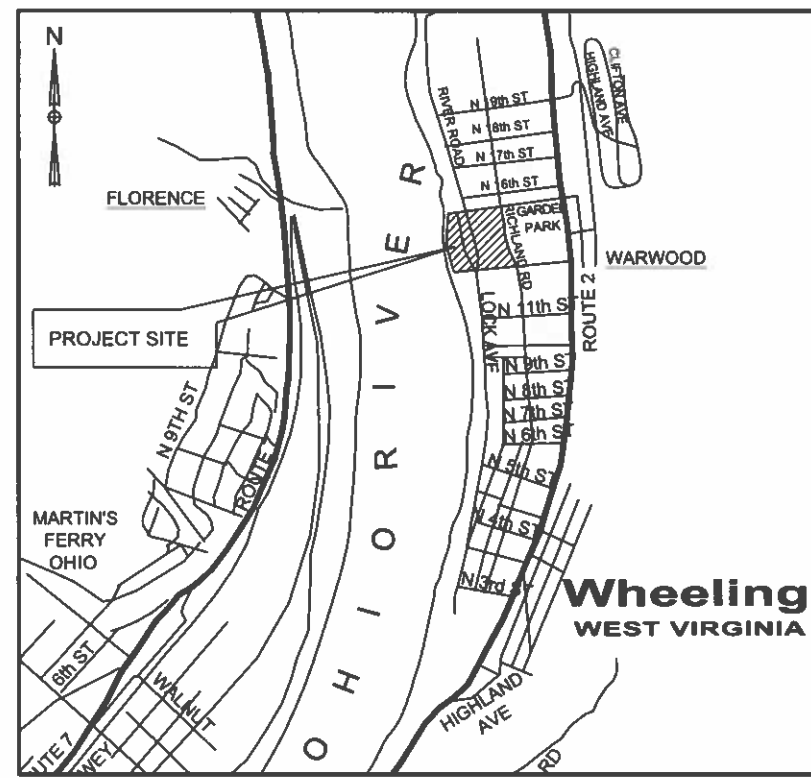
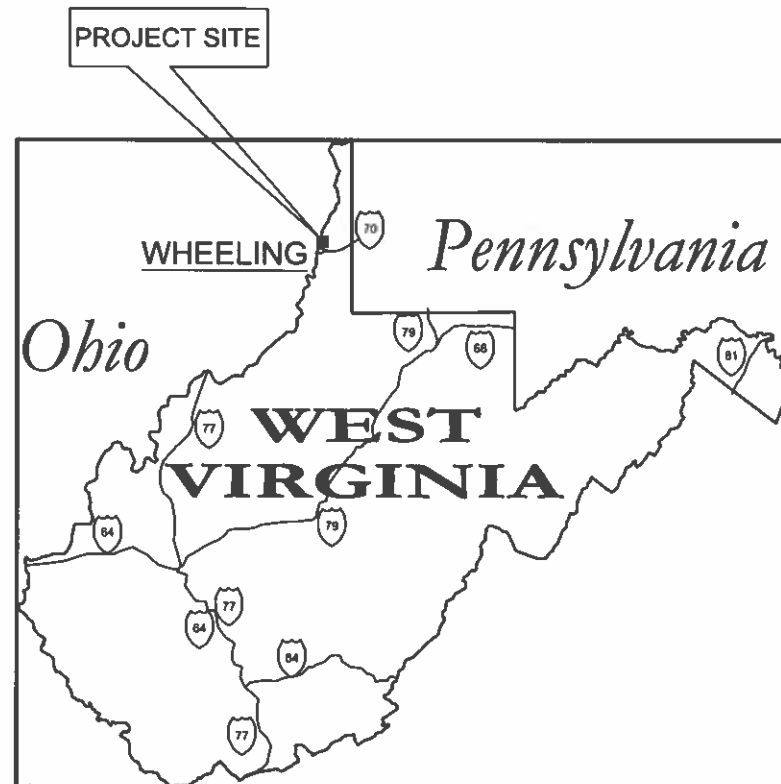


21D

OCTOBER 2026

APPROVALS AND OFFICIALS



LOCATION MAP
SCALE: 1" = 1200'

PROJECT SITE

CITY OF WHEELING WATER TREATMENT PLANT (WTP)
1551 RICHLAND AVE.
WHEELING, WV 26003

ENGINEER

VERDANTAS LLC
2001 MAIN STREET, SUITE 600
WHEELING, WV 26003

William Furber, Assistant City Manager 10/19/2026
 ROBERT HERRON CITY MANAGER DATE

Lori Siburt Superintendent 10/19/2026
LORI SIBURT PLANT SUPERINTENDENT DATE

DENNY MAGRUDER
JERRY SKLAVOUNAKIS
TONY ASSARO
BEN SEIDLER
CONNIE CAIN
TY THORNGATE
DAVE PALMER

MAYOR
VICE MAYOR
COUNCIL
COUNCIL
COUNCIL
COUNCIL
COUNCIL



NOTE:
THE SURVEY SHOWN ON THESE PLANS WAS OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR ANY OTHER PURPOSE.

DESIGN ENGINEER:



DANIEL E. BARR

P.E. No. 545

10/13/2028
DATE

**CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS**
OHIO COUNTY, WEST VIRGINIA
GENERAL - 00 SERIES
TITLE SHEET

SUBJECT NO.
4141

SCIENCE
GENERAL

STREET NAME

CG-01

	OF
	20

29

	AIR CONDITIONING UNIT		
ABDN	ABANDON	GA	GAGE
ADF	AVERAGE DAY FLOW	GALV	GALVANIZED
AFF	ABOVE FINISHED FLOOR	GC	GENERAL CONTRACTOR
ALT	ALTERNATE (ING)	GL	GLASS
ALUM.	ALUMINUM	GLDP	GLASS LINED DUCTILE IRON PIPE
ANOD	ANODIZE	GOV	GLOBE VALVE
APPROX	APPROXIMATE (LY)	GPD	GALLONS PER DAY
ARCH	ARCHITECT (URAL) (URE)	GPM	GALLONS PER MINUTE
		GND	GROUND
ASPH	ASPHALT	GV	GATE VALVE
ASSOC	ASSOCIATION	HB	HOSE BIBB
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	HDPE	HIGH DENSITY POLYETHYLENE
AUX	AUXILIARY	HOR	HORIZONTAL
AVG	AVERAGE	H	HEIGHT
AWG	AMERICAN WIRE GAUGE	HW	HOT WATER
B	BOTTOM	HYD	HYDRANT
BF	BLIND FLANGE	HZ	HERTZ
BFV	BUTTERFLY VALVE	IB	INLET BASIN
BHP	BRAKE HORSEPOWER	ID	INSIDE DIAMETER
BIT	BITUMINOUS	IF	INSIDE FACE
BL	BASE LINE	IN	INCH
BLDG	BUILDING	INF	INFILTRANT
BM	BENCHMARK	INT	INTERIOR
BO	BOTTOM OF	INV	INVERT
BOB	BOTTOM OF BANK	IP	IRON PIPE BOUNDARY
BOT	BOTTOM	JB	JUNCTION BOX
BV	BALL VALVE	JT	JOINT
CB	CATCH BASIN	KSI	KIPS (1000 LBS.) PER SQUARE INCH
CC	CENTER TO CENTER	L	LENGTH OR STRUCTURAL ANGLE DESIGNATION
CCW	COUNTER CLOCKWISE	LAV	LAVATORY
CF	CUBIC FOOT	LB	POUND
CFM	CUBIC FOOT PER MINUTE	LBS	POUNDS
CF5	CUBIC FEET PER SECOND	LF	LINEAL FEET
CI	CAST IRON	LG	LONG
CIGL	CAST IRON PIPE GLASS LINE	LH	LEFT HAND
CIP	CAST IRON PIPE	LL	LIVE LOAD
C.I.P.	CLEAN IN PLACE	LLH	LONG LEG HORIZONTAL
CJ	CONSTRUCTION/CONTROL JOINT	LLV	LONG LEG VERTICAL
CL OR L	CENTER LINE	LNDG	LANDING
CL2	CHLORINE	LOC	LOCATION/LOCATED
CLR	CLEAR	LONG	LONGITUDINAL
CMP	CORRUGATED METAL PIPE	LR	LONG RADIUS
CO	CLEAN OUT	LSM	LOW STRENGTH MORTAR
COL	COLUMN	LT	LIGHT
CONC	CONCRETE	LWA	LOW WATER ALARM
CONST	CONSTRUCTION	LWL	LOW WATER LEVEL
CONT	CONTINUOUS	MATL	MATERIAL
CORR	CORRUGATED	MAX	MAXIMUM
CU	COPPER	MBR	MEMBRANE BIO-REACTOR
CV	CHECK VALVE	MC	MECHANICAL CONTRACTOR
CW	COLD WATER (POTABLE)	MCC	MOTOR CONTROL CENTER
DEMO	DEMOLITION	MCJ	MASONRY CONTROL JOINT
DEPT	DEPARTMENT	MFD	MANUFACTURED
DIA	DIAMETER	MFR	MANUFACTURER
DIM	DIMENSION	MGIL	MILLIGRAMS PER LITER
DIP	DUCTILE IRON PIPE	MGD	MILLION GALLONS PER DAY
DISCH	DISCHARGE	MH	MANHOLE
DN	DOWN	MIN	MINIMUM
DNSPT	DOWNSPOUT	MISC	MISCELLANEOUS
DWG	DRAWING	MJ	MECHANICAL JOINT
DWL	DOWEL	MO	MOTOR OPERATED
EA	EACH	M.O.	MASONRY OPENING
ECC	ECCENTRIC	MON	MONUMENT
EC	ELECTRICAL CONTRACTOR	MPH	MILES PER HOUR
EF	EACH FACE	NaHSO ₃	SODIUM BISULFITE
EFF	EFFLUENT	NaOCl	SODIUM HYPOCHLORITE
EL	ELEVATION	NC	NORMALLY CLOSED
ELEC	ELECTRIC (AL)	NEC	NATIONAL ELECTRIC CODE
EMERG	EMERGENCY	NO	NORMALLY OPEN
ENGR	ENGINEER	NOM	NOMINAL
ENT	ENTERING	NPT	AMERICAN NATIONAL TAPER PIPE THREAD
EQ	EQUAL (LY)	NTS	NOT TO SCALE
ESMT	EASEMENT	N/F	NOW / AND OR FORMALLY
EST	ESTIMATE (D)	OC	ON CENTER
ETC	ETCETERA	OD	OUTSIDE DIAMETER
EW	EACH WAY	OE	OVERHEAD ELECTRIC
EX	EXISTING	OF	OUTSIDE FACE
EXP	EXPANSION	OH	OVER HEAD
F	FAHRENHEIT	OPNG	OPENING
FB	FLOOR BOX	OPER	OPERATOR
FC	FLUSHING CONNECTION	OPP	OPPOSITE
FD	FLOOR DRAIN	OPT	OPTION (AL)
FIG	FIGURE	OT	OVERHEAD TELEPHONE
FIN	FINISH (ED)		
FL	FLOOR	PB	PUSHBUTTON
FLEX	FLEXIBLE	PC	PLUMBING CONTRACTOR
FLG	FLANGE (D)	PCF	POUND PER CUBIC FOOT
FM	FORCE MAIN	PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
FPM	FEET PER MINUTE	PE	PLAIN END
FPT	FEMALE PIPE THREAD	pH	HYDROGEN ION CONCENTRATION
FRP	FIBERGLASS REINFORCED PLASTIC	PH	PHASE
FT	FEET/FOOT	PI	POINT OF INTERSECTION
FTG	FOOTING/FITTING	POT	POTABLE
FURN	FURNISHED	PP	POWER POLE

	NEW CONCRETE: ARCHITECTURAL, PROCESS & STRUCTURAL, PLANS AND SECTIONS ONLY		EXISTING CONCRETE, ARCHITECTURAL, PROCESS OR STRUCTURAL SECTIONS ONLY		NEW AGGREGATE
	REINFORCING STEEL IN NEW CONCRETE STRUCTURES, PLANS & SECTIONS		STEEL		EXISTING AGGREGATE
	CONCRETE TOPPING OR FILLET		ALUMINUM		NEW CONC.
	CONCRETE BLOCK NEW		INSULATION		EXISTING CONC.
	BRICK MASONRY		EXISTING EQUIPMENT, PIPING OR STRUCTURE TO BE REMOVED OR ABANDONED		NEW ASPHALT CONCRETE
	TILE-STRUCTURAL, GLAZED		EXISTING CONCRETE OR MASONRY		EXISTING ASPHALT CONCRETE
	WOOD		STONE OR COMPACTED AGGREGATE		
	SAND		ACOUSTICAL CONCRETE BLOCK		

	DEMOLITION
	CENTERLINE
	EXISTING PROPERTY LINE
	EXISTING RIGHT-OF-WAY LINE
	EXISTING WATER LINE
	EXISTING OVERHEAD ELECTRIC
	EXISTING UNDERGROUND ELECTRIC
	EXISTING UNDERGROUND TELEPHONE
	EXISTING GAS LINE
	EXISTING OVERHEAD TELEPHONE
	EXISTING STORM LINE
	EXISTING FENCE
	EXISTING GRADE CONTOURS-INDEX
	EXISTING GRADE CONTOURS-INTERMEDIATE
	SANITARY MANHOLE
	CATCH BASIN
	CURB INLET
	STORM MANHOLE
	FIRE HYDRANT
	WATER METER
	WATER VALVE
	GAS METER
	GAS VALVE
	DECIDUOUS TREE
	IRON PIN FOUND
	GUY WIRE
	LIGHT POLE
	UTILITY POLE

CITY OF WHEELING WATER TREATMENT PLANT SOLIDS HANDLING BUILDING IMPROVEMENTS		ISSUED FOR:		REV.		DESCRIPTION		REV.		DATE	
OHIO COUNTY, WEST VIRGINIA GENERAL - 00 SERIES		ISSUE DATE:									
		10/01/2026									
		SCALE:		AS NOTED							
		DESIGNED BY:		MIS							
SHEET INDEX AND ABBREVIATIONS		DRAWN BY:		RE							
		CHECKED BY:		DEB							
PROJECT NO.		34141		DISCIPLINE		GENERAL		SHEET NAME		00G-02	
SHEET		2		OF		29					

SECTION IDENTIFICATION LETTER OR NUMBER

SHEET ON WHICH SECTION APPEARS

DETAIL

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

1

DETAIL IDENTIFICATION LETTER OR NUMBER

####

DETAIL SHEET LOCATION NUMBER

DISCIPLINE INFORMATION	
IDENTIFIER:	DISCIPLINE:
G	GENERAL
D	PROCESS
C	CIVIL
A	BUILDING
S	STRUCTURAL
M	MECHANICAL
E	ELECTRICAL
I	INSTRUMENTATION

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

G-01

OR NUMBER

SECTION SHEET
LOCATION NUMBER

GENERAL

1. A PRE-CONSTRUCTION CONFERENCE SCHEDULED BY THE ENGINEER SHALL BE HELD PRIOR TO ANY WORK STARTING. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE ENGINEER AND SERVICE DIRECTOR PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION.
2. THE STANDARD SPECIFICATIONS OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, 2017 EDITION, INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS, SHALL GOVERN ALL WORK NOT COVERED BY THE SPECIFICATIONS. ALL REFERENCES TO THE DIRECTOR OR ENGINEER SHALL BE CONSTRUED TO MEAN THE CITY ENGINEER AND/OR HIS REPRESENTATIVE. ALL WORK CONTEMPLATED SHALL BE GOVERNED BY THE RULES, REGULATIONS AND SPECIFICATIONS OF THE CITY OF WHEELING.
3. ALL WORK COMPLETED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.
4. ANY DEFECT IN MATERIAL OR WORKMANSHIP REVEALED BY INSPECTION MUST BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE CITY AND TO THE FULL SATISFACTION OF THE CITY AND ENGINEER BEFORE ACCEPTANCE OF THE WORK AND RELEASE OF FINAL ESTIMATE AND PAYMENT THEREOF.
5. THE CONTRACTOR SHALL PROVIDE A PRE-CONSTRUCTION VIDEO SURVEY OF THE ENTIRE PROJECT AREA. ANY DAMAGE DEEMED TO BE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT HIS OWN EXPENSE. THE RECORDING SHALL BE RECORDED ON USB FLASH DRIVE IN A STANDARD FORMAT VIEWABLE ON ANY WINDOWS-BASED PC.
6. BEFORE THE CITY WILL APPROVE THE WORK AND RELEASE THE RETAINER, THE CONTRACTOR SHALL FURNISH THE CITY A WRITTEN REPORT INDICATING THE RESOLUTION OF ANY AND ALL PROPERTY DAMAGE CLAIMS FILED WITH THE CONTRACTOR BY ANY PARTY DURING THE CONSTRUCTION PERIOD. THE INFORMATION TO BE SUPPLIED SHALL INCLUDE, BUT NOT BE LIMITED TO, NAME OF CLAIMANT, DATE FILED WITH CONTRACTOR, NAME OF INSURANCE COMPANY AND/OR ADJUSTER HANDLING CLAIM, HOW CLAIM WAS RESOLVED AND IF CLAIM WAS NOT RESOLVED FOR THE FULL AMOUNT, AND A STATEMENT INDICATING THE REASON FOR SUCH ACTION.
7. MATERIAL SPECIFICATIONS CALLED FOR ON THE PLANS REPRESENT THE MINIMUM REQUIRED FOR EACH APPLICATION. THE OWNER MAY REQUEST OR THE CONTRACTOR MAY DESIRE TO SUBSTITUTE ALTERNATE MATERIALS. ANY SUCH SUBSTITUTIONS MUST BE EQUIVALENT IN QUALITY TO THE MATERIAL CALLED FOR AND MUST BE APPROVED IN WRITING BY THE ENGINEER.
8. THE CONTRACTOR SHALL VERIFY EXISTING GRADE PRIOR TO BEGINNING ANY CONSTRUCTION.
9. IN CASE OF DISCREPANCIES BETWEEN SPECIFICATION AND THE DRAWINGS, THE MOST STRINGENT APPLIES.

UTILITIES

1. BEFORE ANY WORK IS STARTED THAT WILL INTERFERE WITH THE EXISTING UTILITIES, THE CONTRACTOR SHALL CALL THE WV 811 (72) HOURS IN ADVANCE OF THE WORK IN ACCORDANCE WITH THE WEST VIRGINIA REVISED CODE. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO ADDITIONAL EXPENSE TO THE CITY, TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITIES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL COST TO THE CITY, INCLUDING INSPECTION OR MAINTENANCE FEES.
2. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES AFFECTED BY THE PROPOSED CONSTRUCTION.
3. THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL, WITHIN 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, AFTER NOTICE IS RECIEVED, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO (2) DAYS AHEAD OF THE PLANNED CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS LISTED BELOW AND "MISS UTILITY" IN ACCORDANCE WITH SECTION 5 24C-1-1 OF THE WEST VIRGINIA REVISED CODE AND OUTLINED IN PROJECT SPECIFICATIONS. THE UTILITY OWNERSHIPS ARE AS FOLLOWS:

CITY OF WHEELING WATER DEPARTMENT
1500 CHAPLINE STREET
WHEELING, WV 26003
(304) 234-3762

AMERICAN ELECTRIC POWER
4201 JACOB STREET
WHEELING, WV 26003
(304) 234-3004

COMCAST CABLE
56319 NATIONAL ROAD
BRIDGEPORT, OH 43912

CITY OF WHEELING WATER POLLUTION CONTROL
2516 MAIN STREET
WHEELING, WV 26003
(304) 234-3874

MOUNTAINEER GAS
114 NORTH 19TH STREET
WHEELING, WV 26003
(304) 234-0320
(800) 834-2070

COLUMBIA GAS TRANSMISSION
950 MANIFOLD ROAD
WASHINGTON, PA 15301
(814) 445-4652

PROHIBITED CONSTRUCTION ACTIVITIES

1. CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY OR STREET WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER; AND CLOSING CLEAR ACCESS BY FIRE PROTECTION AND EMERGENCY VEHICLES, BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE, OR BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.

AIR/NOISE CONTROL

1. CONSTRUCTION ACTIVITIES WILL BE LIMITED TO WEEKDAY DAYTIME HOURS, UNLESS APPROVED IN ADVANCE BY THE CITY.

PAVEMENT RESTORATION

1. PAVEMENTS SHALL BE RESTORED TO THEIR ORIGINAL MATERIAL, ELEVATION AND SLOPE. IN NO CASE SHALL THE REPLACEMENT PAVEMENT THICKNESS BE LESS THAN THE ORIGINAL.
2. THE CURING OF RIGID PAVEMENT SHALL BE IN ACCORDANCE WITH WVDOT SECTION 501.5.10.

STRUCTURAL CONCRETE

1. ALL STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH WVDOT SECTION 601.
2. ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE BILLET STEEL IN ACCORDANCE WITH AASHTO M31 OR ASCE A615 AND SECTION 602 OF THE STANDARD SPECIFICATIONS. THE MINIMUM LAP FOR REINFORCING SHALL BE 1 FOOT - 6 INCHES UNLESS OTHERWISE SHOWN.

FIRE PREVENTION

1. THE CONTRACTOR SHALL ADHERE TO THE CITY OF WHEELING CODIFIED ORDINANCES CHAPTER 15 FIRE PREVENTION. THE CONTRACTOR SHALL ALSO CONFORM TO THE WEST VIRGINIA FIRE CODE, WEST VIRGINIA BUILDING CODE AND THE NFPA 24 FOR THE INSTALLATION AND TESTING OF FIRE MAINS AND HYDRANTS.

CONTRACTORS USE OF SITE

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING AND STORAGE OF MATERIAL FOR THE WORK. THE OWNER WILL NOT RECEIVE ANY OF THE CONTRACTOR'S DELIVERIES.
2. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF CONSTRUCTION EQUIPMENT, TOOLS, SUPPLIES, MATERIALS, AND CONTRACTOR'S FACILITY WITH THE OWNER. THE OWNER SHALL HAVE ACCESS TO OPERATE AND MAINTAIN TREATMENT FACILITY AT ALL TIMES.
3. GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING SCHEDULES AND WORK AREA TO PREVENT DELAY AND INTERFERENCE.

WHERE REQUIREMENTS INDICATED ON THE CONTRACT DRAWINGS DIFFER FROM THOSE SPECIFIED HEREIN, THE MORE STRINGENT SHALL APPLY.THE ENGINEER WILL DETERMINE WHICH REQUIREMENT IS MORE STRINGENT.

EXISTING PIPE SIZES, MATERIALS, AND ELEVATIONS ARE BASED ON STEAMS & WHELER RECORD DRAWINGS 1977 AND SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OR INSTALLATION ON NEW PIPING.

PLUG VALVE SCHEDULE

DESIGNATION	SIZE (IN)	OPERATOR TYPE						END TYPE	INSTALLED CONDITIONS			ACCESSORIES							NORMALLY OPEN / CLOSED (NO/NC)	SUPPLIER	LOCATION	
		LEVER & NUT	WHEEL OPERATOR	WORM GEAR & HANDWHEEL	WORM GEAR & CHAINWHEEL	MOTOR	NUT		WORM GEAR & NUT	NON-SUBMERGED	SUBMERGED	BURIED	STEM EXTENSION	FLOOR STAND	EXTENDED BONNET	VALVE BOX	FLOOR BOX	STEM GUIDES				ADJUSTABLE VALVE BOX & COVER
PV-01	4			X				FL	X										NO	CONTRACTOR	PUMP No. 1 DISCHARGE LINE, DRAWING 20D-08	
PV-02	4							FL	X										NO	CONTRACTOR	PUMP No. 2 DISCHARGE LINE, DRAWING 20D-08	
PV-03	3							FL	X										NO	CONTRACTOR	SCREW PRESS INFLUENT , DRAWING 20D-07	

CHECK VALVE SCHEDULE

DESIGNATION	SIZE (IN)	OPERATOR TYPE								END TYPE	INSTALLED CONDITIONS			LOCATION
		TILTING DISC	ELECTRIC CHECK	RUBBER FLAPPER	MOTOR	SWING CHECK	LEVER & WEIGHT	SPRING SWING	CENTER GUIDE		NON-SUBMERGED	SUBMERGED	BURIED	
CV-01	4						X			FL	X			PUMP No. 1 DISCHARGE LINE, DRAWING 20D-08
CV-02	4						X			FL	X			PUMP No. 2 DISCHARGE LINE, DRAWING 20D-08

BID

verdantas

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS

OHIO COUNTY, WEST VIRGINIA
GENERAL - 00 SERIES

GENERAL NOTES AND VALVE SCHEDULE

PROJECT NO.

34141

DISCIPLINE

GENERAL

SHEET NAME

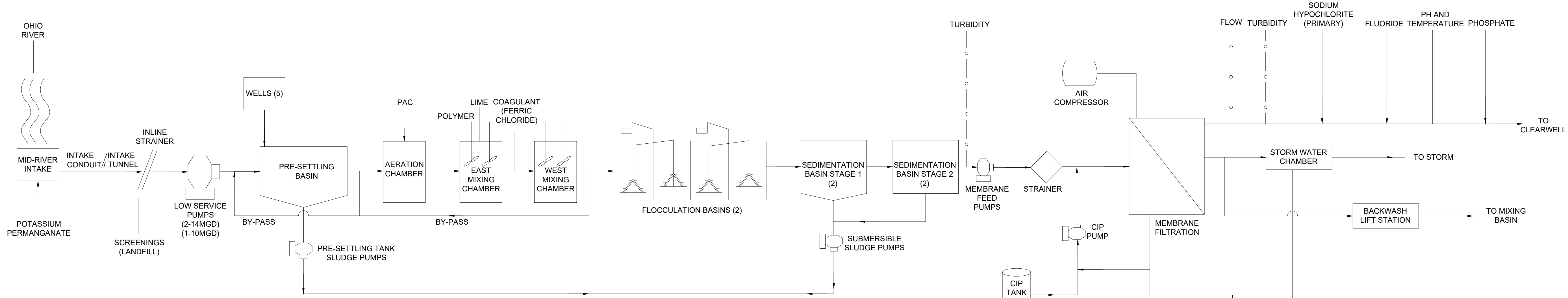
00G-03

SHEET

3

OF

29

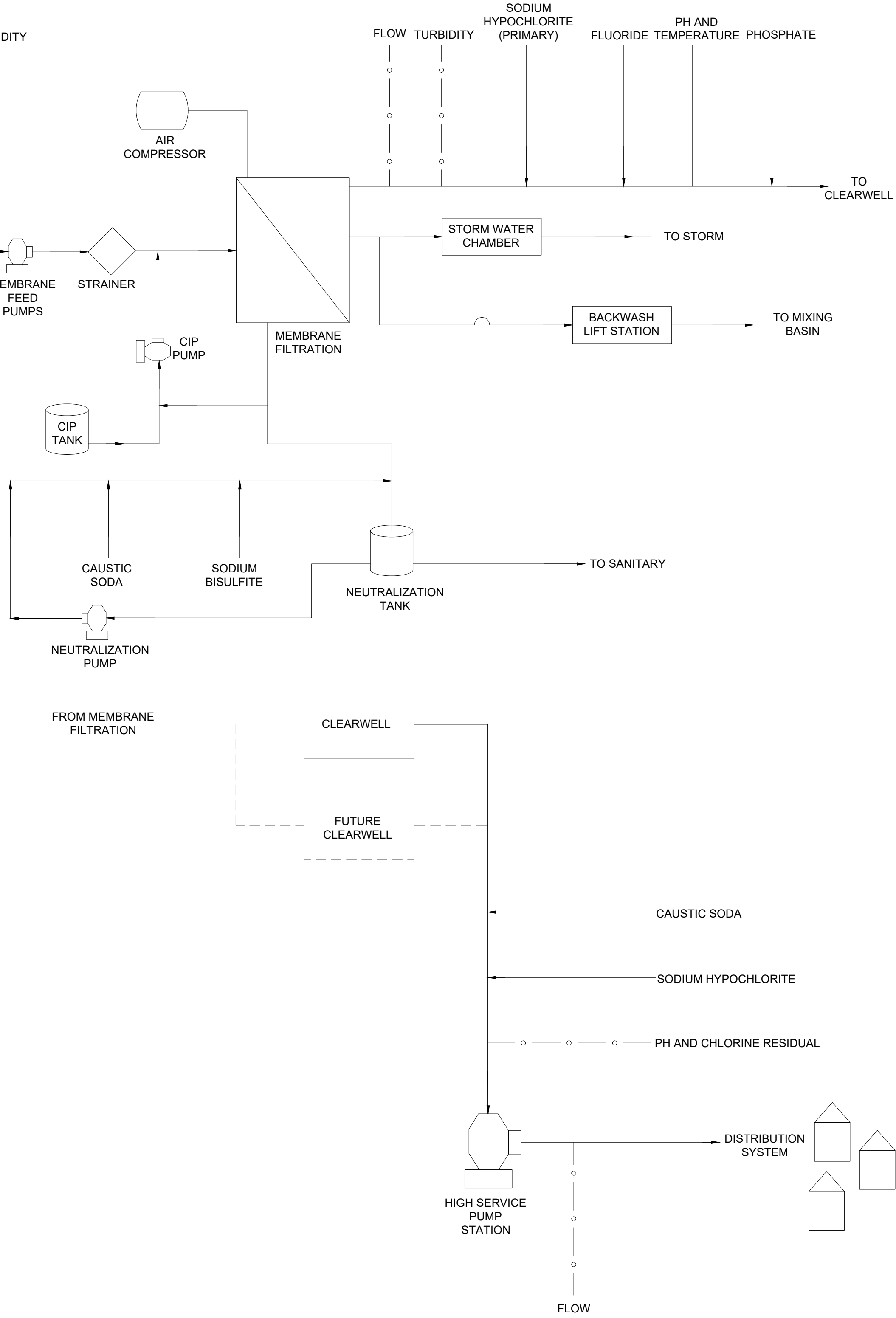
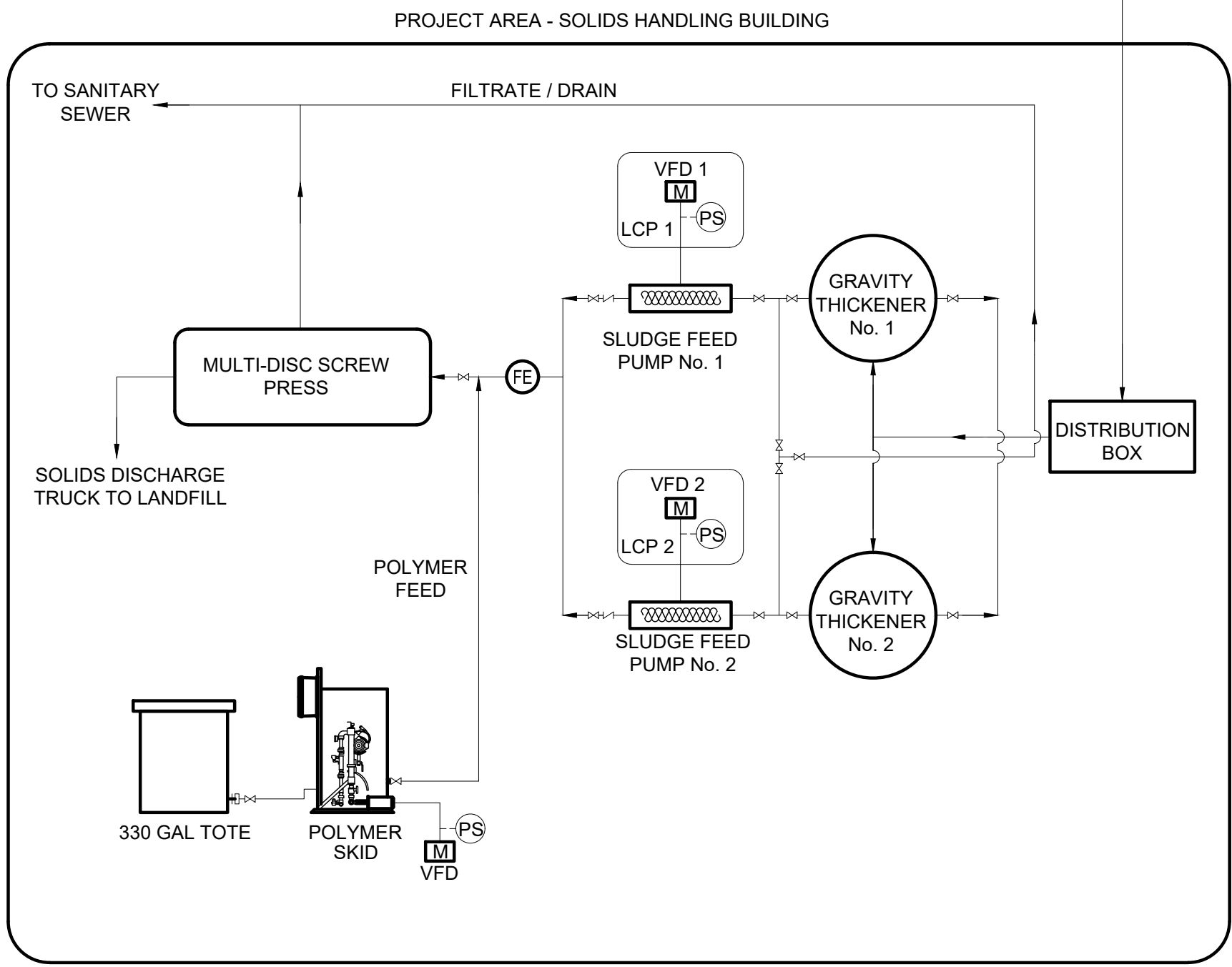


PS PRESSURE SWITCH
■ QUICK DISCONNECT

MULTI-DISC SCREW PRESS:
MODEL: MDQ-403 (2) CLS
NUMBER OF DRUMS: 2
SOLIDS TYPE: @ 5% TS CONC.
HYDRAULIC CAPACITY: 19 GPM TOTAL FLOW
9.5 GPM PER DRUM
SOLIDS LOADING RATE: 450 LBS DS/HR TOTAL
225 PER EACH DRUM
DRUM MOTOR SIZE: 1 HP EACH
MIXER MOTOR SIZE: 1 HP
INSTALLED POWER: 5 HP 480 VAC/ 3 PH/ 60 HZ WITH 3 DRUMS INSTALLED
RINSING WATER: 69.6 GPH @ 30-60 PSI WITH 3 DRUMS INSTALLED

LIQUID POLYMER BLENDING UNIT:
MANUFACTURER: VELOBLEND, MODEL VM-5P-600,
OR APPROVED EQUAL.
POLYMER FLOW RATE: 0.25 TO 5 GPH NEAT POLYMER
SUPPLY PUMP: PROGRESSIVE CAVITY PUMP
DILUTION WATER: 2 TO 20 GPM POLYMER
SOLUTION CONCENTRATION: 0.1 TO 2%
POWER SUPPLY: 120 VAC / 3 PH / 60 HZ

SLUDGE FEED PUMP:
TYPE: PROGRESSIVE CAVITY
QUANTITY: 2
CAPACITY: 60 GPM (MAX) @ 30 FT TDH
PUMP SPEED: 350 (MAX)
DRIVE: 5 HP, VFD
MOTOR SPEED: 1750 RPM
POWER SUPPLY: 460 VAC/3 PH/60 HZ
INLET/OUTLET: 3 INCH



BID

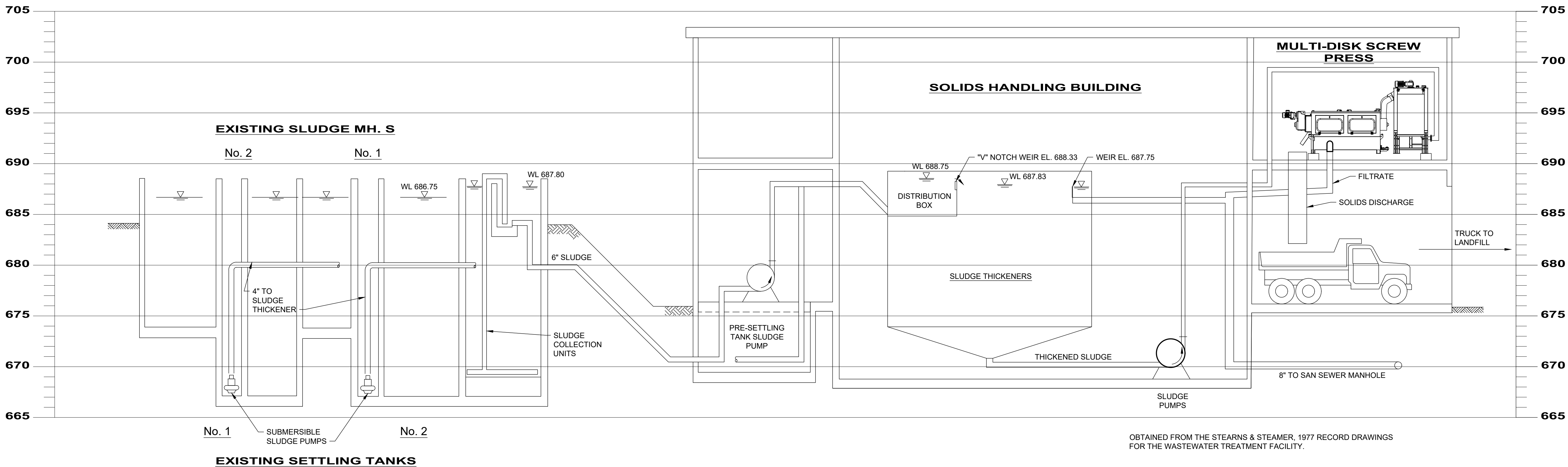
verdantas

REVISIONS	
REV.	DESCRIPTION

ISSUED FOR:	
BID	ISSUE DATE:
	10/01/2026

CITY OF WHEELING WATER TREATMENT PLANT SOLIDS HANDLING BUILDING IMPROVEMENTS	
OHIO COUNTY, WEST VIRGINIA	
GENERAL - 00 SERIES	
BLOCK FLOW DIAGRAM	

PROJECT NO.	
34141	
DISCIPLINE	
GENERAL	
SHEET NAME	
00G-04	
SHEET	OF
4	29



BID

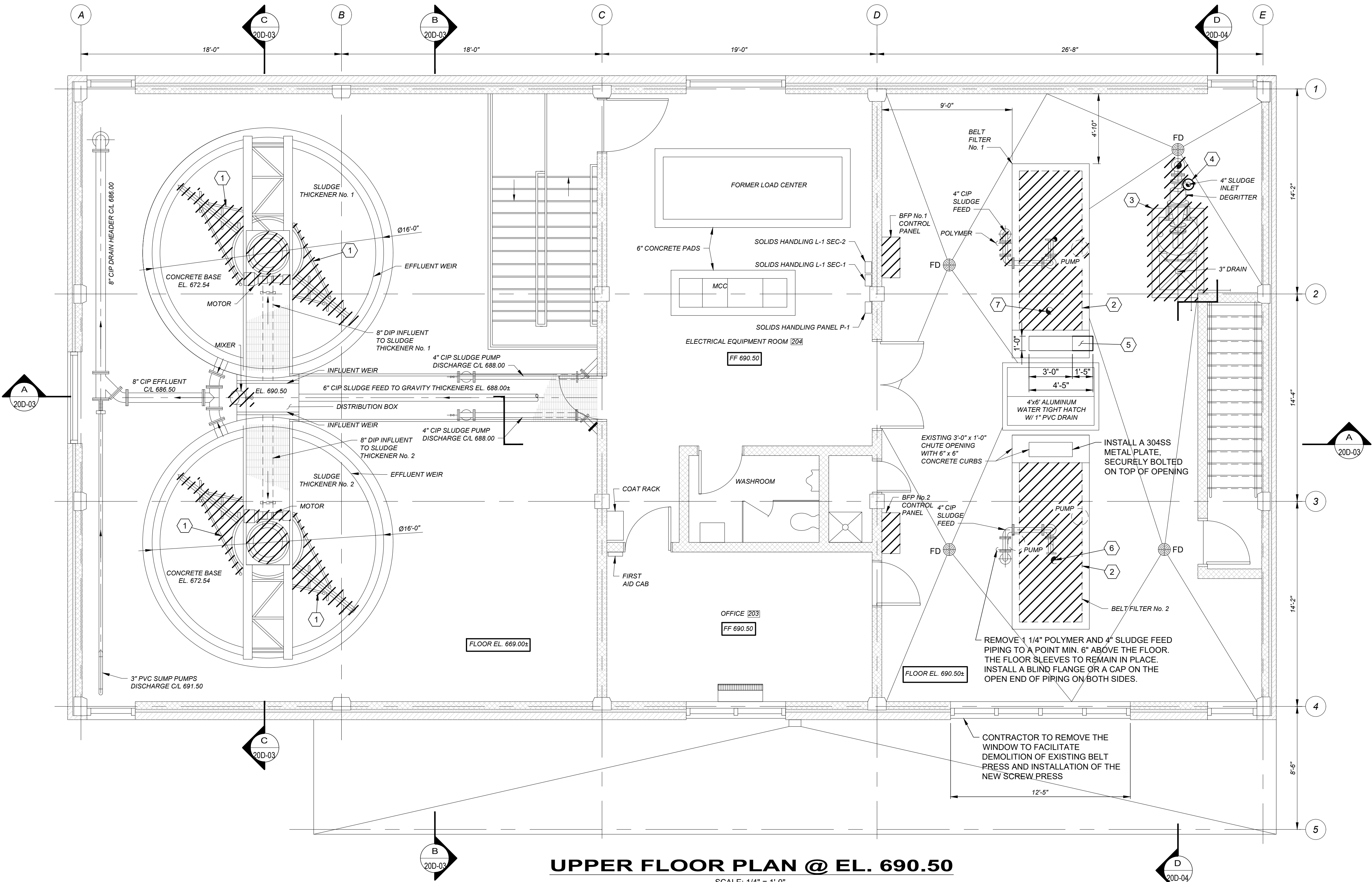
verdantas

ISSUED FOR:		REVISIONS	
BID	DATE	REV.	DESCRIPTION
ISSUE DATE:			
10/01/2026			
SCALE			
AS NOTED			
DESIGNED BY:			
MIS			
DRAWN BY:			
RE			
CHECKED BY:			
DEB			

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
GENERAL - 00 SERIES

SLUDGE HYDRAULIC PROFILE

PROJECT NO.	
34141	
DISCIPLINE	
GENERAL	
SHEET NAME	
00G-05	
SHEET	OF
5	29



UPPER FLOOR PLAN @ EL. 690.50

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

GENERAL NOTES:

- THE CONTRACTOR SHALL NOTE THAT THE CITY OF WHEELING WTP MUST REMAIN IN OPERATION AT ALL TIMES UNLESS OUTAGES ARE APPROVED BY THE OWNER. ANY PLANT SHUTDOWNS SHALL BE MINIMAL AND IMPLEMENTED ONLY AFTER COORDINATION WITH THE OWNER.
- THE CONTRACTOR SHALL COORDINATE THE DEMOLITION OF THE GRAVITY THICKENERS No. 1 AND 2, DEGRITTER AND EXISTING BELT FILTER PRESSES No. 1 AND 2 WITH THE OWNER.
- ONLY ONE GRAVITY THICKENER MAY BE TAKEN OUT OF SERVICE AT A TIME. COORDINATE THE WORK SCHEDULE WITH THE OWNER. TANKS (ONE AT A TIME) WILL BE DRAINED BY CITY OF WHEELING WTP PERSONNEL TO THE EXTENT ACHIEVABLE THROUGH EXISTING PLANT DRAINAGE FACILITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, AND PROPERLY DISPOSING OF ANY RESIDUAL SLUDGE, OR DEBRIS ENCOUNTERED DURING WORK. THE CONTRACTOR SHALL ALSO CLEAN AND PRESSURE WASH THE INTERIOR SURFACES OF THE GRAVITY THICKENER TANKS.
- THE DEGRITTED SLUDGE PIPE WILL BE CLEANED PRIOR TO DEMOLITION WORK. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER BEFORE SCHEDULING ANY WORK ON THE DEGRITTED SLUDGE PIPE.
- THE DOWNTIME FOR THE DEMOLITION WORK OF THE BELT FILTER PRESSES SHALL BE COORDINATED WITH THE OWNER. DURING NORMAL WTP OPERATION (SUMMER AND WINTER WITHOUT SNOW), THE MAXIMUM ALLOWABLE DOWNTIME SHALL NOT EXCEED TWO MONTHS. BOTH FILTER PRESSES CAN BE REMOVED SEQUENTIALLY.
- THE CONTRACTOR SHALL PROTECT EXISTING EQUIPMENT NOT SHOWN FROM THE DEMOLITION. EQUIPMENT DAMAGED DURING DEMOLITION OR INSTALLATION OF THE NEW EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL REPAIR ALL CONCRETE FLOOR SURFACE AND TILES DAMAGED DURING DEMOLITION ACTIVITIES.
- THE ELEVATIONS SHOWN ARE BASED ON EXISTING STEARNS & STEAMER, 1977 RECORD DRAWINGS FOR THE WASTEWATER TREATMENT PLANT.

DEMOLITION CODED NOTES:

- REMOVE THE EXISTING RAKE ARM ASSEMBLY, VERTICAL SHAFT, DRIVE MECHANISM, INFLUENT WELL, ELECTRIC BOX AND WIRING FROM SLUDGE THICKENERS No. 1 AND 2. REMOVE MIXER LOCATED IN THE INFLUENT DISTRIBUTION BOX FOR THE GRAVITY THICKENERS.
- REMOVE BELT FILTER PRESSES No.1 AND 2 INCLUDING, BUT NOT LIMITED TO: PUMPS, PIPING, ELECTRICAL CONNECTIONS, CONTROL PANELS AND ALL AUXILIARY EQUIPMENT (TYP. 2). FOUNDATION TO REMAIN.
- REMOVE DEGRITTER INCLUDING, PART OF 4" CIP DEGRITTER FEED LINE, PART OF 6" CIP DEGRITTED SLUDGE LINE AS SHOWN.
- INSTALL 4" BLIND FLANGE ON 4" DEGRITTER FEED LINE.
- EXTEND EXISTING CHUTE No. 1 OPENING FROM 3' x 1' TO 4'-5" x 1'. REMOVE THE EXISTING CURB ON THE NORTH SIDE AND PROVIDE A NEW CURB ALONG THE EXTENDED OPENING.
- EXISTING 4" DRAIN TO REMAIN IN PLACE.
- EXISTING 4" DRAIN TO REMAIN FOR FUTURE CONNECTION.

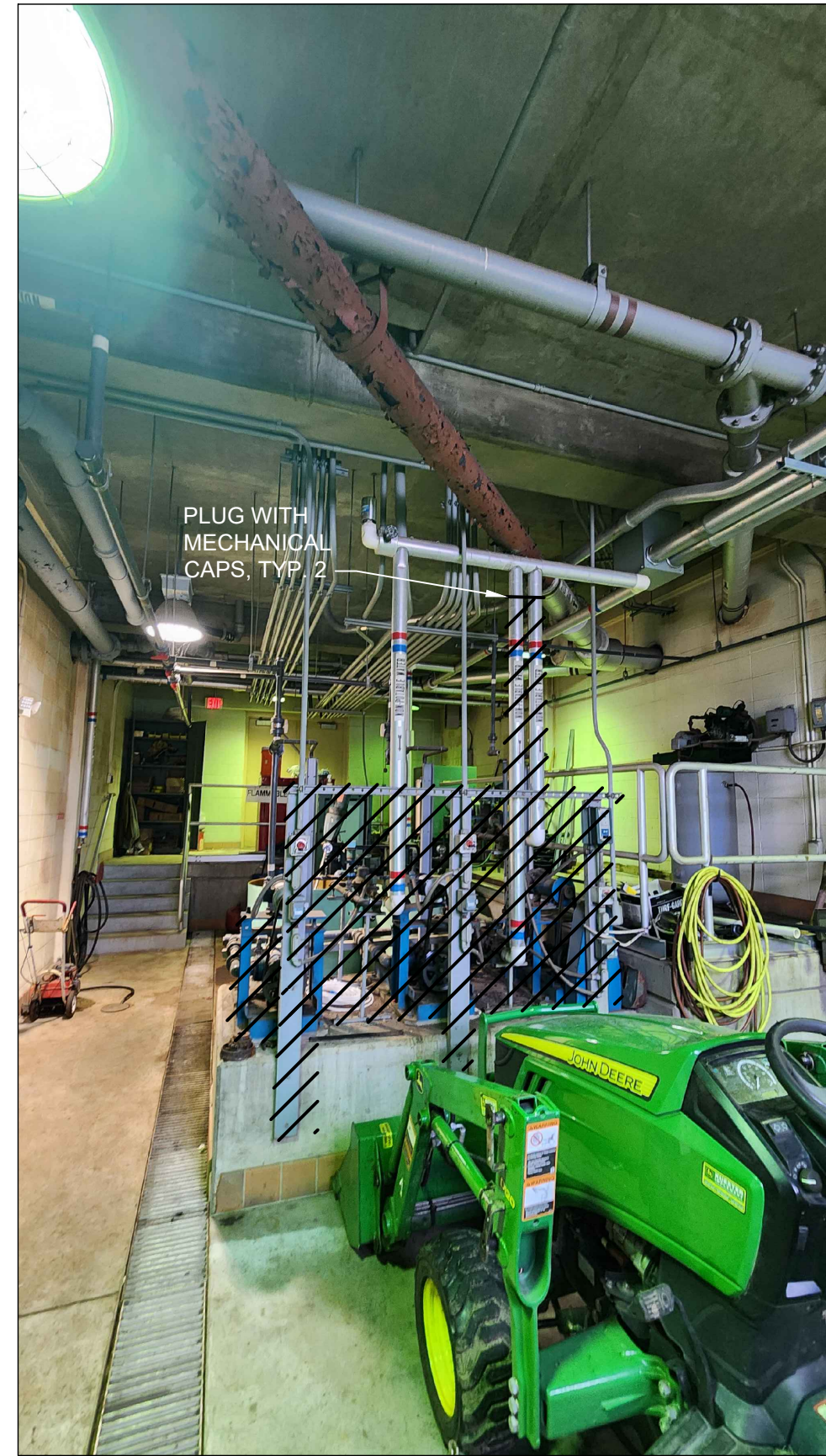
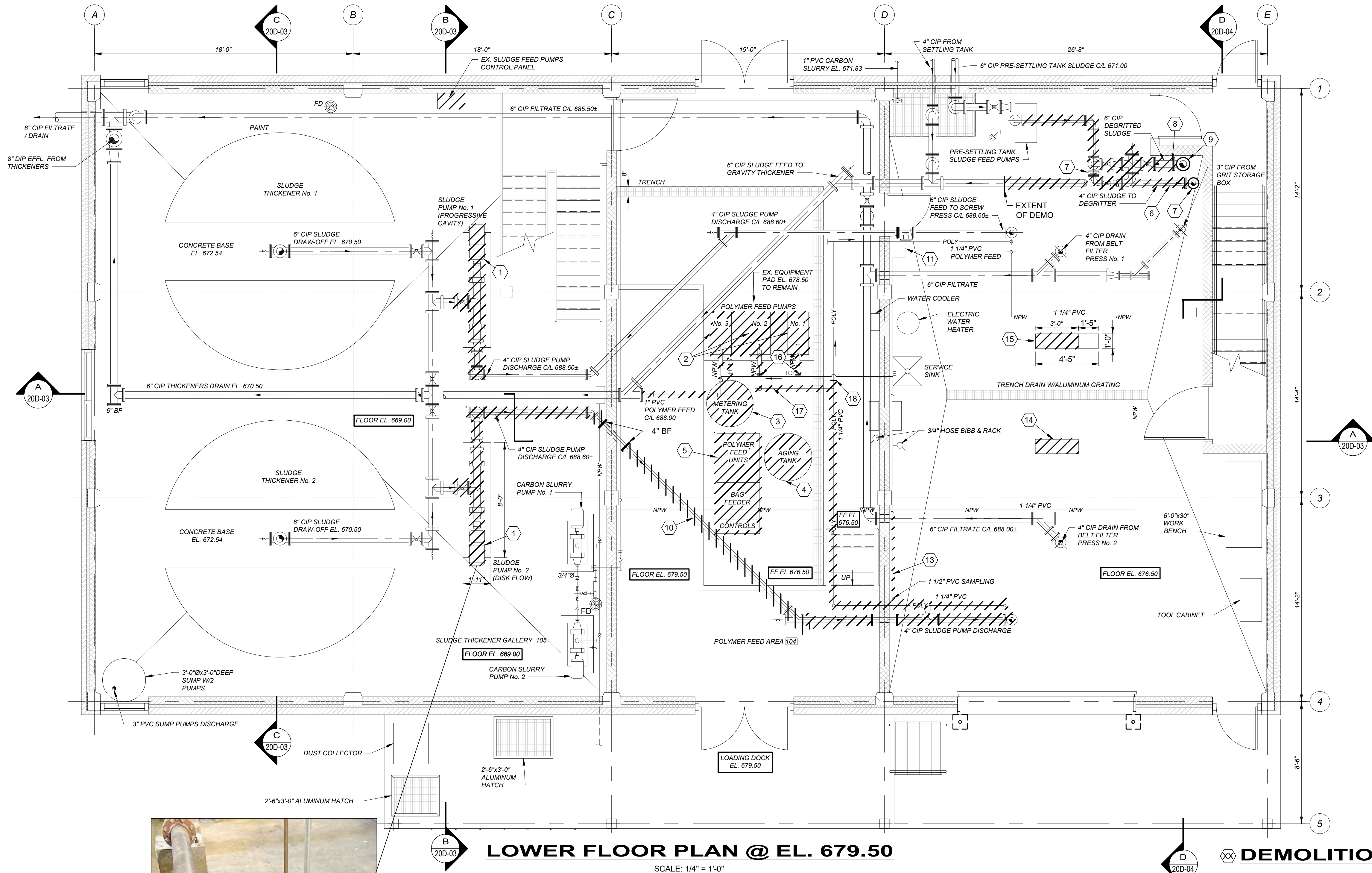
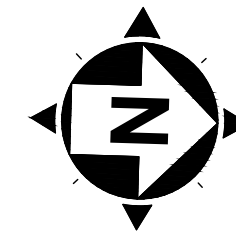


BID

verdantas

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
SOLIDS HANDLING BLDG - 20 SERIES
SLUDGE DEWATERING BLDG. UPPER PLAN DEMOLITION

PROJECT NO.	
34141	
DISCIPLINE	
PROCESS	
SHEET NAME	
20D-01	
SHEET	OF
7	29



POLYMER FEED AREA



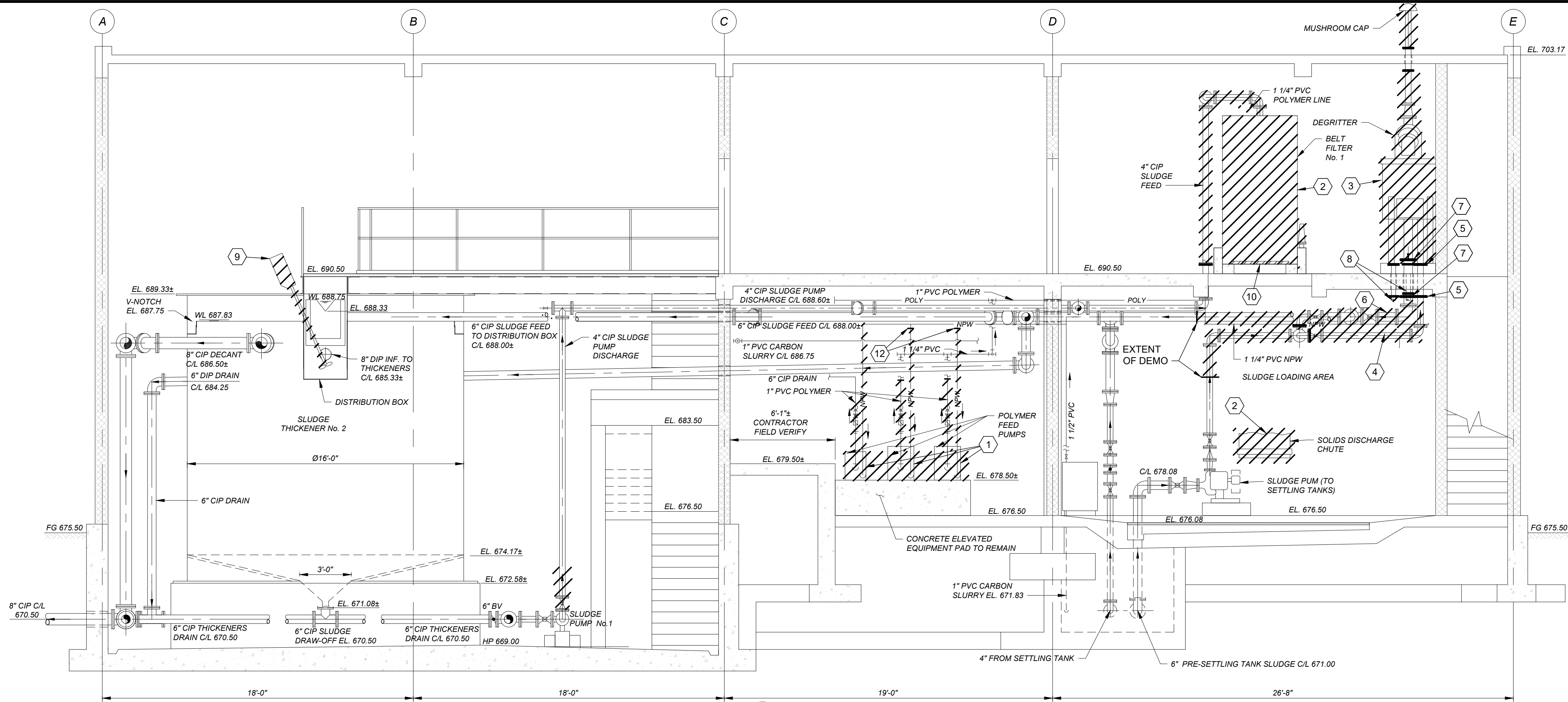
SLUDGE FEED PUMP No. 2
DISC FLOW PUMP TO BE SALVAGED AND TURNED OVER TO THE OWNER

DEMOLITION CODED NOTES:

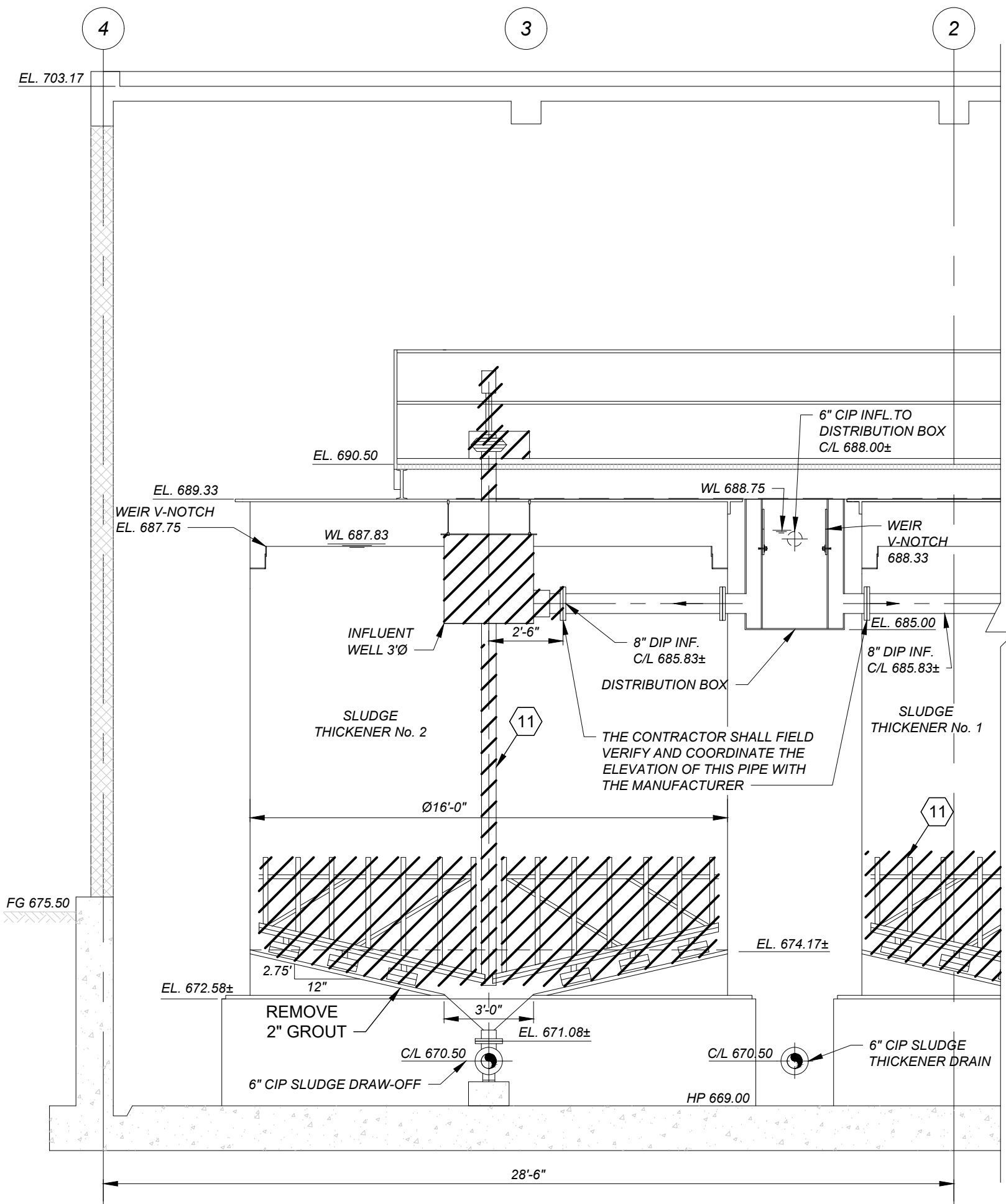
1. REMOVE THE EXISTING SLUDGE FEED PUMPS, INCLUDING THE MOTOR, ASSOCIATED VALVES, AND PUMP CONTROL PANEL (TYP. 2). DEMOLISHED DISK FLOW PUMP, INCLUDING MOTOR AND VFD, SHALL BE SALVAGED INTACT AND RETURNED TO THE OWNER.
2. REMOVE POLYMER PUMPS AND ASSOCIATED AUXILIARY EQUIPMENT (TYP. 3).
3. REMOVE THE EXISTING METERING TANK.
4. REMOVE THE EXISTING AGING TANK.
5. REMOVE POLYMER FEED UNITS, BAG FEEDER AND CONTROLS.
6. REMOVE 4" CIP SLUDGE FEED TO DEGRITTER.
7. INSTALL 4" BLIND FLANGE ON THE DEGRITTER DISCHARGE LINE.
8. REMOVE 6" CIP DEGRITTED LINE.
9. INSTALL 6" BLIND FLANGE ON DEGRITTED SLUDGE FEED LINE.
10. REMOVE 4" CIP SLUDGE PUMP DISCHARGE.
11. 1 1/2" PVC SAMPLING LINE TO REMAIN.
12. INSTALL 3" BLIND FLANGE.
13. REMOVE SAMPLING LINE FROM BFP No. 2.
14. REMOVE SOLIDS DISCHARGE CHUTE. OPENING SHALL REMAIN (TYP. OF 2).
15. REMOVE THE SOLIDS DISCHARGE CHUTE FROM BELT FILTER PRESS No. 1. ENLARGE THE OPENING TO 4'-5" x 1'.
16. PLUG 1 1/2" NPW LINE.
17. REMOVE 1 1/4" PVC POLYMER LINE.
18. PLUG 1 1/4" POLYMER LINE.

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
SOLIDS HANDLING BLDG - 20 SERIES
SLUDGE DEWATERING BLDG. LOWER PLAN DEMOLITION

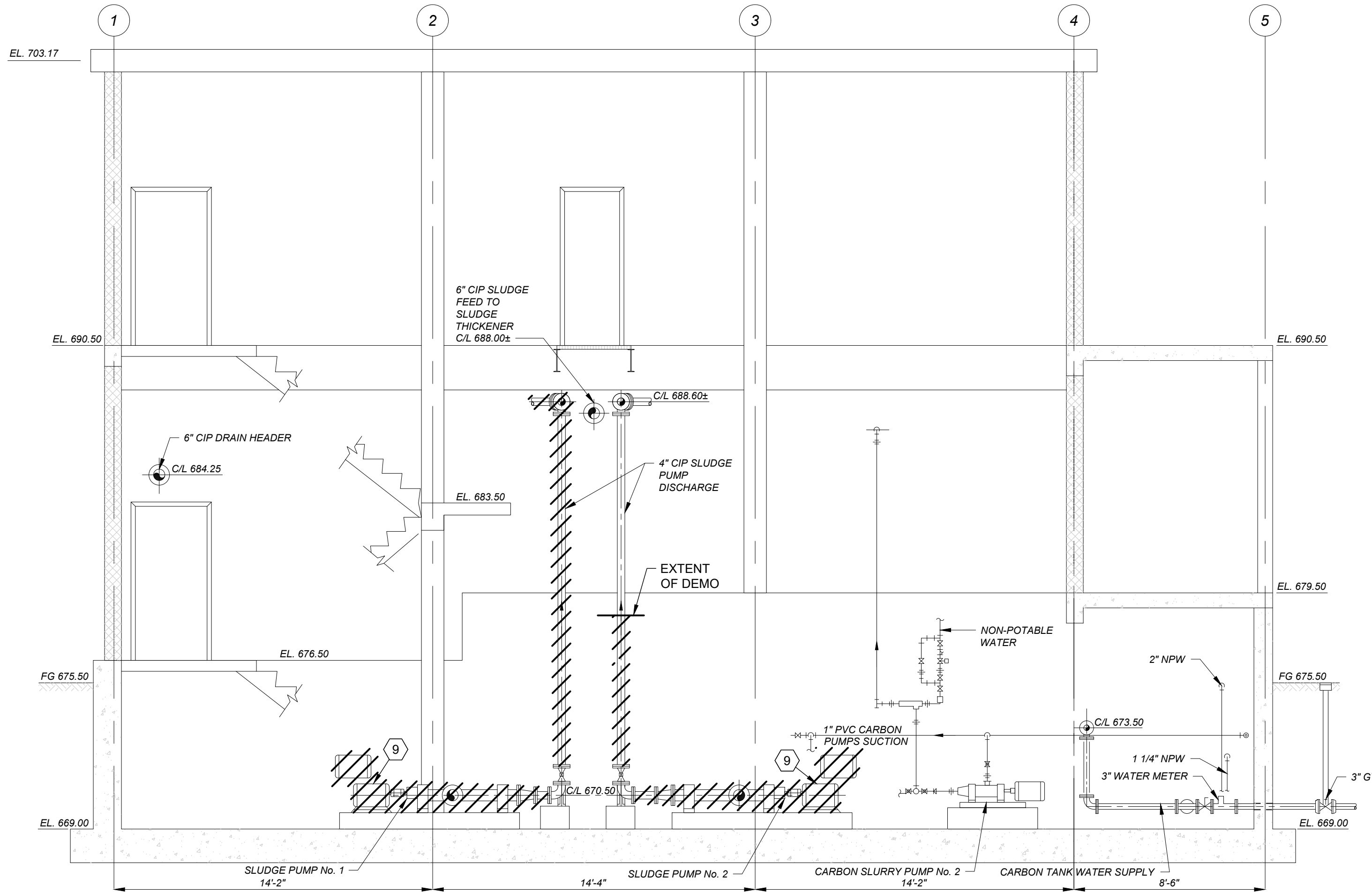
PROJECT NO.	
34141	
DISCIPLINE	
PROCESS	
SHEET NAME	
20D-02	
SHEET	OF
8	29



A SECTION
20D-02 SCALE: 1/4"=1'-0"



C SECTION
20D-02 SCALE: 1/4"=1'-0"



B SECTION
20D-02 SCALE: 1/4"=1'-0"

DEMOLITION CODED NOTES:

- REMOVE POLYMER PUMPS AND ASSOCIATED AUXILIARY EQUIPMENT (TYP. 3). CONCRETE ELEVATED EQUIPMENT PAD TO REMAIN.
- REMOVE BELT FILTER PRESS INCLUDING, BUT NOT LIMITED TO: PUMPS, PIPING, ELECTRICAL CONNECTIONS, CONTROL PANELS AND ALL AUXILIARY EQUIPMENT. FOUNDATION TO REMAIN.
- REMOVE DEGRITTER INCLUDING, PART OF 4" CIP DEGRITTER FEED LINE, PART OF 6" CIP DEGRITTER SLUDGE LINE AS SHOWN.
- REMOVE 4" CIP SLUDGE FEED TO DEGRITTER.
- INSTALL 4" BLIND FLANGE ON THE DEGRITTER SLUDGE FEED LINE (TYP. 2).
- REMOVE 6" CIP DEGRITTER LINE.
- INSTALL 6" BLIND FLANGE ON DEGRITTER SLUDGE LINE (TYP. 2).
- REMOVE PART OF 3" CIP DRAIN LINES FROM DEGRITTER AND INSTALL 3" BLIND FLANGES (TWO FOR EACH LINE).
- REMOVE MIXER FROM THE SLUDGE THICKENERS DISTRIBUTION BOX.
- 3'-0" x 1'-0" 304 SS METAL PLATE.
- REMOVE THE EXISTING RAKE ARM ASSEMBLY, VERTICAL SHAFT, INFLUENT WELL, DRIVE MECHANISM, ELECTRIC BOX AND WIRING FROM SLUDGE THICKENERS.
- PLUG 1 1/2" NPW LINE.

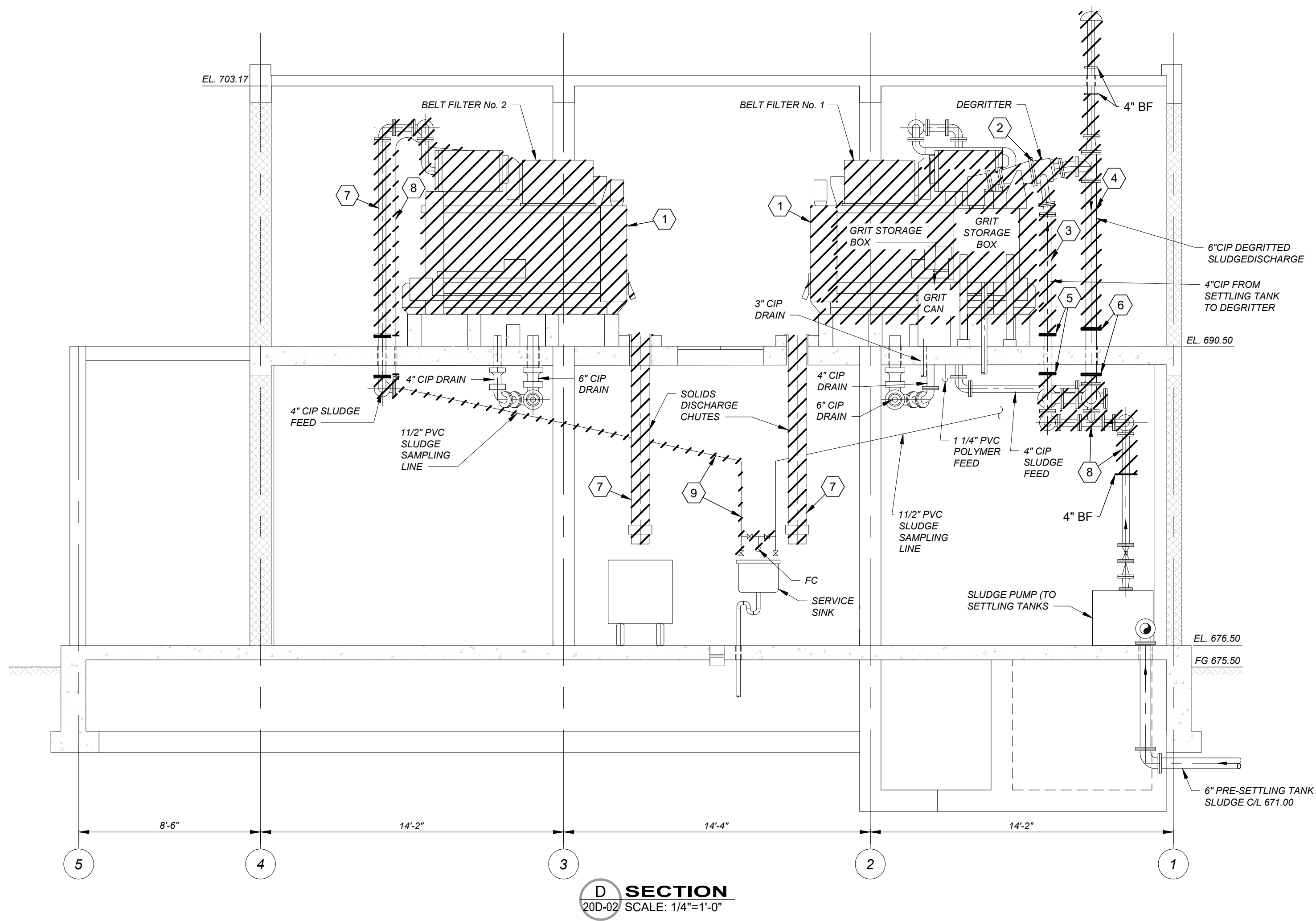
BID

verdantas

CITY OF WHEELING WATER TREATMENT PLANT SOLIDS HANDLING BUILDING IMPROVEMENTS OHIO COUNTY, WEST VIRGINIA SOLIDS HANDLING BLDG - 20 SERIES

SLUDGE DEWATERING BLDG. DEMOLITION SECTIONS A AND B

ISSUED FOR:	BID
ISSUE DATE:	10/01/2026
SCALE:	AS NOTED
DESIGNED BY:	MIS
DRAWN BY:	RE
CHECKED BY:	DEB
PROJECT NO.	34141
DISCIPLINE	PROCESS
SHEET NAME	20D-03
SHEET	9
OF	29



XX **DEMOLITION CODED NOTES:**

1. REMOVE BELT FILTER PRESS INCLUDING, BUT NOT LIMITED TO: PUMPS, PIPING, ELECTRICAL CONNECTIONS, CONTROL PANELS AND ALL AUXILIARY EQUIPMENT. FOUNDATION TO REMAIN.
2. REMOVE DEGRITTER.
3. REMOVE 4" CIP SLUDGE FEED TO DEGRITTER.
4. REMOVE 6" CIP DEGRITTED LINE
5. INSTALL 4" BLIND FLANGES ON DEGRITTER FEED LINE (TYP. 2) .
6. INSTALL 6" BLIND FLANGE ON DEGRITTED SLUDGE LINE (TYP. 2).
7. REMOVE SLUDGE DISCHARGE CHUTES (TYP. 2).
8. REMOVE PORTION OF 4" DISCHARGE LINE.
9. REMOVE 1 1/2" PVC SLUDGE SAMPLING LINE.

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
SOLIDS HANDLING BLDG - 20 SERIES
SLUDGE DEWATERING BLDG. DEMOLITION SECTIONS D

PROJECT NO.	
34141	
DISCIPLINE	
PROCESS	
SHEET NAME	
20D-04	
SHEET	OF
10	29

ISSUED FOR:		REVISIONS	
BID	DATE	REV.	DESCRIPTION
10/01/2026			
SCALE	AS NOTED		
DESIGNED BY:	MIS		
DRAWN BY:	RE		
CHECKED BY:	DEB		

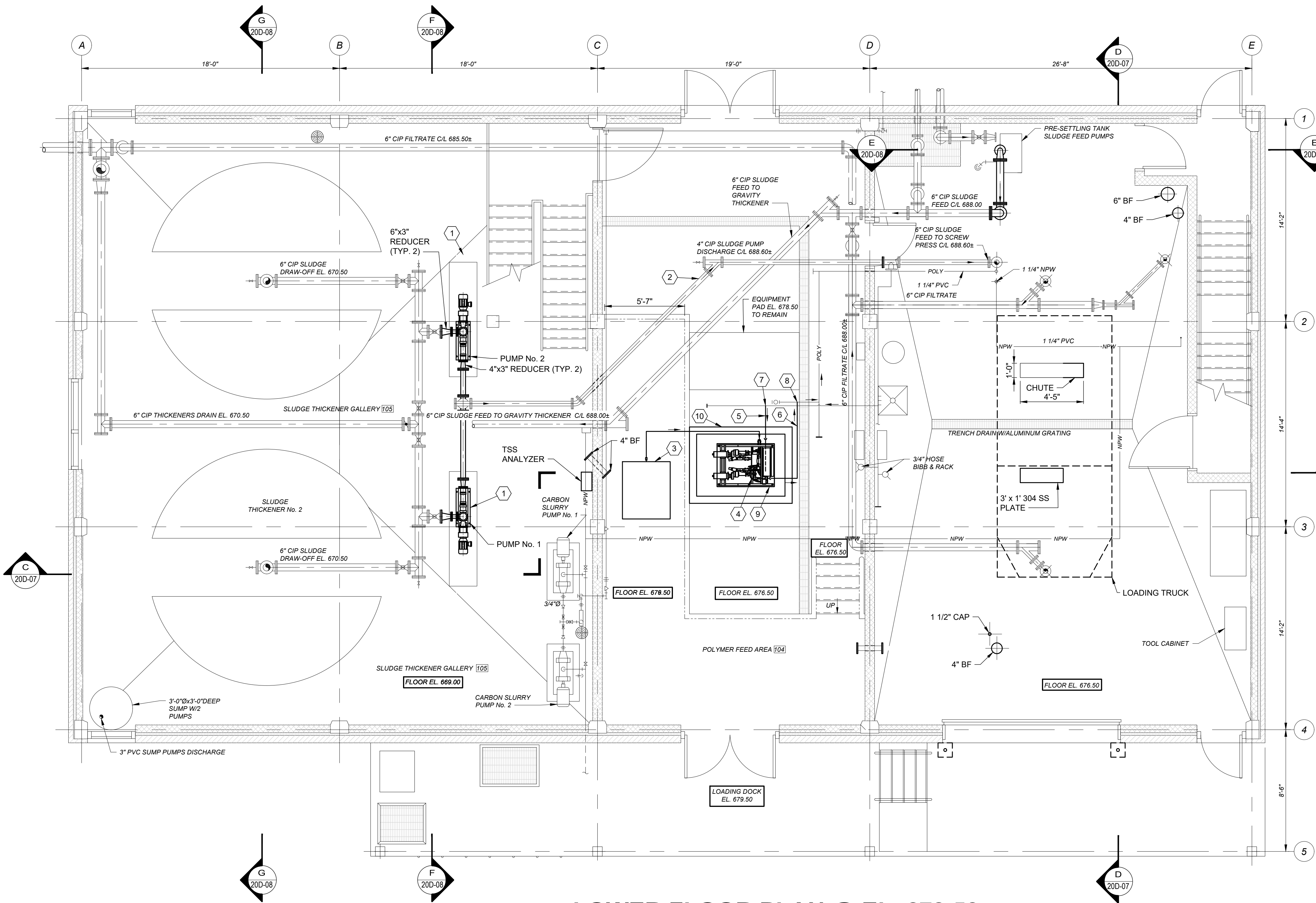


1. THE CONTRACTOR SHALL FIELD VERIFY THE SLUDGE PIPE SIZE AND ELEVATION TO THE INFLUENT WELL (FEEDWELL) OF THE GRAVITY THICKENER No. 1 AND No. 2.
2. THE CONTRACTOR SHALL COORDINATE ALL RELATED DIMENSIONAL AND CONNECTION REQUIREMENTS WITH THE GRAVITY THICKENER MANUFACTURER.
3. THE EXISTING INFORMATION WAS OBTAINED FROM THE CONTRACT 1977, STEARNS & WHEELER DRAWINGS.

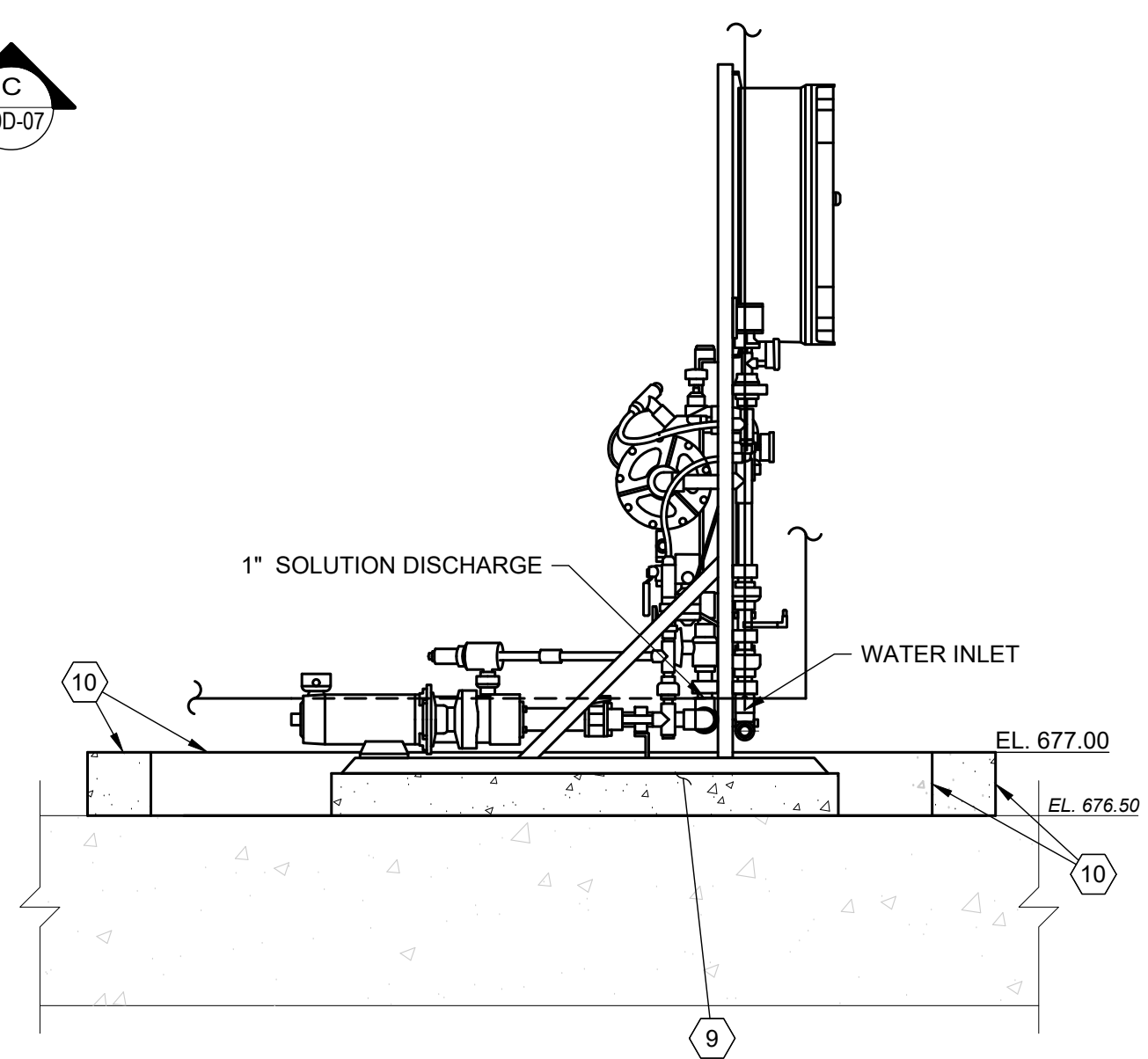
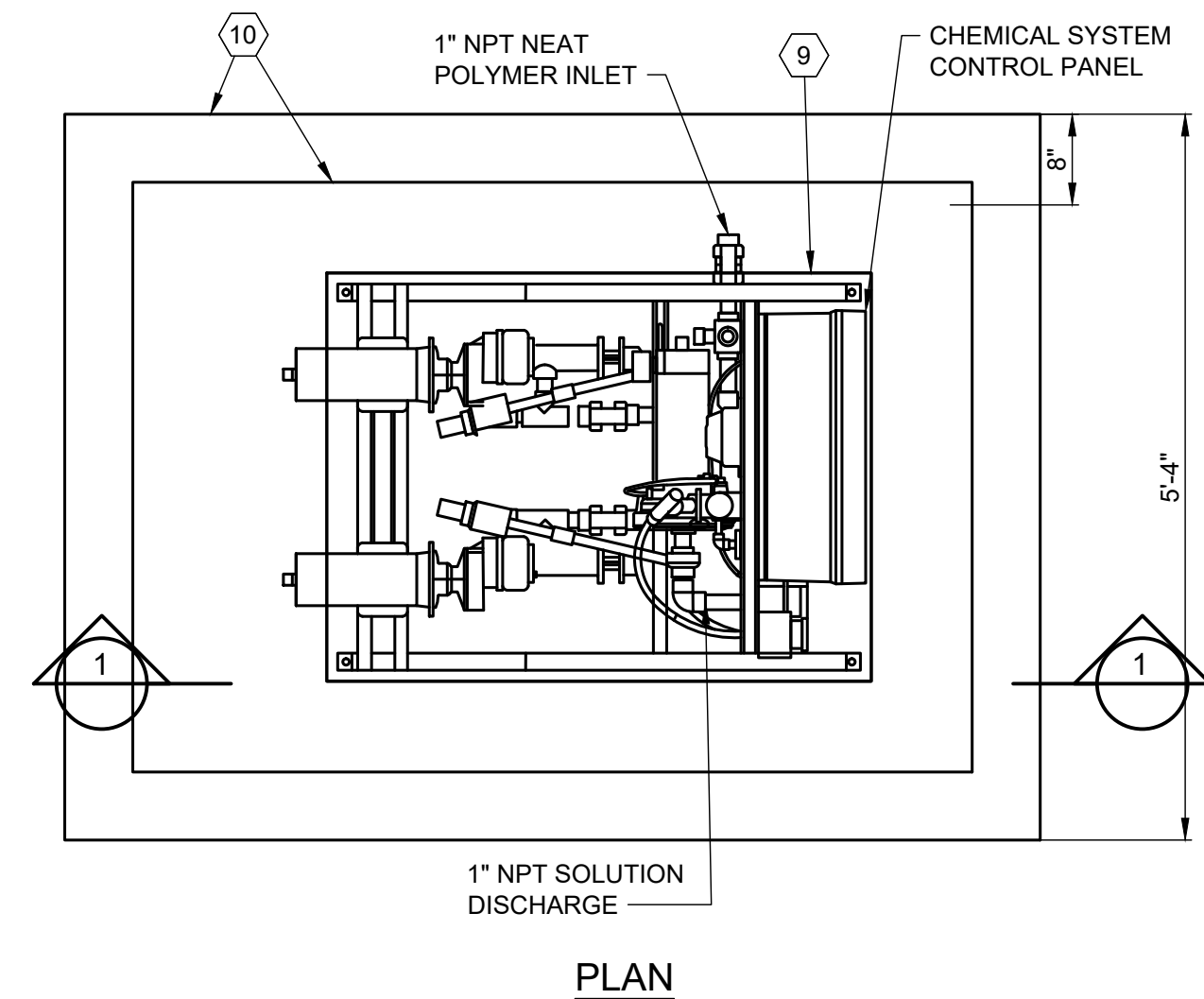
**CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS**
OHIO COUNTY, WEST VIRGINIA
SOLIDS HANDLING BLDG. - 20 SERIES

SLUDGE DEWATERING BLDG. UPPER PLAN NEW EQUIPMENT LAYOUT

PROJECT NO.	
34141	
DISCIPLINE	
PROCESS	
SHEET NAME	
20D-05	
SHEET	OF
11	29



LOWER FLOOR PLAN @ EL. 679.50
SCALE: 1/4" = 1'-0"



SECTION 1-1
POLYMER SYSTEM DETAILS
SCALE: 3/4" = 1'-0"

- CODED NOTES:**
- PROPOSED SLUDGE PUMP.
 - PROPOSED 4" DIP SLUDGE PUMP DISCHARGE.
 - FLOCCULANT FEED 330 GAL TOTE ON PORTABLE CONTAINMENT.
 - NEW POLYMER FEED SYSTEM.
 - 1" PVC SCH 40 NON-POTABLE WATER TO POLYMER FEED SYSTEM.
 - NEW 2" PVC SCH 80 POLYMER SOLUTION PIPE.
 - CONNECT TO EXISTING 1 1/2" NPW.
 - CONNECT TO EXISTING 1 1/4" POLYMER SOLUTION FEED LINE.
 - 3'-0"L x 4'-0"W x 6"H NEW POLYMER SYSTEM CONCRETE PAD.
 - 6' TALL CONCRETE CONTAINMENT CURB AT POLYMER SYSTEM (SEE SHEET 20S-01).

NOTE:
CONTRACTOR TO VERIFY LOCATIONS OF THE
NON-POTABLE WATER AND POLYMER LINES

BID

verdantas

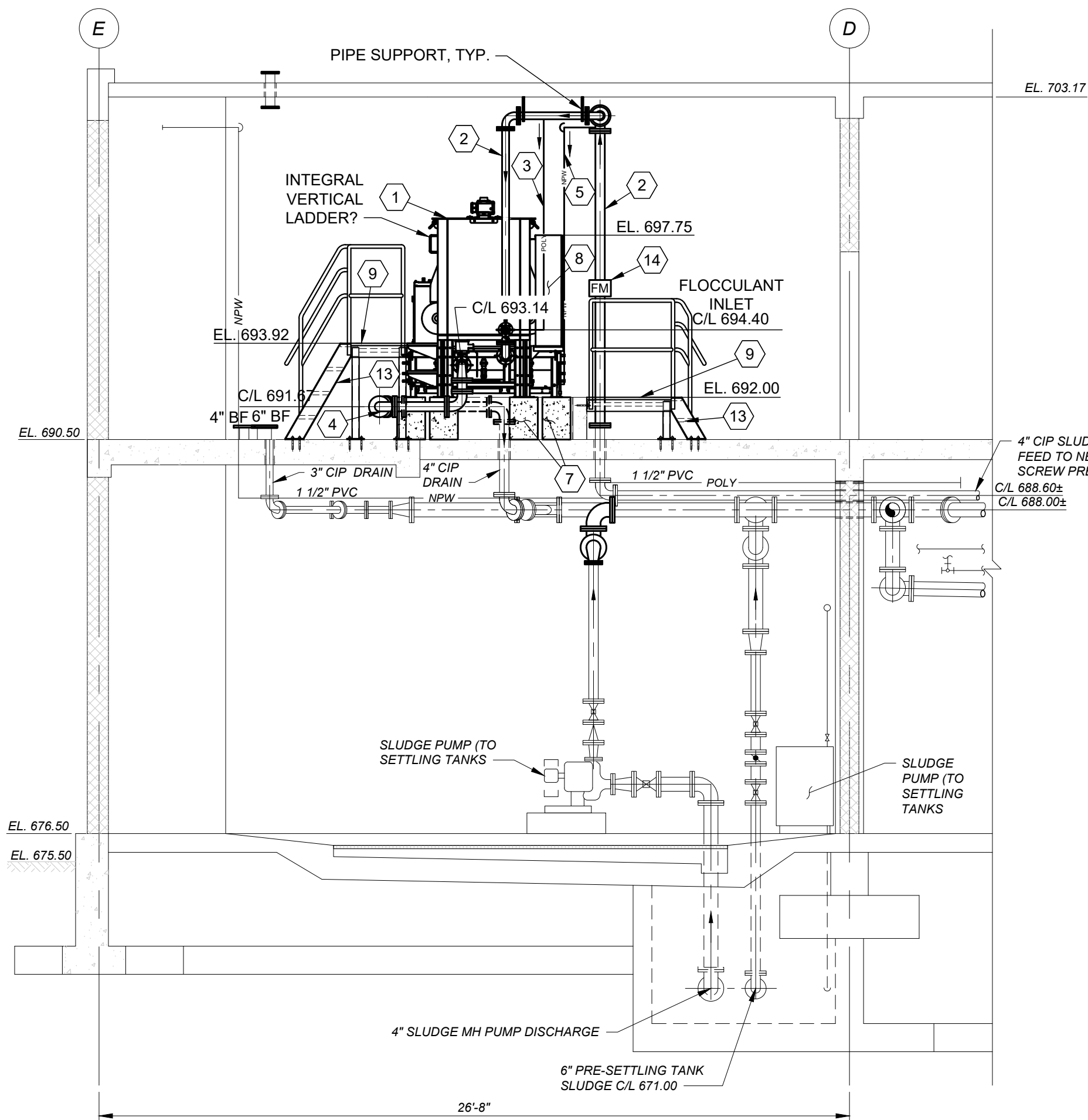
REV.	DESCRIPTION	DATE

ISSUED FOR:	BID
ISSUE DATE:	10/01/2026
SCALE:	AS NOTED
DESIGNED BY:	MIS
DRAWN BY:	RE
CHECKED BY:	DEB

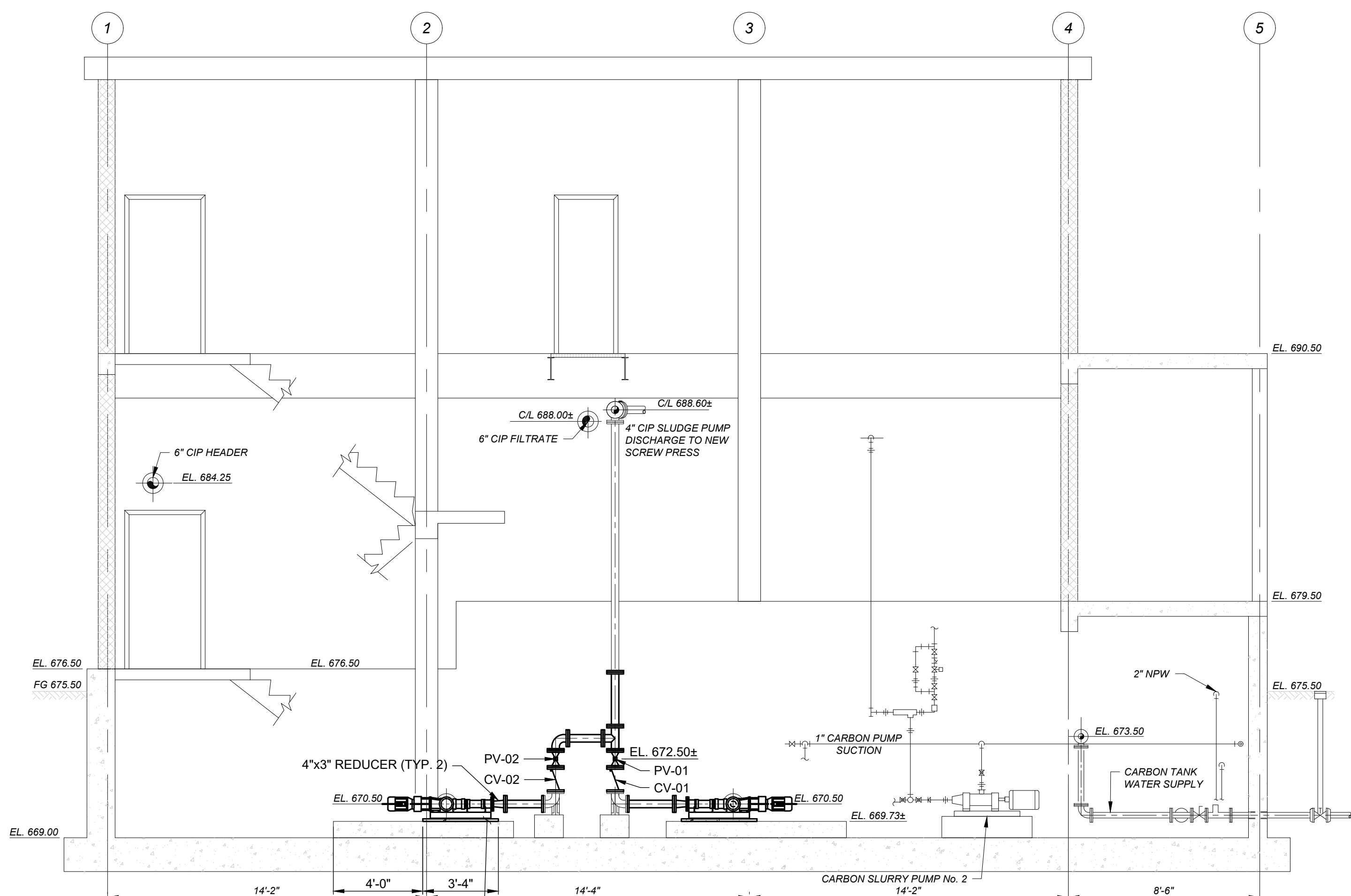
CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
SOLIDS HANDLING BLDG - 20 SERIES

SLUDGE DEWATERING BLDG. LOWER PLAN NEW EQUIPMENT LAYOUT

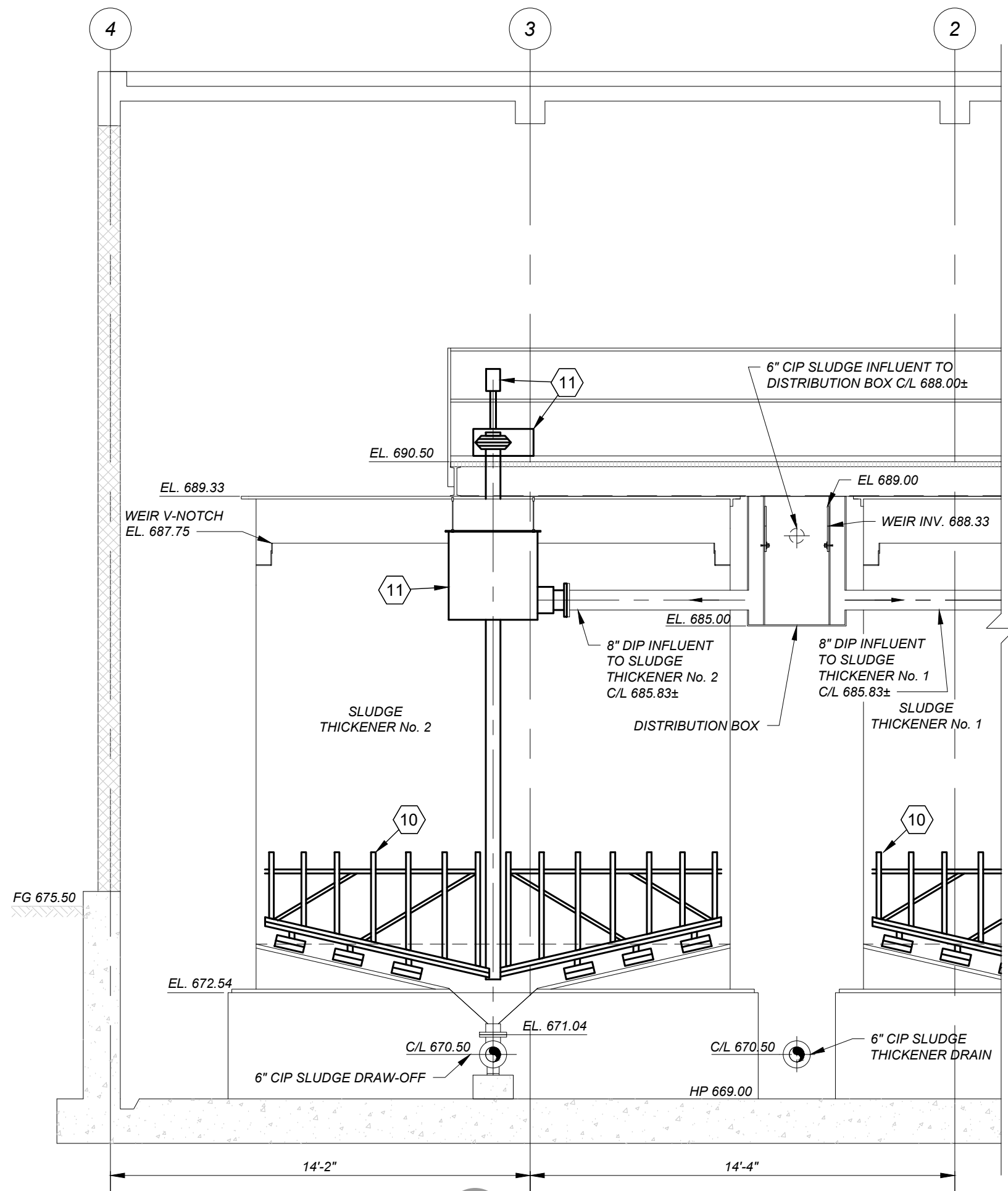
PROJECT NO. 34141	
DISCIPLINE PROCESS	
SHEET NAME 20D-06	
SHEET 12	OF 29



E SECTION
200-05 SCALE: 1/4"=1'-0"



F SECTION
200-05 SCALE: 1/4"=1'-0"



G SECTION
200-05 SCALE: 1/4"=1'-0"

CODED NOTES:

1. PROPOSED SCREW PRESS.
2. 3" DIP NEW SCREW PRESS FEED.
3. 2" PVC SCH 80 POLYMER FEED TO THE NEW SCREW PRESS.
4. 4" PVC SCH 80 DRAIN.
5. 1" PVC SCH 80 WASH WATER TO NEW SCREW PRESS.
6. ALUMINUM SERVICE PLATFORM.
7. 1'-6" HIGH SCREW PRESS CONCRETE SUPPORT.
8. NEW SCREW PRESS CONTROL PANEL.
9. NEW SCREW PRESS SERVICE PLATFORM.
10. NEW SCRAPERS.
11. NEW DRIVE MECHANISM.
12. NEW INFLUENT WELL.
13. ALUMINUM PLATFORM LADDER.
14. 4" MAGNETIC FLOW METER TO BE INSTALLED ON THE PROPOSED SCREW PRESS FEED LINE MINIMUM 5 FEET ABOVE FLOOR.

BID

verdantas

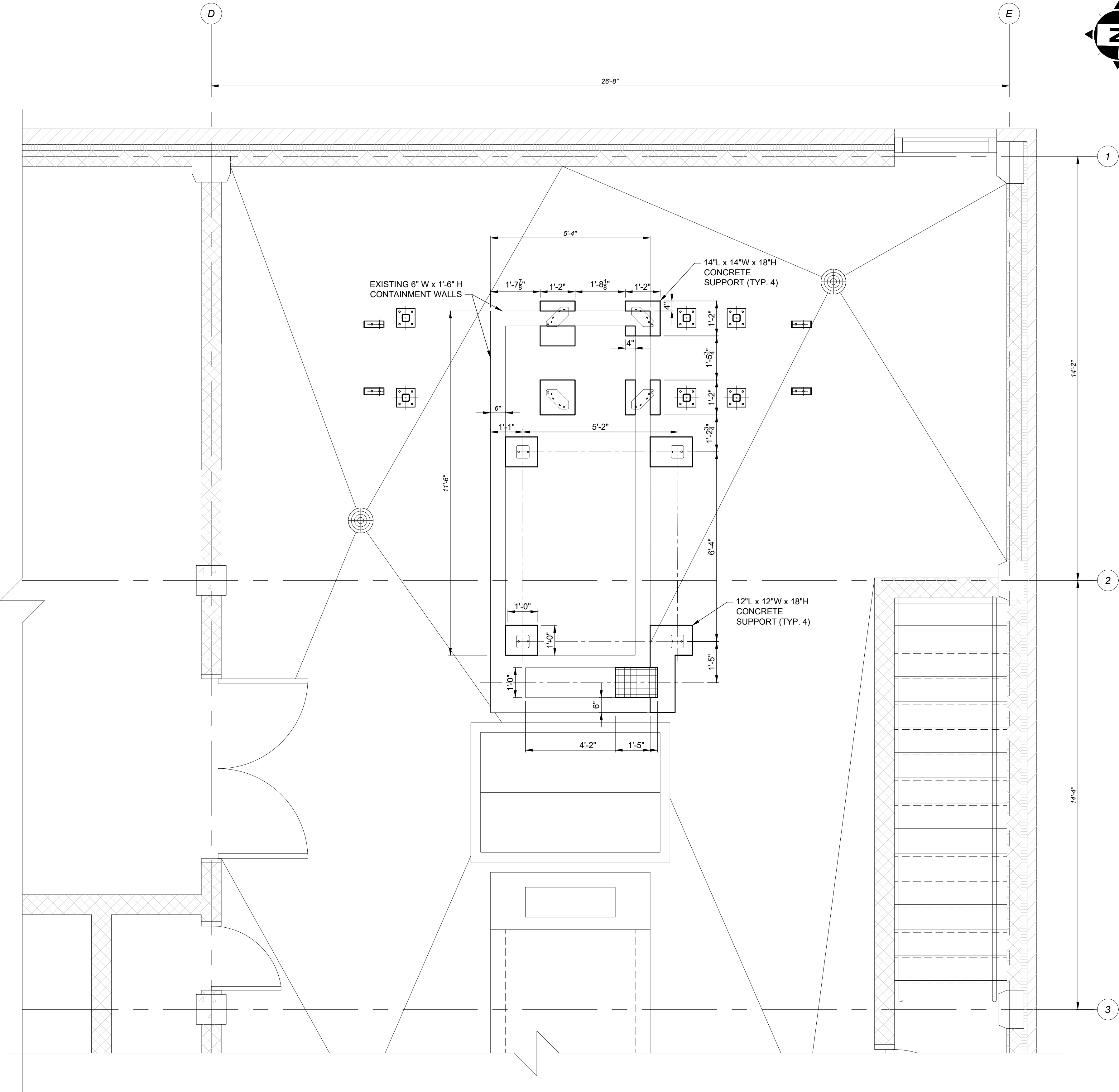
CITY OF WHEELING WATER TREATMENT PLANT SOLIDS HANDLING BUILDING IMPROVEMENTS

OHIO COUNTY, WEST VIRGINIA
SOLIDS HANDLING BLDG - 20 SERIES

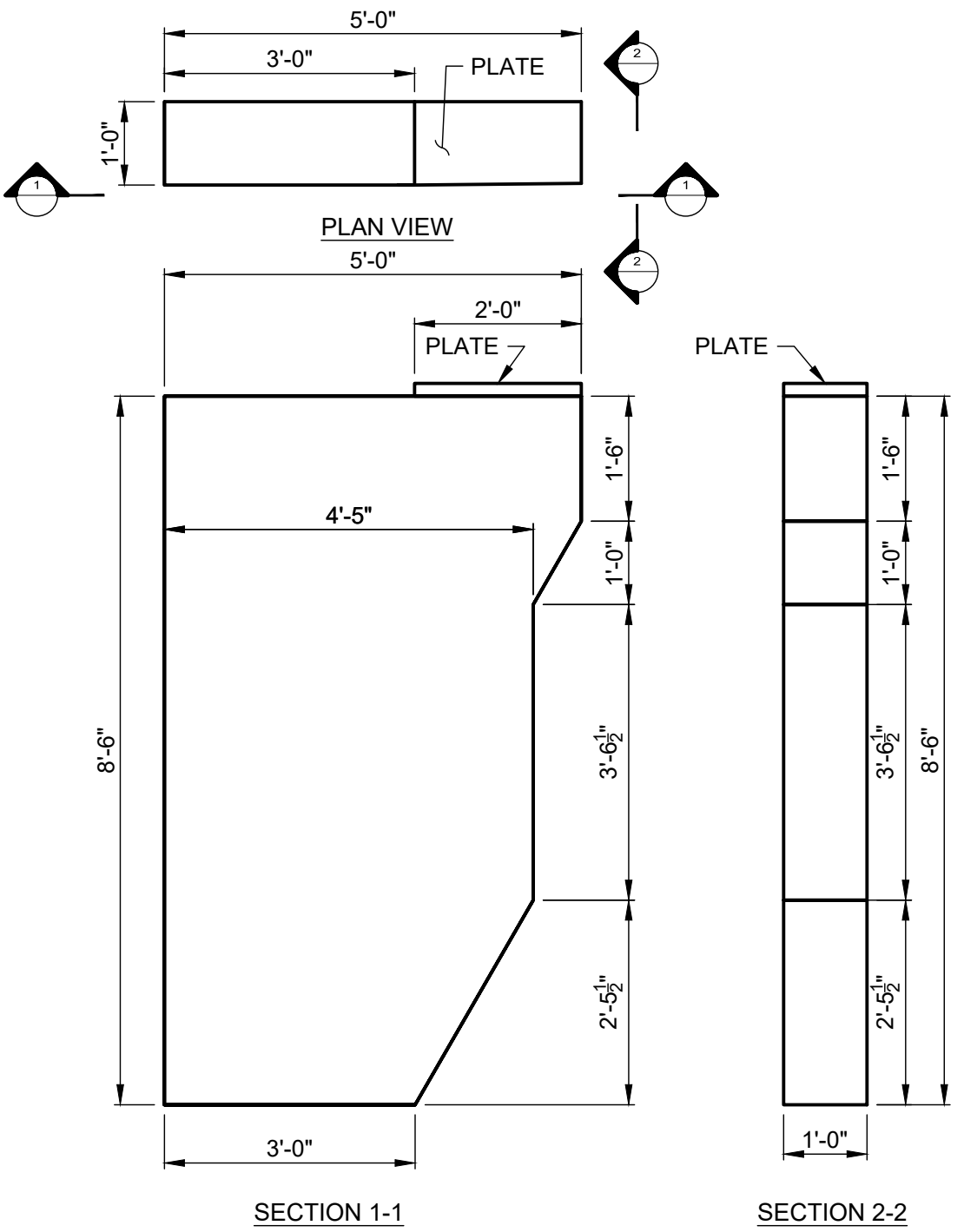
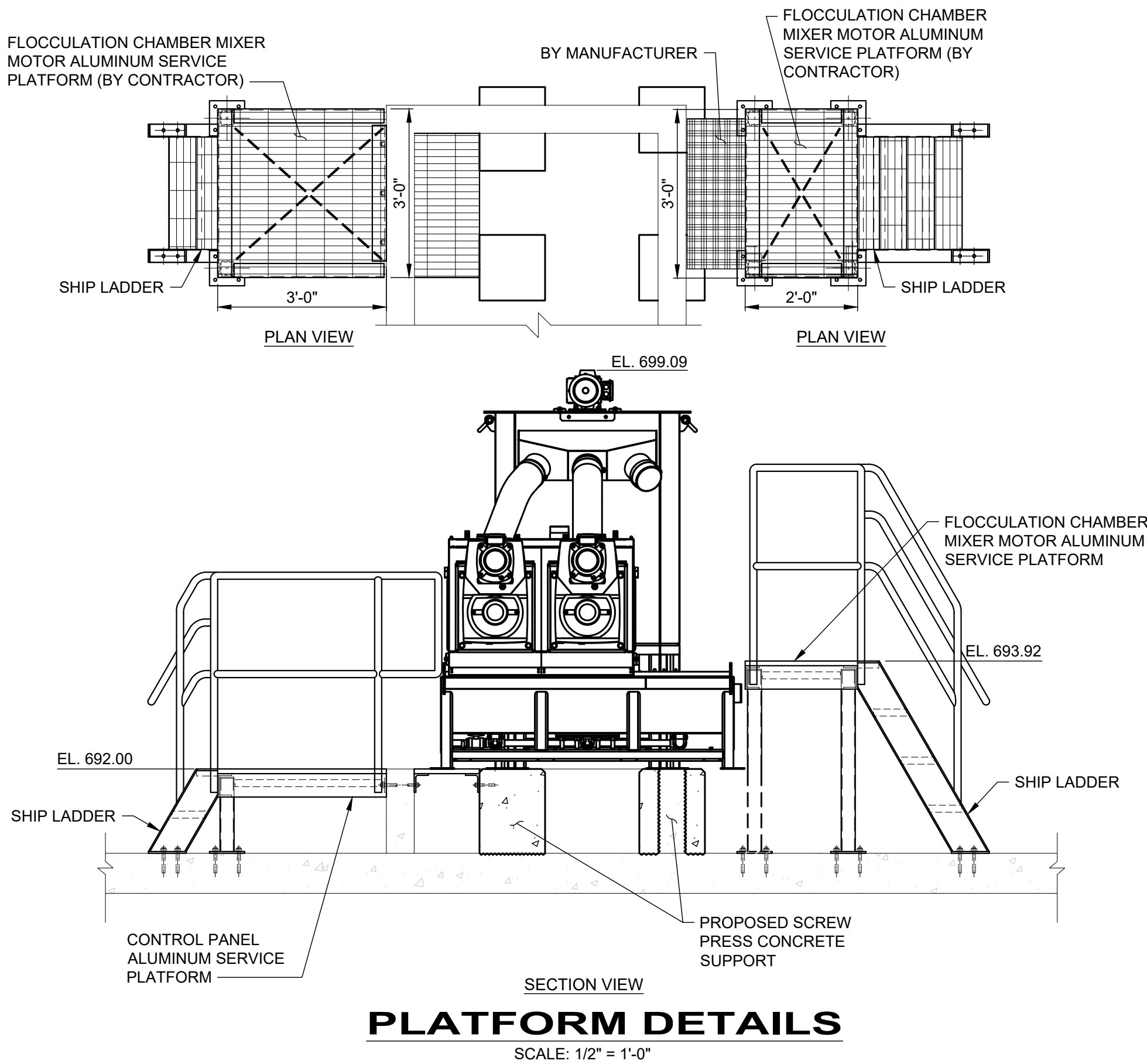
SLUDGE DEWATERING BLDG. NEW EQUIPMENT SECTIONS E, F, G

ISSUED FOR:		REVISIONS	
BID	DATE	REV.	DESCRIPTION
34141	10/01/2026		
DISCIPLINE	AS NOTED		
PROCESS	DESIGNED BY:		
SHEET NAME	MIS		
20D-08	DRAWN BY:		
SHEET	OF		
14	29		

PROJECT NO.	
34141	
DISCIPLINE	
PROCESS	
SHEET NAME	
20D-08	
SHEET	OF
14	29



SCREW PRESS CONCRETE SUPPORTS PLAN
SCALE: 1/2" = 1'-0"



- GENERAL NOTES:**
- DRY WEIGHT:
 - DEWATERING SYSTEM: 6,640 LBS, BASED WITH THREE (3) DRUMS.
 - EACH DRUM WEIGHT 1,883 LBS.
 - MIXING TANK DRY WEIGHT 990 LBS.
 - OPERATING WET WEIGHT:
 - 11,910 LBS, BASED ON THREE (3) DRUMS (DESIGN)
 - 9,280 LBS BASED TWO (2) DRUMS (INSTALLED)
 - EACH DRUM WEIGHT: 2,627 LBS
 - MIXING TANK WEIGHT: 4,030 LBS
 - THE CONTRACTOR SHALL INSTALL THE DEWATERING EQUIPMENT STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S DETAILED INSTALLATION INSTRUCTIONS.
 - THE FOUNDATION PLAN PROVIDED IS BASED ON THE REQUIREMENTS OF THE ESMIL EQUIPMENT MANUFACTURER.

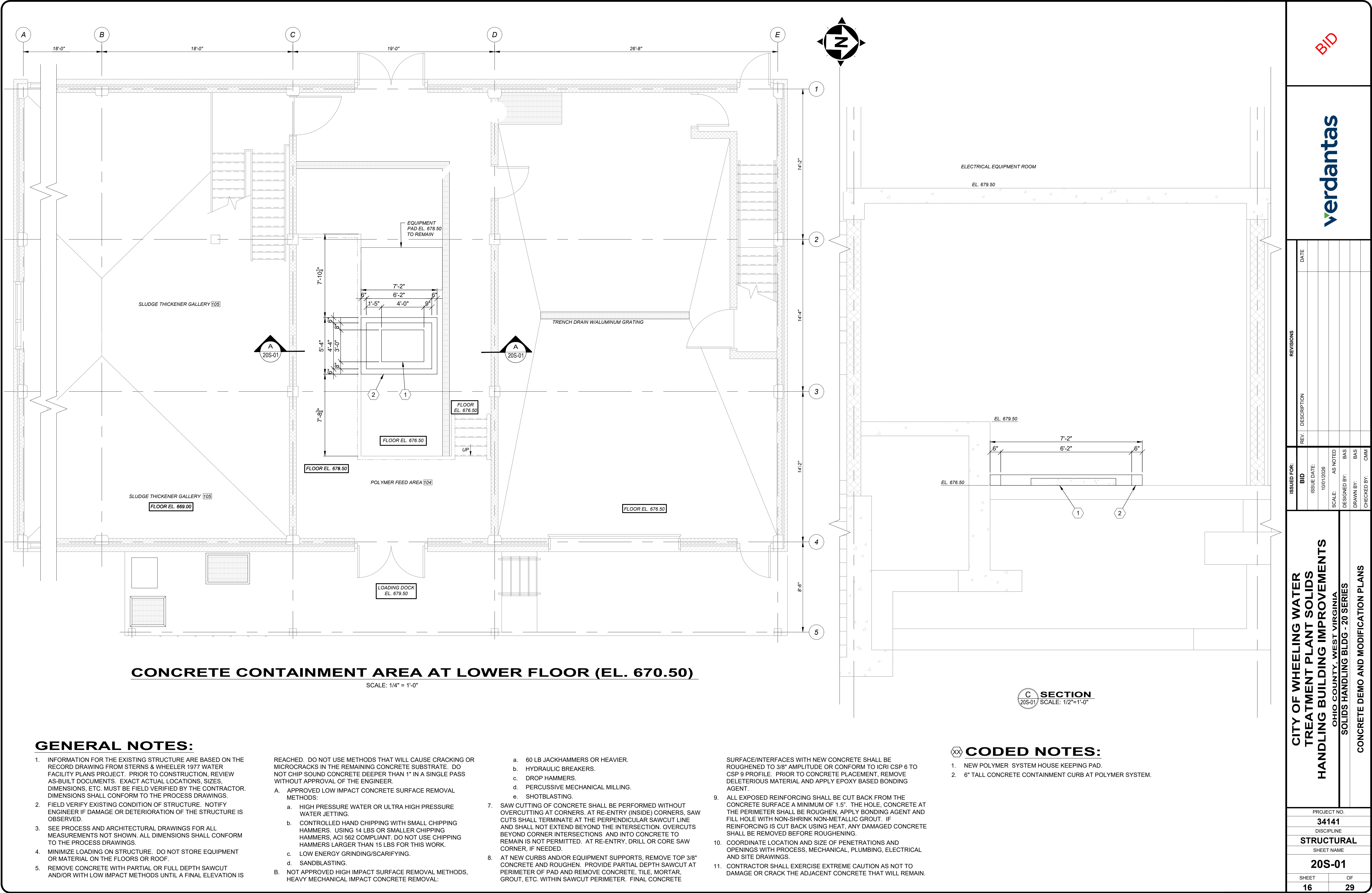
BID

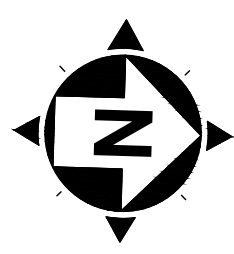
verdantas

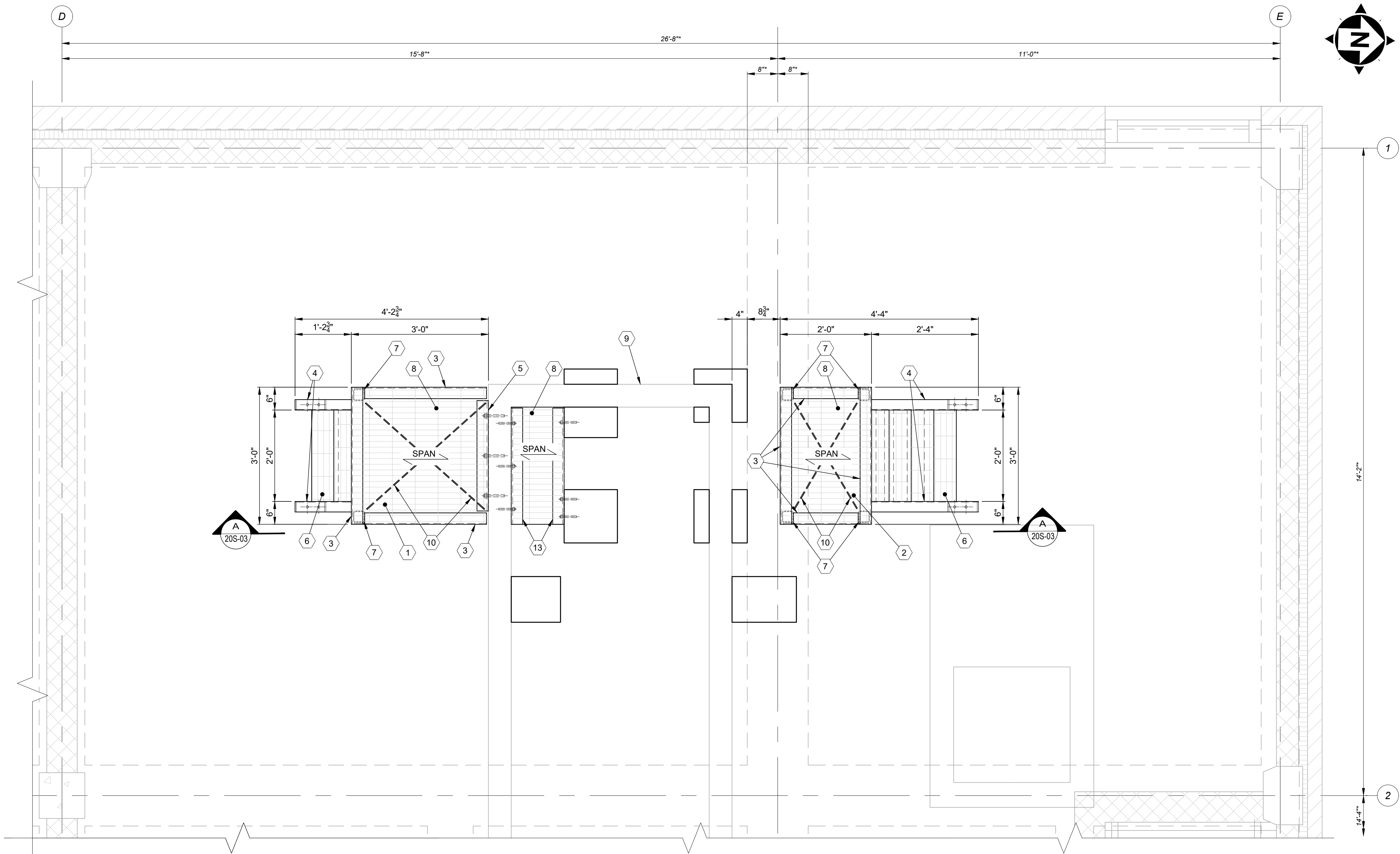
REVISIONS	
REV.	DESCRIPTION

ISSUED FOR:	
BID	DATE

CITY OF WHEELING WATER TREATMENT PLANT SOLIDS HANDLING BUILDING IMPROVEMENTS	
OHIO COUNTY, WEST VIRGINIA	
SOLIDS HANDLING BLDG - 20 SERIES	
NEW SCREW PRESS CONCRETE SUPPORT & PLATFORM DETAILS	
PROJECT NO.	
34141	
DISCIPLINE	
PROCESS	
SHEET NAME	
20D-09	
SHEET	OF
15	29

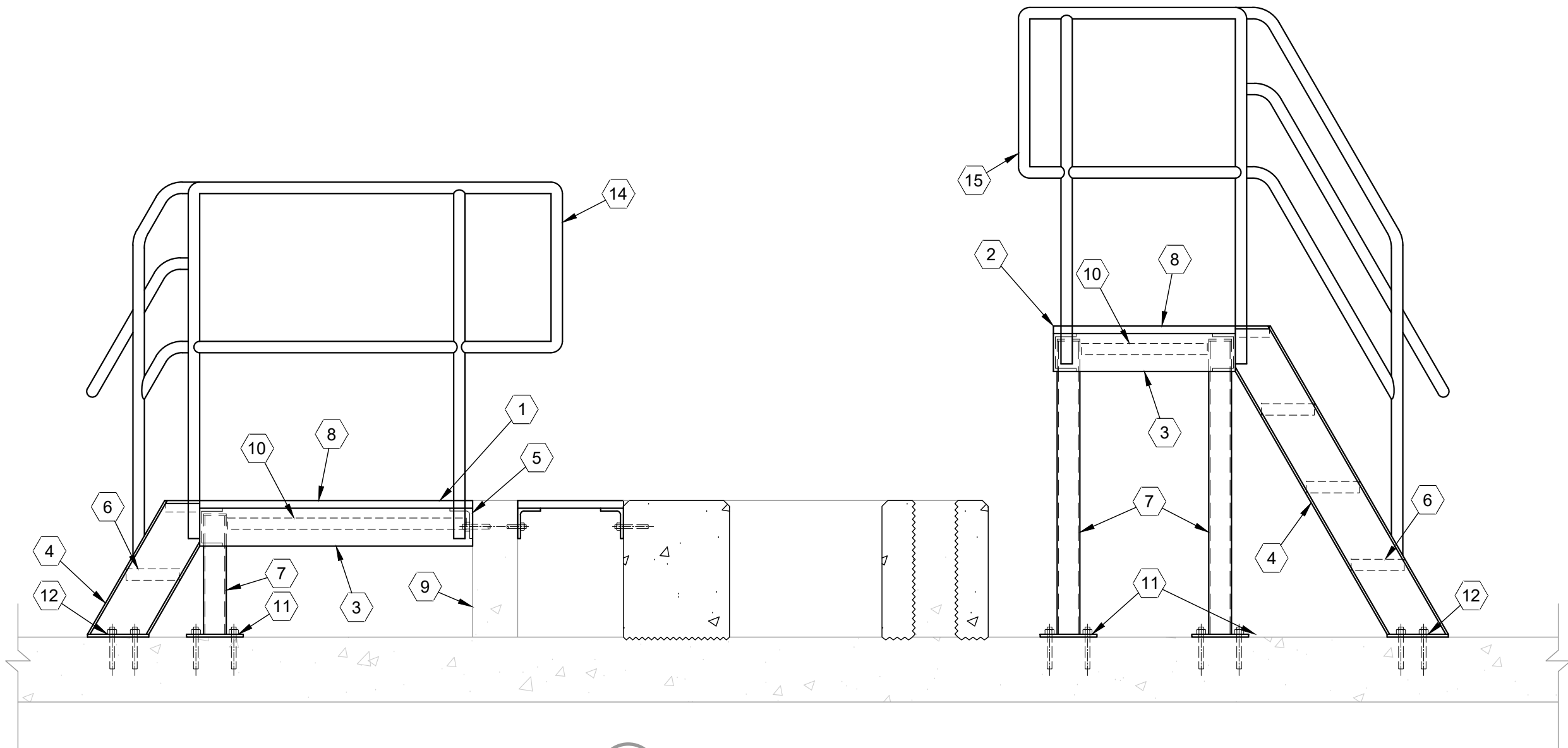






ALUMINUM SERVICE PLATFORM PLAN

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



A SECTION
20D-05 SCALE: 3/4"=1'-0"

GENERAL NOTES:

1. INFORMATION FOR THE EXISTING STRUCTURE ARE BASED ON THE RECORD DRAWING FROM STERNS & WHEELER 1977 WATER FACILITY PLANS PROJECT. PRIOR TO CONSTRUCTION, REVIEW AS-BUILT DOCUMENTS. EXACT ACTUAL LOCATIONS, SIZES, DIMENSIONS, ETC. MUST BE FIELD VERIFIED BY THE CONTRACTOR. DIMENSIONS SHALL CONFORM TO THE PROCESS DRAWINGS.
2. FIELD VERIFY EXISTING CONDITION OF STRUCTURE. NOTIFY ENGINEER IF DAMAGE OR DETERIORATION OF THE STRUCTURE IS OBSERVED.
3. SEE PROCESS AND ARCHITECTURAL DRAWINGS FOR ALL MEASUREMENTS NOT SHOWN. ALL DIMENSIONS SHALL CONFORM TO THE PROCESS DRAWINGS.
4. MINIMIZE LOADING ON STRUCTURE. DO NOT STORE EQUIPMENT OR MATERIAL ON THE FLOORS OR ROOF.
5. CONTROL PANEL ALUMINUM SERVICE PLATFORM SHIPS LADDER: 2 RISE @ 9" = 1'-6" AND A TREAD @ 6".
6. FLOCCULATION CHAMBER MIXER MOTOR ALUMINUM SERVICE PLATFORM SHIPS LADDER: 2 RISE @ 10 1/4" = 1'-8 1/2" AND 3 TREAD @ 6" = 1'-6".
7. REFERENCE PROCESS MECHANICAL DRAWING FOR LIMITS OF GUARD RAIL AND FOR PLATFORM ELEVATION. GUARD RAIL SHALL BE A TWO RAIL PIPE RAIL. TOP RAIL SHALL BE 42" ABOVE WALKING SURFACE.
8. CONNECTION BETWEEN THE PLATFORM ALUMINUM CHANNEL SHALL BE WITH ALUMINUM CLIP ANGLE (L4X3X1/4 MIN) AND (2)-5/8" DIA STAINLESS STEEL FASTENERS.
9. 3"X3"X3/16" ALUMINUM TUBE SHALL HAVE A 3/8" DIA WEEP HOLE LOCATED AT THE INTERSECTION OF THE TUBE AND THE BASE PLATE.
10. CONNECT ALUMINUM CROSS BRACING TO COLUMN AND/OR GRATING LEDGER ANGLE. WELD 3/8" ALUMINUM PLATE/TAB TO ALUMINUM TUBE AND THE LEDGER ANGLE FOR THE CONNECTION POINT.
11. ALL EXPOSED REINFORCING SHALL BE CUT BACK FROM THE CONCRETE SURFACE A MINIMUM OF 1.5". THE HOLE, CONCRETE AT THE PERIMETER SHALL BE ROUGHEN, APPLY BONDING AGENT AND FILL HOLE WITH NON-SHRINK NON-METALLIC GROUT. IF REINFORCING IS CUT BACK USING HEAT, ANY DAMAGED CONCRETE SHALL BE REMOVED BEFORE ROUGHENING.
12. COORDINATE LOCATION AND SIZE OF PENETRATIONS AND OPENINGS WITH PROCESS, MECHANICAL, PLUMBING, ELECTRICAL AND SITE DRAWINGS.
13. CONTRACTOR SHALL EXERCISE EXTREME CAUTION AS NOT TO DAMAGE OR CRACK THE ADJACENT CONCRETE THAT WILL REMAIN.

XX CODED NOTES:

1. CONTROL PANEL ALUMINUM SERVICE PLATFORM AND SHIPS LADDER STAIR WITH ALUMINUM GUARD RAIL AND HAND RAIL.
2. FLOCCULATION CHAMBER MIXER MOTOR ALUMINUM SERVICE PLATFORM AND SHIPS LADDER STAIR WITH ALUMINUM GUARD RAIL AND HAND RAIL.
3. PLATFORM FRAMING MEMBER: ALUMINUM ASSOCIATION STANDARD CHANNEL C8X5.79.
4. SHIPS LADDER ALUMINUM STAIR STRINGER: ALUMINUM ASSOCIATION STANDARD CHANNEL C8X5.79.
5. GRATING LEDGER ANGLE: ALUMINUM 4"X3"X3/8" ANGLE (LLV) WITH (3)-5/8" DIAMETER STAINLESS STEEL THREADED ROD EQUALLY SPACED. THREADED ROD SHALL HAVE ADHESIVE ANCHORS AND 5" MINIMUM EMBEDMENT.
6. STAIR TREAD: ALUMINUM PLANK GRATING EXTRUDED, ALLOY 6061-T6 EXTRUSION, 7" WIDTH 1 1/2" CHANNEL DEPTH WITH 1" WIDE INTEGRAL NOSING.
7. PLATFORM COLUMN: 3"X3"X3/16" ALUMINUM TUBE WITH 3/8"X7 1/2" SQUARE BASE PLATE AND 1/4"X3" SQUARE 3" CAP PLATE. SEAL WELD PLATES TO TUBE.
8. 1"X1/8" 19A54 SERRATED ALUMINUM GRATING.
9. EXISTING 6" WIDE X 18" HIGH CONTAINMENT WALL/CURB, FIELD VERIFY LOCATION AND DIMENSION.
10. ALUMINUM CROSS BRACING (2"X2"X1/4" ANGLE) UNDER GRATING WITH 5/8" DIA STAINLESS STEEL FASTENERS.
11. 3/8"X7 1/2" SQUARE BASE PLATE WITH (4)-3/8" DIAMETER STAINLESS STEEL THREADED ROD AND ADHESIVE ANCHORS. 5 1/2" MINIMUM THREADED ROD EMBEDMENT.
12. STAIR STRINGER BASE PLATE SHALL BE A 2 3/4"X8 1/4"X3/8" ALUMINUM PLATE WITH (2)-3/8" DIAMETER STAINLESS STEEL THREADED ROD AND ADHESIVE ANCHORS. 5 1/2" MINIMUM THREADED ROD EMBEDMENT.
13. GRATING LEDGER ANGLE: ALUMINUM 4"X3"X3/8" ANGLE (LLV) WITH (3)-1/2" DIAMETER STAINLESS STEEL THREADED ROD EQUALLY SPACED. THREADED ROD SHALL HAVE ADHESIVE ANCHORS AND 4.5" MINIMUM EMBEDMENT. LOCATE ANCHORS AT LEAST 3" FROM EDGE OF CONCRETE.
14. EXTEND ALUMINUM GUARD RAIL TO WITHIN 12" OF EQUIPMENT.
15. EXTEND ALUMINUM GUARD RAIL TO WITHIN 6" OF EQUIPMENT.

BID

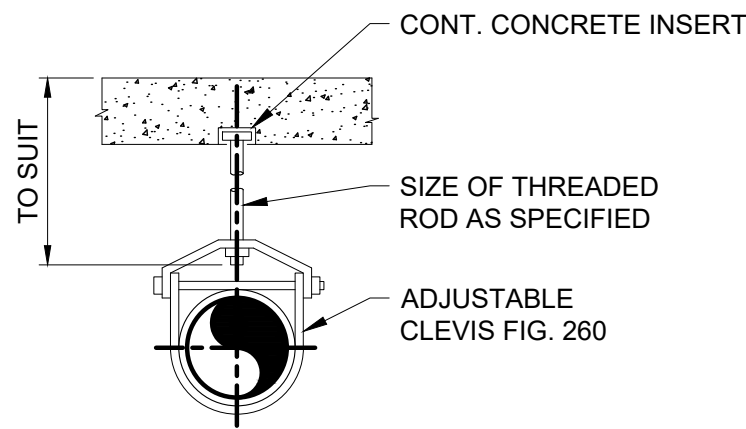
verdantas

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS

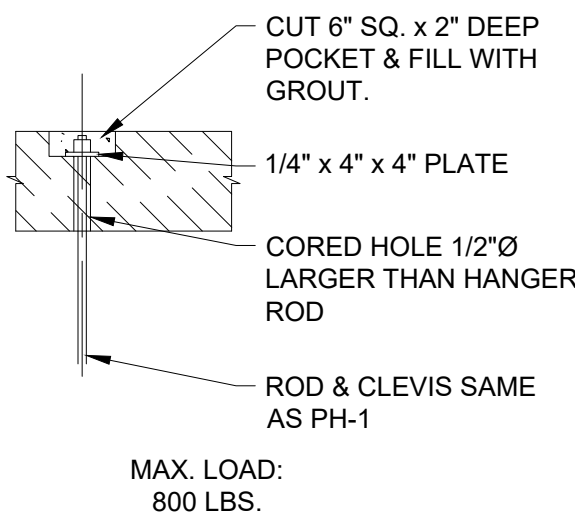
OHIO COUNTY, WEST VIRGINIA
SOLIDS HANDLING BLDG - 20 SERIES

ALUMINUM SERVICE PLATFORM PLAN AND SECTION

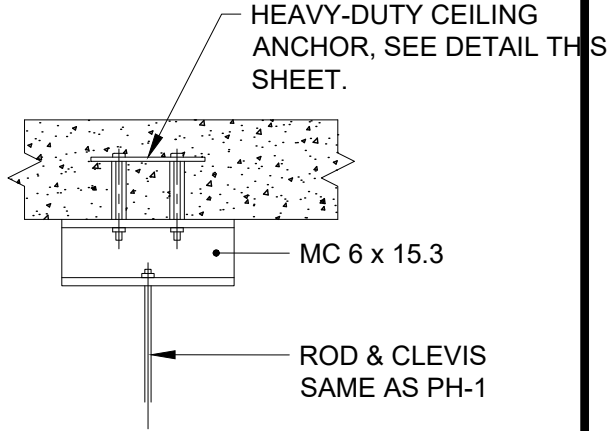
PROJECT NO.	
34141	
DISCIPLINE	
STRUCTURAL	
SHEET NAME	
20S-03	
SHEET	OF
18	29



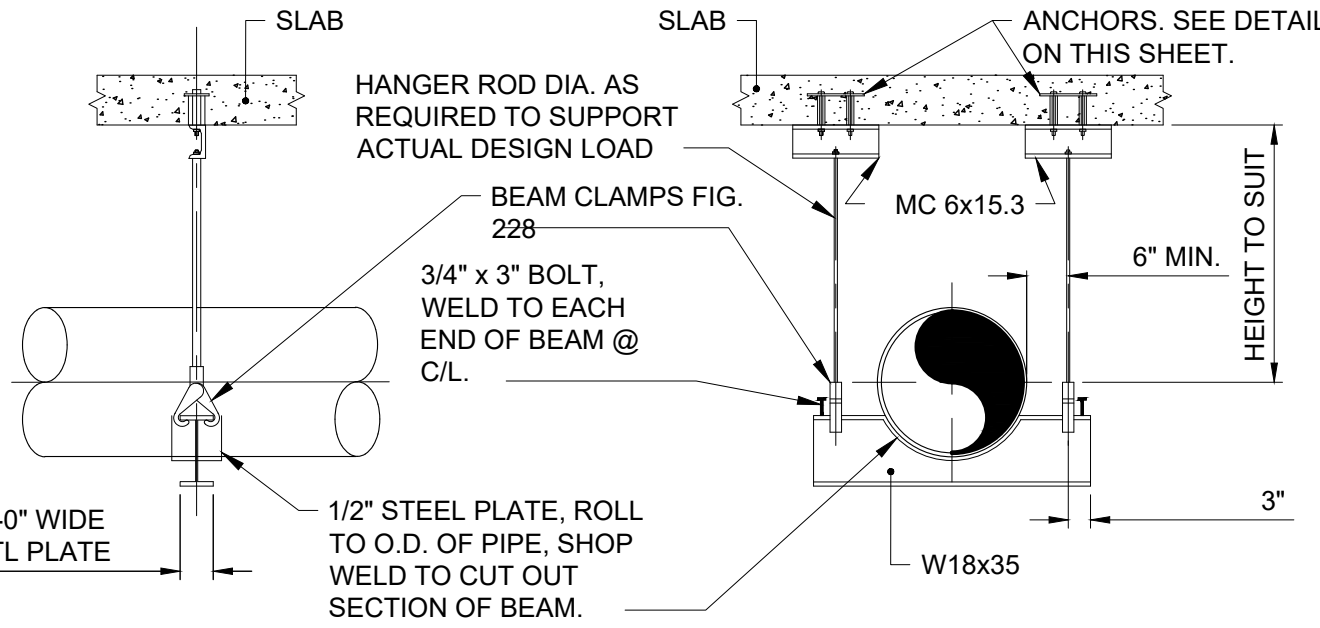
PIPE HANGER PH-1
NTS



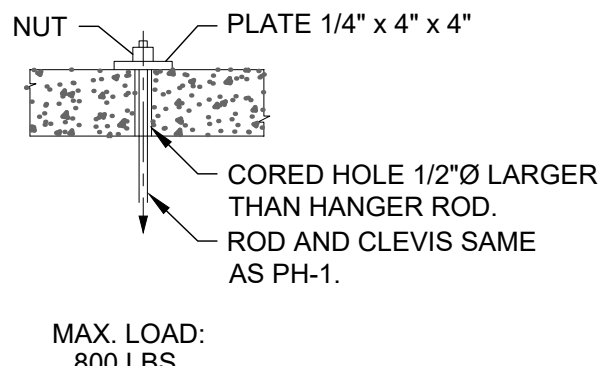
PIPE HANGER PH-2
NTS



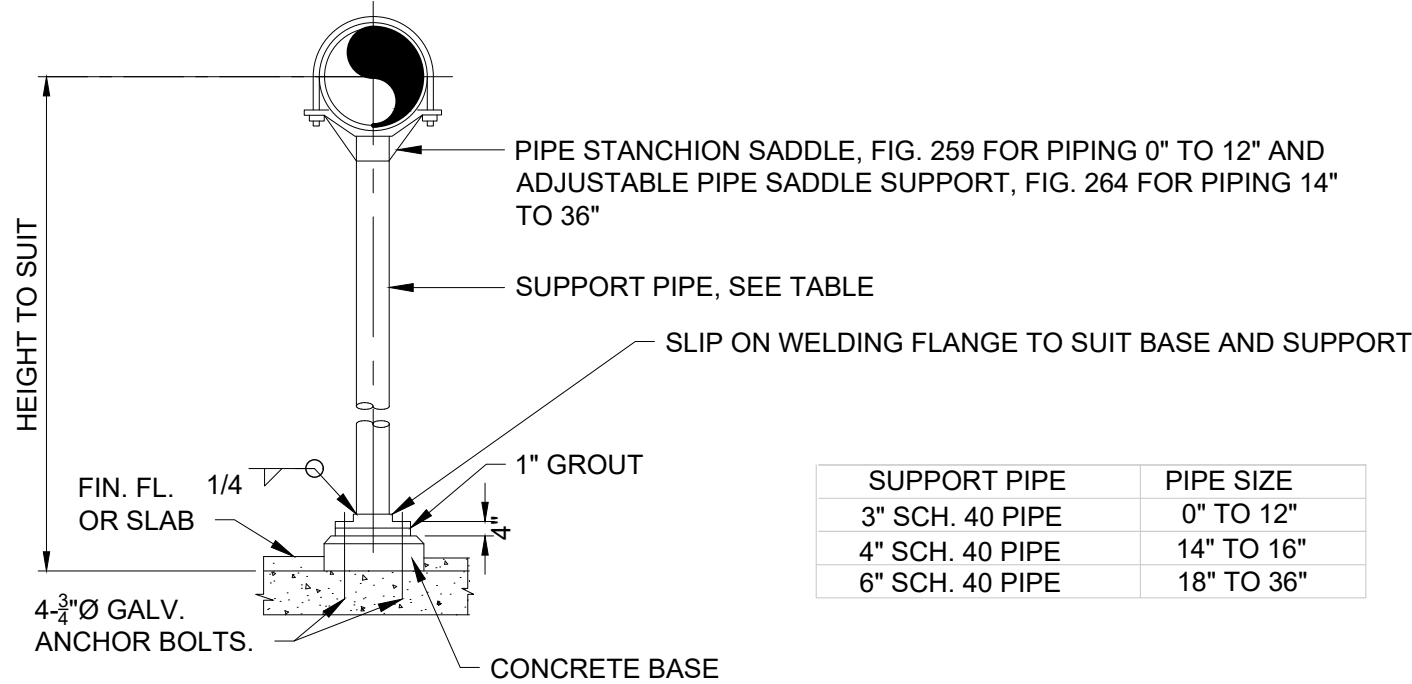
PIPE HANGER PH-3
NTS



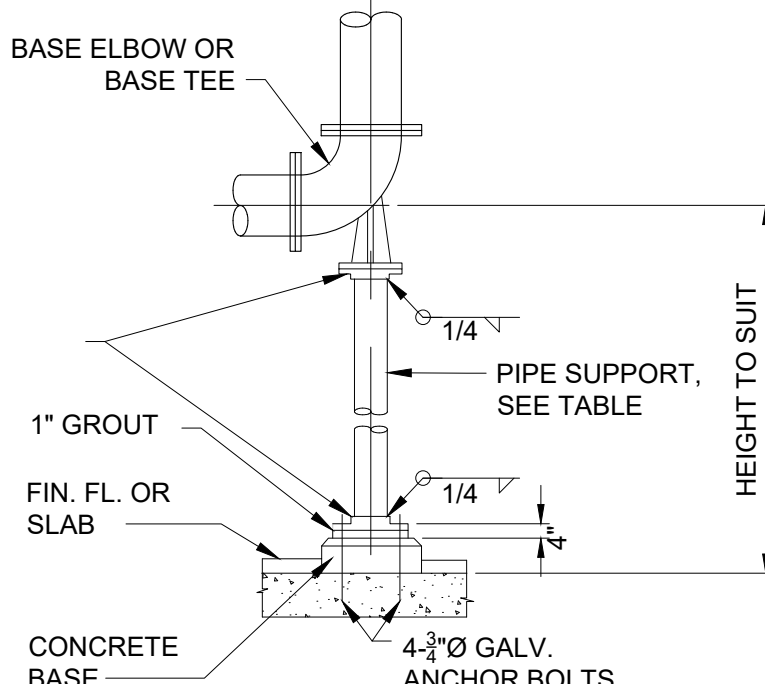
PIPE HANGER PH-4
NTS



PIPE HANGER PH-5
NTS

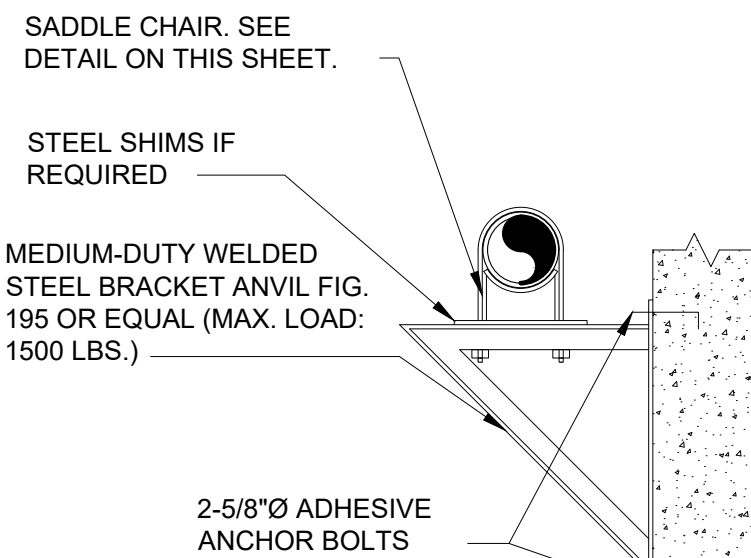


PIPE SUPPORT PS-1
NTS

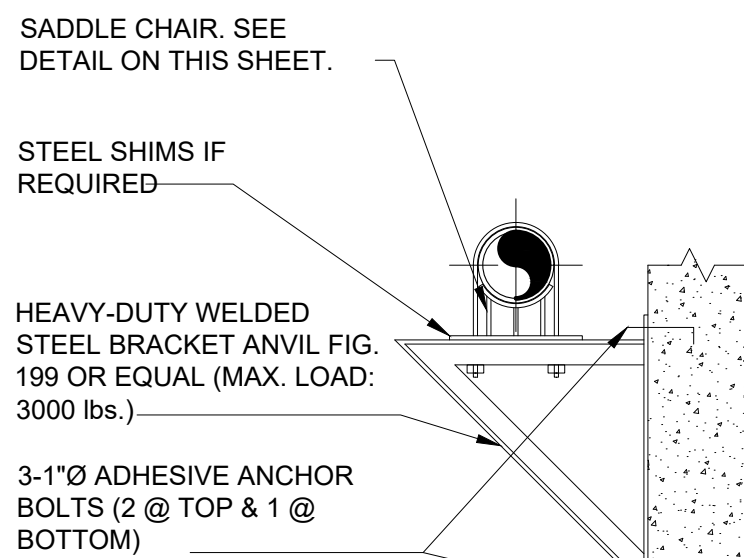


PIPE SUPPORT PS-2
NTS

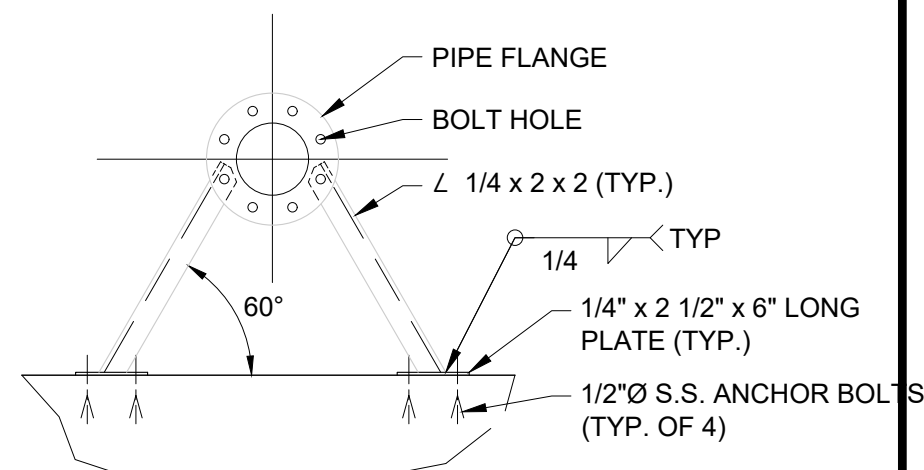
SUPPORT PIPE	PIPE SIZE
3" SCH. 40 PIPE	0" TO 12"
4" SCH. 40 PIPE	14" TO 16"
6" SCH. 40 PIPE	18" TO 36"



PIPE SUPPORT PS-3
NTS

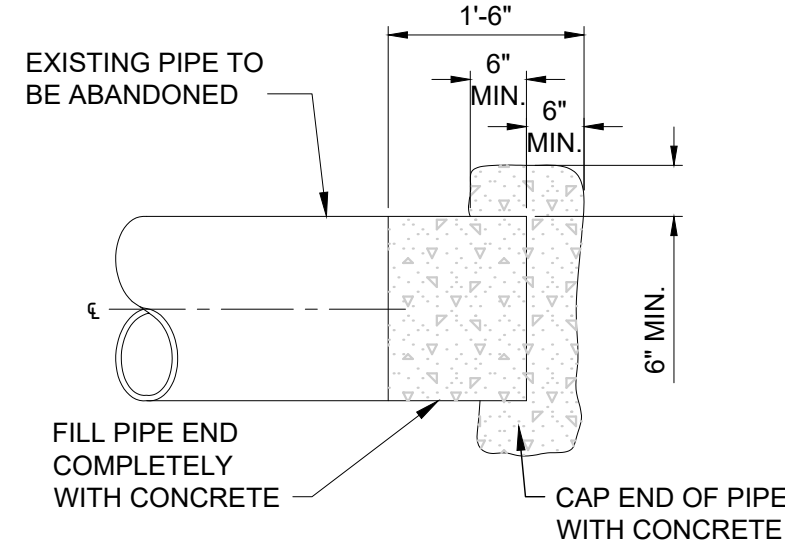


PIPE SUPPORT PS-4
NTS



NOTE: GALVANIZE PIPE SUPPORT AFTER FABRICATION

PIPE SUPPORT DETAIL
NTS

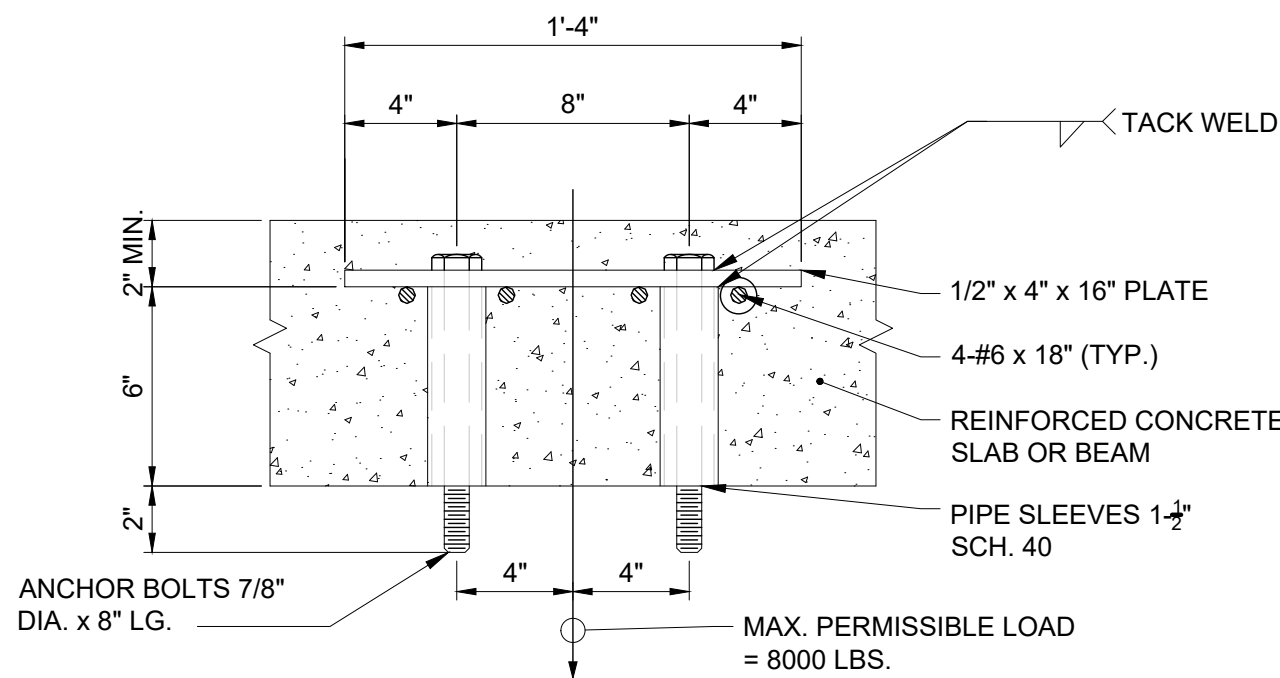


NOTE:
ALL ABANDONED IN PLACE PIPING
SHALL HAVE ENDS CAPPED.

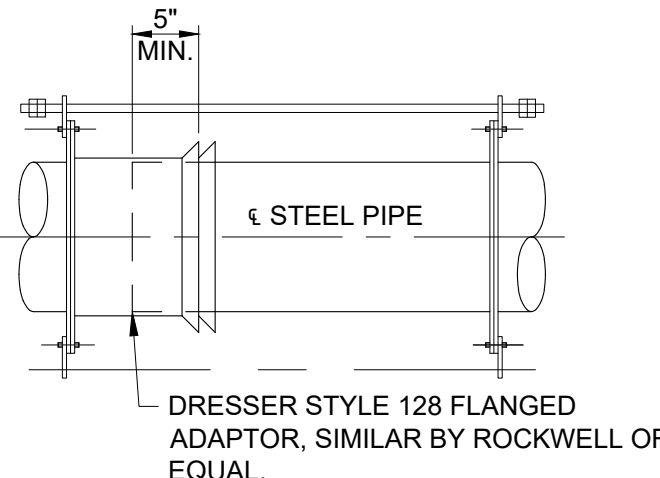
PIPE CAP DETAIL
NTS

PIPE SUPPORT GENERAL NOTES:

- REFER TO PROJECT MANUAL FOR PIPE SUPPORT LOCATION AND SPACING REQUIREMENTS.
- PIPING SUPPORTS BY PIPING TECHNOLOGY & PRODUCTS, INC. OR APPROVED SUBSTITUTE.
- PIPING SUPPORTS SHALL BE INSTALLED PER MANUFACTURERS REQUIREMENTS.

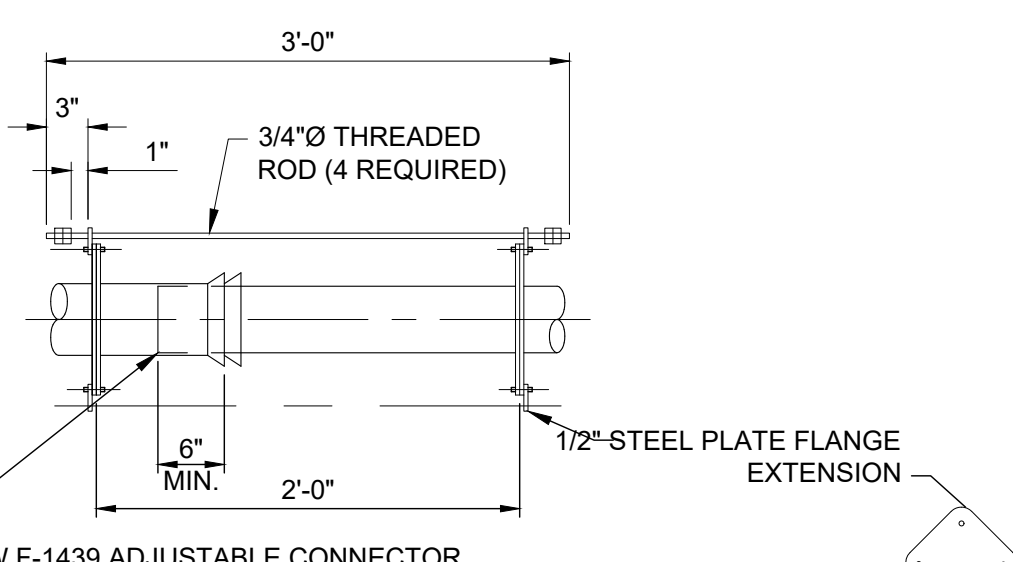


HEAVY-DUTY CEILING ANCHOR
NTS

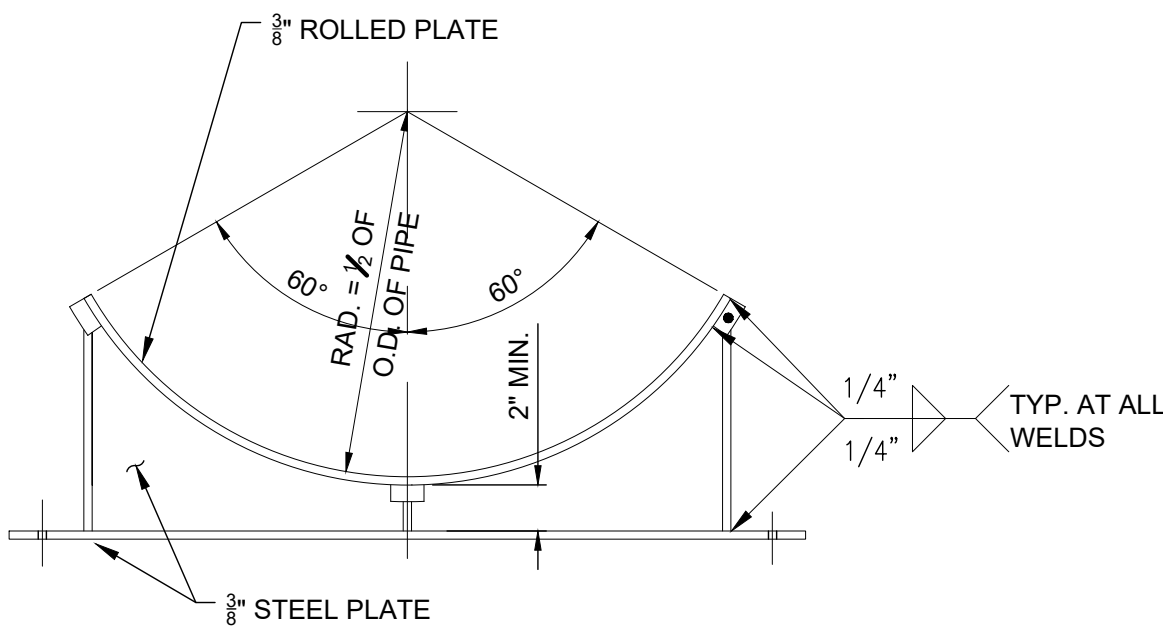


NOTE:
FOR DIMENSIONS NOT SHOWN, SEE DETAIL
FOR DUCTILE IRON PIPE.

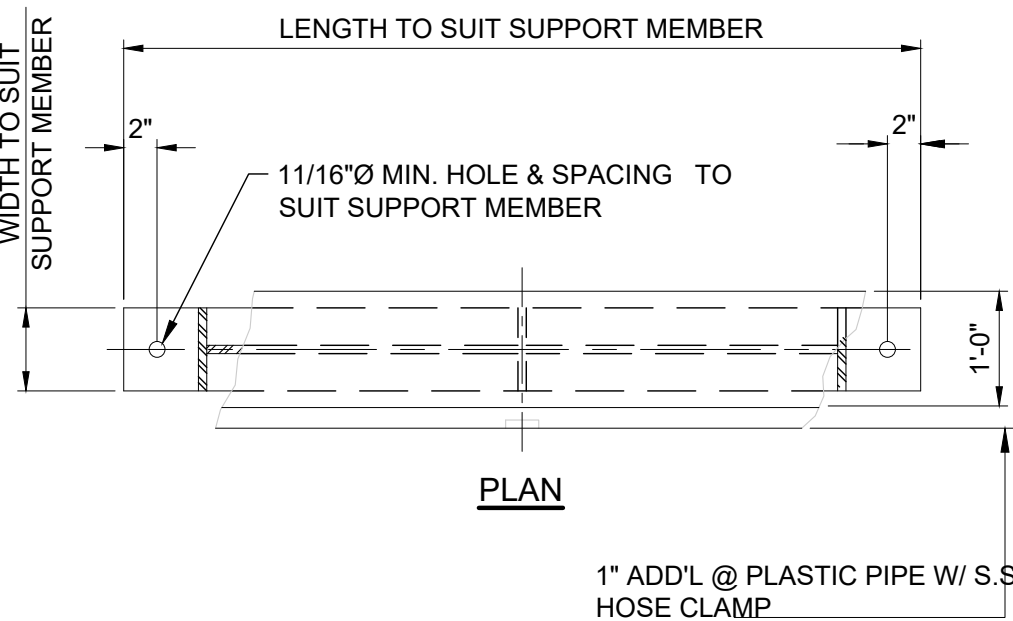
STEEL PIPE
NTS



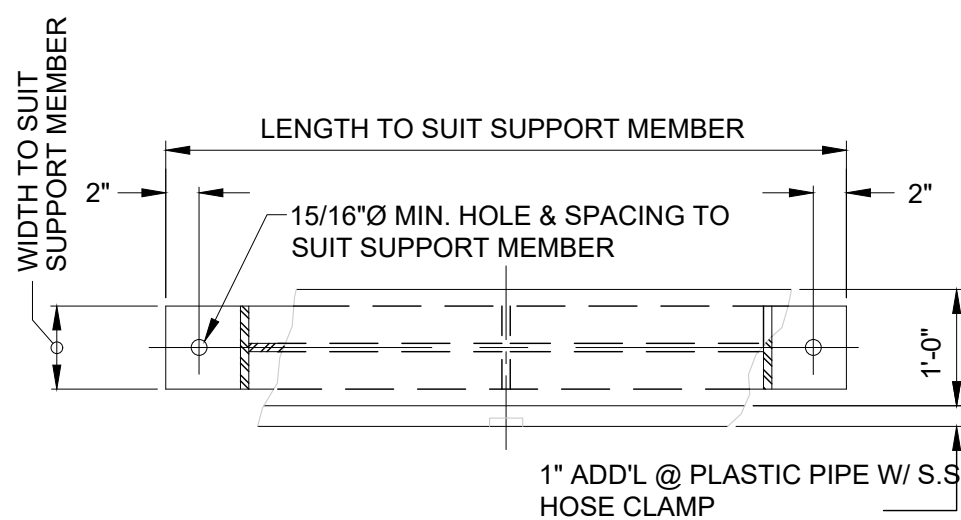
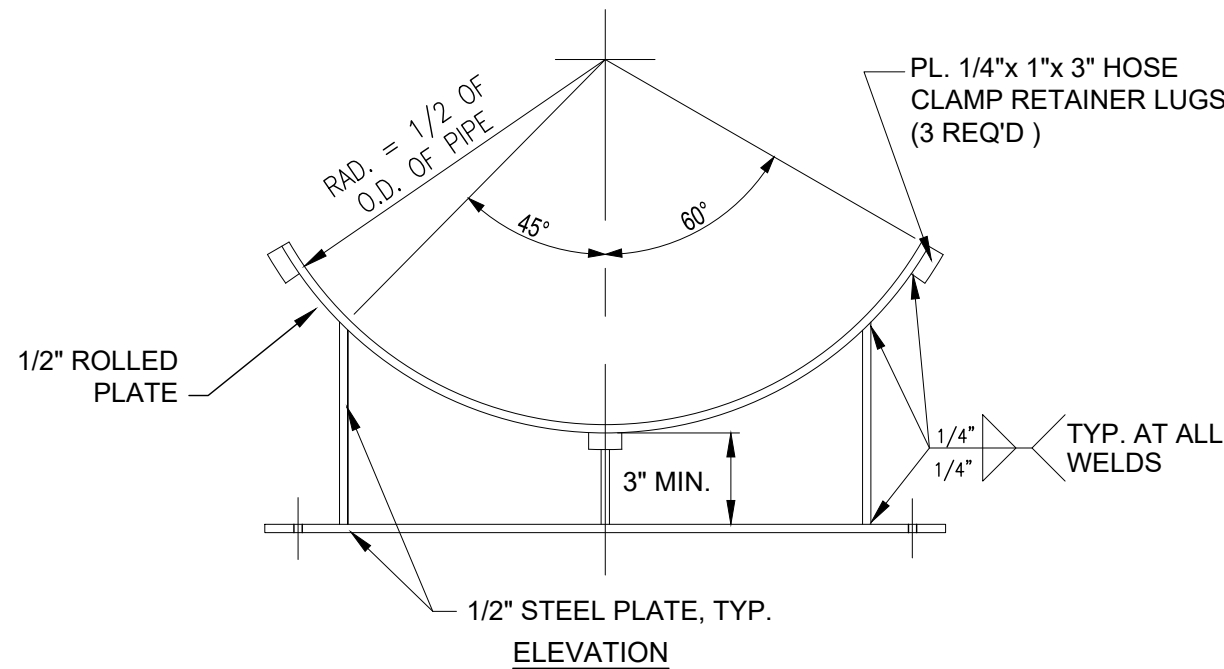
RESTRAINED EXPANSION COUPLING DETAIL
NTS



SADDLE CHAIR DETAIL FOR PIPE 18" AND SMALLER
NTS



SADDLE CHAIR DETAIL FOR PIPE 20" AND LARGER
NTS



CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
SOLIDS HANDLING BLDG - 20 SERIES
PROCESS STANDARD DETAILS

PROJECT NO.	34141
DISCIPLINE	PROCESS
SHEET NAME	SD-D-01
SHEET	OF
19	29

GENERAL

- WORK SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS, CONSTRUCTION SPECIFICATIONS AND THE LATEST EDITION OF THE APPLICABLE LOCAL AND STATE BUILDING CODES.
- A. WHERE CONFLICT IS FOUND TO EXIST BETWEEN THE SPECIFICATIONS AND THESE NOTES, THE REQUIREMENTS OF THE SPECIFICATIONS SHALL GOVERN.
 - B. ALL WORK SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE WEST VIRGINIA STATE BUILDING CODE (LATEST EDITION) OR THESE DOCUMENTS - WHICHEVER IS MORE STRINGENT.
 2. TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON THE PLANS, BUT APPLY UNLESS NOTED OTHERWISE.
 3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS.
 - A. THE CONTRACTOR SHALL FIELD VERIFY ANY DIMENSIONS AND ELEVATIONS AS NOTED ON THE DRAWINGS OR AS MAY BE REQUIRED, PRIOR TO CONSTRUCTION, TO MINIMIZE FIELD CHANGES.
 - B. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY INCONSISTENCIES BETWEEN THE DRAWINGS AND THE FIELD CONDITIONS THAT COULD AFFECT THE CONSTRUCTION.
 - C. DIMENSIONS AND ELEVATIONS MARKED "REF" ARE FOR REFERENCE ONLY AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO USING THEM FOR ANY CONSTRUCTION.
 4. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE OWNER TO AVOID SYSTEM/OPERATION INTERRUPTIONS.
 5. DETAILED SHOP DRAWINGS OF ALL STRUCTURAL COMPONENTS SHALL BE SUBMITTED TO THE ENGINEER "FOR REVIEW" PRIOR TO FABRICATION.
 - A. PREPARED SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION TO THE ENGINEER/ARCHITECT.
 - B. THE GENERAL CONTRACTOR SHALL COORDINATE ALL REVISIONS, CORRECTIONS, AND COMMENTS INDICATED ON THE SHOP DRAWINGS BY THE ARCHITECT/ENGINEER.
 - C. SHOP DRAWINGS PREPARED BY THE CONTRACTORS, SUPPLIERS, ETC., WILL BE REVIEWED BY THE ENGINEER/ARCHITECT ONLY FOR CONFORMANCE WITH DESIGN CONCEPT. NO WORK AFFECTED BY THE SHOP DRAWINGS SHALL BE STARTED WITHOUT SUCH REVIEW.
 6. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS AND REQUIREMENTS, INCLUDING ANY PREPARATION WORK SPECIFIED THEREIN.
 7. THE CONTRACTOR SHALL AT ALL TIMES KEEP THE WORK AREA AND SURROUNDING PREMISES FREE OF WASTE, SURPLUS MATERIALS, RUBBISH, AND DEBRIS RESULTING FROM THE WORK.
 8. MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHALL BE STORED AT OWNER DESIGNATED LOCATION(S).
 9. THE CONTRACTORS AND SUBCONTRACTORS SHALL FAMILIARIZE THEMSELVES AND THEIR EMPLOYEES WITH ALL THE REGULAR AND SPECIAL SAFETY PRACTICES AND PROCEDURES USED BY THE OWNER.
 10. DO NOT SCALE DRAWINGS, USE GIVEN DIMENSIONS ONLY. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALE DIMENSIONS AT ALL TIMES. ANY DISCREPANCIES SHOULD BE IDENTIFIED PRIOR TO COMMENCEMENT OF WORK.
 11. THE CONTRACTOR SHALL COORDINATE THE STRUCTURAL WORK WITH THE WORK OF OTHER TRADES AND MATERIAL SUPPLIED MANUFACTURERS.
 12. ALL REQUIRED MATERIAL TESTING SHALL BE PERFORMED AT THE EXPENSE OF CONTRACTOR AND PERFORMED BY AN APPROVED TESTING AGENCY OR LABORATORY. TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
 13. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY WORK THAT IS DAMAGED OR IS NON-COMPLIANT IN ACCORDANCE WITH THE GOVERNING CODE OR AS INDICATED IN THE CONTRACT DOCUMENTS OR AS DEMANDED BY THE BUILDING OFFICIAL, ARCHITECT OR ENGINEER OF RECORD.
 14. ALL STRUCTURES ARE DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE INSTALLATION IS FULLY COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND ENSURE THE SAFETY OF THE CONSTRUCTION PERSONNEL, STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, ETC. THAT MAY BE NECESSARY.
 15. CONTRACTOR SHALL PERFORM CONSTRUCTION ACTIVITIES IN A SEQUENCE THAT IS BASED UPON ACCEPTED INDUSTRY STANDARDS THAT RECOGNIZE THE INTERACTION OF THE COMPONENTS THAT COMPRISE THE STRUCTURE, WITHOUT CAUSING DISTRESS, UNANTICIPATED MOVEMENTS OR IRREGULAR LOAD PATHS AS A RESULT OF THE CONSTRUCTION MEANS AND METHODS EMPLOYED.
 16. ALL SPECIFIED MATERIALS SHALL BE USED/INSTALLED/IMPLEMENTED IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS AND REQUIREMENTS, INCLUDING ANY PREPARATION WORK REQUIRED FOR AN ACCEPTABLE INSTALLATION.
 17. CONTRACTOR SHALL REVIEW THE CONSTRUCTION DOCUMENTS PRIOR TO BIDDING AND AGAIN PRIOR TO COMMENCEMENT OF WORK. IF ANY DISCREPANCY OR CONFLICT EXISTS, OBTAIN CLARIFICATION FROM THE ENGINEER OF RECORD THROUGH THE REQUEST FOR INFORMATION (RFI) PROCESS BEFORE PROCEEDING. ONCE WORK BEGINS, THE CONTRACTOR ACCEPTS ALL RESPONSIBILITIES FOR THE COORDINATION AND COMPLETENESS OF THE CONSTRUCTION DOCUMENTS.
 18. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL OSHA STANDARDS TO MAINTAIN SITE SAFETY INCLUDING REQUIREMENTS FOR TEMPORARY BARRIERS, SHORING/BRACING, RIGGING, LIFTING EQUIPMENT, LADDERS, STAIRS, ETC.

STRUCTURAL DESIGN CRITERIA

1. GOVERNING BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE (IBC 18), INCLUDING ALL ADOPTED REFERENCE STANDARDS AND MATERIAL SPECIFICATIONS REFERENCED.
2. REFERENCE STANDARDS AND CODES (LATEST EDITION). THE FOLLOWING CODES AND STANDARDS SHALL BE UTILIZED BY THE CONTRACTOR TO ESTABLISH MINIMUM LEVELS OF QUALITY AND CONSTRUCTION TECHNIQUES. UNLESS NOTED OTHERWISE, REFERENCE THE BUILDING CODE AND/OR ASCE FOR THE REFERENCED STANDARD'S EDITION.
 - IBC - INTERNATIONAL BUILDING CODE, 2018 EDITION
 - IEBC - INTERNATIONAL EXISTING BUILDING CODE, 2018 EDITION
 - ASCE 7 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2016 EDITION
 - ACI 318 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
 - ACI 302 - RECOMMENDED PRACTICE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION
 - ACI 347 - GUIDE TO FORMWORK FOR CONCRETE
 - ACI 345R - HOT WEATHER CONCRETING
 - ACI 306R - COLD WEATHER CONCRETING

ACI 211.1	- SELECTING PROPORTIONS FOR NORMAL, HEAVY WEIGHT AND MASS CONCRETE
ACI SP-66	- ACI DETAILING MANUAL
PCA	- DESIGN AND CONTROL OF CONCRETE MIXTURES
MSP-2	- MANUAL OF STANDARD PRACTICE
AISC 360	- LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS
ADM1	- ALUMINUM DESIGN MANUAL
AWS D1.2	- STRUCTURAL WELDING CODE - ALUMINUM
NAAMM MGB 531	- METAL BAR GRATING MANUAL
NAAMM MGB 532	- HEAVY DUTY METAL BAR GRATING MANUAL

SUBMITTALS

1. SHOP DRAWINGS AND SUBMITTALS
2. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
3. ELECTRONIC DRAWING FILES WILL NOT BE PROVIDED TO THE CONTRACTOR.
4. REVIEW OF SHOP DRAWINGS WILL BE FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS REGARDING ARRANGEMENT AND SIZES OF MEMBERS AND THE CONTRACTOR'S INTERPRETATION OF THE DESIGN LOADS, IF APPLICABLE, AND CONSTRUCTION DOCUMENT DETAILS. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THE FULL RESPONSIBILITY TO COMPLY WITH THE CONSTRUCTION DOCUMENTS.
5. SUBMITTALS
6. THE STRUCTURAL QUALITY ASSURANCE PLAN AND SPECIFICATIONS IDENTIFY THE REQUIRED SUBMITTALS. PRIOR TO (OR WITH) THE FIRST SUBMITTAL, CONTRACTOR SHALL SUBMIT A LIST OF ALL REQUIRED SUBMITTALS FOR ENGINEER'S REVIEW.
7. DEFERRED SUBMITTALS: DEFERRED SUBMITTALS INCLUDE THOSE PORTIONS OF THE PROJECT THAT ARE FURNISHED BY THE CONTRACTOR AND DESIGNED BY SOMEONE OTHER THAN THE ENGINEER OF RECORD AND ARE SUBMITTED AT THE TIME OF THE APPLICATION. DEFERRED SUBMITTALS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO FABRICATION AND INSTALLATION.
8. SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTALS:
 - A. SHALL BE INCLUDED IN THE CONTRACTOR'S SCOPE OF SERVICES AND SHALL BE SEALED BY AN ENGINEER LICENSED IN THE PROJECT STATE. DESIGN OF DEFERRED SUBMITTALS SHALL BE IN ACCORDANCE WITH THE GOVERNING BUILDING CODE INDICATED ABOVE.
 - B. SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHO SHALL REVIEW AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
 - C. SUBMITTAL DOCUMENTS MAY ALSO INCLUDE SUBSTANTIATING CALCULATIONS, WHEN REQUIRED.
9. THE FOLLOWING SHALL BE CONSIDERED DEFERRED SUBMITTALS:
 - A. GROUND IMPROVEMENT METHODS
 - B. STEEL CONNECTIONS - SEE "STRUCTURAL STEEL" SECTION
 - C. SLOTTED CHANNEL STRUT FRAMING (E.G. UNISTRUT)
 - D. SEISMIC ANCHORAGE AND BRACING OF MPE EQUIPMENT

REINFORCEMENT

1. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI-315, LATEST EDITION) AND MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (CRSI, LATEST EDITION). REINFORCING STEEL SHALL NOT BE HEATED OR WELDED AND MUST BE DRY AND FREE OF CONTAMINANTS SUCH AS RUST, DIRT, GREASE, AND PROTECTIVE COATINGS.
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60. ALL REINFORCING USED IN SEISMIC DESIGN CATEGORY (SDC) D AND HIGHER OR REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60. REINFORCING STEEL SHALL NOT BE HEATED OR WELDED AND MUST BE DRY AND FREE OF CONTAMINANTS SUCH AS RUST, DIRT, GREASE, AND PROTECTIVE COATINGS.
3. PROVIDE ADEQUATE BOLSTERS, HI-CHAIRS, SUPPORT BARS, ETC., TO MAINTAIN SPECIFIED CLEARANCES FOR THE ENTIRE LENGTH OF ALL REINFORCING BARS. SUPPORTS THAT BEAR DIRECTLY ON EXPOSED SURFACES SHALL BE A CRSI CLASS 1. STRUCTURAL SLABS SHALL UTILIZE A CRSI CLASS 2 SUPPORTS.
4. ALL DEVELOPMENT AND SPLICE LENGTHS SHALL BE PER ACI 318 WITH CLEAR SPACING GREATER OR EQUAL TO 3 BAR DIAMETER. PROVIDE CLASS "B" TENSION LAP SPLICE OR FULL MECHANICAL SPLICE (ACI 318, SECT. 25.4.2) FOR ALL REINFORCING. SEE LAP SCHEDULE ON SHEET SD-S02 FOR LAP LENGTHS, UNO.
5. A TOP BAR IS A HORIZONTAL BAR WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST DIRECTLY BELOW THE BAR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS. FOR EPOXY-COATED REINFORCEMENT, MULTIPLY THE TABULATED VALUES BY 1.5 FOR "REGULAR BARS" AND 1.3 FOR "TOP BARS".
6. SUBMIT REINFORCING SHOP DRAWINGS FOR REVIEW. AT A MINIMUM, THESE DRAWINGS SHALL SHOW THE GENERAL PLACEMENT OF REINFORCING, CONSTRUCTION JOINTS, CONTROL JOINTS, EXPANSION JOINTS, CONCRETE MEMBER DIMENSIONS, DOWELS, BAR LENGTHS, SPLICE LENGTH, AND REINFORCING BEND TABLES.
7. TACK WELDING OR WELDING OF REBAR SHALL NOT BE PERMITTED UNLESS OTHERWISE CALLED FOR OR APPROVED BY THE ENGINEER. IF APPROVED, REINFORCING MAY BE WELDED IN ACCORDANCE WITH AWS SPECIFICATION D1.4. ALL REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706.
8. IN ADDITION TO NORMAL ACCESSORIES USED TO HOLD REINFORCING STEEL FIRMLY IN POSITION, EXTRA ACCESSORY BARS SHALL BE USED.
9. CONCRETE CONSTRUCTION SHALL BE REINFORCED CONCRETE EXCEPT WHERE PLAIN CONCRETE IS INDICATED ON THE DRAWINGS. UNLESS OTHERWISE NOTED, MINIMUM REINFORCING STEEL SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING SCHEDULES:

SLAB THICKNESS	SIZE	SPACING	LOCATION
4"	#3	12"	CENTERED
5"	#4	12"	CENTERED
6"	#4	12"	CENTERED
8"	#4	12"	T & B
9"	#4	12"	T & B
10"	#4	12"	T & B
12"	#5	12"	T & B

WALL THICKNESS	SIZE	SPACING	LOCATION
6"	#4	12"	CENTERED
8"	#5	12"	CENTERED
10"	#4	12"	E F
12"	#5	12"	E F
14"	#5	12"	E F
16"	#6	12"	E F
18"	#6	12"	E F

ALL HOOKS SHALL BE ACI STANDARD HOOKS UNLESS DIMENSIONED OTHERWISE. BARS ENDING IN RIGHT ANGLE BENDS OR HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, SECT. 25.3. IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS REQUIRED TO PROVIDE SPECIFIED DEVELOPMENT LENGTH DUE TO AN ADJACENT STRUCTURE, EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.

CAST-IN-PLACE CONCRETE:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 318 AND ACI 350. CAST-IN-PLACE CONCRETE SHALL CONFORM WITH THE REQUIREMENT OF THE SPECIFICATIONS AND CONFORM TO THE MINIMUM REQUIREMENT OF ODOT CLASS C REINFORCED CONCRETE.
2. CONCRETE FOR STRUCTURES SHALL HAVE THE FOLLOWING 28-DAY COMPRESSIVE STRENGTHS:
CAST-IN-PLACE CONCRETE: 5,000 PSI
FILL CONCRETE: 1,500 PSI
3. USE 6% $\pm$ 1.5%, ENTRAINED AIR PER ASTM C260 FOR ALL CONCRETE EXPOSED TO WEATHER.
4. ADMIXTURES SHALL CONTAIN NO MORE THAN 0.05% CHLORIDE IONS BY WEIGHT OF CEMENT WHEN TESTED IN ACCORDANCE WITH AASHTO T260.
5. CONCRETE SHALL BE PROPORTIONED, BATCHED, MIXED, PLACED, CONSOLIDATED, AND CURED IN ACCORDANCE WITH ACI 301, 304, 308, 309 AND 318. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED IN ACCORDANCE WITH ACI 304 AND ACI 309.
6. CONTRACTOR SHALL KEEP A COPY OF "FIELD REFERENCE MANUAL: STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE ACI 301 WITH SELECTED ACI REFERENCES", (ACI PUBLICATION SP-15) AT THE PROJECT FIELD OFFICE.
7. ALL REINFORCING DETAILS SHALL CONFORM TO THE ACI DETAILING MANUAL, SP-66, UNLESS DETAILED OTHERWISE ON THE STRUCTURAL DRAWINGS.
8. SUBMIT FOR APPROVAL CONCRETE MIX DESIGN AND CERTIFICATION OF CONCRETE MATERIALS CONFORMING TO THE FOLLOWING EXPOSURE CATEGORIES:
- | | |
|-----------------------|----|
| FREEZE AND THAWING | F1 |
| SULFATE | S1 |
| IN CONTACT WITH WATER | W1 |
| CORROSION PROTECTION | C2 |
9. THE CONTRACTOR SHALL EMPLOY A TESTING LABORATORY APPROVED BY THE ENGINEER/ARCHITECT TO PERFORM THE TESTING SPECIFIED PER PARAGRAPH 1.6.4 OF ACI 301. THE TESTING LABORATORY SHALL MEET THE REQUIREMENTS OF ASTM E329. TESTING SHALL BE MADE BY AN ACI CONCRETE FIELD-TESTING TECHNICIAN GRADE 1 OR APPROVED EQUIVALENT. A TECHNICIAN GRADE 1 SHALL BE PRESENT DURING ALL CONCRETE PLACEMENT.
10. PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CORNERS OF SLABS UNLESS OTHERWISE INDICATED ON THE ARCHITECTURAL DRAWINGS. MINIMUM CLEARANCES FOR REINFORCING STEEL SHALL BE MAINTAINED. CHAMFERS SHALL EXTEND 2'-0", MINIMUM, BELOW GRADE.
11. CURE ALL CONCRETE FOR A MINIMUM 7-DAYS. APPLY CURING COMPOUND AT THE MAXIMUM COVERAGE RATE OF 300 SQUARE FEET PER GALLON. USE PRODUCT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS.
12. CONTRACTOR SHALL PROVIDE AN EPOXY BONDING AGENT TO ALL SURFACES BETWEEN EXISTING AND FRESH CONCRETE. BONDING AGENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. PRIOR TO APPLICATION OF BONDING AGENT, THE EXISTING CONCRETE BASE SURFACE SHALL BE THOROUGHLY CLEANED TO REMOVE ANY GREASE, OIL OR OTHER CONTAMINANTS THAT MAY PREVENT ADEQUATE BOND TO THE EXISTING CONCRETE. REMOVE WEAK OR DETERIORATED CONCRETE.
13. THE CONCRETE INTERFACE OF ALL CONSTRUCTION JOINTS SHALL BE ROUGHEN TO 1/4", MINIMUM, AMPLITUDE.
14. ALUMINUM OR DISSIMILAR METALS IN CONTACT WITH CONCRETE SHALL BE COATED WITH GRAY EPOXY PRIMER, EPOXY PRIMER SHALL BE PRE-APPROVED BY THE ENGINEER.
15. FORMWORK, FOR ALL CONCRETE THAT WILL BE EXPOSED IN THE COMPLETED STRUCTURE, SHALL BE CONSTRUCTED FROM A METAL OR SUITABLE SURFACE PLYWOOD THAT WILL PRODUCE AN ACCEPTABLY SMOOTH SURFACE. SEE SPECIFICATIONS.
16. CONCRETE PROTECTION (CLEAR COVER) FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
- A. CONCRETE IN CONTACT WITH SEWAGE OR WATER: 2 INCHES
 - B. CONCRETE IN CONTACT WITH GROUND OR WEATHER: 2 INCHES
 - C. CONCRETE NOT TO BE EXPOSED TO GROUND, WEATHER OR LIQUID
2 INCHES, SLABS AND WALLS
1-1/2 INCHES, STIRRUPS & TIES
17. CONCRETE ANCHORS SHALL BE STAINLESS STEEL UNLESS ANCHORS ARE FOR NON-PROCESS MECHANICAL EQUIPMENT. NON-PROCESS MECHANICAL EQUIPMENT MAY USE ASTM F1554-36 FOR CONCRETE ANCHORS, UNLESS OTHERWISE NOTED. EMBEDMENT, EDGE DISTANCES AND ALLOWABLE LOADS SHALL CONFORM TO IBC TABLE 1912.2 OR AS NOTED ON THE DRAWINGS.

ALUMINUM:

1. ALUMINUM MEMBERS SHALL BE FABRICATED, TRANSPORTED AND ERECTED IN ACCORDANCE WITH THE PROVISIONS OF THE ALUMINUM DESIGN MANUAL (LATEST EDITION), BY THE ALUMINUM ASSOCIATION, INC.
2. ALUMINUM MEMBERS SHALL BE CUT BY SHEARING, SAWING, NIBBLING, ROUTING, ARC CUTTING, LASER OR ABRASIVE WATER JET. OXYGEN CUT SHALL BE PROHIBITED.
3. CONTRACTOR SHALL NOT WELD ALUMINUM MEMBERS WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER OF RECORD.
4. WHERE AUTHORIZED, WELDED ALUMINUM CONNECTIONS SHALL BE DONE BY A QUALIFIED WELDER IN ACCORDANCE WITH THE REQUIREMENTS OF THE ANSI/AWS D1.2 STRUCTURAL

- WELDING CODE - ALUMINUM, LATEST EDITION, WELD WIRE/RODS TO BE ER4043, WITH A MINIMUM TENSILE STRENGTH OF 29 KSI, UNLESS NOTED OTHERWISE.
5. CARE SHALL BE TAKEN TO PROVIDE SUFFICIENT PREHEAT FOR SOUNDNESS OF THE WELD AS REQUIRED PER AWS/AISC REQUIREMENTS.
6. TO MITIGATE MOISTURE INTRUSION AND POTENTIAL CORROSION WITHIN THE JOINTS, ALL WELD LENGTH INTERRUPTIONS SHALL BE SEAL WELDED WITH 1/8" FILLET WELD.
7. ALUMINUM MEMBERS SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE NOTED:
 - A. PLATES: ALUMINUM ALLOY 6061-T6, ASTM B209
MINIMUM TENSILE STRESS = 42 KSI
MINIMUM YIELD STRESS = 35 KSI
 - B. TUBING: ALUMINUM ALLOY 6061-T6, ASTM B308
MINIMUM TENSILE STRESS = 42 KSI
MINIMUM YIELD STRESS = 35 KSI
 - C. SOLID BAR: ALUMINUM ALLOY 6061-T651, ASTM B211
MINIMUM TENSILE STRESS = 38 KSI
MINIMUM YIELD STRESS = 35 KSI
 - D. BOLTS: STAINLESS STEEL, ASTM F593
8. WHERE ALUMINUM IS IN CONTACT WITH OR FASTENED TO STEEL, WOOD, FIBERBOARD, CONCRETE OR MASONRY, A COMPATIBLE, NONPOROUS ISOLATOR BETWEEN THE ALUMINUM AND OTHER MATERIAL SHALL BE SUPPLIED.
9. A COMPATIBLE, NONPOROUS ISOLATER SHALL CONSIST OF EITHER A HEAVY COATING OF ALKALI RESISTANT BITUMINOUS PAINT OR AN APPROVED ALTERNATIVE METHOD.
10. ALUMINIZED, HOT-DIP GALVANIZED OR ELECTRO-GALVANIZED STEEL IN CONTACT WITH ALUMINUM NEED NOT BE PAINTED.

ALUMINUM GUARDRAIL

1. GUARDRAIL SHALL BE CONSTRUCTED OF 1½" NOMINAL DIAMETER 6061-T6 EXTRUDED ALUMINUM PIPE (SCH 80 FOR VERT MEMBERS, SCH 40 FOR HORZ MEMBERS). STANDARD NON-SLOPING SECTIONS TO BE INSTALLED WITH ¼" x 4" TOE PLATE. FOR GUARDRAIL INFORMATION, SEE "TYPICAL GUARDRAIL DETAIL" ON STANDARD DETAIL DRAWING.
2. GUARDRAIL SHALL BE FABRICATED/CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL DRAWINGS IN CONJUNCTION WITH PROVISIONS NOTED HEREIN. DETAILED SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW, PRIOR TO FABRICATION.

ALUMINUM GRATING

1. GRATING SHALL HAVE AN ANTI-SLIP SURFACE.
2. DESIGN, FABRICATION AND INSTALLATION OF METAL BAR GRATING UNITS SHALL CONFORM TO THE NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS METAL BAR GRATING MANUAL 531 AND THE NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS HEAVY-DUTY METAL BAR GRATING MANUAL 532.
3. GRATING ELEMENTS SHALL MEET THE FOLLOWING MATERIAL SPECIFICATIONS, UNLESS NOTED OTHERWISE:
 - A. ALUMINUM EXTRUDED BARS AND SHAPES: ASTM B221
 - B. BEARING BARS OF GRATINGS AND SHAPES: 6061-T6 OR 6063-T6 ALLOYS
 - C. GRATING CROSSBARS: 6061-T1 ALLOY
4. ALUMINUM GRATING FINISH SHALL BE CLEAR ANODIC FINISH COMPLYING WITH AAMA 611, AA-M12X22A41, CLASS I.
5. GRATING SHALL MEET THE FOLLOWING PERFORMANCE CRITERIA:
6. FLOOR LOADING: UNIFORM LOAD OF 100 PSF OR CONCENTRATED LOAD OF 2,000 LBS.
7. DEFLECTION LIMIT: L/360 OR 1/4-INCH, WHICHEVER IS LESS.
8. GRATING SHALL BE SUPPORTED ON PLATFORM ASSEMBLIES, LEDGER ANGLES OR WITHIN WELDED/EMBEDDED ANGLE SUPPORT FRAMES FABRICATED/CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL DRAWINGS, IN CONJUNCTION WITH PROVISIONS NOTED HEREIN.
9. METAL GRATING MANUFACTURER SHALL PROVIDE ANCHORAGE DEVICES AND FASTENERS WHERE NECESSARY TO SECURE GRATING TO SUPPORTING STRUCTURAL ELEMENTS.
10. GRATING PANELS SHALL BE SECURED TO SUPPORT COMPONENTS VIA REMOVABLE SS 316/316L GRATING FASTENERS WITH SS 316/316L SELF-DRILLING SELF-TAPPING SCWS. MINIMUM OF FOUR (4) GRATING FASTENERS ARE REQUIRED IN EACH PANEL, ONE (1) EACH CORNER.
11. REMOVABLE GRATING SHALL BE FABRICATED WITH BANDING BARS AROUND ENTIRE PERIMETER OF EACH SECTION AND A MINIMUM OF 4 LIFTING LUGS.
12. BANDING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
13. DETAILED SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW, PRIOR TO FABRICATION.
14. DETAILING SHALL BE DONE BY A QUALIFIED DETAILER WHO IS EXPERIENCED IN DETAILING GRATING COMPONENTS.
15. CONTRACTOR SHALL INSTALL METAL GRATING IN STRICT CONFORMANCE TO THE METAL GRATINGS MANUFACTURERS WRITTEN INSTRUCTIONS AND THE NAAMM MBG 531

CITY OF WHEELING WATER TREATMENT PLANT SOLIDS HANDLING BUILDING IMPROVEMENTS		ISSUED FOR:		REVISIONS			
		BID		REV.	DATE		
		ISSUE DATE:					
		10/01/2026					
		SCALE: AS NOTED					
		DESIGNED BY: BAS					
		DRAWN BY: BAS					
		CHECKED BY: MCC					
OHIO COUNTY, WEST VIRGINIA							
STANDARD DETAILS - SD SERIES							
STRUCTURAL GENERAL NOTES							
PROJECT NO.		34141					
DISCIPLINE		STRUCTURAL					
SHEET NAME		SD-S-00					
SHEET		OF					
20		29					

POST-INSTALLED FASTENERS:

1. POST-INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON THE STRUCTURAL DRAWINGS.
2. ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION IS REQUIRED FOR ALL INSTALLERS OF ADHESIVE ANCHORS IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATION. THIS CERTIFICATION CAN BE OBTAINED THROUGH ACI OR APPROVED EQUIVALENT.
3. FASTENERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. AS INCLUDED IN THE ANCHOR PACKAGING IN COORDINATION WITH INFORMATION HEREIN. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF CONFLICTS EXIST BETWEEN THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND THE REQUIREMENTS HEREIN.
4. REINFORCEMENT STEEL SHALL NOT BE CUT. PRIOR TO DRILLING THE CONCRETE, THE REINFORCING SHALL BE LOCATED WITH A MAGNETIC BAR LOCATOR. POST-INSTALLED BOLTS AND FASTENERS SHALL BE INSTALLED TO MISS REINFORCEMENT STEEL IN CONCRETE. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS.
5. DRILL HOLES USING ROTARY PERCUSSION DRILL WITH A DEPTH GAGE. DO NOT DRILL THROUGH FULL THICKNESS OF CONCRETE. USE OF A DIAMOND CORE BIT WITH ROUGHENING TOOL FOR ANCHOR HOLES MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO DRILLING. UNLESS OTHERWISE SHOWN IN THE DRAWINGS, ALL HOLES SHALL BE DRILLED PERPENDICULAR TO THE CONCRETE SURFACE. CLEAN HOLES IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. IF CONCRETE IS DAMP, BLOW DRY HOLE WITH OIL-FREE COMPRESSED AIR. CLEAN HOLE WITH WATER ONLY IF RECOMMENDED BY MANUFACTURER. ADHESIVE ANCHORS MAY NOT BE SET IF WATER IS SEEPING INTO HOLE AND THE STRUCTURAL ENGINEER. OF RECORD SHALL BE NOTIFIED.
6. ANCHOR SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE SUBMITTED AND APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF MEETING THE PERFORMANCE OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR ITS USE, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, INSTALLATION TEMPERATURE, MOISTURE CONDITION OF CONCRETE, AND DRILLING METHODS.
7. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL ANCHOR PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF ANCHOR INSTALLATION.
8. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS. CONTRACTOR SHALL CONTACT STRUCTURAL ENGINEER SHOULD THE LAYOUT OF THE ANCHOR, EMBEDMENT, SPACING OR EDGE DISTANCES, IS MODIFIED.
9. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES:

A. ANCHORAGE TO CONCRETE:

ADHESIVE ANCHORS:

- a. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z ROD
- b. HILTI HIT-HY 200 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HAS-V-36 GRADE 36 THREADED ROD
- c. HILTI HIT-RE 500v3 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HAS THREADED ROD
- d. SIMPSON SET-XP WITH ASTM A36 THREADED ROD
- e. SIMPSON SET-XP INSTALLED USING SIMPSON SPEED CLEAN DXS SYSTEM WITH ASTM A36 THREADED ROD
- f. APPROVED EQUAL

MECHANICAL ANCHORS:

- a. HILTI KWIK HUS-EZ (KH-EZ), KH-EZ CRC, KH-EZ SS316, KH-EZ C, KH-EZ E, KH-EZ I, AND KH-EZ P SCREW ANCHOR SAFE SET SYSTEM INSTALLED USING HOLLOW DRILL BIT AND VACUUM
- b. HILTI KWIK BOLT-1 EXPANSION ANCHOR
- c. HILTI KWIK BOLT-TZ2 EXPANSION ANCHOR
- d. SIMPSON TITEN HD SCREW ANCHOR
- e. SIMPSON STRONG-BOLT 2 WEDGE ANCHOR
- f. APPROVED EQUAL

B. REBAR DOWELING INTO CONCRETE:

- a. HILTI HIT-HY 200 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH CONTINUOUSLY DEFORMED REBAR
- b. HILTI HIT-HY 500v3 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH CONTINUOUSLY DEFORMED REBAR
- c. SIMPSON SET-XP WITH CONTINUOUSLY DEFORMED REBAR
- d. SIMPSON SET-XP INSTALLED USING SIMPSON SPEED CLEAN DXS SYSTEM WITH CONTINUOUSLY DEFORMED REBAR
- e. APPROVED EQUAL

C. ANCHORAGE TO SOLID GROUTED MASONRY:

ADHESIVE ANCHORS:

- a. HILTI HIT-HY 270 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HILTI HAS CONTINUOUSLY THREADED ROD OR DEFORMED REBAR.
- b. SIMPSON SET-XP WITH ASTM A36 THREADED ROD OR CONTINUOUSLY DEFORMED REBAR
- c. SIMPSON SET-XP INSTALLED USING SIMPSON SPEED CLEAN DXS SYSTEM WITH ASTM A36 THREADED ROD OR CONTINUOUSLY DEFORMED REBAR
- d. APPROVED EQUAL

MECHANICAL ANCHORS USE:

- a. HILTI KWIK BOLT-1 EXPANSION ANCHOR
- b. HILTI KWIK BOLT-TZ2 EXPANSION ANCHOR
- c. HILTI KH-EZ, KH-EZ CRC, KH-EZ SS316, KH-EZ C, AND KH-EZ P SCREW ANCHORS
- d. SIMPSON STRONG-BOLT 2 WEDGE ANCHOR
- e. SIMPSON WEDGE-ALL WEDGE ANCHOR
- f. APPROVED EQUAL

D. ANCHORAGE TO HOLLOW / MULTI-WYTHE MASONRY:

ADHESIVE ANCHORS USE:

- a. HILTI HIT-HY 270 SAFE SET SYSTEM INSTALLED USING THE APPROPRIATE SIZE SCREEN TUBE PER THE ADHESIVE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND A HILTI HOLLOW DRILL BIT AND VACUUM WITH HILTI HAS CONTINUOUSLY THREADED ROD OR DEFORMED REBAR. SIMPSON SET-XP THE APPROPRIATE SIZE SCREEN TUBE PER THE ADHESIVE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS WITH ASTM A36 THREADED ROD
- b. SIMPSON SET-XP INSTALLED USING SIMPSON SPEED CLEAN DXS SYSTEM WITH ASTM A36 THREADED ROD
- c. APPROVED EQUAL

SPECIAL INSPECTIONS:

PER THE IBC SECTION 1705, SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING ITEMS:

1. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

- A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK DESIGNATED TO ASSURE IT IS CONSTRUCTED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
- B. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS AND TESTS TO THE BUILDING OFFICIAL AND REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
- C. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
- D. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS, AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED WITHIN THE AGREED UPON TIME TO THE BUILDING OFFICIAL PRIOR TO THE START ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- E. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A STATEMENT OF RESPONSIBILITY ACKNOWLEDGING THE AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.

2. CONCRETE:

- A. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT. (PERIODIC)
- B. REINFORCING BAR WELDING:

• VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706. (PERIODIC)

• INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16" (PERIODIC)

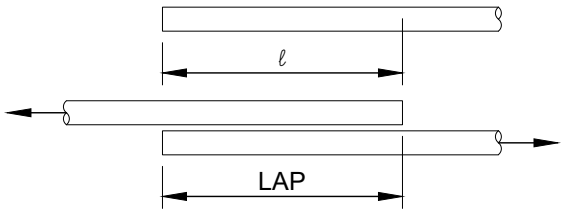
• INSPECT ALL OTHER WELDS (CONTINUOUS)
- C. INSPECT ANCHORS CAST IN CONCRETE (PERIODIC)
- D. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:

• ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. (CONTINUOUS)

• MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE. (PERIODIC)
- E. VERIFY USE OF REQUIRED MIX DESIGN. (PERIODIC)
- F. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. (CONTINUOUS)
- G. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. (CONTINUOUS)
- H. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES. (PERIODIC)
- I. INSPECT PRESTRESSED CONCRETE FOR:

• APPLICATION OF PRESTRESSING FORCES. (CONTINUOUS)

• GROUTING OF BONDED PRESTRESSING TENDONS. (CONTINUOUS)
- J. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS. (PERIODIC)
- K. VERIFY IN-SITU CONCRETE STRENGTH. PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS. (PERIODIC)
- L. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED. (PERIODIC)
- M. NO INSPECTION IS REQUIRED FOR SLABS-ON-GRADE.



LAP TABLE (f'c = 5,000 PSI)					
BAR SIZE	LAP CLASS	UNCOATED BARS			
		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2
#3	A	17	25	13	19
	B	22	33	17	25
#4	A	22	33	17	26
	B	29	43	22	33
#5	A	28	42	22	32
	B	36	54	28	42
#6	A	33	50	26	38
	B	43	65	33	50
#7	A	49	73	37	56
	B	63	94	49	73
#8	A	55	83	43	64
	B	72	108	55	83
#9	A	63	94	48	72
	B	81	122	63	94
#10	A	70	105	54	81
	B	91	137	70	105
#11	A	78	117	60	90
	B	101	152	78	117
#14	N/A	94	140	72	108
#18	N/A	125	187	96	144

NOTES:

1. TABULATED VALUES ARE BASED ON A MINIMUM YIELD STRENGTH OF 60,000 PSI [420 MPa]. LENGTHS ARE IN INCHES.
2. CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL MEMBER, CONCRETE COVER, AND OC SPACING OF THE BARS ARE DEFINED AS:

BEAMS AND COLUMNS

• CASE 1: CONCRETE COVER AT LEAST 1.0d_b AND OC SPACING AT LEAST 2.0 d_b

• CASE 2: CONCRETE COVER LESS THAN 1.0d_b OR OC SPACING LESS THAN 2.0 d_b

OTHER BARS

• CASE 1: CONCRETE COVER AT LEAST 1.0d_b AND OC SPACING AT LEAST 3.0 d_b

• CASE 2: CONCRETE COVER LESS THAN 1.0d_b OR OC SPACING LESS THAN 3.0 d_b
3. TENSION LAP SPLICES OF #14 OR #18 [#43 OR #57] BARS ARE NOT PERMITTED. THE TABLE VALUES FOR THOSE BAR SIZES ARE TENSION DEVELOP LENGTHS.
4. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES [300 mm] OF CONCRETE CAST BELOW THE BARS.

STRUCTURAL DRAWING ABBREVIATIONS

ADDL	ADDITIONAL
ADJ	ADJACENT
ALT	ALTERNATE
&	AND
APPROX	APPROXIMATELY
@	AT or SPACING
B/	BOTTOM OF
BM	BEAM
BRDG	BRIDGING
BRG	BEARING
BOT	BOTTOM
CL	CENTERLINE
CLR	CLEAR
CTR	CENTER
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CJ	CONTROL/CONSTRUCTION JOINT
CMU	CONCRETE MASONRY UNIT
DBL	DOUBLE
DEG or °	DEGREE
DEMO	DEMOLITION
DET	DETAIL
DIAG	DIAGONAL
DIA or Ø	DIAMETER
DIM	DIMENSION
DN	DOWN
DWL	DOWEL
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
EMBED	EMBEDDED, EMBEDMENT
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
EX	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FV	FIELD VERIFY
FIN	FINISH
FS	FARSIDE
FT	FOOT, FEET
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
GEN	GENERAL
GR	GRADE
HORIZ	HORIZONTAL
HP	HIGH POINT
ID	INSIDE DIAMETER
IF	INSIDE FACE
INT	INTERIOR
INV	INVERT
INV	INVERT
JT	JOINT
L	ANGLE
LG	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDINAL
LP	LOW POINT
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
NO or #	NUMBER
NOM	NOMINAL
NS	NEARSIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
PAR	PARALLEL
PERP	PERPENDICULAR
PL	PLATE
QTY	QUANTITY
RAD	RADIUS
REF	REFERENCE
REINF	REINFORCEMENT, REINFORCING,
REINFORCED	
REQD	REQUIRED
SECT	SECTION
SER	STRUCTURAL ENGINEER OF RECORD
SIM	SIMILAR
SPA	SPACING
SS	STAINLESS STEEL
STIFF	STIFFENER
STL	STEEL
STR	STRUCTURAL
T	TOP
T/	TOP OF
T&B	TOP AND BOTTOM
THD	THREAD
THK	THICK
THRU	THROUGH
TRANS	TRANSVERSE
TYP	TYPICAL
UN or UNO	UNLESS NOTED (OTHERWISE)
VERT	VERTICAL
VIF	VERIFY IN FIELD
w/	WITH
WWF	WELDED WIRE FABRIC

BID

verdantas

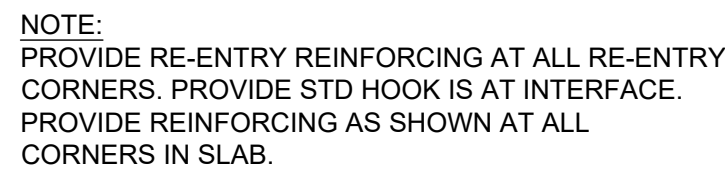
ISSUED FOR:		REVISIONS	
BID		REV.	DESCRIPTION
ISSUE DATE:	10/01/2026		DATE
SCALE	AS NOTED		
DESIGNED BY:	BAS		
DRAWN BY:	BAS		
CHECKED BY:	MCC		

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS

OHIO COUNTY, WEST VIRGINIA
STANDARD DETAILS - SD SERIES

STRUCTURAL GENERAL NOTES & ABBREVIATION

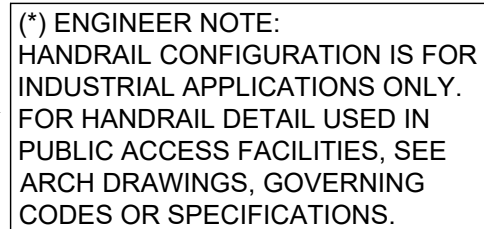
PROJECT NO.	
34141	
DISCIPLINE	
STRUCTURAL	
SHEET NAME	
SD-S-01	
SHEET	OF
21	29



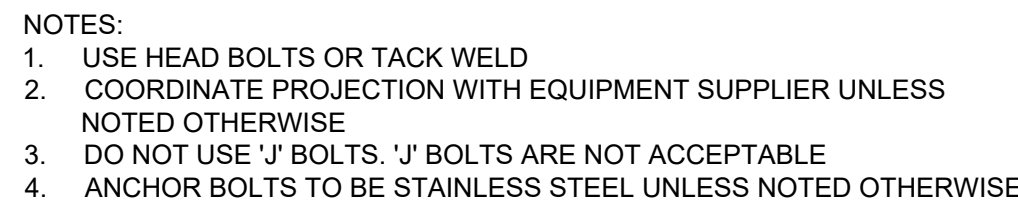
1
SD-S-03



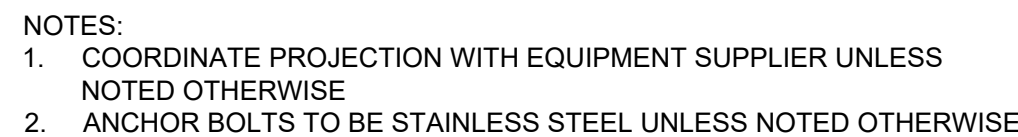
5 CONTA
SD-S-03 SCALE: NTS



9 TYPICAL
SD-S-03 SCALE: NTS



ANCHORS IN NEW CONCRETE



ANCHORS IN EXISTING CONCRETE



AT W-BEAM

AT W-BEAM AT CHANNEL



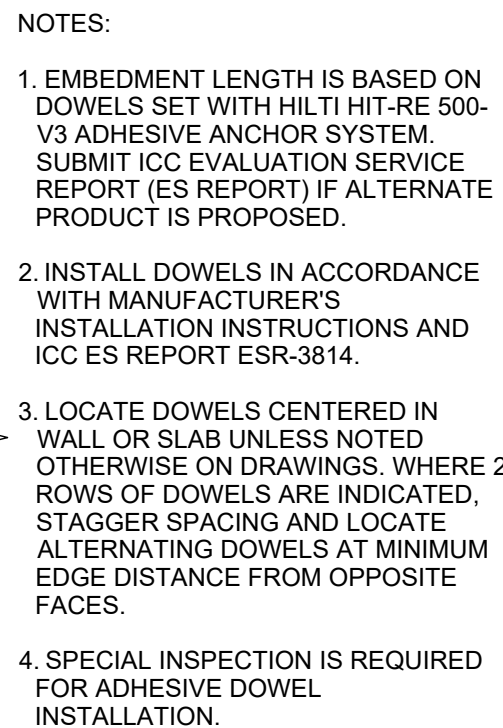
NOTES:

1. CONFORM TO ICC EVALUATION SERVICE REPORT (ES REPORT) REQUIREMENTS AND MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
2. PROVIDE TYPE 316 STAINLESS STEEL ALL-THREAD ROD MATERIAL.
3. PROVIDE HOLE DIAMETER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
4. EXPANSION ANCHOR EMBEDMENT LENGTHS ARE BASED ON HILTI KWIK BOLT TZ STAINLESS STEEL ANCHORS. SUBMIT ICC EVALUATION SERVICE REPORT (ES REPORT) FOR ALTERNATE PRODUCTS.
5. ADHESIVE ANCHOR EMBEDMENT LENGTHS ARE BASED ON HILTI HIT-RE 500-V3 ADHESIVE. SUBMIT ICC ES REPORT FOR ALTERNATE PRODUCTS.

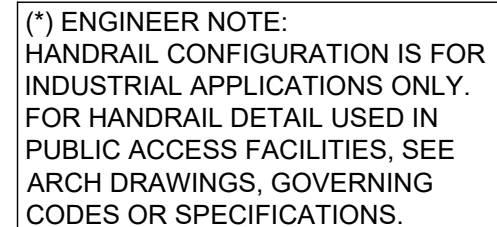
3 ANCHOR
SD-S-03 SCALE: NTS



7 BASE 1
SD-S-03 SCALE: NTS

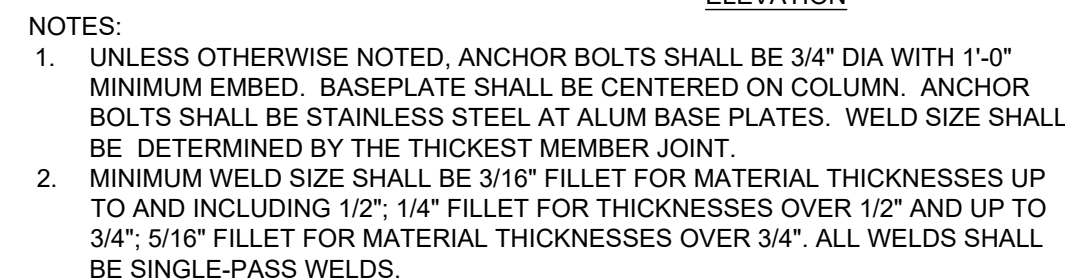


4 REINF
SD-S-03 SCALE: NTS

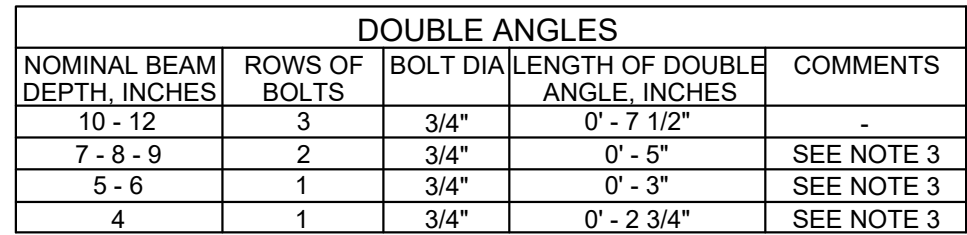


AT STAIR STRINGER

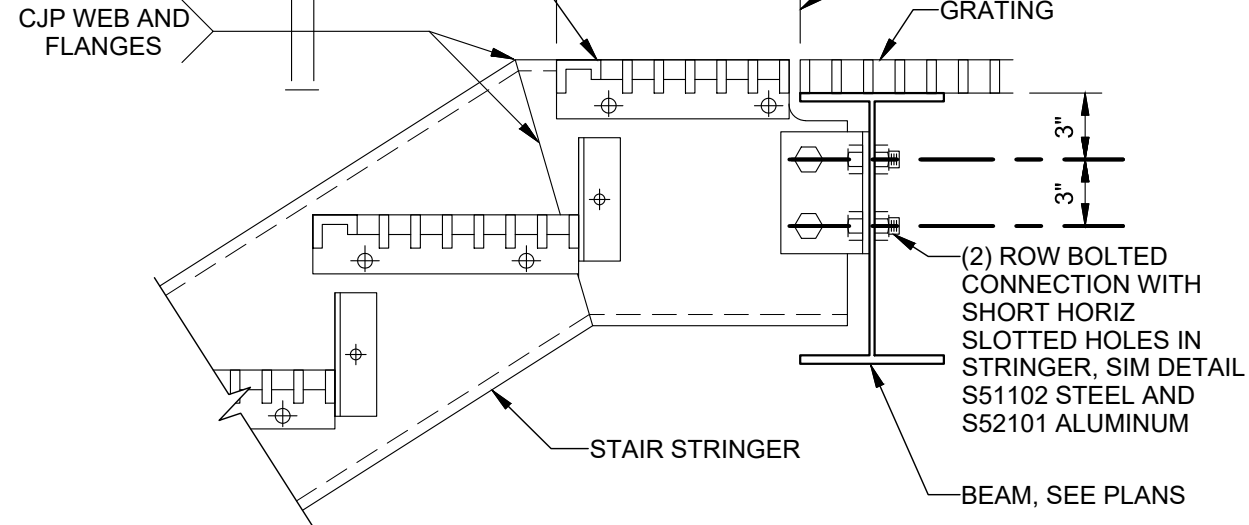
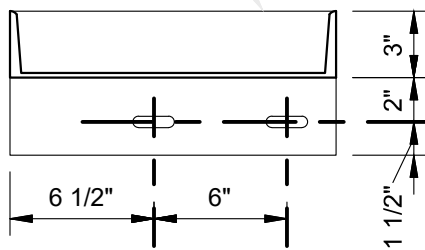
8
SD-S-03



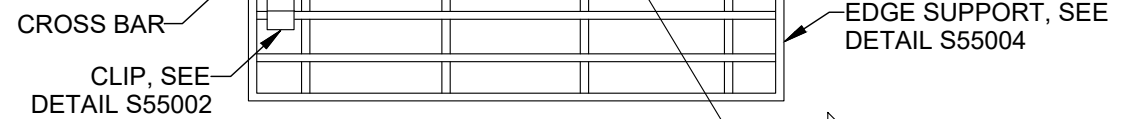
11 COLUMN
SD-S-03 SCALE: NTS



1. UNLESS NOTED OTHERWISE, NUMBER OF ROWS IS EQUAL TO NUMBER OF BOLTS TO ENCLOSE BEAM WEB.
2. ALL BEAM FRAMING CONNECTIONS SHALL CONFORM TO THIS DETAIL UNLESS SPECIFICALLY NOTED OTHERWISE OR APPROVED IN WRITING BY THE ENGINEER.
3. FOR NOMINAL BEAM DEPTHS LESS THAN 8", EXTEND LONG LEG OF DOUBLE ANGLE ALONG BEAM WEB AND PROVIDE ADDITIONAL BOLT TO ENCLOSE BEAM WEB AS SHOWN.
4. PROVIDE ADDITIONAL 1 1/2" LENGTH TO DOUBLE ANGLE FOR STAGGERED BOLT CONNECTIONS WHERE REQUIRED.
5. DIMENSION SHALL BE AS NOTED UNLESS OTHERWISE REQUIRED FOR PROPER FABRICATION.
6. PER OSHA 1926.756(C) ISSUED 1-23-01, AN ERECTION SEAT, DESIGNED AND DETAILED BY THE STEEL FABRICATOR SHALL BE PROVIDED AT DOUBLE CONNECTIONS AT COLUMN AND/ OR AT BEAM WEBS OVER A COLUMN IF THE FOLLOWING CONDITION CANNOT BE MET: WHEN BEAMS ON OPPOSITE SIDES OF A COLUMN, OR A BEAM WEB OVER A COLUMN, ARE CONNECTED SHARING COMMON CONNECTION HOLES, AT LEAST ONE BOLT WITH ITS WRENCH-TIGHT NUT SHALL REMAIN CONNECTED TO THE FIRST BEAM ERECTION SEAT. TWO ADDITIONAL BOLT ROWS WILL REQUIRE AN ERECTION SEAT. THE ERECTION SEAT SHALL BE DESIGNED BY THE FABRICATOR TO SUPPORTS THE CONSTRUCTION LOAD DURING THE DOUBLE CONNECTION PROCESS.



SCALE: NTS



1. CONFORM TO THE METAL BAR GRATING MANUAL OF NAAMM. MATCH SUPPLEMENTAL GRATING SUPPORT BEAM FINISH TO GRATING MATERIAL. USE SST GRATING SUPPORT ANGLES AND EMBEDS AT ALL AL AND SST GRATING. USE GALV STEEL GRATING SUPPORT ANGLES AND EMBEDS AT ALL GALV STEEL GRATING.

2. AL GRATING SHALL BE SWAGE LOCKED. GALV AND SST GRATING SHALL BE WELDED.

3. PROVIDE REMOVABLE GRATING WITH (4) HOLD DOWN CLIPS WITH SELF-TAPPING SCREWS APPROXIMATELY 4" FROM THE CORNERS OF EACH PIECE.

4. WELD BEARING AND CROSS BARS TO END BANDS AT AL GRATING.

5. CLEAR SPAN IS PLAN DIMENSION, FACE TO FACE OF OPENING.

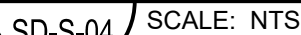
6. AL GRATING SCHEDULE AND DETAILS ARE DESIGNED FOR PEDESTRIAN LOAD ONLY (100 PSF MAXIMUM). NO VEHICLE LOADS ARE ALLOWED.

7. GALV AND SST GRATING DESIGNED FOR 300 PSF GOLF CART TRAFFIC(1) UON ON DRAWINGS PROVIDE 2" MINIMUM END BEARING. SEE PLANS FOR BEARING BAR SIZE AND SPANS.

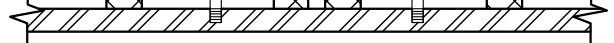
8. ALL AL SURFACES IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS SHALL HAVE CONTACT SURFACE PROTECTED IN ACCORDANCE WITH SPECIFICATIONS.

SERRATED ALUMINUM GRATING SCHEDULE			
CLEAR SPAN MAXIMUM	BEARING BAR SIZE	MINIMUM END BEARING	
4'-0"	1 1/2 x 3/16	1"	
4'-6"	1 3/4 x 3/16	1"	

SD-S-04 SCALE: NTS



CLIPS ON FRAMING



CLIP AT EDGES

SD-S-04 SCALE: NTS

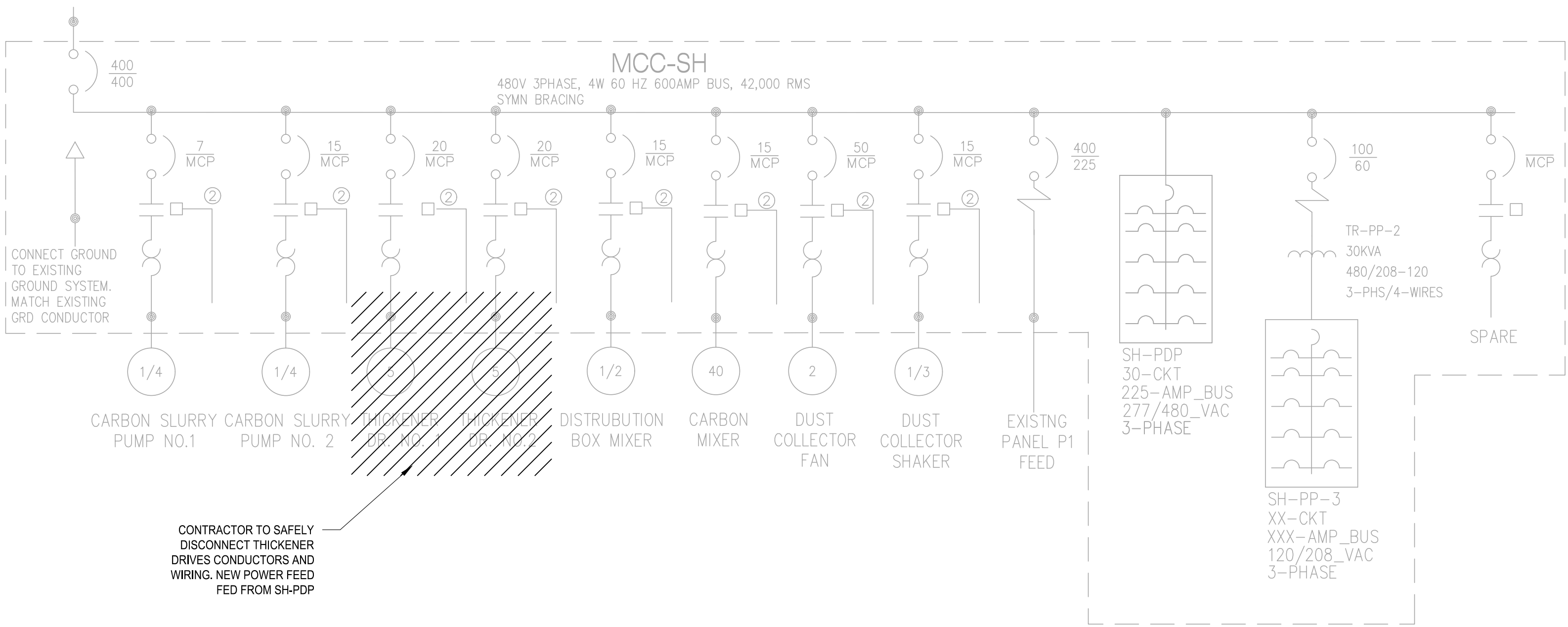


ISSUED FOR:	
BID	
ISSUE DATE:	
10/01/2026	
SCALE:	AS NOTED
DESIGNED BY:	BAS
DRAWN BY:	BAS
CHECKED BY:	MCC

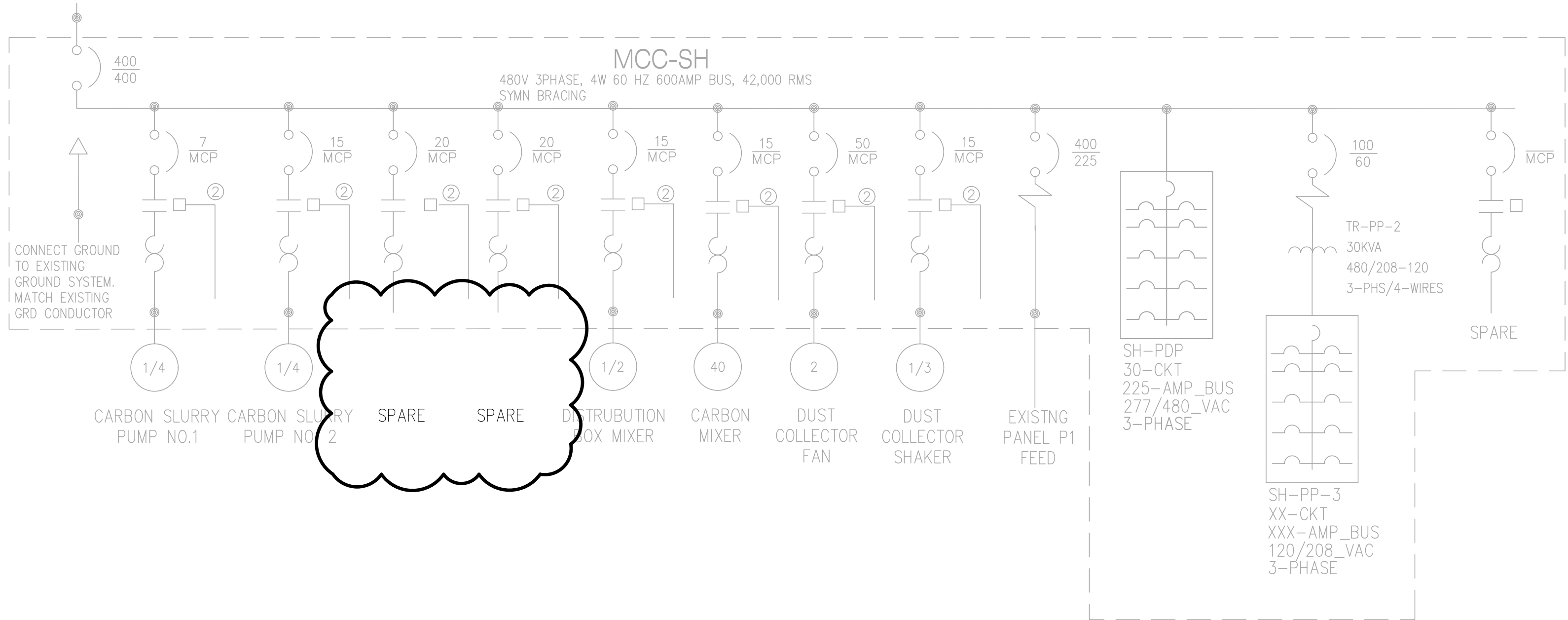
**OHIO COUNTY, WEST VIRGINIA
STANDARD DETAILS - SD SERIES**

SD-S-03

23	29
----	----



EXISTING SINGLE LINE (DEMO)
SCALE: NTS



NEW SINGLE LINE
SCALE: NTS

PANELBOARD: 'SH-PDP'															MCB RATING: 225A MOUNTING: SURFACE									
LOCATION: SH BLDG															VOLTS: 480/277 PHASE: 3 WIRES: 4 NEMA 3R ENCLOSURE									
CKT	CIRCUIT DESCRIPTION	WIRE	G.	C.	TRIP	POLE	A	B	C	POLE	TRIP	C.	G.	WIRE	CIRCUIT DESCRIPTION	CKT								
1	GARAGE DOOR OPENER				20	3	4.4	4.4			3	20			PRESETTLING BASIN MUD PUMP	2								
3							4.4	4.4								4								
5									4.4	4.4						6								
7							4.4	4.4								8								
9	PRESETTLING TANK SLUDGE PUMP				20	3			4.4	4.4		3	20		HEATER 105	10								
11										4.4	4.4					12								
13		SPACE				20	1	0.0	4.4			3	20			14								
15		SPACE				20	1			0.0	4.4					16								
17	SPACE				20	1					0.0	4.4			EXHAUST FAN	18								
19	SPACE				20	1	0.0	0.0				1	20			20								
21	SPACE				20	1			0.0	0.0		1	20			22								
23	SPACE				20	1			0.0	0.0	1	20				24								
25	BELT PRESS CONTROL PANEL EAST				20	3	4.4	4.4							BELT PRESS CONTROL PANEL WEST	26								
27								4.4	4.4							28								
29										4.4	4.4					30								
TOTAL LOAD IN KVA							30.8	30.8	30.8							PANEL TOTALS								
							A	B	C							TOTAL CONNECTED LOAD (KVA)	92.4							
																	TOTAL DEMAND LOAD (KVA)	73.9						
REMARKS:																								

PANELBOARD: 'SH-PP-3'															MCB RATING: 100A MOUNTING: SURFACE									
LOCATION: SH BLDG															VOLTS: 208/120 PHASE: 3 WIRES: 4 NEMA 3R ENCLOSURE									
CKT	CIRCUIT DESCRIPTION	WIRE	G.	C.	TRIP	POLE	A	B	C	POLE	TRIP	C.	G.	WIRE	CIRCUIT DESCRIPTION	CKT								
1	POLYMER MAKE-UP SYSTEM				20	1	4.4	4.4			1	20			POLYMER MAKEUP WATER VALVE	2								
3	PRESETTLING VALVE CONTROL				20	1		4.4	4.4								4							
5	PLC-SB				20	1			4.4	4.4	3	20			GATE POWER 24V	6								
7	SUMP 105						4.4	4.4									8							
9					20	3			4.4	4.4	1	20			POLYMER MAKEUP CONTROL	10								
11										4.4	0.0				SPACE	12								
13								4.4	0.0						SPACE	14								
15	SUMP 105				20	3			4.4	0.0					SPACE	16								
17										4.4	0.0			SPACE	18									
19							0.0	0.0						SPACE	20									
21									0.0	0.0				SPACE	22									
23	SPACE								0.0	0.0				SPACE	24									
25	SPACE						0.0	4.4							CARBON FEED TRUCK RECEPTACLE	26								
27	SPACE								0.0	4.4	3	20				28								
29	SPACE								0.0	4.4						30								
TOTAL LOAD IN KVA							26.4	26.4	22.0							PANEL TOTALS								
							A	B	C							TOTAL CONNECTED LOAD (KVA)	74.8							
																			TOTAL DEMAND LOAD (KVA)	59.8				
REMARKS:																								

PANELBOARD: 'SH-PDP'															MCB RATING: 225A MOUNTING: SURFACE									
LOCATION: SH BLDG															VOLTS: 480/277 PHASE: 3 WIRES: 4 NEMA 3R ENCLOSURE									
CKT	CIRCUIT DESCRIPTION	WIRE	G.	C.	TRIP	POLE	A	B	C	POLE	TRIP	C.	G.	WIRE	CIRCUIT DESCRIPTION	CKT								
1	GARAGE DOOR OPENER				20	3	4.4	4.4			3	20			PRESETTLING BASIN MUD PUMP	2								
3							4.4	4.4								4								
5							6.6	4.4		4.4	4.4					6								
7									6.6	4.4		3	20			8								
9	NEW SLUDGE PUMP CONTROL PANEL				30	3		6.6	4.4						HEATER 105	10								
11									6.6	4.4						12								
13							4.4	4.4								14								
15					20	3		4.4	4.4		3	20				16								
17	NEW THICKENER DRIVE CONTROL PANEL							4.4	4.4						EXHAUST FAN	18								
19					20	1	0.0	0.0			1	20				20								
21					20	1		0.0	0.0		1	20				22								
23					20	1			0.0	0.0	1	20				24								
25	NEW SCREW PRESS - PANEL FEED						13.3	0.0							SPARE	26								
27					60	3			13.3	0.0		3	20			28								
29									13.3	0.0						30								
TOTAL LOAD IN KVA							41.9	41.9	41.9															
							A	B	C															
REMARKS:															PANEL TOTALS									
															TOTAL CONNECTED LOAD (KVA)		125.7							
															TOTAL DEMAND LOAD (KVA)		100.6							

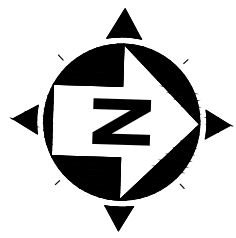
PANELBOARD: 'SH-PP-3'															MCB RATING: 100A MOUNTING: SURFACE									
LOCATION: SH BLDG															VOLTS: 208/120 PHASE: 3 WIRES: 4 NEMA 3R ENCLOSURE									
CKT	CIRCUIT DESCRIPTION	WIRE	G.	C.	TRIP	POLE	A	B	C	POLE	TRIP	C.	G.	WIRE	CIRCUIT DESCRIPTION	CKT								
1	POLYMER MAKE-UP SYSTEM				20	1	4.4	4.4			1	20			POLYMER MAKEUP WATER VALVE	2								
3	PRESETTLING VALVE CONTROL				20	1		4.4	4.4								4							
5	PLC-SB				20	1			4.4	4.4	3	20			GATE POWER 24V	6								
7	SUMP 105						4.4	4.4									8							
9					20	3		4.4	4.4		1	20			NEW POLYMER CONTROL PANEL	10								
11								4.4	0.0	4.4	0.0					SPACE	12							
13								4.4	0.0							SPACE	14							
15	SUMP 105				20	3		4.4	0.0						SPACE	16								
17									4.4	0.0					SPACE	18								
19							0.0	0.0							SPACE	20								
21								0.0	0.0						SPACE	22								
23	SPACE								0.0	0.0					SPACE	24								
25	SPACE						0.0	4.4							CARBON FEED TRUCK RECEPTACLE	26								
27	SPACE							0.0	4.4		3	20				28								
29	SPACE								0.0	4.4						30								
TOTAL LOAD IN KVA							26.4	26.4	22.0							PANEL TOTALS								
							A	B	C							TOTAL CONNECTED LOAD (KVA)		74.8						
																			TOTAL DEMAND LOAD (KVA)		59.8			
REMARKS:																								

BID

verdantas

REVISIONS				ISSUED FOR:			
REV.	DESCRIPTION	DATE		REVIEW	ISSUE DATE:	SCALE	
A	ISSUED FOR REVIEW	08/03/26			08/03/2026	AS NOTED	
					DESIGNED BY: PSM	DRAWN BY: PSM	TLD
					CHECKED BY:		

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
ELECTRICAL E-SERIES
ELECTRICAL SINGLE LINE



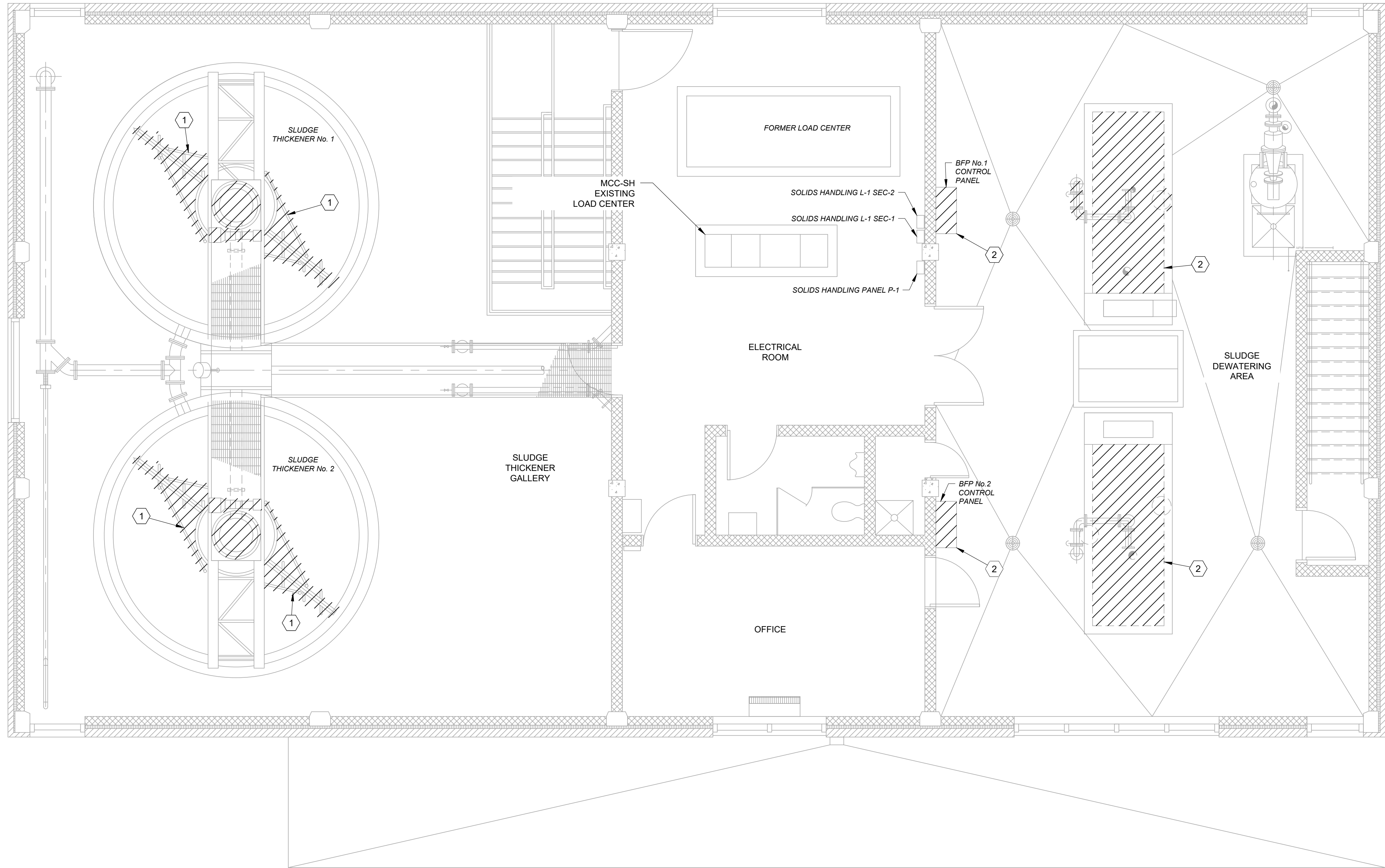
BID

verdantas

REVISIONS			
REV.	DESCRIPTION	DATE	
A	ISSUED FOR REVIEW	08/03/26	

CITY OF WHEELING WATER TREATMENT PLANT SOLIDS HANDLING BUILDING IMPROVEMENTS OHIO COUNTY, WEST VIRGINIA ELECTRICAL E-SERIES	ISSUED FOR:
	REVIEW
	ISSUE DATE:
	08/03/2026
ELECTRICAL DEMO UPPER PLAN	SCALE:
	AS NOTED
	DESIGNED BY:
	PSM
	DRAWN BY:
	PSM
	CHECKED BY:
	TLD

PROJECT NO.	
34141	
DISCIPLINE	
ELECTRICAL	
SHEET NAME	
E-03	
SHEET	OF
26	29

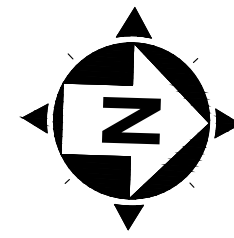


UPPER FLOOR PLAN
SCALE: 1/4" = 1'-0"



BELT PRESSES

- ELECTRICAL DEMO NOTES:
1. REMOVE THICKENERS 1 AND 2. CONTRACTOR TO SAFELY DISCONNECT ELECTRICAL JUNCTION BOX. THICKENERS REMOVED BY OTHERS.
 2. REMOVE BELT FILTER PRESSES 1 AND 2. CONTRACTOR TO SAFELY DISCONNECT PUMPS ELECTRICAL CONNECTIONS, AND CONTROL PANELS



BID

verdantas

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
ELECTRICAL E-SERIES

ELECTRICAL DEMO LOWER PLAN

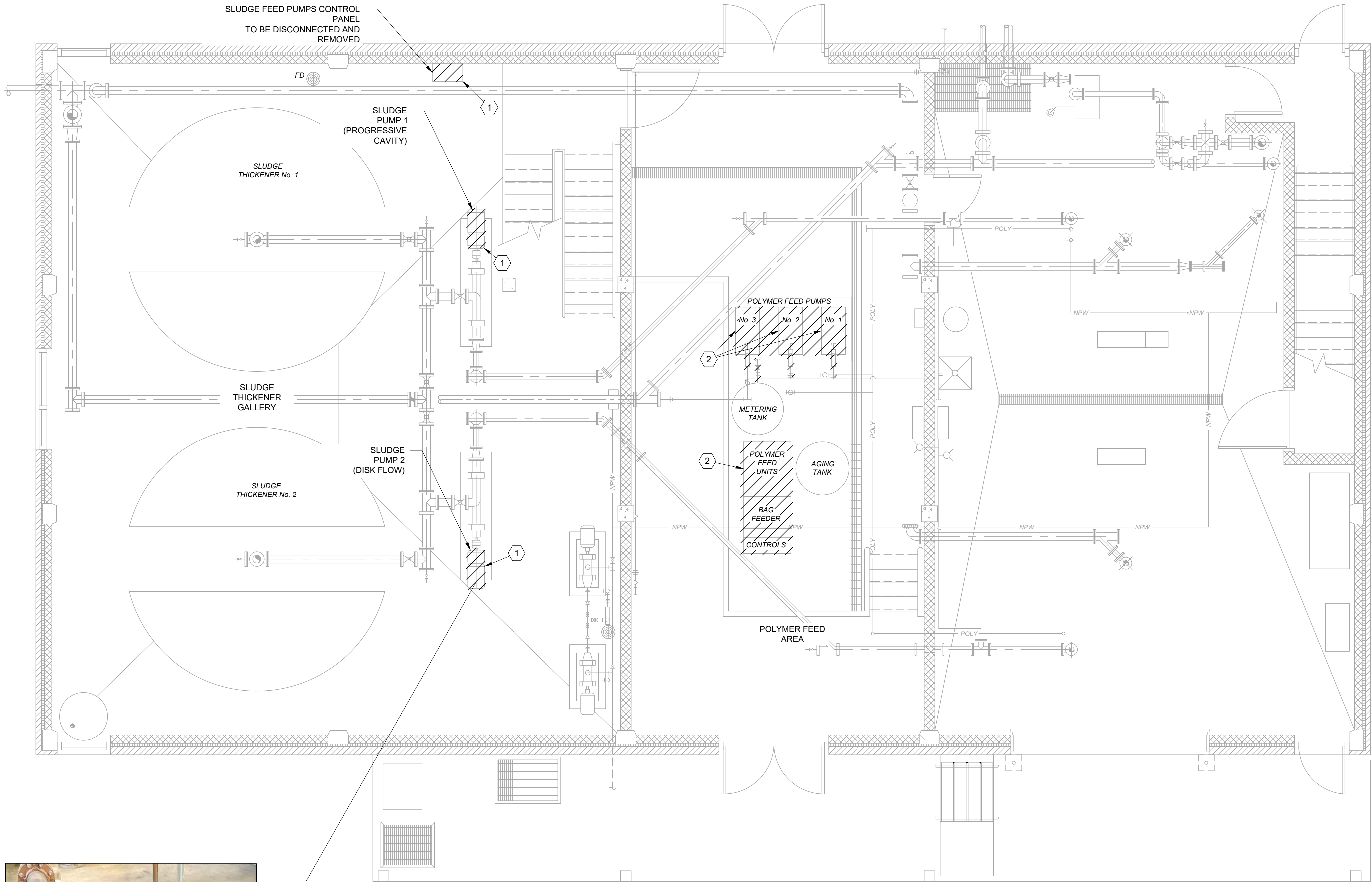
ISSUED FOR:		REVISIONS	
REV.	DESCRIPTION	DATE	
A	ISSUED FOR REVIEW	08/03/26	
SCALE: AS NOTED			
DESIGNED BY: PSM			
DRAWN BY: PSM			
CHECKED BY: TLD			

PROJECT NO. 34141	
DISCIPLINE ELECTRICAL	
SHEET NAME E-04	
SHEET 27	OF 29



POLYMER FEED AREA

- ELECTRICAL DEMO NOTES:
1. REMOVE EXISTING SLUDGE PUMPS 1 AND 2. CONTRACTOR TO SAFELY DISCONNECT MOTOR, WIRING AND PUMP CONTROL PANEL.
 2. REMOVE POLYMER FEED UNITS. CONTRACTOR TO SAFELY DISCONNECT ALL CONTROL WIRING AS WELL AS PUMPS

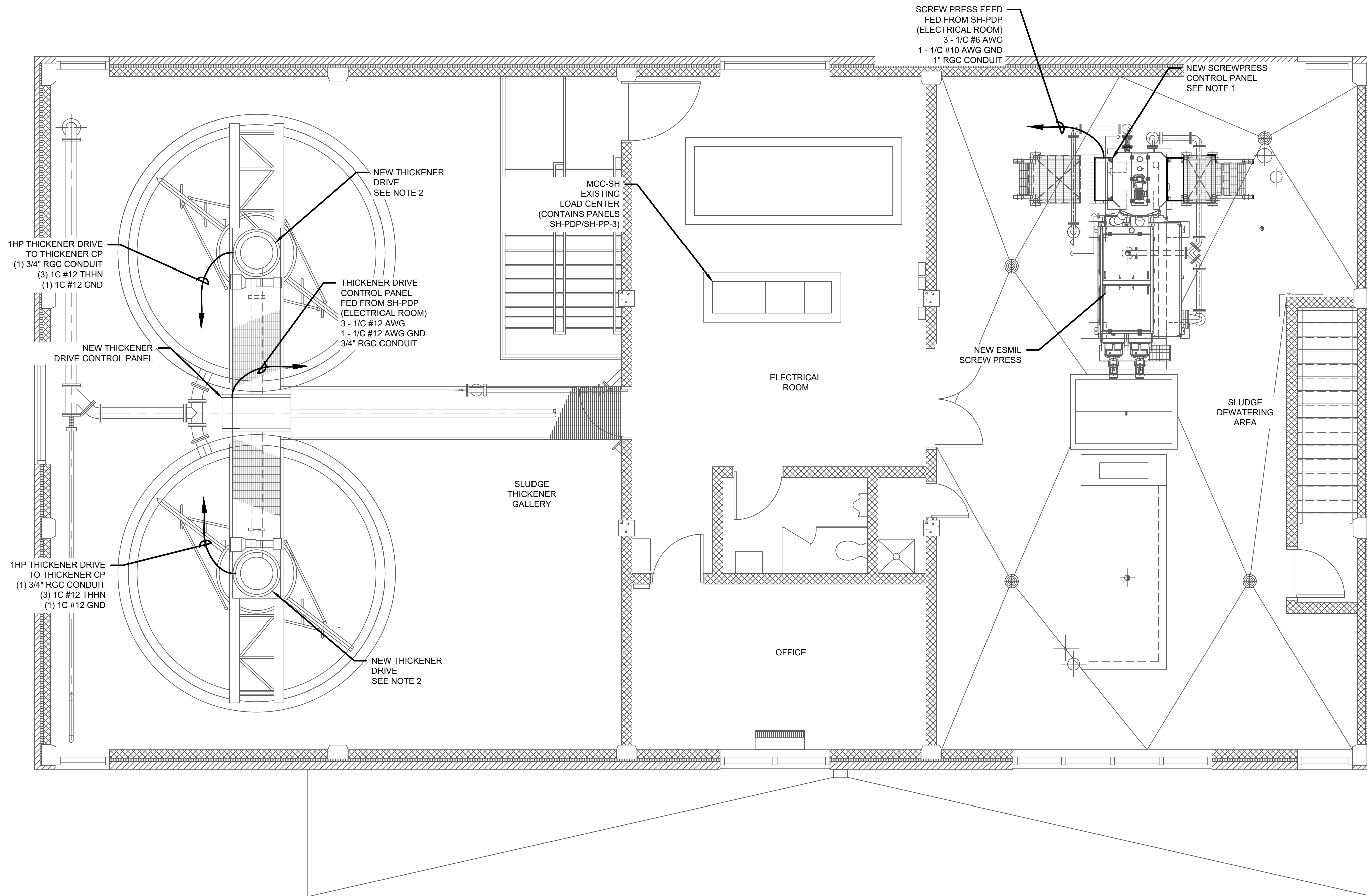
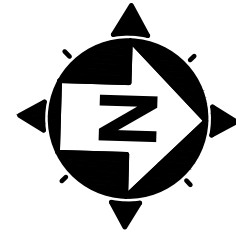


LOWER FLOOR PLAN

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



SLUDGE PUMP



UPPER FLOOR ELECTRICAL PLAN

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

GENERAL NOTES:

- PLANS ARE DIAGRAMMATIC. ELECTRICAL CONTRACTOR SHALL FIELD DETERMINE CONDUIT SIZE AND OPTIMUM ROUTING OF CONDUIT TO FIELD DEVICES. WHERE PRACTICAL, HOME RUNS OF SAME CONTROL TYPE WITH SAME DESTINATION SHALL BE COMBINED INTO COMMON CONDUITS IN ACCORDANCE WITH NEC. CONDUIT SHALL NOT CREATE A TRIP HAZARD OR OBSTRUCTION WITH OPERATION OR MAINTENANCE.
- ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CONDUITS IF FEASIBLE. WHERE REQUIRED, PROVIDE NEW EQUIPMENT MAIN CONDUIT AND INSTRUMENT BRANCH CONDUITS. ALL CABLE, CONDUIT, ELECTRICAL EQUIPMENT, AND RACEWAYS INCLUDING CONDUIT SHALL BE PROPERLY INSTALLED IN ACCORDANCE TO THE NATIONAL ELECTRICAL CODE AND MFR'S DOCUMENTATION. PROVIDE ALL MATERIAL, SUPPORTS, GUA BOXES AND FITTING TO FACILITATE INSTRUMENTATION WIRING.

ELECTRICAL NOTES:

- NEW SCREW PRESS, CONTRACTOR TO PROVIDE NEW CONDUCTORS AND CONDUITS TO LOCAL CONTROL PANEL. SEE POWER PLAN AND SINGLE LINE SHEETS FOR SIZING. COORDINATE ROUTING IN FIELD
- NEW THICKENER DRIVES (TYP.2) WIRING AND CONDUIT TO THICKENER DRIVE MOTORS AS WELL AS THICKENER DRIVE CONTROL PANEL BY CONTRACTOR.

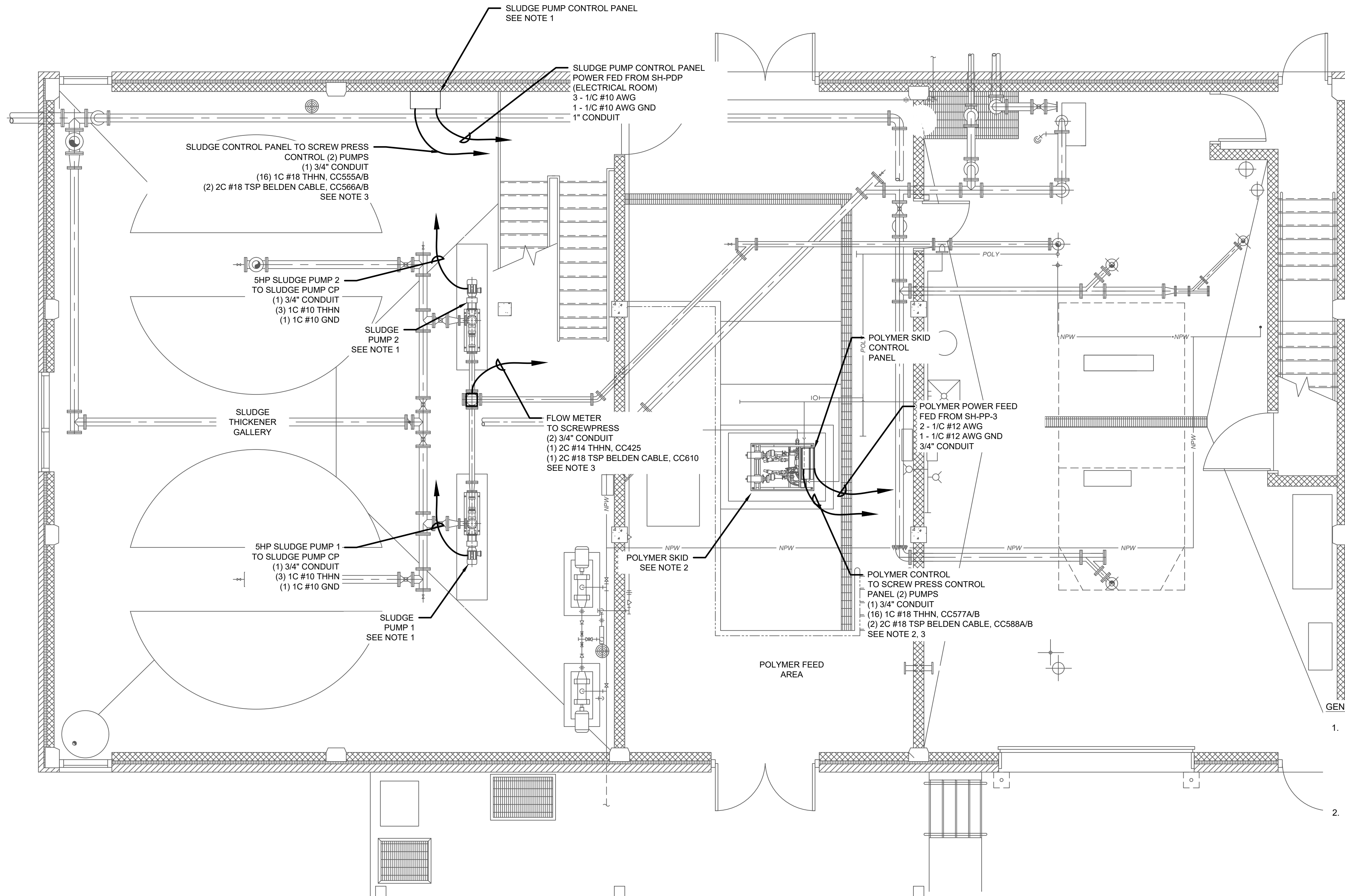
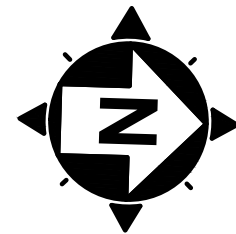
BID

verdantas

REVISIONS		
REV.	DESCRIPTION	DATE
A	ISSUED FOR REVIEW	08/03/26

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
ELECTRICAL E-SERIES
ELECTRICAL NEW EQUIP UPPER PLAN

PROJECT NO. 34141	
DISCIPLINE ELECTRICAL	
SHEET NAME E-05	
SHEET 28	OF 29



GENERAL NOTES:

- PLANS ARE DIAGRAMMATIC. ELECTRICAL CONTRACTOR SHALL FIELD DETERMINE CONDUIT SIZE AND OPTIMUM ROUTING OF CONDUIT TO FIELD DEVICES. WHERE PRACTICAL, HOME RUNS OF SAME CONTROL TYPE WITH SAME DESTINATION SHALL BE COMBINED INTO COMMON CONDUITS IN ACCORDANCE WITH NEC. CONDUIT SHALL NOT CREATE A TRIP HAZARD OR OBSTRUCTION WITH OPERATION OR MAINTENANCE.
- ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING CONDUITS IF FEASIBLE. WHERE REQUIRED, PROVIDE NEW EQUIPMENT MAIN CONDUIT AND INSTRUMENT BRANCH CONDUITS. ALL CABLE, CONDUIT, ELECTRICAL EQUIPMENT, AND RACEWAYS INCLUDING CONDUIT SHALL BE PROPERLY INSTALLED IN ACCORDANCE TO THE NATIONAL ELECTRICAL CODE AND MFR'S DOCUMENTATION. PROVIDE ALL MATERIAL, SUPPORTS, GUA BOXES AND FITTING TO FACILITATE INSTRUMENTATION WIRING. BASEMENT AND POLY ROOM ARE CLASSIFIED AS C1D2 AND REQUIRE CONDUIT SEALS.

ELECTRICAL NOTES:

- NEW SLUDGE PUMPS (TYP. 2) CONTRACTOR TO PROCURE AND INSTALL RACEWAY/WIRING TO SLUDGE PUMP SKID CONTROL PANEL. RACEWAY/WIRING SHALL INCLUDE POWER FEEDERS FROM DISTRIBUTION PANELBOARD AND FROM SCREW PRESS CONTROL PANEL FOR DISCRETE CONTROL WIRING. SEE SCREW PRESS CONTROL PANEL DRAWINGS FOR CABLE IDENTIFIERS. WIRING AND CONDUIT FROM SLUDGE PUMP SKID CONTROL PANEL TO SLUDGE PUMP SKID COMPONENTS/ DEVICES PROVIDED BY CONTRACTOR.
- NEW POLYMER SKID. CONTRACTOR TO PROCURE AND INSTALL RACEWAY/WIRING TO POLYMER SKID CONTROL PANEL. RACEWAY/WIRING SHALL INCLUDE POWER FEEDERS FROM DISTRIBUTION PANELBOARD AND FROM SCREW PRESS CONTROL PANEL FOR DISCRETE CONTROL WIRING. SEE SCREW PRESS CONTROL PANEL DRAWINGS FOR CABLE IDENTIFIERS. WIRING AND CONDUIT FROM POLYMER SKID CONTROL PANEL TO POLYMER SKID COMPONENTS/DEVICES PROVIDED BY OTHERS.
- CONTRACTOR TO USE BELDEN 8760 OR EQUIVALENT

LOWER FLOOR ELECTRICAL PLAN

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

BID

verdantas

REVISIONS		
REV.	DESCRIPTION	DATE
A	ISSUED FOR REVIEW	08/03/26

CITY OF WHEELING WATER
TREATMENT PLANT SOLIDS
HANDLING BUILDING IMPROVEMENTS
OHIO COUNTY, WEST VIRGINIA
ELECTRICAL E-SERIES
ELECTRICAL NEW EQUIP LOWER PLAN

PROJECT NO. 34141	
DISCIPLINE ELECTRICAL	
SHEET NAME E-06	
SHEET 29	OF 29