

# West Plant Pump Station Rehab. & Screen Addition

## for The City of Villa Rica

Carroll County, Georgia  
January 15, 2023

### SHEET INDEX:

DESCRIPTION	SHEET
1. EXISTING CONDITIONS	C 1.0
2. SITE PLAN	C 2.0
3. BYPASS PLAN	C 2.1
4. SCREEN DETAIL	C 2.2
5. EROSION AND SEDIMENT CONTROL PLAN	C 3.0
6. CONSTRUCTION DETAILS	C 5.0
7. STRUCTURAL - SCREEN CHANNEL PLAN	S 2.1
8. STRUCTURAL - BAR SCREEN CHANNEL SECTIONS & DETAILS	S 2.2 - S 2.4
6. STRUCTURAL - CONSTRUCTION DETAILS	S 2.5
7. STRUCTURAL - ROOF FRAMING PLAN & SECTION	S 2.6 - S 2.11
8. ELECTRICAL PLANS AND DETAILS	E 1 - E 3

# Bid

### GENERAL NOTES

- ALL EXISTING UTILITIES SHOWN ARE LOCATED FROM BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL FIELD LOCATION AND PROTECTION OF EXISTING UTILITIES. OVERHEAD LINES ARE NOT SHOWN FOR CLARITY.
- ALL DISTURBED AREAS TO BE RE-VEGETATED IMMEDIATELY AFTER CONSTRUCTION, IN ACCORDANCE WITH THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
- ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ANY PROPERTY CORNERS, RIGHT OF WAY MONUMENTS, SIGNS OR OTHER STRUCTURES DISTURBED DURING CONSTRUCTION.
- ALL TRAFFIC AND SIGNAGE CONTROL SHALL BE IN ACCORDANCE WITH THE TRAFFIC CONTROL MANUAL GUCC, CURRENT EDITION.
- ALL STREET AND INFRASTRUCTURE INSTALLATION TO BE IN ACCORDANCE WITH VILLA RICA CITY STANDARDS.

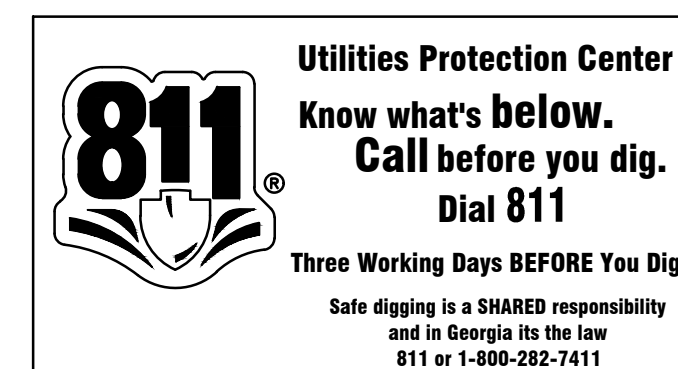
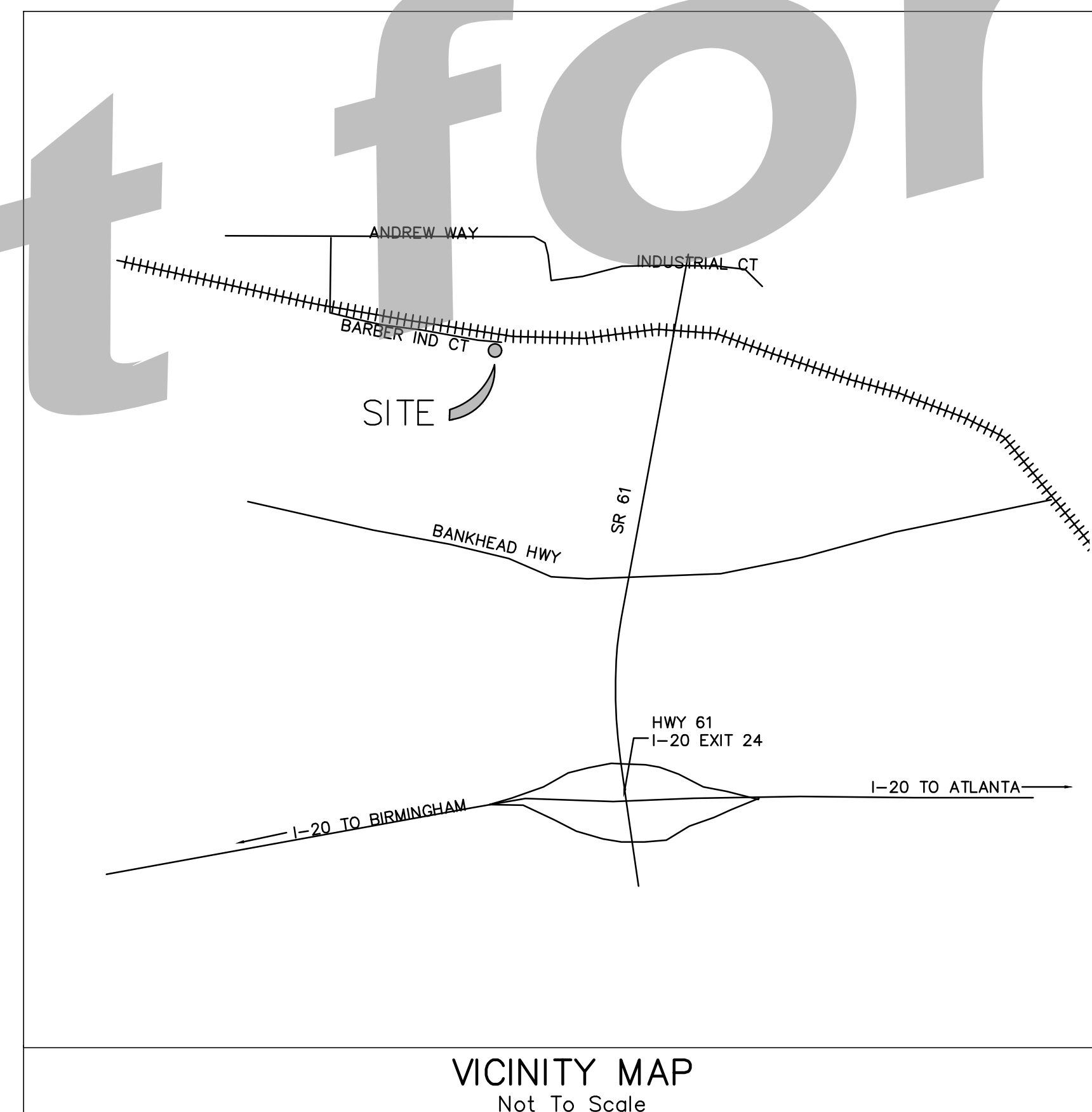
### 24 HOUR CONTACT

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### PRIMARY PERMITTEE

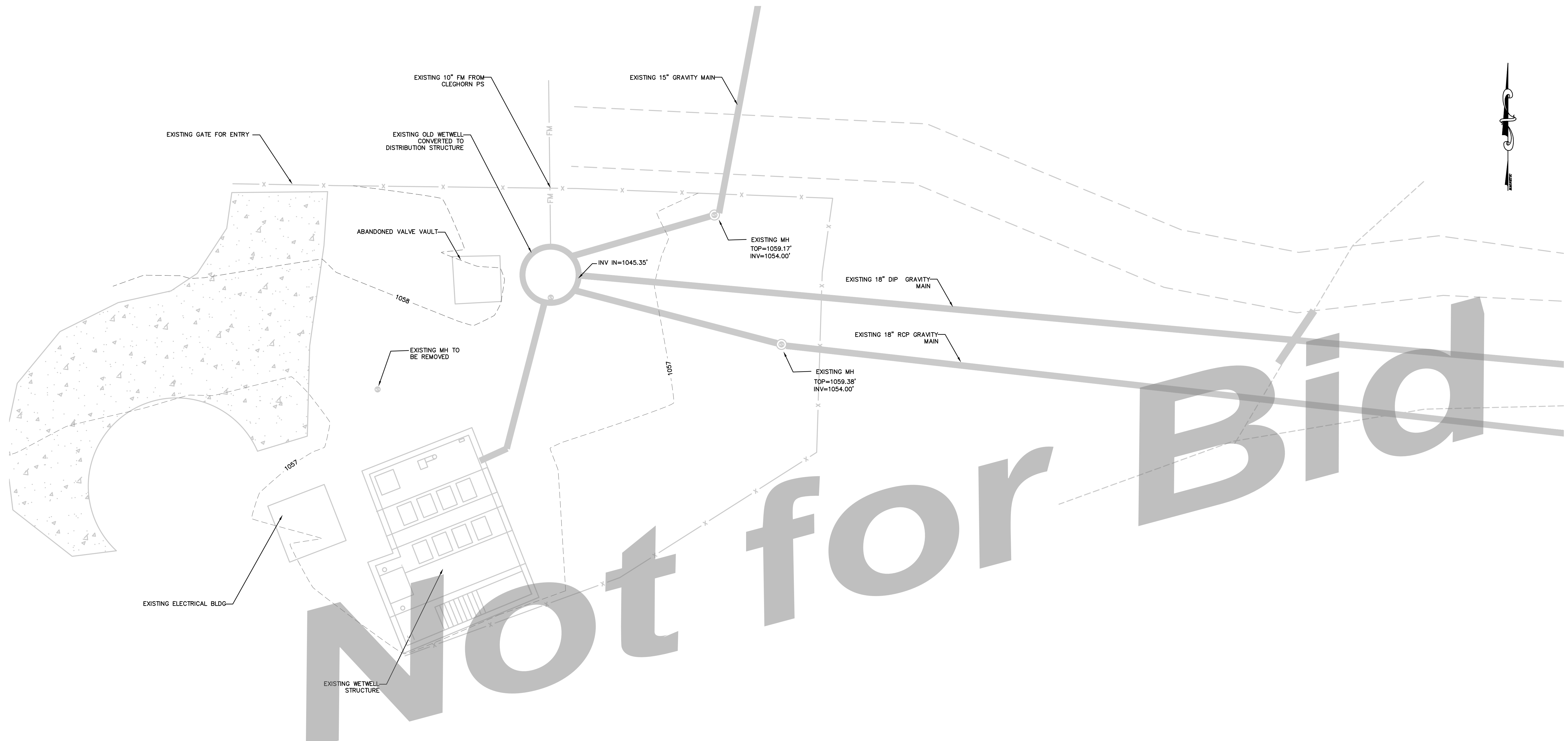
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DRAWING LEGEND		
DESCRIPTION	PROPOSED	EXISTING
SANITARY SEWER		
UNDERGROUND WATER LINE		
FORCE MAIN		
STORM DRAINAGE PIPE		
UNDERGROUND TELEPHONE LINE		
UNDERGROUND TELEPHONE CONDUIT		
UNDERGROUND GAS LINE		
DITCH CENTERLINE		
TOP OF CURB & GUTTER ELEVATIONS	TC=90.00 G=89.50	EX TC=90.00 EX G=89.50
SPOT ELEVATION	X=90.00	X=90.00
FIRE HYDRANT		
SEWER MANHOLE		
WATER VALVE		
TELEPHONE MANHOLE		
LIGHT POLE		
SIGN		
WATER METER		
BENCHMARK		
CONCRETE MONUMENT FOUND		
GUY POLE		
IRON PIN FOUND		
IRON PIN SET		
TELEPHONE PEDESTAL		
POWER POLE		
HANDICAP SPACE		
SEDIMENT BASIN MARKER W/NOTCH		

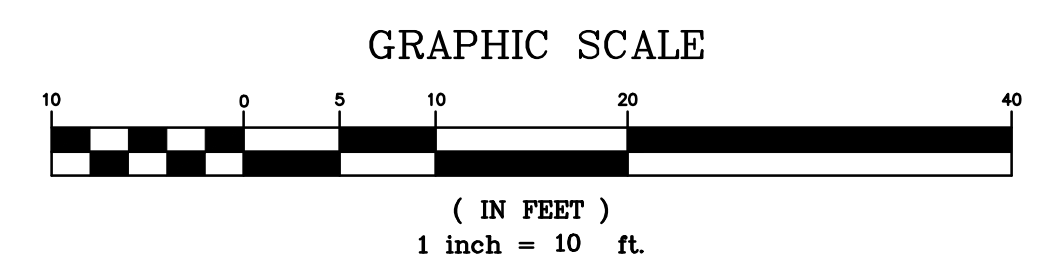
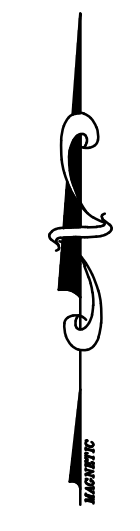


JOB NO. 2021-136PRJ

REVISION NO.	DATE	DESCRIPTION



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**SIMONTON  
ENGINEERING**



**West Plant Influent Rehab**  
for  
**The City of Villa Rica**  
Carroll County, Georgia

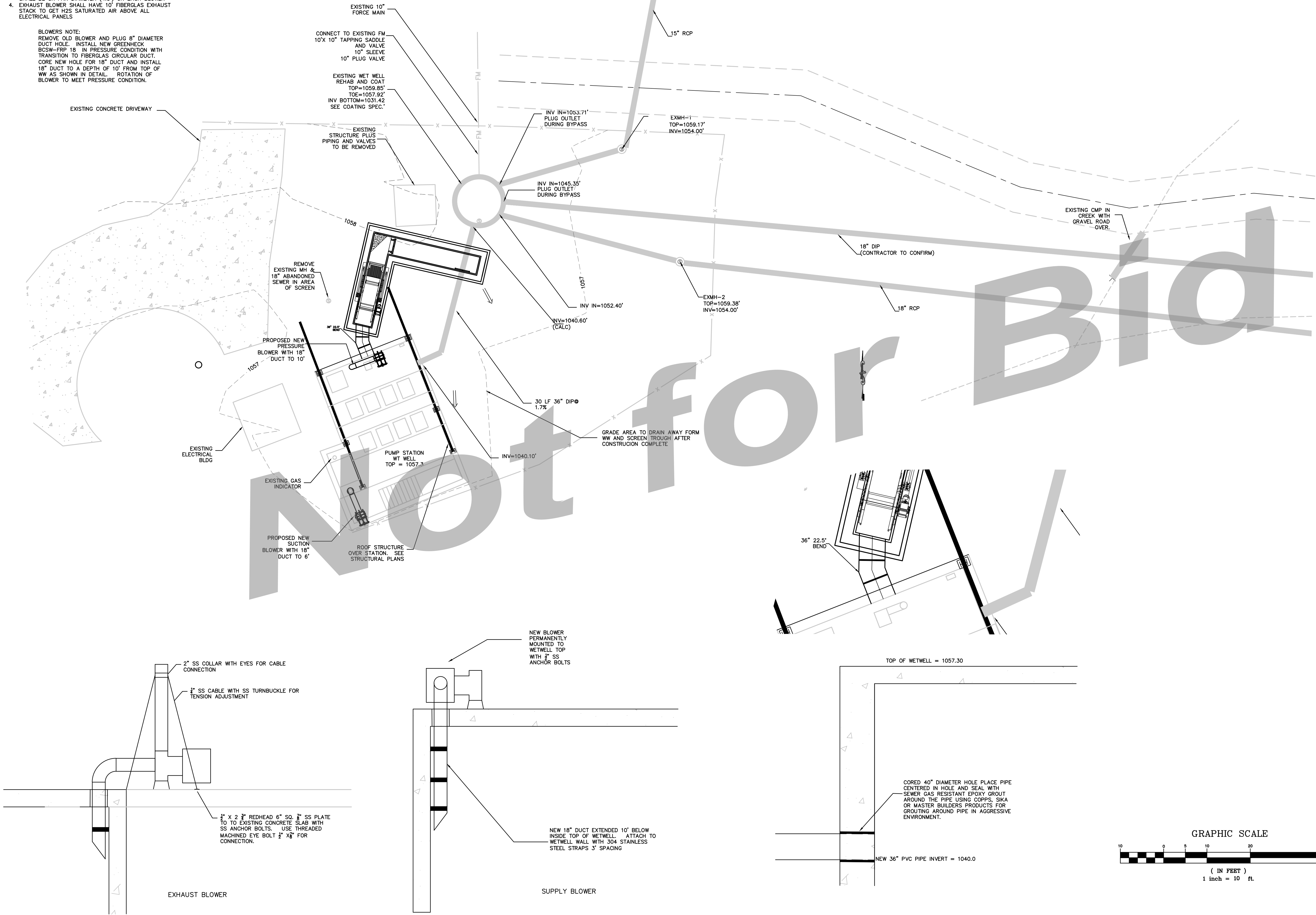
Existing Conditions

DATE: JANUARY 15, 2023  
FILE NO: 2019-59PRJ  
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- NOTES:
- BLOWER FOR AIR SUPPLY TO WET WELL GREENHECK, 18-BCSW-FRP-10-CW-IV-TH 2070 RPM-3.95 HP
  - BLOWER FOR EXHAUST AIR FROM WET WELL GREENHECK, 18-BCSW-FRP-10-CW-IV-UB 2070 RPM - 3.95 HP
  - STRAIGHT SECTIONS BETWEEN BLOWER INLET/OUTLET SHALL BE 3X FAN DIAMETER (4.5') ON EACH BLOWER
  - EXHAUST BLOWER SHALL HAVE 10' FIBERGLAS EXHAUST STACK TO GET H2S SATURATED AIR ABOVE ALL ELECTRICAL PANELS

BLOWERS NOTE:  
 REMOVE OLD BLOWER AND PLUG 8" DIAMETER DUCT HOLE. INSTALL NEW GREENHECK BCSW-FRP 18 IN PRESSURE CONDITION WITH TRANSITION TO FIBERGLAS CIRCULAR DUCT. CORE NEW HOLE FOR 18" DUCT AND INSTALL 18" DUCT TO A DEPTH OF 10' FROM TOP OF WW AS SHOWN IN DETAIL. ROTATION OF BLOWER TO MEET PRESSURE CONDITION.



EXISTING CONCRETE DRIVEWAY

EXISTING 10" FORCE MAIN  
 CONNECT TO EXISTING FM 10'X 10' TAPPING SADDLE AND VALVE 10" SLEEVE 10" PLUG VALVE

EXISTING WET WELL REHAB AND COAT  
 TOP=1059.85'  
 TOE=1057.92'  
 INV BOTTOM=1031.42'  
 SEE COATING SPEC.

EXISTING STRUCTURE PLUS PIPING AND VALVES TO BE REMOVED

REMOVE EXISTING MH & 18" ABANDONED SEWER IN AREA OF SCREEN

PROPOSED NEW PRESSURE BLOWER WITH 18" DUCT TO 10'

EXISTING ELECTRICAL BLDG

EXISTING GAS INDICATOR

PROPOSED NEW SUCTION BLOWER WITH 18" DUCT TO 6'

ROOF STRUCTURE OVER STATION. SEE STRUCTURAL PLANS

PUMP STATION WT WELL  
 TOP = 1057.3

30 LF 36" DIP @ 1.7%

GRADE AREA TO DRAIN AWAY FORM WW AND SCREEN TROUGH AFTER CONSTRUCTION COMPLETE

INV=1040.10'

NEW BLOWER PERMANENTLY MOUNTED TO WETWELL TOP WITH 3" SS ANCHOR BOLTS

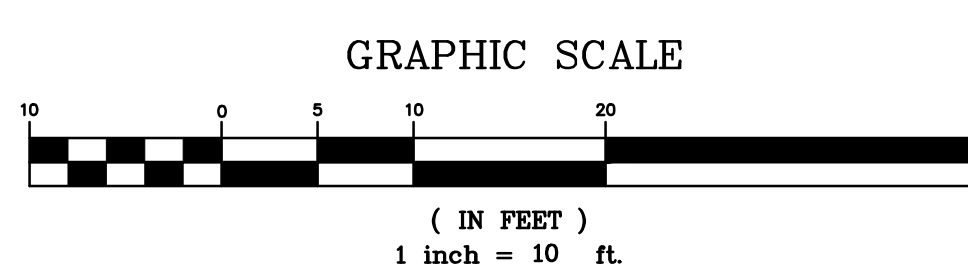
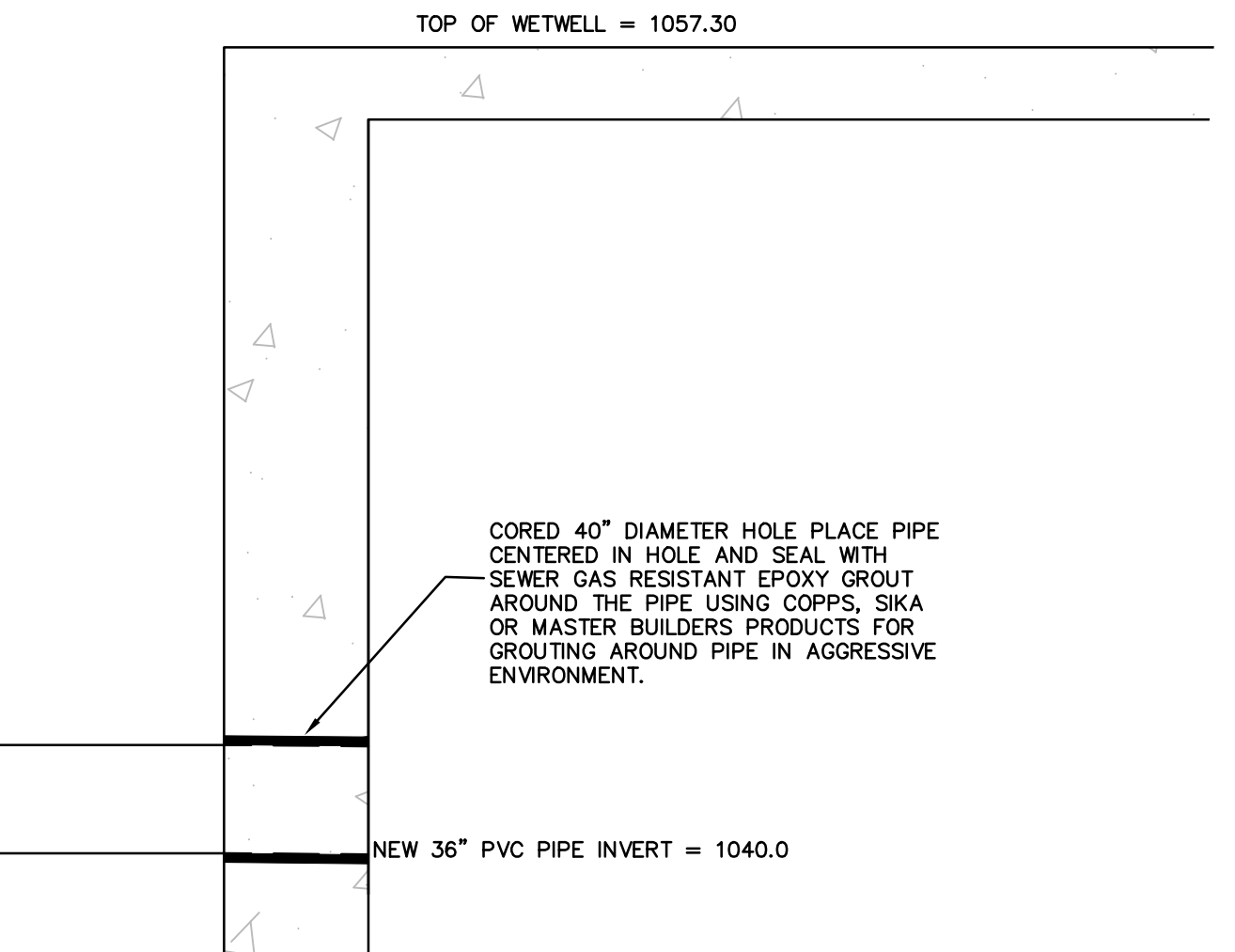
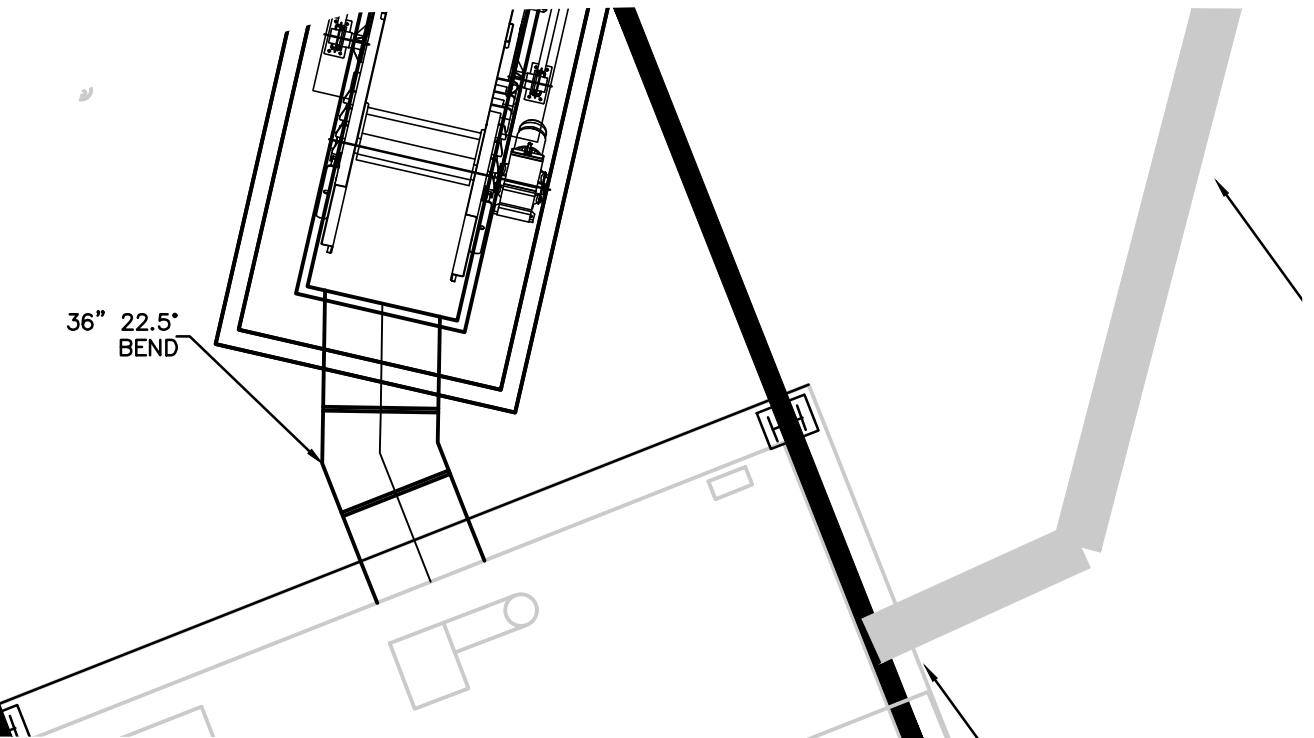
2" SS COLLAR WITH EYES FOR CABLE CONNECTION  
 1/2" SS CABLE WITH SS TURNBUCKLE FOR TENSION ADJUSTMENT

1/2" X 2 1/2" REDHEAD 6" SQ 1/2" SS PLATE TO EXISTING CONCRETE SLAB WITH SS ANCHOR BOLTS. USE THREADED MACHINED EYE BOLT 1/2" X 3" FOR CONNECTION.

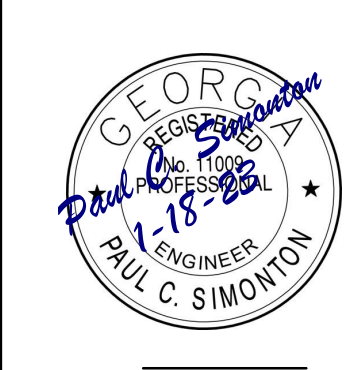
EXHAUST BLOWER

NEW 18" DUCT EXTENDED 10' BELOW INSIDE TOP OF WETWELL. ATTACH TO WETWELL WALL WITH 304 STAINLESS STEEL STRAPS 3' SPACING

SUPPLY BLOWER



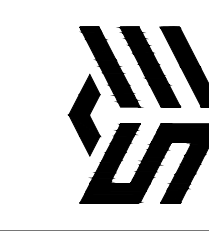
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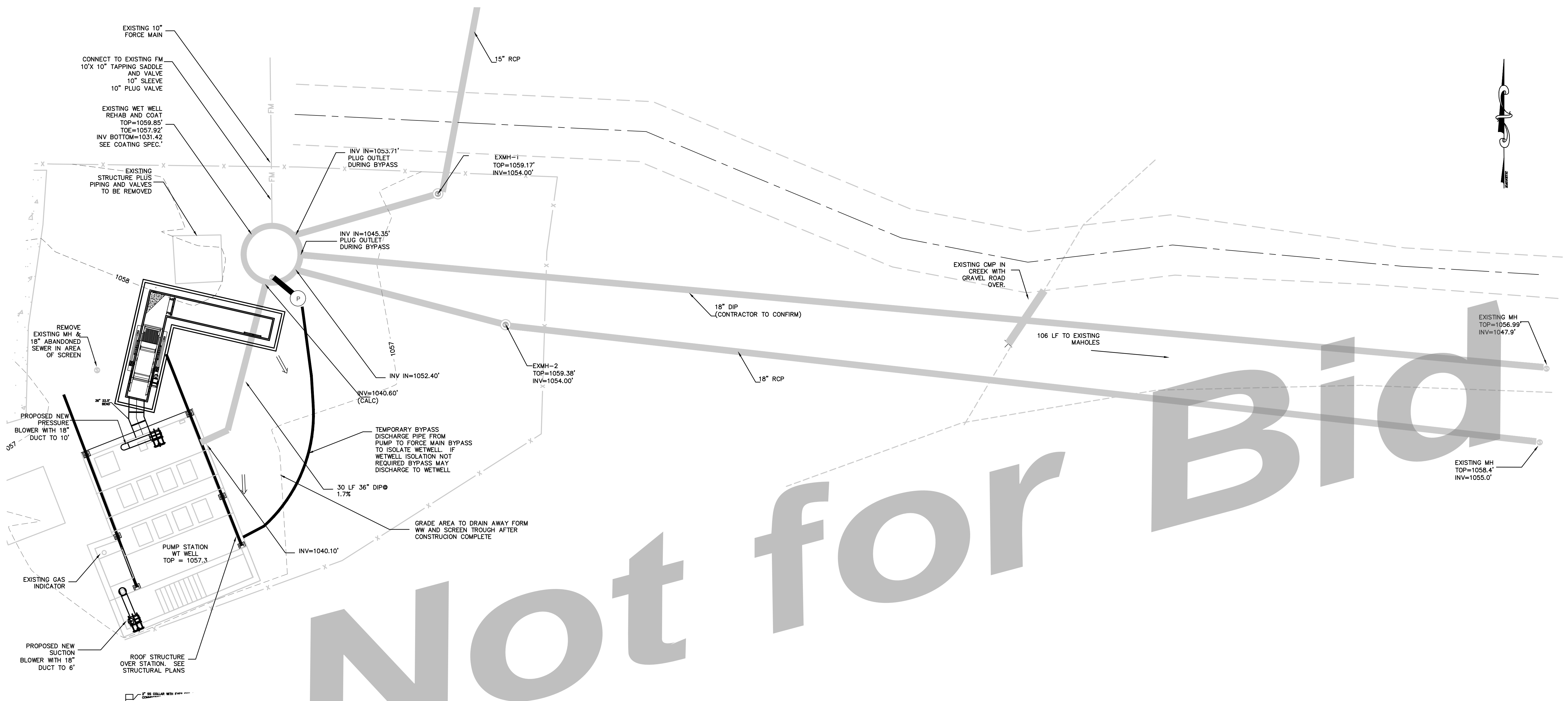
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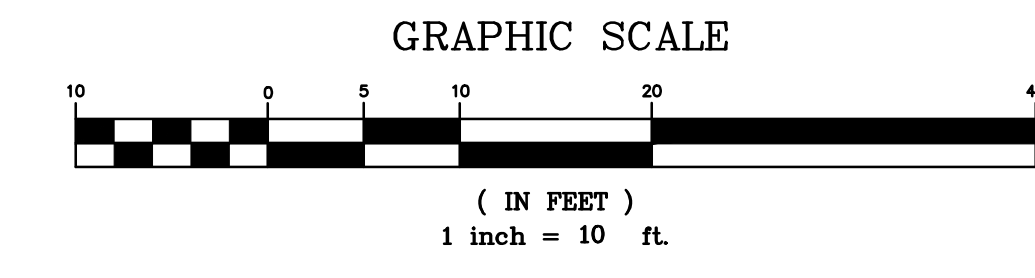


West Plant Influent Rehab  
 for  
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 Carroll County, Georgia

Sewer Plan & Profile  
 DATE: JANUARY 15, 2023  
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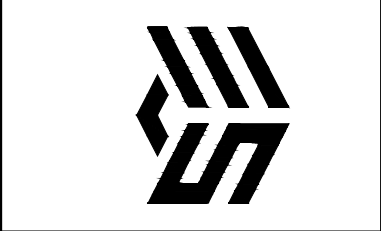
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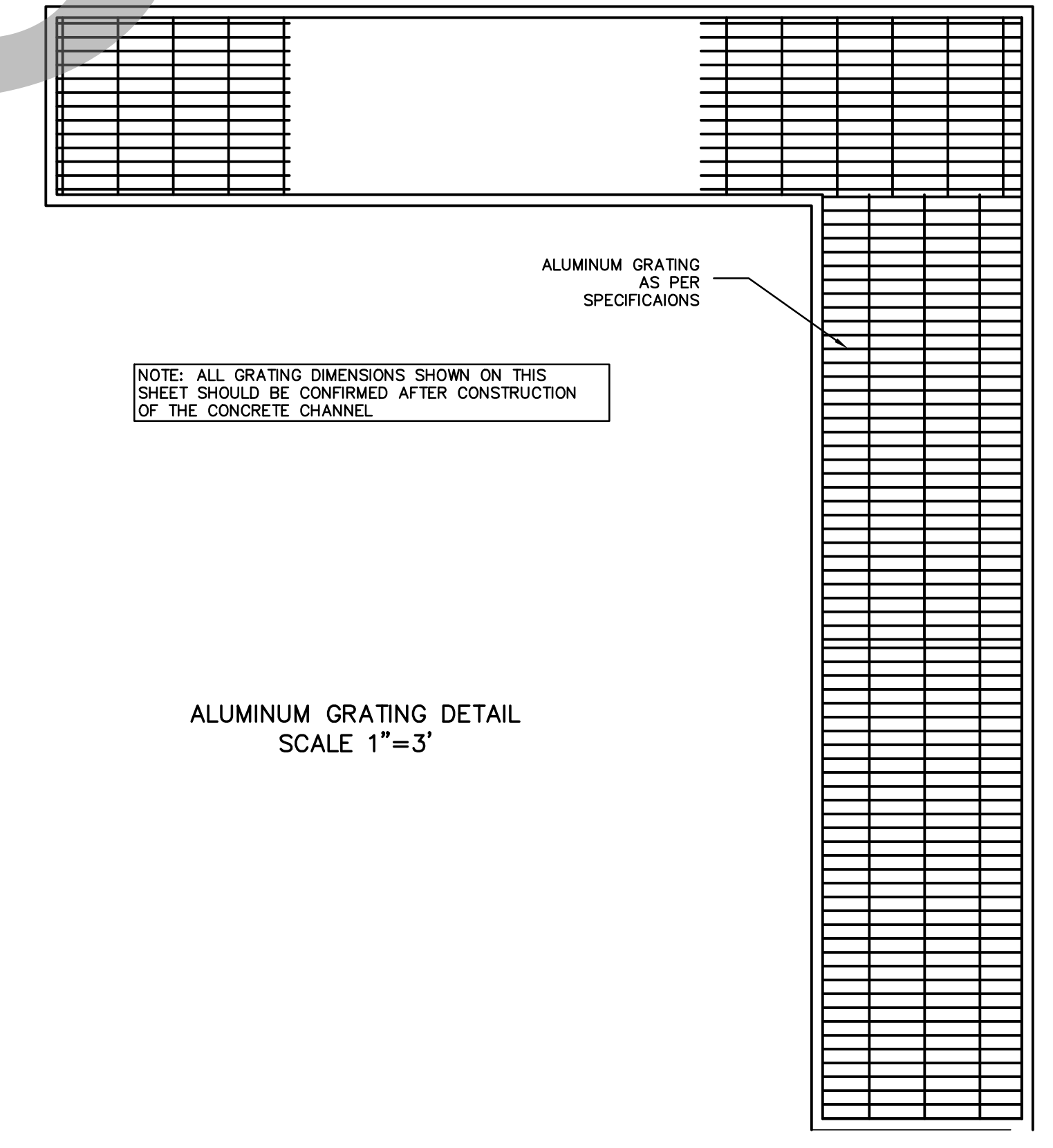
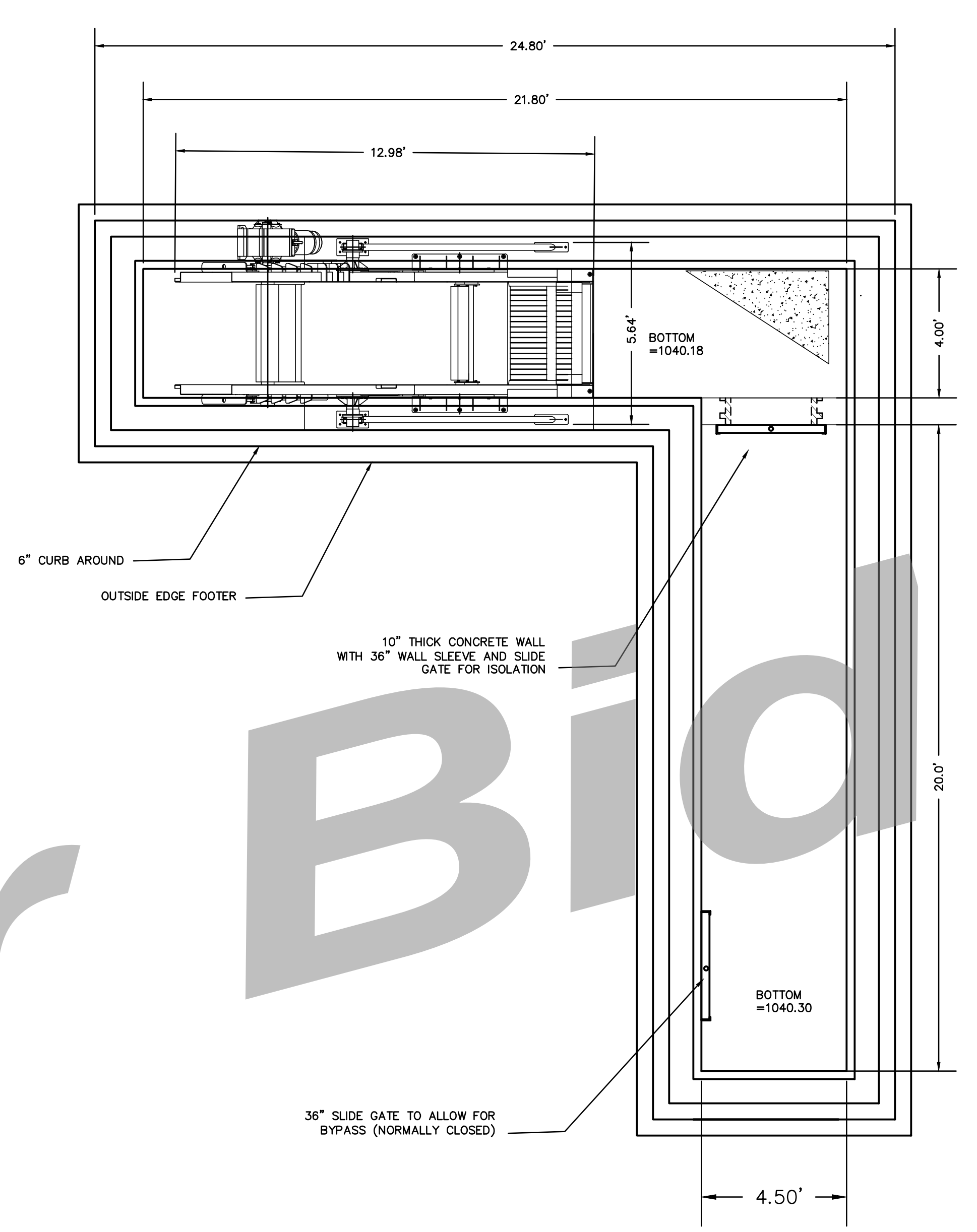
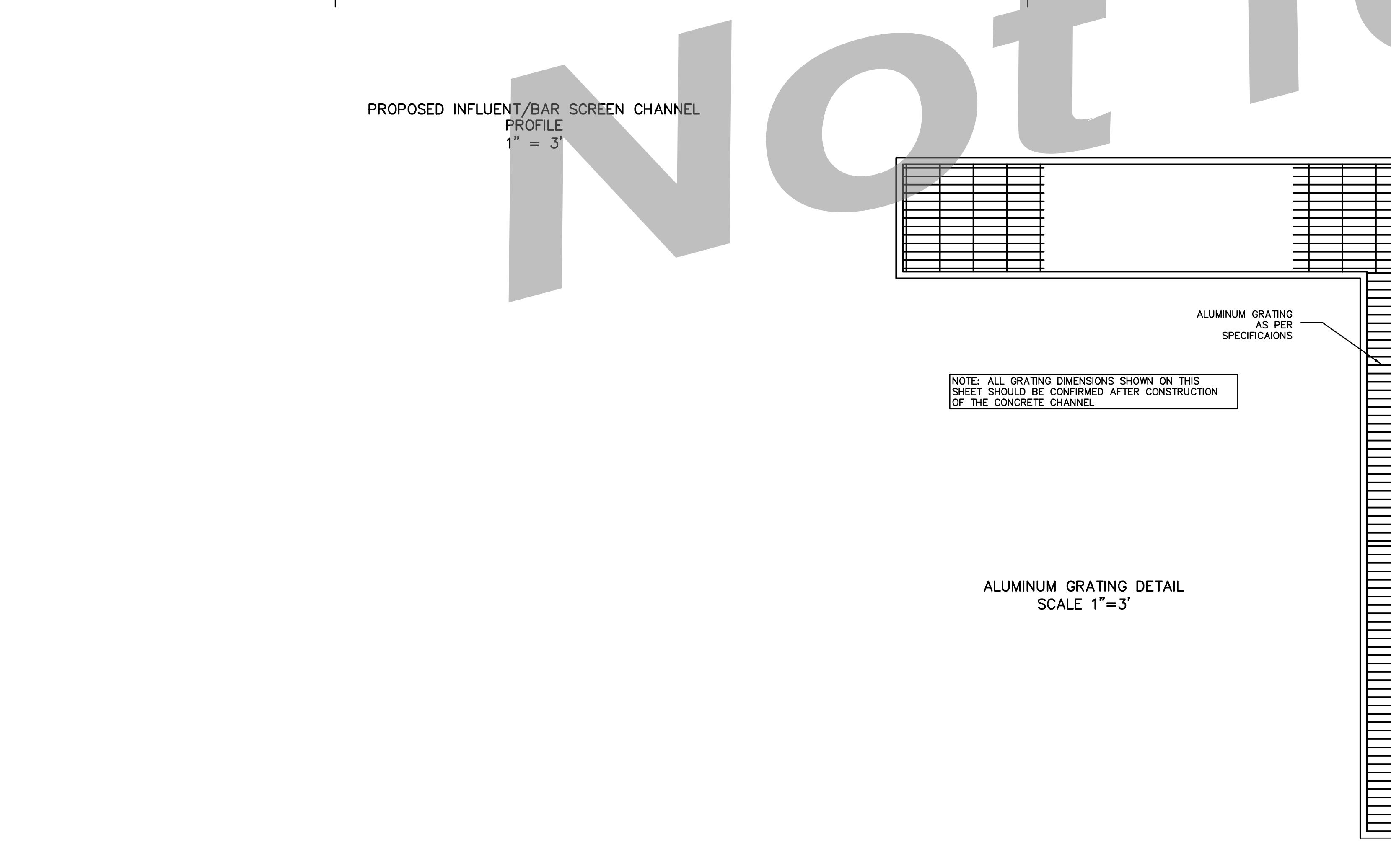
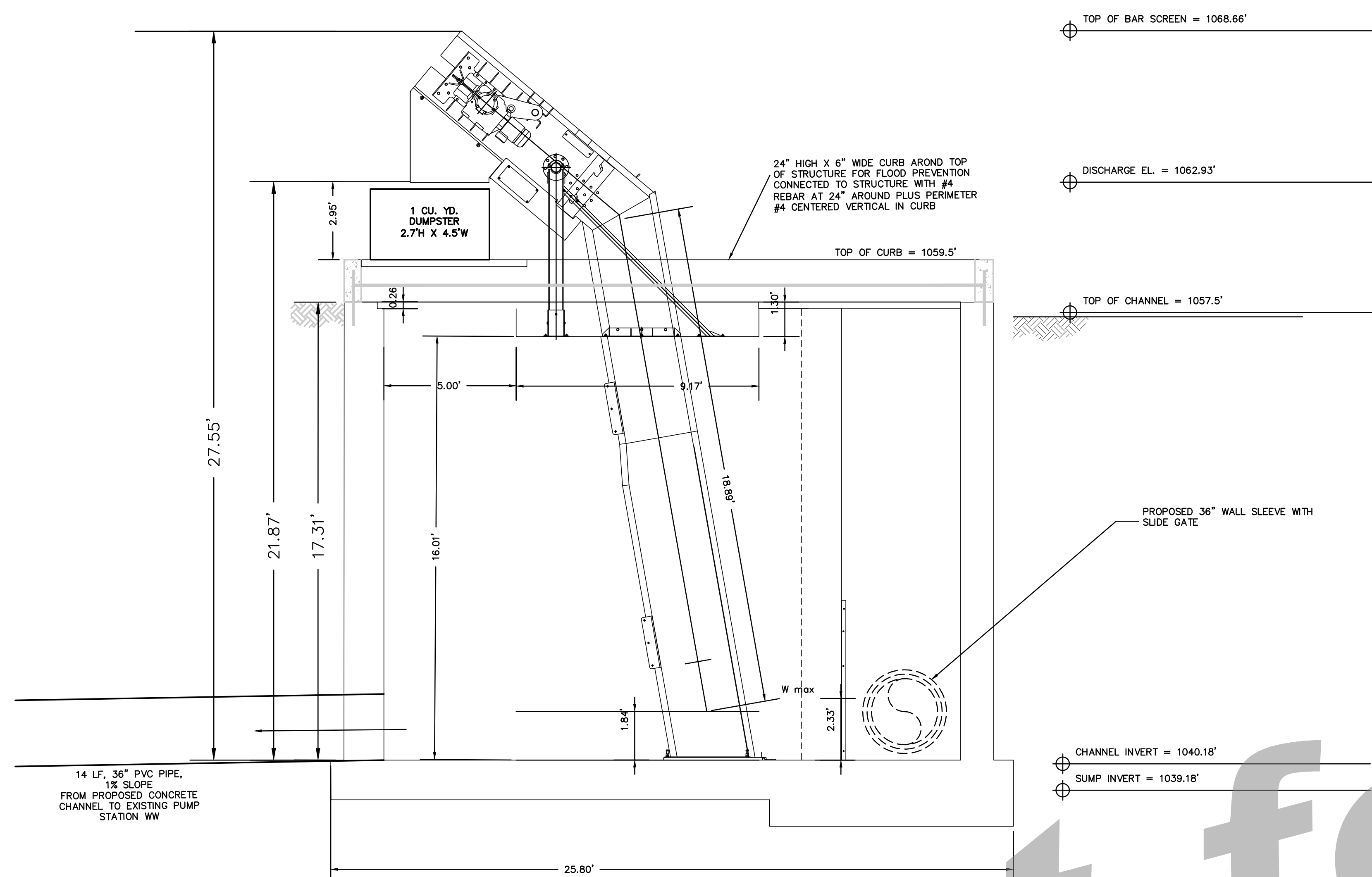


West Plant Influent Rehab  
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Carroll County, Georgia

Bypass Plan

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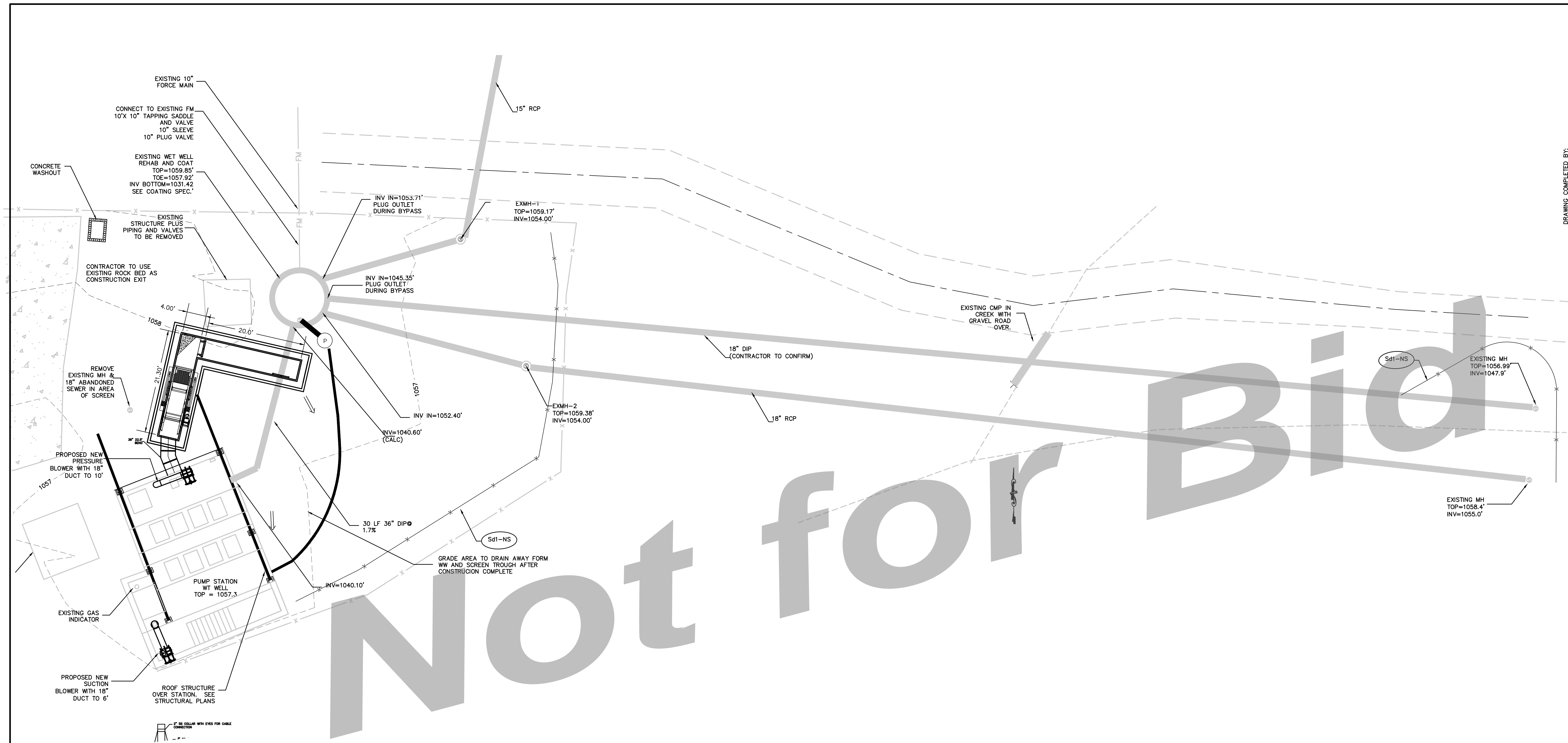
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Carroll County, Georgia

Screen Detail  
DATE: JANUARY 15, 2023  
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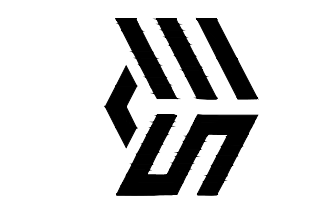
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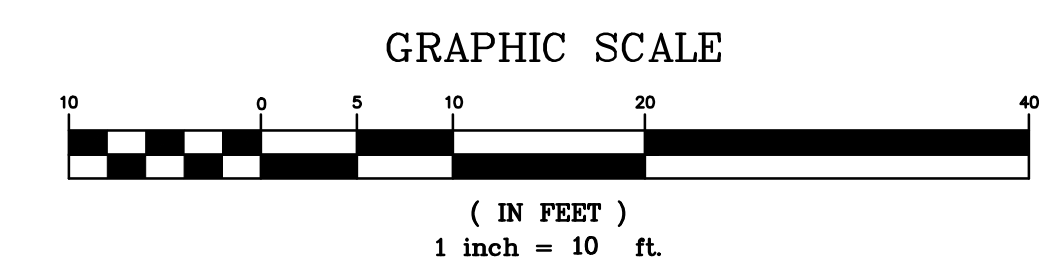
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*Erosion & Sediment Control*

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**Ds1 DISTURBED AREA STABILIZATION (W/MULCHING ONLY)**

**SPECIFICATIONS**

A. FOR TEMPORARY PROTECTION OF CRITICAL AREAS WITHOUT SEEDING. THIS STANDARD APPLIES TO GRADES OR CLEARED AREA WHICH MAY BE SUBJECT TO EROSION FOR 6 MONTHS OR LESS, WHERE SEEDING MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT WHICH CAN BE STABILIZED WITH A MULCH COVER.

**SITE PREPARATION**

1. GRADE, AS NEEDED AND FEASIBLE, TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS TERRACES AND SEDIMENT BARRIERS.
3. AS NEEDED AND FEASIBLE, LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

**MULCHING MATERIALS**

1. DRY STRAW OR HAY - SPREAD AT A RATE OF 2 1/2 TONS PER ACRE.
2. WOOD WASTE, CHIPS, SAWDUST OR BARK - SPREAD 2 TO 3 INCHES DEEP (ABOUT 6 TO 9 TONS PER ACRE).
3. EROSION CONTROL MATTING OR NETTING, SUCH AS EXCELSIOR, JUTE, TEXTILE AND PLASTIC MATTING AND NETTING - APPLIED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
4. CUTBACK ASPHALT, SLOW CURING - APPLIED AT 1200 GALLONS PER ACRE (OR 1/4 GALLON PER SQ. YD.)
5. POLYETHYLENE FILM - SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION.

**APPLYING AND ANCHORING MULCH**

1. APPLY STRAW OR HAY MULCH UNIFORMLY BY HAND OR MECHANICALLY. ANCHOR AS APPROPRIATE AND FEASIBLE. IT MAY BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." THE DISK MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERRECT POSITION. STRAW HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-5 OR SS-1). THE ASPHALT EMULSION MUST BE SPRAYED ONTO THE MULCH AS IT IS EJECTED FROM THE MACHINE. USE 100 GALLONS OF WATER PER ACRE.
2. SPREAD WOOD WASTE UNIFORMLY ON SLOPES THAT ARE 3:1 AND FLATTER. NO ANCHORING IS NEEDED.
3. COMMERCIAL MATTING AND NETTING - FOLLOW MANUFACTURER'S SPECIFICATION INCLUDED WITH THE MATERIAL.
4. APPLY ASPHALT SO AREA HAS UNIFORM APPEARANCE. (NOTE: USE IN AREAS OF PEDESTRIAN TRAFFIC COULD CAUSE PROBLEMS OR "TRACKING IN" OR DAMAGE TO SHOES, CLOTHING, ETC.).

B. TO CONSERVE MOISTURE AND CONTROL WEEDS IN NURSERIES, ORNAMENTAL BEDS, AROUND SHRUBS, AND ON BAR AREAS ON LAWNS.

**MULCHING MATERIALS**

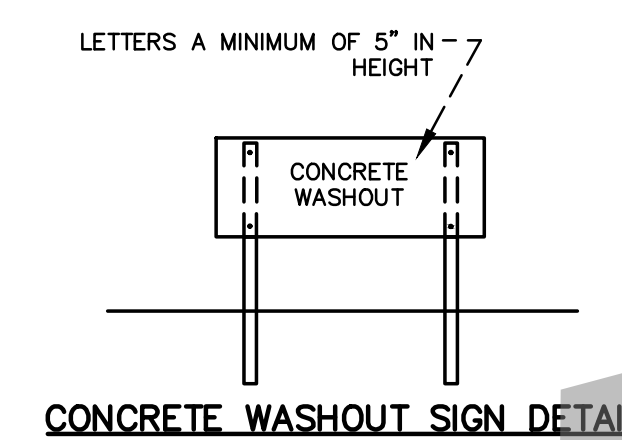
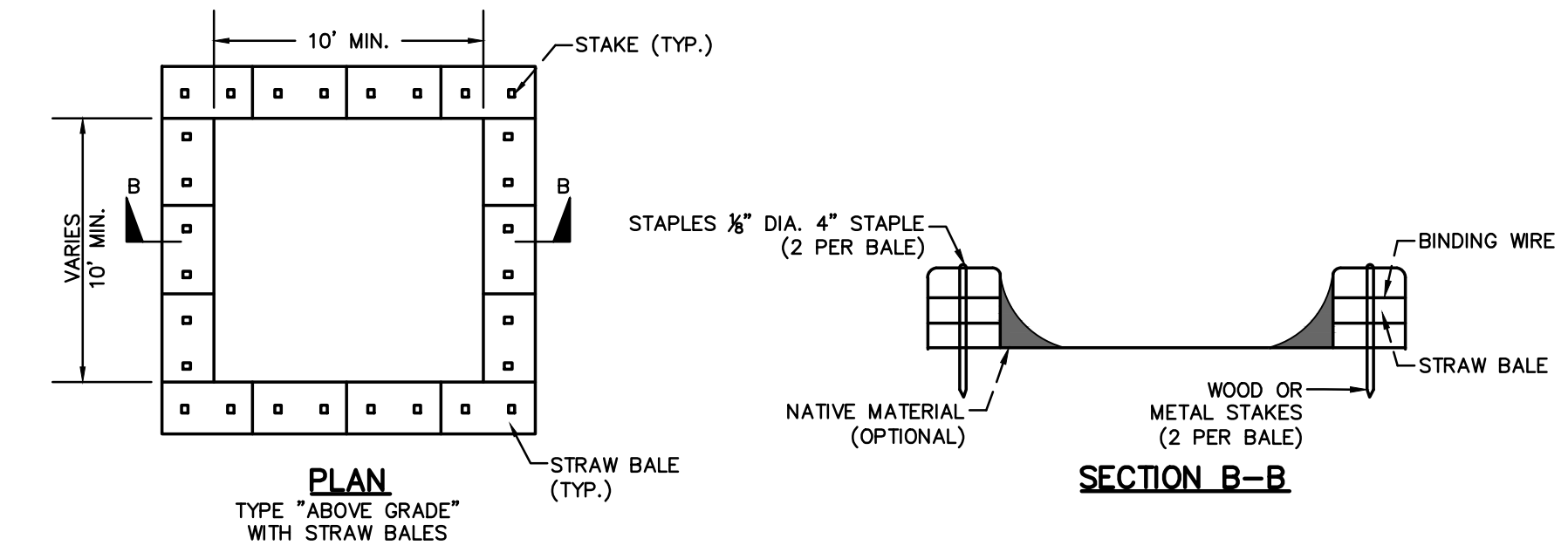
USE ONE OF THE MATERIALS LISTED BELOW AND APPLY AT THICKNESS INDICATED.

MATERIAL	DEPTH
1. GRAIN STRAW OR GRASS HAY	6" TO 10"
2. PINE NEEDLE	4" TO 6"
3. WOOD WASTE (SAWDUST, BARK, CHIPS)	4" TO 8"
4. SHREDDED RESIDUES (CROPS, LEAVES, ETC.)	4" TO 8"
5. COMPLETELY COVER AREA WITH BLACK POLYETHYLENE FILM AND HOLD IN PLACE BY PLACING SOIL ON THE OUTER EDGE. WHEN USING ORGANIC MULCHES, APPLY 20-30 POUNDS OF NITROGEN IN ADDITION TO THE NORMAL AMOUNT NEEDED FOR PLANT GROWTH TO OFFSET THE TIE UP OF NITROGEN BY DECOMPOSITION OF MULCH.	

TYPES OF SPECIES	PLANTING YEAR	FERTILIZER (N-P-K)	RATE (LBS./ACRE)	N TOP DRESSING RATE (LBS./ACRE)	LIME APPLICATION (TONS/ACRE)
Cool Season Grasses	First	6-12-12	1500	50-100	1
	Second Maintenance	6-12-12 10-10-10	1000 400	30	
Cool Season Grasses and Legumes	First	6-12-12	1500	0-50	1
	Second Maintenance	6-12-12 0-10-10	1000 400	-	
Temporary Cover Crops Seeded Alone	First	10-10-10	500	30	1
Warm Season Grasses	First	6-12-12	1500	50-100	1
	Second Maintenance	6-12-12 10-10-10	800 400	30	

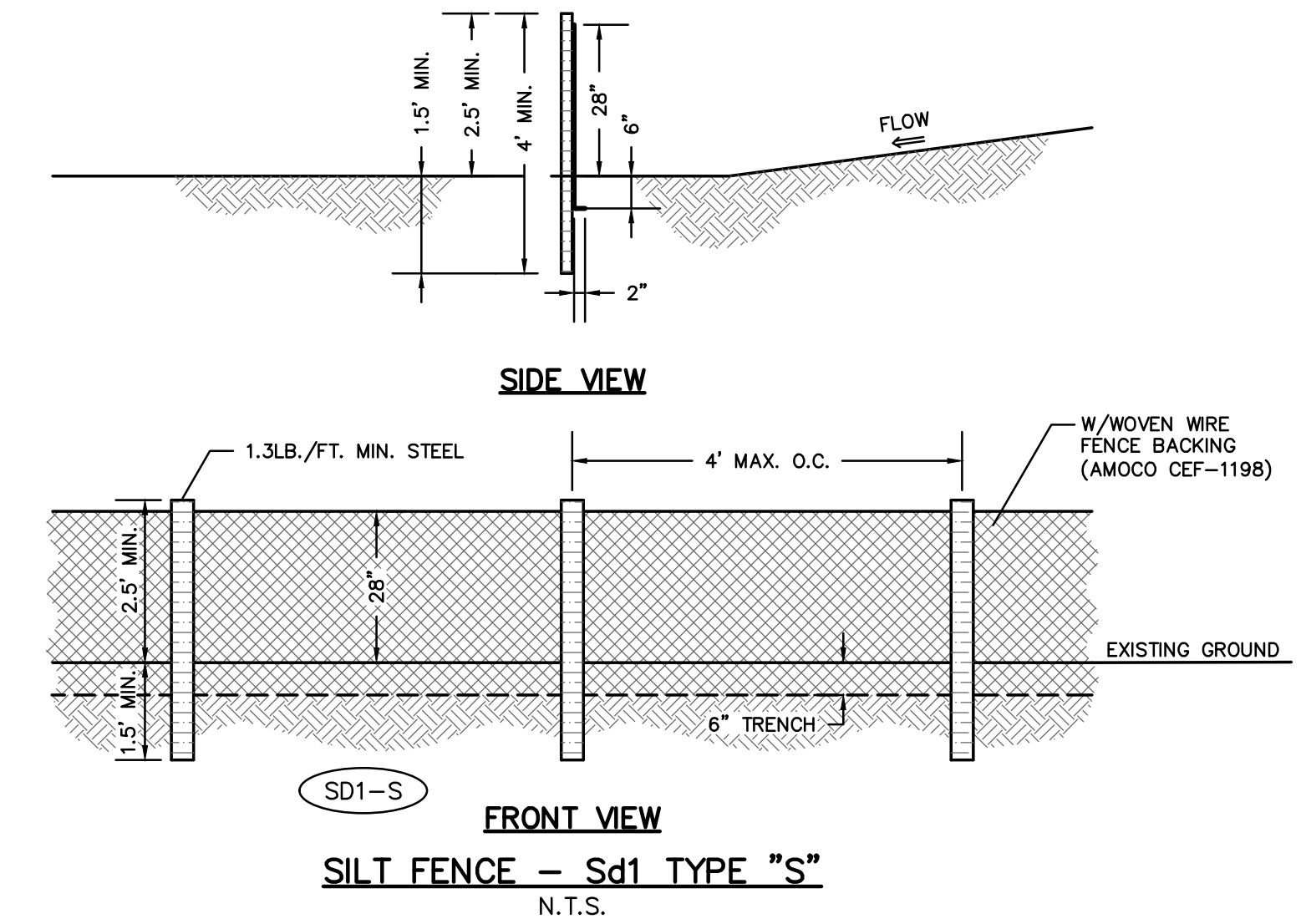
SPECIES	BROADCAST RATES (1)		PLANTING DATES BY RESOURCE AREAS (3)	REMARKS
	PER ACRE	PER 1000 Sq.Ft.		
LESPEDEZA, ANNUAL ALONE IN MIXTURES	40 lbs. 10 lbs.	0.9 lbs. 0.6 lbs.	P   J   F   M   A   M   J   J   A   S   O   N   D	200,000 SEED PER POUND. MAY WINTER FOR SEVERAL YEARS. USE UNGLANT EL.
LOVEGRASS, WEEPING ALONE IN MIXTURES	4 lbs. 2 lbs.	0.1 lbs. 0.05 lbs.	P   J   F   M   A   M   J   J   A   S   O   N   D	1,500.00 SEED PER POUND. MAY LAST FOR SEVERAL YEARS. MIX WITH SERICIA LESPEDEZA.
RYE ALONE IN MIXTURES	3 bu (168 lbs.) 1/2 bu (28 lbs.)	3.9 lbs. 0.8 lbs.	P   J   F   M   A   M   J   J   A   S   O   N   D	18,000 SEED PER POUND. QUICK COVER. DROUGHT TOLERANT AND WINTERHARDY.
RYEGRASS, ANNUAL ALONE IN MIXTURES	40 lbs.	0.9 lbs.	P   J   F   M   A   M   J   J   A   S   O   N   D	227,000 SEED PER POUND. DENSE COVER. VERY COMPETITIVE AND IS NOT TO BE USED IN MIXTURES.
SUDANGRASS ALONE IN MIXTURES	60 lbs.	1.4 lbs.	P   J   F   M   A   M   J   J   A   S   O   N   D	85,000 SEED PER POUND. GOOD ON DROUGHTY SITES. NOT RECOMMENDED FOR MIXTURES.

(1) BROADCAST RATES ARE IN PURE LIVE SEED (PLS)  
 (2) M-L REPRESENTS THE MOUNTAIN, BLUE RIDGE, AND RIDGES AND VALLEYS MURA'S  
 P REPRESENTS THE SOUTHERN Piedmont MUR  
 C REPRESENTS SOUTHERN COASTAL PLAIN, SAND HILLS, BLACK LANDS, AND ATLANTIC COAST FLATWOODS MURA'S  
 (3) DARK LINES INDICATE OPTIMUM DATES, GRAY LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.



**STRAW BALE BARRIER CONCRETE WASHOUT**  
N.T.S.

- NOTES:
1. ACTUAL LAYOUT DETERMINED IN FIELD.
  2. INSTALL CONCRETE WASHOUT SIGN (24"x24", MINIMUM) WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
  3. TEMPORARY WASHOUT AREA MUST BE AT LEAST 50' FROM A STORM DRAIN, CREEK BANK OR PERIMETER CONTROL.
  4. CLEAN OUT CONCRETE WASHOUT AREA WHEN 50% FULL.
  5. THE KEY TO FUNCTIONAL CONCRETE WASHOUTS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR CLEAN OUT.
  6. SILT FENCE SHALL BE INSTALLED AROUND PERIMETER OF CONCRETE WASHOUT AREA EXCEPT FOR THE SIDE UTILIZED FOR ACCESSING THE WASHOUT.
  7. A ROCK CONSTRUCTION ENTRANCE MAY BE NECESSARY ALONG ONE SIDE OF THE WASHOUT TO PROVIDE VEHICLE ACCESS.



**SILT FENCE - Sd1 TYPE "S"**  
N.T.S.

- Ds3 MULCH NOTES:**
1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED AND SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 1/2 TONS PER ACRE.
  2. PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.

Not for Bid

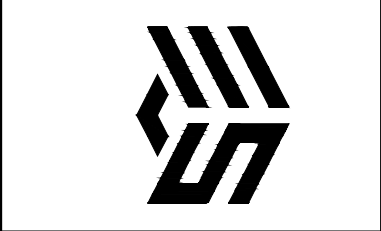
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 TEL: (912) 368-5212  
 1050 PARKSIDE COMMONS  
 GREENSBORO, GA 30642  
 TEL: (706) 454-0870

**SIMONTON ENGINEERING**

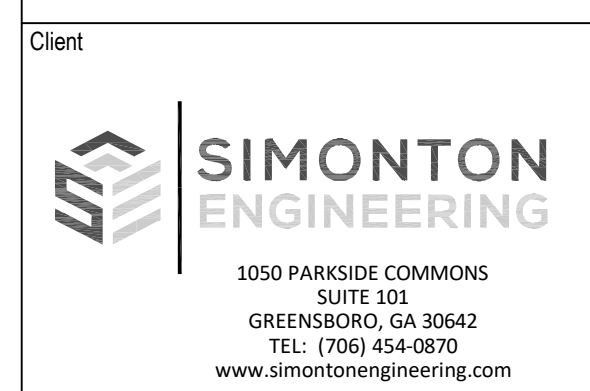


West Plant Influent Rehab  
 for  
 The City of Villa Rica  
 Carroll County, Georgia

Construction Details  
 DATE: JANUARY 15, 2023  
 FILE NO: 2019-59PRJ  
 SHEET: 5.0







Client Project Number: 2021-136PRJ

Project  
**West Plant Influent  
 Pump Station  
 Screen**

205 Barber Industrial Court  
 Villa Rica, GA 30180  
 Axia Project Number: 2115

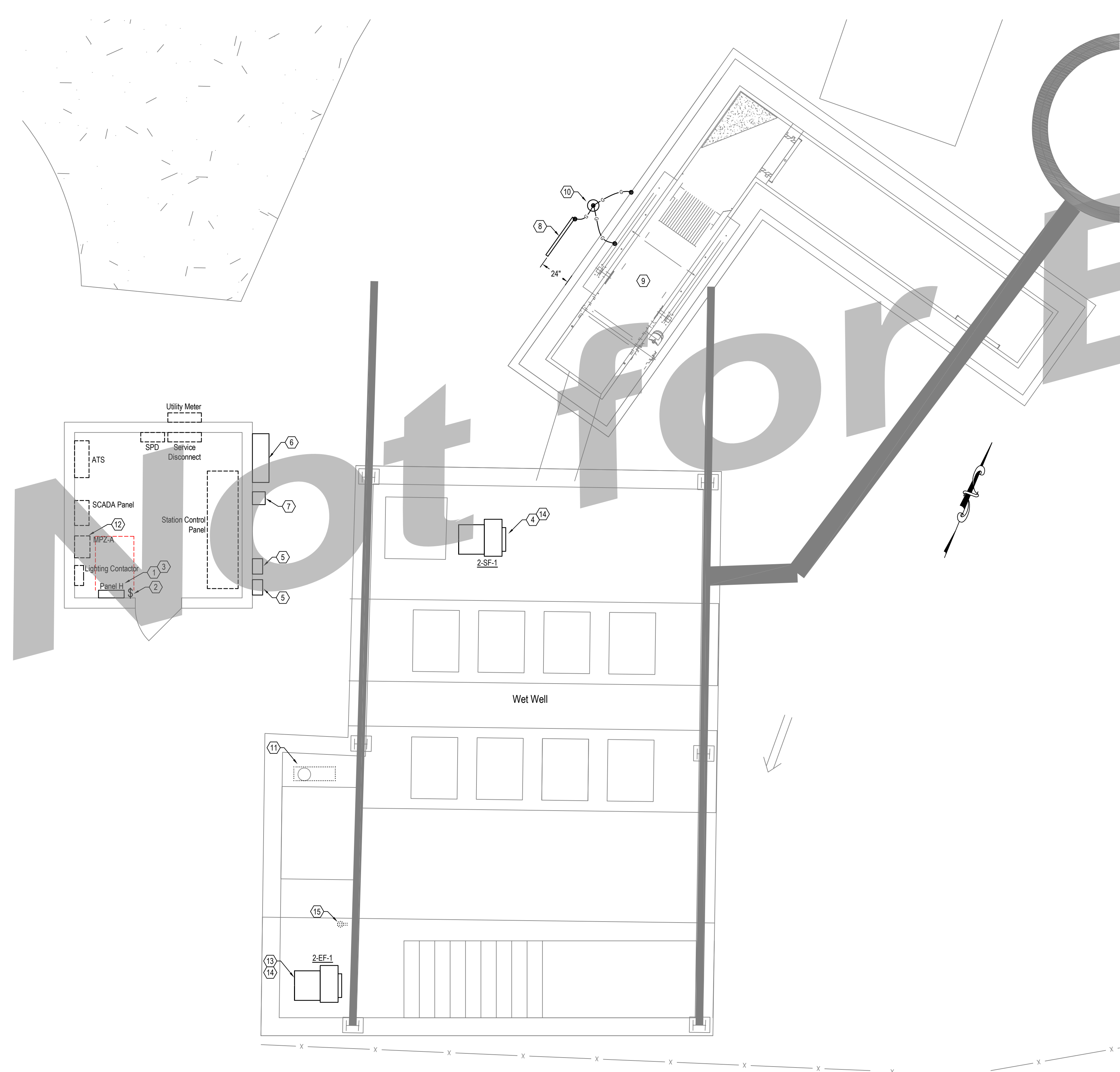
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Issue Date  
**9 August 2022**

Sheet Title  
**Electrical Plan**

Sheet Number  
**E2**



**Keynotes** #

- Existing lighting timeclock is in this approximate location, with one 3/4" conduit to the lighting contactor. Relocate timeclock to immediately above lighting contactor to provide space for Panel H. Provide new conduit and re-route existing conductors and reconnect as required.
- Lighting switch for two strip fixtures within the control building. Demolish existing flush-mounted switch and associated wire to provide space for new Panel H. Abandon flush box in wall behind new panel. Provide new light switch in surface-mounted box, with surface-mounted conduit to lighting fixture. Locate switch close to the door frame to avoid new Panel H location.
- Locate new Panel H to provide required working clearance.
- Demolish existing blower 2-SF-1 and associated starter and electrical rack. Demolish power and controls conductors to their sources in panel MPZ-A and the SCADA panel. Cut controls conduit flush with concrete and fill with grout. Locate and intercept existing underground power conduit to the control building and re-route to new starter location. Connect to new blower motor as required. Where existing underground conduit is not usable, provide new conduit.
- Provide new blower 2-SF-1 manual starter. See SLD.
- Install new Screen Control Panel, furnished by Owner. See SLD, C&I Diagram, and Mfr installation instructions.
- Install new Level Control Panel, furnished by Owner. See C&I Diagram, and Mfr installation instructions.
- Screen control electrical rack. See Screen Control Rack layout detail.
- Rake screen. Connect all power and instrumentation according to the SLD, C&I Diagram, and Mfr instructions. Coordinate exact locations of each connection.
- Provide ground rod. Bond equipment rack, rake screen, and concrete encased rebar within channel structure to ground rod with 2 AWG SBT Cu.
- Existing combustible gas detector equipment consisting of transducers entering well, an indicator/transmitter, an enclosure, and rack. Power is circulted from MPZ-A. Control conductors are routed to the SCADA panel. Demolish all per specifications. Seal well and concrete penetrations flush with grout.
- Within MPZ-A turn off breaker formerly feeding 2-SF-1 as spare. Circuit new receptacle at screen to 20A breaker. Provide new circuit breaker if required. Provide new typed circuit directory incorporating existing directory and modifications.
- Connect exhaust fan 2-EF-1 as required. See SLD.
- Verify existing electrical equipment nearby to the ventilation equipment within the hazardous areas (see hazardous location details) comply with NEC 501. Pull, junction, and terminal boxes without switches, breakers, or other arcing components are allowed within Division 2 areas. Standard receptacles and toggle switches are not allowed within Division 1 areas unless it is rated for the location. No box or equipment of any kind is allowed within Division 1 areas unless it is rated for the location.
- Demolish existing receptacle on vertical member of bridge crane within the hazardous location surrounding the exhaust fan. If the receptacle is at the end of a circuit, demolish conductors to next upstream junction and cap conduit. If circuit feeds through to other devices, replace receptacle box with explosionproof box and provide a poured seal-off on conduit to electrical building.

**1** Electrical Site Plan  
 1/4" = 1'



Client Project Number: 2021-136PRJ

## West Plant Influent Pump Station Screen

205 Barber Industrial Court  
 Villa Rica, GA 30180  
 Axia Project Number: 2115

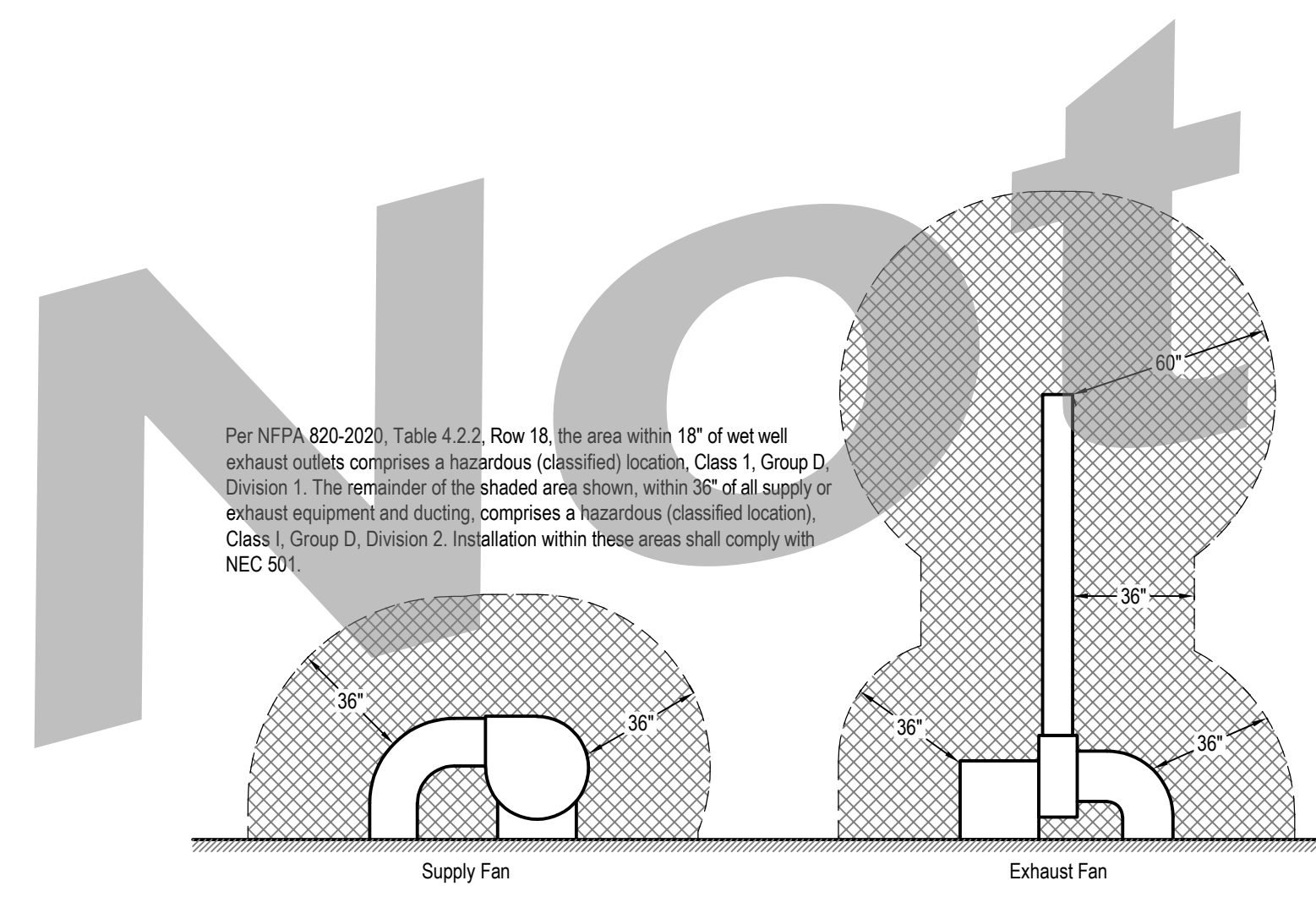
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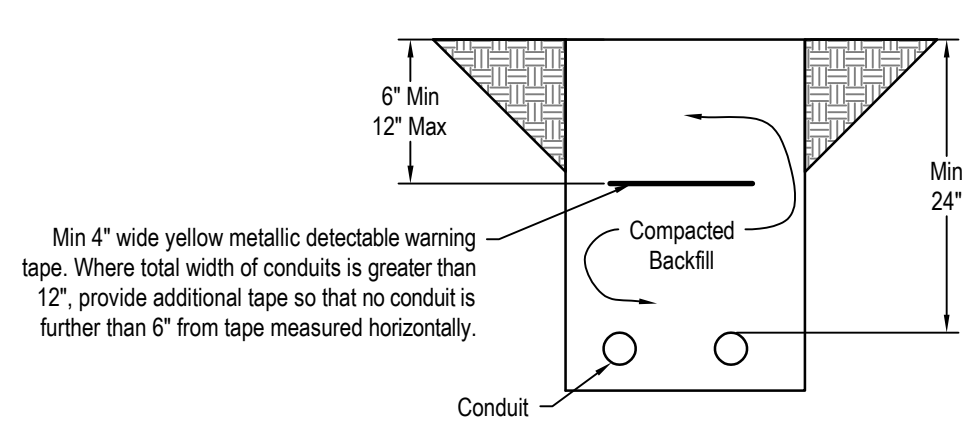
Issue Date: 9 August 2022

Sheet Title: Electrical Details

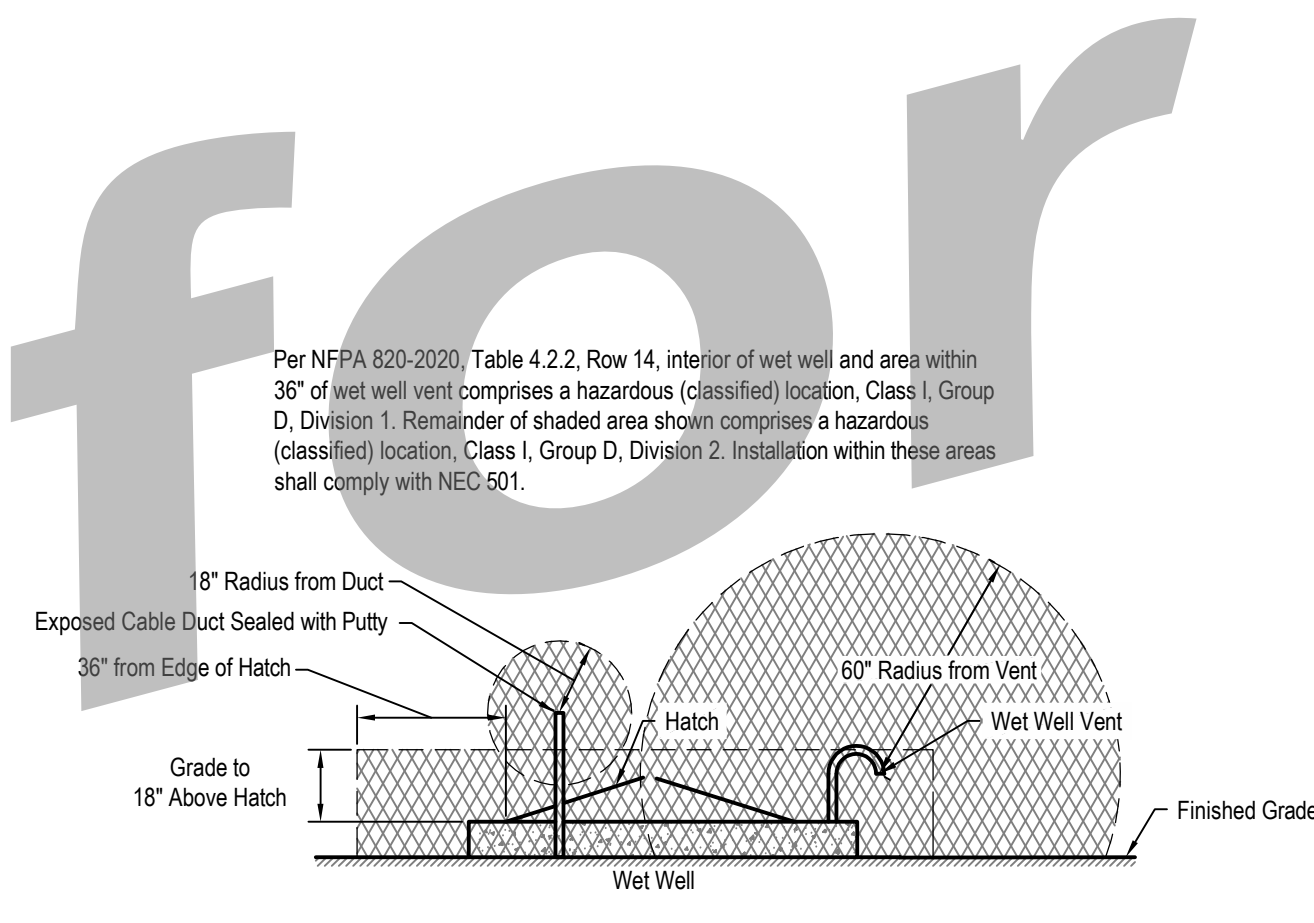
Sheet Number: E3



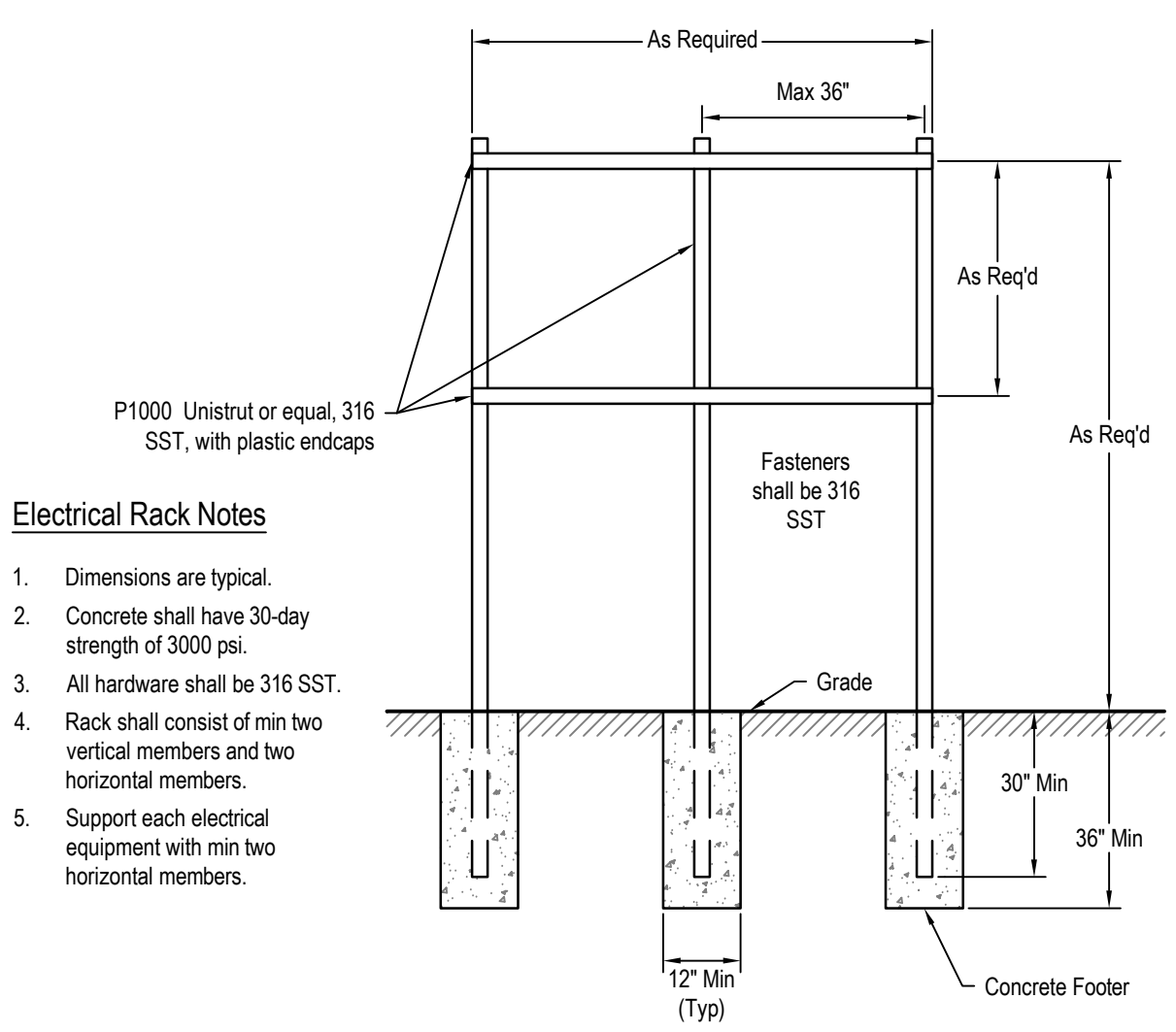
**5 Hazardous Locations - Ventilation Equipment**  
 NTS



**3 Conduit Trench**  
 NTS

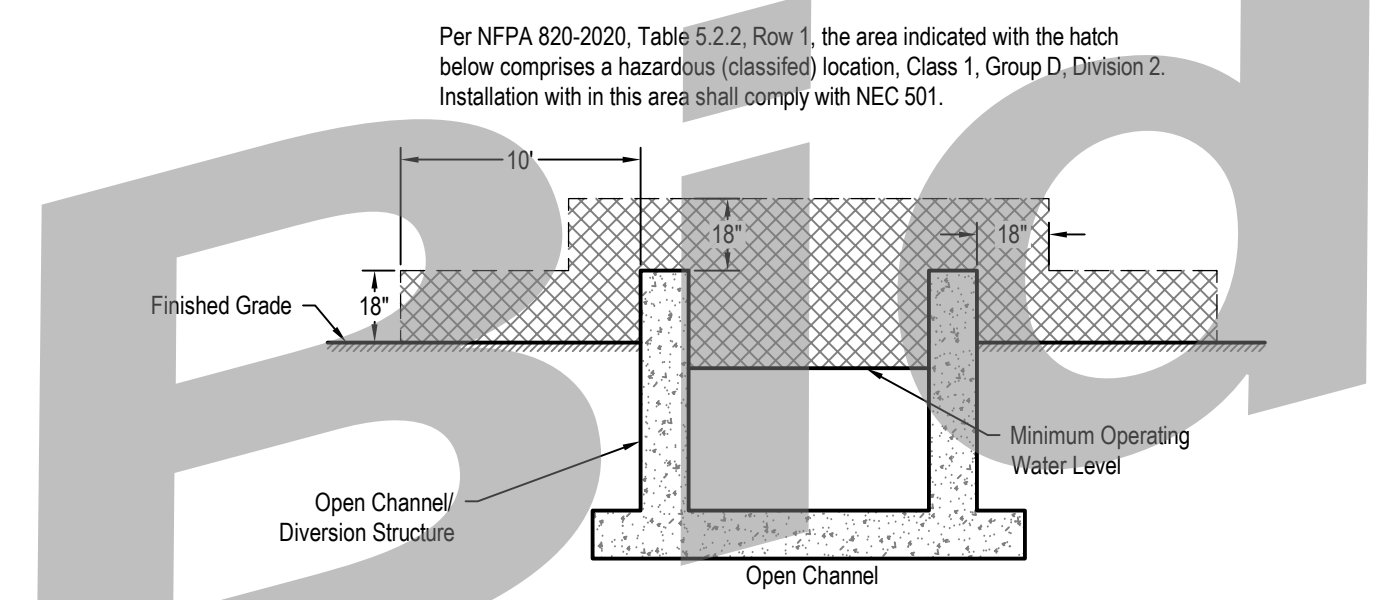


**6 Hazardous Locations - Wet Well**  
 NTS

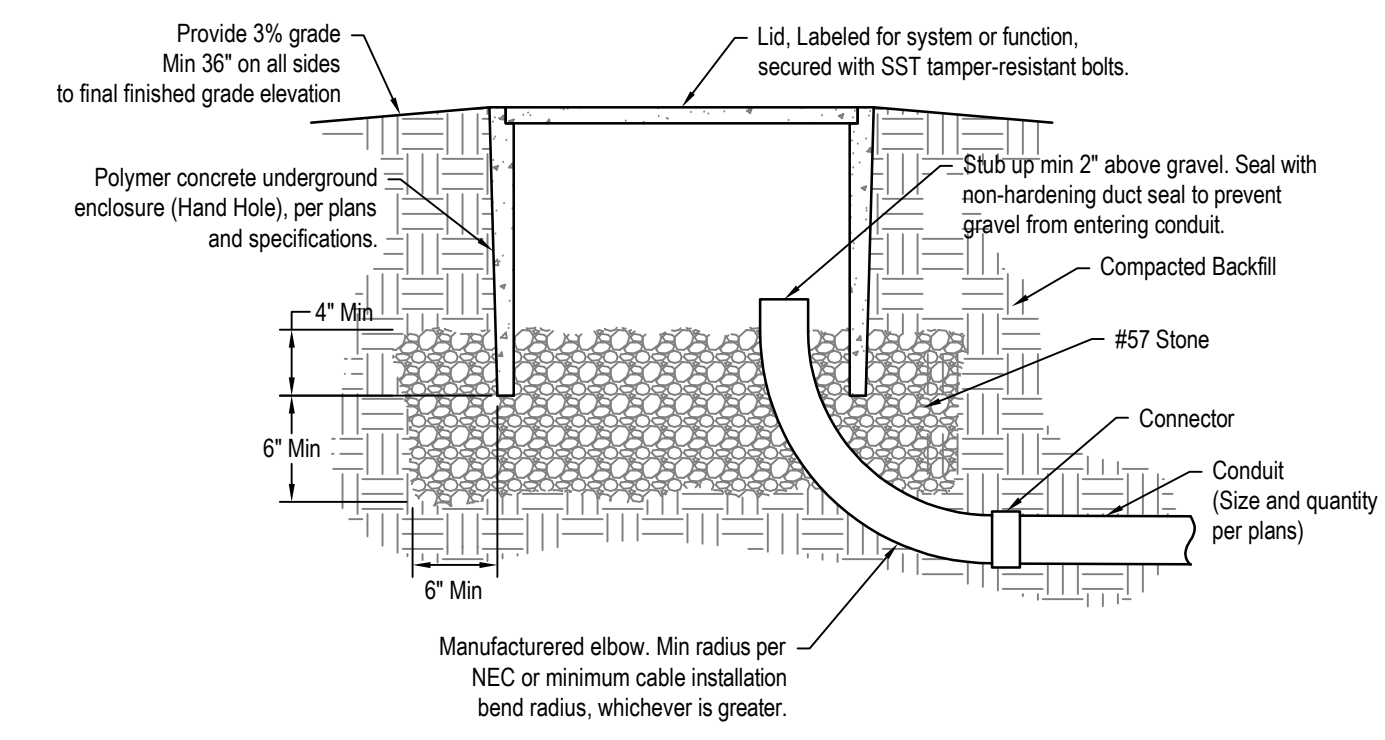


**2 Electrical Equipment Rack**  
 NTS

- Electrical Rack Notes**
- Dimensions are typical.
  - Concrete shall have 30-day strength of 3000 psi.
  - All hardware shall be 316 SST.
  - Rack shall consist of min two vertical members and two horizontal members.
  - Support each electrical equipment with min two horizontal members.



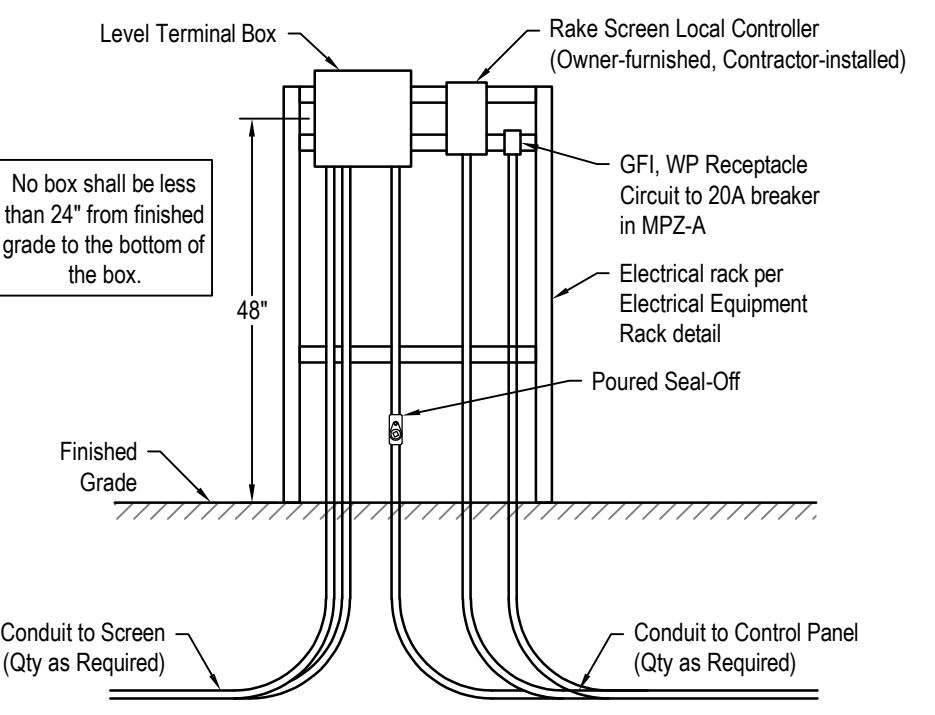
**7 Hazardous Locations - Open Channel**  
 NTS



**4 Hand Hole**  
 NTS

**Level Terminal Box Notes**

- Provide level terminal box with terminals to transition from manufacturer-provided integral cables for level sensors and floats to permanent wiring.
- Box shall be NEMA 4X SST, side-hinged with quarter-turn latches. Size as required for terminals and wire space.
- Terminals shall be finger-safe and shall be identified as corrosion resistant.
- Conduit sizes, quantity, and fill per C&I Diagram.
- Neatly train and securely tie all permanent conductors to back of box.
- Tightly seal conduit entry from level sensors and floats with non-hardening duct seal.



**1 Screen Control Rack Layout**  
 NTS