXCLUDING WALL BARS, WITH 12" OR MORE FRESH CONCRETE BENEATH.

WHERE SPLICES ARE REQUIRED BETWEEN BARS OF DIFFERENT SIZES, THE LAP LENGTH SHALL BE NO LESS THAN THE EMBEDMENT LENGTH OF THE LARGER BAR OR THE LAP LENGTH OF THE SMALLER BAR, WHICHEVER IS GREATER.



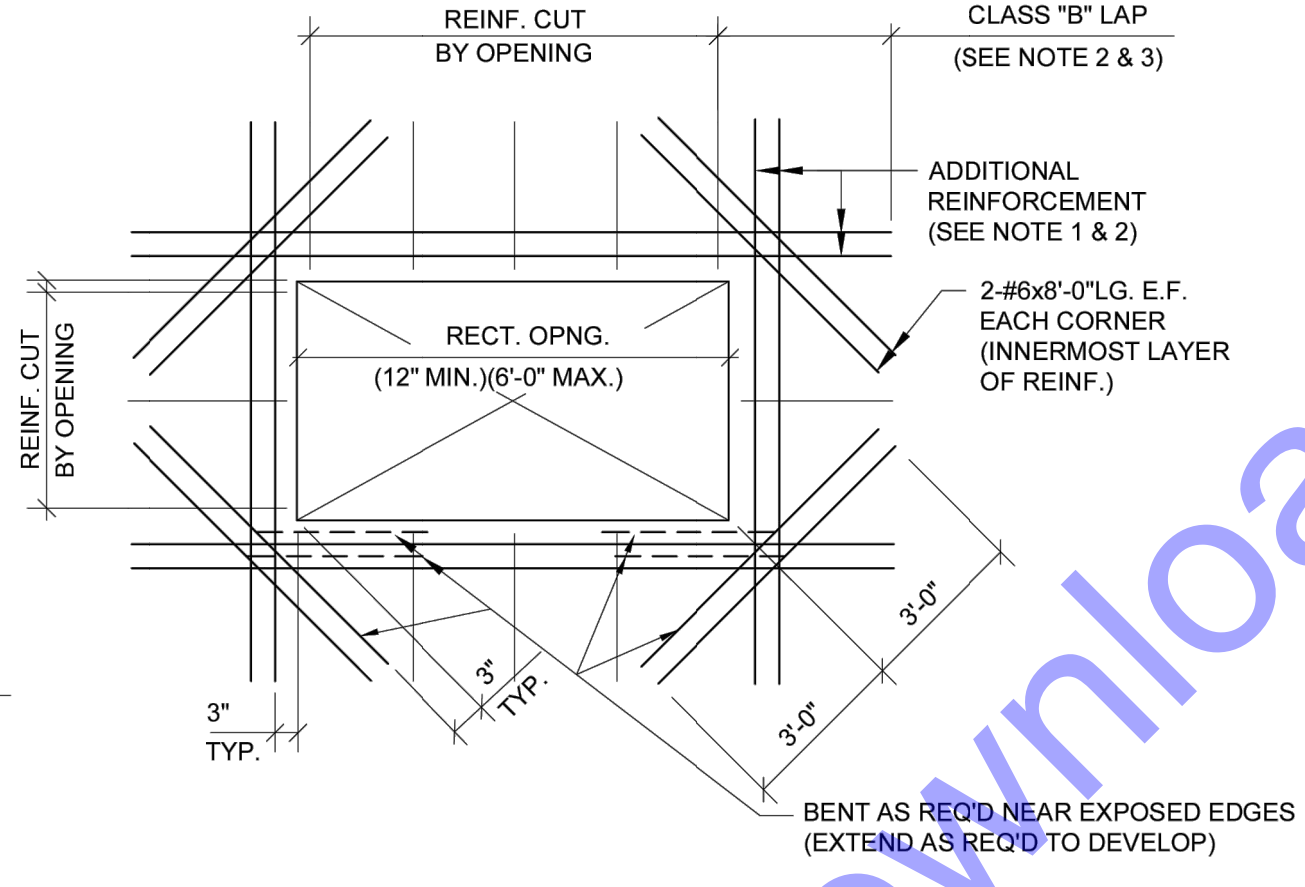
LAP SPlice AND EMBEDMENT LENGTH TABLE
NOT TO SCALE



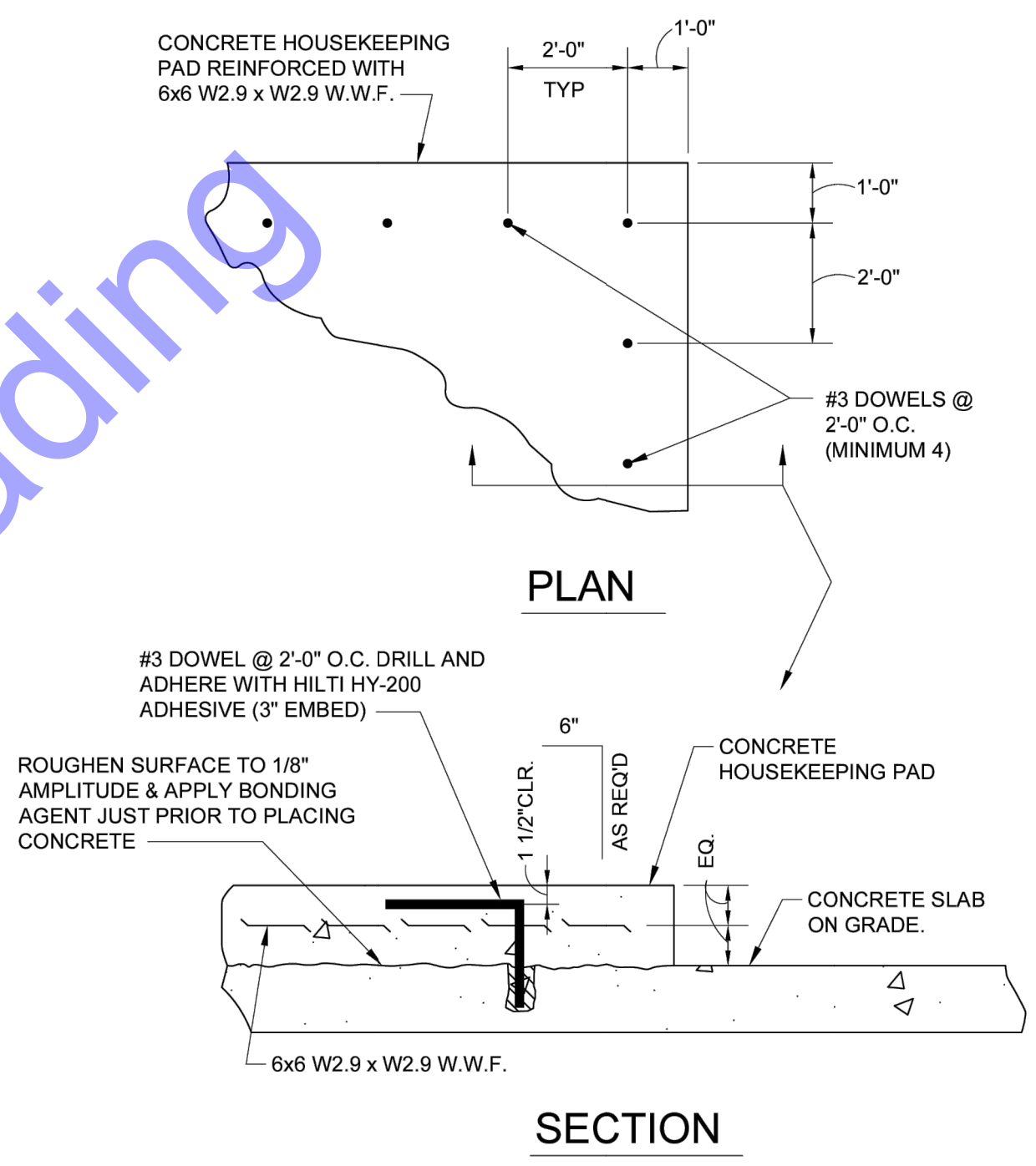
BENT AS REQ'D NEAR EXPOSED HOLES (EXTEND AS REQ'D TO DEVELOP)

- NOTES:
- PROVIDE ADDITIONAL REINFORCEMENT AT ALL OPENINGS, ACCESS HATCHES, PIPE PENETRATIONS, ETC., EQUAL IN AREA TO TYPICAL REINFORCEMENT CUT BY OPENING IN EACH DIRECTION. ADDITIONAL REINFORCEMENT TO MATCH SIZE OF TYPICAL REINFORCEMENT (MIN. 2 BARS E.S. AND E.F.) AND PLACED BETWEEN TYPICAL REINFORCEMENT @ 3" SPACING ON EACH SIDE OF OPENING.
 - PROVIDE MATCHING DOWELS WHERE REQUIRED TO PROVIDE CLASS "B" LAP WITH ADDITIONAL REINFORCEMENT. (WHERE LAPPING OF ADDITIONAL REINFORCEMENT FROM ADJACENT OPENINGS OCCUR, ADDITIONAL REINFORCEMENT SHALL BE COMBINED).
 - IF A WALL OR BEAM IS IMMEDIATELY ADJACENT TO THE OPENING, THE ADDITIONAL REINFORCEMENT ON THAT SIDE OF THE OPENING CAN BE OMITTED.

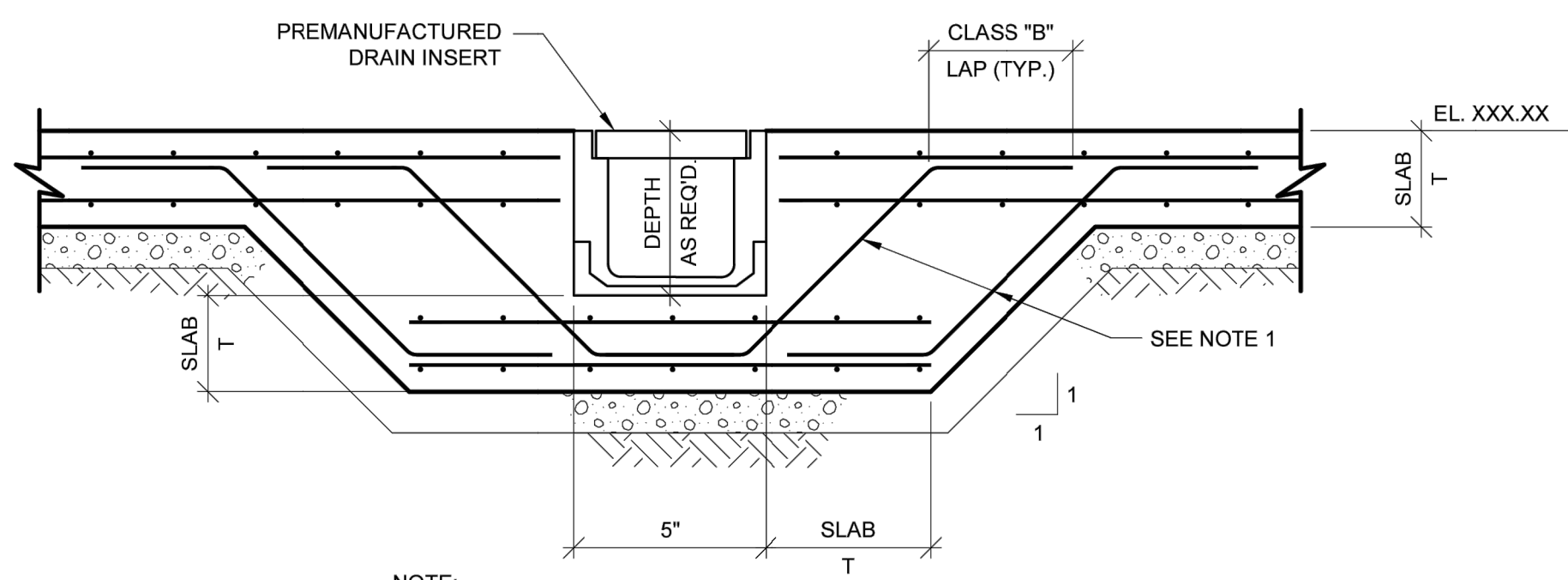
TYPICAL REINFORCING AROUND OPENING IN WALL AND SLAB
NOT TO SCALE



BENT AS REQ'D NEAR EXPOSED EDGES (EXTEND AS REQ'D TO DEVELOP)

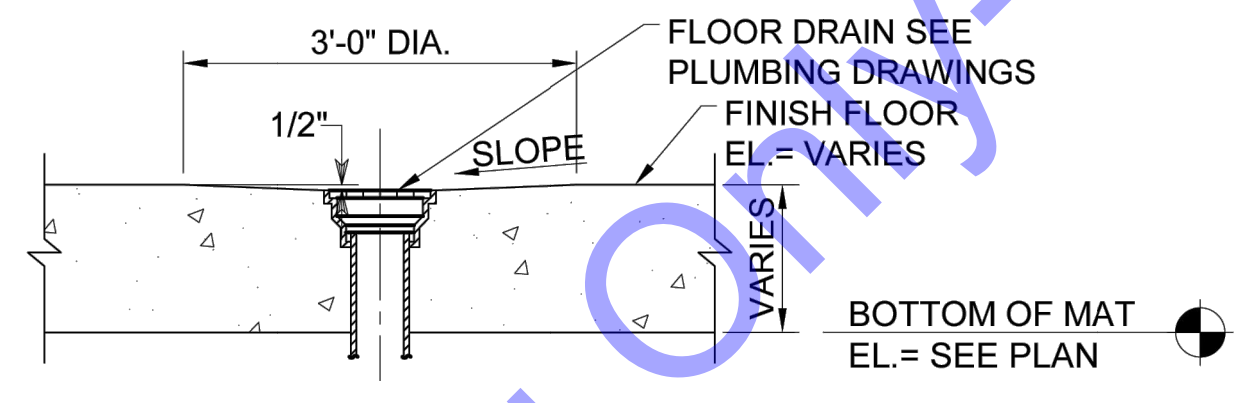


TYPICAL HOUSEKEEPING PAD DETAIL
NOT TO SCALE

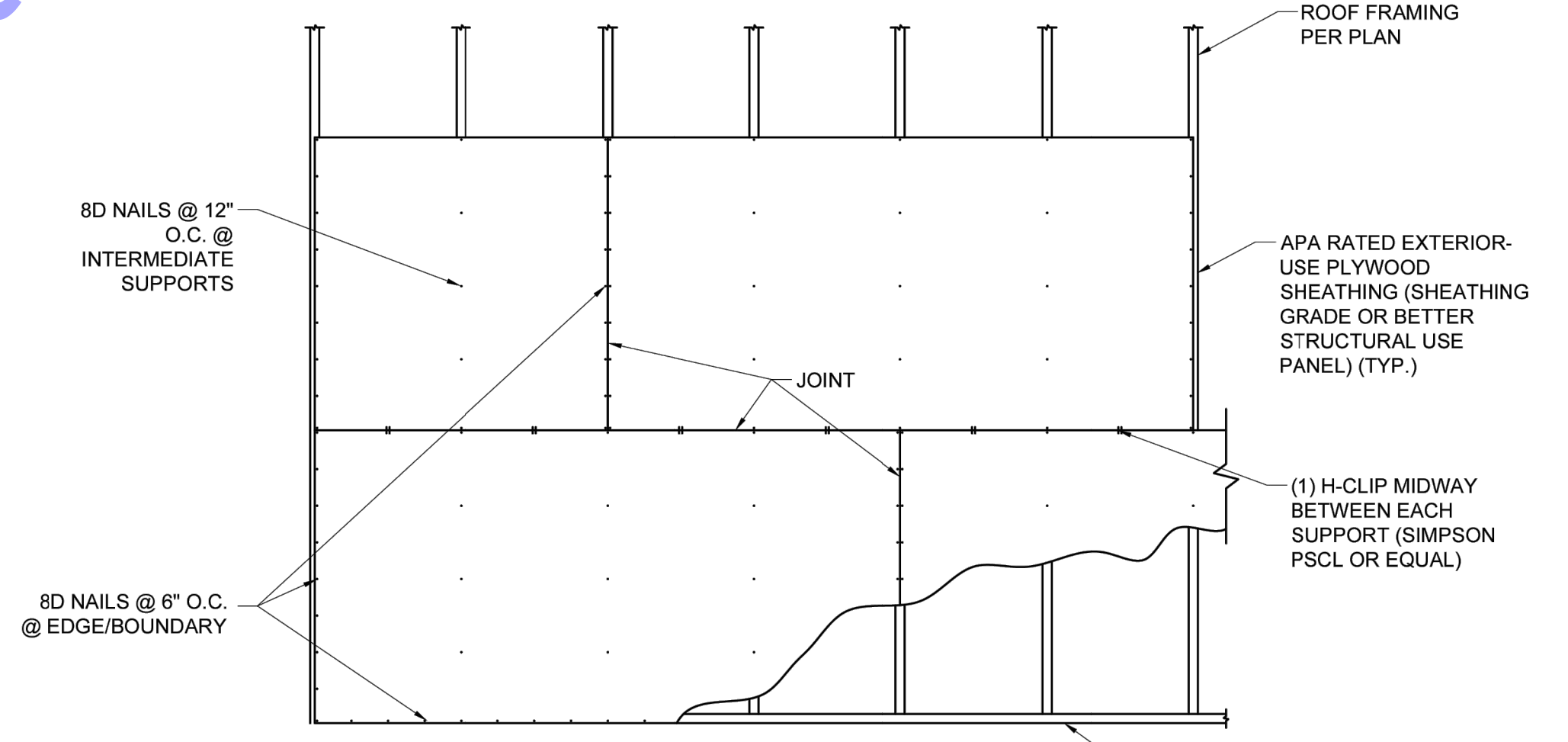


NOTE: 1. PROVIDE ADDITIONAL REINFORCEMENT TO MATCH SIZE AND SPACING OF TYPICAL REINFORCEMENT U.N.O.

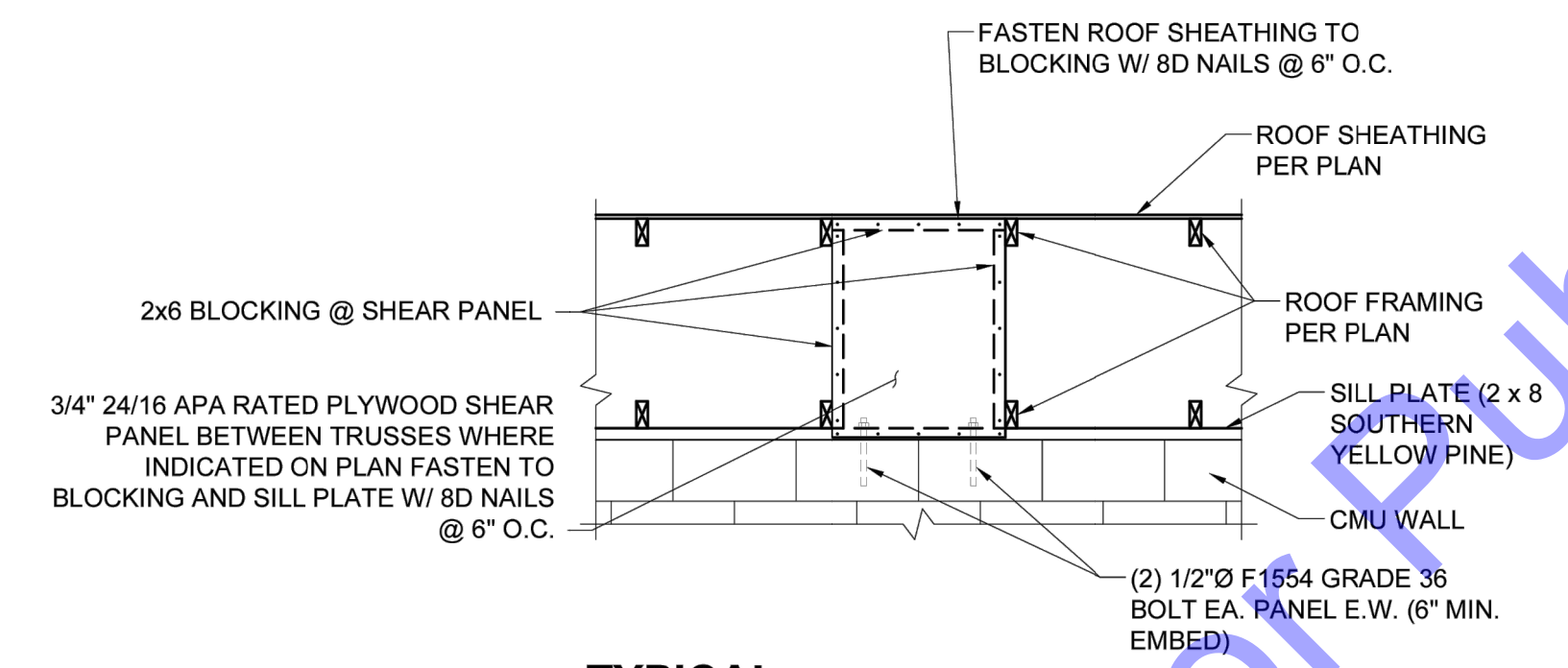
TYPICAL TRENCH DRAIN DETAIL
NOT TO SCALE



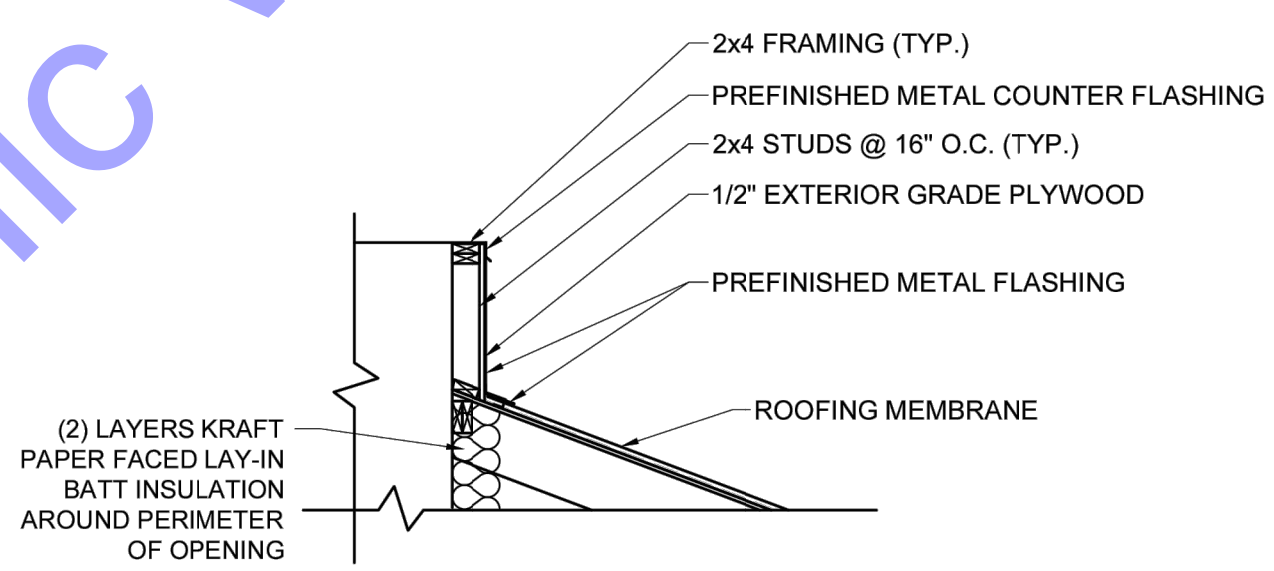
TYPICAL FLOOR DRAIN DETAIL
NOT TO SCALE



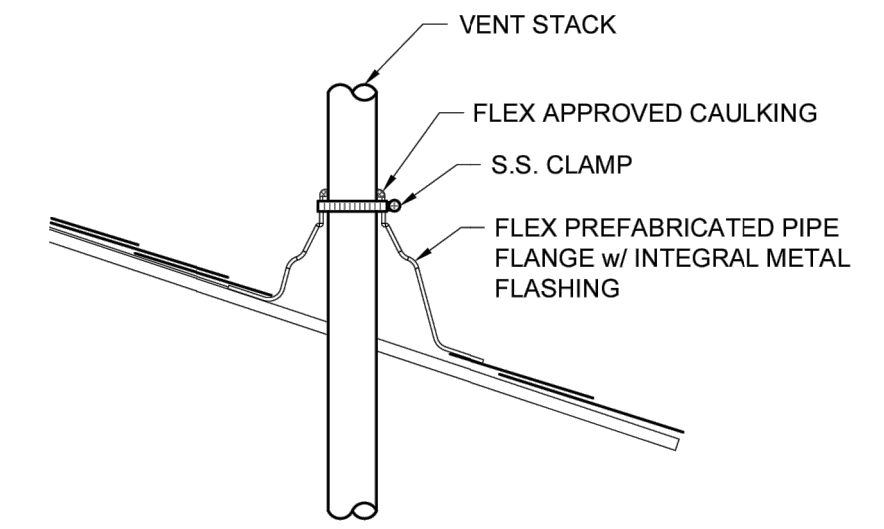
TYPICAL SHEATHING DETAIL
SCALE: 1/2"=1'-0"
NOT TO SCALE



TYPICAL SHEAR PANEL DETAIL
SCALE: 1/2"=1'-0"
NOT TO SCALE



MECHANICAL DUCT ROOF PENETRATION
SCALE: 1/2"=1'-0"
NOT TO SCALE



VENT STACK DETAIL
NOT TO SCALE

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No. 10200106
STATE OF INDIANA

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WATER UTILITY IMPROVEMENTS PROJECT

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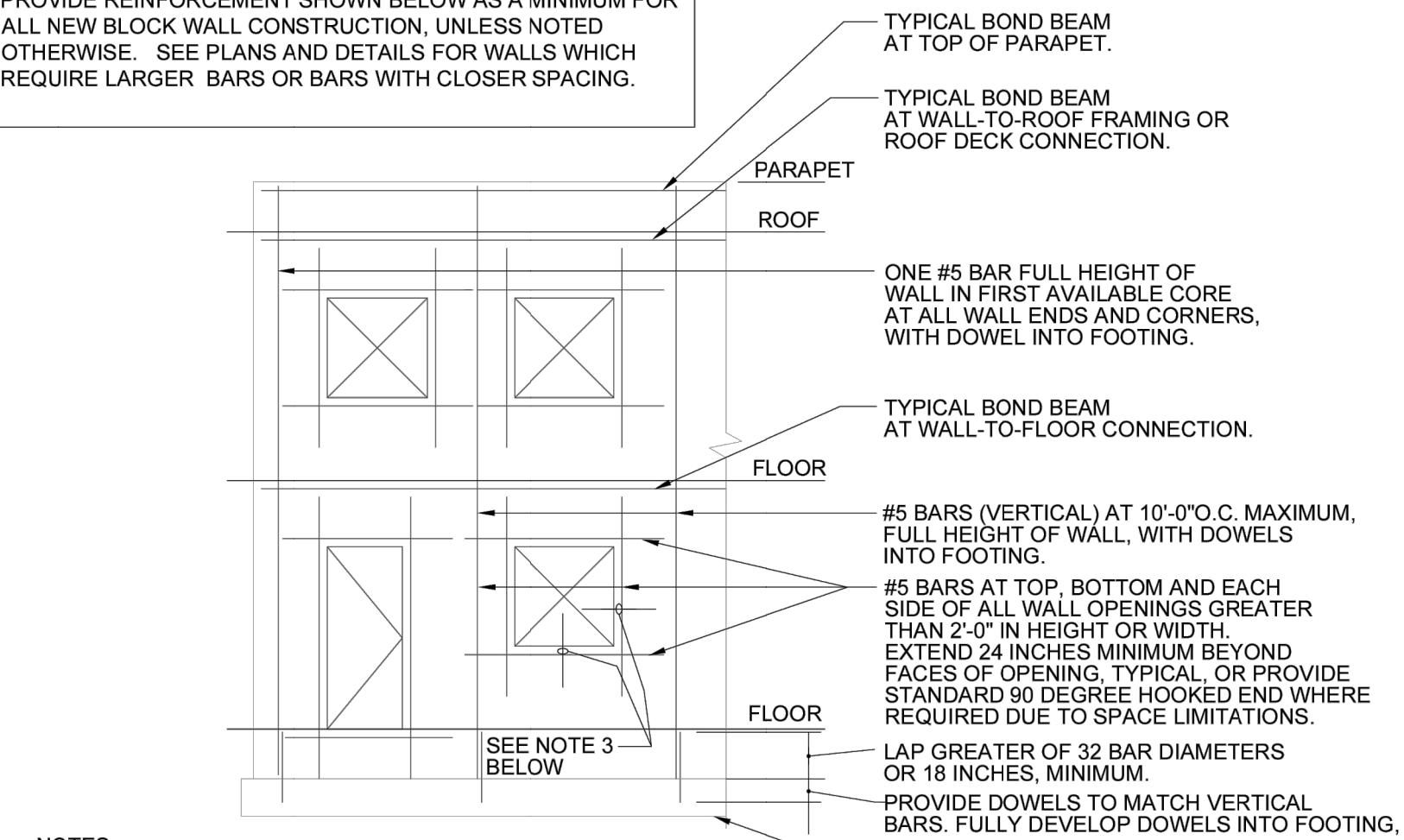
No.	
Date	
By	
Submitted / Revision	

Designed By:	Drawn By:	Checked By:
AK	JAS	DKS
Issue Date:	Project No:	Scale:
1-14-2025	W24161	AS SHOWN

NEW WATER TREATMENT PLANT FACILITY STRUCTURAL TYPICAL DETAILS

Drawing No:
S0-02
Sheet: 54 OF 75

NOTE:
PROVIDE REINFORCEMENT SHOWN BELOW AS A MINIMUM FOR ALL NEW BLOCK WALL CONSTRUCTION, UNLESS NOTED OTHERWISE. SEE PLANS AND DETAILS FOR WALLS WHICH REQUIRE LARGER BARS OR BARS WITH CLOSER SPACING.

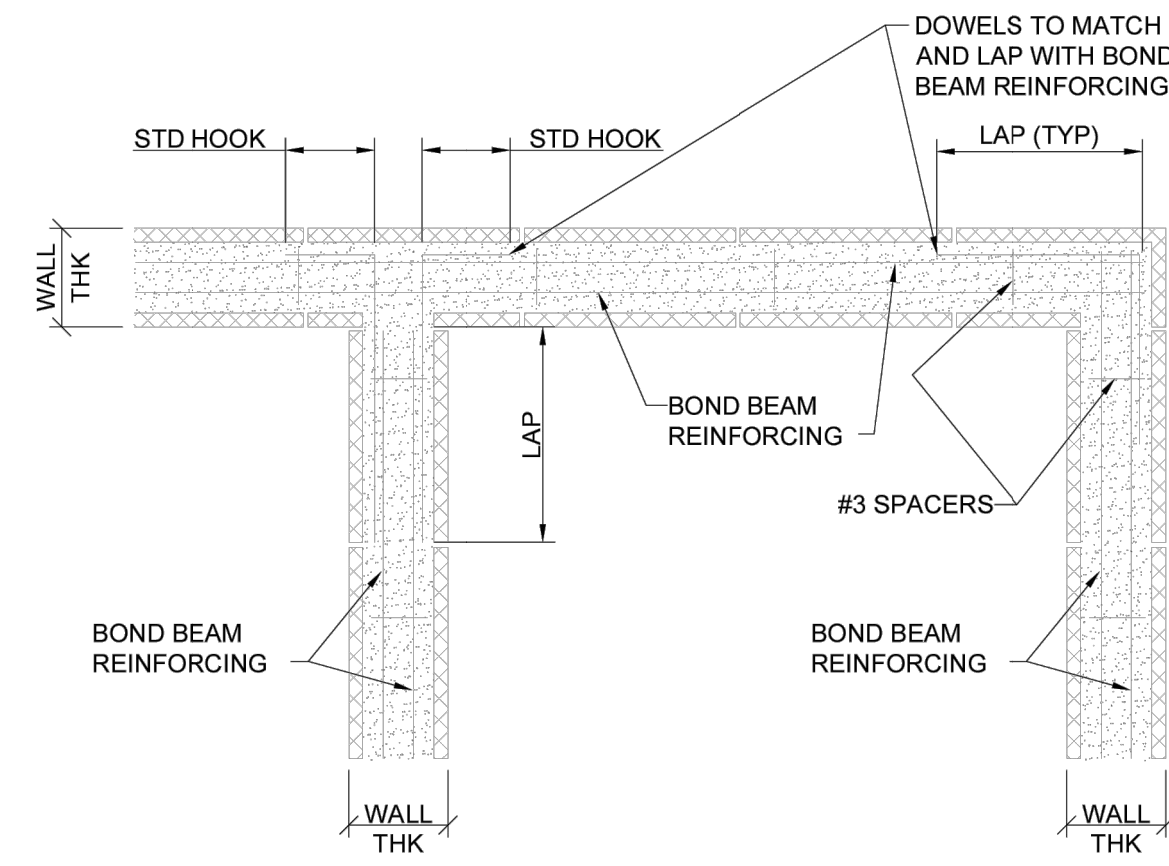


- NOTES:
1. PROVIDE HORIZONTAL JOINT REINFORCEMENT @ 16" O.C. MAXIMUM. PROVIDE STANDARD DUR-O-WAL TRUSS TYPE REINFORCEMENT WITH MINIMUM 9 GA. LONG WIRES & 9 GA. CROSS WIRES, OR ENGINEER APPROVED EQUAL.
 2. GROUT SOLID ALL BLOCK CORES WHICH CONTAIN REINFORCING BARS.
 3. PLACE BARS IN FIRST AVAILABLE CORE ADJACENT TO OPENING AT ALL FOUR SIDES.

TYPICAL BLOCK WALL MINIMUM REINFORCEMENT

NOT TO SCALE

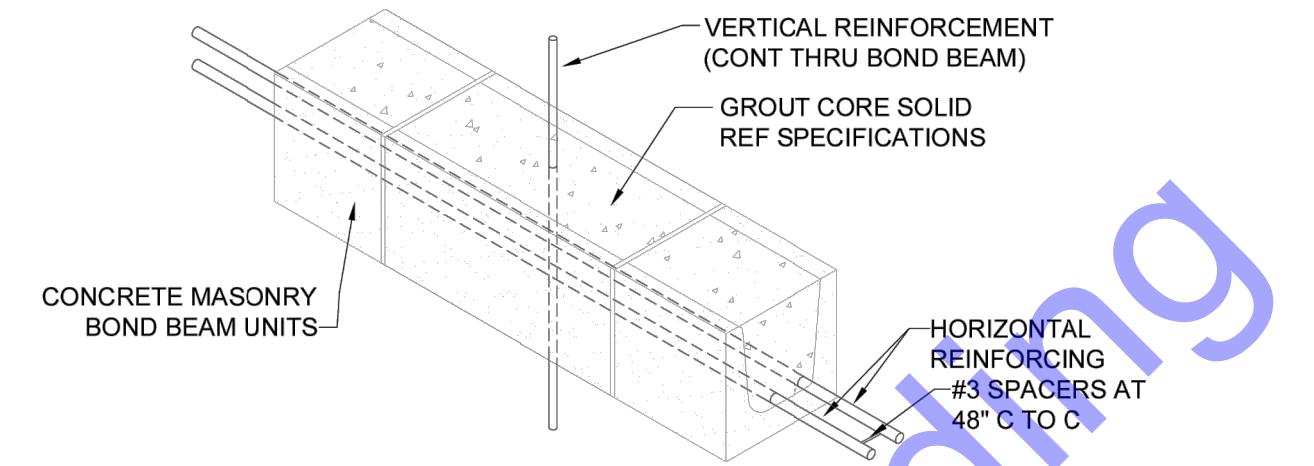
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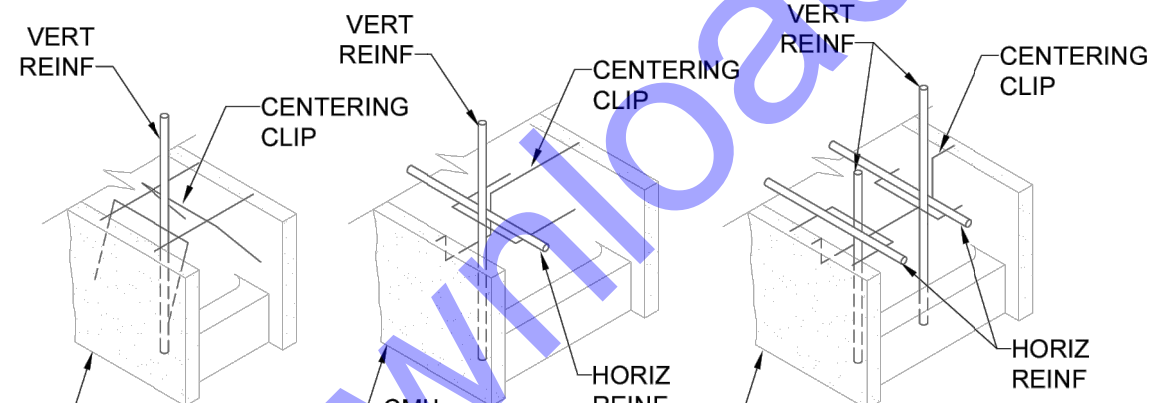
BOND BEAM REINFORCING

NOT TO SCALE

2



CONCRETE MASONRY LINTEL UNITS



NOTE:
ALL BOND BEAMS SHALL BE CONTINUOUS AND SHALL BE FILLED WITH GROUT AND REINFORCED AS FOLLOWS:

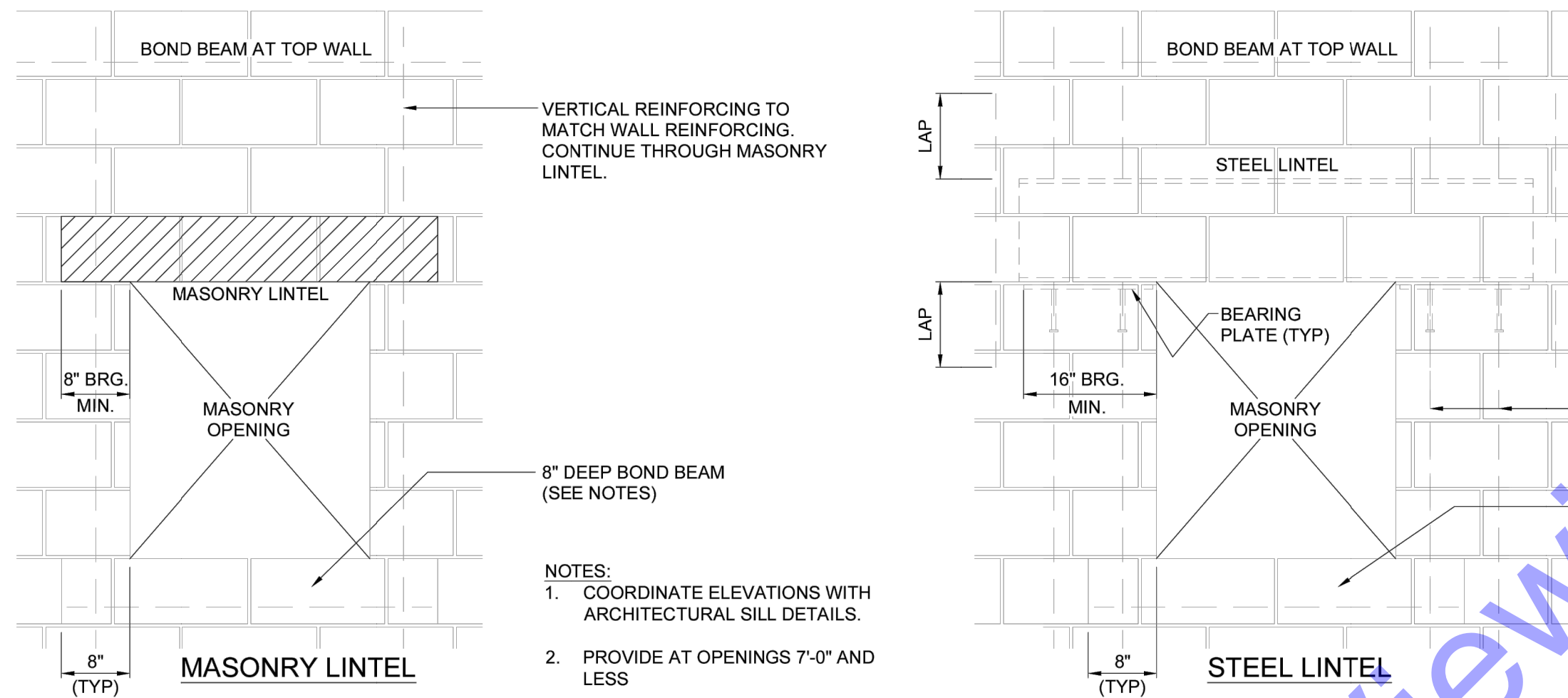
BOND BEAM	REINFORCING
4" CMU	1-#3
6" CMU	1-#4
8" CMU	2-#5
10" CMU	2-#5
12" CMU	2-#6

DO NOT INTERRUPT HORIZ. REINFORCING AT CONTROL JOINTS

TYPICAL CMU BOND BEAM

NOT TO SCALE

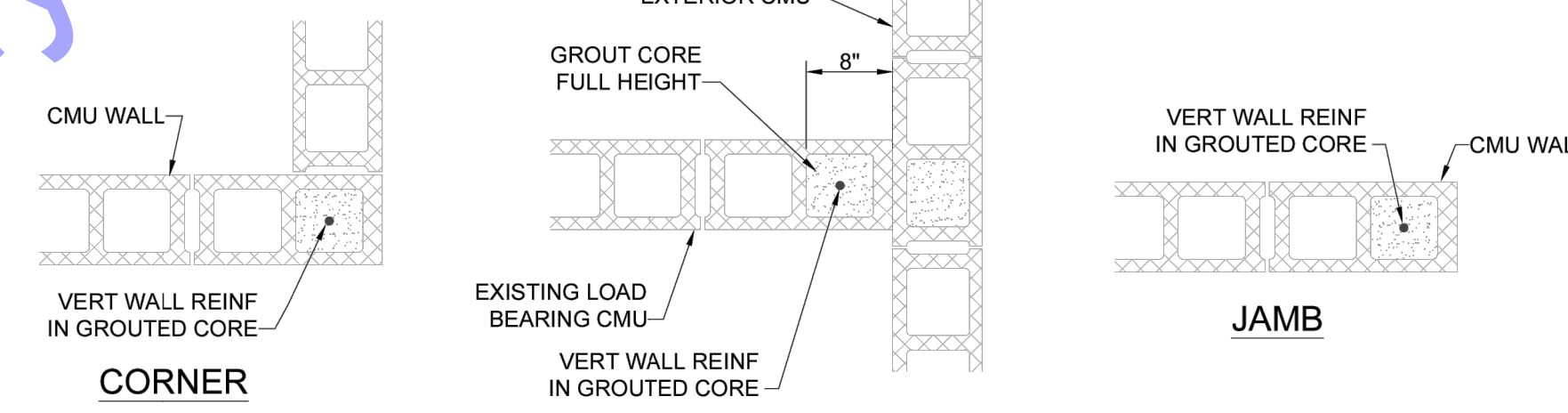
3



CMU REINFORCING AT WALL OPENING

NOT TO SCALE

4

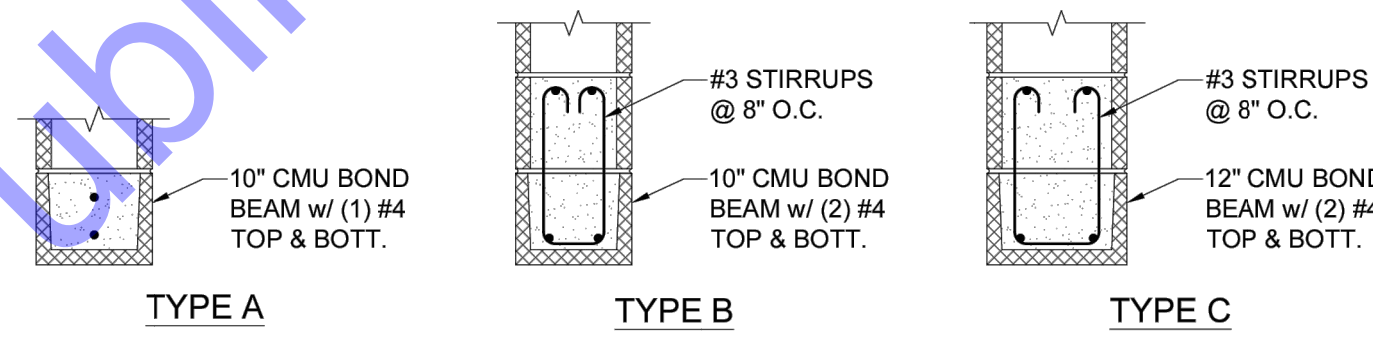


VERTICAL CMU WALL REINFORCEMENT

NOT TO SCALE

5

MARK	SIZE	CONTINUOUS		BEARING PLATE (BP"x")	TYPE	REMARKS
		TOP	BOTTOM			
L1	10" BOND BEAM	-	-	-	A	(1) #6 TOP & BOTTOM (SEE DETAIL THIS SHEET FOR SPECIAL REINF. PLACEMENT REQUIREMENTS)
L2	10" BOND BEAM	-	-	-	B	(2) #6 TOP & BOTTOM (SEE DETAIL THIS SHEET FOR SPECIAL REINF. PLACEMENT REQUIREMENTS) #3 STIRRUPS @ 8" O.C.
L3	12" BOND BEAM	-	-	-	C	(2) #6 TOP & BOTTOM (SEE DETAIL THIS SHEET FOR SPECIAL REINF. PLACEMENT REQUIREMENTS) #3 STIRRUPS @ 8" O.C.



- NOTES:
1. TYPE A LINTELS SHALL BEAR 8" MINIMUM EACH END. TYPE B LINTELS SHALL BEAR 16" MIN. EACH END.
 2. TYPE B LINTELS SHALL BEAR ON TWO FULLY GROUTED CORES FULL HEIGHT AND CONFORM TO DETAIL THIS SHEET.
 3. EXTEND MASONRY LINTEL REINFORCEMENT BEYOND EDGE OF OPENING AND BEYOND REQUIRED BEARING LENGTH (IF NECESSARY) TO PROVIDE FULL DEVELOPMENT LENGTH AS REQUIRED BY ACI 530 (LATEST EDITION). GROUT CORES SOLID FULL EXTENT OF DEVELOPED REINFORCING.

LINTEL SCHEDULE

NOT TO SCALE

6

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REGISTERED
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STATE OF INDIANA
PROFESSIONAL ENGINEER

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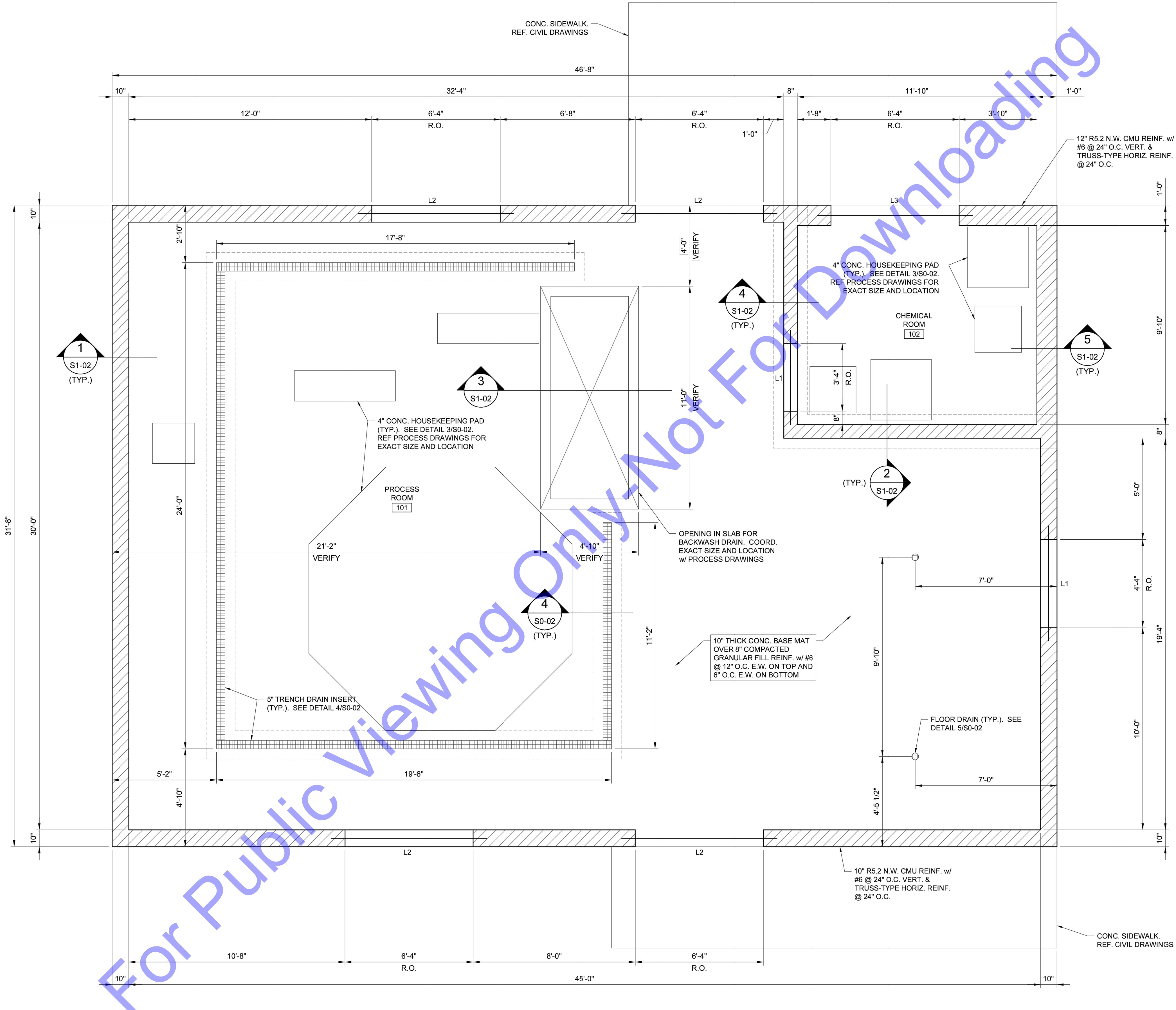
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Designed By: AK	Drawn By: JAS	Checked By: DKS
Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

NEW WATER TREATMENT PLANT FACILITY STRUCTURAL TYPICAL DETAILS

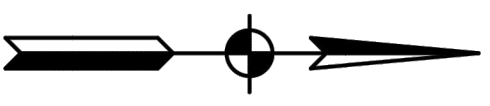
Drawing No:
S0-03
Sheet: 55 OF 75



FLOOR PLAN

SCALE: 3/8"=1'-0"
 0 2 4 6

NOTE:
 LX INDICATES LINTEL TYPE. SEE 6/S0-03 FOR LINTEL SCHEDULE.



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DAVID K. STEINER
 REGISTERED PROFESSIONAL ENGINEER
 No. 10200106
 STATE OF INDIANA
 EXPIRES 10/31/2025

Signature: _____ Date: _____

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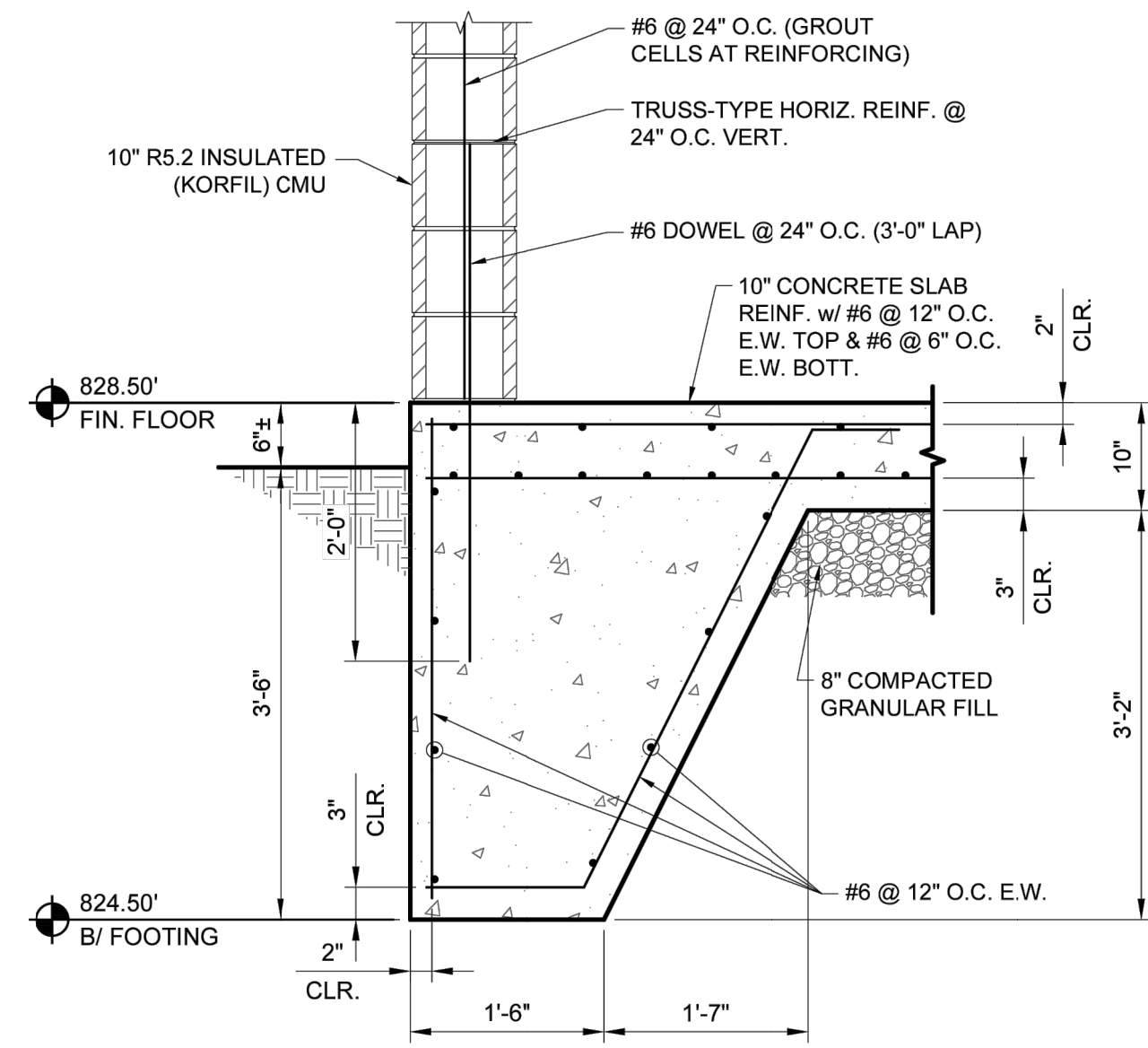
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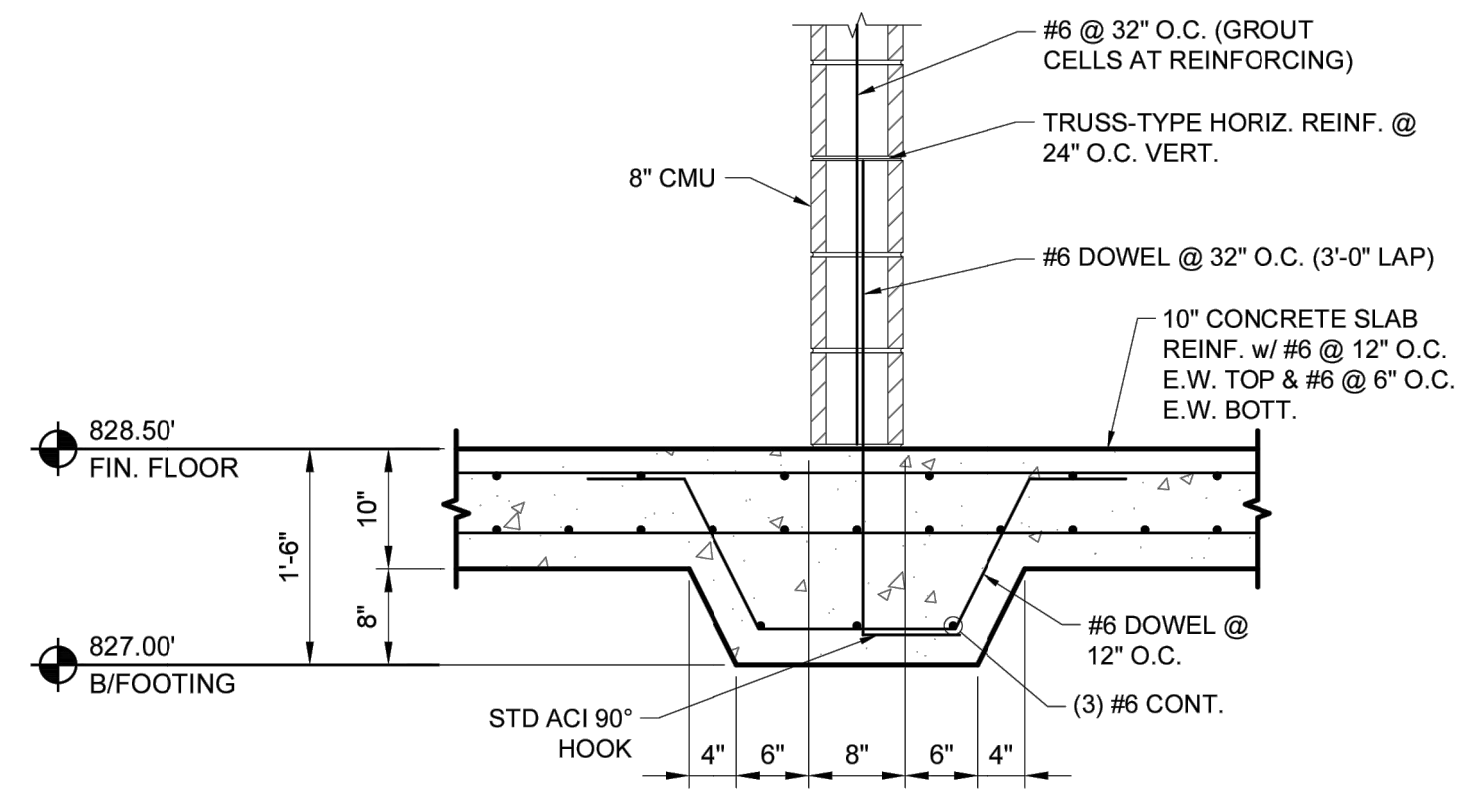
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Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

NEW WATER TREATMENT PLANT FACILITY STRUCTURAL FLOOR PLAN

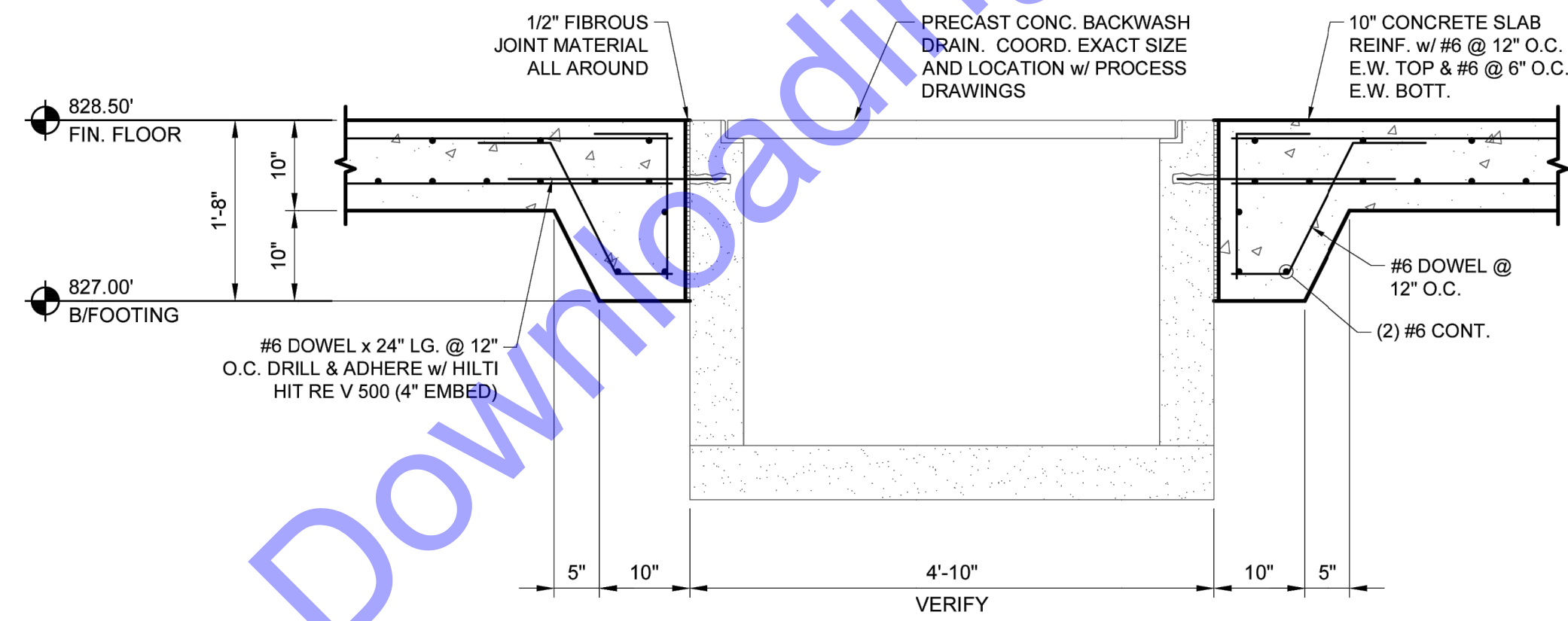
Drawing No:
S1-01
 Sheet: 56 OF 75



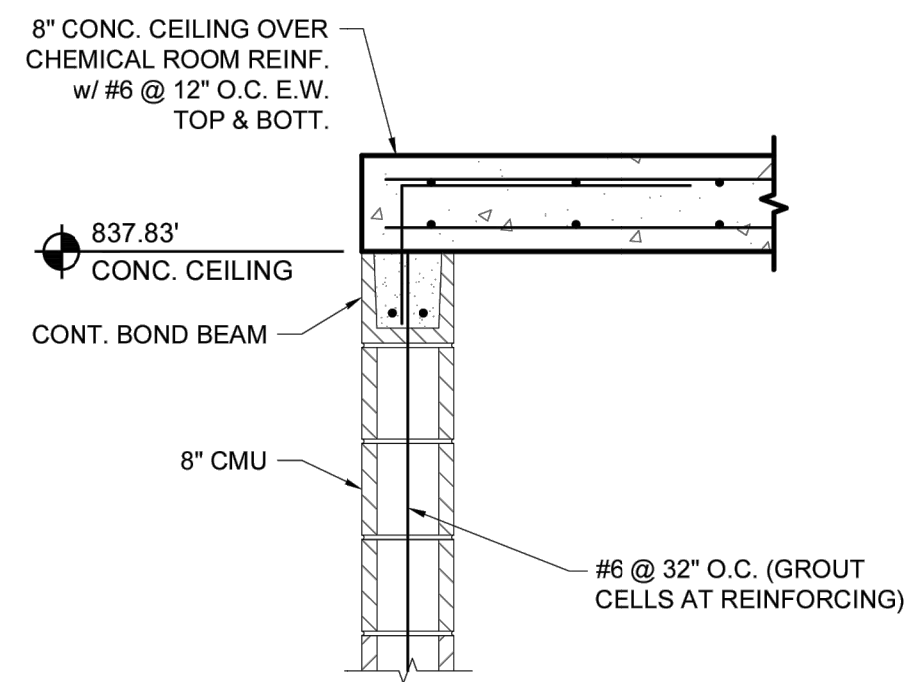
SECTION 1
SCALE: 3/4"=1'-0"
0 1' 2' 3'



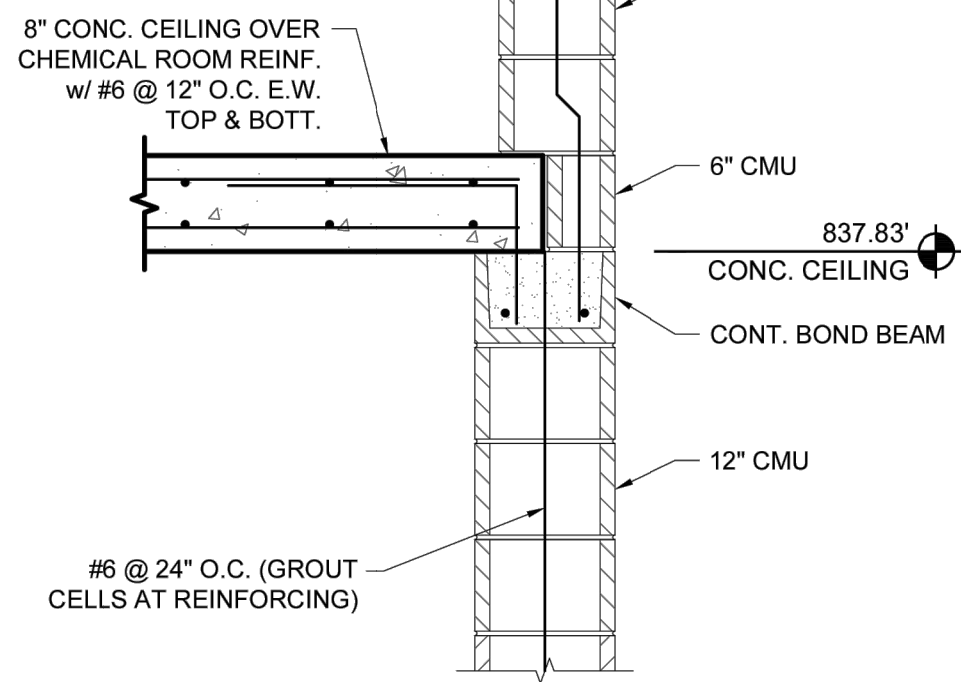
SECTION 2
SCALE: 3/4"=1'-0"
0 1' 2' 3'



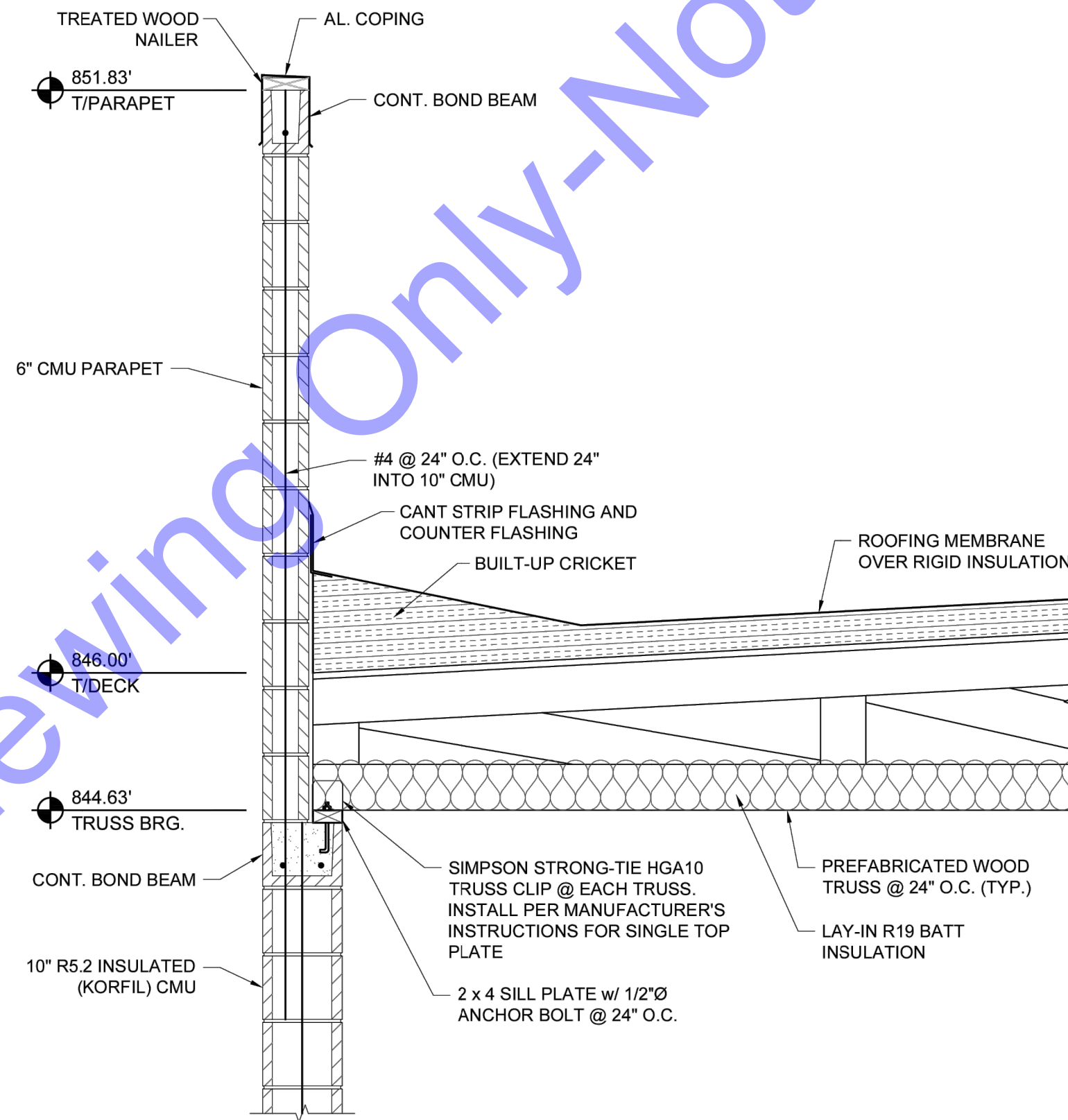
SECTION 3
SCALE: 3/4"=1'-0"
0 1' 2' 3'



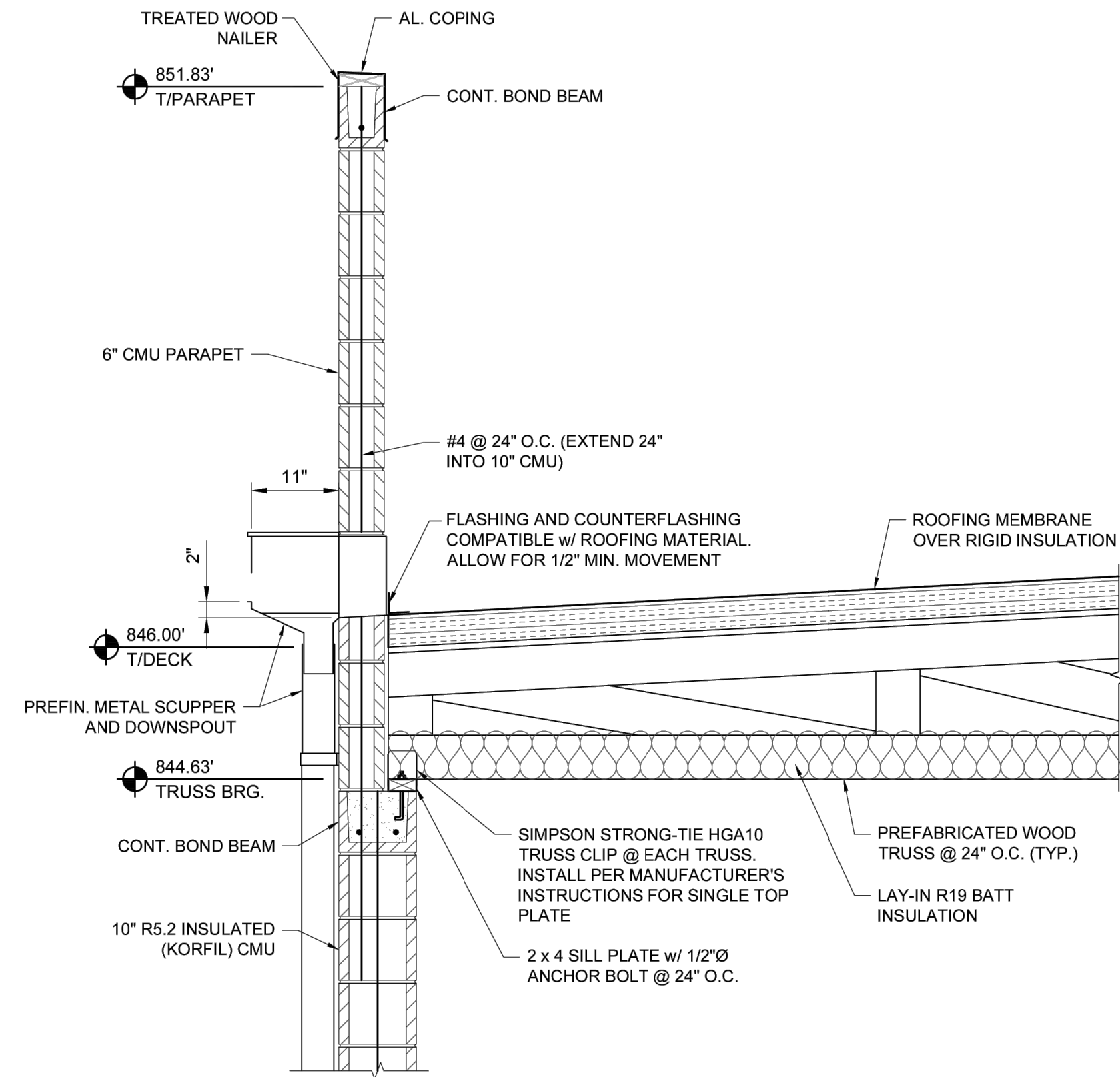
SECTION 4
SCALE: 3/4"=1'-0"
0 1' 2' 3'



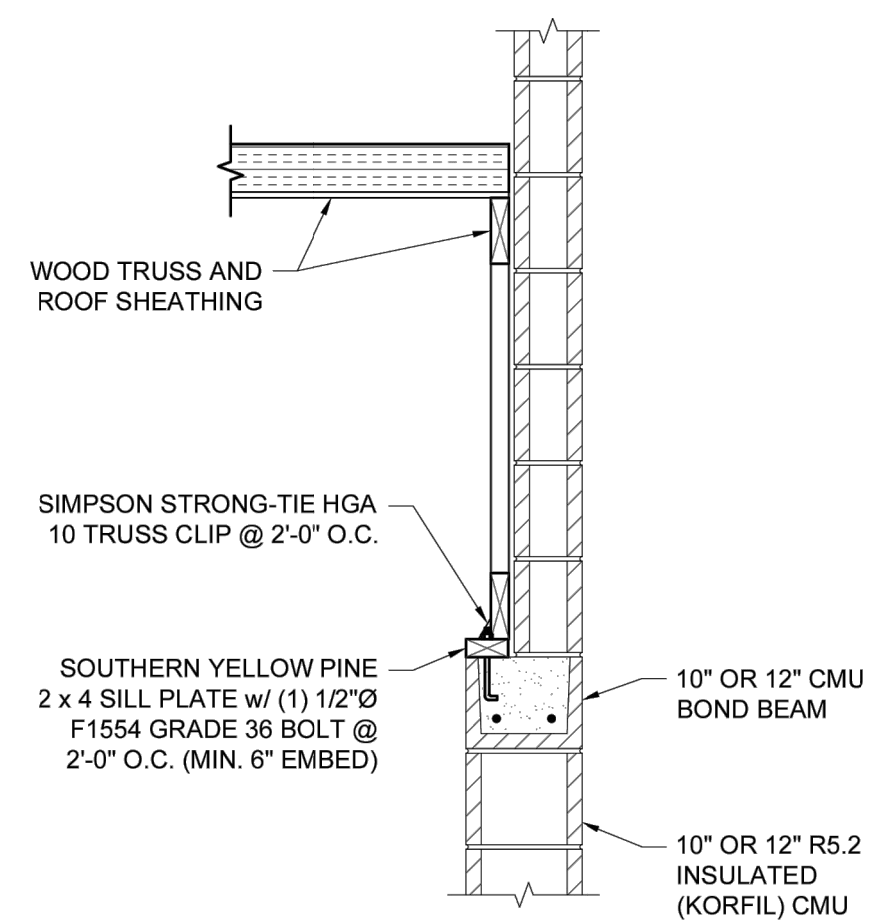
SECTION 5
SCALE: 3/4"=1'-0"
0 1' 2' 3'



SECTION 6
SCALE: 3/4"=1'-0"
0 1' 2' 3'



SECTION 7
SCALE: 3/4"=1'-0"
0 1' 2' 3'



SECTION 8
SCALE: 3/4"=1'-0"
0 1' 2' 3'

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EXPIRES 07/31/2025

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NEW WATER TREATMENT PLANT FACILITY BUILDING SECTION

Drawing No:
S1-02
Sheet: 57 OF 75

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APPLICABLE CODES AND STANDARDS	
1. MECHANICAL INSTALLATION TO BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL CODES HAVING JURISDICTION.	
2. CODES CONSIDERED APPLICABLE TO THIS PROJECT INCLUDE BUT ARE NOT LIMITED TO:	
A. CBC 2011 INDIANA BUILDING CODE - BASED ON IBC 2009.	
B. IMC 2011 INDIANA MECHANICAL CODE - BASED ON IMC 2009.	
C. IPC 2011 INDIANA PLUMBING CODE - BASED ON IPC 2009.	
D. IFCC 2011 INDIANA FIRE CODE - BASED ON IFCC 2009.	
E. IECC 2009 INTERNATIONAL ENERGY CONSERVATION CODE.	
F. ASHRAE STANDARD 90.1 2007 ENERGY STANDARDS FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS.	
G. NFPA 13 2010 SPRINKLER SYSTEM INSTALLATION.	
H. NFPA 14 2010 STANDPIPE AND HOSE SYSTEMS.	
I. NFPA 70 2011 NATIONAL ELECTRICAL CODE (NEC).	
J. NFPA 72 2010 FIRE ALARM AND SIGNALING CODE.	
K. ANSI HANDICAPPED CODE A117.1.	
L. ASHRAE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.	
M. ASHRAE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.	
N. ASHRAE AMERICAN NATIONAL STANDARDS INSTITUTE.	
O. ASHRAE AMERICAN NATIONAL STANDARDS INSTITUTE.	
P. ASHRAE AMERICAN SOCIETY OF HEATING REFRIGERATION AND AIR CONDITIONING ENGINEERS.	
Q. ASHRAE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.	
R. ASHRAE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.	
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X. ASHRAE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.	
Y. ASHRAE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.	
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3. INSTALL ALL WORK IN STRICT CONFORMITY WITH APPLICABLE CODES.	
4. SUBMIT AND/OR FILE WITH PROPER AUTHORITIES NECESSARY CONTRACT DOCUMENTS AS REQUIRED BY GOVERNING AUTHORITIES.	

HEAT/COOL DUCTLESS SPLIT SYSTEM HEAT PUMP UNIT	
GENERAL NOTES:	
(1) - COOLING CAPACITY BASED ON 85° O.A.T. AND 80°/67° INDOOR TEMPERATURE	
UNIT ACCESSORIES:	
① - OPERATION TO -20" HEAD PRESSURE CONTROL	
② - WALL MOUNTED TSTAT WITH SUBBASE-HEATING/COOLING WITH AUTOMATIC CHANGEOVER	
③ - CONDENSATE PUMP	
④ - COLD TEMPERATURE KIT & OUTDOOR DRAIN PAN HEATER	
⑤ - HEAT PUMP WALL MOUNT BRACKET	
⑥ - LINE SET COVER AND WALL SLEEVE	
IDENTIFICATION	
MANUFACTURER	FC-1 HP-1 LABORATORY/OFFICE
A/C UNIT MODEL NO.	PKA-12HA7
A/C UNIT TYPE	WALL MOUNT
HEAT PUMP UNIT MODEL NO.	PUZ-A12NKA7 (BS)
HEAT PUMP UNIT TYPE	REMOTE
SEER	20.8
INDOOR COIL	
CFM	380 (HIGH SPD, WET COIL)
MIN. OUTSIDE AIR	0
ELEC MCA/MOCP	1A/20
COOL/HEAT CAPACITY	12,000/14,500
COND. UNIT	
ELEC	240/1/60
ELEC MCA/MOCP	11/30A
REMARKS	
WIRED THERMOSTAT	

COORDINATION NOTES

- VISIT SITE AND BE INFORMED OF CONDITIONS UNDER WHICH WORK MUST BE PERFORMED.
- GENERAL CONTRACTOR OR CONSTRUCTION MANAGER SHALL COORDINATE LOCATION AND PROVIDE SUPPORT FRAMING FOR ALL ROOF-MOUNTED HVAC EQUIPMENT.
- GENERAL CONTRACTOR OR CONSTRUCTION MANAGER SHALL INCLUDE ADEQUATE TIME IN THE CONSTRUCTION SCHEDULE FOR THE TEST & BALANCE SUBCONTRACTOR TO COMPLETE THE SETUP AND BALANCE OF ALL AIR AND WATER FLOW SYSTEMS IN THE PROJECT AFTER THE MECHANICAL SUBCONTRACTOR HAS ALL AIR AND WATER SYSTEMS IN CONTINUOUS, STABLE OPERATION AND UNDER CONTROL. PRIOR TO STARTING THE TESTING AND BALANCING WORK, THE DIVISION 23 SUBCONTRACTOR SHALL FURNISH COMPLETED SETUP AND COMMISSIONING WORKSHEETS AS LISTED IN SECTION 23000 TO THE TEST AND BALANCE SUBCONTRACTOR AS EVIDENCE THAT THE SYSTEMS HAVE BEEN SETUP, CHECKED AND ARE OPERATIONALLY READY FOR BALANCING.
- NO SUBSEQUENT ALLOWANCE WILL BE MADE BECAUSE OF ERROR OR FAILURE TO OBTAIN NECESSARY INFORMATION TO COMPLETELY ESTIMATE AND PERFORM ALL WORK INVOLVED.
- CAREFULLY EXAMINE DRAWINGS AND SPECIFICATIONS TO BE THOROUGHLY FAMILIAR WITH ITEMS WHICH REQUIRE PLUMBING OR HVAC CONNECTIONS AND COORDINATION.
- NOTIFY OTHER TRADES OF ANY OBSTRUCTIONS OR SPECIAL CONDITIONS NECESSARY FOR INSTALLATION OF WORK.
- RESOLVE INTERFERENCES BETWEEN WORK OF OTHER TRADES PRIOR TO INSTALLATION.
- ADVISE OTHER TRADES TO LEAVE PROPER CHASES AND OPENINGS, PLACE OUTLETS, ANCHORS, SLEEVES, AND SUPPORTS PRIOR TO POURING CONCRETE OR INSTALLATION OF MASONRY WORK.
- IN AREAS OF RENOVATION, INSTALLATION OF NEW PIPING, DUCTWORK, AND EQUIPMENT WILL REQUIRE REMOVAL OF THE EXISTING CEILING AND GRID. SURVEY THE SITE AND BE INFORMED OF EXISTING CONDITIONS WHICH WILL REQUIRE CEILING REMOVAL. INCLUDE THE COST OF THE CEILING WORK OR COORDINATE ITS REMOVAL WITH THE GENERAL CONTRACTOR.
- ADDITIONAL INSTALLATION COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT REQUIRING ADDITIONAL WORK ON THE PART OF THIS CONTRACTOR OR OTHER SUBCONTRACTORS TO SATISFY THE MANUFACTURER'S INSTALLATION REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE SUBMITTING CONTRACTOR.
- COORDINATE ALL NECESSARY POWER CONNECTIONS AS RECOMMENDED BY THE MANUFACTURERS OF INSTALLED EQUIPMENT WITH ELECTRICAL TRADESMEN.
- COORDINATE WITH ELECTRICAL TRADESMEN FOR PROPER SIZING OF CIRCUIT BREAKERS, FUSES, SAFETY SWITCHES, CONDUIT AND WIRING FOR ALL EQUIPMENT FURNISHED BY DIVISION 23 EQUIPMENT PRIOR TO RENOVATION.
- DO NOT ROUTE ANY PIPING DIRECTLY ABOVE OR 48 INCHES IN FRONT OF ELECTRICAL SWITCHGEAR, PANELS OR TRANSFORMERS.
- IN CERTAIN AREAS OF RENOVATION, INSTALLATION OF NEW PIPING, DUCTWORK, AND EQUIPMENT AS WELL AS HIGHER CEILING HEIGHTS WILL REQUIRE OFFSETTING, RAISING AND IN SOME INSTANCES, RELOCATING OF EXISTING PIPING, DUCTWORK, RAIN WATER LEADERS, SPRINKLERS, AND CONDUIT. SURVEY THE SITE AND BE INFORMED OF EXISTING CONDITIONS IN PARTICULAR ABOVE CEILING WHICH WILL REQUIRE OFFSETTING AND/OR RELOCATION OF EXISTING PIPING, DUCTWORK AND CONDUIT AND INCLUDE THE COST OF THIS WORK.

MECHANICAL LEGEND			
PIPING		DUCTWORK	
CHS	CHILLED WATER SUPPLY		SUPPLY DUCTWORK
CHR	CHILLED WATER RETURN		RETURN OR EXHAUST DUCTWORK
HWS	HOT WATER SUPPLY		FIRE DAMPER
HWR	HOT WATER RETURN		SMOKE DAMPER
HWR	HOT WATER REVERSE RETURN		COMBINATION FIRE & SMOKE DAMPER
CWS	CONDENSER WATER SUPPLY		SUPPLY DIFFUSER & AIR QUANTITY (INDICATES 4-WAY FLOW)
CWR	CONDENSER WATER RETURN		SUPPLY DIFFUSER & AIR QUANTITY (INDICATES 3-WAY FLOW (2-WAY BLOW))
STM (P)	STEAM SUPPLY PIPING AND ITS PRESSURE		RETURN AIR GRILLE & AIR QUANTITY
CR	STEAM CONDENSATE RETURN		EXHAUST AIR GRILLE & AIR QUANTITY
P.C.R.	PUMPED STEAM CONDENSATE RETURN		REDUCER TRANSITION
D	DRAINLINE		STEAM HAMPER
RS	REFRIGERANT SUCTION		THERMOSTAT (AS STABLE)
RL	REFRIGERANT LIQUID		THERMOSTAT (CONCEALED / KEY OPER.)
FTS	FANED TUBE SUPPLY		THERMOSTAT
FR	FANED TUBE RETURN		RISE IN DUCTWORK
FOS	FUEL OIL SUPPLY		DROP IN DUCT
FOR	FUEL OIL RETURN		CONICAL TEE
V	EQUIPMENT VENT		BELLMOUTH CONNECTION
E.O.M.	END OF MAIN DRP		DUCT WITH INTERNAL SOUND LINER
P.R.V.	PRESSURE REDUCING VALVE		SPRITZER DAMPER
ST	STEAM TRAP		REHEAT COIL
BV	BALL VALVE		ELECTRIC REHEAT BOX, CLEARANCE SPACE AND IDENTIFICATION
GV	GATE VALVE		ASTERISK WITH REHEAT BOX INDICATES SHARP 90° WATER CONTROL VALVE
QV	GLOBE VALVE		HOT WATER REHEAT BOX AND IDENTIFICATION
BV	BUTTERFLY VALVE		SQUARE ELBOW WITH TURNING VANES
CV	CONTROL VALVE		M.B.D. MANUAL BALANCE DAMPER
ST	STRAINER WITH HOSE END DRAIN CONNECTION		A.T.C. AUTOMATIC TEMP. CONTROL PANEL
ST	STRAINER AND BLOWDOWN VALVE		A.D. ACCESS DOOR
BS	BIG DROUPT SETTER OR EQUAL, BALANCING VALVE		M.L. MARINE LIGHT
FC	FLEX COCK (BALANCING VALVE)		INDICATES 5° DOOR UNDERCUT DIRECTION & QUAN. OF ROOM AIR PRESS.
UN	UNION		INDICATES DIRECTION & QUANTITY OF ROOM AIR PRESSURE
CF	COMPANION FLANGE		DUCT MOUNTED SMOKE DETECTOR
CV	CHECK VALVE		DUCT MOUNTED STATIC PRESSURE CONTROLLER
GU	GUIDE		A.F.F. ABOVE FINISHED FLOOR
AN	ANCHOR		A.F.R. ABOVE FINISHED ROOF
GS	GAUGE & GAUGE COOK		MANUAL BALANCING DAMPER
TM	THERMOMETER		PRESSURE INDICATOR (GAUGE)
TV	MOTORIZED VALVE		

HVAC GENERAL NOTES:

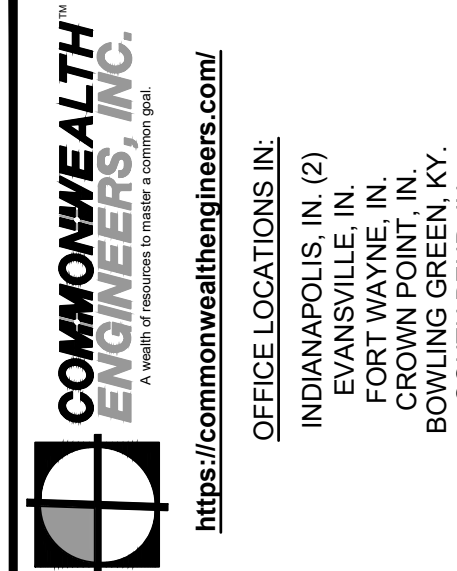
- DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE APPROXIMATE ROUTING OF PIPING AND DUCTWORK. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS AND DELAYS. MINOR OFFSETS AND ADJUSTMENTS SHALL BE PROVIDED WHERE REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- COORDINATE LOCATIONS OF EQUIPMENT WITH OTHER TRADES, AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.
- ALL EXHAUST FANS, SUPPLY FANS, DAMPERS, AND RELIEF VENTS SHALL BE MOUNTED 18" BELOW CEILING HEIGHT. COORDINATE FINAL HEIGHT LOCATIONS WITH OWNER/RP/R.
- DUCT DIMENSIONS INDICATED ON THE DRAWINGS ARE NET AIRSIDE DIMENSIONS.
- DUCTWORK SHALL BE FABRICATED OF FIBERGLASS (UNLESS NOTED OTHERWISE) AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS. SEAL ALL DUCTS, JOINTS, AND SEAMS IN DUCTWORK TO INSURE AGAINST LEAKAGE.
- PENETRATIONS OF THE WALLS AND FLOORS SHALL BE FLASHED WITH ALUMINUM SHEET ANGLES AND SEALED WITH INSULATING FOAM PER SMACNA ARCHITECTURAL SHEETMETAL DETAILS STANDARDS.
- ELECTRIC MOTORS FOR EQUIPMENT SHALL BE TEFC, SELECTED FOR NON-OVERLOADING OPERATION. MOTORS SHALL NOT OPERATE IN THEIR SERVICE FACTOR.
- GRILLES AND DIFFUSERS SHALL BE TITUS OR EQUAL ALUMINUM SIDE WALL GRILLES. RETURN REGISTER SHALL BE TITUS OR EQUAL ALUMINUM LOUVERED SURFACE MOUNT. PROVIDE STANDARD WHITE PAINTED FACE.
- AUTOMATIC DAMPER VOLTAGE SHALL BE PER THE DAMPER ACTUATOR SELECTED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH ELECTRICAL CONTRACTOR TO ENSURE REQUIRED CONDUIT AND WIRE IS PROVIDED TO DAMPER ACTUATORS.

GENERAL NOTES:		ABBREVIATIONS:	
(1) - HIGH EFFICIENCY MOTOR	(3) - UPBLAST DISCHARGE	PRE - POWER ROOF EXHAUST FAN	BWSI - SINGLE WIDTH, SINGLE INLET
(2) - INCL. WEIGHT OF INERTIA BASE	(4) - TOP HORIZONTAL DISCHARGE	PRS - POWER ROOF SUPPLY FAN	DWID - DOUBLE WIDTH, DOUBLE INLET
UNIT ACCESSORIES:		BVS - BELTED VENT SET	
1 - INLET SCREEN	6 - MOTORIZED OUTLET DAMPERS	11 - SMOKE DETECTOR	21 - WEATHERPROOF HOUSING/TEFC
2 - MOTORIZED INLET VANES	7 - OUTLET GRAVITY DAMPERS	12 - 24" HIGH ROOF CURB	22 - 2 SPEED, 2 WINDING MOTOR
3 - MOTORIZED INLET DAMPERS	8 - INERTIA BASE	13 - ACCESS DOOR & DRAIN	23 - 3/4 DISC. SWITCH IN HOUSING
4 - INLET GRAVITY DAMPERS	9 - SPRING ISOLATORS	14 - 2" WASHABLE FILTERS	24 - PRE-WIRED DISC. SWITCH
5 - OUTLET SCREEN	10 - BELT GUARD	15 - FAN SAFETY CAGE/WALL SLEEVE	25 - DOOR LIMIT SWITCH
16 - DISCHARGE MIN. 70° A.F.R.		17 - U.L. 762 LISTED	
18 - EXPLOSION PROOF MOTOR		19 - THERMAL OVERLOAD PROTECTION	
20 - SOLID STATE SPEED CONTROLLER			
STARTER ACCESSORIES:		E - HAND/OFF/AUTO SWITCH/PILOT LIGHT/120V XFMR	
A - COMBINATION MAG-X-LINE		B - AUTO. TRANSFORMER	
C - MANUAL MOTOR STARTER		D - VFD WITH LINE REACTOR AND DISCONNECT	

UNIT ID	SYSTEM	TYPE	MANUFACTURER	MODEL NO.	CFM	S.P.	MAX. SONES	ROOF/WALL OPENING	UNIT WEIGHT (LBS)	FAN ACCESSORIES	MOTOR (1)		STARTER		NOTES	
											MIN. H.P.	RPM	V/PHz	LOCATION		TYPE
EF-12	FILTER ROOM	PWE	GREENHECK (OR EQUAL)	CUE-140-VG	1200	0.4"	7.6	18"X18"	68	4.5	1/4	900	120/1/60			NOTE 1:
EF-3	CHEMICAL ROOM	PWE	GREENHECK (OR EQUAL)	CUE-80-VG	150	0.4"	6.1	15"X15"	34	4.5	1/10	1321	120/1/60			NOTE 1:
NOTE 1: ENTIRE UNIT INCLUDING FAN CURB SHALL BE COATED WITH HI-PROZ (OR EQUIVALENT PERFORMANCE) COATING FOR CORROSION PROTECTION.																

ELECTRIC UNIT HEATER SCHEDULE																				
MARK	LOCATION	CONFIGURATION	AIRFLOW		FAN DATA				HEATER DATA			ELECTRICAL DATA			ACCESSORIES		FILTER DATA		MANUFACTURER WITH MODEL NUMBER	NOTES
			SUPPLY CFM	TYPE	VOLTAGE	RPM	FLA	KW	MBH	TEMP RISE	FLA	VOLTS	PH	MOUNTING BRACKET	DISCONNECT SWITCH	TYPE	EFF			
EUH-1	CHEMICAL ROOM	HORIZONTAL	700							2	6.8	9	12.0	208	1	YES	YES		INDEECO 234-U1R-0020C OPTION CODES C, D, AND T (OR EQUAL)	1
EW4-1	RESTROOM	WALL	70							1.1	3.8	68	5.9	208	1				INDEECO 935U01500V-T-SS (OR EQUAL)	
NOTES:																				
1. OPTION T: THERMOSTAT FACTORY INSTALLED AND PRE-WIRED TO THE CONTROL ENCLOSURE. 50 TO 90 DEGREE F - SET AT 65 F.																				

GAS UNIT HEATER SCHEDULE																					
MARK	LOCATION	CONFIGURATION	AIRFLOW		FAN DATA				BURNER DATA				ELECTRICAL DATA			ACCESSORIES		FILTER DATA		MANUFACTURER WITH MODEL NUMBER	NOTES
			SUPPLY CFM	TYPE	ESP	RPM	BHP	HP	FUEL TYPE	INLET PRESS.	TRAIN SIZE	INPUT MBH	MIN. EAT	TEMP RISE	MCA	VOLTS	PH	DISCON. SWITCH	TYPE		
GUH-1.2	PROCESS ROOM 101	HORIZONTAL	505																	MODINE HDS45SS011SBAN (OR EQUAL)	1.2
NOTES:																					
1. HEAT EXCHANGER TO BE 409 STAINLESS-STEEL																					
2. PROVIDE CONCENTRIC VENT KITS FOR VENTING.																					



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No. 11300603
STATE OF INDIANA
PROFESSIONAL ENGINEER

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SOUTH BEND, IN.

Signature: _____ Date: 1/15/2025

TOWN OF MILFORD, KOSCIUSKO COUNTY, INDIANA

WATER UTILITY IMPROVEMENTS
DIVISION "A" - WATER TREATMENT IMPROVEMENTS

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Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

MECHANICAL LEGENDS AND SCHEDULES

Drawing No: **MO-0**

Sheet: 58 OF 75

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SITE PLAN

SCALE: 1"=30'-0"
 0 30' 60'

NEW STRUCTURE LEGEND	
STRUCTURE	DESCRIPTION
1	NEW WATER TREATMENT FACILITY (SEE DWG.D1-1)
2	NEW BACKWASH TANK
3	NEW BACKWASH MAG METER
4	NEW EMERGENCY GENERATOR

MECHANICAL NOTES:

1. THE CONTRACTOR SHALL COORDINATE WITH THE NATURAL GAS UTILITY (NIPSCO) TO PROVIDE NEW NATURAL GAS SERVICE TO THE NEW WATER TREATMENT PLANT. FOR BIDDING PURPOSES CONTRACTOR SHALL ESTIMATE NATURAL GAS PIPING FROM PROPERTY LINE TO LOCATION OF NEW NATURAL GAS METER. THE CONTRACTOR SHALL ESTIMATE 250 LINEAR FEET OF 5 PSI, 2.00 INCH NATURAL GAS PIPING.
2. GAS UNIT HEATERS 1 AND 2 ARE SHOWN ON MECHANICAL DRAWING M1-1. NATURAL GAS EQUIPMENT LOADS FOR GUH-1 AND 2 ARE SHOWN ON MECHANICAL SCHEDULE ON MECHANICAL DRAWING MO-1. NATURAL GAS WATER HEATER LOAD IS 60,000 BTU PER HOUR. COORDINATE WITH GENERATOR REPRESENTATIVE/MANUFACTURER FOR REQUIREMENTS OF SELECTED NATURAL GAS GENERATOR. NATURAL GAS LINE ROUTING IS CONTRACTOR MEANS AND METHODS OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR SIZING OF GAS LINES PER SELECTED ROUTING.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED ACCESSORIES FOR A COMPLETE, FULLY FUNCTIONAL SYSTEMS, INCLUDING BUT NOT LIMITED TO PRESSURE REDUCING VALVES, SHUT OFF VALVES, DRIP TRAPS, PIPING SUPPORTS.
4. CONTRACTOR SHALL COORDINATE ALL WORK ASSOCIATED WITH GAS LINE INSTALLATION WITH LOCATION OF GENERATOR AND AUTOMATIC TRANSFER SWITCH ELECTRICAL CONDUITS. REFER TO COMPLETE PROJECT DRAWINGS AND SPECIFICATIONS FOR OTHER DETAILS AND REQUIREMENTS.
5. SEPARATION BETWEEN THE ELECTRICAL CONDUITS AND NATURAL GAS LINES SHALL MEET OR EXCEED ALL FEDERAL, STATE, LOCAL, UTILITY CODES AND REGULATIONS.

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Professional Engineer Seal for Lee Church, No. 11300603, State of Indiana, dated 1/15/2025.

**TOWN OF MILFORD
 KOSCIUSKO COUNTY,
 INDIANA**

WATER UTILITY IMPROVEMENTS
 DIVISION "A" - WATER TREATMENT
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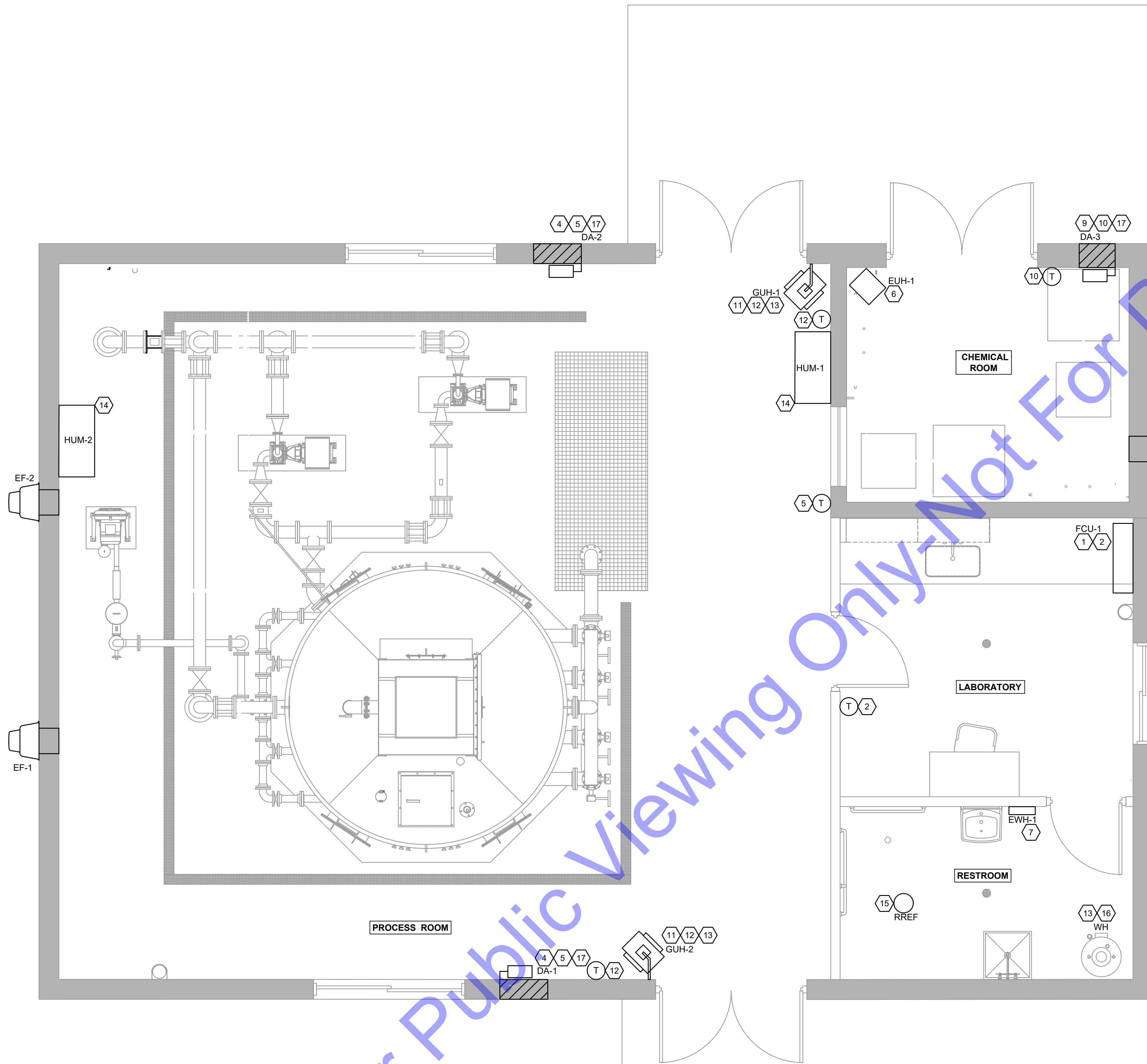
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1-14-2025	W24161	AS SHOWN

TREATMENT PLANT
 MECHANICAL SITE PLAN

Drawing No:
M1-0

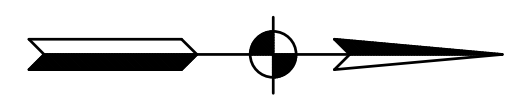
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PLAN VIEW

SCALE: 3/8"=1'-0"



MECHANICAL NOTES:

- 1 THE CONTRACTOR SHALL FURNISH AND INSTALL FAN COIL AND HEAT PUMP SYSTEM. MOUNT FAN COIL (FCU-1) ON WALL NEAR CEILING WHERE SHOWN AND HEAT PUMP (HP-1) ABOVE SNOW LEVEL. FURNISH AND INSTALL FACTORY REFRIGERANT LINES. PIPE DRAIN INTO GRASS OR GRAVEL AREA. DRAIN LINE SHALL BE ROUTED TO 1' ABOVE GRADE. DRAIN LINE SHALL BE 1/2" SCHEDULE 40 PVC. REFER TO MECHANICAL SCHEDULES FOR FAN COIL AND HEAT PUMP SPECIFICATIONS. COORDINATE EXACT LOCATION OF FCU-1 WITH FINISH CABINET SCHEDULE.
- 2 THE CONTRACTOR SHALL FURNISH AND INSTALL LOCKABLE HEAT/COOL THERMOSTAT HONEYWELL (OR EQUAL) WITH AUTOMATIC SWITCHOVER BETWEEN HEATING AND COOLING.
- 3 THE CONTRACTOR SHALL FURNISH AND INSTALL GREENHECK (OR EQUAL) EXHAUST FANS (EF-1&2). EXHAUST FANS SHALL OPERATE FROM THERMOSTAT IN AUTOMATIC OPERATION AND SHALL OPERATE FROM A MANUAL SWITCH FOR MANUAL OPERATION. REFER TO MECHANICAL SCHEDULES FOR EXHAUST FAN SPECIFICATIONS. INSTALL EXHAUST FAN 18" BELOW CEILING.
- 4 THE CONTRACTOR SHALL FURNISH AND INSTALL TWO (2) GREENHECK EAD-635 24" X 24" MOTORIZED INTAKE DAMPERS (OR EQUAL) WITH BIRD SCREEN. DAMPER ACTUATORS (DA-1&2) SHALL BE BELIMO (OR EQUAL). MOUNT INTAKE LOUVER/DAMPER 18" ABOVE FINISHED GRADE.
- 5 THE CONTRACTOR SHALL FURNISH AND INSTALL NEMA 4X THERMOSTAT, (HONEYWELL OR EQUAL). WIRE EXHAUST FAN EF-1&2 TO START ON A TEMPERATURE RISE ABOVE SET-POINT. INTERLOCK DAMPERS DA-1&2 TO OPEN WITH EXHAUST FAN OPERATION. DA-1&2 SHALL OPEN 90% BEFORE EXHAUST FANS START. PROVIDE ALL CONDUIT, WIRING AND RELAYS REQUIRED FOR PROPER OPERATION. THERMOSTAT SHALL HAVE LOCKABLE SET-POINT.
- 6 THE CONTRACTOR SHALL FURNISH AND INSTALL INDEECO (OR EQUAL) ELECTRIC UNIT HEATER (EUH-1). REFER TO MECHANICAL DRAWING M0-1 FOR ELECTRIC UNIT HEATER SPECIFICATIONS.
- 7 THE CONTRACTOR SHALL FURNISH AND INSTALL INDEECO (OR EQUAL) ELECTRIC WALL HEATER (EWH-1). REFER TO MECHANICAL DRAWING M0-1 FOR ELECTRIC HEATER SPECIFICATIONS.
- 8 THE CONTRACTOR SHALL FURNISH AND INSTALL GREENHECK (OR EQUAL) EXHAUST FAN (EF-3). EF-3 SHALL OPERATE FROM THERMOSTAT IN AUTOMATIC OPERATION AND SHALL OPERATE FROM A MANUAL SWITCH FOR MANUAL OPERATION. REFER TO MECHANICAL SCHEDULES FOR EXHAUST FAN SPECIFICATIONS. INSTALL EXHAUST FAN 18" BELOW CEILING IN CHEMICAL ROOM.
- 9 THE CONTRACTOR SHALL FURNISH AND INSTALL GREENHECK EAD-635 18" X 12" MOTORIZED INTAKE DAMPER (OR EQUAL) WITH BIRD SCREEN. DAMPER ACTUATORS (DA-3) SHALL BE BELIMO (OR EQUAL). MOUNT INTAKE LOUVER/DAMPER 18" ABOVE FINISHED GRADE.
- 10 THE CONTRACTOR SHALL FURNISH AND INSTALL NEMA 4X THERMOSTAT, (HONEYWELL OR EQUAL). WIRE EXHAUST FAN EF-3 TO START ON A TEMPERATURE RISE ABOVE SET-POINT. INTERLOCK DAMPER DA-3 TO OPEN WITH EXHAUST FAN OPERATION. DA-3 SHALL OPEN 90% BEFORE EXHAUST FAN STARTS. PROVIDE ALL CONDUIT, WIRING AND RELAYS REQUIRED FOR PROPER OPERATION. THERMOSTAT SHALL HAVE LOCKABLE SET-POINT.
- 11 THE CONTRACTOR SHALL FURNISH AND INSTALL MODINE (OR EQUAL) SEALED COMBUSTION CHAMBER NATURAL GAS UNIT HEATERS WHERE SHOWN ON DRAWINGS. MOUNT UNIT HEATERS AT 18" BELOW CEILING. FURNISH AND INSTALL CONCENTRIC VENT KITS FOR UNIT HEATERS. GUH-1 AND GUH-2 WILL VENT THROUGH WALL.
- 12 THE CONTRACTOR SHALL FURNISH AND INSTALL THERMOSTAT, (HONEYWELL OR EQUAL). PROGRAMMABLE THERMOSTATS WITH LOCKABLE SETPOINTS FOR OPERATION OF GUH-1 AND GUH-2 ON A DROP IN TEMPERATURE BELOW THERMOSTAT SETPOINT.
- 13 THE CONTRACTOR SHALL FURNISH AND INSTALL NATURAL GAS PIPING TO NATURAL GAS EQUIPMENT SHOWN. THE CONTRACTOR SHALL SIZE NATURAL GAS PIPING PER THE CF/HR LOAD OF EQUIPMENT SELECTED. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED ACCESSORIES FOR A COMPLETE, FULLY FUNCTIONAL SYSTEMS, INCLUDING BUT NOT LIMITED TO PRESSURE REDUCING VALVES, SHUT OFF VALVES, DRIP TRAPS, PIPING SUPPORTS. NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE. PIPING SHALL BE SUPPORTED WITH CLEVIS HANGERS ATTACHED TO 3/8" STEEL ALL THREAD RODS ATTACHED TO BUILDING STRUCTURE.
- 14 CONTRACTOR SHALL FURNISH AND INSTALL HI-E DRY-195 (OR EQUAL MEETING BABA REQUIREMENTS) PORTABLE DEHUMIDIFIER (HUM-1&2), 192 PINTS/DAY @ 80°F/60%; 115V-10, 12A, 540 CFM BLOWER, MERV 8 FILTER, INTERNAL CONDENSATE PUMP, MODEL No. 4030060. ROUTE CONDENSATE TO NEAREST DRAIN.
- 15 THE CONTRACTOR SHALL FURNISH AND INSTALL BROAN 110K (OR EQUAL) EXHAUST FAN FOR RESTROOM EXHAUST. EXHAUST FANS SHALL BE INTERLOCKED WITH RESTROOM LIGHT SWITCH. THE CONTRACTOR SHALL FURNISH AND INSTALL ALUMINUM ROUND DUCT FROM EXHAUST FAN THROUGH EXTERIOR WALL. INSTALL EXHAUST GRILL WITH BACK DRAFT DAMPER ON EXTERIOR WALL.
- 16 THE CONTRACTOR SHALL FURNISH AND INSTALL A 55 GALLON, 60,000 BTU/HR. NATURAL GAS WATER HEATER. WATER HEATER SHALL BE VENTED THROUGH THE ROOF PER SELECTED EQUIPMENT MANUFACTURER REQUIREMENTS.
- 17 THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION AND INSTALLATION OF REQUIRED POWER TO DAMPER OPERATORS BASED ON DAMPER MANUFACTURER AND VOLTAGE REQUIREMENT OF SELECTED DAMPER OPERATOR.

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Professional Engineer Seal:
 TERRY LEE CHURCH, REGISTERED
 No. 11300603
 STATE OF INDIANA
 Signature: _____ Date: 1/15/2025

TOWN OF MILFORD, INDIANA
 WATER UTILITY IMPROVEMENTS
 DIVISION "A" - WATER TREATMENT IMPROVEMENTS

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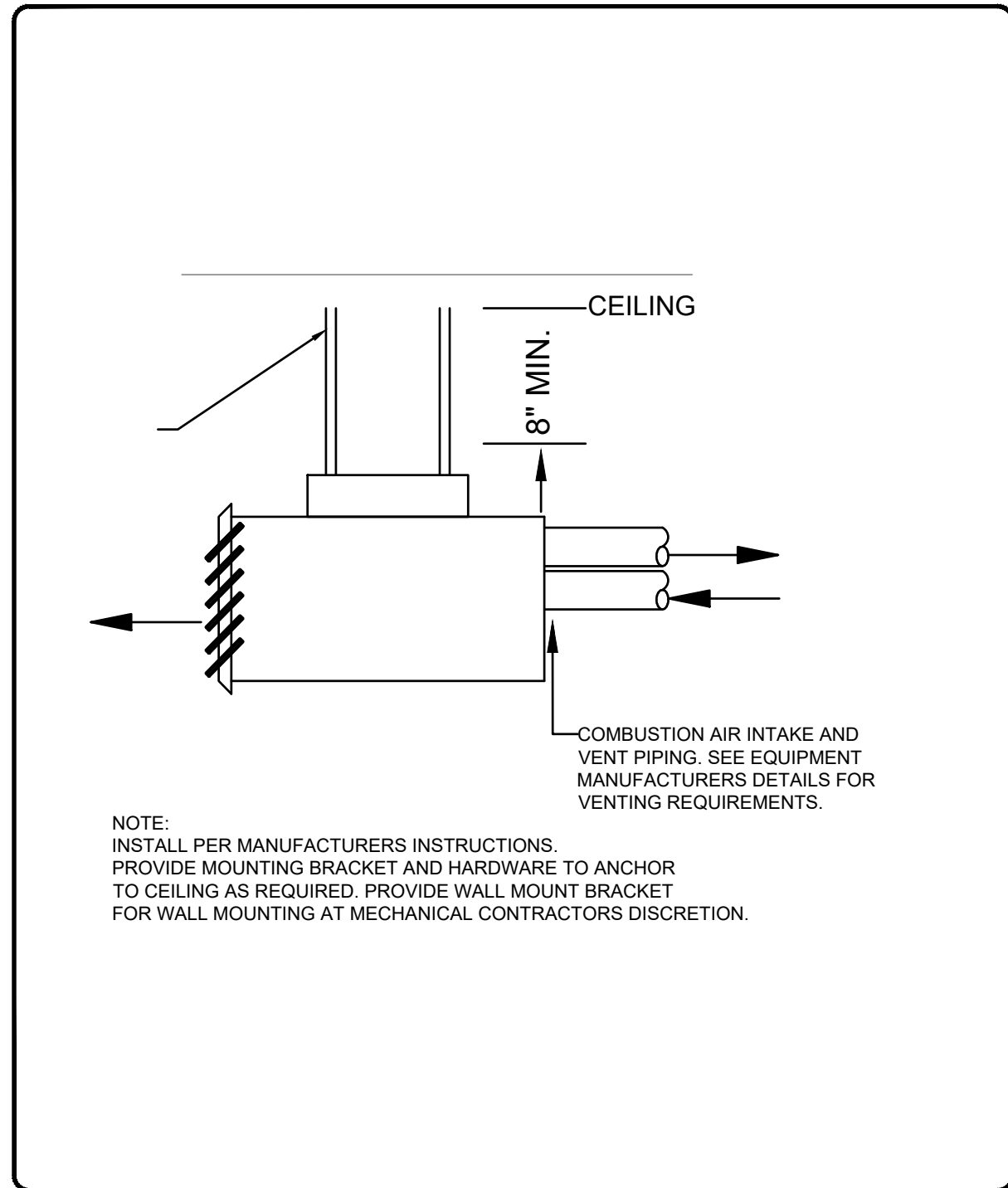
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Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

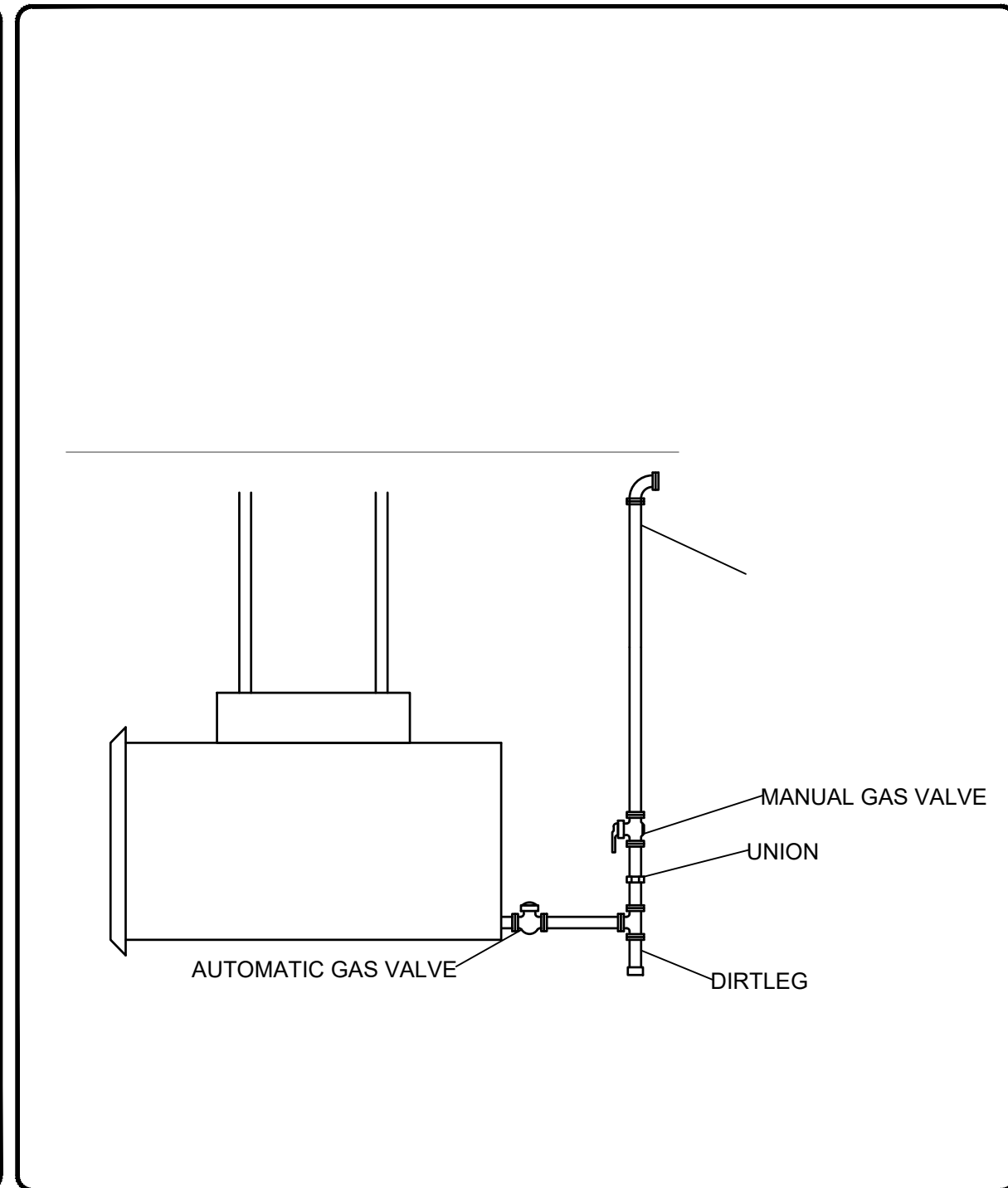
TREATMENT PLANT MECHANICAL PLAN

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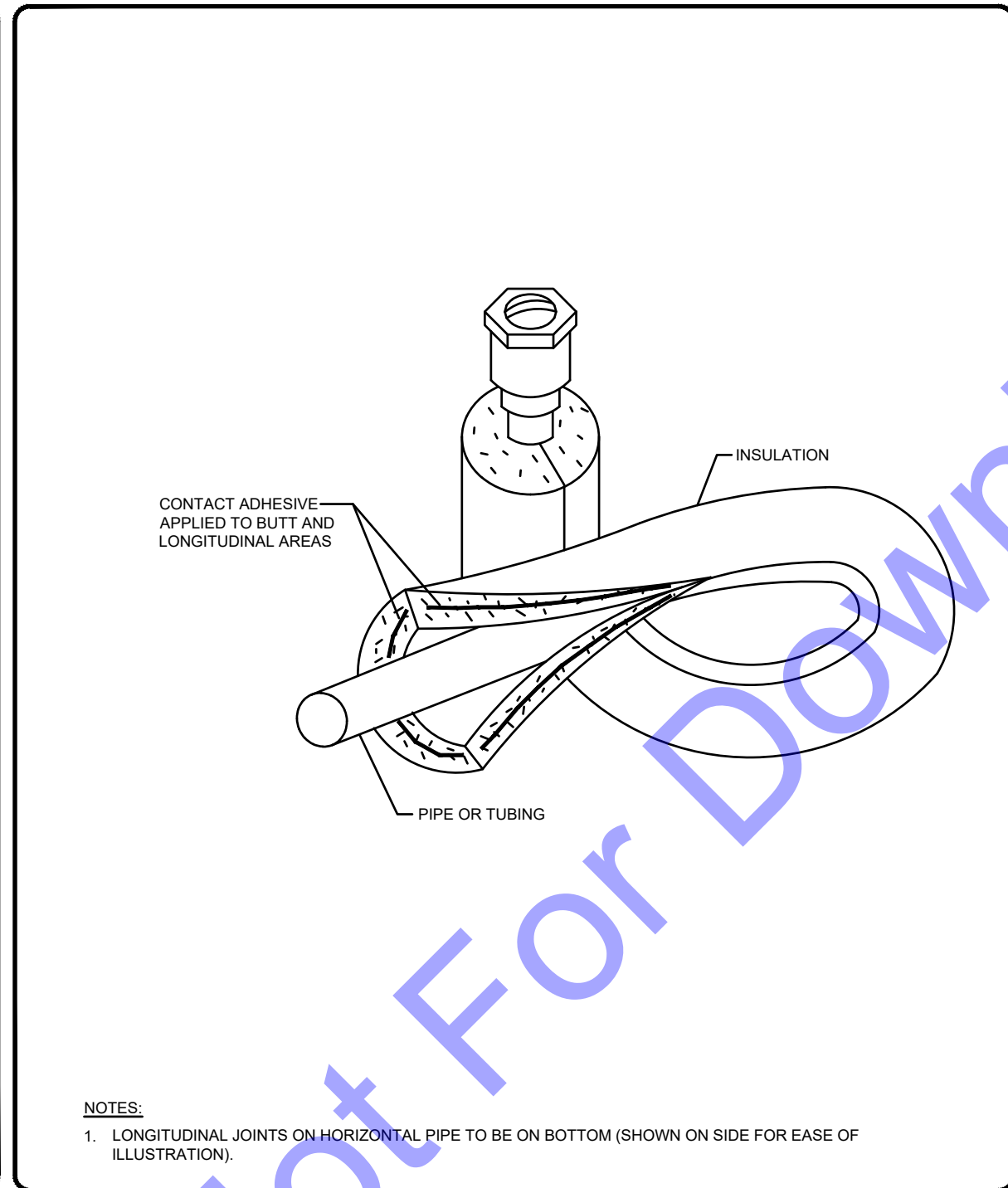
CEILING MOUNTED GAS UNIT HEATER

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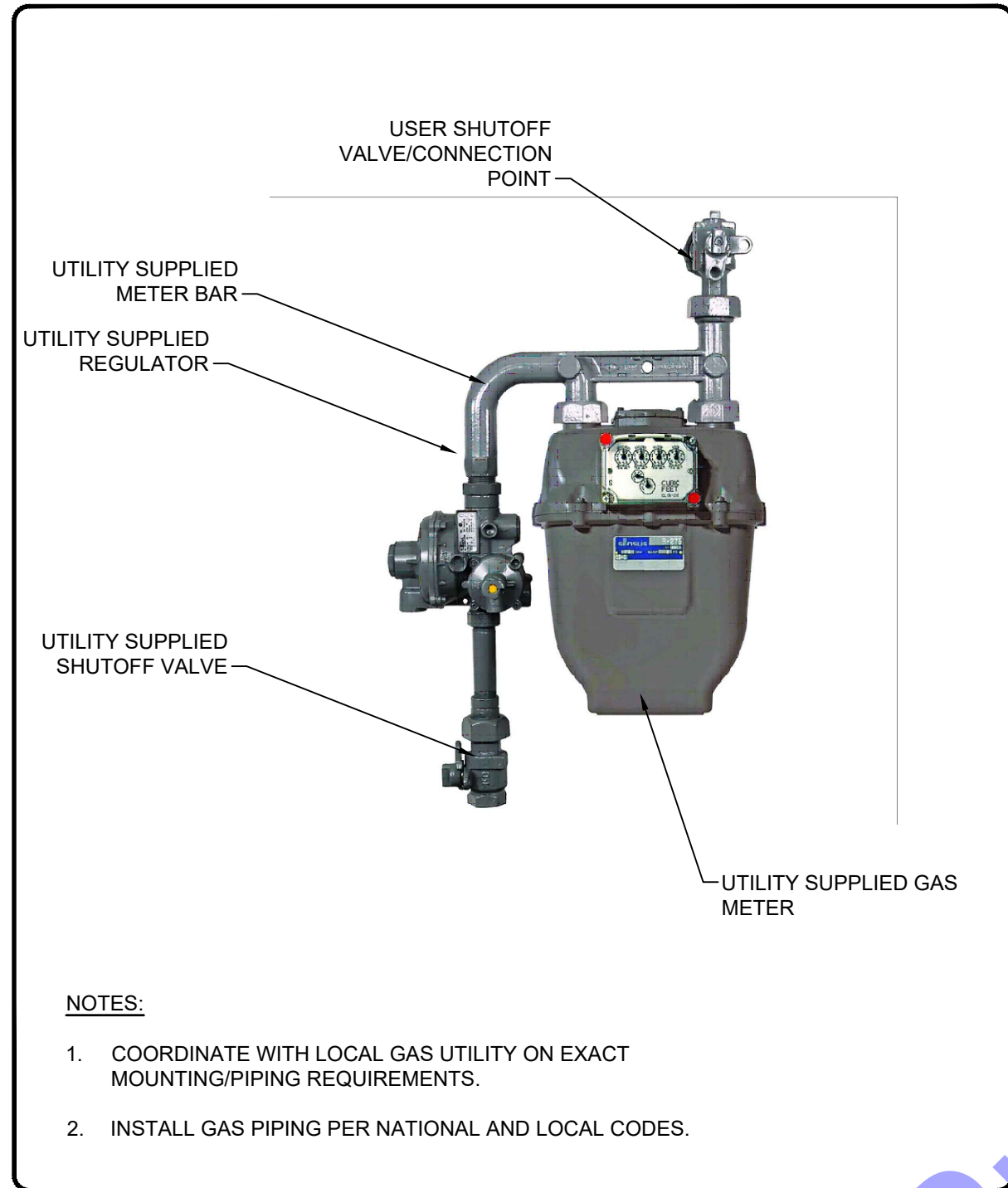
UNIT HEATER GAS PIPING DETAIL

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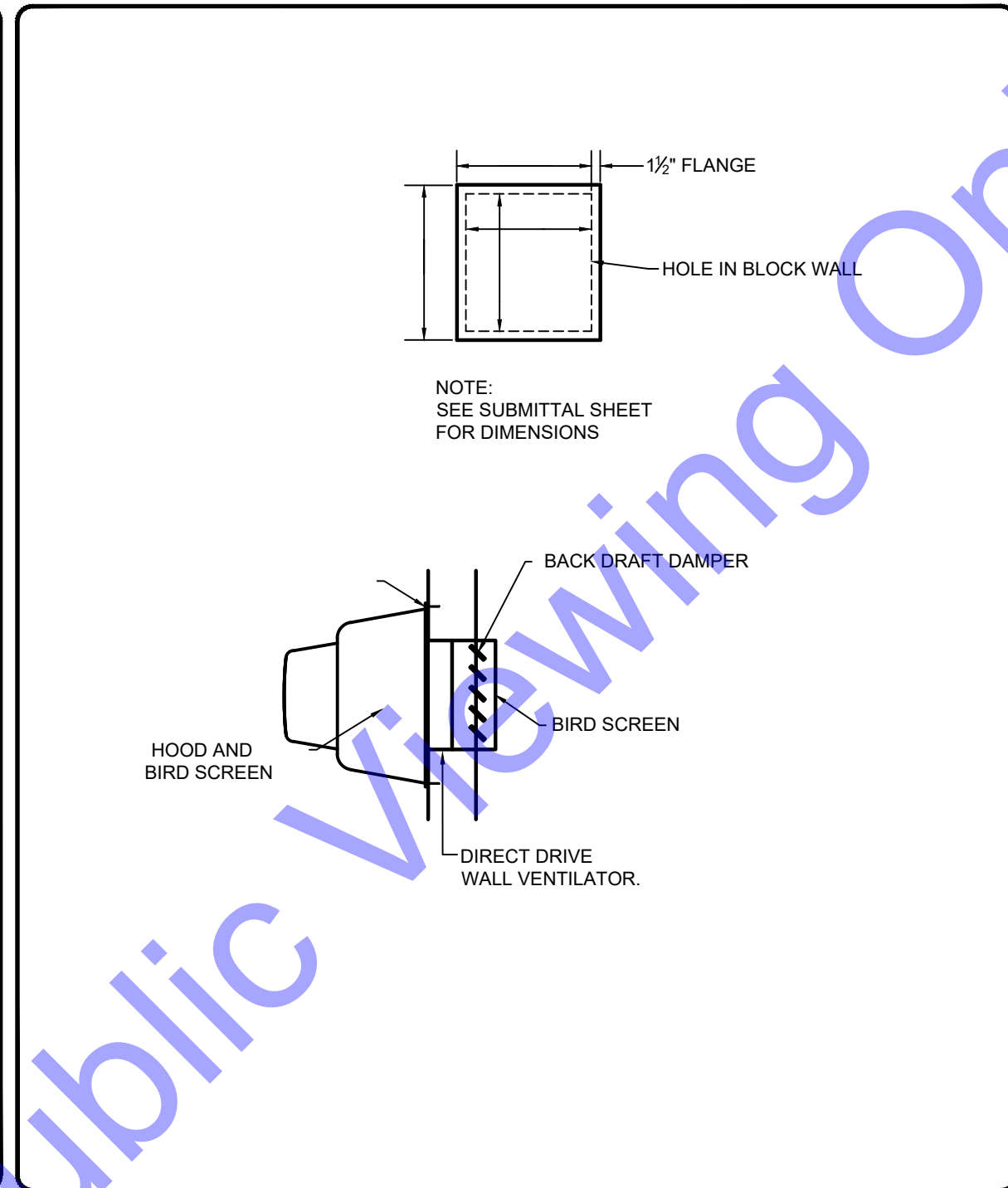
ELASTOMERIC TUBING INSULATION

NOT TO SCALE



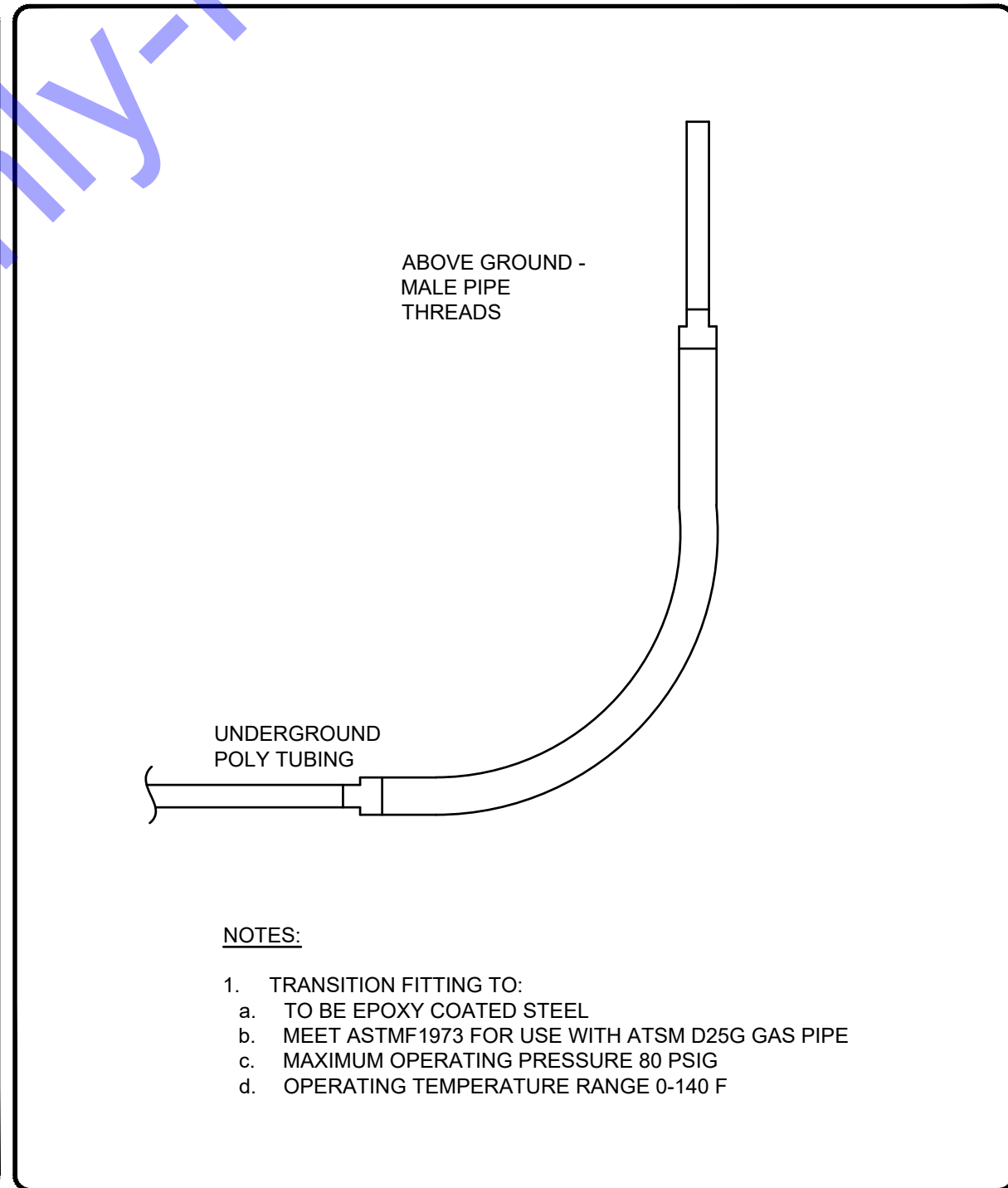
NATURAL GAS METER DETAIL

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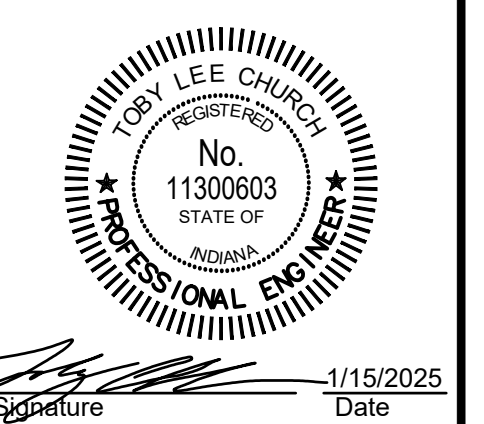
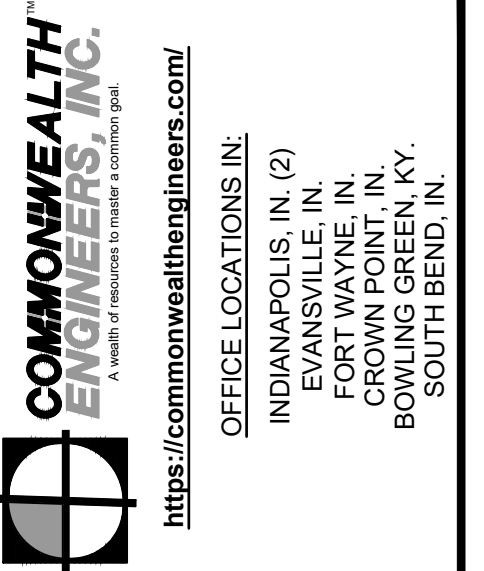
WALL FAN INSTALLATION DETAIL (SF & EF)

NO SCALE



NATURAL GAS SERVICE RISER

NOT TO SCALE



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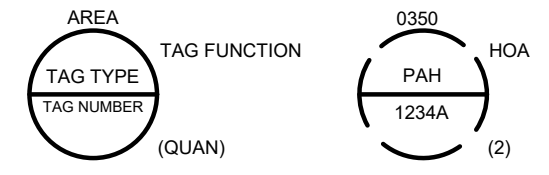
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MECHANICAL DETAILS

PROCESS AND INSTRUMENTATION DIAGRAM LEGEND

INSTRUMENT TAG IDENTIFICATION



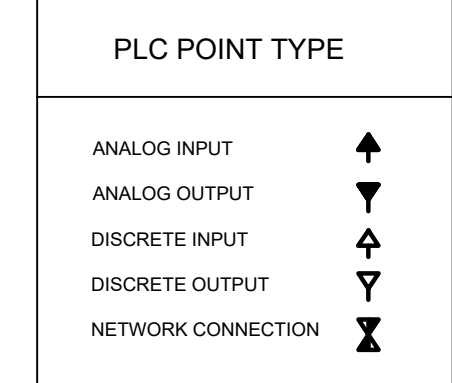
COMPONENT DESIGNATOR

AREA 035D: BUILDING OR PROCESS AREA NUMBER
TAG TYPE P: FIRST LETTER, SEE ISA TABLE BELOW
TAG NUMBER 12: PAID NUMBER
LOOP NUMBER 3
EQUIPMENT NUMBER 4
DEVICE LETTER F: MULTIPLE DEVICES

TAG FUNCTION HOA: TAG FUNCTION ABBREVIATION, SEE LISTING AT RIGHT

QUANTITY (2): TOTAL NUMBER OF DEVICES WHERE MORE THAN ONE DEVICE IS REQUIRED

PLC POINT TYPE

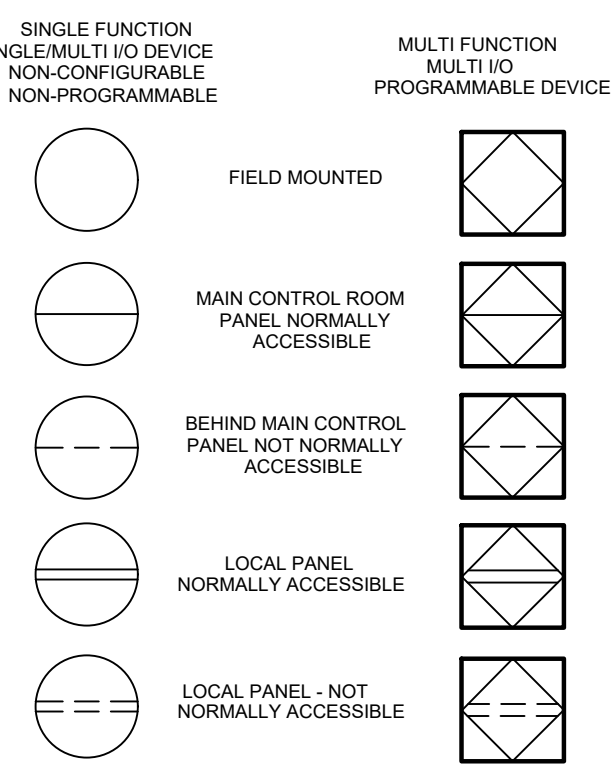


TAG FUNCTION ABBREVIATIONS

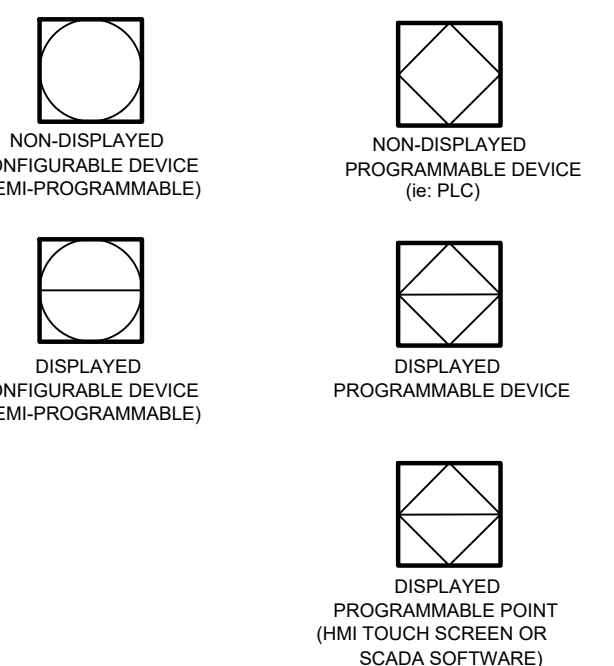
ALT ALTERNATE
CM COMPUTER-MANUAL
DIFF DIFFERENCE OR DIFFERENTIAL
DO DISSOLVED OXYGEN
F FALL
F(X) CHARACTERIZED
FOR FORWARD(STOP/OFF)-REVERSE(MAINTAINED CONTACT)
FSR FORWARD-STOP-REVERSE(MOMENTARY CONTACT)
HOA HAND-OFF-AUTOMATIC(MAINTAINED CONTACT)
HOR HAND-OFF-REMOTE(MAINTAINED CONTACT)
I CURRENT TO CURRENT
IP CURRENT TO PNEUMATIC
LL LEAD-LAG(MAINTAINED CONTACT)
LOE LOSS OF EQUIPMENT(S) SENSOR FAILURE
LOR LOCAL-OFF-REMOTE(MAINTAINED CONTACT)
LOS LOCKOUT STOP/LOCKABLE IN "STOP" POSITION

TAG SYMBOLS

HORIZONTAL BAR SYMBOLS FOR PHYSICAL MOUNTING OF DEVICE



CONTROL AND I/O DEVICES DISPLAY



INSTRUMENT SOCIETY OF AMERICA TABLE

Table with columns: LETTER, FIRST LETTER(S), PROCESS OR INITIATING VARIABLE, MODIFIER, READOUT OR PASSIVE FUNCTION, OUTPUT FUNCTION, MODIFIER. Includes symbols for ANALYSIS, BURNER COMBUSTION, USERS CHOICE, etc.

(*) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL.

SPECIAL CASES:
ETM - ELAPSED TIME METER
JBX - JUNCTION BOX
NDX - INDEX #
MS - MOTOR STARTER
MOR - MOTOR OVERLOAD RELAY
MPR - MOTOR PROTECTION RELAY

CONDUIT NOTES

PVC SCHEDULE 40 BELOW GRADE.
RIGID ALUMINUM OR PVC COATED RGS CONDUIT ABOVE GRADE OUTDOORS.
RIGID ALUMINUM OR PVC COATED RGS CONDUIT IN CLASSIFIED AND CORROSIVE SPACES.
NO CONDUIT SHALL BE RAN ON TOP OF A DECK, ON A WALKWAY, OR IN AN AREA THAT MAY POSE A TRIP HAZARD.

CONTROL WIRING REQUIREMENTS

EACH ANALOG INPUT REQUIRES AN 18/2 TWISTED SHIELDED PAIR IN 3/4" CONDUIT UNLESS NOTED OTHERWISE.
EACH ANALOG OUTPUT REQUIRES AN 18/2 TWISTED SHIELDED PAIR IN 3/4" CONDUIT UNLESS NOTED OTHERWISE.
EACH DISCRETE INPUT REQUIRES 2 #14'S IN 3/4" CONDUIT UNLESS NOTED OTHERWISE.

INSTRUMENT POWER

INSTRUMENTS REQUIRING 120 VAC:
1. MAGNETIC FLOW METERS
2. TURBIDITY TRANSMITTERS
3. PH TRANSMITTERS
4. ORP TRANSMITTERS
5. DO TRANSMITTERS
6. ULTRASONIC LEVEL TRANSMITTERS
7. ULTRASONIC FLOW TRANSMITTERS
8. INFLUENT AND EFFLUENT SAMPLERS

ELECTRICAL GENERAL NOTES

- (GENERAL NOTES APPLICABLE TO ALL ELECTRICAL SHEETS)
1. CONTRACTOR SHALL EXAMINE NOT ONLY PLANS AND SPECIFICATIONS FOR ELECTRICAL AND INSTRUMENTATION BUT PLANS AND SPECIFICATIONS FOR OTHER RELATED SECTIONS. VISIT THE SITE TO BECOME ACQUAINTED WITH ALL PROJECT CONDITIONS INCLUDING EXISTING CONDITIONS.

LEGEND

Table with columns: SYMBOL, DESCRIPTION, MTG HGT AFF TO CL, UON. Includes symbols for OPEN LIGHTING FIXTURE, SINGLE DIAGONAL LIGHTING FIXTURE, DOUBLE DIAGONAL LIGHTING FIXTURE, BATTERY POWERED EMERGENCY LIGHTING UNIT, EXIT SIGN, TRACK LIGHTING FIXTURE, FLOOD LIGHTING FIXTURE, PHOTO-CELL, etc.

LEGEND

Table with columns: SYMBOL, DESCRIPTION, MTG HGT AFF TO CL, UON. Includes symbols for EXPOSED RACEWAY, RACEWAY CONCEALED IN OR ABOVE CEILINGS AND WITHIN WALLS, BRANCH CIRCUIT RACEWAY CONCEALED IN OR BELOW FLOOR SLAB OR BELOW GRADE, LIGHTING PROTECTION CABLING, etc.

ABBREVIATIONS

Table with columns: ABBREVIATION, MEANING. Includes GFI, WP, AFF, UNO, FPMR, IG, M, TSP.

MOTOR CONTROLLER LEGEND

Table with columns: SYMBOL, DESCRIPTION. Includes MS, SS, VFD, MS/SS, SS/VFD.

LIGHTING LEGEND

Table with columns: SYMBOL, DESCRIPTION. Includes F, E.

PUMP AND METER LEGEND

Table with columns: SYMBOL, DESCRIPTION. Includes M, SFM, CP, LP, PMP, SPS, GP.

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Professional Engineer seal for Lee Church, No. 11300603, State of Indiana.

Signature: Lee Church, Date: 1/15/2025

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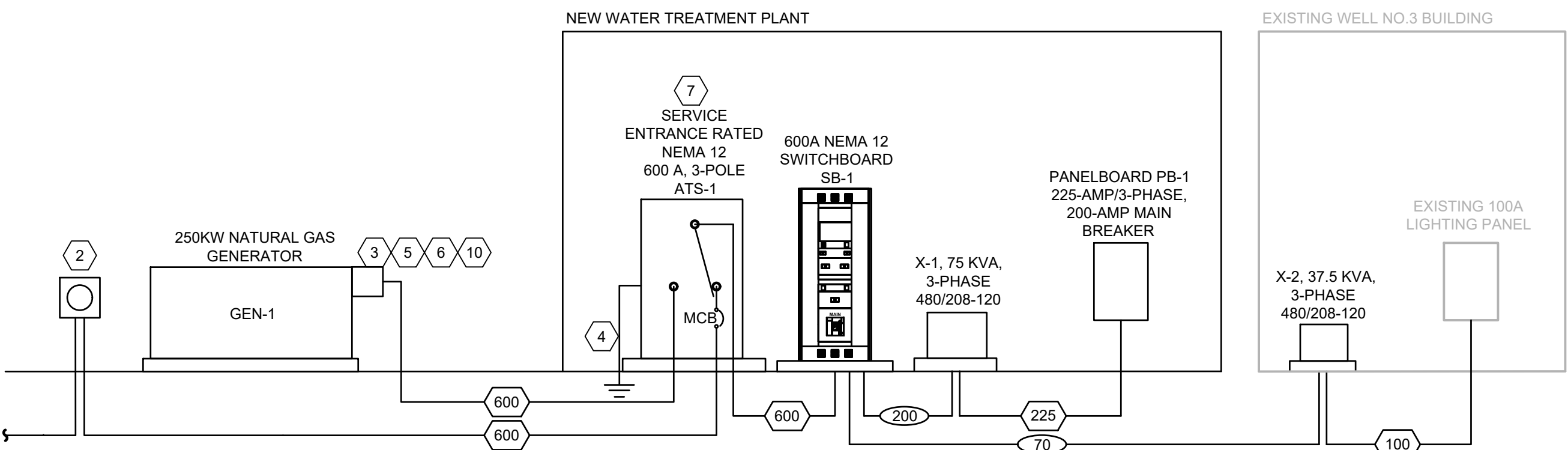
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Table for project details: Date, By, Submittal/Revision, No.

Table for design status: Designed By: SD/DS, Drawn By: SD/DS, Checked By: TC, Issue Date: 1-14-2025, Project No: W24161, Scale: AS SHOWN

ELECTRICAL LEGENDS AND SCHEDULES

TO NEW 480/277V 3-PHASE, 4 WIRE UTILITY SERVICE. CONTRACTOR SHALL COORDINATE WITH UTILITY MEANS OF METERING AND SHALL PROVIDE CT CABINET AND/OR METER BASE AS REQUIRED.



1 9

GENERATOR

MINIMUM RATED CAPACITY: 250kW	
BASIS OF DESIGN: MANUFACTURER: CUMMINS	MODEL: CUMMINS C250N6
RATED VOLTAGE: 480 3-PHASE/3-WIRE	FUEL TYPE: NATURAL GAS
ENCLOSURE RATING: SEE SPECIFICATIONS	
SEE SPECIFICATIONS FOR ADDITIONAL FEATURES	

AUTOMATIC TRANSFER SWITCH

TRANSFER SWITCH TYPE: AUTOMATIC	CURRENT RATING: 600A
RATED VOLTAGE: 480 3-PHASE/4-WIRE	# OF POLES: 3
NEUTRAL CONFIGURATION: SOLID	IN-SYNC TRANSFER: YES
MAIN CIRCUIT BREAKER: 600A	GROUND FAULT ON MAIN: NO
SERVICE ENTRANCE RATED: YES	REMOTE ANNUNCIATION: YES
BY-PASS/ISOLATION: NO	NEC LOAD BRANCH: 702
	KAIC: 42
SEE SPECIFICATIONS FOR ADDITIONAL FEATURES	
NEMA RATING: 12	CYCLE RATING: 3

NOTE: AUTOMATIC TRANSFER SWITCH SHALL BE PROVIDED WITH A CONDENSATION HEATER.

GENERAL NOTES:
SEE E0.0 FOR PROJECT CONDUIT REQUIREMENTS.

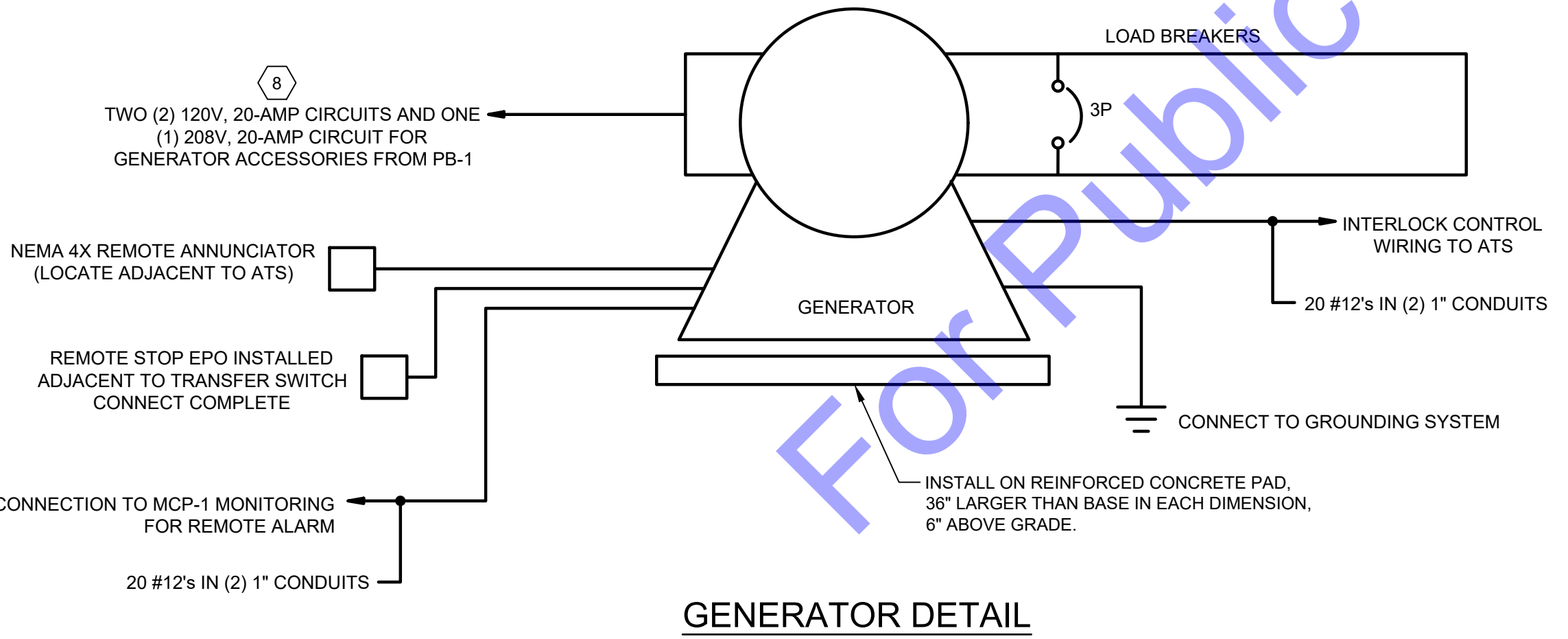
THE CONTRACTOR SHALL EXAMINE NOT ONLY PLANS AND SPECIFICATIONS FOR ELECTRICAL AND INSTRUMENTATION, BUT PLANS AND SPECIFICATIONS FOR OTHER RELATED SECTIONS. VISIT THE SITE TO BECOME ACQUAINTED WITH ALL PROJECT CONDITIONS INCLUDING EXISTING CONDITIONS. EXECUTION OF CONTRACT IS EVIDENCE THAT THE CONTRACTOR HAS EXAMINED ALL DRAWINGS AND SPECIFICATIONS AND THAT ALL CONDITIONS OF INSTALLING THE WORK IN THIS SECTION ARE VERIFIED. CLAIMS FOR LABOR, MATERIAL, OR TIME EXTENSIONS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD EXAMINATIONS BEEN MADE WILL NOT BE RECOGNIZED.

- PLAN NOTES**
- THE CONTRACTOR SHALL COORDINATE WITH NORTHERN INDIANA PUBLIC SERVICE COMPANY (NIPSCO) TO INSTALL TO 480/277 VAC, 3-PHASE, 800-AMP SERVICE. THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIAL AND LABOR NOT PROVIDED BY UTILITY. THE CONTRACTOR SHALL COORDINATE WITH UTILITY DURING BIDDING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR BUT NOT LIMITED TO: INSTALLATION AND PROVISION OF PRIMARY CONDUIT, SECONDARY CONDUIT AND WIRE, CONCRETE TRANSFORMER PAD AND CT CABINET AS REQUIRED.
 - THE ELECTRICAL CONTRACTOR SHALL PROVIDE METER BASE AND MOUNTING AS REQUIRED BY LOCAL UTILITY. COORDINATE DURING BIDDING AND CONSTRUCTION.
 - PROVIDE GENERATOR INTEGRAL CIRCUIT BREAKER TO PROVIDE MEANS OF CURRENT PROTECTION AND DISCONNECTION AT THE GENERATOR.
 - PROVIDE TRIAD GROUNDING SYSTEM.
 - COORDINATE WITH GENERATOR AND ATS SUPPLIER/MANUFACTURER FOR WIRING REQUIREMENTS DURING BIDDING AND CONSTRUCTION.
 - DO NOT BOND NEUTRAL TO GROUND AT GENERATOR. VERIFY THAT THE NEUTRAL TO GROUND IS NOT BONDED AT GENERATOR BY THE GENERATOR MANUFACTURER. NEUTRAL TO BE BONDED TO GROUND AT AUTOMATIC TRANSFER SWITCH ONLY.
 - ATS SHALL BE DESIGNED FOR FRONT ACCESS AND LIMITED TO ONE SIDE ACCESS.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE GENERATOR SUPPLIER/MANUFACTURER FOR POWER REQUIREMENTS TO THE ANCILLARY DEVICES. ANCILLARY POWER REQUIREMENTS VARY BETWEEN GENERATOR MANUFACTURERS. ALL COSTS ASSOCIATED WITH PROVIDING ANCILLARY POWER TO THE GENERATOR SHALL BE BY THE CONTRACTOR.
 - COORDINATE WITH UTILITY DURING BIDDING AND CONSTRUCTION ON TRANSFORMER TYPE (POLE MOUNTED TRANSFORMERS OR PAD MOUNT TRANSFORMER) FOR NEW UTILITY FEED.
 - MANDATORY DEDUCT NO.1: THE CONTRACTOR SHALL REMOVE ANY AND ALL INSTALLATION OF THE NATURAL GAS GENERATOR. THE CONTRACTOR SHALL FURNISH AND INSTALL A 250KW 277/480V THREE PHASE DIESEL GENERATOR IN LIEU OF THE NATURAL GAS GENERATOR.

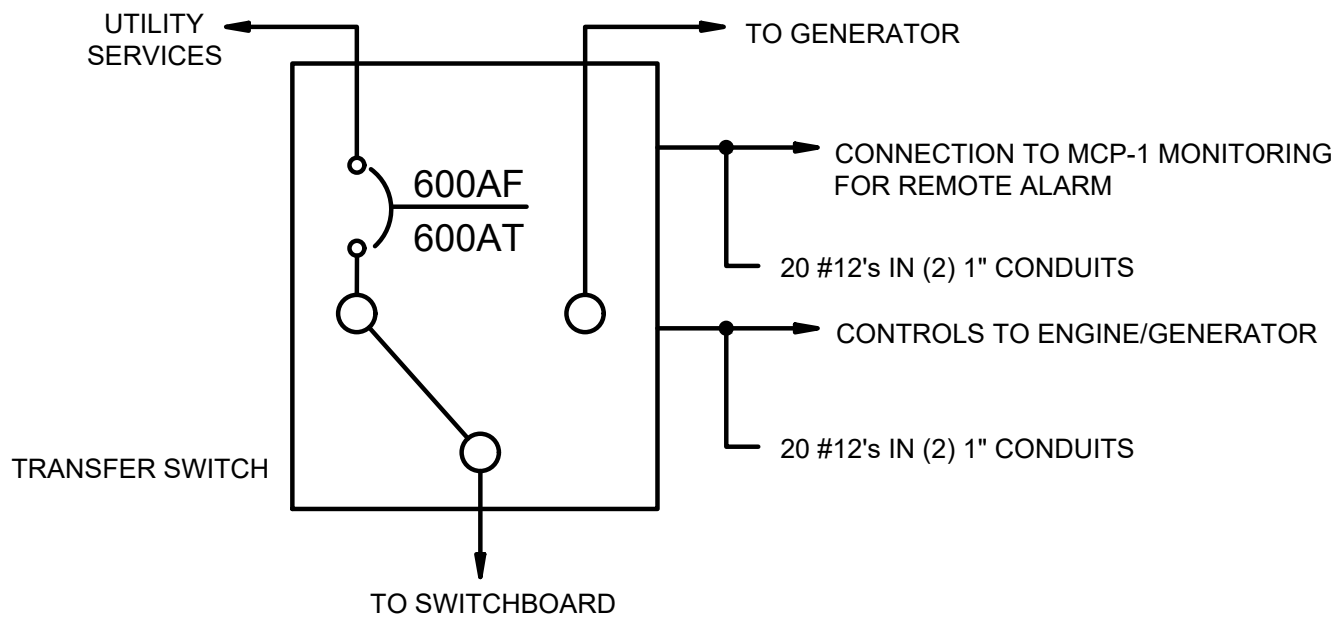
TYPE NO.	COPPER WIRE		CONDUIT	W/O NEUTRAL	SERVICE
	QUANTITIES	WIRE SIZE			
15	4#12 & #12 GROUND	3/4"	3/4"	3/4"	#8
20	4#12 & #12 GROUND	3/4"	3/4"	3/4"	#8
30	4#10 & #10 GROUND	3/4"	3/4"	3/4"	#8
50	4#8 & #10 GROUND	1"	1"	1"	#8
65	4#6 & #8 GROUND	1-1/4"	1-1/4"	1-1/4"	#8
85	4#4 & #8 GROUND	1-1/4"	1-1/4"	1-1/4"	#8
100	4#3 & #8 GROUND	1-1/2"	1-1/4"	1-1/4"	#8
115	4#2 & #6 GROUND	1-1/2"	1-1/2"	1-1/2"	#8
130	4#1 & #6 GROUND	2"	1-1/2"	1-1/2"	#6
150	4#1/0 & #6 GROUND	2"	2"	2"	#6
175	4#2/0 & #6 GROUND	2"	2"	2"	#4
200	4#3/0 & #6 GROUND	2-1/2"	2"	2"	#4
225	4#4/0 & #4 GROUND	2-1/2"	2-1/2"	2-1/2"	#2
250	4#250MCM & #4 GROUND	3"	2-1/2"	2-1/2"	#2
300	4#350MCM & #3 GROUND	3"	3"	3"	#2
380	4#500MCM & #3 GROUND	4"	4"	4"	#1/0
420	4#600MCM & #2 GROUND	4"	4"	4"	#1/0
460	(2 SETS) 4#4/0 & #2 GROUND	2-1/2"	2-1/2"	2-1/2"	#1/0
500	(2 SETS) 4#250MCM & #2 GROUND	4"	3"	3"	#1/0
600	(2 SETS) 4#350MCM & #1 GROUND	4"	3"	3"	#2/0
700	(2 SETS) 4#500MCM & #1/0 GND	4"	4"	4"	#2/0
800	(3 SETS) 4#300MCM & #1/0 GND	3"	3"	3"	#2/0
1000	(3 SETS) 4#500MCM & #2/0 GND	4"	4"	4"	#3/0
1200	(4 SETS) 4#350 MCM & 33/0 GND	4"	4"	4"	#3/0
1600	(5 SETS) 4#600 MCM & #3/0 GND	4"	3 1/2"	3 1/2"	#3/0
2000	(6 SETS) 4#600MCM & #3/0 GND	4"	4"	4"	#3/0

ALL FEEDERS ARE ASSUMED TO BE 4 CURRENT CARRYING CONDUCTORS (3 PHASE CONDUCTORS AND 1 NEUTRAL) UNLESS NOTED OTHERWISE.

FEEDER KEY IS AS FOLLOWS (PARENTHESIS DENOTES SUBSCRIPT):
= 3 PHASES AND NEUTRAL WITH GROUND
###(N) = 3 PHASES, NO NEUTRAL WITH GROUND
###(2) = 2 PHASES AND NEUTRAL WITH GROUND
ALL CIRCUITS SHALL BE RUN IN PVC BELOW GROUND/PVC COATED RIGID ABOVE GROUND



GENERATOR DETAIL



AUTOMATIC TRANSFER SWITCH

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Professional Engineer Seal: LEE CHURCH, No. 11300603, STATE OF INDIANA. Signature: [Signature], Date: 1/15/2025.

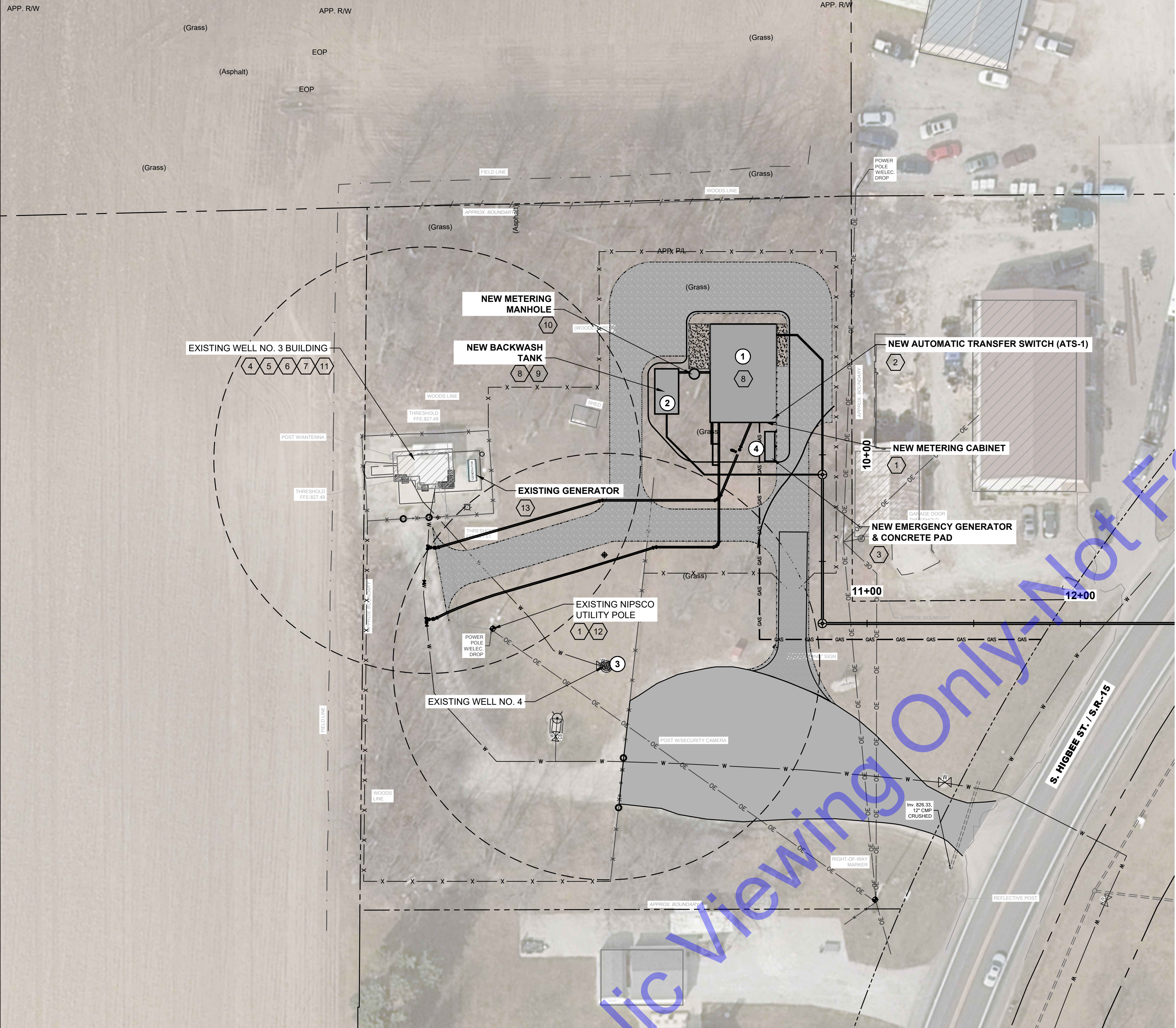
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Designed By: SD/DS	Drawn By: SD/DS	Checked By: TC
Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

RISER DIAGRAM



SITE PLAN
SCALE: 1"=30'-0"
0 30' 60'

NEW STRUCTURE LEGEND	
STRUCTURE	DESCRIPTION
1	NEW WATER TREATMENT FACILITY (SEE DWG.D1-1)
2	NEW BACKWASH TANK
3	NEW BACKWASH MAG METER
4	NEW EMERGENCY GENERATOR

GENERAL NOTES:

- SEE E0.0 FOR PROJECT CONDUIT REQUIREMENTS.
- PLANT IS TO REMAIN FULLY FUNCTIONAL DURING DEMOLITION AND CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR WIRE SIZE BASED UPON CONDUIT ROUTING AND LENGTH OF FINAL WIRE RUN. THE CONTRACTOR SHALL SIZE WIRE BASED UPON A MAXIMUM 3% VOLTAGE DROP. THE CONTRACTOR IS RESPONSIBLE FOR ANY COSTS INCURRED BY INCREASED WIRE SIZE.
- THE CONTRACTOR SHALL EXAMINE NOT ONLY PLANS AND SPECIFICATIONS FOR ELECTRICAL AND INSTRUMENTATION, BUT PLANS AND SPECIFICATIONS FOR OTHER RELATED SECTIONS. VISIT THE SITE TO BECOME ACQUAINTED WITH ALL PROJECT CONDITIONS INCLUDING EXISTING CONDITIONS. EXECUTION OF CONTRACT IS EVIDENCE THAT THE CONTRACTOR HAS EXAMINED ALL DRAWINGS AND SPECIFICATIONS AND THAT ALL CONDITIONS OF INSTALLING THE WORK IN THIS SECTION ARE VERIFIED. CLAIMS FOR LABOR, MATERIAL, OR TIME EXTENSIONS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD EXAMINATIONS BEEN MADE WILL NOT BE RECOGNIZED.

ELECTRICAL NOTES

- EXISTING UTILITY POLE. THE CONTRACTOR SHALL COORDINATE WITH NORTHERN INDIANA PUBLIC SERVICE COMPANY (NIPSCO) TO INSTALL TO 480/277 VAC, 3-PHASE, 600-AMP SERVICE. THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIAL AND LABOR NOT PROVIDED BY UTILITY. THE CONTRACTOR SHALL COORDINATE WITH UTILITY DURING BIDDING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR BUT NOT LIMITED TO: INSTALLATION AND PROVISION OF PRIMARY CONDUIT, SECONDARY CONDUIT AND WIRE, CONCRETE TRANSFORMER PAD AND CT CABINET AS REQUIRED.
- THE CONTRACTOR SHALL FURNISH AND INSTALL NEW NEMA 12 480/277 VAC, 3-PHASE, 600-AMP, SERVICE ENTRANCE RATED, 3-POLE AUTOMATIC TRANSFER SWITCH (ATS). THE NEW ATS IS TO BE MOUNTED ON A HOUSEKEEPING PAD INSIDE THE NEW WATER TREATMENT PLANT. REFER TO SHEET E3-0. NEW PAD TO BE INSTALLED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL FURNISH AND INSTALL NEW 250 KW GENERATOR. THE CONTRACTOR SHALL FURNISH AND INSTALL POWER/CONTROL CONDUITS AND WIRE FROM NEW 250 KW GENERATOR TO NEW ATS. NEW GENERATOR PAD TO BE INSTALLED BY CONTRACTOR.
- THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND WIRE TO RE-POWER EXISTING LIGHTING PANEL LOCATED IN WELL NO.3 BUILDING FROM NEW SWITCHBOARD (SB-1) LOCATED IN THE NEW TREATMENT PLANT. THE CONTRACTOR SHALL REUSE AND REINSTALL THE EXISTING WELL PUMP 75 KVA TRANSFORMER AHEAD OF EXISTING LIGHTING PANEL OUTSIDE.
- THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND WIRE TO POWER EXISTING VFD IN WELL NO.3 BUILDING FOR WELL PUMP NO.3 FROM NEW SWITCHBOARD (SB-1) LOCATED IN THE NEW TREATMENT PLANT.
- THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND WIRE TO POWER EXISTING VFD IN WELL NO.3 BUILDING FOR WELL PUMP NO.4 FROM NEW SWITCHBOARD (SB-1) LOCATED IN THE NEW TREATMENT PLANT.
- THE CONTRACTOR SHALL FURNISH AND INSTALL TWO (2) 2" CONDUITS WITH PULL STRINGS BETWEEN WELL HOUSE 4 AND TREATMENT PLANT FOR FUTURE USE.
- THE CONTRACTOR SHALL FURNISH AND INSTALL TWO (2) 120V, 20-AMP GFCI RECEPTACLES IN 18" X 18" NEMA 4X COMPOSITE OR PVC ENCLOSURE FOR BACKWASH PUMPS FROM PANEL BOARD (PB-1) IN THE NEW TREATMENT PLANT. MOUNT ENCLOSURE 18" ABOVE GRADE ON STAINLESS STEEL UNISTRUT. THE CONTRACTOR SHALL INSTALL 2" CONDUIT BETWEEN BACKWASH TANK AND RECEPTACLE BOX FOR CORDS TO BACKWASH PUMPS AND HIGH LEVEL ALARM FLOAT. CONDUIT SHALL ENTER BACKWASH TANK BELOW GRADE.
- THE CONTRACTOR SHALL FURNISH AND INSTALL HIGH LEVEL ALARM FLOAT, CONDUIT AND WIRE TO THE MAIN CONTROL PANEL IN THE NEW TREATMENT PLANT.
- THE CONTRACTOR SHALL FURNISH AND INSTALL CONTROL CONDUIT AND WIRE FOR FLOW METER (FM-5). FLOW METER DISPLAY LOCATION IS SHOWN ON ELECTRICAL DRAWING E3-0. REFER TO P&ID DRAWINGS FOR WIRING INFORMATION. POWER AND CONTROL WIRING SHALL BE IN SEPARATE CONDUITS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ONE (1) 2" CONDUITS WITH PULL STRINGS BETWEEN WELL NO.3 BUILDING AND TREATMENT PLANT FOR FIBER OPTIC CABLE FOR CAMERAS. INSTALL ONE (1) 2" CONDUIT WITH PULL STRING TO WELL HOUSE 4 FOR FIBER OPTIC CABLE FOR CAMERAS.
- ONCE NEW ELECTRICAL SERVICE IS OPERATIONAL THE CONTRACTOR SHALL DEMOLISH AND REMOVE COMPLETE EXISTING ELECTRICAL SERVICE. DEMOLITION SHALL BE PLANNED SO AS TO NOT INTERFERE WITH PLANT OPERATIONS. THE CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY DURING BIDDING AND CONSTRUCTION. THE CONTRACTOR SHALL FOLLOW UTILITY INSTRUCTION REGARDING DEMOLITION / REMOVAL / REUSE OF EXISTING WATT HOUR METER AND UTILITY DISCONNECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION OF SECONDARY WIRE AND CONDUIT. UTILITY IS RESPONSIBLE FOR PRIMARIES AND EXISTING POLE MOUNT TRANSFORMERS.
- THE CONTRACTOR SHALL DEMOLISH AND REMOVE COMPLETE EXISTING GENERATOR, GENERATOR ACCESSORIES AND ASSOCIATED POWER FEEDS, AND ANY AN ALL CONTROL AND INTERLOCK WIRING. GENERATOR SHALL BE RETURNED TO OWNER.

GENERAL DEMOLITION NOTES

- THE CONTRACTOR SHALL TAKE INTO CONSIDERATION EXISTING BURIED EQUIPMENT WHEN PLANNING THE INSTALLATION OF THE NEW EQUIPMENT OUTLINED IN THIS PROJECT. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME ACQUAINTED WITH ALL PROJECT CONDITIONS INCLUDING EXISTING CONDITIONS. EXECUTION OF CONTRACTS EVIDENCE THAT THE CONTRACTOR HAS EXAMINED ALL DRAWINGS AND SPECIFICATIONS AND THAT ALL CONDITIONS OF INSTALLING THE WORK IN THIS SECTION ARE VERIFIED. CLAIMS FOR LABOR, MATERIAL, OR TIME EXTENSIONS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD EXAMINATIONS BEEN MADE, WILL NOT BE RECOGNIZED. REFER TO PROCESS AND STRUCTURAL DRAWINGS FOR ADDITIONAL DETAILS REGARDING BURIED EQUIPMENT.
- ITEMS TO BE DEMOLISHED, REMOVED AND LAWFULLY DISPOSED OF COMPLETE TO ACCOMMODATE IMPROVEMENTS (THIS IS NOT INTENDED TO BE ALL INCLUSIVE, MERELY A REFERENCE). THE CONTRACTOR SHALL PERFORM ANY AND ALL DEMOLITION, REMOVAL, AND DISPOSAL ACTIVITIES AS REQUIRED FOR COMPLETE AND OPERATIONAL FACILITIES / INSTALLATIONS. REQUIRED DEMOLITION FOR SMALL DIAMETER PIPING, CONDUIT, ETC. NOT SHOWN ON THIS SHEET FOR CLARITY.
- AT THE CONTRACTORS DISCRETION DURING ELECTRICAL CUT OVER, COORDINATE WITH UTILITY OR USE EMERGENCY GENERATOR TO MAINTAIN OPERATION OF WASTEWATER TREATMENT PLANT. THE CONTRACTOR IS RESPONSIBLE FOR FUEL COSTS.
- OWNER SHALL HAVE FIRST RIGHT OF REFUSAL FOR ALL DEMOLISHED EQUIPMENT BEFORE THE CONTRACTOR DISPOSES OF EQUIPMENT.
- REMOVE ALL WIRING BACK TO SOURCE. CUT EXISTING EXTERIOR CONDUITS TO 8" BELOW GRADE AND SEAL CONDUITS. EXISTING CONDUIT ENTERING CONCRETE OR CONDUIT ENTERING BLACKTOP SHALL BE CUT FLUSH AND CAPPED WITH GROUT.

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Professional Engineer Seal for Lee Church, No. 11300603, State of Indiana, dated 1/15/2025.

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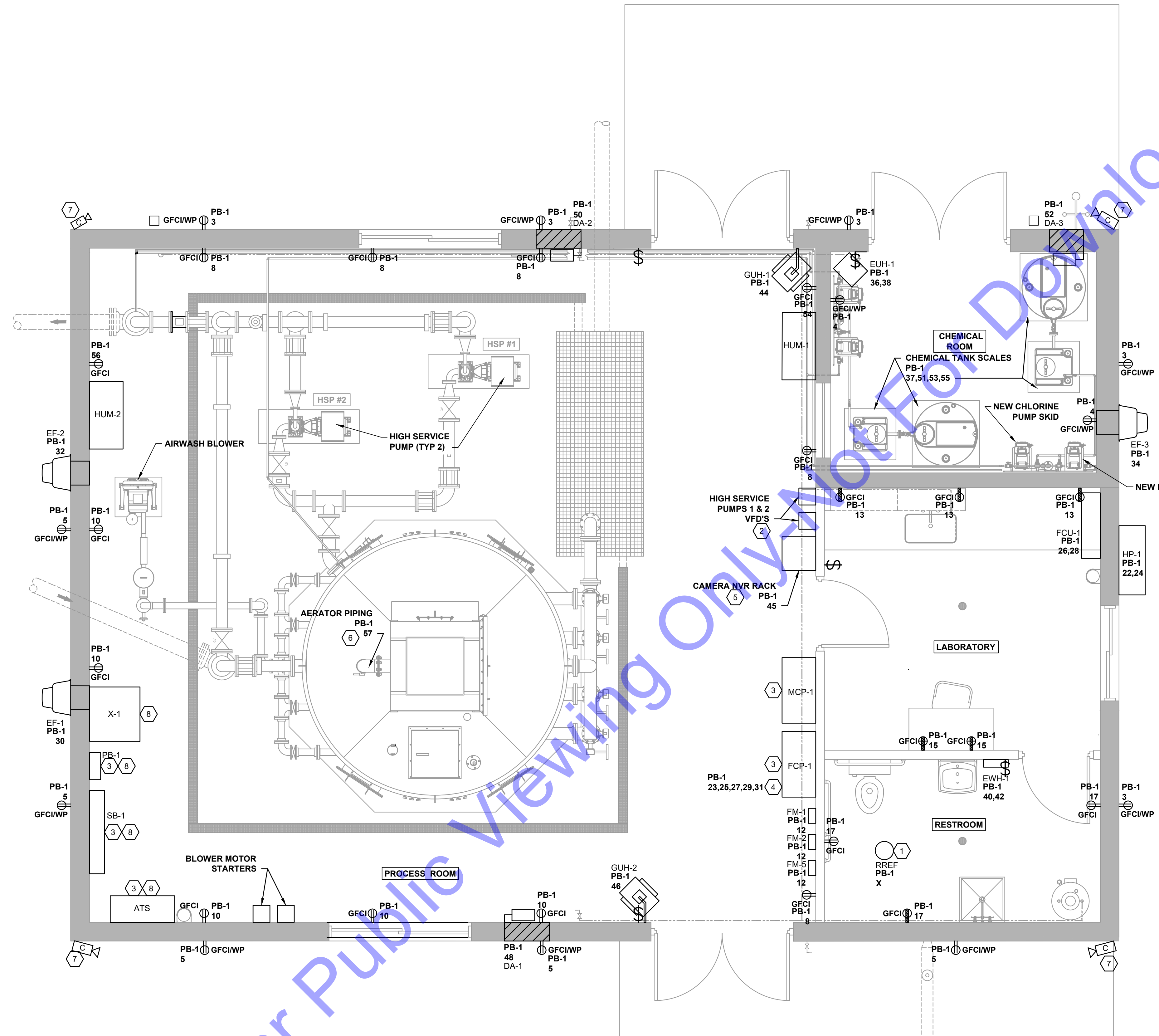
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By	
No.	
Submittal / Revision	

Designed By: SD/DS	Drawn By: SD/DS	Checked By: TC
Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

ELECTRICAL SITE PLAN



- ELECTRICAL NOTES:**
- 1 INTERLOCK RESTROOM EXHAUST FAN WITH RESTROOM LIGHT SWITCH.
 - 2 VARIABLE FREQUENCY DRIVES SHALL BE RACK MOUNTED ON 1 5/8" STAINLESS STEEL UNISTRUT WITH 4-BOLT STAINLESS STEEL FLOOR PLATES WITH STAINLESS STEEL HARDWARE.
 - 3 MCP-1 AND FCP-1 SHALL BE RACK MOUNTED ON 1 5/8" STAINLESS STEEL UNISTRUT WITH 4-BOLT STAINLESS STEEL FLOOR PLATES WITH STAINLESS STEEL HARDWARE.
 - 4 FILTER CONTROL PANEL (FCP-1) REQUIRES (5) 120 VAC 20-AMP CIRCUITS. (1) FOR POWER TO FILTER CONTROL PANEL. (4) FOR POWER TO FILTER CONTROL VALVES. REFER TO FILTER MANUFACTURERS WIRING DIAGRAMS/INFORMATION FOR PROPER TERMINATION POINTS.
 - 5 THE CONTRACTOR SHALL FURNISH AND INSTALL ONE (1) TRIPPLITE SMARTRACK 15U (OR EQUAL). PROVIDE 120 VAC, 20-AMP 4 PLEX POWER RECEPTACLE FOR CABINET.
 - 6 6" AERATOR PIPING SHALL BE HEAT TRACED. HEAT TRACE SHALL BE COVERED WITH 2" FIBERGLASS INSULATION WRAPPED IN AN ALUMINUM JACKET. PIPING IS SHOWN ON PROCESS DRAWING D1-2.
 - 7 THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND CAT6E CABLE BETWEEN PLANT CAMERAS AND CAMERA NVR LOCATED IN TRIPPLITE DATA RACK. CAMERAS SHALL BE CONNECTED TO NVR THROUGH INDIVIDUAL CAT6E CABLES. REFER TO CAMERA DETAILS ON ELECTRICAL DRAWING E6-0 FOR CAMERA INSTALLATION INFORMATION.
 - 8 THE CONTRACTOR SHALL ENSURE APPROPRIATE EQUIPMENT CLEARANCE IS PROVIDED PER NEC.

PLAN VIEW
 SCALE: 3/8"=1'-0"

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Lee Church
 No. 11300603
 STATE OF INDIANA
 REGISTERED PROFESSIONAL ENGINEER
 Signature: _____ Date: 1/15/2025

TOWN OF MILFORD, INDIANA

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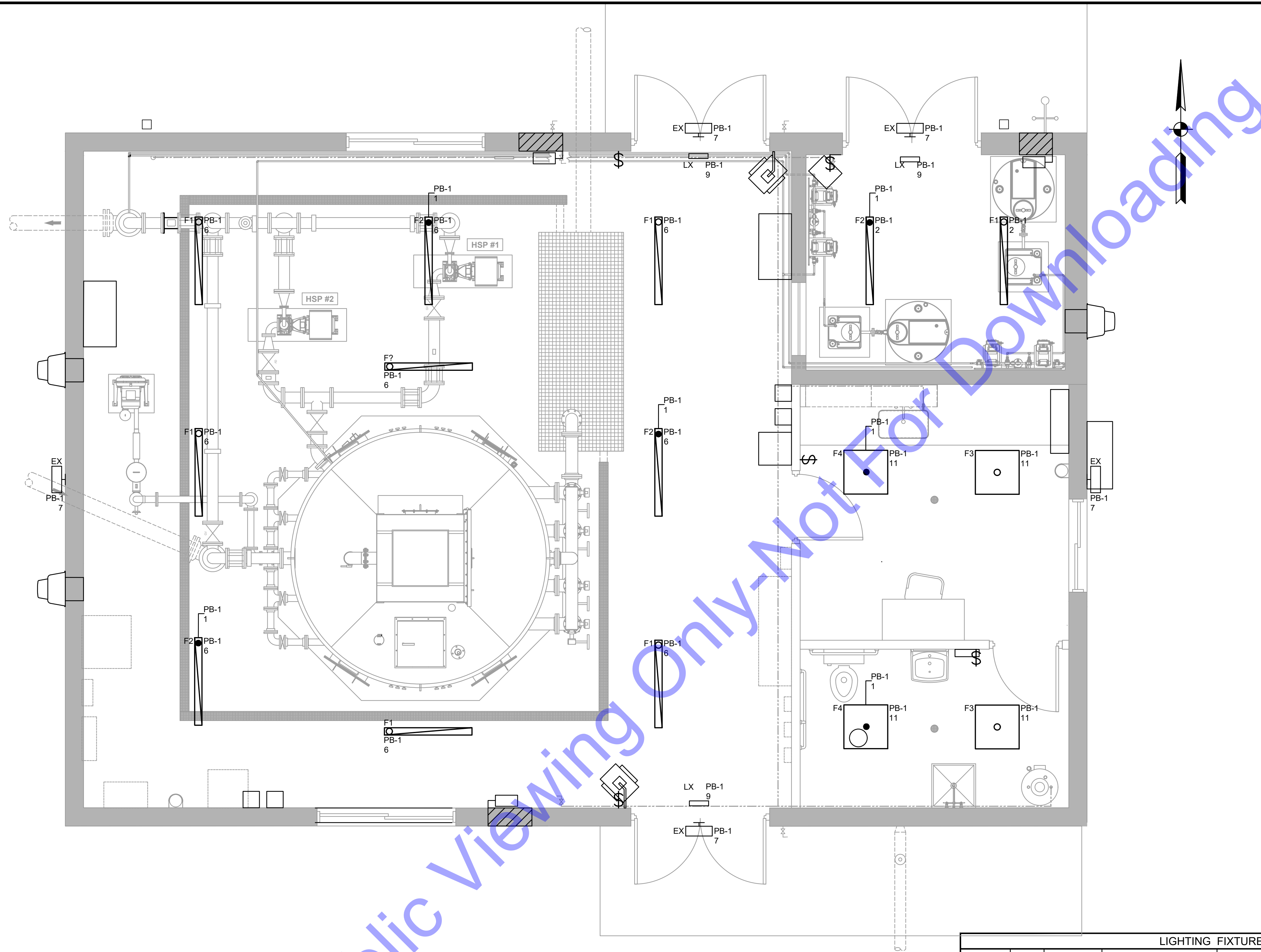
No.	Date		By
	Submitted / Revision		

Designed By: SD/DS	Drawn By: SD/DS	Checked By: TC
Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

NEW WATER TREATMENT PLANT FACILITY ELECTRICAL PLAN

Drawing No:
E3-0

Sheet: 66 OF 75



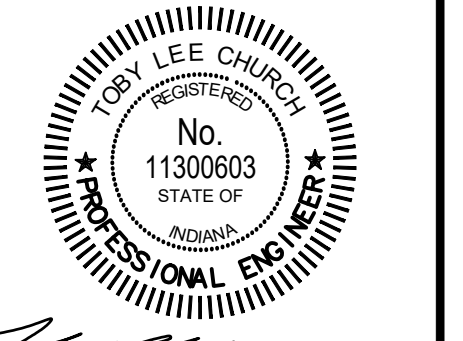
PLAN VIEW

SCALE: 3/8"=1'-0"



LIGHTING FIXTURE SCHEDULE							
IMAGE	TYPE	MFR	CATALOG NUMBER	LAMPS	VOLT	MOUNTING	NOTES
	F1	LITHONIA, CREE, OR EQUAL	VAP 6000LM 79LED SYM	LED	120-277	SURFACE	PROVIDE WET LOCATION FITTINGS AS REQUIRED. PROVIDE MOUNTING BRACKETS AS REQUIRED.
	F2	LITHONIA, CREE, OR EQUAL	VAP 6000LM 79LED SYM BSL722C	LED	120-277	SURFACE	BATTERY BACKED EMERGENCY LIGHT. PROVIDE WET LOCATION FITTINGS AS REQUIRED. PROVIDE MOUNTING BRACKETS AS REQUIRED. LED, STANDARD FUNCTION AND EMERGENCY BACKUP.
	F3	LITHONIA, CREE, OR EQUAL	STAKS 2X2 AL03 SWW7 HIGH LUMEN 400K	LED	120-277	LAY IN CEILING	PROVIDE WITH REQUIRED MOUNTING HARDWARE AS REQUIRED FOR INSTALLATION.
	F4	LITHONIA, CREE, OR EQUAL	STAKS 2X2 AL03 SWW7 HIGH LUMEN 400K WITH BATTERY BACKUP	LED	120-277	LAY IN CEILING	PROVIDE WITH REQUIRED MOUNTING HARDWARE OR CHAINS AS REQUIRED FOR INSTALLATION. BATTERY BACKED EMERGENCY LIGHT. LED, STANDARD FUNCTION AND EMERGENCY BACKUP.
	EX	SYLVANIA, CREE, OR EQUAL	TWPLU0301740/C5/UN/BZ	LED	120-277	SURFACE	WALL MOUNTED OUTDOOR SCIENCE WITH TEMPERED GLASS LENS. PROVIDE WITH PHOTOCELL. 2800 LUMENS.
	LX	EMERGI-LITE OR EQUAL	LEDP-1-R	INCLUDED	120	UNIVERSAL	LED EXIT SIGN WITH RED LETTERING ON BRUSHED ALUMINUM PANEL. CHEVRONS SHALL BE REQUIRED AS SHOWN ON DRAWINGS.

PROVIDE BULBS FOR ALL FIXTURES. PROVIDE 10% SPARE BULBS TO THE OWNER AT THE END OF THE PROJECT.



Signature: [Signature] Date: 1/15/2025

**TOWN OF MILFORD
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**NEW WATER
 TREATMENT PLANT
 FACILITY LIGHTING
 PLAN**

Drawing No:
E3-1
 Sheet: 67 OF 75

GENERAL NOTES:

1. SEE E0.0 FOR PROJECT CONDUIT REQUIREMENTS.
2. PLANT IS TO REMAIN FULLY FUNCTIONAL DURING DEMOLITION AND CONSTRUCTION.
3. THE CONTRACTOR SHALL EXAMINE NOT ONLY PLANS AND SPECIFICATIONS FOR ELECTRICAL AND INSTRUMENTATION, BUT PLANS AND SPECIFICATIONS FOR OTHER RELATED SECTIONS. VISIT THE SITE TO BECOME ACQUAINTED WITH ALL PROJECT CONDITIONS INCLUDING EXISTING CONDITIONS. EXECUTION OF CONTRACT IS EVIDENCE THAT THE CONTRACTOR HAS EXAMINED ALL DRAWINGS AND SPECIFICATIONS AND THAT ALL CONDITIONS OF INSTALLING THE WORK IN THIS SECTION ARE VERIFIED. CLAIMS FOR LABOR, MATERIAL, OR TIME EXTENSIONS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD EXAMINATIONS BEEN MADE WILL NOT BE RECOGNIZED.

ELECTRICAL NOTES

- 1 EXISTING WELL PUMP TRANSFORMERS. THE EXISTING WELL PUMP NO.3 AND WELL PUMP NO.4 ARE CURRENTLY FED FROM TWO 75 KVA TRANSFORMERS USED TO STEP UP THE EXISTING INCOMING 208V TO 480V. THE CONTRACTOR SHALL DEMOLISH AND REMOVE COMPLETE BOTH TRANSFORMERS AND ANY ASSOCIATED CONDUIT AND WIRING. THE CONTRACTOR SHALL REUSE AND REINSTALL THE EXISTING TRANSFORMERS TO FEED THE EXISTING WELL NO.3 BUILDING PANELBOARD AND THE NEW PANELBOARD 1 IN THE NEW TREATMENT PLANT. REFER TO E4-0 FOR ADDITIONAL DETAILS.
- 2 EXISTING AUTOMATIC TRANSFER SWITCH, DISCONNECT SWITCH, CT CABINET, AND METER BASE. ONCE NEW ELECTRICAL SERVICE IS OPERATIONAL THE CONTRACTOR SHALL DEMOLISH AND REMOVE COMPLETE EXISTING ELECTRICAL SERVICE. DEMOLITION SHALL BE PLANNED SO AS TO NOT INTERFERE WITH PLANT OPERATIONS. THE CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY DURING BIDDING AND CONSTRUCTION. THE CONTRACTOR SHALL FOLLOW UTILITY INSTRUCTION REGARDING DEMOLITION / REMOVAL / REUSE OS EXISTING WATT HOUR METER AND UTILITY DISCONNECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION OF SECONDARY WIRE AND CONDUIT. UTILITY IS RESPONSIBLE FOR PRIMARIES AND EXISTING POLE MOUNT TRANSFORMERS.
- 3 EXISTING BACKUP GENERATOR. ONCE NEW ELECTRICAL SERVICE IS OPERATIONAL THE CONTRACTOR SHALL DEMOLISH AND REMOVE COMPLETE EXISTING GENERATOR, AUTOMATIC TRANSFER SWITCH, GENERATOR ACCESSORIES AND ASSOCIATED POWER FEEDS, AND ANY AN ALL CONTROL AND INTERLOCK WIRING. GENERATOR SHALL BE RETURNED TO OWNER.
- 4 EXISTING MAIN DISCONNECT SWITCH AND EXISTING LIGHTING PANEL. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND WIRE TO RE-POWER EXISTING LIGHTING PANEL LOCATED IN WELL NO.3 BUILDING FROM NEW SWITCHBOARD (SB-1) LOCATED IN THE NEW TREATMENT PLANT. THE CONTRACTOR SHALL REUSE THE EXISTING WELL PUMP 75 KVA TRANSFORMER AHEAD OF EXISTING LIGHTING PANEL OUTSIDE. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ON EXACT FINAL MOUNTING LOCATION.
- 5 THE CONTRACTOR SHALL FURNISH AND INSTALL TWO (2) 2" CONDUITS WITH PULL STRINGS BETWEEN WELL HOUSE 4 AND TREATMENT PLANT FOR FUTURE USE.
- 6 THE CONTRACTOR SHALL FURNISH AND INSTALL ONE (1) 2" CONDUITS WITH PULL STRINGS BETWEEN WELL HOUSE 3 AND TREATMENT PLANT FOR FIBER OPTIC CABLE FOR CAMERAS. INSTALL ONE (1) 2" CONDUIT WITH PULL STRING TO WELL HOUSE 4 FOR FIBER OPTIC CABLE FOR CAMERAS.
- 7 THE CONTRACTOR SHALL FURNISH AND INSTALL NEW CAMERA MOUNTED ON THE SOUTH EXTERIOR WALL FACING ENTRANCE OF WELL NO.3 BUILDING AND ON THE EAST EXTERIOR WALL FACILITY ENTRANCE GATE.
- 8 THE CONTRACTOR SHALL REUSE EXISTING CAMERA EQUIPMENT ENCLOSURE FOR NETWORK SWITCH FOR WELL NO.3 BUILDING CAMERAS. REFER TO ELECTRICAL DRAWING E7-0 FOR CAMERA AND SWITCH INFORMATION.
- 9 THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT WITH CAT6E CABLE FROM CAMERA TO NETWORK SWITCH.

GENERAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL TAKE INTO CONSIDERATION EXISTING BURIED EQUIPMENT WHEN PLANNING THE INSTALLATION OF THE NEW EQUIPMENT OUTLINED IN THIS PROJECT. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME ACQUAINTED WITH ALL PROJECT CONDITIONS INCLUDING EXISTING CONDITIONS. EXECUTION OF CONTRACTS EVIDENCE THAT THE CONTRACTOR HAS EXAMINED ALL DRAWINGS AND SPECIFICATIONS AND THAT ALL CONDITIONS OF INSTALLING THE WORK IN THIS SECTION ARE VERIFIED. CLAIMS FOR LABOR, MATERIAL, OR TIE EXTENSIONS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD EXAMINATIONS BEEN MADE, WILL NOT BE RECOGNIZED. REFER TO PROCESS AND STRUCTURAL DRAWINGS FOR ADDITIONAL DETAILS REGARDING BURIED EQUIPMENT.
2. ITEMS TO BE DEMOLISHED, REMOVED AND LAWFULLY DISPOSED OF COMPLETE TO ACCOMMODATE IMPROVEMENTS (THIS IS NOT INTENDED TO BE ALL INCLUSIVE, MERELY A REFERENCE). THE CONTRACTOR SHALL PERFORM ANY AND ALL DEMOLITION, REMOVAL, AND DISPOSAL ACTIVITIES AS REQUIRED FOR COMPLETE AND OPERATIONAL FACILITIES / INSTALLATIONS. REQUIRED DEMOLITION FOR SMALL DIAMETER PIPING, CONDUIT, ETC. NOT SHOWN ON THIS SHEET FOR CLARITY.
3. AT THE CONTRACTORS DISCRETION DURING ELECTRICAL CUT OVER, COORDINATE WITH UTILITY OR USE EMERGENCY GENERATOR TO MAINTAIN OPERATION OF WASTEWATER TREATMENT PLANT. THE CONTRACTOR IS RESPONSIBLE FOR FUEL COSTS.
4. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL FOR ALL DEMOLISHED EQUIPMENT BEFORE THE CONTRACTOR DISPOSES OF EQUIPMENT.
5. REMOVE ALL WIRING BACK TO SOURCE. CUT EXISTING EXTERIOR CONDUITS TO 8" BELOW GRADE AND SEAL CONDUITS. EXISTING CONDUIT ENTERING CONCRETE OR CONDUIT ENTERING BLACKTOP SHALL BE CUT FLUSH AND CAPPED WITH GROUT.



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 REGISTERED PROFESSIONAL ENGINEER
 STATE OF INDIANA
 No. 11300603
 TERRY LEE CHURCH
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**TOWN OF MILFORD
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**WATER UTILITY IMPROVEMENTS
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Designed By: SD/DS	Drawn By: SD/DS	Checked By: TC
Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

**WELL NO.3 BUILDING
 DEMOLITION AND
 IMPROVEMENTS PLAN**

Drawing No:
E4-0
 Sheet: 68 OF 75



5



7

GENERAL NOTES:

1. SEE E0.0 FOR PROJECT CONDUIT REQUIREMENTS.
2. PLANT IS TO REMAIN FULLY FUNCTIONAL DURING DEMOLITION AND CONSTRUCTION.
3. THE CONTRACTOR SHALL EXAMINE NOT ONLY PLANS AND SPECIFICATIONS FOR ELECTRICAL AND INSTRUMENTATION, BUT PLANS AND SPECIFICATIONS FOR OTHER RELATED SECTIONS. VISIT THE SITE TO BECOME ACQUAINTED WITH ALL PROJECT CONDITIONS INCLUDING EXISTING CONDITIONS. EXECUTION OF CONTRACT IS EVIDENCE THAT THE CONTRACTOR HAS EXAMINED ALL DRAWINGS AND SPECIFICATIONS AND THAT ALL CONDITIONS OF INSTALLING THE WORK IN THIS SECTION ARE VERIFIED. CLAIMS FOR LABOR, MATERIAL, OR TIME EXTENSIONS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD EXAMINATIONS BEEN MADE WILL NOT BE RECOGNIZED.

ELECTRICAL NOTES

1. EXISTING WELL PUMP NO.3 VFD AND DISCONNECT SWITCH. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND WIRE TO POWER EXISTING VFD IN WELL NO.3 BUILDING FOR WELL PUMP NO.3 FROM NEW SWITCHBOARD (SB-1) LOCATED IN THE NEW TREATMENT PLANT.
2. EXISTING WELL PUMP NO.4 VFD AND DISCONNECT SWITCH. THE CONTRACTOR SHALL REPLACE EXISTING DISCONNECT SWITCH. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND WIRE TO POWER EXISTING VFD IN WELL NO.3 BUILDING FOR WELL PUMP NO.4 FROM NEW SWITCHBOARD (SB-1) LOCATED IN THE NEW TREATMENT PLANT.
3. EXISTING TELEMETRY PANEL. THE CONTRACTOR SHALL REUSE EXISTING TELEMETRY PANEL AND INSTALL NEW FIBER OPTIC CONDUIT AND CABLING TO THE MAIN CONTROL PANEL (MCP-1) IN THE NEW TREATMENT PLANT. REFER TO P&ID DRAWINGS ON E6-0 FOR ADDITIONAL DETAILS.
4. EXISTING CHLORINE ROOM AND CHLORINATION EQUIPMENT. THE CONTRACTOR SHALL DEMOLISH AND REMOVE COMPLETE ALL EXISTING CHLORINE EQUIPMENT INCLUDING BUT NOT LIMITED TO TANK SCALES, INSTRUMENTATION, PUMPS, AND ANY ASSOCIATED CONTROL/POWER CONDUIT AND WIRING.
5. MANDATORY ALTERNATE NO.2: INTERIOR WALL TO BE DEMOLISHED. THE CONTRACTOR SHALL REMOVE AND RELOCATED EXISTING EQUIPMENT INCLUDING BUT NOT LIMITED TO WELL PUMP NO.3 VFD, WELL PUMP NO.3 DISCONNECT SWITCH, BREAKER BOX, AND ANY ASSOCIATED POWER/CONTROL CONDUIT AND WIRING. THE CONTRACTOR SHALL COORDINATE WITH OWNER ON NEW MOUNTING LOCATIONS.

GENERAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL TAKE INTO CONSIDERATION EXISTING BURIED EQUIPMENT WHEN PLANNING THE INSTALLATION OF THE NEW EQUIPMENT OUTLINED IN THIS PROJECT. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME ACQUAINTED WITH ALL PROJECT CONDITIONS INCLUDING EXISTING CONDITIONS. EXECUTION OF CONTRACTS EVIDENCE THAT THE CONTRACTOR HAS EXAMINED ALL DRAWINGS AND SPECIFICATIONS AND THAT ALL CONDITIONS OF INSTALLING THE WORK IN THIS SECTION ARE VERIFIED. CLAIMS FOR LABOR, MATERIAL, OR TIE EXTENSIONS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD EXAMINATIONS BEEN MADE, WILL NOT BE RECOGNIZED. REFER TO PROCESS AND STRUCTURAL DRAWINGS FOR ADDITIONAL DETAILS REGARDING BURIED EQUIPMENT.
2. ITEMS TO BE DEMOLISHED, REMOVED AND LAWFULLY DISPOSED OF COMPLETE TO ACCOMMODATE IMPROVEMENTS (THIS IS NOT INTENDED TO BE ALL INCLUSIVE, MERELY A REFERENCE). THE CONTRACTOR SHALL PERFORM ANY AND ALL DEMOLITION, REMOVAL, AND DISPOSAL ACTIVITIES AS REQUIRED FOR COMPLETE AND OPERATIONAL FACILITIES / INSTALLATIONS. REQUIRED DEMOLITION FOR SMALL DIAMETER PIPING, CONDUIT, ETC. NOT SHOWN ON THIS SHEET FOR CLARITY.
3. AT THE CONTRACTORS DISCRETION DURING ELECTRICAL CUT OVER, COORDINATE WITH UTILITY OR USE EMERGENCY GENERATOR TO MAINTAIN OPERATION OF WASTEWATER TREATMENT PLANT. THE CONTRACTOR IS RESPONSIBLE FOR FUEL COSTS.
4. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL FOR ALL DEMOLISHED EQUIPMENT BEFORE THE CONTRACTOR DISPOSES OF EQUIPMENT.
5. REMOVE ALL WIRING BACK TO SOURCE. CUT EXISTING EXTERIOR CONDUITS TO 8" BELOW GRADE AND SEAL CONDUITS. EXISTING CONDUIT ENTERING CONCRETE OR CONDUIT ENTERING BLACKTOP SHALL BE CUT FLUSH AND CAPPED WITH GROUT.



3



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Professional Engineer Seal:
 TERRY LEE CHURCH
 No. 11300603
 STATE OF INDIANA
 PROFESSIONAL ENGINEER
 Signature: [Signature] Date: 1/15/2025

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**WELL NO.3 BUILDING
 DEMOLITION AND
 IMPROVEMENTS PLAN 2**

ELECTRICAL NOTES:

- ① EXISTING MAIN BREAKER PANEL.
- ② EXISTING BREAKER PANEL FOR ELEVATED TANK. THE CONTRACTOR SHALL FURNISH AND INSTALL TWO (2) NEW 120 VAC, 1 POLE GFCI BREAKERS IN EXISTING PANEL FOR NEW TANK MIXER CONTROL PANEL AND TANK MIXER. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL POWER/CONTROL CONDUIT AND WIRE NECESSARY FOR A FULLY FUNCTIONAL SYSTEM.
- ③ ESTIMATED 175 FT HEIGHT TO TOP OF TANK. THE CONTRACTOR SHALL FURNISH AND INSTALL POWER AND CONTROL CONDUITS AND WIRE FROM TANK MIXER CONTROL PANEL TO TANK MIXER IN BOWL OF TANK. COORDINATE WITH TANK MIXER MANUFACTURER/REPRESENTATIVE DURING BIDDING AND CONSTRUCTION FOR INSTALLATION AND WIRING DETAILS.
- ④ CONDUIT SHALL BE ALUMINUM RIGID CONDUIT ATTACHED TO TANK SUPPORTS WITH STAINLESS STEEL UNISTRUT, CLAMPS, AND MOUNTING ACCESSORIES. ANY WELDING TO TANK SHALL BE BY WELDER HAVING REQUIRED TANK CERTIFICATIONS.
- ⑤ THE CONTRACTOR SHALL INSTALL NEW MIXER CONTROL PANEL ADJACENT TO EXISTING BREAKER PANEL. THE CONTRACTOR SHALL FURNISH AND INSTALL POWER/CONTROL CONDUIT AND WIRE FOR INTEGRATION INTO EXISTING TANK RTU PANEL AND PLANT SCADA SYSTEM.



①



② ③ ⑤

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REGISTERED PROFESSIONAL ENGINEER
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 STATE OF INDIANA
 TERRY LEE CHURCH
 Signature: _____ Date: 1/15/2025

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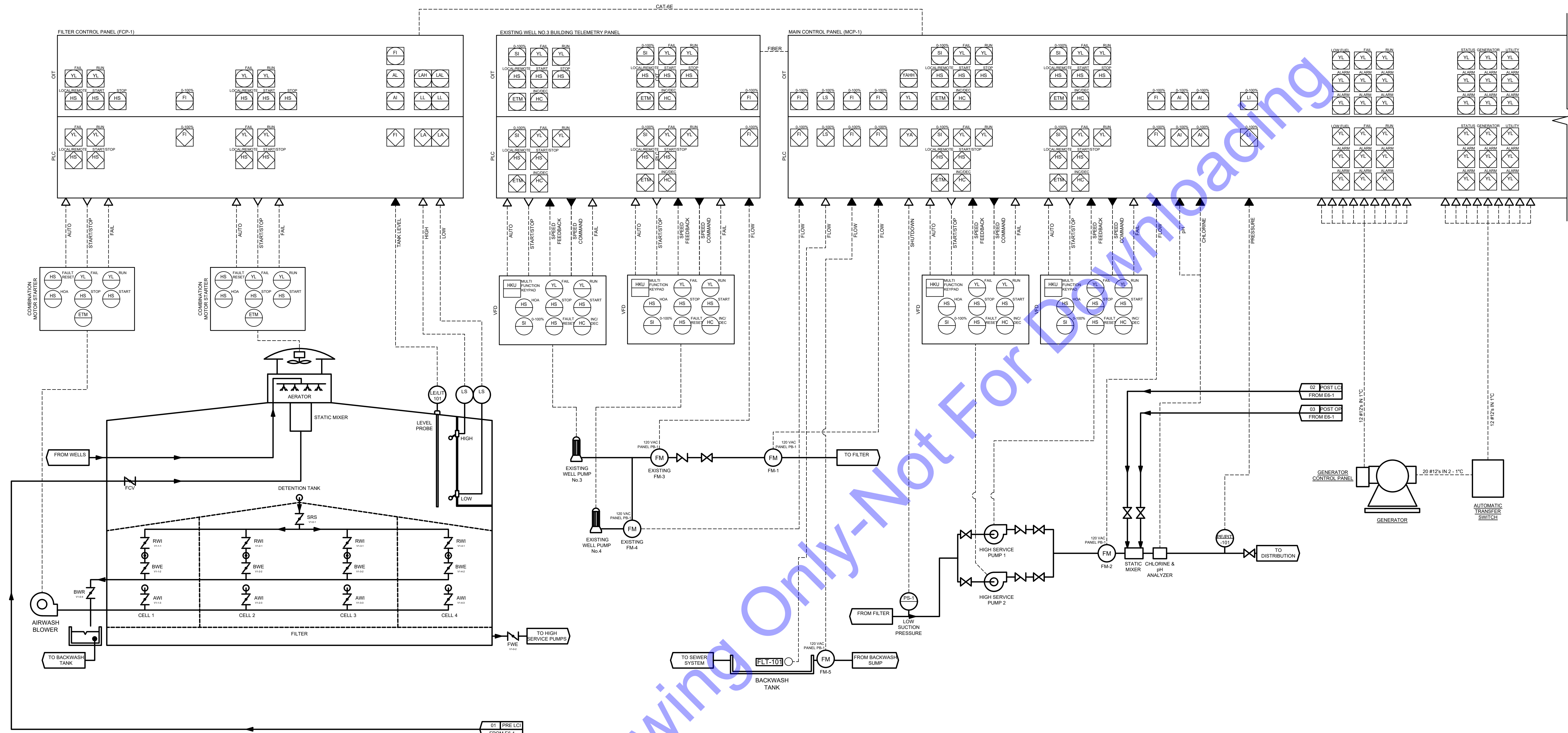
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1-14-2025	W24161	AS SHOWN

**ELEVATED TANK
 POWER AND CONTROL
 PLAN**

Drawing No:
E5-0
 Sheet: 70 OF 75



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 WATER UTILITY IMPROVEMENTS DIVISION "A" - WATER TREATMENT IMPROVEMENTS

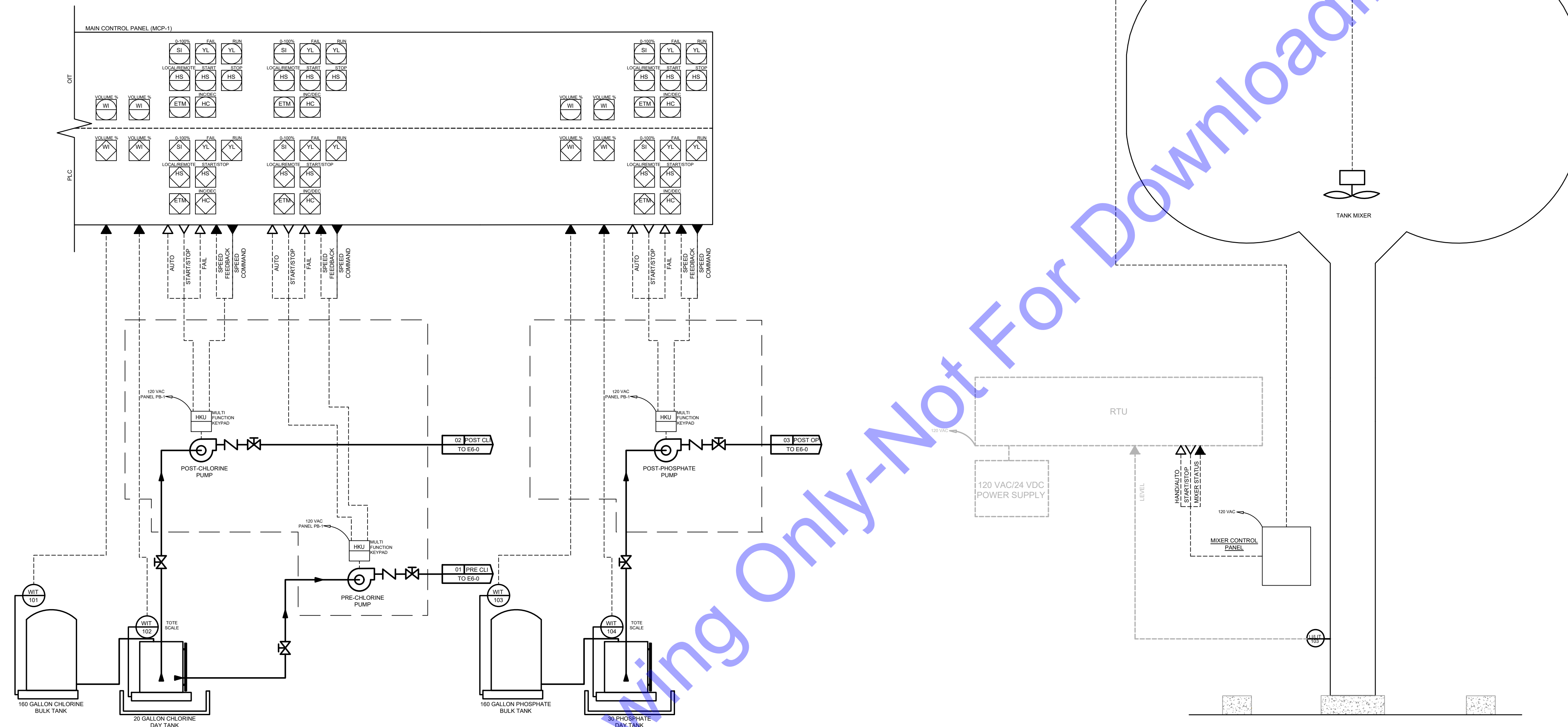
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PROCESS AND INSTRUMENTATION DRAWING 1

Drawing No: **E6-0**
 Sheet: 71 OF 75



CHEMICAL INSTRUMENT DETAILS

- LIQUID CHLORINE AND PHOSPHATE EQUIPMENT IS SPECIFIED IN DS-12 CHEMICAL FEED SYSTEMS. SYSTEMS CONTROLLED BY MAIN CONTROL PANEL (MCP-1). THE CONTRACTOR SHALL FURNISH AND INSTALL ALL POWER/CONTROL CONDUIT AND WIRE FOR A FULLY FUNCTIONAL SYSTEM.

GENERAL NOTES:

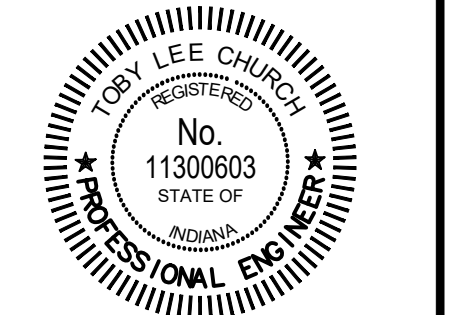
- WIRING DETAILS SHOWN ARE GENERIC IN NATURE AND WERE PROVIDED BY THE MIXER AND CHEMICAL EQUIPMENT MANUFACTURERS AS WHAT WAS AVAILABLE AT THE TIME OF DESIGN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE EQUIPMENT MANUFACTURERS DURING BIDDING AND CONSTRUCTION TO ENSURE PROPER CONDUIT/WIRE IS BID AND A COMPLETE AND FULLY OPERATIONAL SYSTEM IS INSTALLED. LACK OF COORDINATION DURING BIDDING AND CONSTRUCTION WILL NOT JUSTIFY A CHANGE ORDER.

ELEVATED TANK MIXER INSTRUMENT DETAILS

- ELEVATED TANK MIXER EQUIPMENT IS SPECIFIED IN DS-17 MIXING SYSTEMS FOR ELEVATED WATER TANKS. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL POWER/CONTROL CONDUIT AND WIRE AND FURNISH AND INSTALL ALL EQUIPMENT NECESSARY FOR THE EXISTING TANK RTU FOR A FULLY FUNCTIONAL SYSTEM.
- THE CONTRACTOR SHALL ENSURE ALL FUNCTIONS OF THE TANK MIXER SYSTEM ARE TRANSMITTED THROUGH THE EXISTING RTU TO THE MAIN CONTROL PANEL (MCP-1) AT THE TREATMENT PLANT FOR STATUS AND CONTROL.
- THE CONTRACTOR SHALL ENSURE THAT THE ELEVATED TANK LEVEL IS TRANSMITTED THROUGH THE EXISTING RTU SYSTEM TO THE MAIN CONTROL PANEL (MCP-1) AT THE TREATMENT PLANT FOR CONTROL OF THE PLANT HIGH SERVICE PUMPS.



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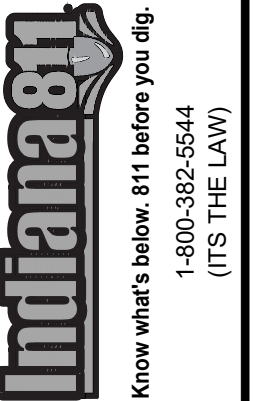


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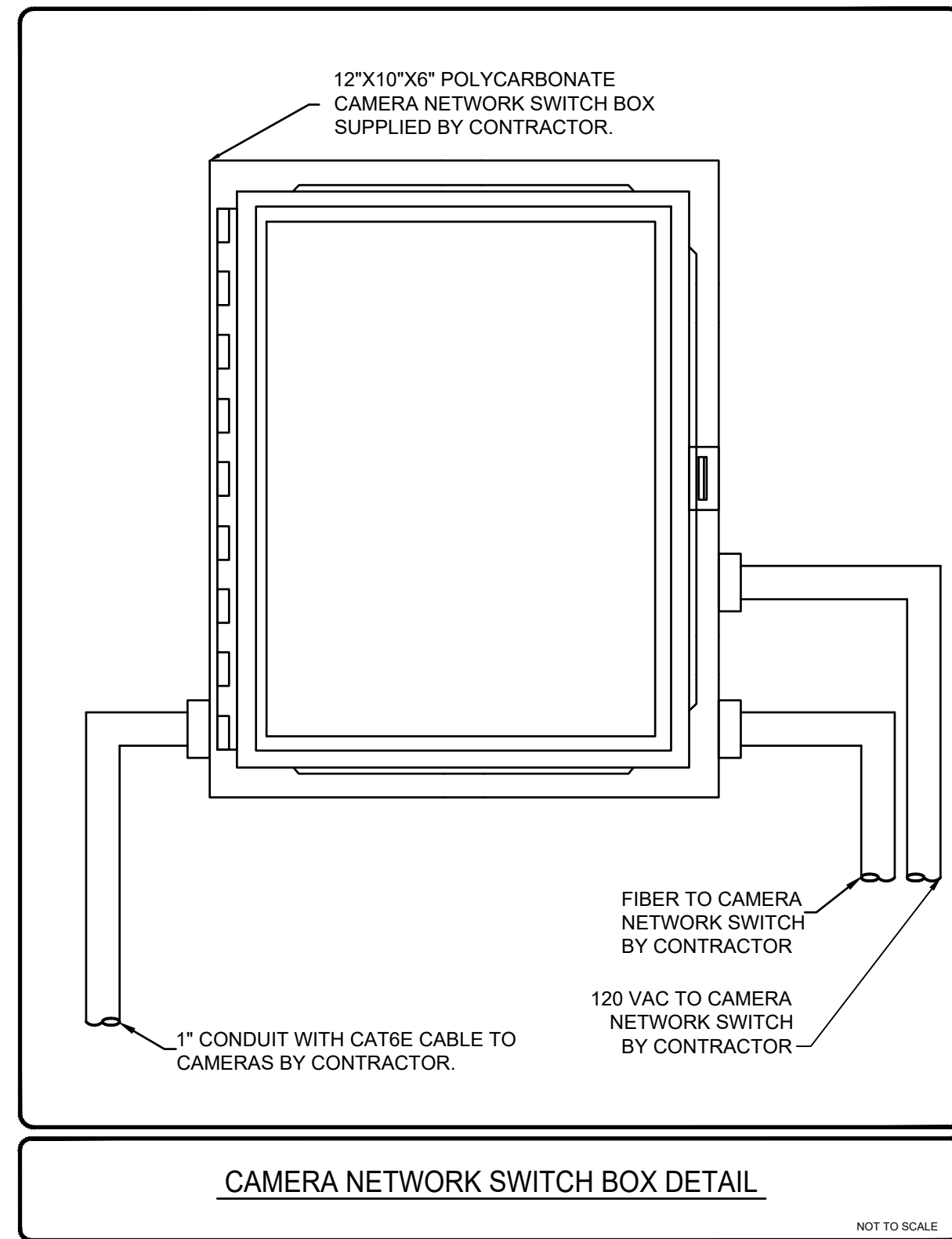


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Issue Date: 1-14-2025	Project No: W24161	Scale: AS SHOWN

PROCESS AND INSTRUMENTATION DRAWING 2

Drawing No:
E6-1

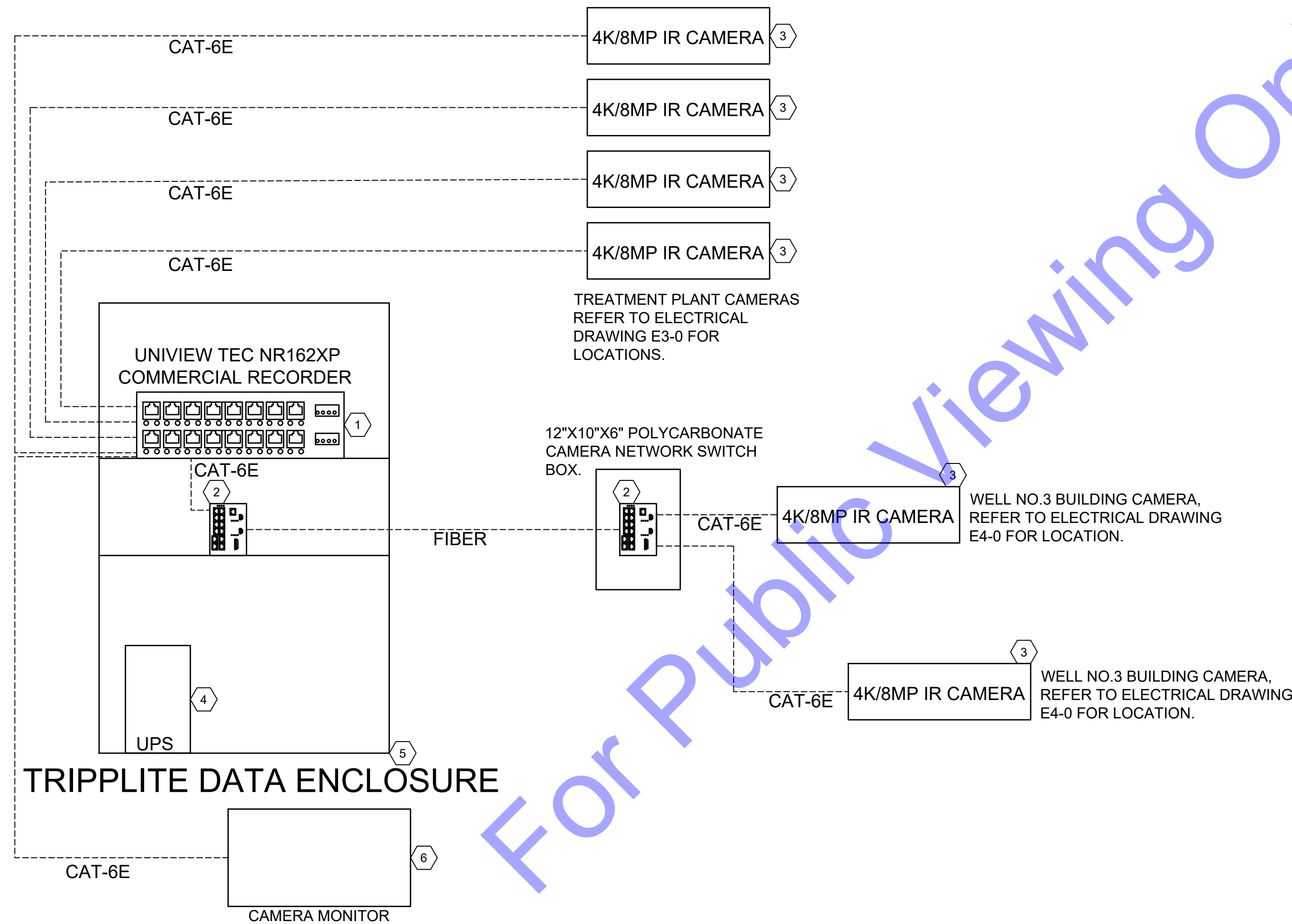


GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL 14 X 12 X 6 MIER BW-SL14126 POLYCARBONATE ENCLOSURE. ALL REQUIRED CONDUIT AND WIRE TO POWER ENCLOSURES SHOWN ON CAMERA DRAWING. CONDUITS SHALL NOT ENTER OR EXIT ENCLOSURES THROUGH TOP OR BACK OF ENCLOSURES. INSTALL 120V, 20-AMP SWITCH FOR POWER TO MEDIA CONVERTER.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND CAT6E CABLE BETWEEN MAIN CAMERA RACK LOCATED IN TREATMENT PLANT TO CAMERAS LOCATED AT EXTERIOR LOCATIONS AT TREATMENT PLANT. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND CAT6E CABLE BETWEEN MEDIA CONVERTERS LOCATED IN WELL NO.3 BUILDING AND EXTERIOR CAMERAS LOCATED AT WELL NO.3 BUILDING.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT AND FIBER OPTIC CABLES FOR THE PLANT CAMERA SYSTEM. FIBER OPTIC CABLE FOR CAMERA NETWORK SHALL BE 3-PAIR, MULTIMODE, OM3 OUTDOOR FIBER OPTIC CABLE. FIBER OPTIC CABLE SHALL BE INSTALLED FROM FROM MEDIA CONVERTERS LOCATED IN MAIN CAMERA NVR RACK LOCATED IN FILTER BUILDING TO MEDIA CONVERTERS LOCATIONS SHOWN ON CAMERA DRAWING.

ELECTRICAL NOTES

- 1 CAMERA RECORDER, 30 DAY MINIMUM STORAGE CAPACITY: UNIVIEW TEC NR1162XP (OR EQUAL). CAMERA SOFTWARE IS FREE DOWNLOAD.
- 2 CAMERA SWITCH: UBIQUITI (OR EQUAL) US-8-150 W, WITH TWO UBIQUITI (OR EQUAL) WITH TWO (2) UF-MM-1G SFP ADAPTERS.
- 3 CAMERA STANDARD FIXED MOUNT (4K/8MP) FIXED 90 DEGREE: UNIVIEW TEC IPT4K28A1X (OR EQUAL). MOUNTING ACCESSORIES: UNIVIEW TEC JUNCTION BOX TR-JB03-H-1N, FOR NON-METAL SURFACES, PVC UTILITY BOX JBX552 FOR METAL SURFACES.
- 4 UNINTERRUPTIBLE POWER SUPPLY (UPS): APC (OR EQUAL), 120 V, 500 VA.
- 5 DATA RACK: TRIPPLITE SMART RACK 150U (OR EQUAL)
- 6 CAMERA MONITOR, DELL (OR EQUAL) 24" MINIMUM 1080P RESOLUTION WITH HDMI CONNECTION TO CAMERA RECORDER.



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 CROWN POINT, IN
 BOWLING GREEN, KY
 SOUTH BEND, IN

Professional Engineer Seal: TERRY LEE CHURCH, No. 11300603, STATE OF INDIANA.

Signature: [Signature] Date: 1/15/2025

**TOWN OF MILFORD
 KOSCIUSKO COUNTY,
 INDIANA**

WATER UTILITY IMPROVEMENTS
 DIVISION "A" - WATER TREATMENT
 IMPROVEMENTS

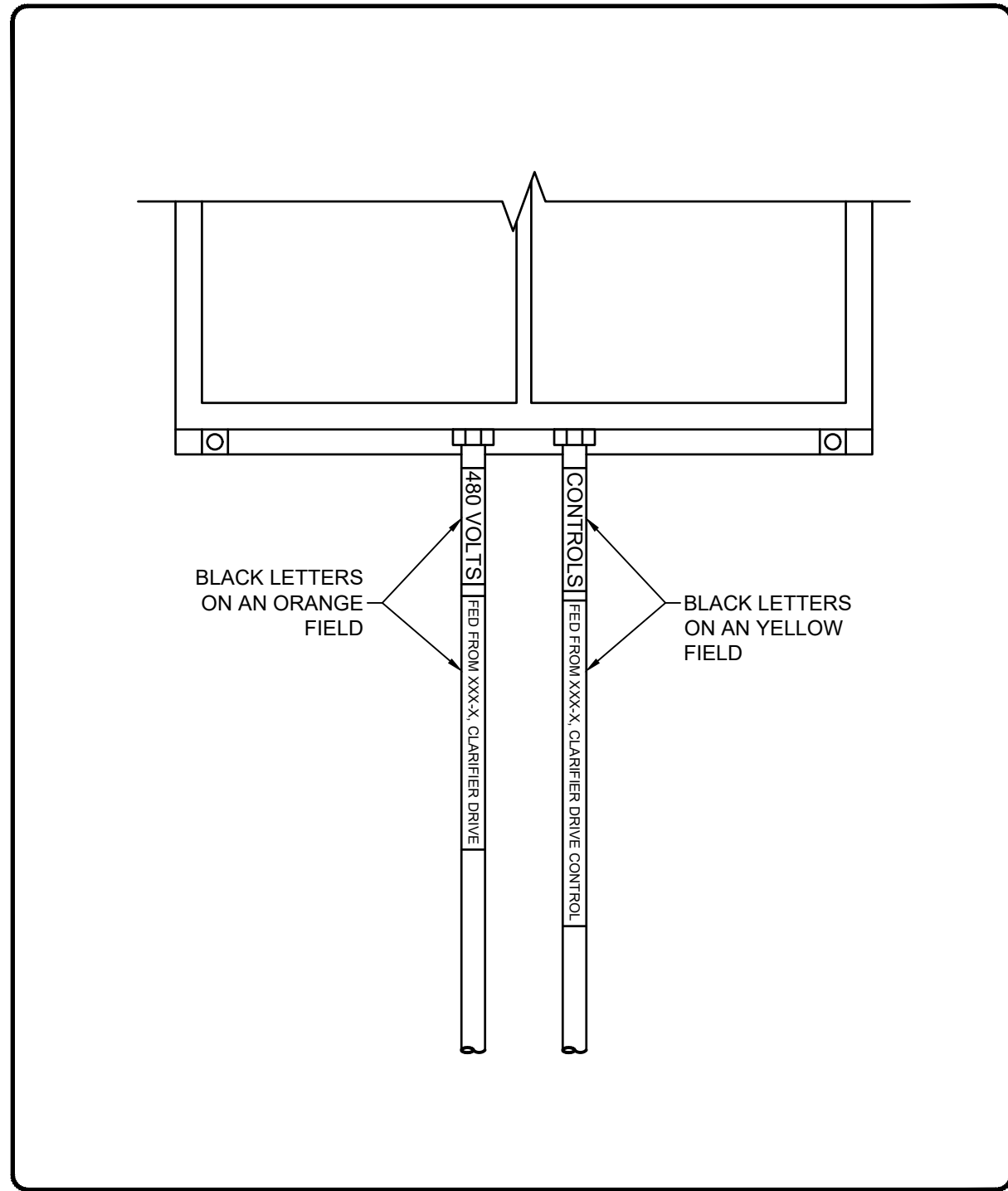
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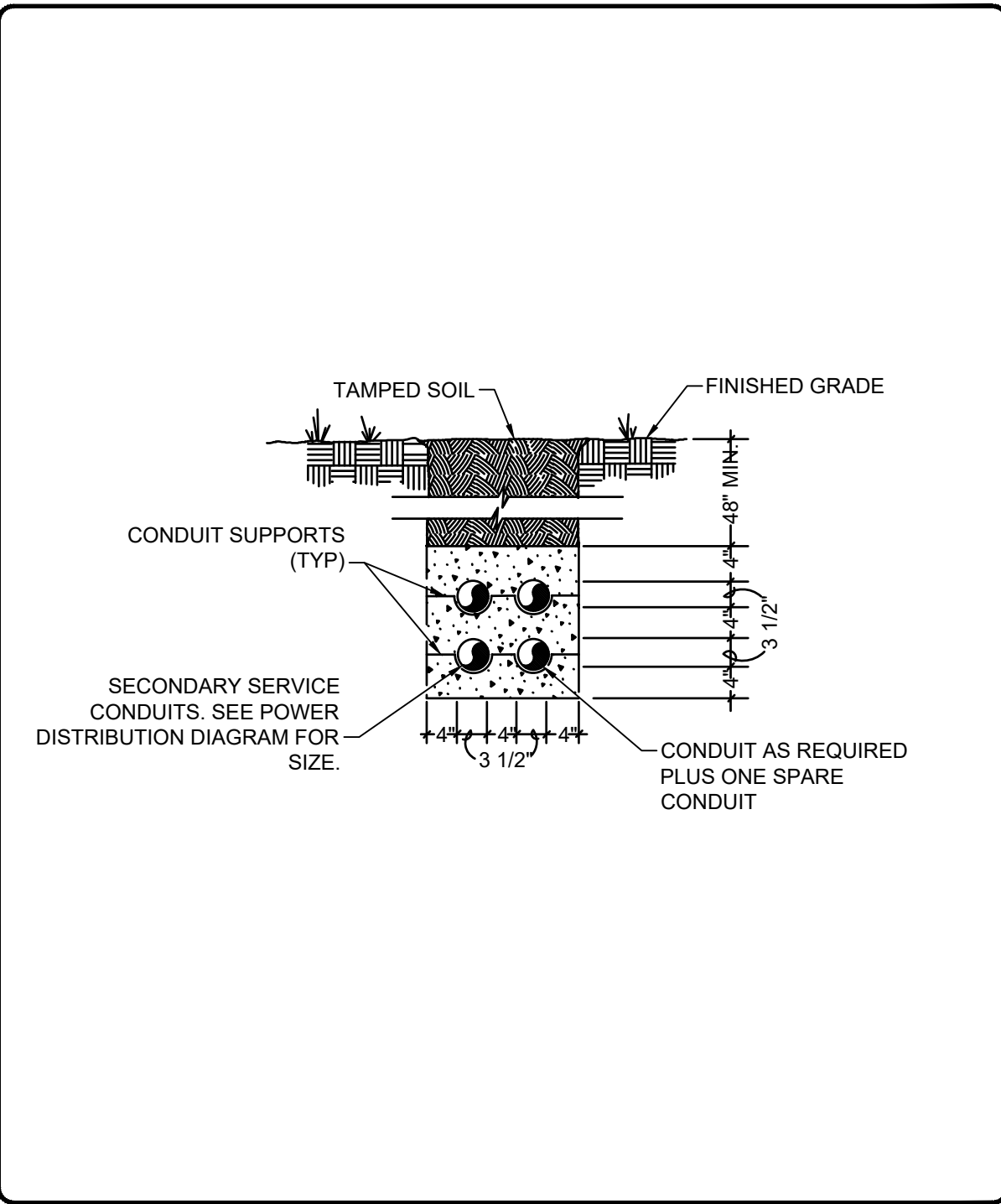
Designed By: SD/DS	Drawn By: SD/DS	Checked By: TC
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CAMERA DETAILS



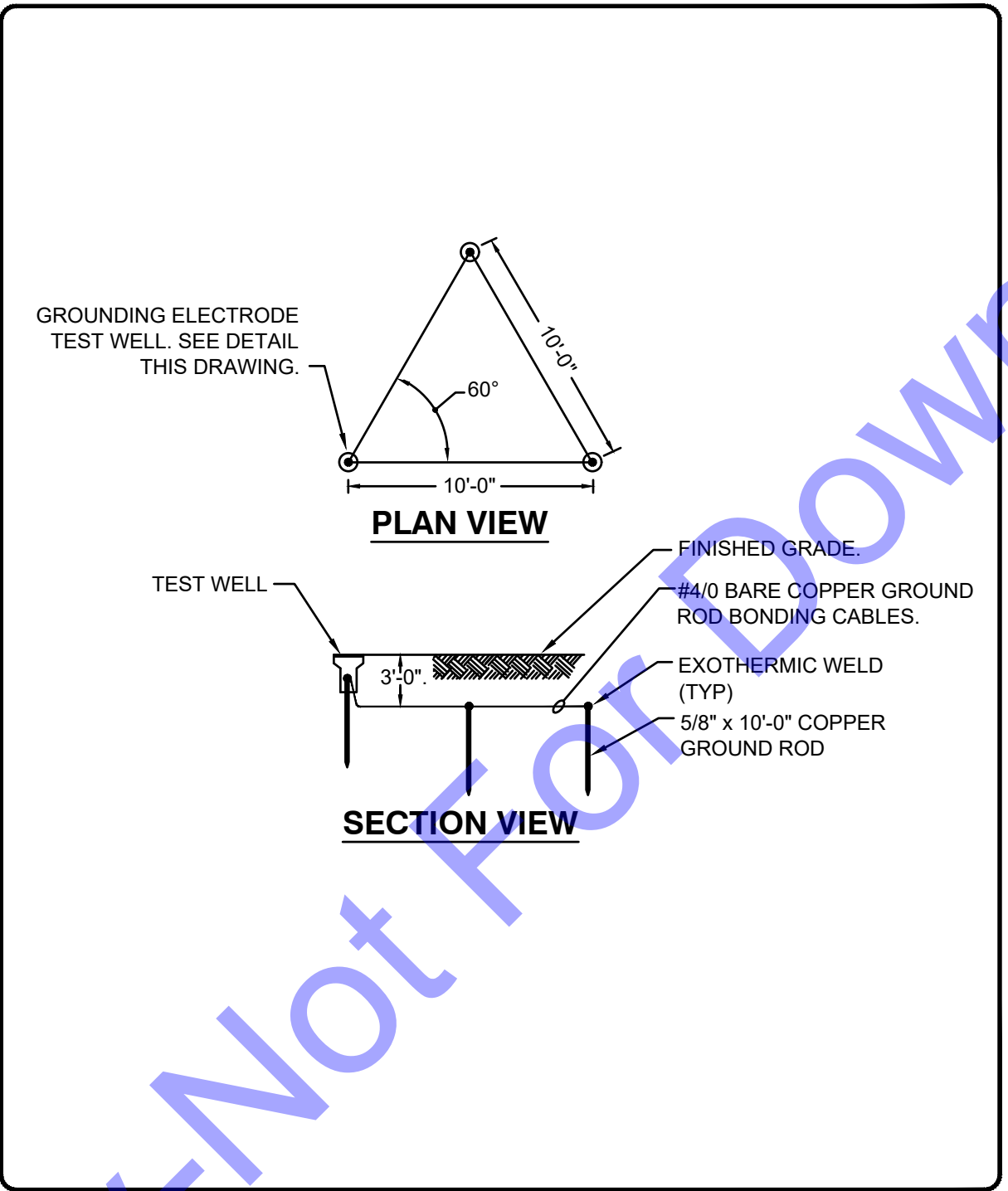
CONDUIT IDENTIFICATION

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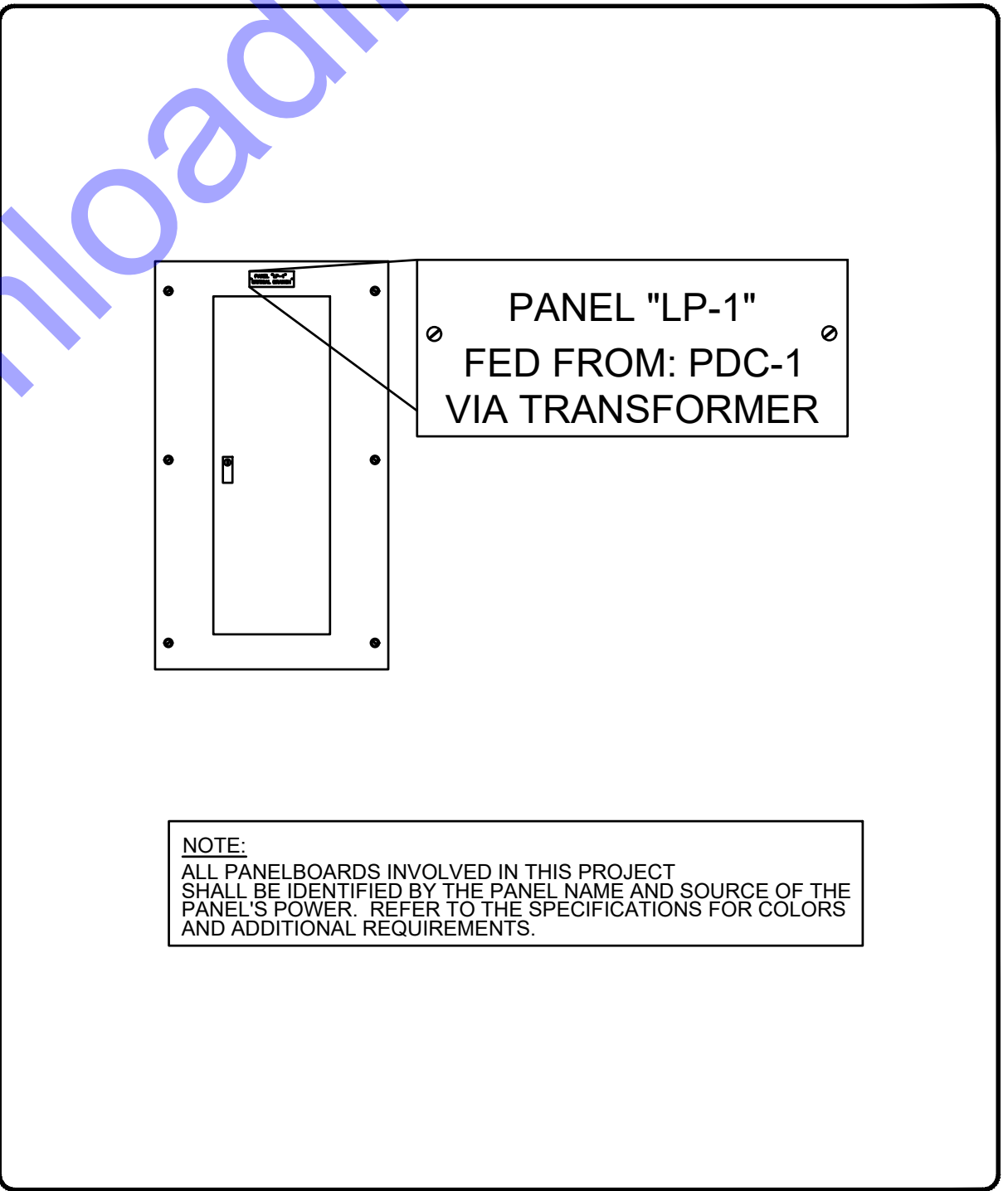
SECONDARY ELECTRICAL SERVICE DUCT BANK

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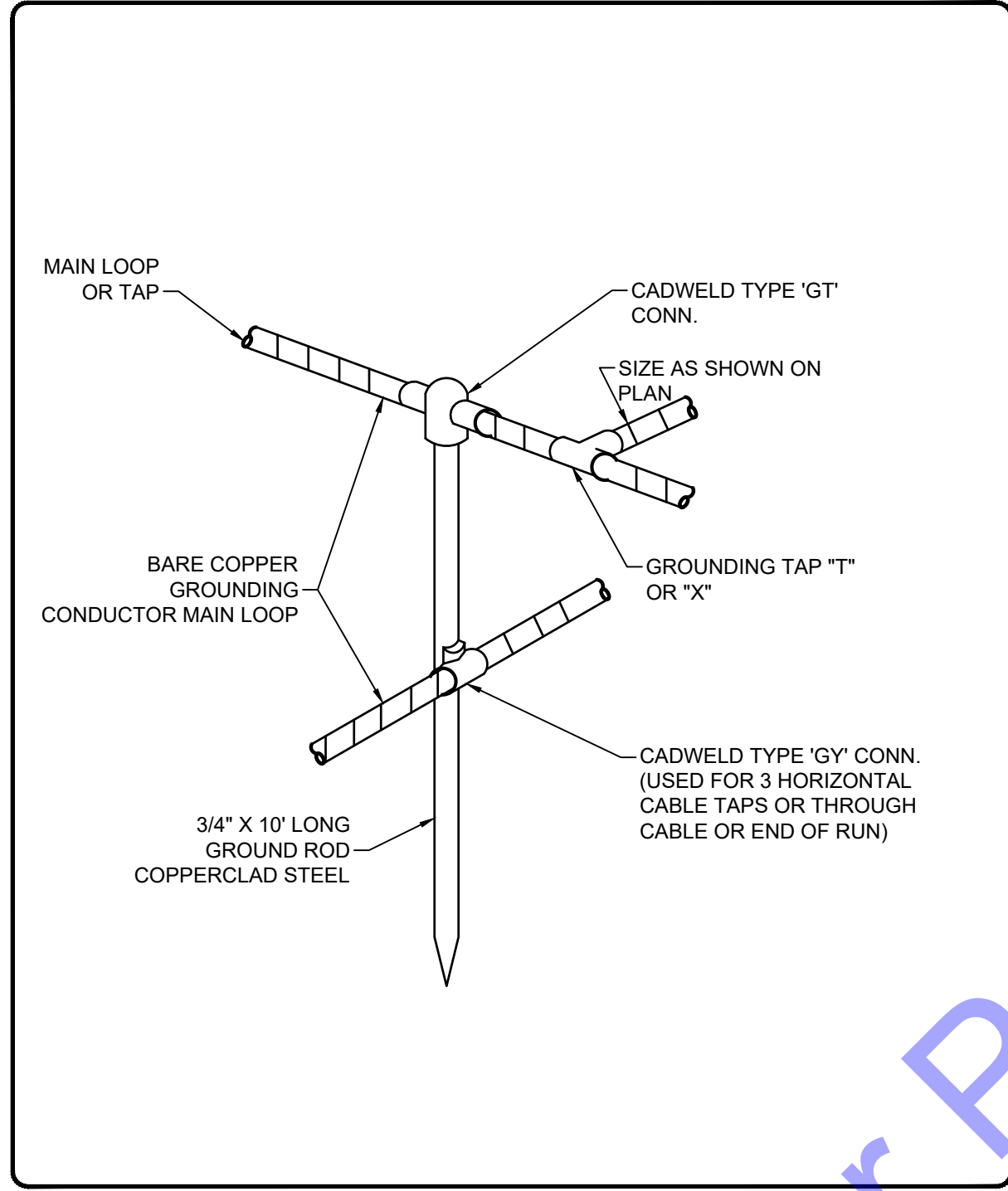
GROUNDING ELECTRODE SYSTEM

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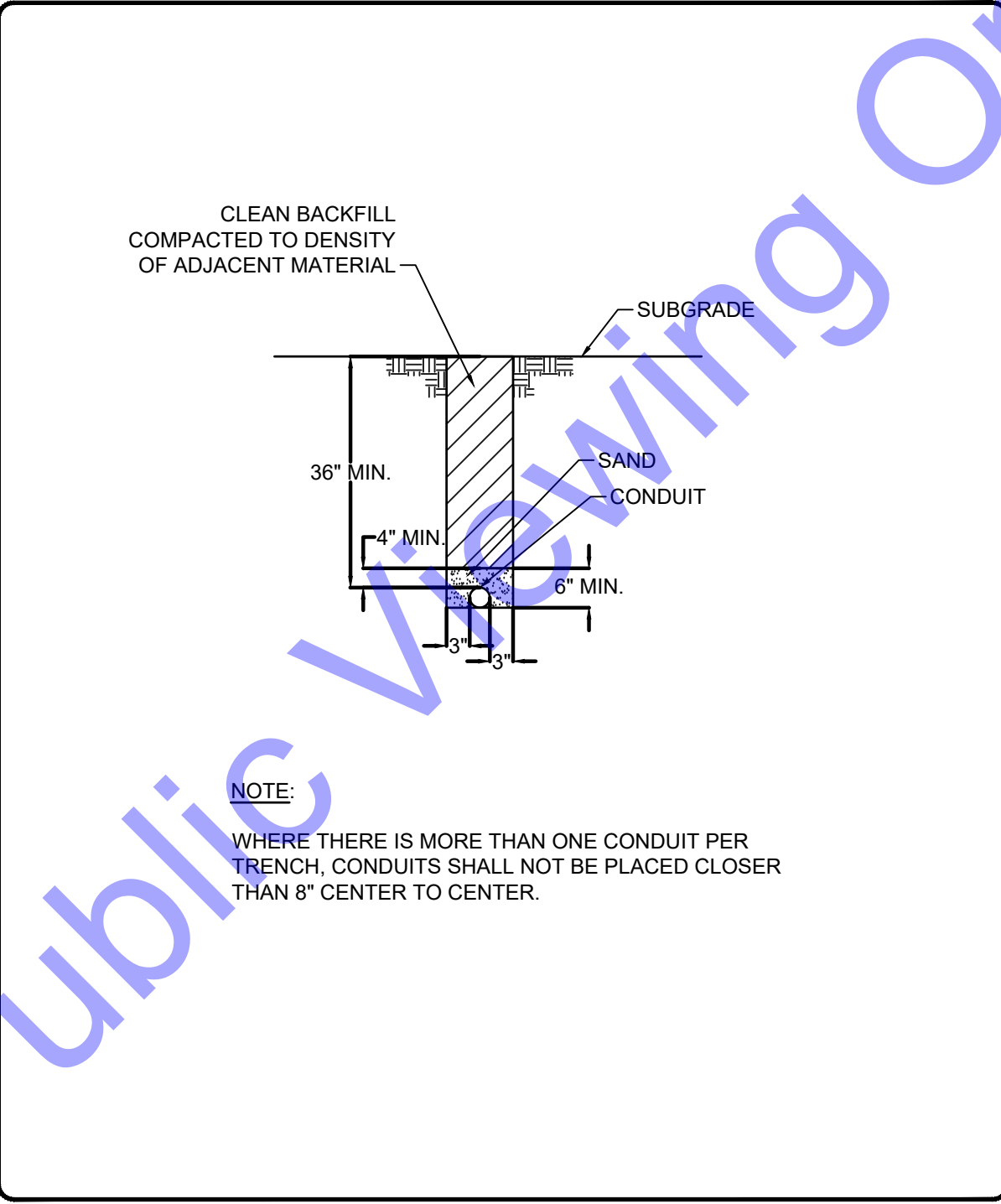
PANELBOARD IDENTIFICATION

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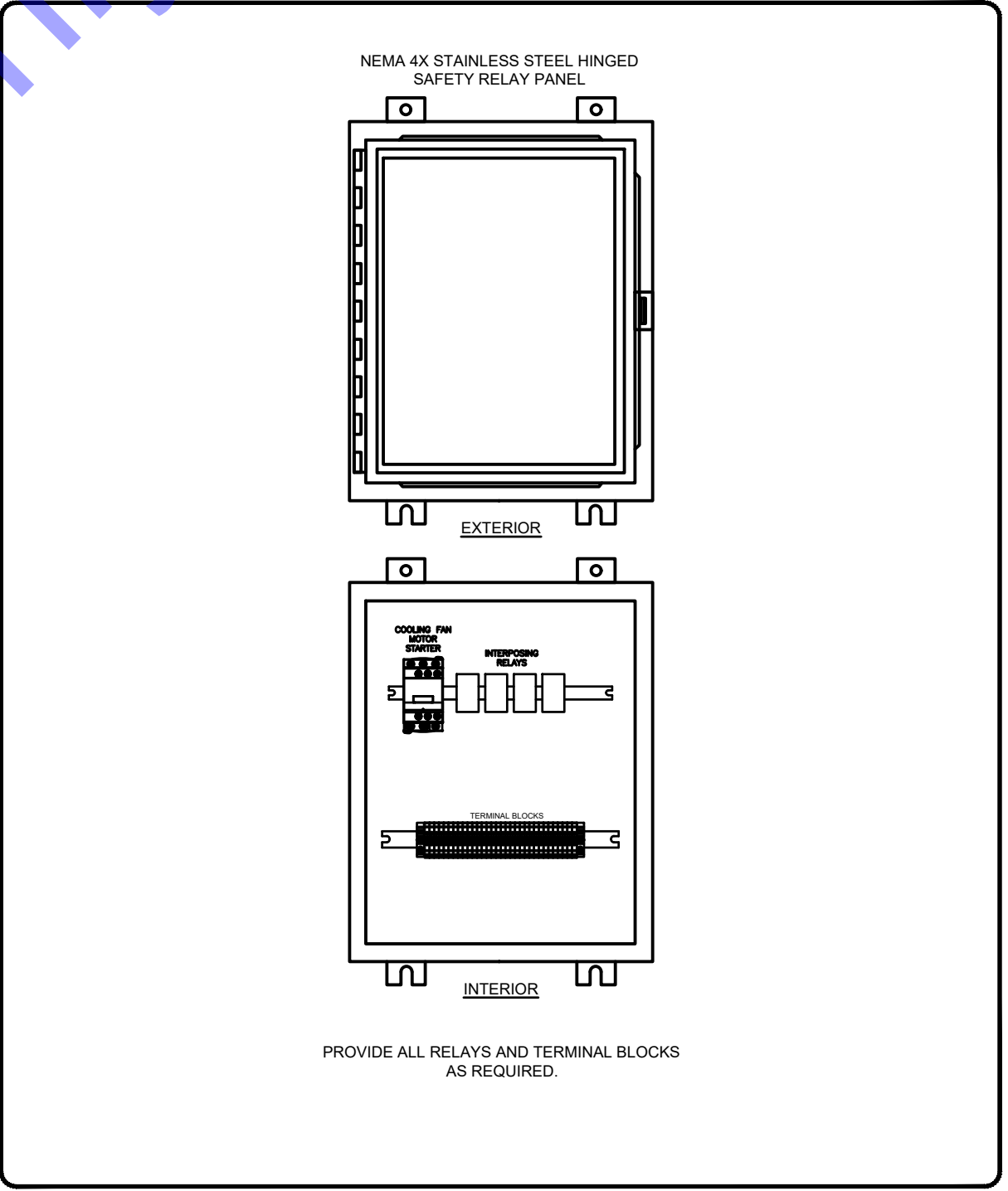
CONDUCTOR TO GROUND ROD CONNECTION DETAIL

NOT TO SCALE



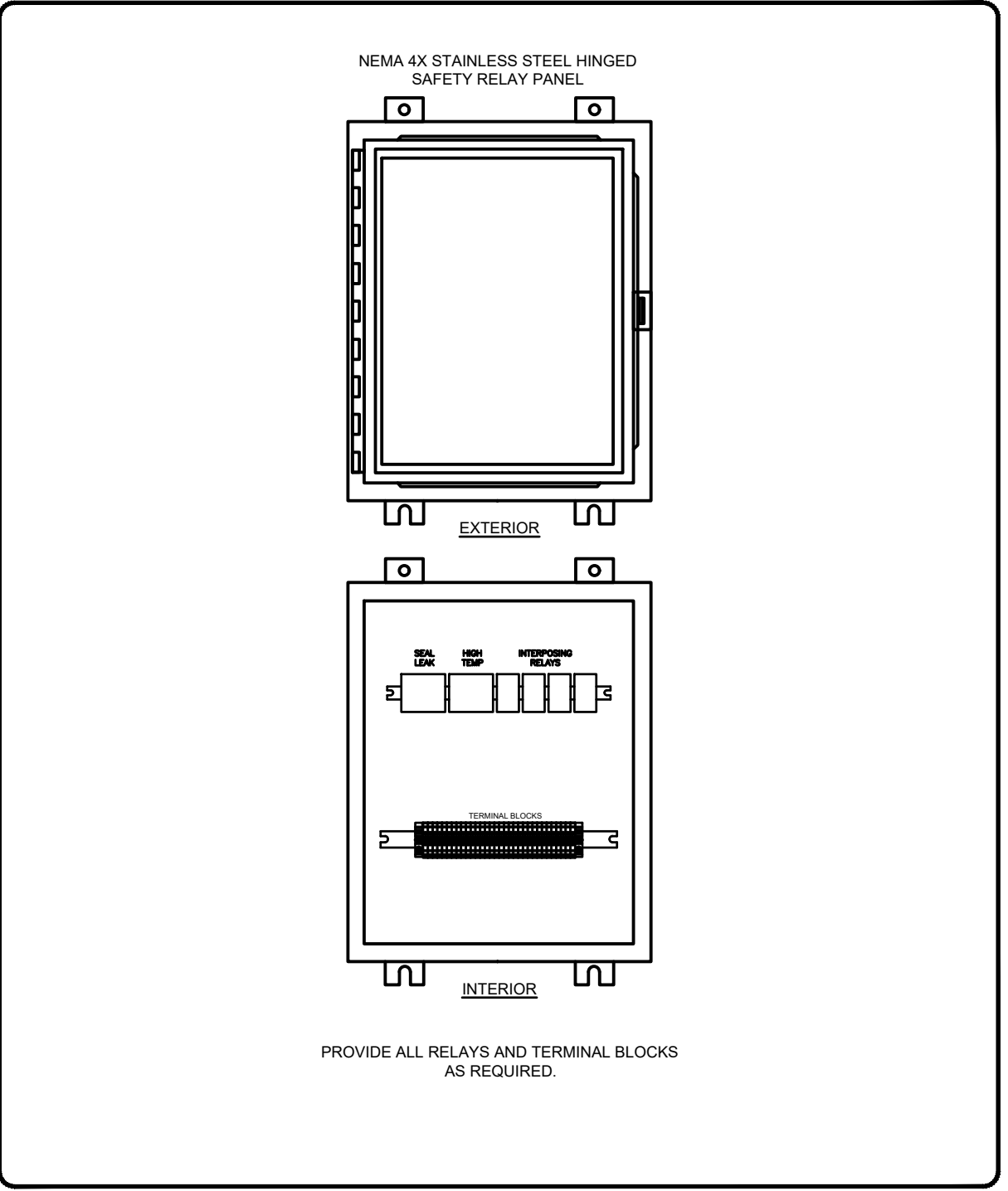
DIRECT BURIAL CONDUIT DETAILS IN EARTH

NOT TO SCALE



BLOWER SAFETY RELAY PANEL

NOT TO SCALE



PUMP SAFETY RELAY PANEL

NOT TO SCALE

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Professional Engineer Seal for Tobi Lee Church, No. 11300603, State of Indiana, dated 1/15/2025.

TOWN OF MILFORD
 KOSCIUSKO COUNTY,
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 DIVISION "A" - WATER TREATMENT
 IMPROVEMENTS

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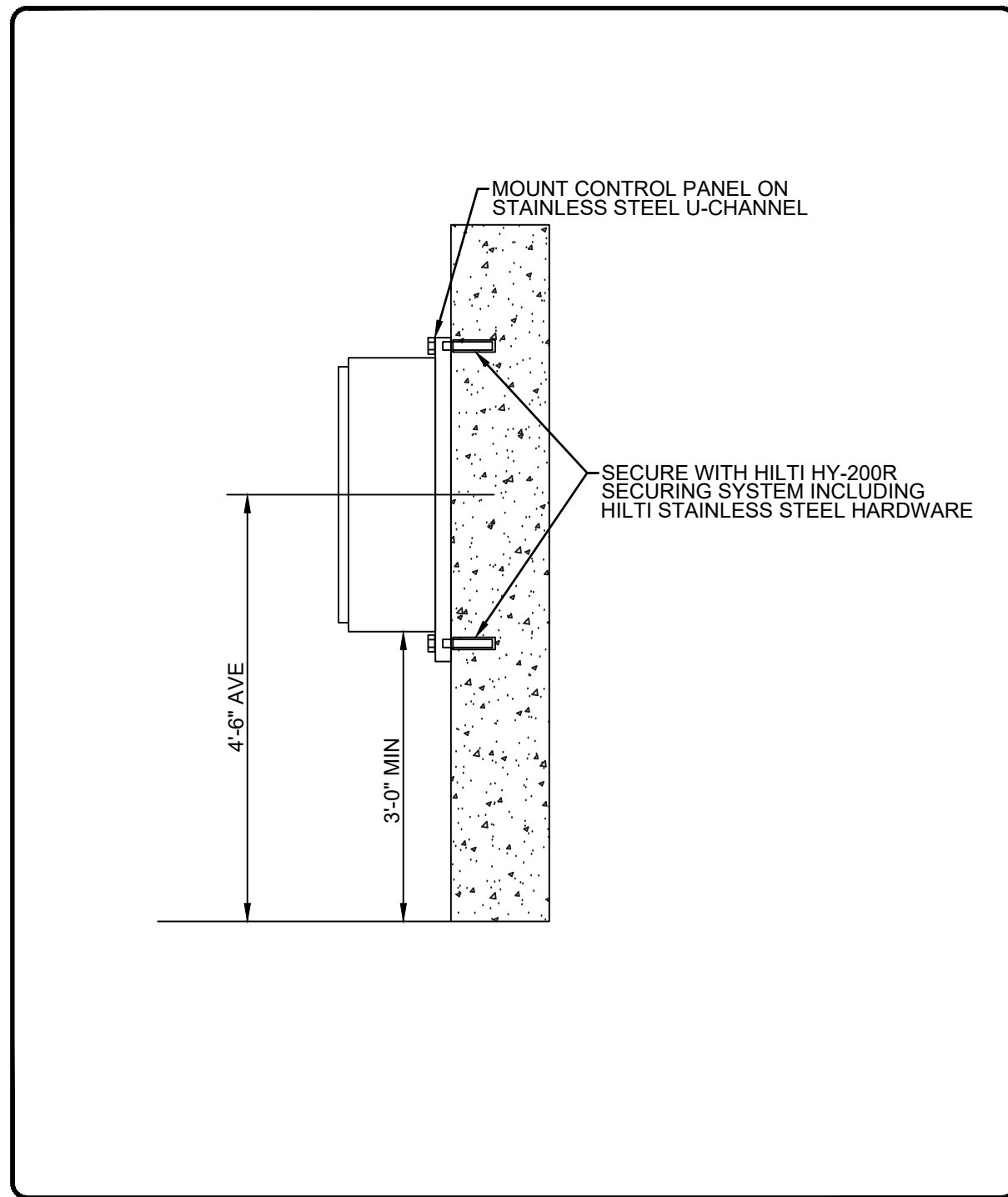
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Issue Date:	Project No:	Scale:
1-14-2025	W24161	AS SHOWN

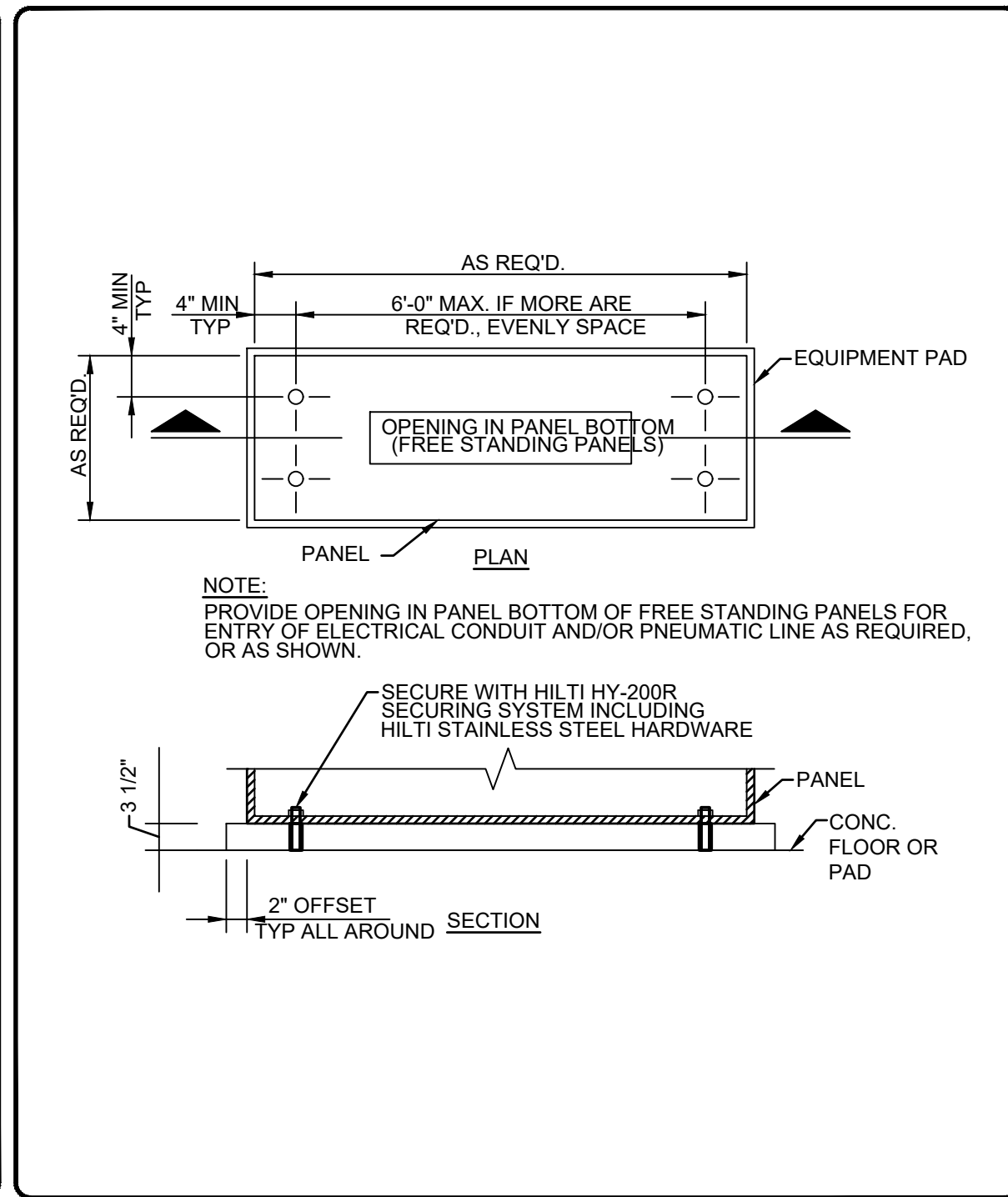
ELECTRICAL DETAILS

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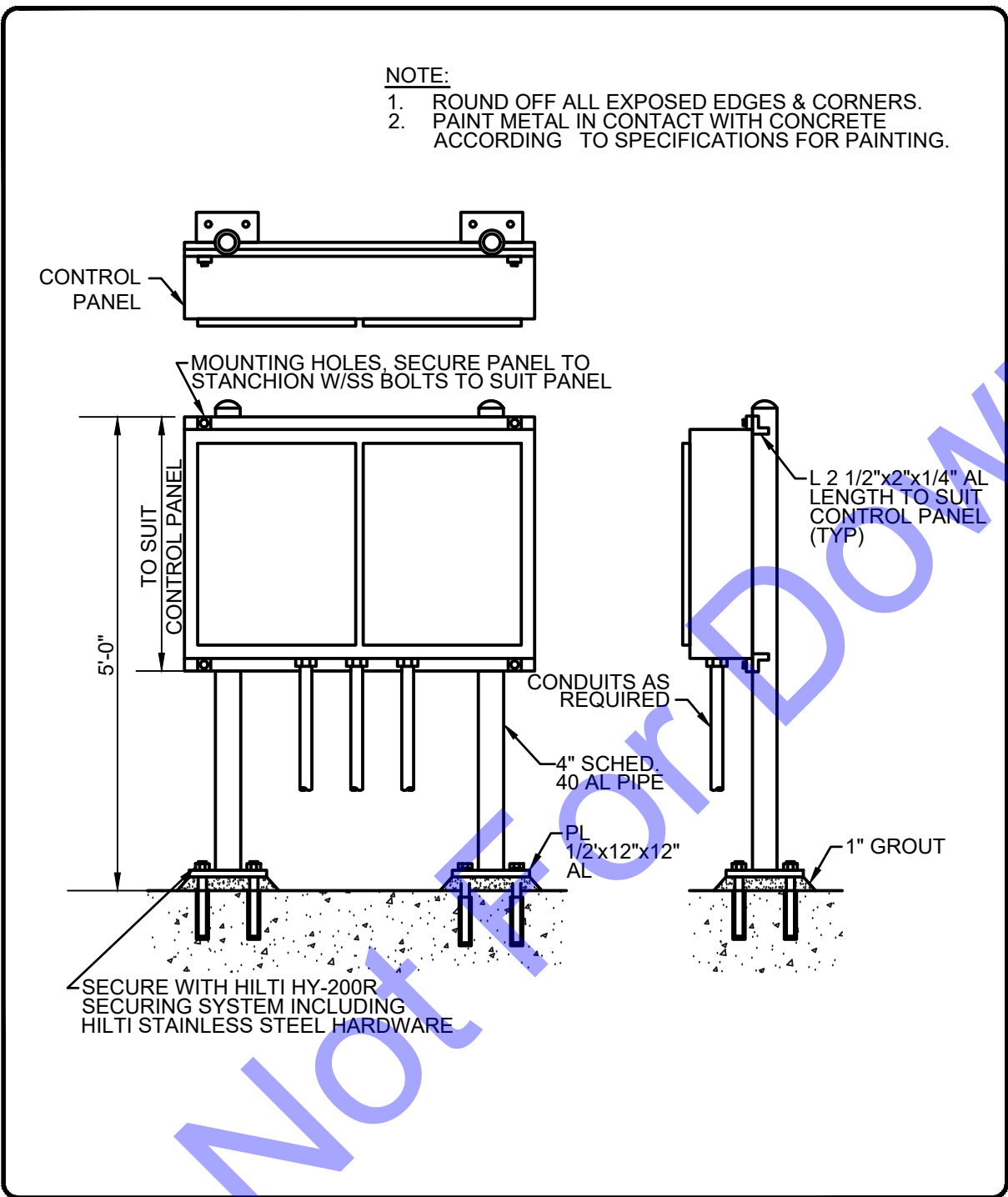
WALL MOUNT CONTROL PANEL INSTALLATION

NOT TO SCALE



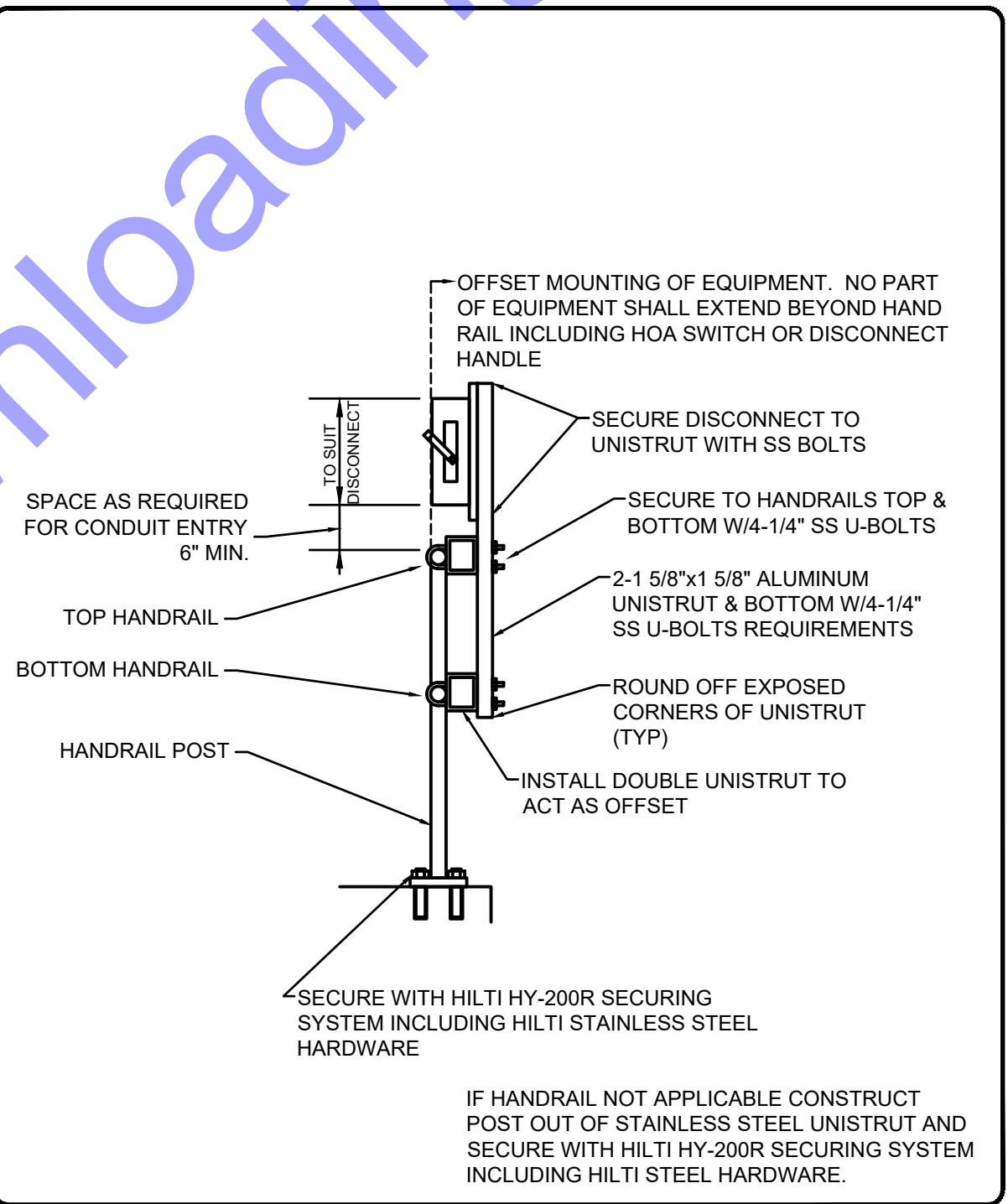
FREE STANDING OR FLOOR MOUNT CONTROL PANEL INSTALLATION

NOT TO SCALE



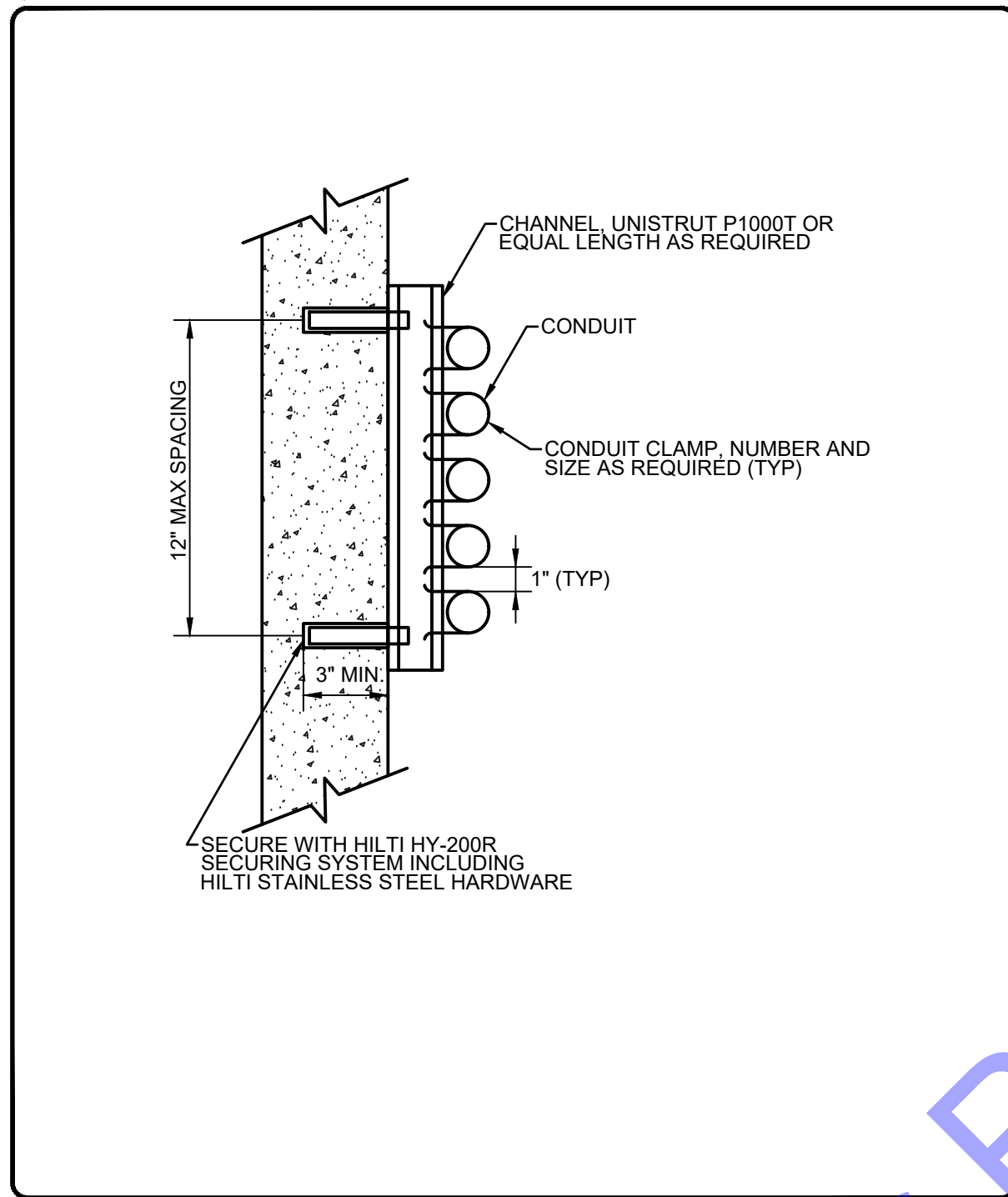
DOUBLE POST STANCHION MOUNT CONTROL PANEL INSTALLATION

NOT TO SCALE



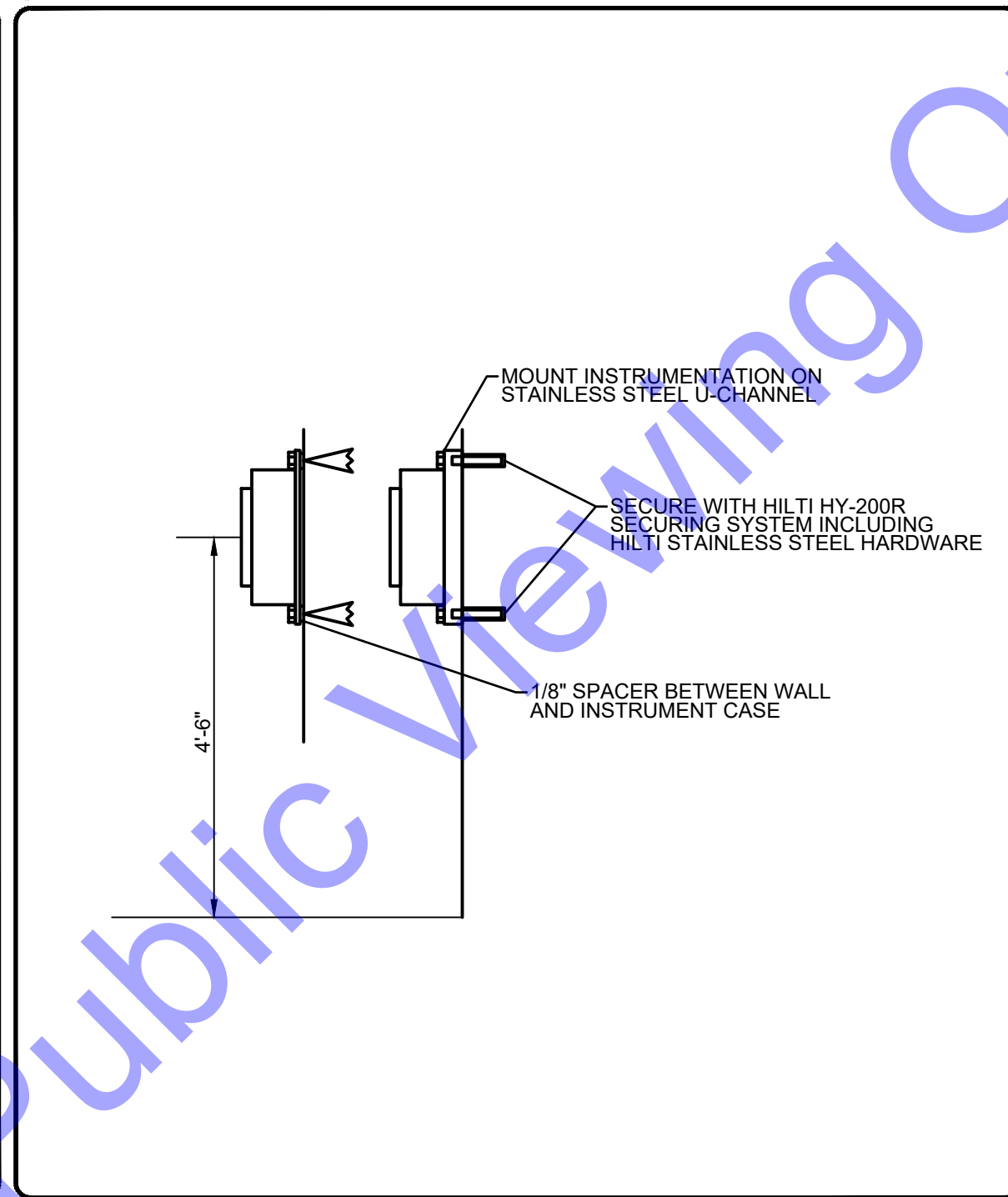
HANDRAIL MOUNT DISCONNECT

NOT TO SCALE



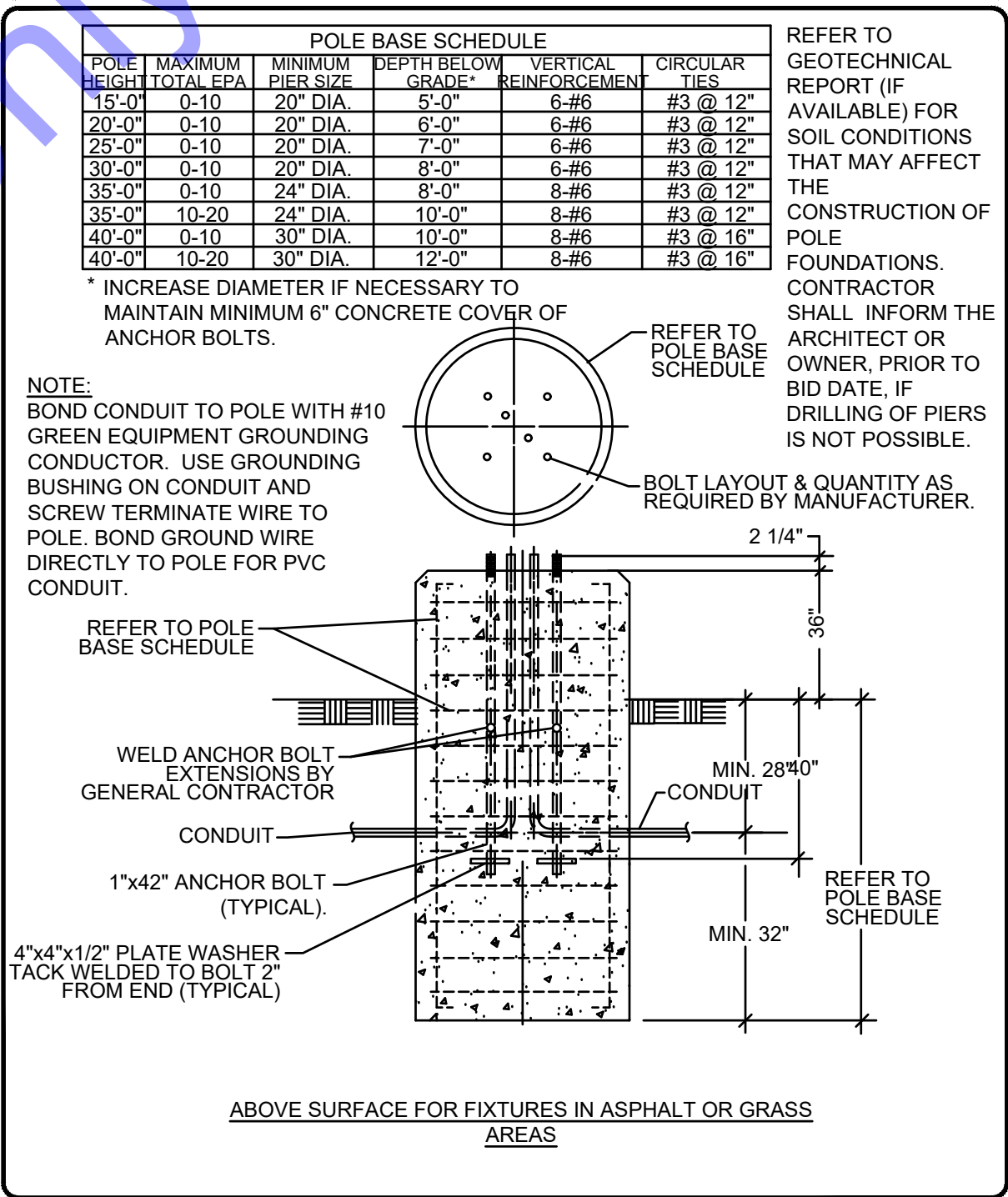
WALL MOUNTED CONDUIT RACK

NOT TO SCALE



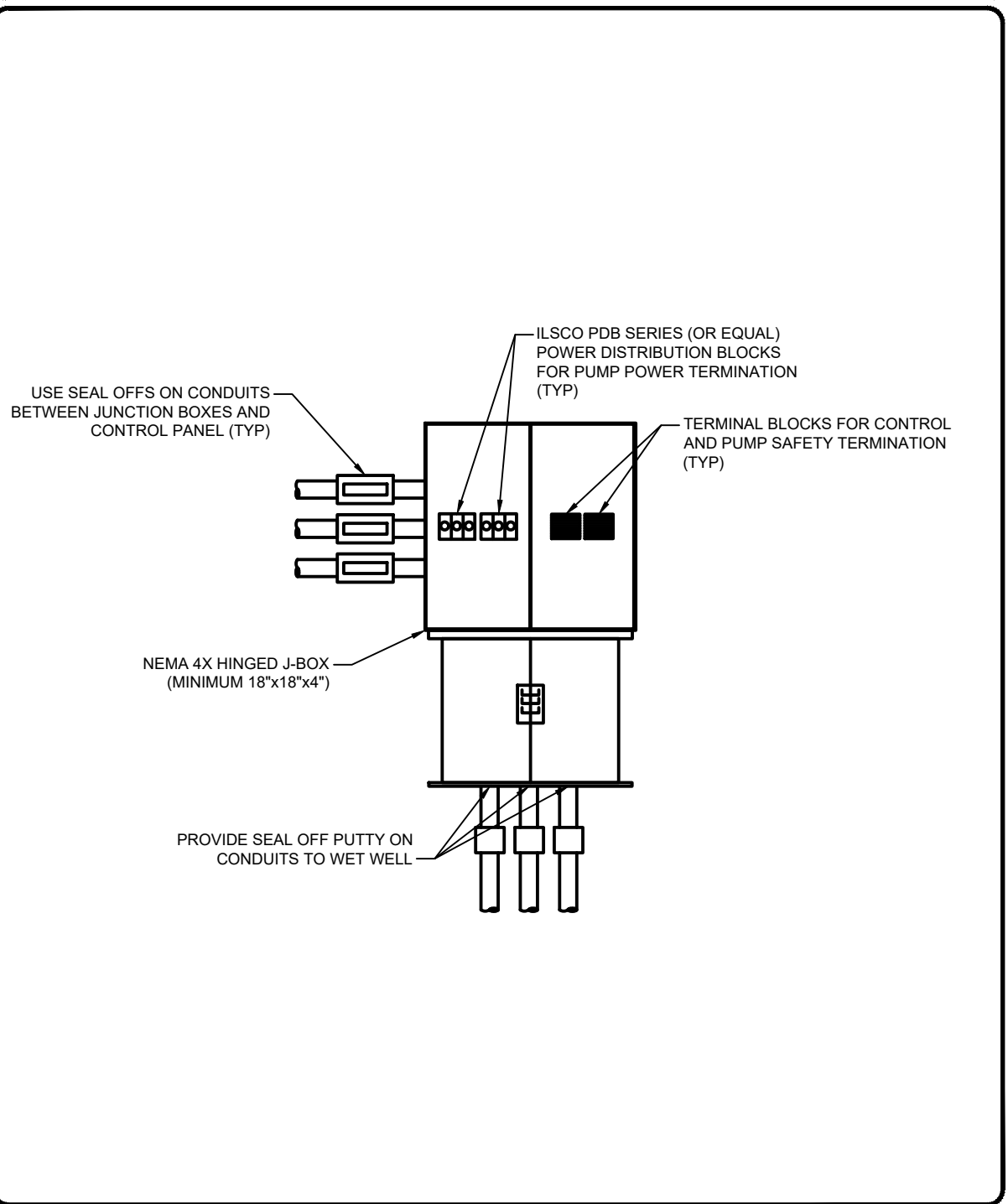
WALL MOUNT SMALL CASE INSTRUMENTATION

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ROUND POLE BASE

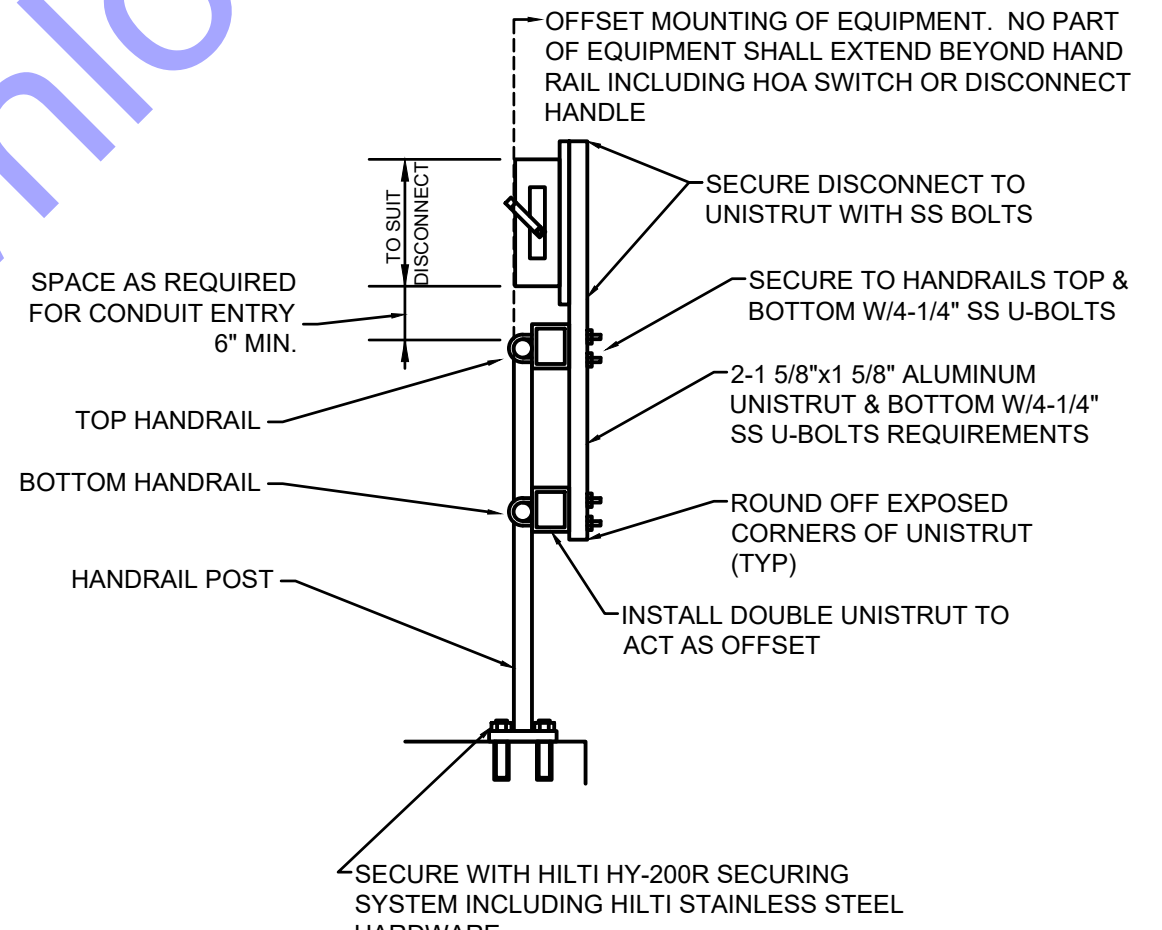
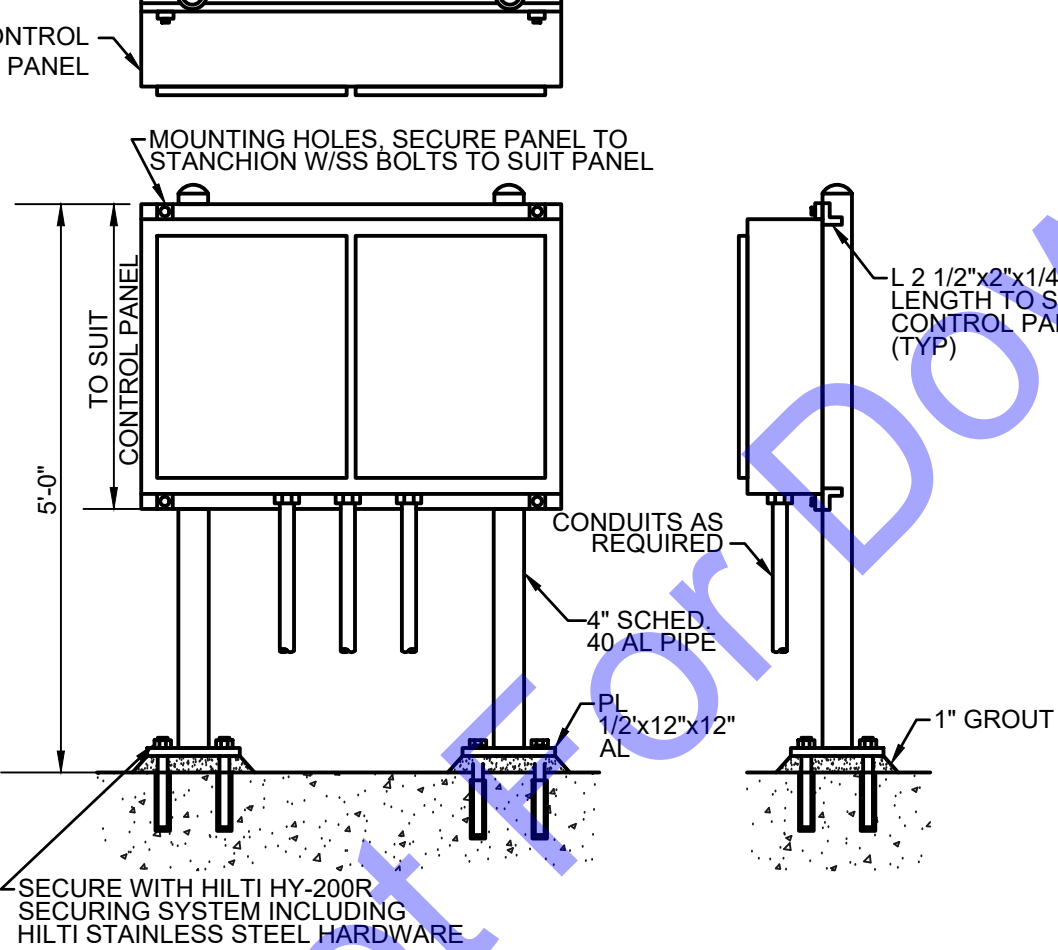
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J-BOX INTERIOR DETAIL

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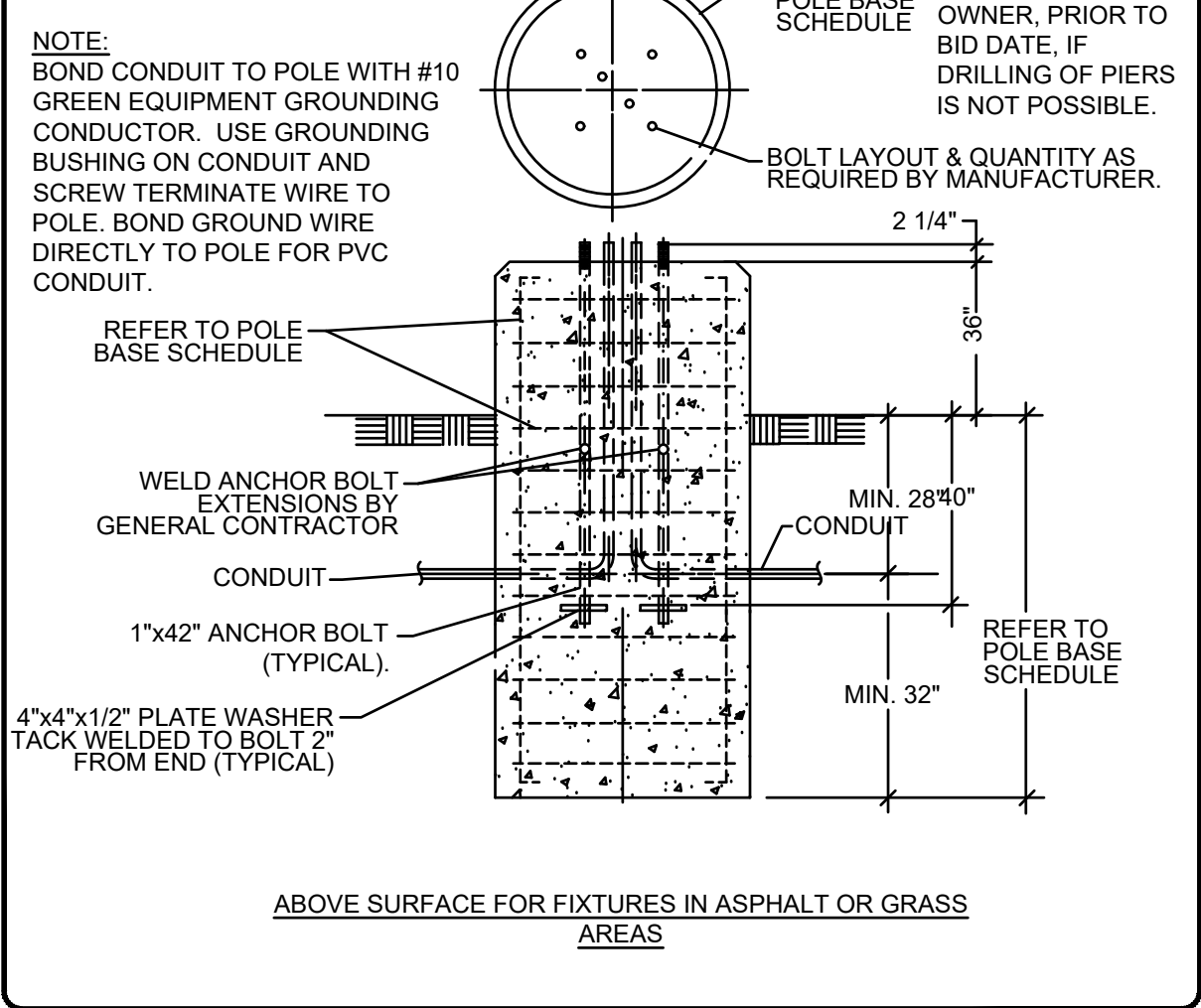
- NOTE:
 1. ROUND OFF ALL EXPOSED EDGES & CORNERS.
 2. PAINT METAL IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.



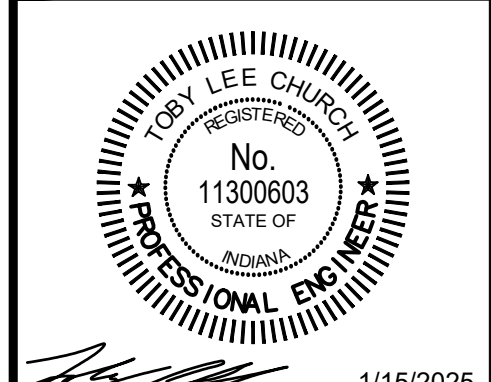
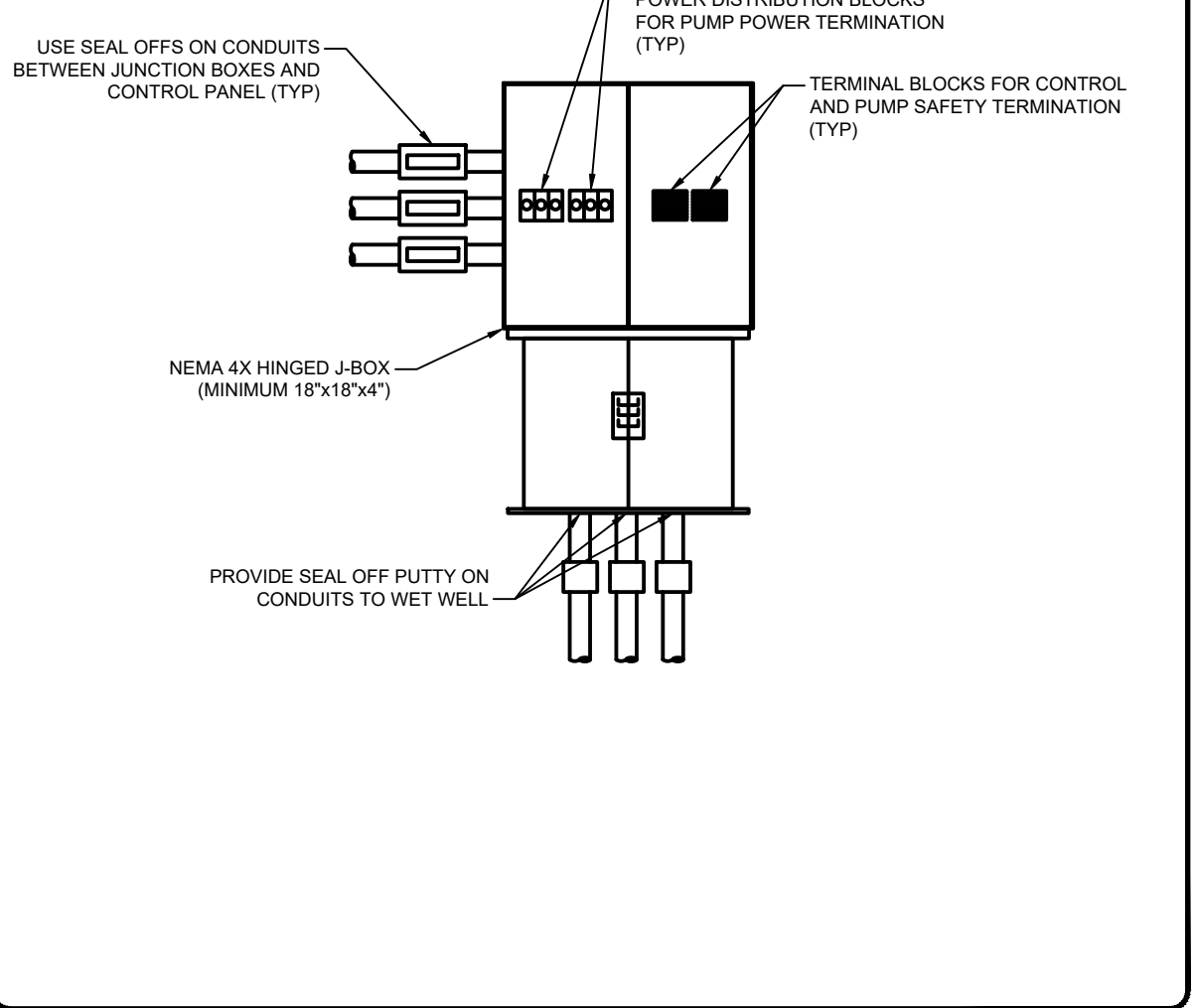
POLE BASE SCHEDULE

POLE HEIGHT	MAXIMUM TOTAL EPA	MINIMUM PIER SIZE	DEPTH BELOW GRADE*	VERTICAL REINFORCEMENT	CIRCULAR TIES
14'-0"	0-10	20" DIA.	5'-0"	6-#6	#3 @ 12"
20'-0"	0-10	20" DIA.	6'-0"	6-#6	#3 @ 12"
25'-0"	0-10	20" DIA.	7'-0"	6-#6	#3 @ 12"
30'-0"	0-10	20" DIA.	8'-0"	6-#6	#3 @ 12"
35'-0"	0-10	24" DIA.	8'-0"	8-#6	#3 @ 12"
35'-0"	10-20	24" DIA.	10'-0"	8-#6	#3 @ 12"
40'-0"	0-10	30" DIA.	10'-0"	8-#6	#3 @ 16"
40'-0"	10-20	30" DIA.	12'-0"	8-#6	#3 @ 16"

* INCREASE DIAMETER IF NECESSARY TO MAINTAIN MINIMUM 6" CONCRETE COVER OF ANCHOR BOLTS.



REFER TO GEOTECHNICAL REPORT (IF AVAILABLE) FOR SOIL CONDITIONS THAT MAY AFFECT THE CONSTRUCTION OF POLE FOUNDATIONS. CONTRACTOR SHALL INFORM THE ARCHITECT OR OWNER, PRIOR TO BID DATE, IF DRILLING OF PIERS IS NOT POSSIBLE.



Signature: _____ Date: 1/15/2025

TOWN OF MILFORD, KOSCIUSKO COUNTY, INDIANA

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Designed By: SD/DS Drawn By: SD/DS Checked By: TC
 Issue Date: 1-14-2025 Project No: W24161 Scale: AS SHOWN

ELECTRICAL DETAILS