

# PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS

100% DESIGN - JANUARY 2022

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VICINITY MAP  
SCALE: 1"=6000'

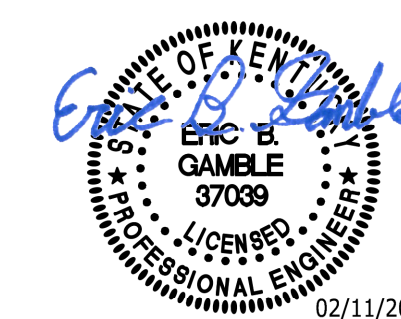


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PLANS PREPARED BY:



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**ABBREVIATIONS:**

AVE.	AVENUE
BLDG.	BUILDING
BLVD.	BULEVARD
BR.	BRIDGE
C.F.	CUBIC FOOT
CIDH	CAST-IN-DRILLED HOLE
CIP	CAST IRON PIPE
CONC.	CONCRETE
CND.	CONDUIT
CONST.	CONSTRUCT(ION)
CSP	CORRUGATED STEEL PIPE
CY	CUBIC YARD
DET.	DETAIL
DIA.	DIAMETER
Ø	DIAMETER
DIST.	DISTANCE
DR.	DRIVE
DWY	DRIVEWAY
EA.	EACH
E.O.L.	END OF LINE
EL.	ELEVATION
EXC.	EXCAVATION
EXIST.	EXISTING
FH	FIRE HYDRANT
FG	FINISHED GRADE
FL	FLOW LINE
FLG	FLANGE
FT.	FOOT (FEET)
FWY	FREEWAY
G	GAS
GPM	GALLONS PER MINUTE
GALV.	GALVANIZED
GSV.	GALVANIZED STEEL PIPE
HDPE HWY.	HIGH-DENSITY POLYETHYLENE HIGHWAY
LF	LINEAR FOOT
LN.	LANE
LPS	LOW PRESSURE SEWER
MH	MANHOLE
MAX.	MAXIMUM
MIN.	MINIMUM
MISC.	MISCELLANEOUS
NO.	NUMBER
NPT	NATIONAL PIPE THREADS
N.T.S.	NOT TO SCALE
OG.	ORIGINAL GROUND
OH	OVERHEAD
PB	PIPE BURST
PG	PROFILE GRADE
PL	PROPERTY LINE
PP	POWER POLE
PT.	POINT
PVC	POLYVINYL CHLORIDE
PVMT.	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
RD.	ROAD
REINF.	REINFORCED
REL.	RELOCATE
SA.	SANITARY
SCH	SCHEDULE
SD	STORM DRAIN
SEC.	SECTION
SHT.	SHEET
SPEC.	SPECIFICATION(S)
SST	STAINLESS STEEL
ST	STORM
STR.	STREET
STA.	STATION
STD.	STANDARD
SWR.	SEWER
TEMP.	TEMPORARY
T.R.	TRAFFIC RATED
TYP.	TYPICAL
U.G.T.	UNDERGROUND TELEPHONE LINE
V	VALVE
W/	WITH
W	WATER
WV	WATER VALVE
X SECT.	CROSS SECTION

**GENERAL NOTES:**

- TRENCH DESIGN AND SAFETY FOR STATION AND PIPELINE CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND REGULATIONS.
- CONSTRUCTION MATERIALS AND INSTALLATION MUST MEET SPECIFICATIONS. MATERIAL SUBMITTALS MUST BE APPROVED BY ENGINEERING PRIOR TO CONSTRUCTION. ALL OPERATING NUTS ON VALVES SHALL FIT STANDARD OWNER VALVE KEYS.
- PRIOR TO ORDERING MATERIALS, CONTRACTOR TO VERIFY PROPERTIES OF ALL EXISTING AND PROPOSED FACILITIES.
- ALL PUMP STATION COMPONENTS, WATER LINES, AND THEIR APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE OWNER'S STANDARD SPECIFICATIONS AND DETAILS.
- CONTRACTOR SHALL SUBMIT SIX (6) HARD COPIES AND ONE (1) ELECTRONIC COPY OF SHOP DRAWINGS FOR PUMP STATION AND ALL ANCILLARY EQUIPMENT TO OWNER FOR APPROVAL PRIOR TO ORDERING ANY EQUIPMENT OR MATERIALS.
- THE CONTRACTOR SHALL FURNISH ALL PAPERWORK REQUIRED BY OWNER PRIOR TO CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, SHOP DRAWINGS, OPERATION & MAINTENANCE MANUALS, AND WARRANTY DOCUMENTS.
- ALL WATER COMPONENTS SHALL BE INSTALLED IN THE PRESENCE OF THE OWNER OR OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL GUARANTEE ALL WORK TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR ONE YEAR AFTER DATE OF FINAL ACCEPTANCE OF THE PUMP STATION.
- HARDIN COUNTY WATER DISTRICT NO. 1 (HCWD1) 24-HOUR EMERGENCY CONTACT: (270) 862-4340.
- THE CONTRACTOR SHALL NOTIFY OWNER PROJECT MANAGER 48-HOURS PRIOR TO BEGINNING CONSTRUCTION.
- OWNER PERSONNEL SHALL BE CONTACTED 24-HOURS BEFORE BACKFILLING IN ORDER TO PHOTOGRAPH THE UNDERGROUND PIPING AND CONDUIT AT THE STATION.
- OWNER INSPECTORS SHALL BE NOTIFIED AT LEAST THREE (3) BUSINESS DAYS PRIOR TO CONSTRUCTION.
- UTILITIES SHALL BE MARKED BY A KENTUCKY ONE CALL (811) PRIOR TO CONSTRUCTION.
- THE EXISTING UTILITIES SHOWN AND INDICATED ON DRAWINGS ARE APPROXIMATE AND MAY NOT REPRESENT ALL UTILITIES FOUND IN THE AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND VERIFICATION OF ALL EXISTING UNDERGROUND UTILITIES.
- ALL COSTS ASSOCIATED WITH POTHOLES OR LOCATING OF EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO ADDITIONAL COMPENSATION WILL BE MADE BY OWNER FOR THESE TASKS.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO PREVENT DISTURBANCE OF EXISTING UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT NECESSARY TO WORK AROUND, OVER, AND/OR NEAR EXISTING UTILITIES.
- THE CONTRACTOR SHALL VERIFY WORK IN THE FIELD AND SHALL BE SATISFIED AS TO THE ACCURACY BETWEEN WORK ON THE DESIGN PLANS AND THE WORK WITHIN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF OWNER PROJECT MANGER PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROJECT SITE RESULTING FROM THE CONTRACTOR'S CONSTRUCTION ACTIVITIES. REPAIR ALL DISTURBED AREAS TO AN EQUAL OR BETTER CONDITION THAN ORIGINAL.
- EXISTING UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPLACED/REPAIRED IN ACCORDANCE WITH THE GOVERNING UTILITIES' REQUESTS.
- LOCATION OF EXISTING RIGHT-OF-WAY (ROW) AND PROPERTY LINES ARE APPROXIMATE.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY ADDITIONAL LAND NECESSARY FOR STAGING, STORAGE OF MATERIALS AND EQUIPMENT, AND OTHER CONSTRUCTION RELATED OPERATIONS.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR WORKING CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL NOT CLOSE OR BLOCK ANY HIGHWAY, STREET, OR ROADWAY WITHOUT FIRST OBTAINING AN APPROVED TRAFFIC CONTROL PLAN.
- THE CONTRACTOR SHALL NEATLY SAW CUT ALL ROADWAYS AND DRIVEWAYS PRIOR TO INSTALLING A PERMANENT PAVEMENT REPAIR.
- UNLESS NOTED OTHERWISE, ELEVATIONS AND GRADES SHOWN ON THE DRAWINGS ARE FINISH GRADE. PROPOSED AND EXISTING CONTOURS ARE AT 2 FT. INTERVALS.
- DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS OR POND ON-SITE. PROVIDE NECESSARY MEASURES TO KEEP THE SITE FREE-DRAINING.

**PUMP STATION NOTES:**

- ALL EQUIPMENT MUST BE PROPERLY CALIBRATED WITH OWNER SYSTEM OPERATION TECHNICIANS BEFORE PROJECT IS COMPLETED.
- CONTRACTOR SHALL COORDINATE AND SCHEDULE START-UP OF NEW PUMPING STATION WITH OWNER PERSONNEL.
- ALL ELECTRICAL EQUIPMENT AND PUMPS SHALL HAVE A CERTIFIED MANUFACTURER REPRESENTATIVE PRESENT AND AVAILABLE FOR THE PUMP STATION'S SCHEDULED START-UP.
- OWNER SHALL WITNESS TESTS AND INSPECTIONS BY A FACTORY TRAINED REPRESENTATIVE TO ENSURE THAT ALL PUMP EQUIPMENT AND ELECTRICAL EQUIPMENT HAVE BEEN PROPERLY INSTALLED, CALIBRATED, AND ARE OPERATING CORRECTLY.
- THE CONTRACTOR SHALL PROVIDE ALL FITTINGS NECESSARY FOR INSTALLATION OF ALL PIPING. SOME FITTINGS MAY NOT BE SHOWN ON THE DRAWINGS.

**EROSION CONTROL NOTES:**

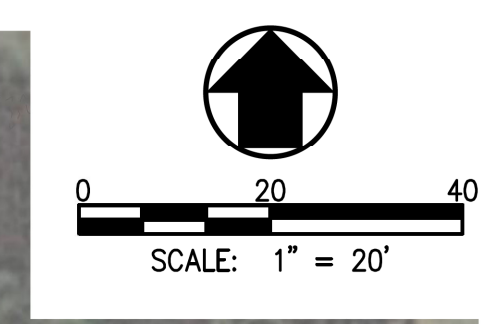
- PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY LAND DISTURBING ACTIVITIES AND SHALL REMAIN UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED.
- ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED PRIOR TO EXPECTED RAINFALL. WHERE TRENCHES MUST REMAIN OPEN OVERNIGHT, PROPER EROSION CONTROL MEASURES SHALL BE PROVIDED, IN ADDITION TO PROPER SAFETY MEASURES.
- APPLY TEMPORARY SEEDING WHENEVER GRADING OPERATIONS ARE HALTED FOR OVER 14 DAYS.
- ALL SEDIMENT AND EROSION CONTROL STRUCTURES ARE TO BE IN PLACE BEFORE GRADING BEGINS.
- A MAXIMUM OF 200 LF OF TRENCH SHALL BE OPEN AT ANYTIME FOR EACH FULL TIME CREW. NO ADDITIONAL EXCAVATION WILL BE PERMITTED UNTIL OTHER SECTIONS OF THE TRENCH HAVE BEEN BACKFILLED.
- THE DISTURBED AREA SHALL NOT BE GREATER THAN ONE ACRE AT ANY TIME, WITHOUT FIRST OBTAINING A STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES FROM THE KENTUCKY DIVISION OF WATER.

**LEGEND:**

— FM —	EXIST. FORCE MAIN
— SA —	EXIST. SANITARY SEWER
— W —	EXIST. WATER LINE
— Aw —	ABANDON EXIST. WATER LINE
— G —	EXIST. GAS LINE
— OH —	EXIST. OVERHEAD UTILITY LINE
— UGP —	EXIST. STREET LIGHT DIRECT BURIED CABLE
⊗	EXIST. FIRE HYDRANT
⊗	EXIST. WATER VALVE
⊗	EXIST. WATER METER
⊗	EXIST. STORM MANHOLE
⊗	EXIST. UTILITY POLE
—	EXIST. TREE LINE
—	EXIST. FENCE
△	HORIZONTAL CONTROL POINT
---	PROPERTY/R.O.W. LINE
---	EXISTING CREEK
---	PROPOSED WATER LINE
⊗	PROPOSED FIRE HYDRANT
⊗	PROPOSED WATER VALVE
⊗	PROPOSED AIR RELEASE VALVE
⊗	EXISTING WATER METER



REVISIONS		DATE
<p><b>CANNON &amp; CANNON INC</b> CONSULTING ENGINEERS · FIELD SURVEYORS TEL: 865.670.8555   8550 Kingston Pike WWW.CANNON-CANNON.COM   Knoxville, TN 37919</p>		
<p>CLIENT: <b>Hardin County Water District</b> 1400 RODGERSVILLE ROAD RADCLIFF, KENTUCKY 40160</p>		
<p>PROJECT: <b>PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS</b></p>		
<b>ABBREVIATIONS, LEGEND AND GENERAL NOTES</b>		
		<p>CCI PROJECT NO. 00904-0010 DRAWING DATE JANUARY 28, 2022 PM EBG PC TB DRAWN WBW FR -</p>
<b>GO.01</b>		02/11/2022



NOTES:  
 1. EXISTING CONTOURS TAKEN FROM G.I.S. SOURCES AND NOT FIELD SURVEY.



066\29  
 HAROLD JOSEPH & LANA SAMPSON  
 GARY LANE  
 D.B. 744 Pg. 345

067\01  
 HARDIN COUNTY WATER DISTRICT NO. 1  
 1400 RODGERSVILLE RD.  
 D.B. 1442 Pg. 249

067\01  
 LOETTA GLENN MORRIS  
 ST. JOHN ROAD  
 D.B. 819 Pg. 721

1 GRAVEL DRIVE W/  
 D1.01 WEED BARRIER, APPROX.  
 826 S.Y. (TYP.)  
 (MATCH EXIST. GRADE).

3 SILT FENCE EROSION  
 D1.01 CONTROL, APPROX.  
 300 L.F. TOTAL  
 (TYP.)

INSTALL 38 S.Y. OF RIP-RAP  
 CLASS 'A' AT ENTRANCE &  
 EXIST OF NEW CULVERT.


EXISTING FENCE AND GATE  
 (TO REMAIN)

PROPOSED 25 L.F. 12" D.I.  
 STORM DRAIN ACROSS  
 PROPOSED DRIVEWAY ENTRANCE

**LEGEND**

—OH—	OVERHEAD ELECTRIC LINE
---	RIGHT OF WAY/PROPERTY LINE
-x-x-	EX. FENCE LINE
---	EX. WATER LINE (TO REMAIN)
----	EX. WATER LINE (TO BE RETIRED)
☐	EX. MAILBOX
⊕	EX. WATER METER
⊙	EX. UTILITY POLE
⊕	EX. FIRE HYDRANT
⊕	EX. GAS VALVE
⊕	EX. WATER VALVE
⊕	PROP. FIRE HYDRANT
⊕	PROP. WATER METER



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PROJECT: <b>PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS</b>	
<b>GRAY LANE RAW WATER INTAKE PUMP STATION OVERALL SITE, GRADING &amp; DRAINAGE PLAN</b>	
CCI PROJECT NO. 00904-0010 DRAWING DATE JANUARY 28, 2022 PM EBG    PC TB DRAWN WBW    FR -	
	
<b>C1.01</b>	

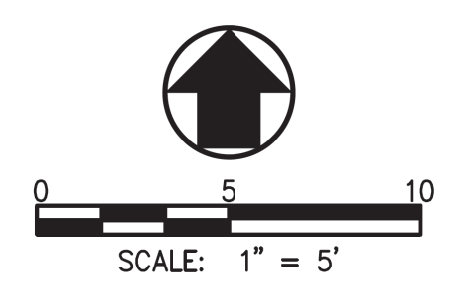


- NOTES:**
1. EXISTING SCADA TOWER IS TO BE RELOCATED BY OWNER PRIOR TO OR DURING CONSTRUCTION.
  2. EXISTING SCADA PANEL TO BE SALVAGED AND RETURNED TO OWNER FOR PARTS.
  3. EXISTING CONTOURS TAKEN FROM GIS SOURCES AND NOT FIELD SURVEY.
  4. ALL OF EXISTING 8" WATER LINE TO BE REMOVED.



REVISIONS	DATE								
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<p align="center"><b>GRAY LANE RAW WATER INTAKE PUMP STATION SITE DEMOLITION PLAN</b></p>									
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CCI PROJECT NO.	00904-0010								
DRAWING DATE	JANUARY 28, 2022								
PM	EBG PC TB								
DRAWN	WBW FR -								
	<b>C1.02</b>								

PLAN  
SCALE: 1"=5'

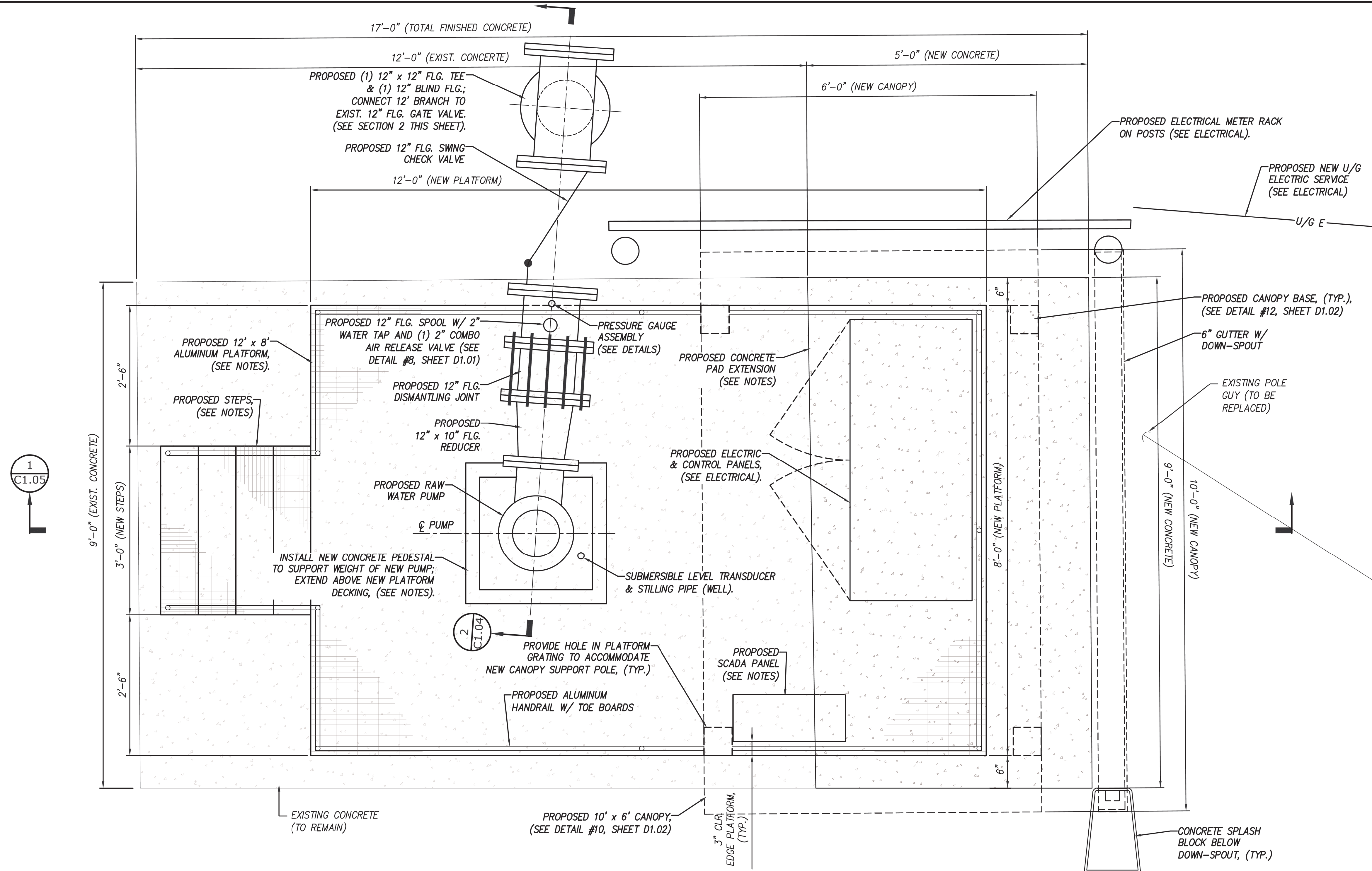


- NOTES:**
- EXISTING SCADA TOWER IS TO BE RELOCATED BY OWNER PRIOR TO OR DURING CONSTRUCTION.
  - NEW CONCRETE PAD IS A DELEGATED DESIGN. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - NEW ELEVATED PLATFORM AND CANOPY ARE A DELEGATED DESIGN. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - WELL DRAWDOWN TEST: BEFORE ORDERING NEW WELL CASING AND PUMP MATERIALS, CONTRACTOR SHALL FIRST PERFORM A WELL DRAWDOWN TEST.
    - REQUIREMENTS OF THE WELL DRAWDOWN TEST ARE NOTED IN SECTION 33 1100 "GROUNDWATER SOURCES".
    - CONTRACTOR MUST PROVIDE AT LEAST TWO WEEK NOTICE TO THE OWNER BEFORE TAKING THE EXISTING STATION OUT OF SERVICE. TEST SHALL BE WITNESSED BY THE OWNER AND/OR ENGINEER.
    - TEST RESULTS SHALL BE REPORTED TO THE OWNER AND ENGINEER PRIOR TO MATERIAL SUBMITTALS AND ORDERING MATERIALS.
    - SHOULD THE OWNER AND ENGINEER DEEM THE RESULTS OF THE TEST REQUIRE MODIFICATION TO THE DESIGN OF THE NEW WELL CASING AND/OR PUMP, THE UNIT PRICE ITEMS ON THE BID FORM SHALL BE ADDED AS NEEDED TO THE CONTRACT VIA A CHANGE ORDER.
    - AFTER THE WELL DRAWDOWN TEST IS COMPLETE THE CONTRACTOR SHALL RE-INSTALL THE EXISTING PUMP, RECONNECT WIRING, AND PLACE THE STATION BACK INTO SERVICE.
  - EXISTING CONTOURS TAKEN FROM G.I.S. SOURCES AND NOT FIELD SURVEY.
  - REPLACE ALL OF EXISTING 8" WATER LINE WITH NEW 12" D.I.P. LENGTH OF EXISTING 8" PIPE IS UNKNOWN, BUT ASSUMED TO BE 20 L.F. OR LESS.

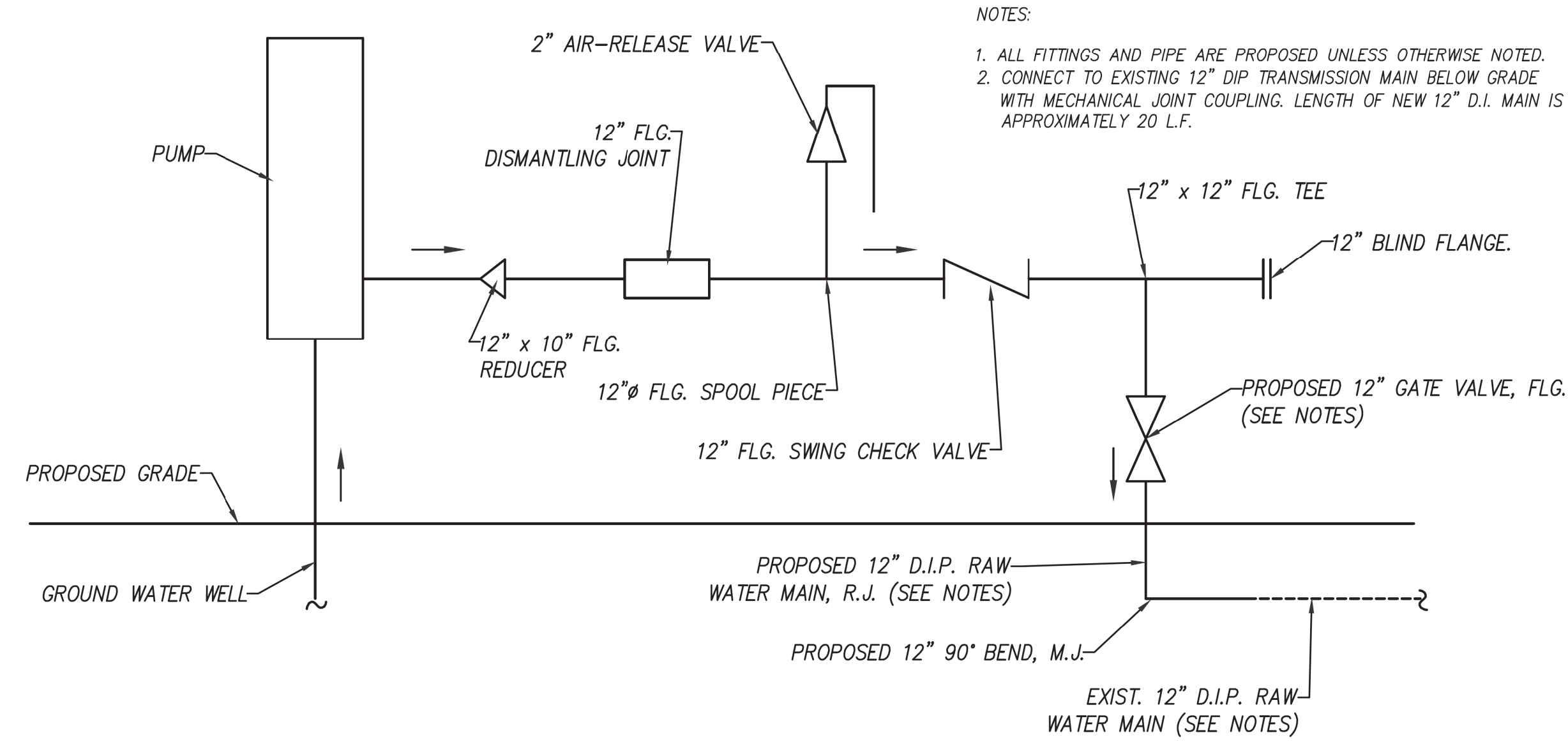


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PROJECT: <b>PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS</b>	
<b>GRAY LANE RAW WATER INTAKE PUMP STATION SITE, GRADING &amp; DRAINAGE PLAN</b>	
CCI PROJECT NO.	09094-0010
DRAWING DATE	JANUARY 28, 2022
PM	EBG PC TB
DRAWN	WBW FR -
<b>C1.03</b> 02/11/2022	

PLAN  
SCALE: 1"=5'



PLAN SCALE: 1"=1'-0"



2 (ONE-LINE) EFFLUENT PIPE SECTION C1.04 N.T.S.

- NOTES:
- EXISTING SCADA TOWER IS TO REMAIN. CONTRACTOR MAY REMOVE AND REPLACE IF NECESSARY FOR CONSTRUCTION WITH OWNER APPROVAL.
  - NEW CONCRETE PAD AND PUMP SUPPORT PEDESTAL ARE DELEGATED DESIGNS. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - NEW ELEVATED PLATFORM AND CANOPY ARE A DELEGATED DESIGN. FRONT EDGE OF CANOPY SHALL PROVIDE A MINIMUM OF 1-FOOT CLEARANCE FROM SIDE OF PUMP TO ALLOW FOR REMOVAL. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. (SEE DETAILS ON SHEET C1.05).
  - TO MITIGATE TRIP HAZARDS, ALL NEW CONDUIT TO BE INSTALLED TO UNDERSIDE OF NEW PLATFORM OR EXTERIOR OF NEW HANDRAIL.
  - LENGTH OF REQUIRED SPOOL PIECE IS UNKNOWN. CONTRACTOR SHALL MEASURE AND DETERMINE THE LENGTH OF SPOOL PIECE REQUIRED FOR A COMPLETE INSTALLATION.
  - SEE ELECTRICAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
  - CONTRACTOR SHALL INSTALL MOUNTING RACK TO HANDRAILS FOR FUTURE SCADA PANEL. PROPOSED SCADA PANEL IS BY OTHERS. SEE ELECTRICAL FOR COORDINATION REQUIREMENTS.



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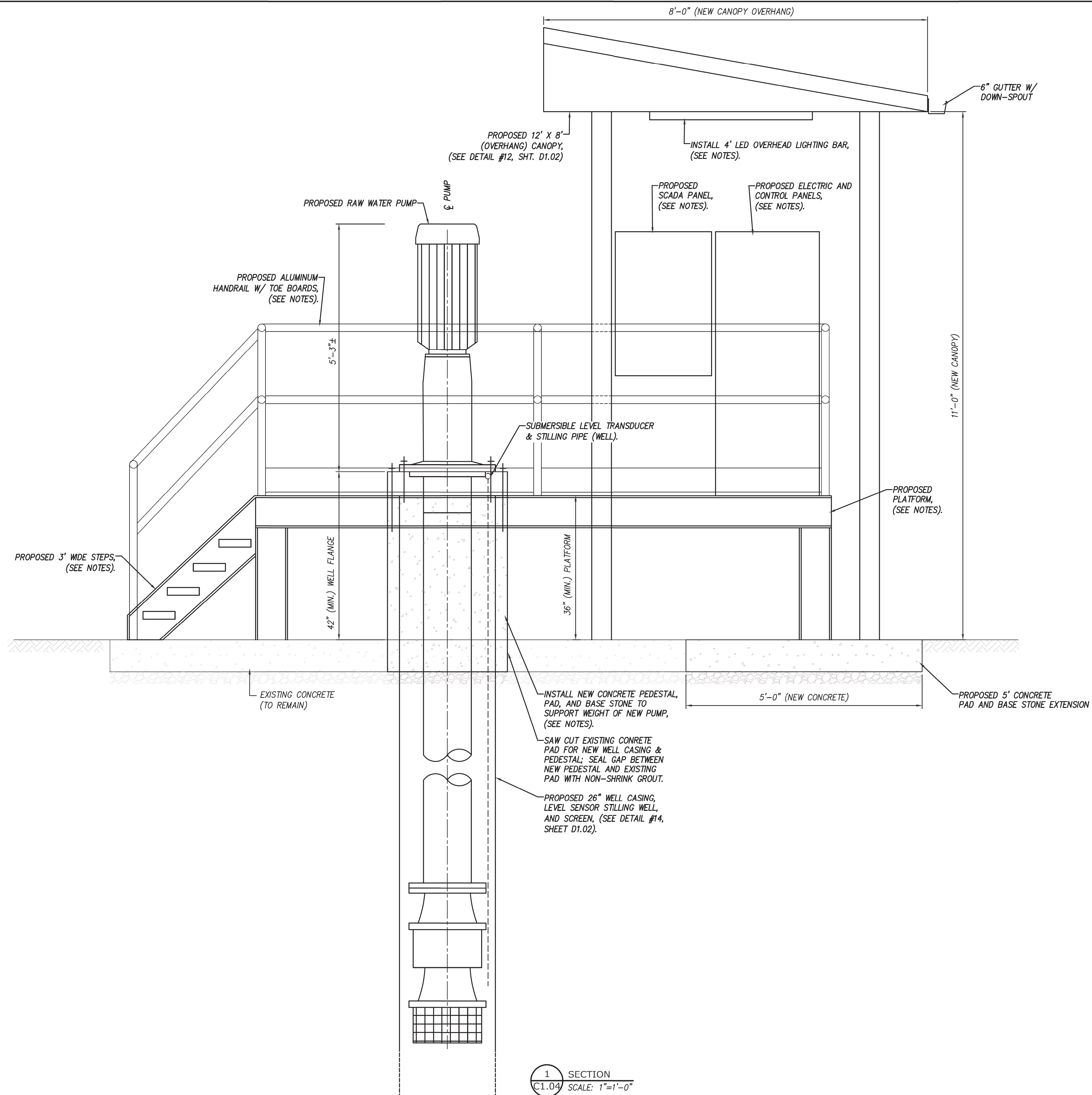
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 RADCLIFF, KENTUCKY 40160

PROJECT: **PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS**

**GRAY LANE RAW WATER INTAKE PUMP STATION PLAN**

CCI PROJECT NO. 00904-0010  
 DRAWING DATE JANUARY 28, 2022  
 PM EBG PC TB  
 DRAWN WBW FR

**C1.04**  
 02/11/2022



- NOTES:**
1. NEW CONCRETE PAD AND PUMP SUPPORT PEDESTAL ARE DELEGATED DESIGNS. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  2. NEW ELEVATED PLATFORM AND CANOPY ARE A DELEGATED DESIGN. FRONT EDGE OF CANOPY SHALL PROVIDE A MINIMUM OF 1-FOOT CLEARANCE FROM SIDE OF PUMP TO ALLOW FOR REMOVAL. SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
  3. TO MITIGATE TRIP HAZARDS, ALL NEW CONDUIT TO BE INSTALLED TO UNDERSIDE OF NEW PLATFORM OR EXTERIOR OF NEW HANDRAIL.
  4. CONTRACTOR OR PUMP SUPPLIER SHALL SUPPLY MOUNTING BASE AS REQUIRED BETWEEN PUMP BASE AND WELL CASING MOUNTING FLANGE FOR A COMPLETE INSTALLATION.
  5. CANOPY TO BE EQUIPPED WITH LED LIGHTING. SPECIFIC LOCATION OF LIGHTING STRUCTURES TO BE DETERMINED BY DESIGN ENGINEER AND APPROVED BY OWNER AND ENGINEER VIA SUBMITTAL.
  6. SEE ELECTRICAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
  7. CONTRACTOR SHALL INSTALL MOUNTING RACK TO HANDRAILS FOR FUTURE SCADA PANEL. PROPOSED SCADA PANEL IS BY OTHERS. SEE ELECTRICAL FOR COORDINATION REQUIREMENTS.



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**Client:** Hardin County Water District  
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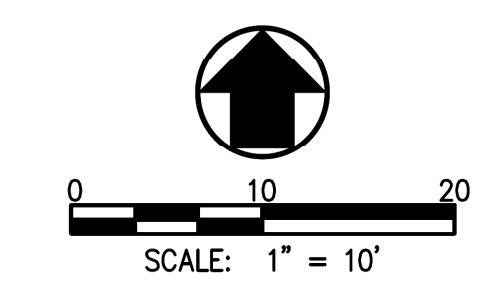
**Project:** PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS

**GRAY LANE RAW WATER INTAKE PUMP STATION SECTION**

CCI PROJECT NO.	00904-0010
DRAWING DATE	JANUARY 28, 2022
PM	EBG PC TB
DRAWN	WBW FR -

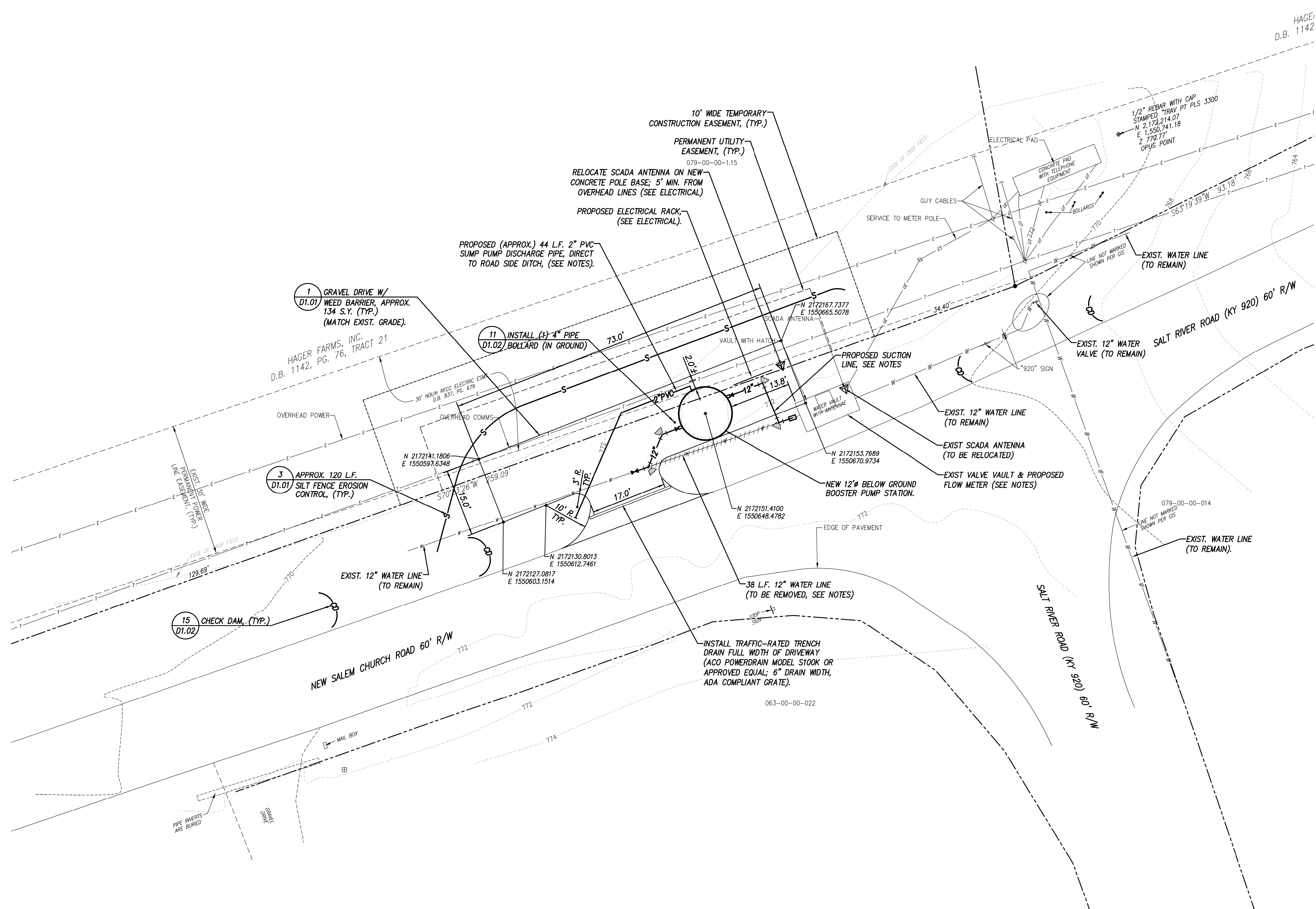
**C1.05**  
02/11/2022

1 SECTION  
C1.04 SCALE: 1"=1'-0"



- NOTES:**
- DIAMETER OF SUMP PUMP DISCHARGE PIPE SHALL BE BY STATION SUPPLIER. LENGTH & LOCATION OF SUMP DISCHARGE IS DEPENDENT ON LOCATION OF VAULT PENETRATION.
  - NO ROADWAY PAVEMENT CUTS ARE ANTICIPATED FOR THE PROPOSED WORK ON THIS SHEET. IF A PAVEMENT CUT AND PATCHING ARE REQUIRED, THEN SEPARATE PAYMENT SHALL BE MADE PER THE UNIT PRICE SCHEDULE.
  - INSTALL PROPOSED WATER LINES AND PUMP STATION SO AS NOT TO PRODUCE HIGH POINTS WHERE AIR BUBBLES MAY ACCUMULATE.
  - PROPOSED SUCTION LINE IS 22 L.F. OF 12" R.J. D.I.P. INSTALL (2) 12" 90° BENDS (M.J.), (1) 6"x12" REDUCER (M.J.), AND CONNECT TO EXISTING WATER LINE W/ NEW 12" COUPLING (M.J.). INSTALL ALL FITTINGS AND VALVES W/ THRUST BLOCKS.
  - PROPOSED DISCHARGE LINE IS 18 L.F. OF 12" R.J. D.I.P. INSTALL (2) 12" 45° BENDS (M.J.), (1) 6"x12" REDUCER (M.J.), AND CONNECT TO EXISTING WATER LINE W/ 12" GATE VALVE (M.J.). INSTALL ALL FITTINGS AND VALVES W/ THRUST BLOCKS.
  - EXISTING VALVE VAULT TO REMAIN. CONTRACTOR TO INSTALL NEW CONDUIT FROM VALVE VAULT TO NEW PUMP STATION CONTROL PANEL & SCADA RTU FOR A FLOW METER TO BE INSTALLED BY OWNER (SEE ELECTRICAL). OWNER TO REMOVE EXISTING VALVES WITHIN THE VAULT AND INSTALL A NEW FLOW METER AND CONNECT FLOW METER TO PUMP STATION PANELS.

- CONSTRUCTION SEQUENCE NOTES:**
- CONTRACTOR MAY TEMPORARILY ISOLATE THE EXISTING WATER LINE AND VALVE VAULT USING THE EXISTING VALVES AT SALT RIVER ROAD AND BRIZENDINE LANE.
  - TO MINIMIZE THE OUTAGE DURATION TO EXISTING CUSTOMERS, THE CONTRACTOR SHALL REMOVE ENOUGH EXISTING PIPE TO INSTALL THE PROPOSED 12" GATE VALVE AT THE END OF THE DISCHARGE LINE, AND THEN REINSTATE THE WATER LINE FROM THAT POINT BACK WEST TOWARD BRIZENDINE LANE.
  - THE EXISTING VALVE VAULT (SHOWN HERE) IS THE PRIMARY WATER FEED TO THE BRIZENDINE TANK (LOCATED ON BRIZENDINE LANE). OWNER IS ABLE TO UTILIZE SECONDARY FEED LOCATIONS ON LONG HOLLOW ROAD AND NORTH GRANDVIEW ROAD TO MAINTAIN WATER SUPPLY TO THE BRIZENDINE TANK. THIS SECONDARY METHOD MAY BE DONE FOR AN INDEFINITE AMOUNT OF TIME, BUT THE CONTRACTOR SHALL SCHEDULE AND SEQUENCE THEIR CONSTRUCTION ACTIVITIES TO MINIMIZE THIS TIME TO THE EXTENT POSSIBLE.



1  
D1.01 GRAVEL DRIVE W/  
WEED BARRIER, APPROX.  
134 S.Y. (TYP.)  
(MATCH EXIST. GRADE).

11  
D1.02 INSTALL (4) 4" PIPE  
BOLLARD (IN GROUND)

3  
D1.01 APPROX. 120 L.F.  
SILT FENCE EROSION  
CONTROL, (TYP.)

15  
D1.02 CHECK DAM, (TYP.)

10' WIDE TEMPORARY  
CONSTRUCTION EASEMENT, (TYP.)

PERMANENT UTILITY  
EASEMENT, (TYP.)  
079-00-00-1.15

RELOCATE SCADA ANTENNA ON NEW  
CONCRETE POLE BASE; 5' MIN. FROM  
OVERHEAD LINES (SEE ELECTRICAL)

PROPOSED ELECTRICAL RACK,  
(SEE ELECTRICAL).

PROPOSED (APPROX.) 44 L.F. 2" PVC  
SUMP PUMP DISCHARGE PIPE, DIRECT  
TO ROAD SIDE DITCH, (SEE NOTES).

PROPOSED SUCTION  
LINE, SEE NOTES

EXIST. 12" WATER LINE  
(TO REMAIN)

EXIST SCADA ANTENNA  
(TO BE RELOCATED)

EXIST VALVE VAULT & PROPOSED  
FLOW METER (SEE NOTES)

NEW 12" BELOW GROUND  
BOOSTER PUMP STATION.

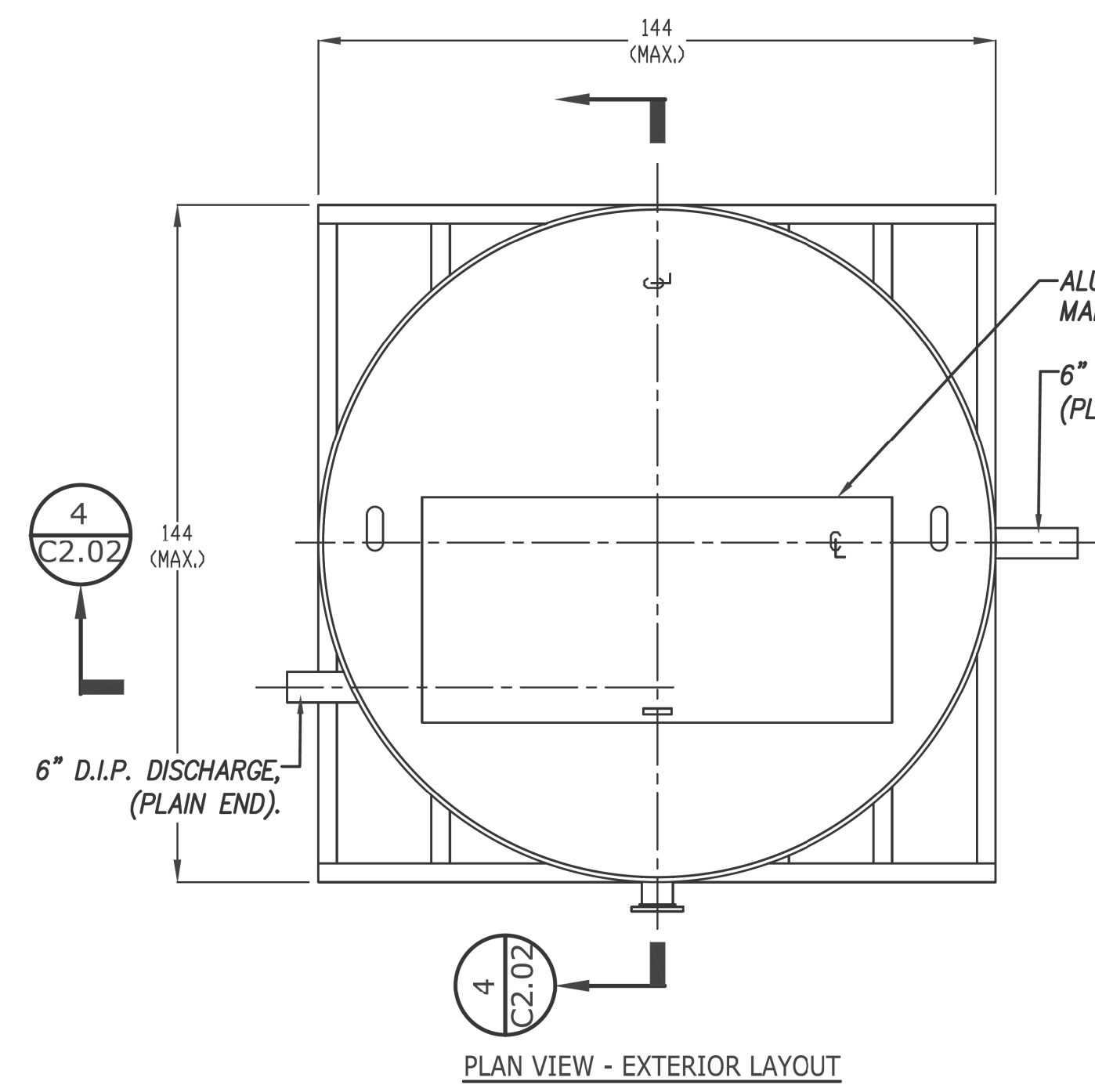
INSTALL TRAFFIC-RATED TRENCH  
DRAIN FULL WIDTH OF DRIVEWAY  
(ACO POWERDRAIN MODEL S100K OR  
APPROVED EQUAL; 6" DRAIN WIDTH,  
ADA COMPLIANT GRATE).

38 L.F. 12" WATER LINE  
(TO BE REMOVED, SEE NOTES)

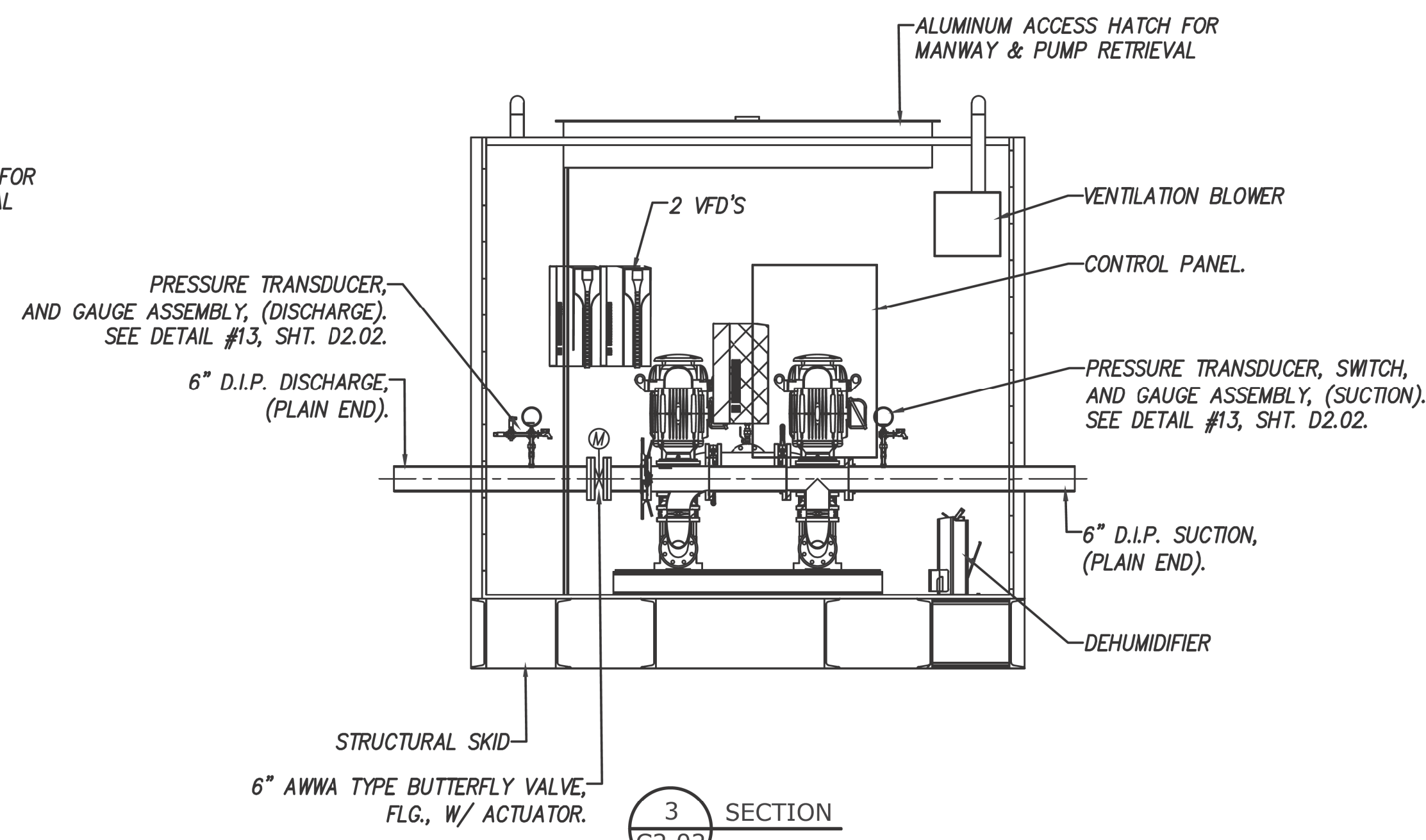
PLAN  
SCALE: 1"=10'

REVISIONS	DATE
<b>CANNON &amp; CANNON INC</b> CONSULTING ENGINEERS - FIELD SURVEYORS	
TEL: 865.670.8555   8550 Kingston Pike WWW.CANNON-CANNON.COM   Knoxville, TN 37919	
CLIENT:	<b>Hardin County Water District</b> 1400 RODGERSVILLE ROAD RADCLIFF, KENTUCKY 40160
PROJECT:	<b>PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS</b>
<b>BRIZENDINE BOOSTER PUMP STATION SITE PLAN</b>	
CCI PROJECT NO.	09094-0010
DRAWING DATE	JANUARY 28 2022
PM	EBG PC TB
DRAWN	WBW FR -
<b>C2.01</b>	



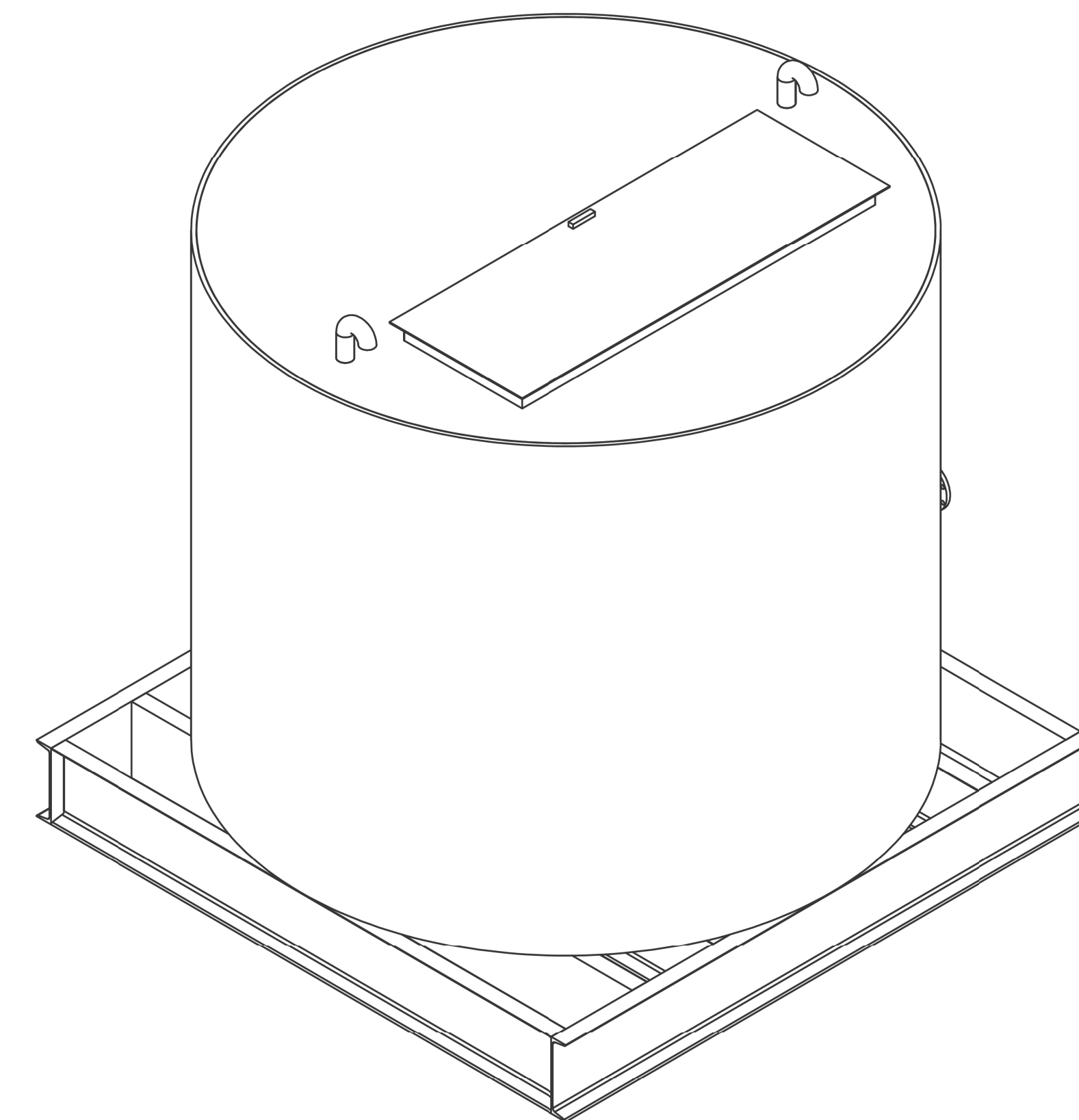


PLAN VIEW - EXTERIOR LAYOUT



3 SECTION  
C2.02

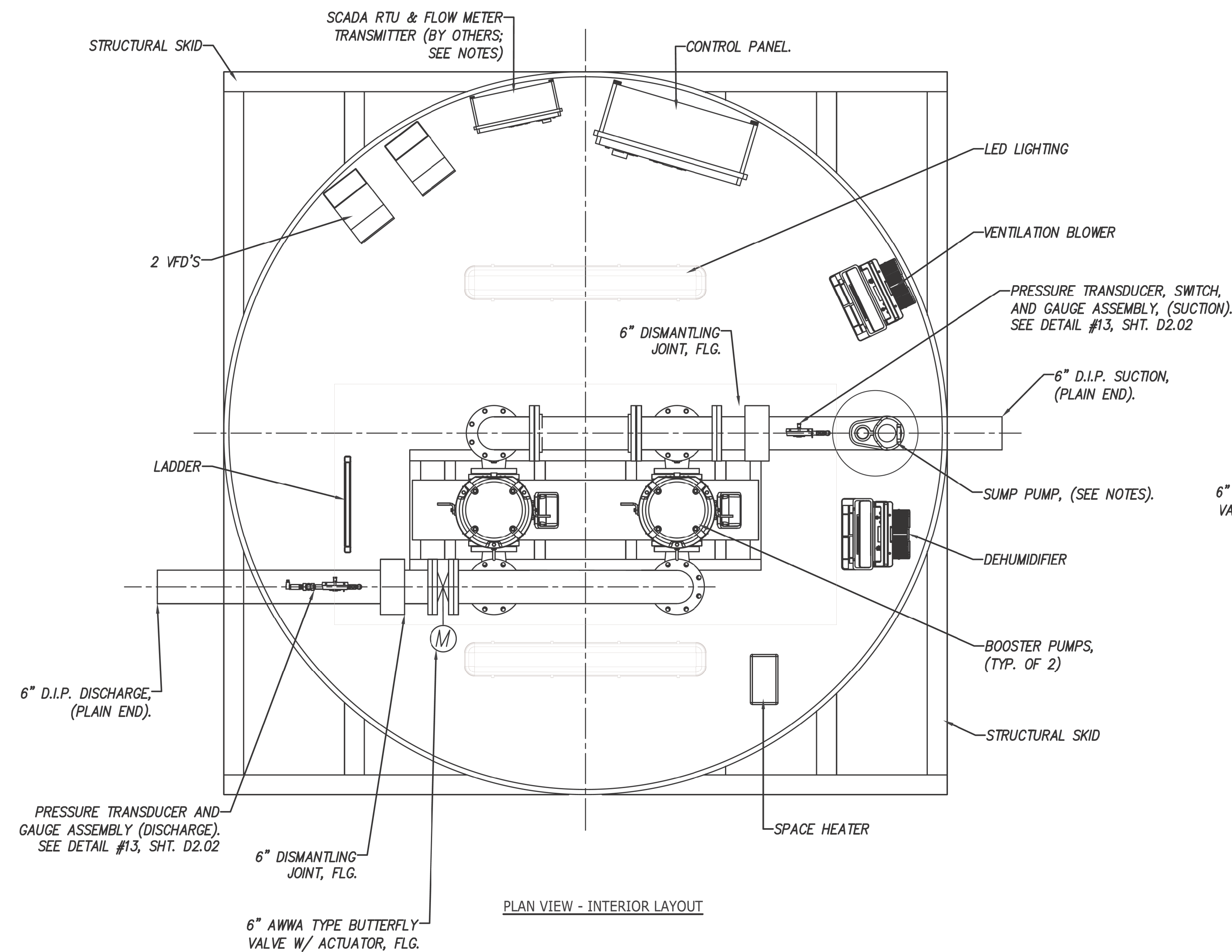
PLAN & SECTIONS  
SCALE: 3/8"=1'-0"



ISOMETRIC VIEW - EXTERIOR LAYOUT

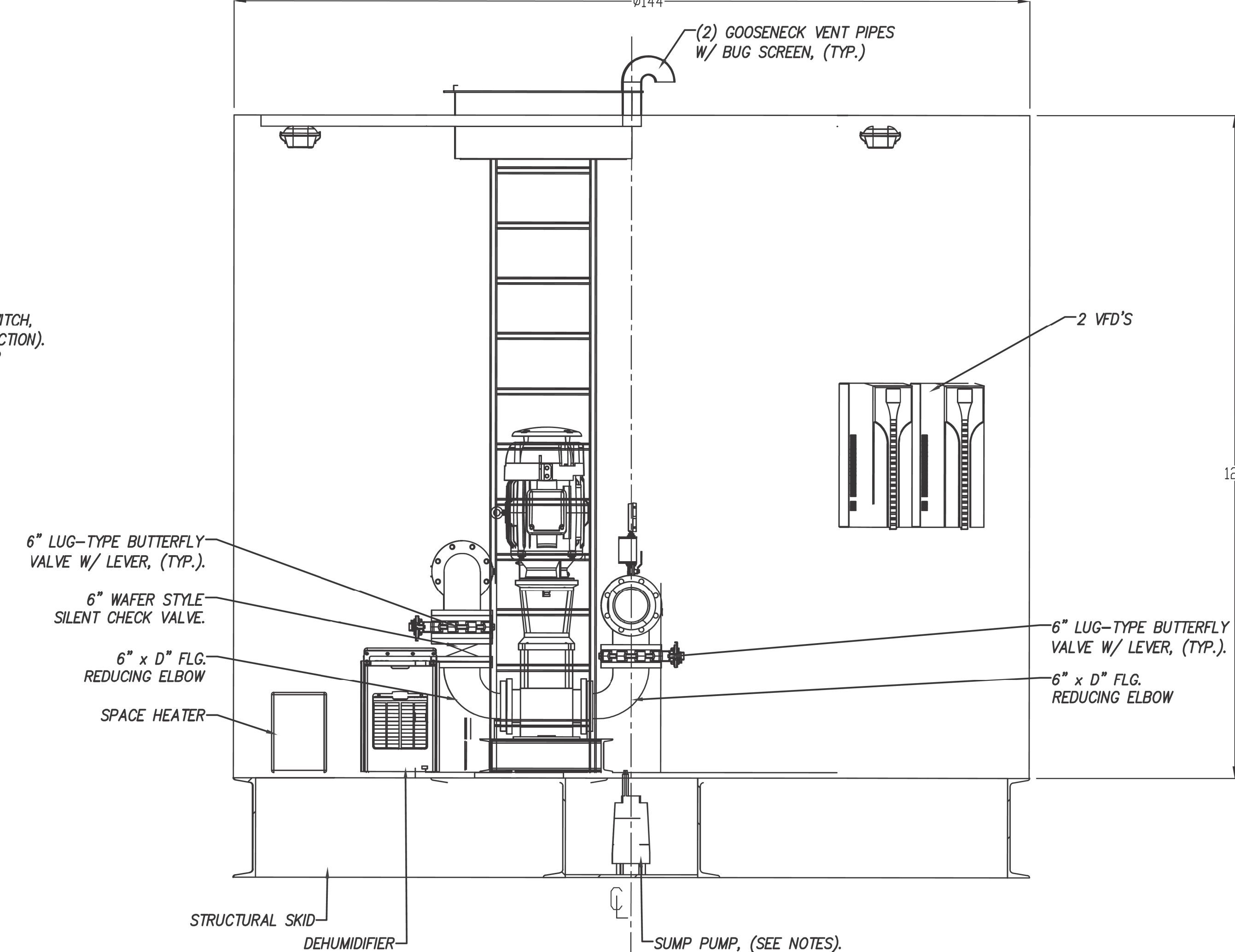
NOTES:

1. INTERIOR LAYOUT OF PROPOSED BELOW-GRADE VAULT IS AN EXAMPLE. LAYOUT SHALL MEET THE REQUIREMENTS STATED ON THE PLANS AND IN THE SPECIFICATIONS.
2. CONTROL PANEL AND VARIABLE FREQUENCY DRIVES SHALL HAVE A CLEAR WALKING PATH TO THE LADDER.
3. INTERIOR LAYOUT SHOULD ALLOW FOR 3.5' OF CLEAR WORKING SPACE FOR THE VFD'S AND CONTROL PANEL PER OSHA 1910.303.
4. PIPE DIMENSION "D" SHALL MATCH THE DIAMETER OF THE PUMP'S INLET AND OUTLET.
5. LAYOUT SHALL INCLUDE MOUNTING RACK FOR FUTURE SCADA PANEL AND FLOW METER TRANSMITTER. PROPOSED SCADA PANEL AND FLOW METER ARE BY OTHERS. SEE ELECTRICAL FOR COORDINATION REQUIREMENTS.
6. SEE SITE PLAN FOR CONTINUATION OF SUMP PUMP DISCHARGE PIPE. SUMP PUMP SHALL BE EQUIPPED WITH STATION FLOOD ALARM.
7. SEE ELECTRICAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.



PLAN VIEW - INTERIOR LAYOUT

PLAN & SECTIONS  
SCALE: 3/4"=1'-0"



4 SECTION  
C2.02



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TEL: 865.670.8555 | 8550 Kingston Pike  
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CLIENT: **Hardin County Water District**  
1400 RODGERSVILLE ROAD  
RADCLIFF, KENTUCKY 40160

PROJECT: **PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS**

**BRIZENDINE BOOSTER PUMP STATION PLAN & SECTIONS**

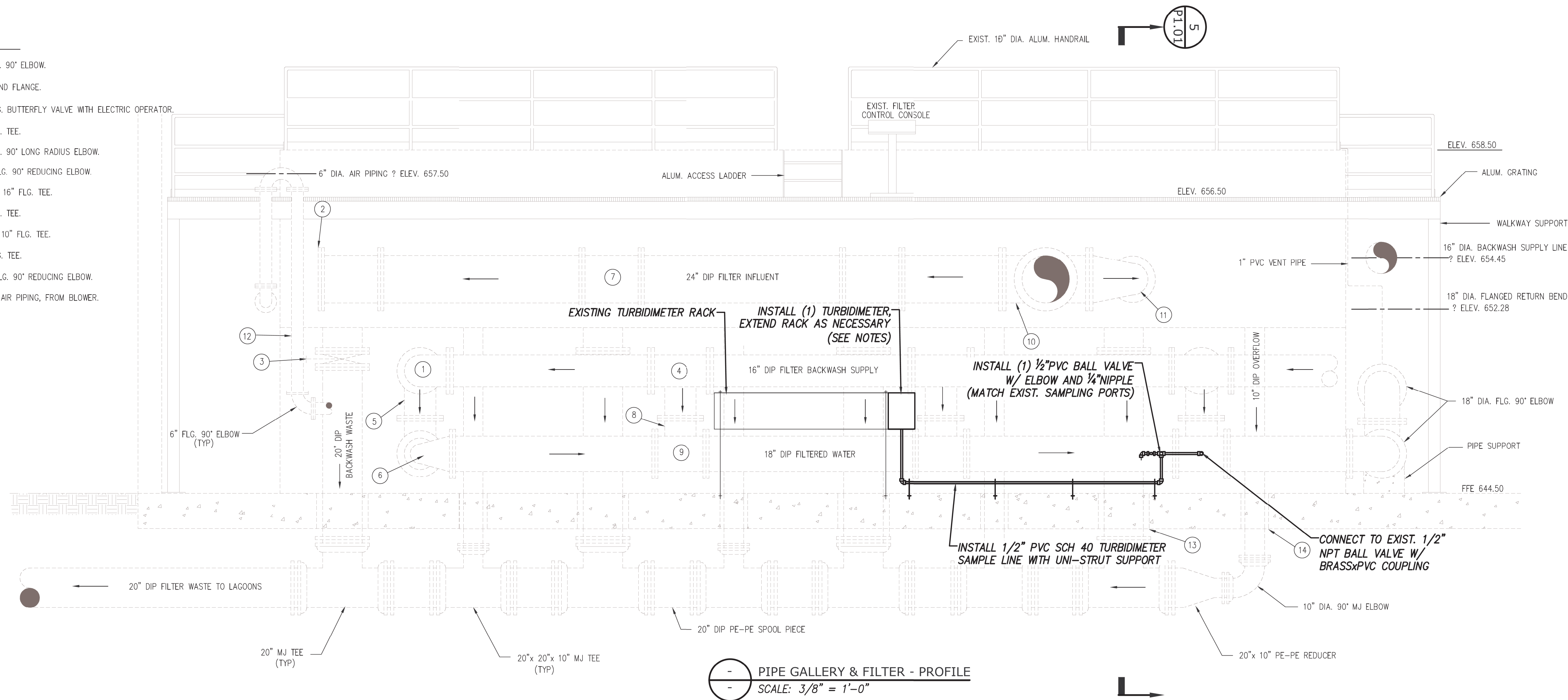
CCI PROJECT NO.	00904-0010
DRAWING DATE	JANUARY 28 2022
PM	EBG PC TB
DRAWN	WBW FR

**C2.02**

03/10/2022

NOTES:

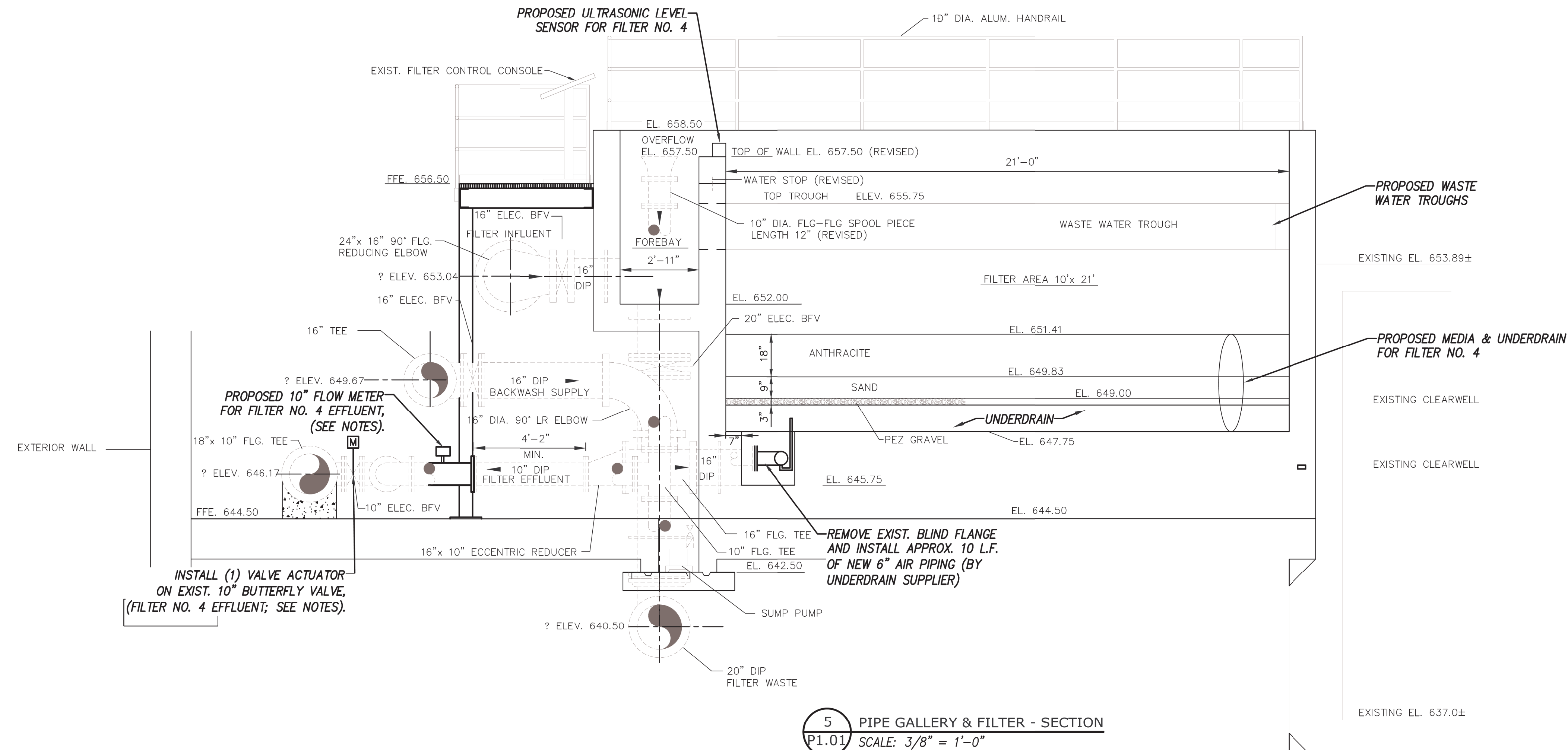
- 1 16" DIA. FLG. 90° ELBOW.
- 2 32" DIA. BLIND FLANGE.
- 3 20" DIA. FLG. BUTTERFLY VALVE WITH ELECTRIC OPERATOR.
- 4 16" DIA. FLG. TEE.
- 5 16" DIA. FLG. 90° LONG RADIUS ELBOW.
- 6 18" x 10" FLG. 90° REDUCING ELBOW.
- 7 24" x 24" x 16" FLG. TEE.
- 8 16" DIA. FLG. TEE.
- 9 18" x 18" x 10" FLG. TEE.
- 10 24" DIA. FLG. TEE.
- 11 24" x 16" FLG. 90° REDUCING ELBOW.
- 12 6" DIA. DIP AIR PIPING, FROM BLOWER.



NOTES:

- 1. EXISTING FACILITIES SHOWN ARE FROM OCTOBER 2008 RECORD DRAWINGS BY HDR ENGINEERING, INC.
- 2. UNLESS OTHERWISE NOTED, ALL EXISTING FACILITIES SHALL REMAIN.
- 3. SEE ELECTRICAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- 4. TO INSTALL NEW FLOW METER, REMOVE EXISTING FLANGE COUPLING ADAPTER AND SPOOL PIECE. INSTALL NEW FLOW METER (FLG.) & INSTALL NEW SPOOL PIECE (FLG.) AS NEEDED.
- 5. PROPOSED VALVE ACTUATOR SHALL MATCH THE EXISTING ACTUATORS ON FILTER NOS. 1 THRU 3. ACTUATOR SHALL BE MANUFACTURED BY AUMA ACTUATORS (PITTSBURGH, PA):
  - 5.1. MODEL: "SA07.1".
  - 5.2. ENCLOSURE: NEMA 4X.
  - 5.3. TORQUE: 7-20.
  - 5.4. OUTPUT: RPM 13.
  - 5.5. LUBE: F15.

PROPOSED ULTRASONIC LEVEL SENSOR FOR FILTER NO. 4



REVISIONS	DATE

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TEL 865.670.8555 | 8550 Kingston Pike  
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CLIENT: **Hardin County Water District**  
1400 RODGERSVILLE ROAD  
RADCLIFF, KENTUCKY 40160

PROJECT: **PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS**

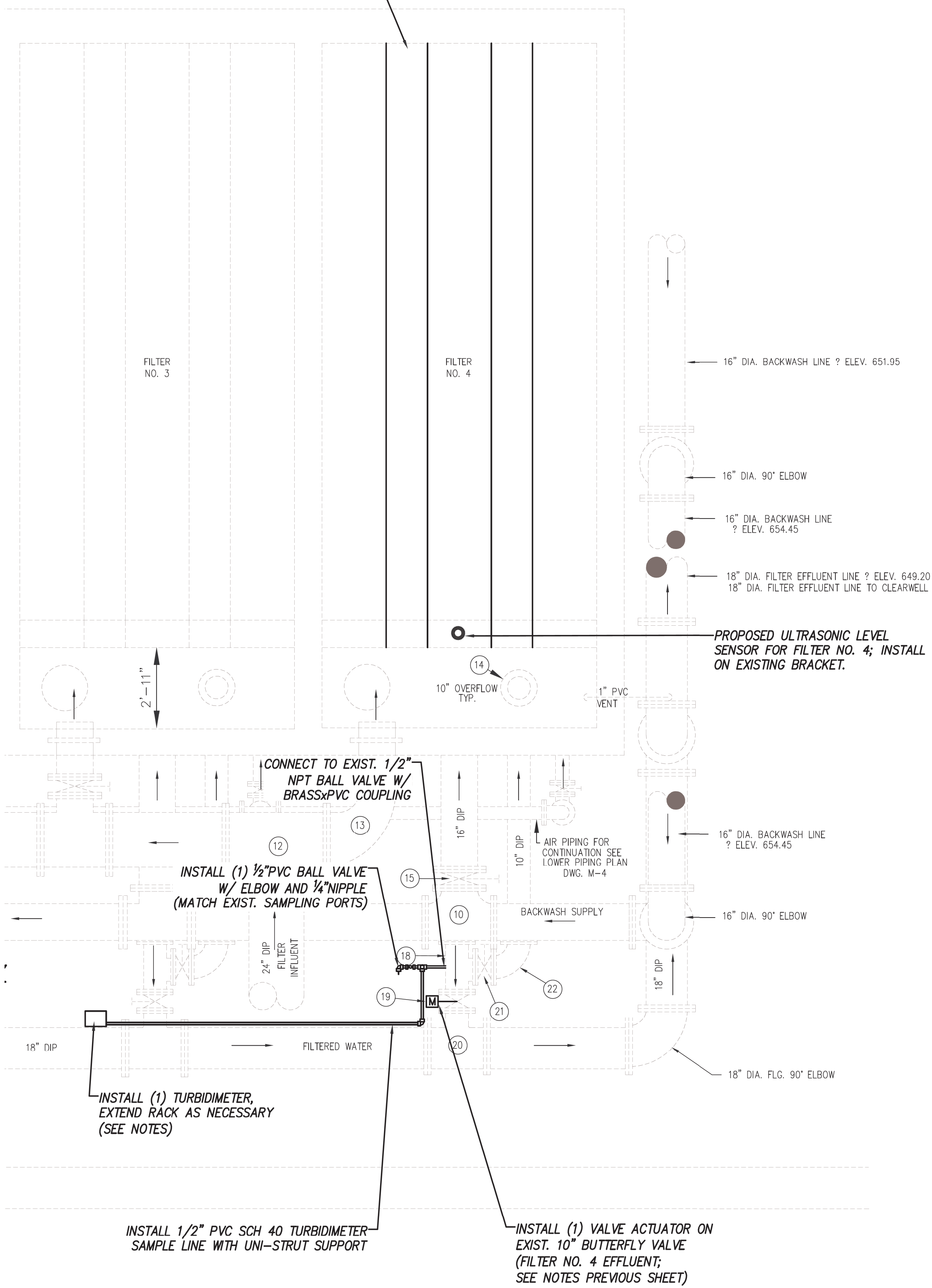
**PIRTLE SPRING W.T.P. FILTER #4 PROFILE & SECTION**

CCI PROJECT NO.	09094-0010
DRAWING DATE	JANUARY 28, 2022
PM	EBG PC TB
DRAWN	WBW FR -

**P1.01**

02/11/2022

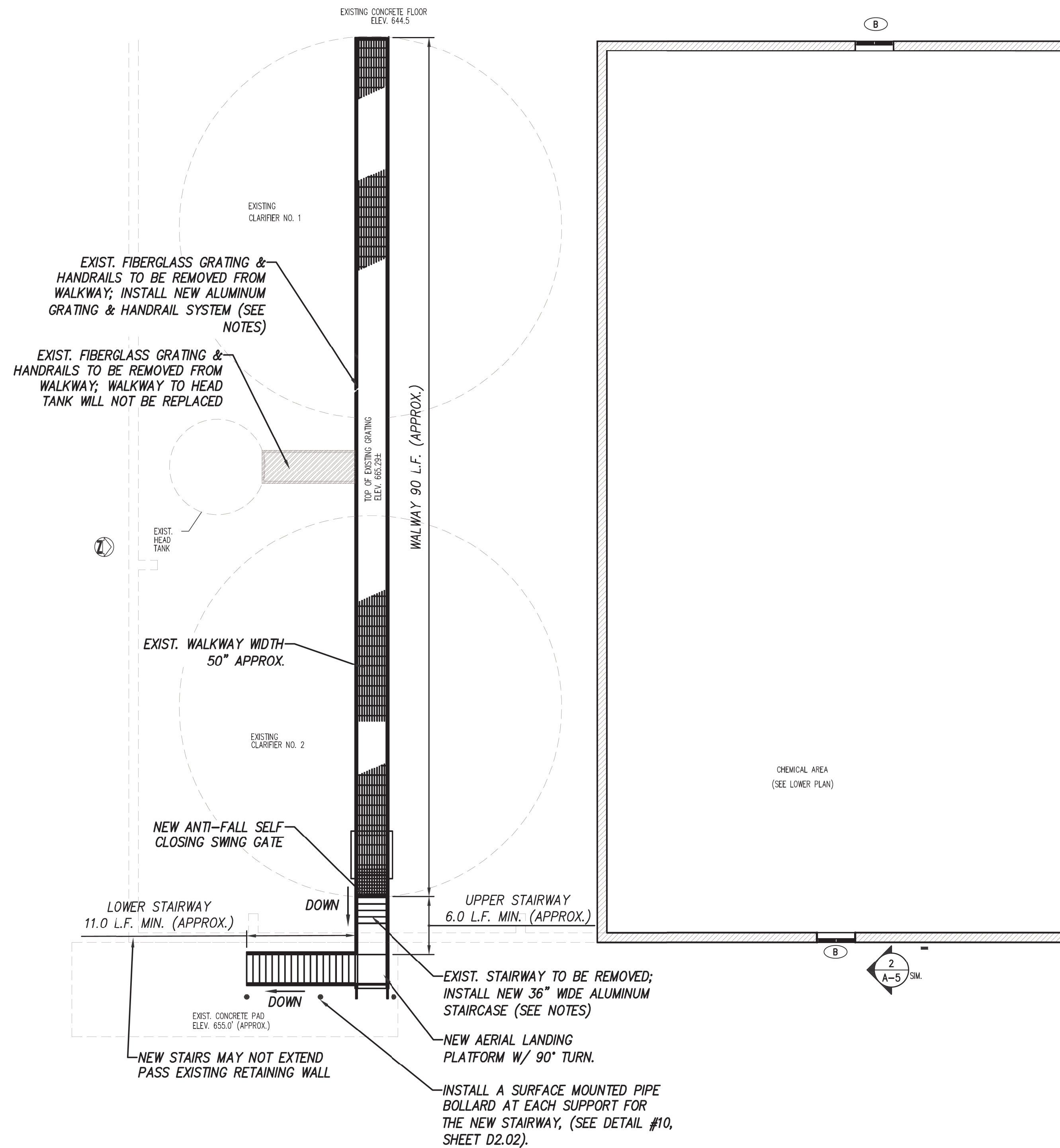
PROPOSED WASTE WATER TROUGHS FOR FILTER NO. 4



PIPE GALLERY & FILTER - PLAN  
SCALE: 3/8" = 1'-0"

NOTES:

- SCOPE OF NEW WALKWAY SYSTEM SHALL INCLUDE THE FOLLOWING:
  - REMOVE THE EXISTING HANDRAILS, FIBERGLASS DECKING, AND STAIRWAY (INCLUDING TREADS, FRAME, & HANDRAILS);
  - EXISTING ELEVATED WALKWAY SUPPORT FRAME THAT IS CONNECTED TO THE CLARIFIER TANKS IS TO REMAIN;
  - INSTALL NEW ALUMINUM GRATING AND HANDRAILS ON WALKWAY;
  - INSTALL NEW ALUMINUM STAIRWAY (INCLUDING TREADS, FRAME, SUPPORTS, HANDRAILS, LANDING, AND CONNECTION TO EXISTING WALKWAY FRAME).
- NEW WALKWAY AND STAIRS SYSTEM SHALL INCLUDE THE FOLLOWING MATERIALS (SEE SECTION 05 5000 "MISCELLANEOUS METALS" FOR ADDITIONAL REQUIREMENTS):
  - MILL FINISHED ALUMINUM;
  - SLIP RESISTANT DECKING & STAIRS;
  - STRUCTURAL FRAMING & SUPPORT;
  - HANDRAILS W/ TOEBOARDS (SHALL MEET ALL OSHA REQUIREMENTS);
  - NO EXPOSED FASTENERS ON HANDRAILS, AND
  - NEW CONCRETE SUPPORT PADS.
- NEW WALKWAY AND STAIR SYSTEM AND CONCRETE SUPPORT PADS ARE DELEGATED DESIGNS. SYSTEMS SHALL BE DESIGNED AND STAMPED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF KENTUCKY.
- ALL EXISTING ELECTRICAL CONDUIT AND EQUIPMENT ATTACHED TO THE EXISTING STRUCTURE SHALL BE REMOVED AND REATTACHED TO THE NEW WALKWAY AND STAIR SYSTEM.
- EXISTING DIMENSIONS AND ELEVATIONS SHOWN BELOW ARE APPROXIMATE. CONTRACTOR SHALL CONFIRM ALL DIMENSIONS AND ELEVATIONS BEFORE ORDERING MATERIALS.



CLARIFIER CATWALK AND STAIRS - PLAN  
SCALE: 1/8" = 1'-0"

NOTES:

- EXISTING FACILITIES SHOWN ARE FROM OCTOBER 2008 RECORD DRAWINGS BY HDR ENGINEERING, INC.
- UNLESS OTHERWISE NOTED, ALL EXISTING FACILITIES SHALL REMAIN.
- SEE ELECTRICAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.



REVISIONS	DATE

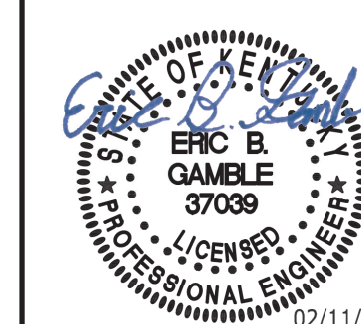
**CANNON & CANNON INC.**  
CONSULTING ENGINEERS · FIELD SURVEYORS  
TEL 865.670.8555 8550 Kingston Pike  
WWW.CANNON-CANNON.COM Knoxville, TN 37919

CLIENT: **Hardin County Water District**  
1400 RODGERSVILLE ROAD  
RADCLIFF, KENTUCKY 40160

PROJECT: **PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS**

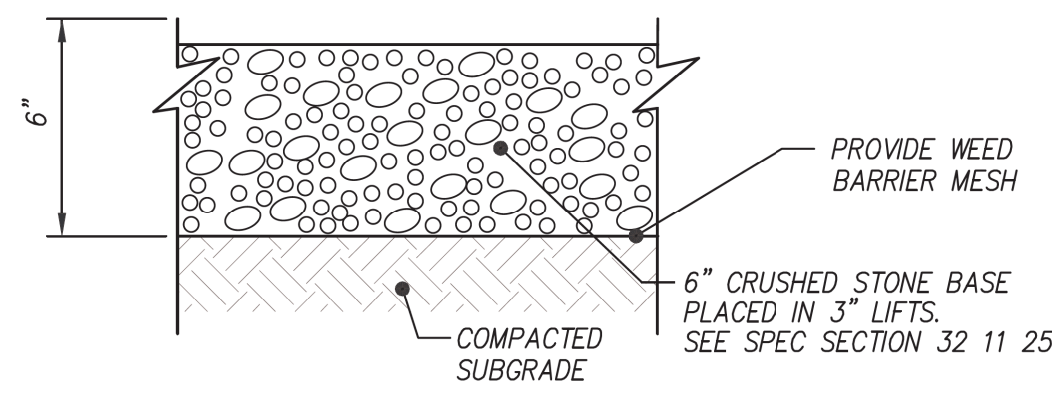
**PIRTLE SPRING W.T.P. FILTER #4 PLAN CLARIFIER CATWALK REPLACEMENT**

CCI PROJECT NO.	09094-0010
DRAWING DATE	JANUARY 28, 2022
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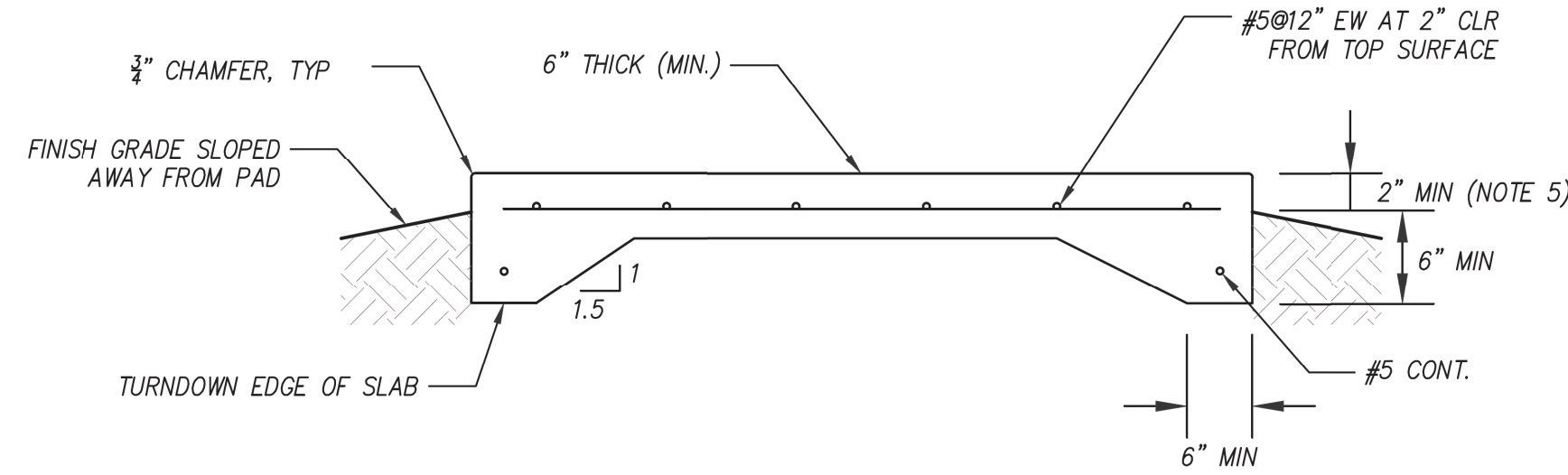
**P1.02**

02/11/2022



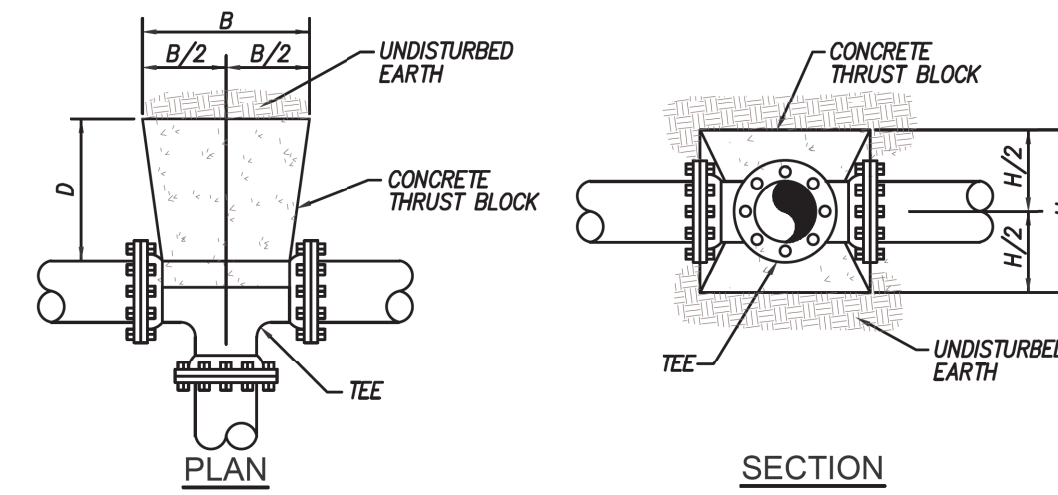
- NOTES:**
- SCARIFY AND RECOMPACT TOP 12 INCHES OF EXISTING SUBGRADE AND EACH LAYER OF BACKFILL OR FILL SOIL MATERIAL AT 95 PERCENT.
  - TEST COMPACTION OF SOILS IN ACCORDANCE WITH THE SPECIFICATIONS.
  - MINIMUM SLOPE OF SUBGRADE AND PAVEMENT SURFACE SHALL BE ONE-QUARTER INCH PER FOOT TO PROMOTE SURFACE DRAINAGE.

1 GRAVEL DRIVE AND PAD SECTION  
N.T.S.

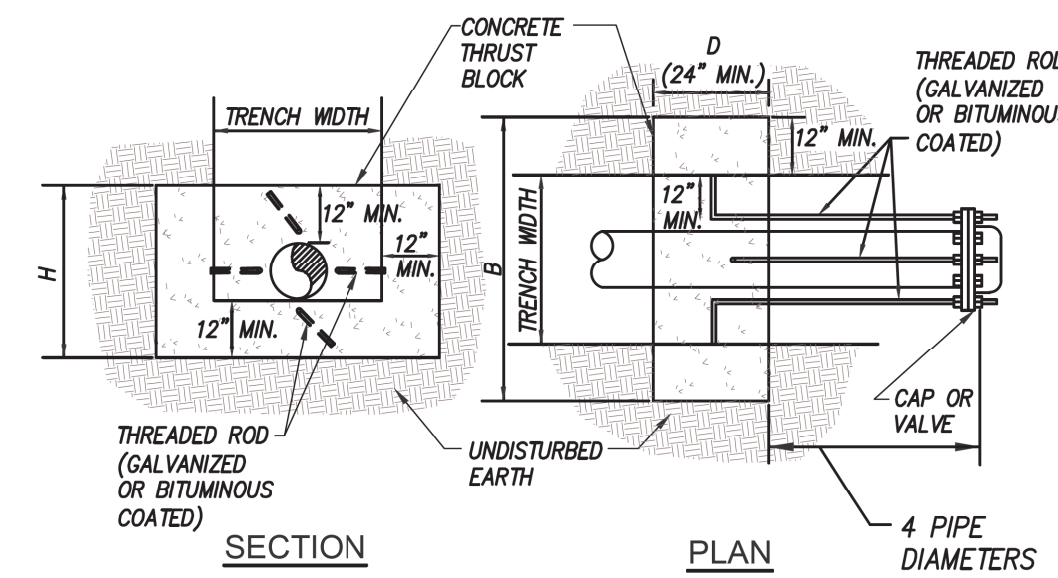


- NOTES:**
- CONCRETE SHALL BE 4,000 PSI COMPRESSIVE STRENGTH AT 28-DAYS.
  - PAD SHALL BEAR ON 8 INCHES OF NO. 67 AGGREGATE COMPACTED IN 4-INCH LIFTS.
  - SEE PLANS FOR PAD DIMENSIONS.
  - INSTALL PER ACI AND ASTM STANDARDS FOR SLABS-ON-GRADE WITH NORMAL WEIGHT CONCRETE.
  - CONCRETE PADS LOCATED IN AGGREGATE DRIVEWAYS, GRADE AGGREGATE SURFACE FLUSH TO PAD EDGES.

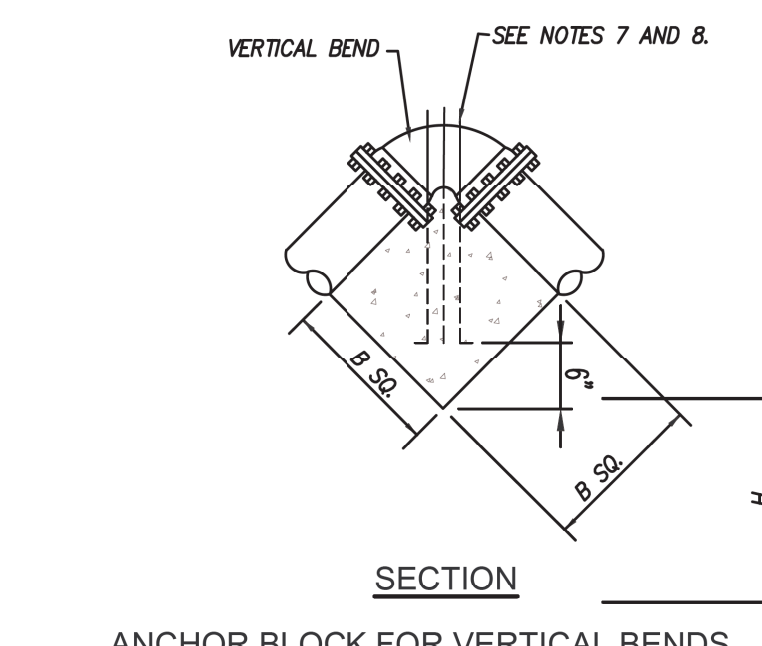
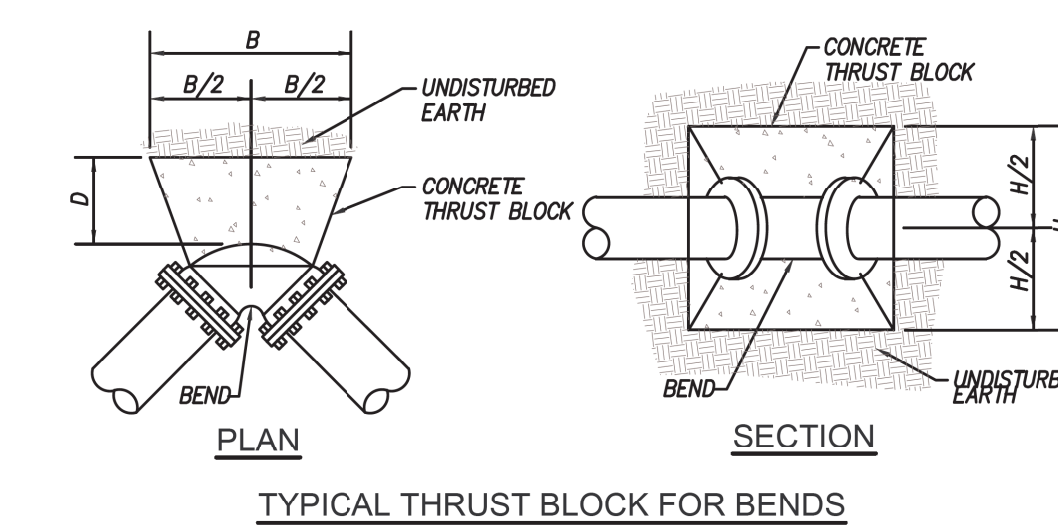
2 CONCRETE PAD DETAIL W/ TURNDOWN  
C1.03 N.T.S.



PIPE DIAM. (INCHES)	TEE, CAP, OR VALVE		
	H	B	D
2-4	1.7'	1.7'	0.7'
6	1.9'	1.9'	0.7'
8	2.1'	2.1'	0.7'
10	2.3'	2.9'	0.8'
12	2.4'	4.1'	0.8'
16	2.9'	5.8'	0.8'



- NOTES:**
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER APPLICATION OF THRUST RESTRAINT SYSTEM TO PREVENT MOVEMENT OF PIPE AND FITTINGS.
  - SYSTEM SHOWN IS DESIGNED FOR 250 PSF TEST PRESSURE, 3 FT. COVER, AND SOIL BEARING CAPACITY OF 3000 PSF MINIMUM. WHERE THIS SYSTEM IS INAPPROPRIATE BECAUSE OF UNSTABLE SOIL OR OTHER CONDITIONS, SUBMIT DETAILS OF ALTERNATE SYSTEM TO OWNER OR ENGINEER FOR APPROVAL.
  - FITTING JOINTS SHALL NOT BE POURED IN CONCRETE OR HAVE CONCRETE SPILLED ON THE BOLTS OR NUTS. THE FITTING SHALL BE WRAPPED IN A LAYER OF POLYETHYLENE PLASTIC PRIOR TO POURING THE THRUST BLOCK.
  - ROD AND EYE BOLT DIAMETER SHALL BE A MINIMUM OF 3/4" AND SHALL MATCH THE SIZE OF THE BOLT PROVIDED WITH THE FITTING.
  - CONTRACTOR SHALL REPLACE FITTING BOLTS WITH THREADED ROD FOR 1/2 OF THE BOLTS SUPPLIED WITH EACH FITTING. RODS SHALL BE EQUALLY SPACED.
  - ALL FITTINGS SHALL BE MECHANICAL JOINT AND HAVE RESTRAINED JOINTS AT THE FITTING AND FOR THE DISTANCE SPECIFIED IN RESTRAINED JOINT PIPE TABLE AND NOTES DETAIL.
  - DIMENSIONS FOR THRUST BLOCKS FOR CAPS AND VALVES SHALL BE THE GREATER OF THE VALUE SHOWN IN THE TABLE OR THE VALUE GOVERNED BY TRENCH WIDTH SHOWN IN THE DETAIL.
  - CONCRETE SHALL BE 4,000 PSI FROM A COMMERCIAL PLANT.
  - ANCHOR BARS: 4" THROUGH 6" PIPE 2 #5  
8" THROUGH 16" PIPE 2 #6
  - ANCHOR BARS TO BE HOTDIP GALV. AFTER FABRICATION. COMPLETELY COAT EXPOSED BARS AFTER INSTALLATION WITH TWO COATS OF BITUMINOUS MASTIC.

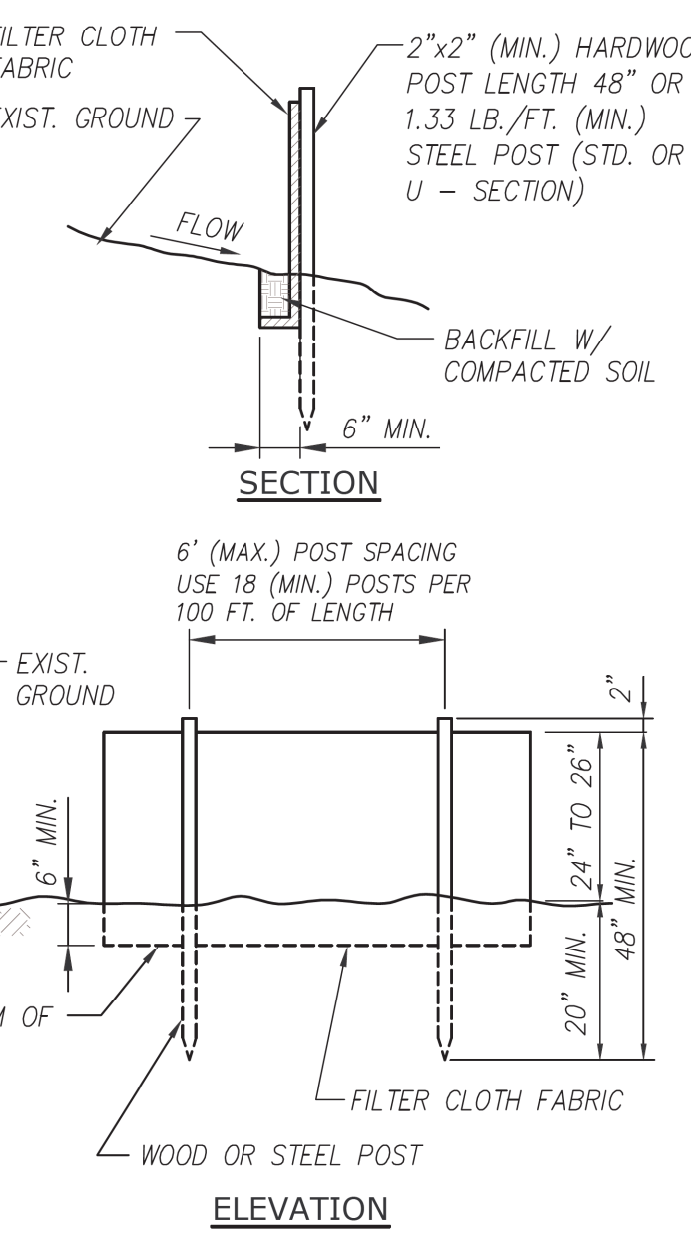


PIPE DIAM. (INCHES)	TYPE											
	90° BEND			45° BEND			22.5° OR 11.25° BEND			ANCHOR B DIMENSION		
	H	B	D	H	B	D	H	B	D	90°	45°	22.5°
2-4	1.7'	1.7'	0.7'	1.7'	1.7'	0.7'	1.7'	1.7'	0.7'	2.8'	2.5'	2.0'
6	1.9'	1.9'	0.7'	1.9'	1.9'	0.7'	1.9'	1.9'	0.7'	3.7'	3.3'	2.7'
8	2.2'	2.7'	0.8'	2.0'	2.0'	0.7'	2.0'	2.0'	0.7'	4.4'	3.9'	3.2'
10	2.3'	4.0'	0.8'	2.3'	2.3'	0.7'	2.2'	2.2'	0.7'	5.1'	4.6'	3.7'
12	2.6'	5.1'	0.9'	2.3'	3.1'	0.7'	2.3'	2.3'	0.7'	5.8'	5.2'	4.2'
16	3.5'	6.8'	1.1'	2.6'	5.0'	0.7'	2.7'	2.7'	0.7'	7.0'	6.2'	5.1'

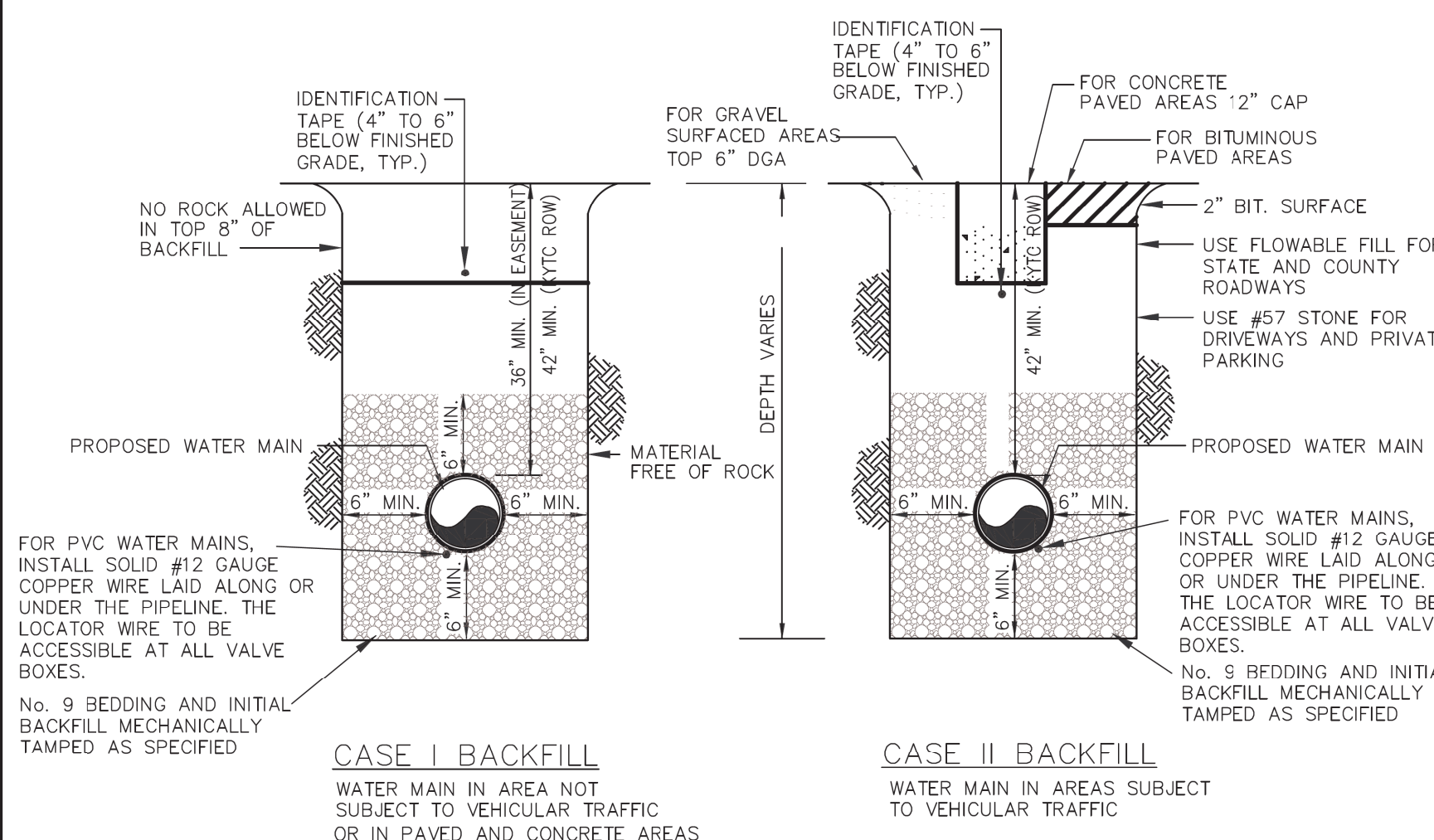
THRUST BLOCK DIMENSIONS

7 TYPICAL CONCRETE BLOCKING FOR BENDS, TEES AND DEAD-ENDS  
W1.02 N.T.S.

- NOTES:**
- SILT FENCE SHALL BE PRE-ASSEMBLED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
  - SILT FENCE SHALL HAVE 14 TO 11 GAUGE WIRE BACKING OR A BUILT-IN REINFORCED STRUCTURE AS RECOMMENDED BY THE MANUFACTURER TO SUPPORT THE GEOTEXTILE FABRIC.

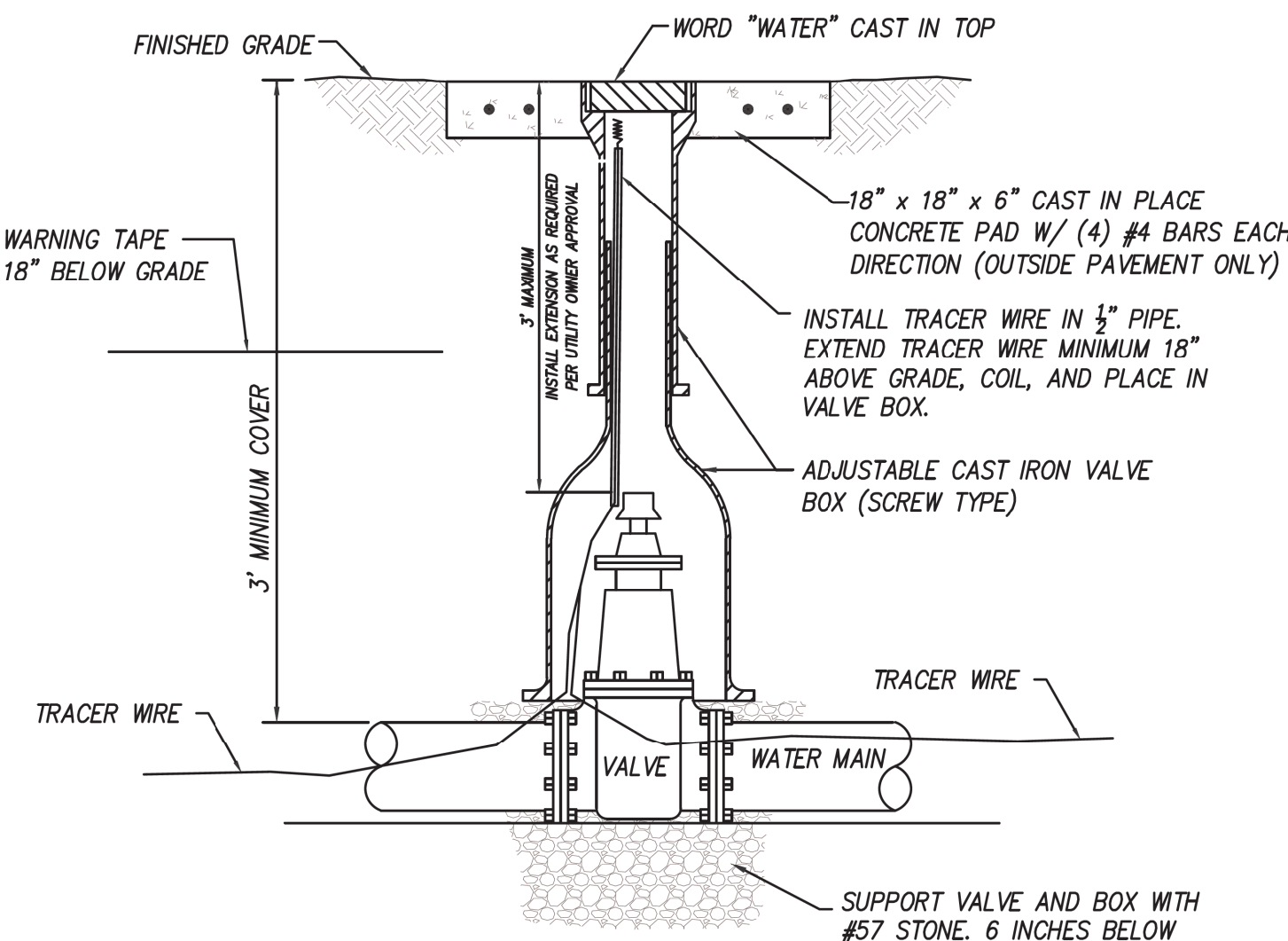


3 TEMPORARY SILT FENCE TYPE "C"  
N.T.S.



- NOTES:**
- MAXIMUM TRENCH WIDTH SHALL BE 1' OF ADDITIONAL WIDTH.
  - REFERENCE DIVISION 31 FOR ADDITIONAL REQUIREMENTS.

4 TRENCH RESTORATION  
N.T.S.



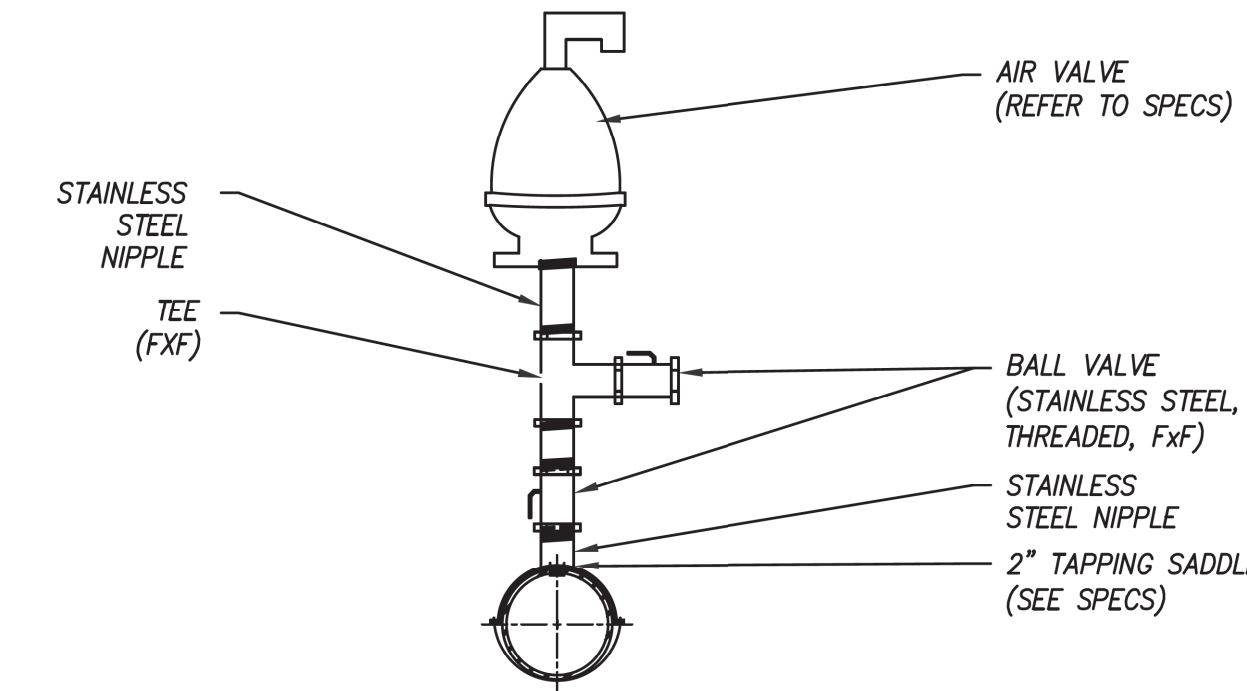
- NOTE:**
- WATER VALVE SHALL HAVE A FIBERGLASS LOCATOR MARKER (OUTSIDE OF PAVEMENT ONLY) AT OWNER'S DIRECTION.
  - CONCRETE SUPPORT PAD 6" LARGER THAN VALVE REQUIRED ON GATE VALVES 10" AND LARGER ONLY.

5 TYPICAL VERTICAL GATE VALVE INSTALLATION  
N.T.S.

Fitting/Valve Type	Pipe Size (inches)			
	4	6	8	10
Plug/Cap	47	66	86	103
Inline Valve	47	66	86	103
Tee	47	66	86	103
90° Bend	23	40	41	49
45° Bend	10	13	17	20
22.5° Bend	5	7	9	10
11.25° Bend	3	4	4	5

- NOTES:**
- CONTRACTOR SHALL USE RESTRAINED JOINT FITTINGS FOR EACH FITTING AND VALVE INSTALLED ON THE PROJECT.
  - WHERE RESTRAINED JOINT FITTINGS ARE REQUIRED BY THE PLANS, RESTRAINED JOINT FITTINGS MUST BE INSTALLED AS REQUIRED BY THE TABLES AND NOTES FOUND WITHIN THE PLANS AND SPECIFICATIONS.
  - RESTRAINED JOINT FITTINGS SHALL BE "MEGALUG" AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.
  - CONTRACTOR SHALL INSTALL RESTRAINING GASKETS FOR PUSH-ON JOINT PIPE A MINIMUM DISTANCE FROM EACH VALVE OR FITTING AS REQUIRED IN THE ABOVE TABLE.
  - RESTRAINING GASKETS FOR PUSH-ON JOINT PIPE SHALL BE "FIELD LOK350" AS MANUFACTURED BY U.S. PIPE OR APPROVED EQUAL.

6 RESTRAINED JOINT TABLE AND NOTES  
N.T.S.



- NOTES:**
- BALL VALVE, NIPPLE, AND APPURTENANCES TO BE SAME DIAMETER AS COMBINATION AIR RELEASE VALVE INLET.
  - PAY ITEM INCLUDES SERVICE SADDLE.
  - PIPE, VALVES, AND FITTINGS SHALL BE THREADED, NPT.
  - CONTACT OWNER FOR DIRECTION ON INSTALLATIONS REQUIRING AN AIR VALVE LARGER THAN 2-INCHES.
  - PROVIDE BRACING SUPPORT IF SO REQUIRED BY OWNER.
  - THIS DETAIL IS FOR USE WITH PRESSURE SYSTEM THAT MAY CONTAIN SOLIDS SUCH AS WASTEWATER AND RAW GROUNDWATER.

8 AIR VALVE ASSEMBLY DETAIL  
N.T.S.



REVISIONS \_\_\_\_\_ DATE \_\_\_\_\_

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RADCLIFF, KENTUCKY 40160

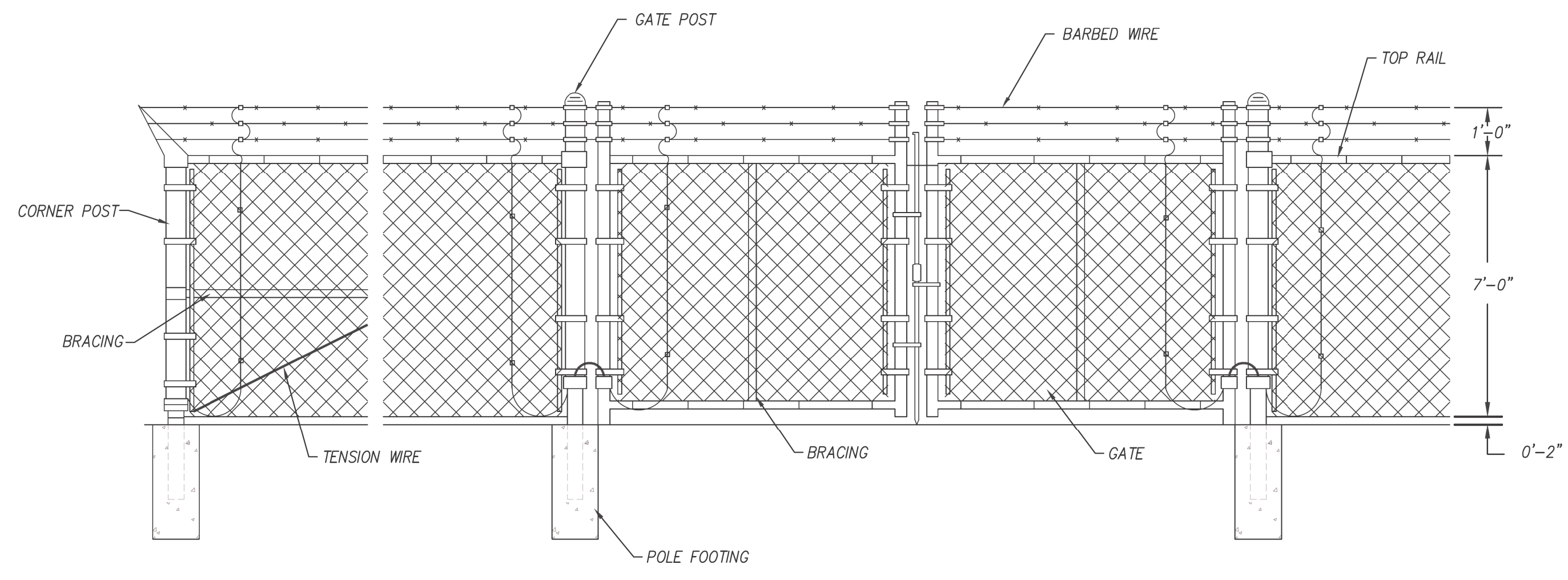
PROJECT: **PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS**

TYPICAL DETAILS

CCI PROJECT NO.	00904-0010
DRAWING DATE	JANUARY 28, 2022
PM	EBG PC TB
DRAWN	WBW FR -

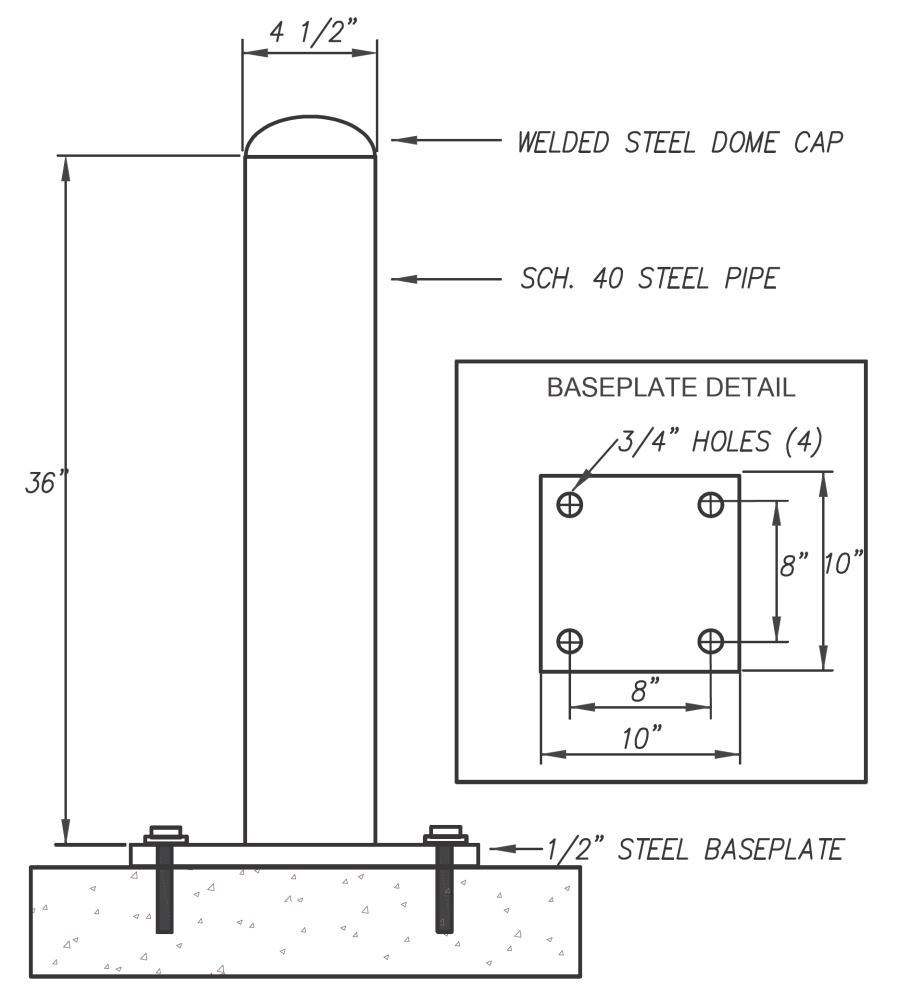
**D1.01**

02/11/2022



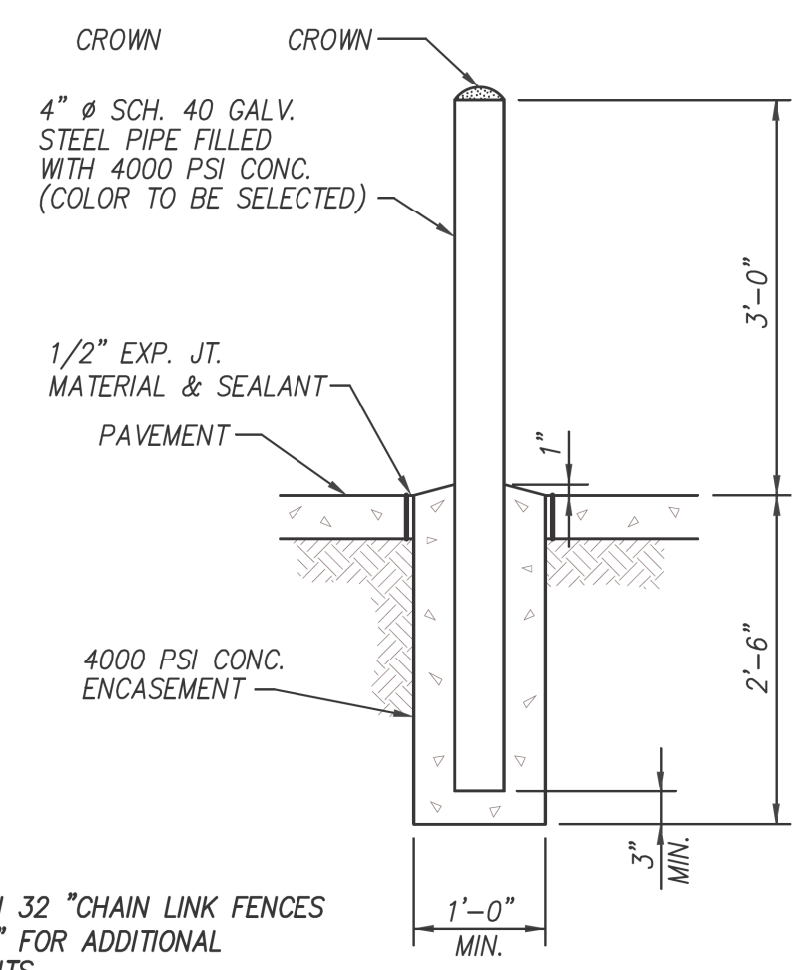
9 SECURITY FENCE DETAIL  
C1.03 N.T.S.

NOTE:  
1. REFERENCE DIVISION 32 FOR ADDITIONAL REQUIREMENTS.



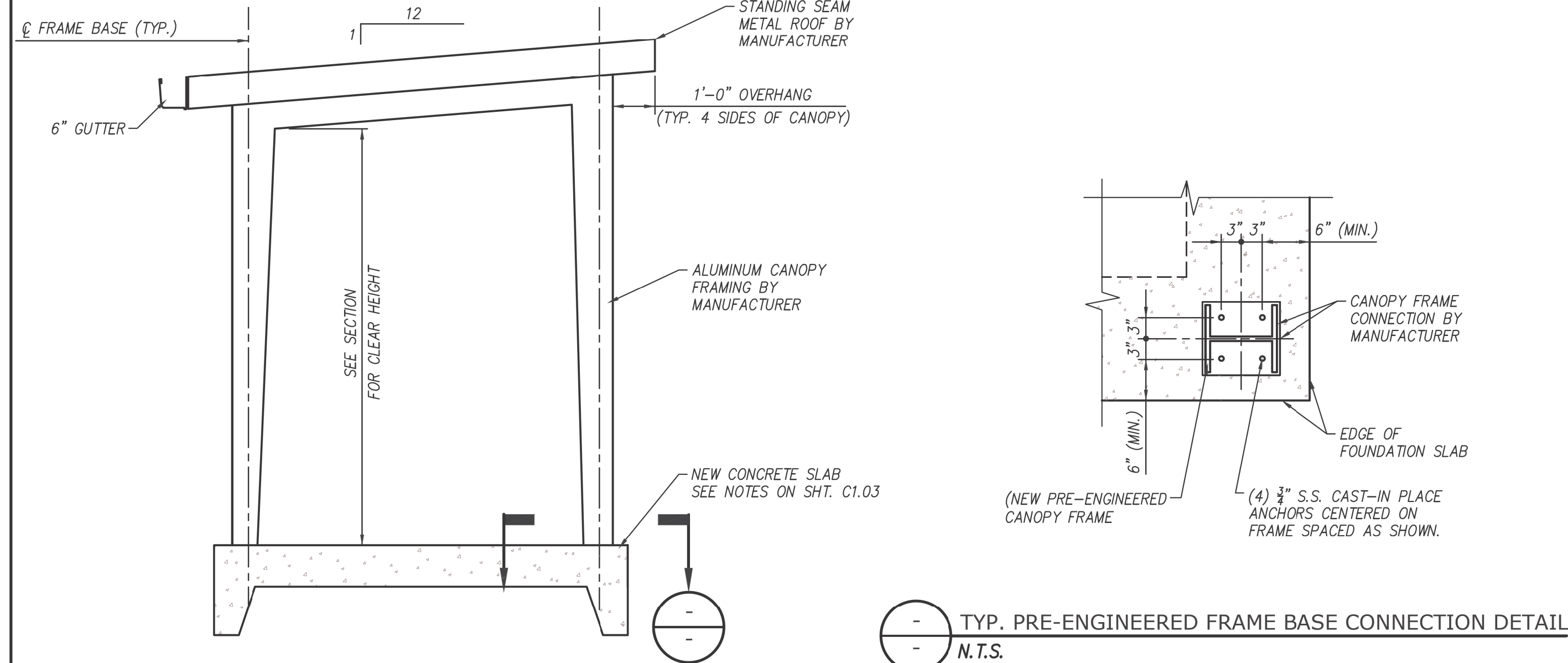
10 4" PIPE BOLLARD (SURFACE MOUNT)  
C2.01 N.T.S.

NOTES:  
1. ANCHOR BOLTS SHALL BE PER MANUFACTURER'S RECOMMENDATION  
2. SEE DIVISION 32 "CHAIN LINK FENCES AND GATES" FOR ADDITIONAL REQUIREMENTS.



11 4" PIPE BOLLARD (IN-GROUND)  
P1.02 N.T.S.

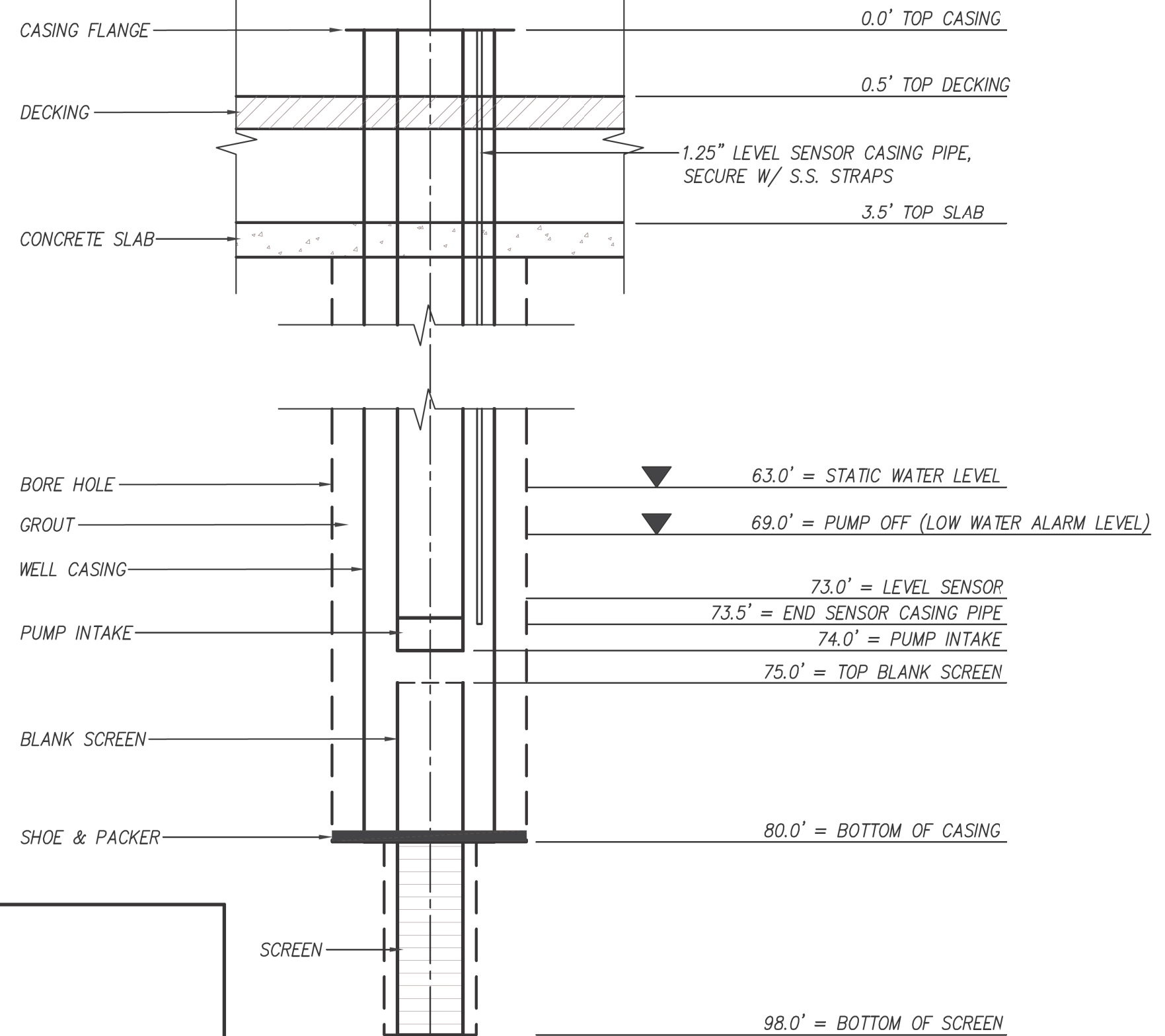
NOTES:  
1. SEE DIVISION 32 "CHAIN LINK FENCES AND GATES" FOR ADDITIONAL REQUIREMENTS.



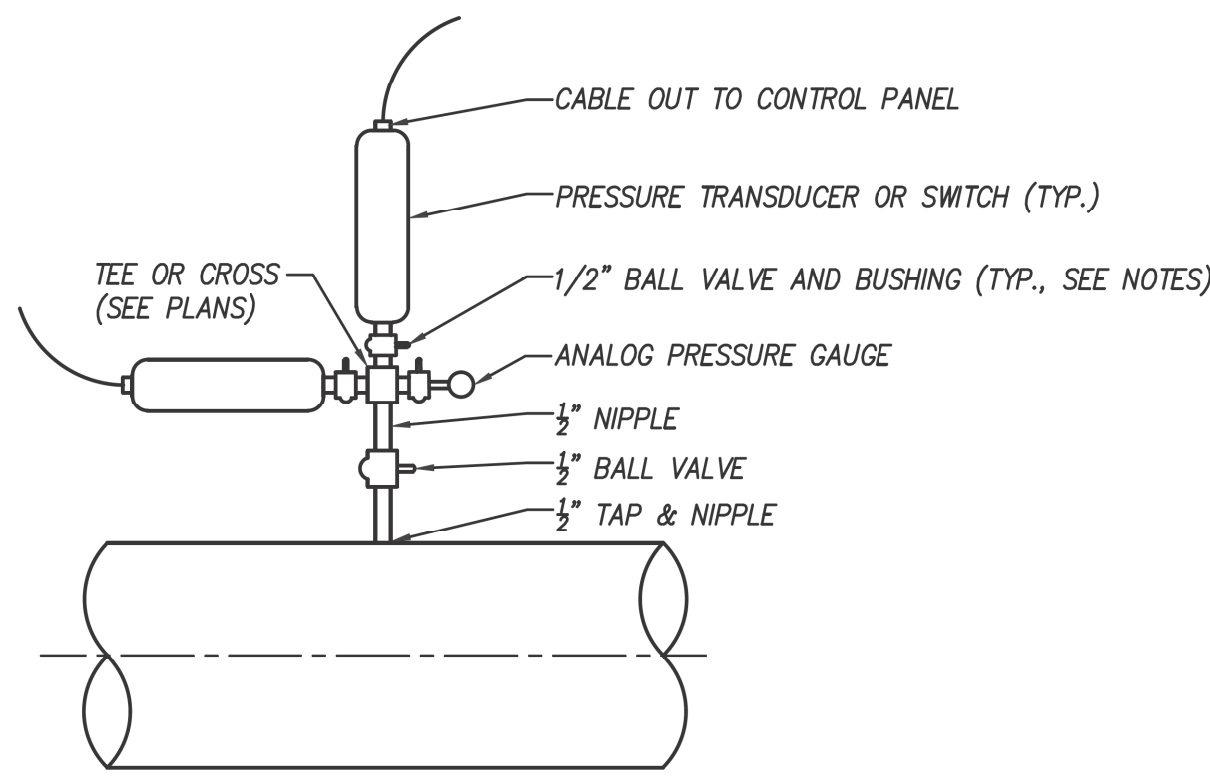
12 CANOPY SECTION  
N.T.S.

TYP. PRE-ENGINEERED FRAME BASE CONNECTION DETAIL  
N.T.S.

(NEW PRE-ENGINEERED CANOPY FRAME)  
(4) 3/8" S.S. CAST-IN PLACE ANCHORS CENTERED ON FRAME SPACED AS SHOWN.

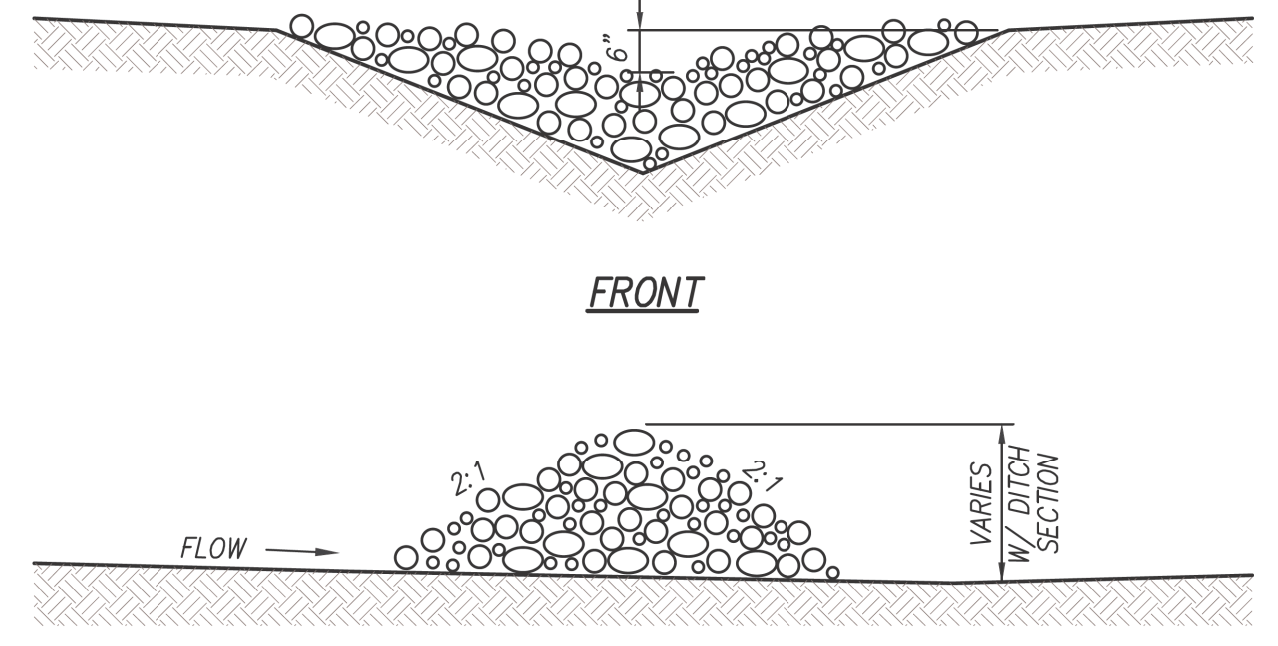


NOTES:  
1. DEPTHS SHOWN HERE ARE FOR BASE BID.  
2. EXISTING HEIGHT FROM TOP OF SLAB TO CASING FLANGE IS 2.5'.



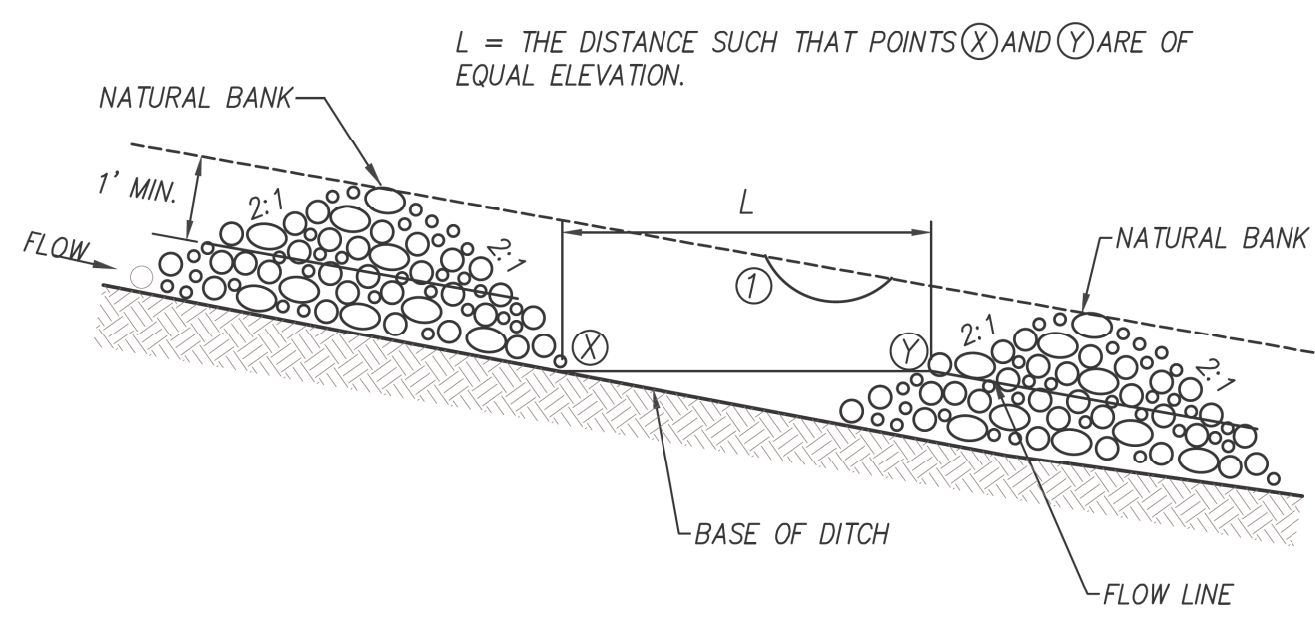
NOTES:  
1. DUCTILE IRON PIPE TAP WITH PIPE SADDLE. BUSHINGS ARE REQUIRED.  
2. FITTINGS SHALL BE BRASS WITH NPT THREADED ENDS.  
3. SEE PLAN SHEETS FOR LIST OF INSTRUMENTATION TO BE INSTALLED AT EACH TAP LOCATION.  
4. INSTALL AN ISOLATION BALL VALVE FOR EACH INSTRUMENT ON A SINGLE TAP.  
5. INSTALL BUSHINGS TO MATCH DIAMETER OF PRESSURE INSTRUMENT.

13 PRESSURE TRANSDUCER DETAIL  
C2.02 N.T.S.



NOTES:  
1. STONE SHALL BE 2"-3".  
2. CONSTRUCT, MAINTAIN, AND REMOVE IN ACCORDANCE WITH THE KENTUCKY EROSION PREVENTION & SEDIMENT CONTROL HANDBOOK.

15 TEMPORARY ROCK CHECK DAM  
C2.01 N.T.S.

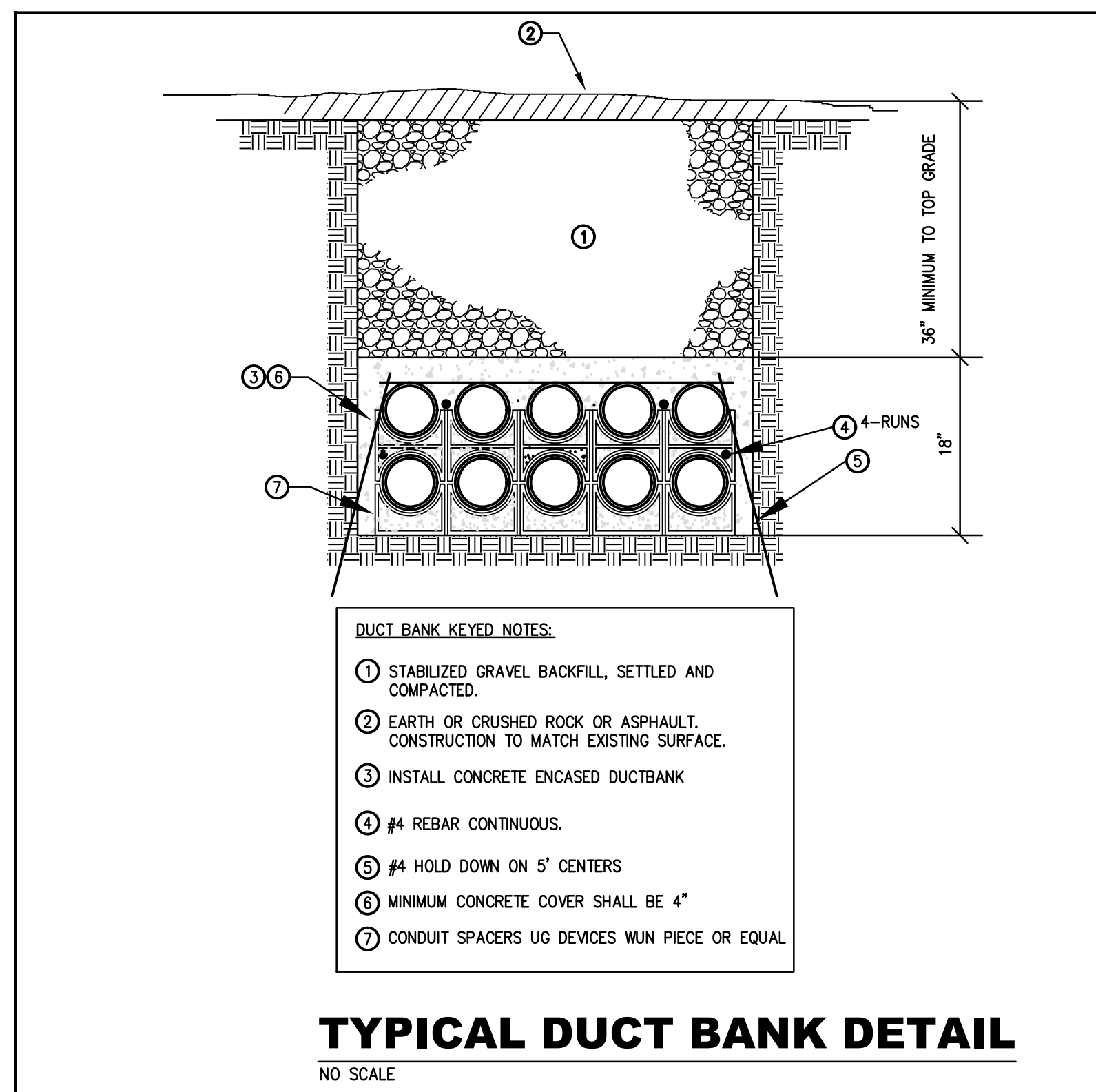


NOTES:  
1. FILL LOW AREAS ALONG TOP OF BANK THAT WOULD ALLOW BACKWATER TO EXIT DITCH.

14 PROPOSED WELL PROFILE DETAIL  
N.T.S.



REVISIONS	DATE
 CONSULTING ENGINEERS · FIELD SURVEYORS TEL 865.670.8555 8550 Kingston Pike WWW.CANNON-CANNON.COM Knoxville, TN 37919	
CLIENT:	<b>Hardin County</b> <b>Water District</b> 1400 RODGERSVILLE ROAD RADCLIFF, KENTUCKY 40160
PROJECT:	<b>PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS</b>
<b>TYPICAL DETAILS</b>	
	CCI PROJECT NO. 00904-0010 DRAWING DATE JANUARY 28 2022 PM EBG PC TB DRAWN WBW FR -
<b>D1.02</b>	



### CONTROL & MONITORING CONNECTION SCHEDULE

DESCRIPTION	FROM	TO	# OF LOCATIONS	CONDUCTOR SIZE FOR EACH LOCATION
BUILDING SMOKE DETECTOR	DEVICE	RTU	(1)	2#14, #14GND
STATION HATCH INTRUSION ALARM	DEVICE	RTU	(1)	2#14, #14GND
WATER PUMP RUNNING/FAULT	PCP	RTU	(2)	4#14, #14GND
SUCTION PRESSURE	PCP	RTU	(1)	4C#16 TSP
DISCHARGE PRESSURE	PCP	RTU	(1)	4C#16 TSP
HIGH SUCTION ALARM	PCP	RTU	(1)	4C#16 TSP
STATION FLOW	PCP	RTU	(1)	4C#16 TSP
DISCHARGE VALVE	DEVICE	PCP	(1)	10#14, #14GND.
SUMP PUMP HIGH ALARM	DEVICE	RTU	(1)	2#14, #14GND.
VENTILATION BLOWER ALARM	DEVICE	RTU	(1)	2#14, #14GND.

**CONNECTION SCHEDULE NOTES:**

- "PCP" INDICATES PUMP CONTROL PANEL.
- "VFD" INDICATES VARIABLE FREQUENCY DRIVE.
- "RTU" INDICATES SCADA RTU

### ELECTRICAL LEGEND

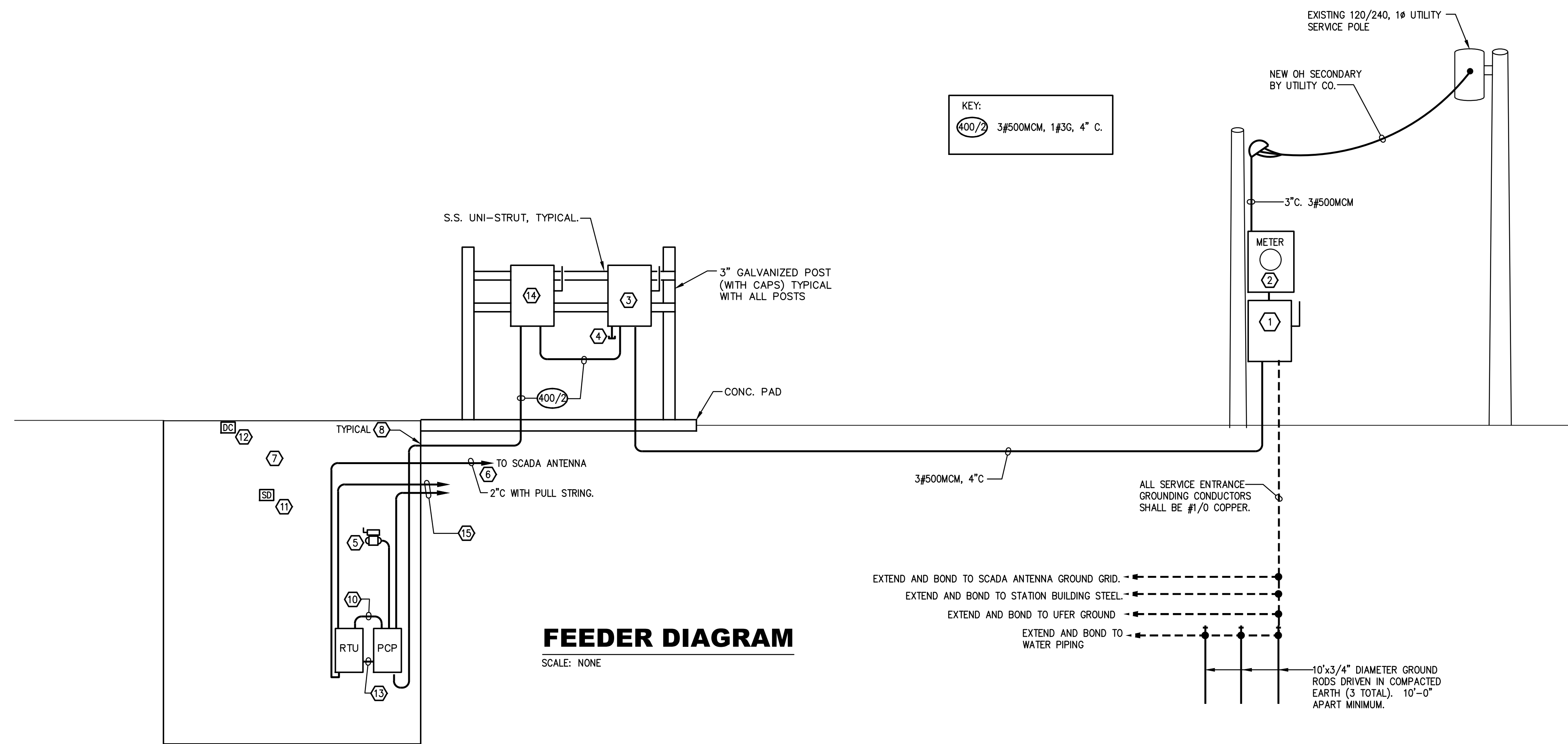
STANDARD ABBREVIATIONS AND NOTATIONS		
A AMPERE (AMPS)	HP HORSEPOWER	TSP TWISTED SHIELDED PAIR
AC INDICATES DEVICE SHALL BE MOUNTED ABOVE COUNTERTOP	IMC INTERMEDIATE METALLIC CONDUIT	UC UNDER COUNTER. INDICATES DEVICE SHALL BE LOCATED BELOW THE COUNTERTOP.
AFF ABOVE FINISHED FLOOR	KOML 1000 CIRCULAR MILS. SAME AS "KOM".	UCN UNLESS OTHERWISE NOTED
AFG ABOVE FINISHED GRADE	KVA KILOWATT-AMPS	V VOLTS
AFI ARC FAULT INTERRUPTER (AT O.KT. BKR.)	KW KILOWATT	W WATTS
AIC AMPS INTERRUPTING CURRENT	MCA MINIMUM CIRCUIT AMPS	WG INDICATES DEVICE SHALL BE PROVIDED WITH WIRE GUARD
BKR BREAKER	MCC MOTOR CONTROL CENTER	WP WEATHERPROOF
C CONDUIT	MCM 1000 CIRCULAR MILS. SAME AS "KOMIL".	XFMR TRANSFORMER
CKT CIRCUIT	N NEUTRAL	4X SS DEVICES SHALL BE STAINLESS STEEL AND RATED NEMA 4X.
CU COPPER CONDUCTOR	NIC NOT IN CONTRACT	EP DEVICES SHALL BE EXPLOSION PROOF RATING INDICATED ON DRAWING
DISC DISCONNECT	NL NIGHT LIGHT. LUMINAIRE SHALL BE UNSWITCHED EXCEPT FOR CIRCUIT BREAKER.	
DN DOWN	PC INDICATES DEVICE IS CONTROLLED BY PHOTOCELL OR TIMECLOCK	
EM CONNECTED TO EMERGENCY POWER	PVC POLYVINYLCHLORIDE CONDUIT. CLASSIFIED AS RIGID NONMETALLIC CONDUIT PER NEC. SCHEDULE 40 UON.	
EMT ELECTRICAL METALLIC TUBING	OR INDICATES LUMINAIRE SHALL BE PROVIDED WITH QUARTZ RESTRIKE	
FLA FULL LOAD AMPS	SCCR SHORT-CIRCUIT CURRENT RATING	
G GROUND (ALSO "GND")	TR TAMPER RESISTANT	
GFI GROUND-FAULT CIRCUIT-INTERRUPTER (ALSO "GFCI")		
GRS GALVANIZED RIGID STEEL CONDUIT		

SYMBOL	DESCRIPTION
<b>"A"</b>	PANELBOARD - FLUSH OR SURFACE MOUNTED AS INDICATED. MOUNT TOP OF PANEL AT 6'-0" OR AT NEAREST MASONRY JOINT. "A" INDICATES THE PANEL DESIGNATION. SEE PANELBOARD SCHEDULE FOR PANELBOARD REQUIREMENTS.
	CONDUIT INSTALLED IN CEILING OR WALL CONSTRUCTION.
	CONDUIT INSTALLED UNDERGROUND OR BELOW THE FLOOR CONSTRUCTION.
	HOMERUN - EXTEND CONDUIT TO THE PANELBOARD OR DEVICE INDICATED. NUMBER OF CROSSHATCHED LINES INDICATES THE QUANTITY OF CURRENT CARRYING CONDUCTORS (NOT INCLUDING THE GROUND CONDUCTOR) WHERE MORE THAN TWO. ALL CIRCUITS SHALL HAVE SEPARATE NEUTRALS SHALL BE CONNECTED TO DIFFERENT PHASES WITHIN THE PANELBOARD REGARDLESS OF THE NUMBERING ON THE DRAWINGS. ALL CONDUIT RUNS SHALL BE PROVIDED WITH A GREEN CODE SIZE EQUIPMENT GROUNDING CONDUCTOR THAT SHALL BOND TO THE GROUNDING BUS BAR IN THE PANELBOARD.
	WALL SWITCH - RATED FOR 20-AMP OPERATION AT LINE VOLTAGE. SINGLE POLE UNLESS NOTED 3-WAY OR 4-WAY. MOUNT 48" ABOVE FINISHED FLOOR EXCEPT IN MASONRY WHERE THE HEIGHT SHALL BE ADJUSTED TO HAVE EDGE OCCUR AT NEAREST JOINT.
	GROUND FAULT CIRCUIT INTERRUPTING DUPLEX RECEPTACLE - 120-VOLT, 20-AMP WITH GFCI PROTECTION IN THE RECEPTACLE. MOUNTING HEIGHT AND NOTATIONS SAME AS FOR DUPLEX RECEPTACLE.
	FUSED DISCONNECT SWITCH - RATING TO MATCH THE REQUIREMENTS OF THE EQUIPMENT BEING SERVED. HEAVY DUTY NEMA 4XSS UNLESS NOTED OTHERWISE.
	JUNCTION BOX - SIZE AND USE AS REQUIRED. WHEN RECESSED COVERPLATE SHALL OVERLAP THE BOX EDGE BY 1/2".

**GENERAL NOTES:**

- THE ELECTRICAL CONTRACT WORK SHALL INCLUDE ALL ELECTRICAL MATERIALS AND INSTALLATION TO RESULT IN A PUMP STATION READY AND SUITABLE FOR USE AS INTENDED BY OWNER. THE CONTRACTOR SHALL REFER TO ALL PLANS INCLUDING THE SITE, ARCHITECTURAL, AND MECHANICAL PLANS.
- ALL ELECTRICAL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ITS SUPPLEMENTS IN FORCE AT THE TIME OF BID OPENING, AND ALL MATERIALS EMPLOYED SHALL BE UL LISTED AND APPROVED AND BEAR THE UL OFFICIAL LABELS WHERE SUCH LABELING IS CUSTOMARY. IN THE EVENT THAT LOCAL CODES ARE MORE RIGID THAN THE NATIONAL CODE, BOTH CODES SHALL THEN BE CONSIDERED AS JOINTLY GOVERNING AND THE REQUIREMENTS OF THE MOST RIGID SHALL THEN PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SELECTION AND APPLICATION OF MATERIALS AND METHODS OF THEIR INSTALLATION.
- ALL SCADA INTEGRATION EQUIPMENT, PROGRAMMING, AND STARTUP SHALL BE INCLUDED UNDER A SEPARATE CONTRACT. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE SCADA EQUIPMENT WITH THE INSTALLATION OF THE PUMP CONTROL PANEL WHICH IS INCLUDED IN THE CONTRACTOR'S SCOPE OF WORK. OWNER FURNISHED SCADA EQUIPMENT SHALL BE MOUNTED INSIDE THE PUMP STATION ENCLOSURE. CONTRACTOR SHALL PROVIDE PROVISIONAL SPACE INSIDE STATION TO MOUNT THIS SCADA EQUIPMENT.
- CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL DEVICES PRIOR TO ROUGH-IN.
- COORDINATE ALL WIRING WITH EQUIPMENT SHOP DRAWING PRIOR TO ROUGH-IN.
- ALL EXPOSED OR SURFACE-MOUNTED CONDUITS AND FITTINGS INSIDE PUMP STATION SHALL BE SCHEDULE 80PVC ALL BOXES AND CLAMPS SHALL BE STAINLESS STEEL.
- ALL DISCRETE AND ANALOG CONTROL SIGNALS SHALL BE INSTALLED IN SEPARATE CONDUITS.



**DRAWING NOTES:**

- NEMA 4XSS 240V 1PH, 400A FUSED DISCONNECT. MOUNT ON EXISTING POLE. SERVICE ENTRANCE RATED.
- NEW METER BASE. COORDINATE WITH LOCAL UTILITY CO.
- MANUAL TRANSFER SWITCH, NEMA4XSS SOLID NEUTRAL NON-FUSED, LOCKABLE IN ALL POSITIONS. 400A, 120/240V.
- PROVIDE 2-4" STUB OUT AND THREADED END CAP FOR OWNER CONNECTION TO MOBILE GENERATOR.
- PROVIDE POWER AND CONTROL WIRING TO MOTOR ACTUATED DISCHARGE VALVE LOCATED INSIDE STATION ENCLOSURE. EXTEND 2#12, #12GND FOR POWER AND CONTROLS AS INDICATED IN MONITORING SCHEDULE. PROVIDE NEMA 4XSS DISCONNECT AT VALVE. COORDINATE VOLTAGE WITH SHOP DRAWINGS.
- ALL CONDUIT ELBOWS SHALL BE 36" LONG SWEEPS FOR ANTENNA WIRING
- UNDERGROUND PACKAGED PUMP STATION ENCLOSURE. SEE CIVIL SHEETS.
- PROVIDE WATERTIGHT SEAL AROUND ALL CONDUITS ENTERING THE PUMP STATION ENCLOSURE. COORDINATE SEAL TYPE WITH PUMP STATION MANUFACTURER. SEAL THE INTERIOR OF ALL CONDUITS WITH POLYWATER CONDUIT SEALANT TO PREVENT ANY WATER ENTERING THE INTERIOR OF THE CONDUITS.
- UNDERGROUND PACKAGED PUMP STATION ENCLOSURE. SEE CIVIL SHEETS.
- PROVIDE 120V CONNECTION TO SCADA RTU. 3/4"C, 2#12, #12GND
- SMOKE DETECTOR GENTEX C713CS 120V. CONNECT TO SCADA PANEL 3/4"C, 2#14. CONNECT TO NEAREST 120V CIRCUIT.
- PROVIDE AND INSTALL SENTROL CONTACT ON HATCH TO STATION. EXTEND 3/4"C AND WIRING TO SCADA RTU AS REQUIRED.
- PROVIDE AND INSTALL 3-1 1/2"C WITH WIRING FROM PCP TO RTU FOR STATION MONITORING.
- NEMA 4XSS 240V 1PH, 400A FUSED DISCONNECT.
- PROVIDE 120V CONNECTION TO STATION FLOWMETER. 3/4"C, 2#12, #12GND. 1"C WITH 4-20mA SIGNAL TO SCADA RTU.

REVISIONS	DATE
 CONSULTING ENGINEERS - FIELD SURVEYORS TEL: 865.670.8555   8550 Kingston Pike WWW.CANNON-CANNON.COM   Knoxville, TN 37919	
CLIENT:	 1400 RODGERSVILLE ROAD RADCLIFF, KENTUCKY 40160
PROJECT:	<b>PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS</b>
<b>BRIZENDINE BOOSTER PUMP STATION - LEGEND, DETAILS, AND FEEDER DIAGRAM</b>	
	CCI PROJECT NO. 00904-0010 DRAWING DATE JANUARY 3, 2022 PM RAC PC RAC DRAWN JCM FR -
E1.01	

**WWR ENGINEERS INC.**  
 5417 Ball Camp Pike  
 Knoxville, TN 37921  
 Phone: (865) 588-2431  
 Fax: (865) 588-2434  
**West, Welch, Reed Engineers, Inc.**  
 WWR PROJECT# 121075

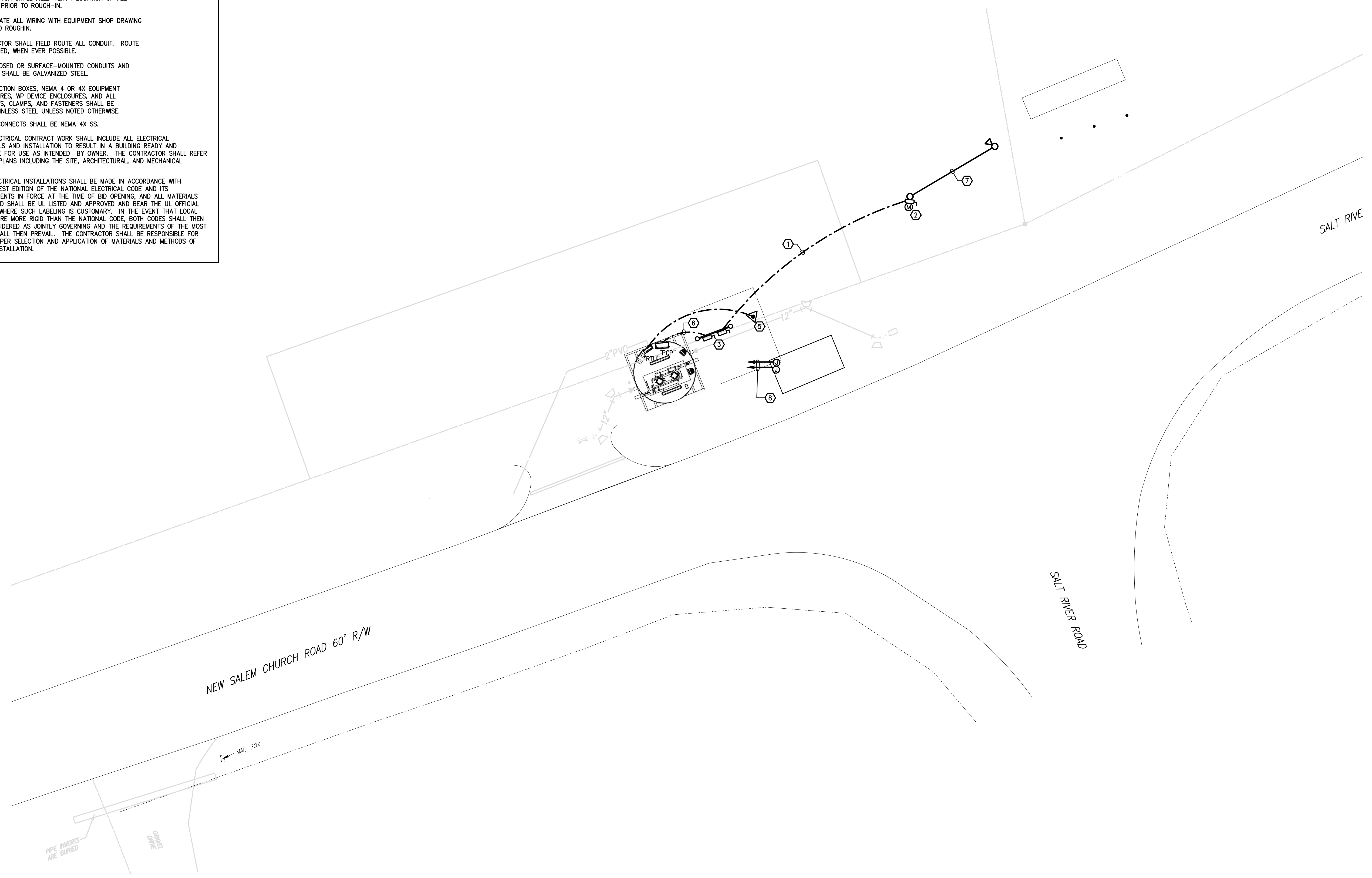
THIS DRAWING IS GENERALLY DIAGRAMMATIC AND, EXCEPT WHERE SPECIFICALLY DIMENSIONED OR DETAILED, INDICATES THE GENERAL ARRANGEMENT OF THE WORK. THE CONTRACTOR SHALL INSTALL HIS WORK TO CONFORM AS NEARLY AS POSSIBLE TO THE LOCATIONS AND ARRANGEMENTS SHOWN, WITH ONLY SUCH MINOR ADJUSTMENTS AS NECESSARY TO COORDINATE THE WORK WITH ALL OTHER TRADES TO AVOID INTERFERENCES.

**GENERAL NOTES:**

1. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL DEVICES PRIOR TO ROUGH-IN.
2. COORDINATE ALL WIRING WITH EQUIPMENT SHOP DRAWING PRIOR TO ROUGH-IN.
3. CONTRACTOR SHALL FIELD ROUTE ALL CONDUIT. ROUTE CONCEALED, WHEN EVER POSSIBLE.
4. ALL EXPOSED OR SURFACE-MOUNTED CONDUITS AND FITTINGS SHALL BE GALVANIZED STEEL.
5. ALL JUNCTION BOXES, NEMA 4 OR 4X EQUIPMENT ENCLOSURES, WP DEVICE ENCLOSURES, AND ALL BRACKETS, CLAMPS, AND FASTENERS SHALL BE 304 STAINLESS STEEL UNLESS NOTED OTHERWISE.
6. ALL DISCONNECTS SHALL BE NEMA 4X SS.
7. THE ELECTRICAL CONTRACT WORK SHALL INCLUDE ALL ELECTRICAL MATERIALS AND INSTALLATION TO RESULT IN A BUILDING READY AND SUITABLE FOR USE AS INTENDED BY OWNER. THE CONTRACTOR SHALL REFER TO ALL PLANS INCLUDING THE SITE, ARCHITECTURAL, AND MECHANICAL PLANS.
8. ALL ELECTRICAL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ITS SUPPLEMENTS IN FORCE AT THE TIME OF BID OPENING, AND ALL MATERIALS EMPLOYED SHALL BE UL LISTED AND APPROVED AND BEAR THE UL OFFICIAL LABELS WHERE SUCH LABELING IS CUSTOMARY. IN THE EVENT THAT LOCAL CODES ARE MORE RIGID THAN THE NATIONAL CODE, BOTH CODES SHALL THEN BE CONSIDERED AS JOINTLY GOVERNING AND THE REQUIREMENTS OF THE MOST RIGID SHALL THEN PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SELECTION AND APPLICATION OF MATERIALS AND METHODS OF THEIR INSTALLATION.

**DRAWING NOTES:**

- 1 PROPOSED NEW LOCATION OF UNDERGROUND SECONDARY. SEE FEEDER DIAGRAM.
- 2 LOCATION OF SERVICE DISCONNECT, METER. SEE FEEDER DIAGRAM.
- 3 MANUAL TRANSFER SWITCH AND STATION DISCONNECT SEE FEEDER DIAGRAM.
- 4 LOCATION OF EXISTING SCADA ANTENNA TO BE RELOCATED.
- 5 NEW LOCATION OF SCADA ANTENNA TO BE DONE BY THE OWNER. EXTEND CONDUITS AS INDICATED ON FEEDER DIAGRAM.
- 6 UNDERGROUND SERVICE TO PACKAGED PUMP STATION. SEE FEEDER DIAGRAM.
- 7 NEW OVERHEAD SECONDARY BY UTILITY CO.
- 8 PROVIDE 120V CONNECTION TO STATION FLOWMETER. 3/4" C, 2#12, #12GND. 1" C WITH 4-20mA SIGNAL TO SCADA RTU.



**SITE PLAN - ELECTRICAL**

SCALE: 1"=10'-0"

**SITE UTILITIES NOTE**  
 PRIOR TO STARTING SERVICE ENTRANCE WORK, THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY & SHALL DETERMINE ALL REQUIREMENTS. PROVIDE NECESSARY LABOR AND MATERIALS UNDER THE CONTRACT TO INSTALL EACH SERVICE ENTRANCE COMPLETE. CONTRACTOR SHALL PAY ALL FEES & CONTRIBUTIONS TO CONSTRUCTION REQUIRED BY THE LOCAL POWER COMPANY.

**WWR ENGINEERS INC.**  
 5417 Ball Camp Pike  
 Knoxville, Tn 37921  
 Phone: (865) 588-2431  
 Fax: (865) 588-2434  
 West, Welch, Reed Engineers, Inc.  
 WWR PROJECT# 121075

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REVISIONS	DATE

**CANNON & CANNON INC.**  
 CONSULTING ENGINEERS - FIELD SURVEYORS  
 TEL: 865.670.8555 | 8550 Kingston Pike  
 WWW.CANNON-CANNON.COM | Knoxville, TN 37919

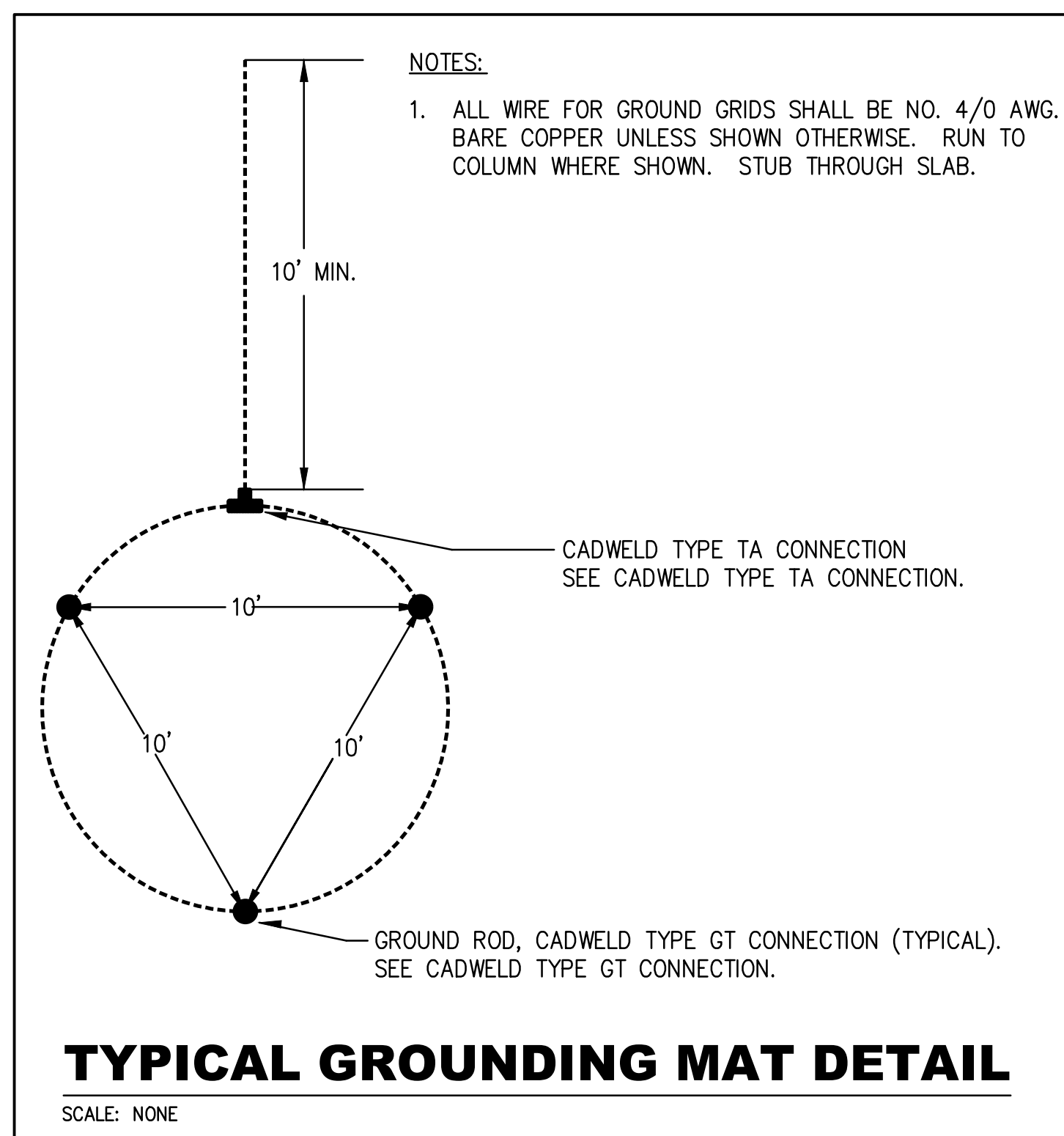
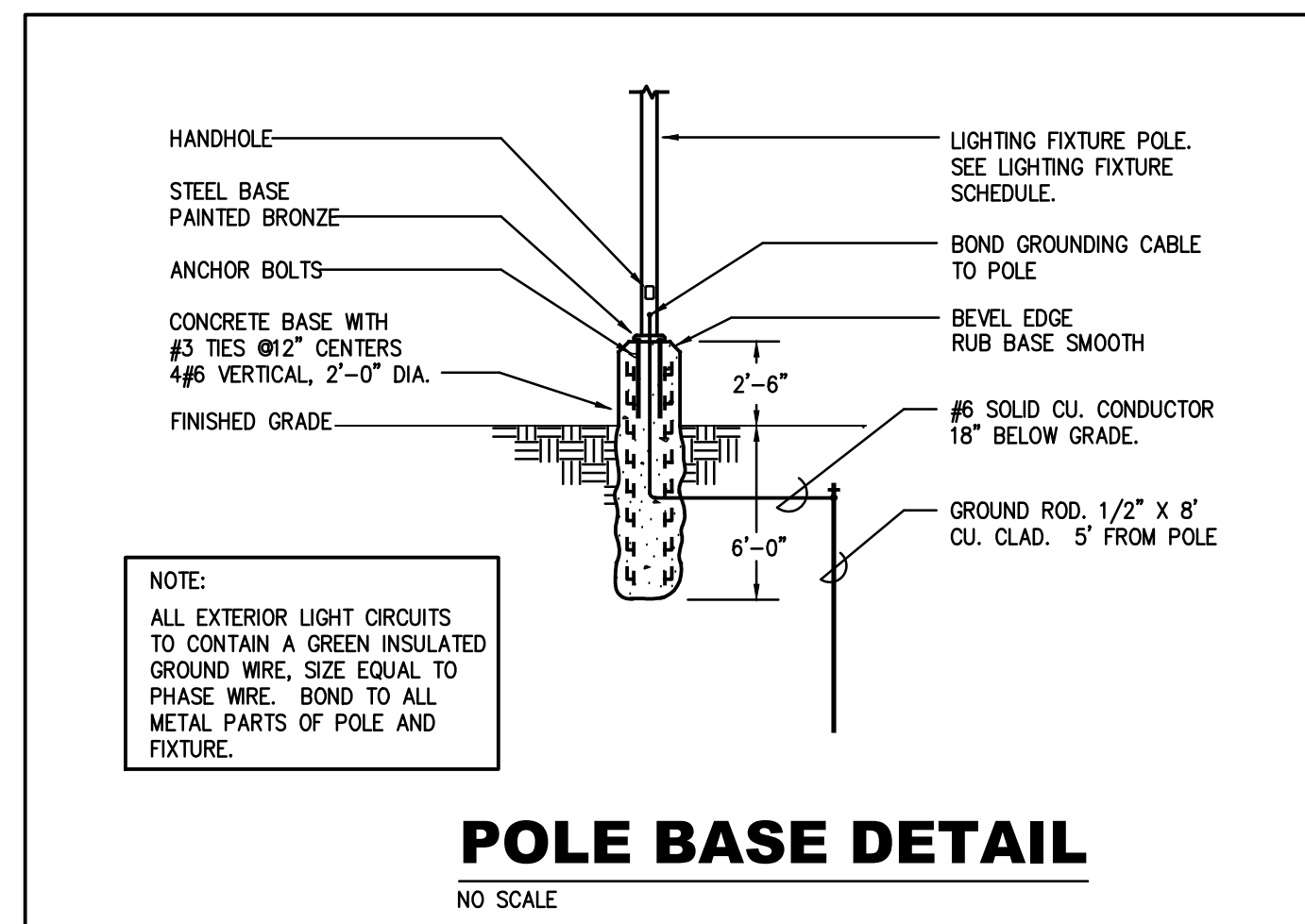
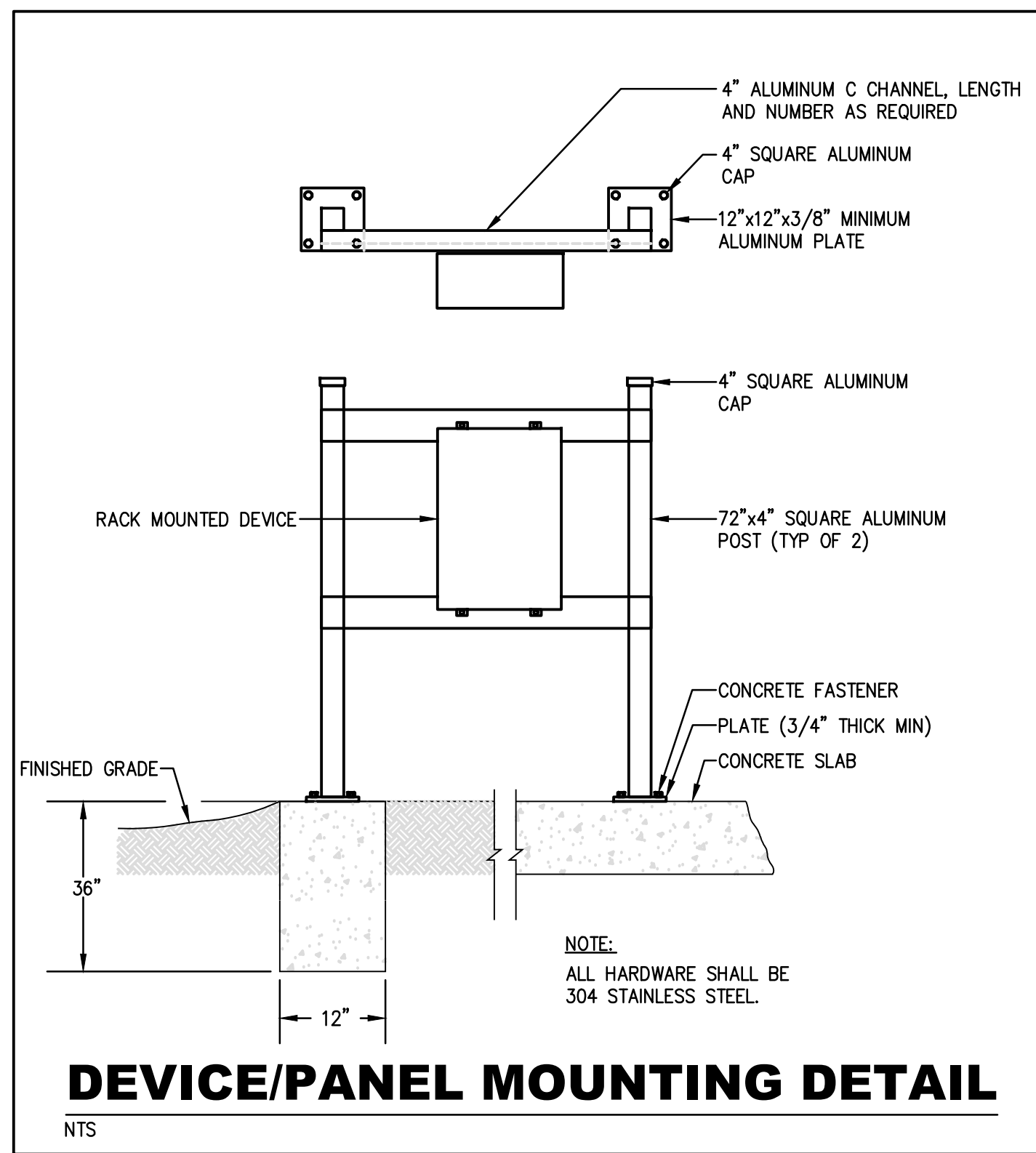
CLIENT: **Hardin County Water District**  
 1400 RODGERSVILLE ROAD  
 RADCLIFF, KENTUCKY 40160

PROJECT: **PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS**

**BRIZENDINE BOOSTER PUMP STATION SITE PLAN - ELECTRICAL**

CCI PROJECT NO.	00904-0010
DRAWING DATE	JANUARY 3, 2022
PM	RAC PC RAC
DRAWN	JCM FR -

**E1.02**

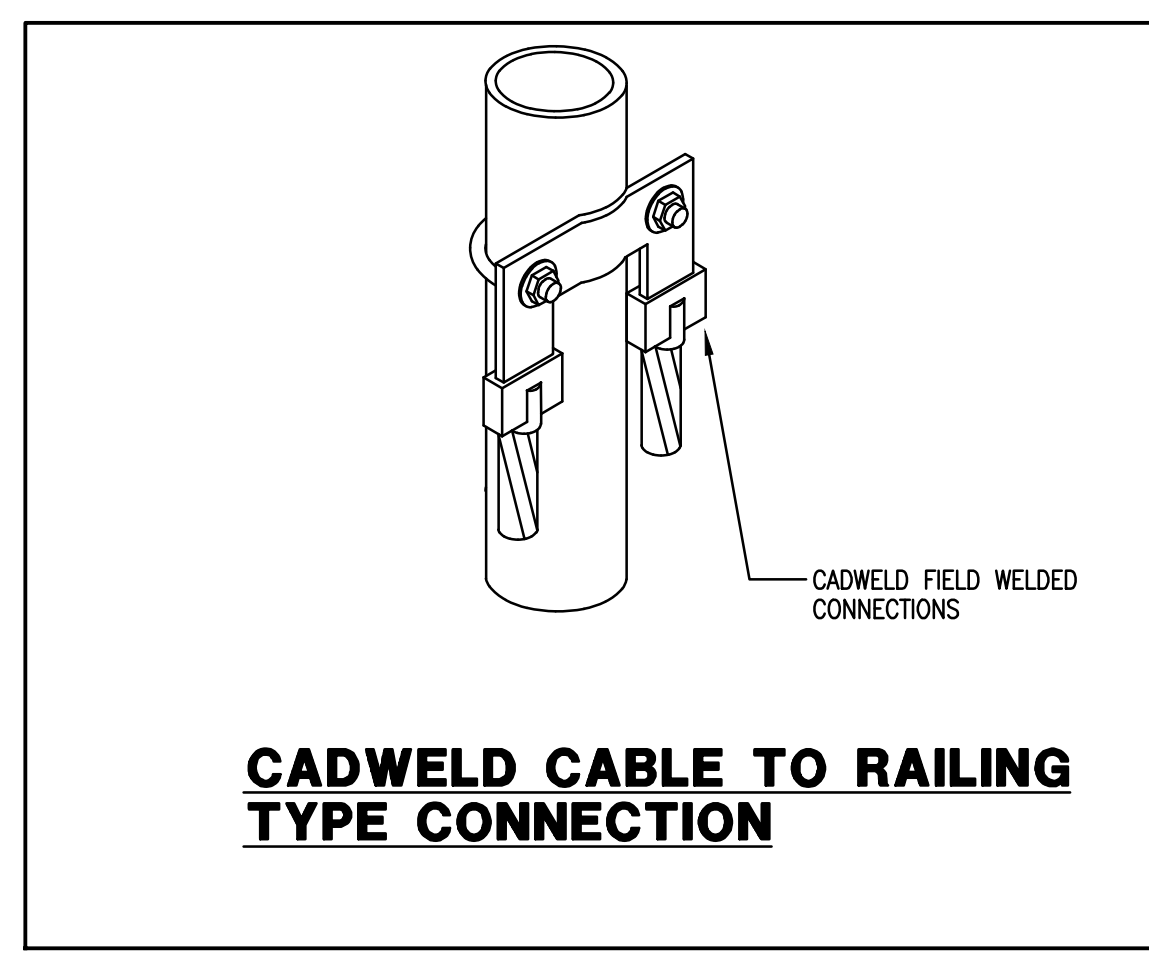
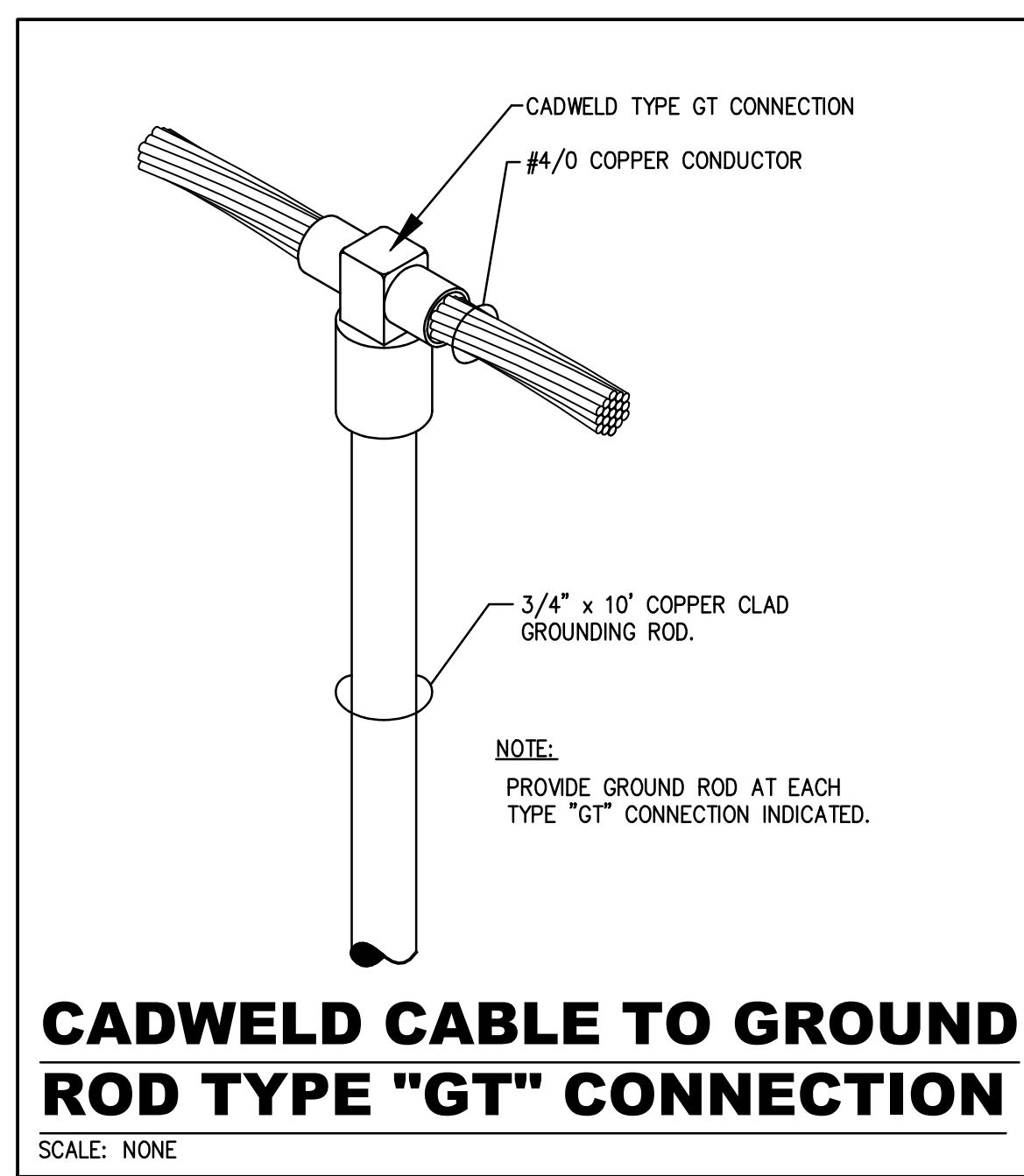
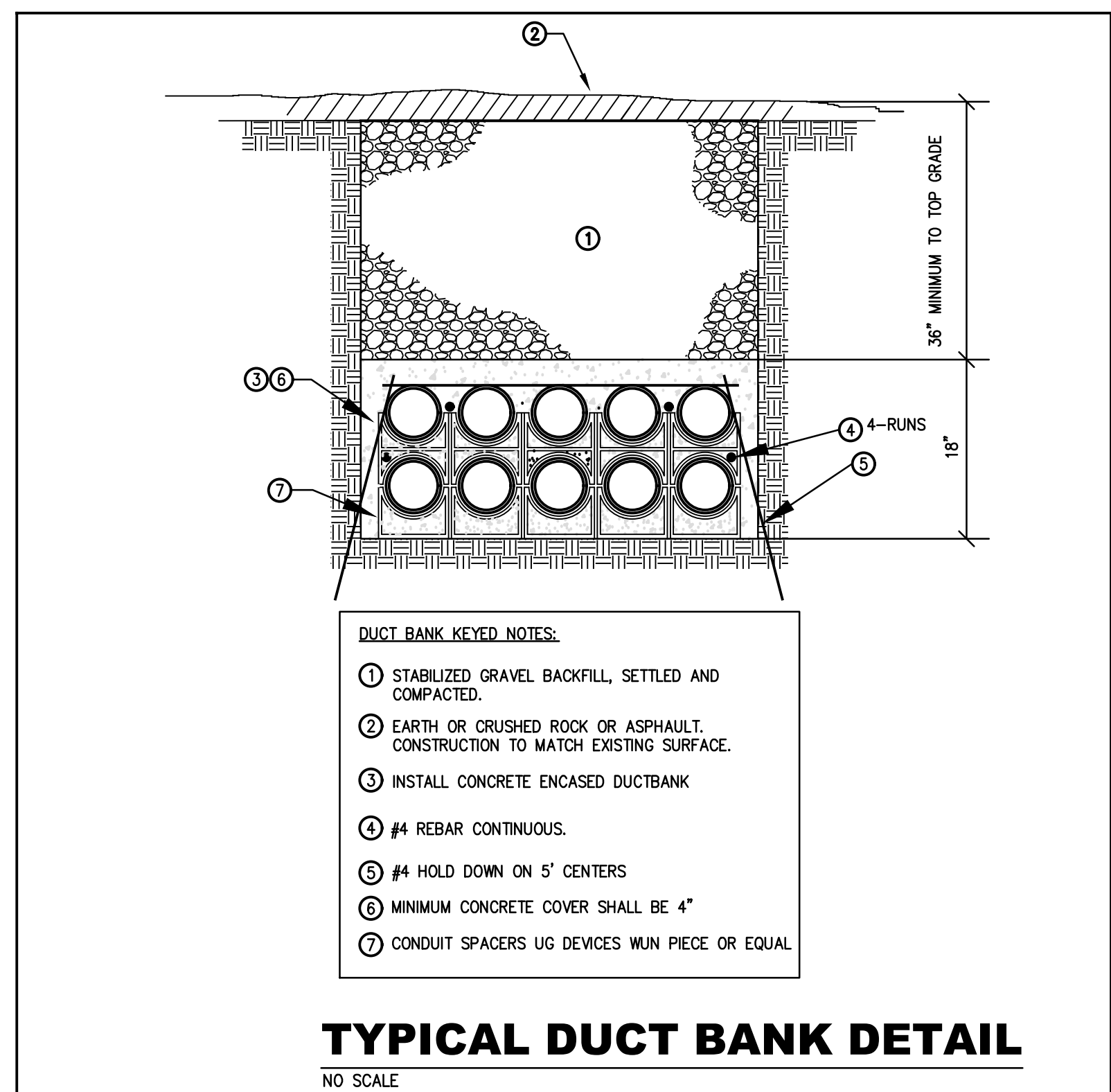


### CONTROL & MONITORING CONNECTION SCHEDULE

DESCRIPTION	FROM	TO	# OF LOCATIONS	CONDUCTOR SIZE FOR EACH LOCATION
WATER PUMP CALL TO RUN	PCP	VFD	(1)	2#14, #14GND
WATER PUMP AUTO/RUNNING/FAULT/ENABLE/HAND/H TEMP	PCP	VFD	(1)	14#14, #14GND
WATER PUMP SPEED REFERENCE	PCP	VFD	(1)	2C#16TSP
WATER PUMP SPEED COMMAND	PCP	VFD	(1)	2C#16TSP
WATER PUMP DATA	PCP	VFD	(1)	CAT 6
WATER PUMP CALL TO RUN	PCP	RTU	(1)	2#14, #14GND
WATER PUMP AUTO/RUNNING/FAULT/ENABLE/HAND/H TEMP	PCP	RTU	(1)	14#14, #14GND
WATER PUMP SPEED REFERENCE	PCP	RTU	(1)	2C#16TSP
WATER PUMP SPEED COMMAND	PCP	RTU	(1)	2C#16TSP
WELL LEVEL	PCP	RTU	(1)	2C#16 TSP
STATION PHASE LOSS	PCP	RTU	(1)	2#14, #14GND
INTRUSION ALARM	PCP	RTU	(1)	2#14, #14GND
WATER PUMP AMPS	PCP	RTU	(1)	2C#16TSP
COMMUNICATION FAILURE	PCP	RTU	(1)	2#14, #14GND

**CONNECTION SCHEDULE NOTES:**

- "PCP" INDICATES PUMP CONTROL PANEL.
- "VFD" INDICATES VARIABLE FREQUENCY DRIVE.
- "RTU" INDICATES SCADA RTU



### ELECTRICAL LEGEND

STANDARD ABBREVIATIONS AND NOTATIONS		
A AMPERE (AMPS)	HP HORSEPOWER	TSP TWISTED SHIELDED PAIR
AC INDICATES DEVICE SHALL BE MOUNTED ABOVE COUNTERTOP	IMC INTERMEDIATE METALLIC CONDUIT	UC UNDER COUNTER, INDICATES DEVICE SHALL BE LOCATED BELOW THE COUNTERTOP.
AF ABOVE FINISHED FLOOR	KMIL 1000 CIRCULAR MILS. SAME AS "MCM".	UN UNLESS OTHERWISE NOTED
AFG ABOVE FINISHED GRADE	KVA KILOVOLT-AMPS	V VOLTS
AFI ARC FAULT INTERRUPTER (AT CKT. BKR.)	KW KILOWATT	W WATTS
AIC AMPS INTERRUPTING CURRENT	MCA MINIMUM CIRCUIT AMPS	WG INDICATES DEVICE SHALL BE PROVIDED WITH WIRE GUARD
BKR BREAKER	MCC MOTOR CONTROL CENTER	WP WEATHERPROOF
C CONDUIT	MCM 1000 CIRCULAR MILS. SAME AS "KCMIL".	XFM TRANSFORMER
CKT CIRCUIT	N NEUTRAL	4X SS DEVICES SHALL BE STAINLESS STEEL AND RATED NEMA 4X
CU COPPER CONDUCTOR	NIC NOT IN CONTRACT	EP DEVICES SHALL BE EXPLOSION PROOF RATING INDICATED ON DRAWING
DISC. DISCONNECT	NL NIGHT LIGHT LUMINAIRE SHALL BE UNSWITCHED EXCEPT FOR CIRCUIT BREAKER.	EXISTING DEVICE NOTATIONS
DN DOWN	PC INDICATES DEVICE IS CONTROLLED BY PHOTOCELL OR TIMELOCK	EX EXISTING DEVICE TO REMAIN
EM CONNECTED TO EMERGENCY POWER	PVC POLYVINYLCHLORIDE CONDUIT. CLASSIFIED AS RIGID NONMETALLIC CONDUIT PER NEC. SCHEDULE 40 UN.	EXM EXISTING DEVICE TO BE MOVED TO NEW LOCATION SHOWN
EMT ELECTRICAL METALLIC TUBING	OR INDICATES LUMINAIRE SHALL BE PROVIDED WITH QUARTZ RESTRIKE	EXR EXISTING DEVICE TO BE REMOVED
FLA FULL LOAD AMPS	SCOR SHORT-CIRCUIT CURRENT RATING	
G GROUND (ALSO "GND")	TR TAMPER RESISTANT	
GFI GROUND-FAULT CIRCUIT-INTERRUPTER (ALSO "GFCI")		
GRS GALVANIZED RIGID STEEL CONDUIT		

**SYMBOL DESCRIPTION**

**"A"** PANELBOARD - FLUSH OR SURFACE MOUNTED AS INDICATED. MOUNT TOP OF PANEL AT 6'-0" OR AT NEAREST MASONRY JOINT. "A" INDICATES THE PANEL DESIGNATION. SEE PANELBOARD SCHEDULE FOR PANELBOARD REQUIREMENTS.

**—** CONDUIT INSTALLED IN CEILING OR WALL CONSTRUCTION.

**- - -** CONDUIT INSTALLED UNDERGROUND OR BELOW THE FLOOR CONSTRUCTION.

**HOMERUN** - EXTEND CONDUIT TO THE PANELBOARD OR DEVICE INDICATED. NUMBER OF CROSSHATCHED LINES INDICATES THE QUANTITY OF CURRENT CARRYING CONDUCTORS (NOT INCLUDING THE GROUND CONDUCTOR) WHERE MORE THAN TWO. ALL CIRCUITS SHALL HAVE SEPARATE NEUTRALS SHALL BE CONNECTED TO DIFFERENT PHASES WITHIN THE PANELBOARD REGARDLESS OF THE NUMBERING ON THE DRAWINGS. ALL CONDUIT RUNS SHALL BE PROVIDED WITH A GREEN CODE SIZE EQUIPMENT GROUNDING CONDUCTOR THAT SHALL BOND TO THE GROUNDING BUS BAR IN THE PANELBOARD.

**AC S** WALL SWITCH - RATED FOR 20-AMP OPERATION AT LINE VOLTAGE. SINGLE POLE UNLESS NOTED 3-WAY OR 4-WAY. MOUNT 48" ABOVE FINISHED FLOOR EXCEPT IN MASONRY WHERE THE HEIGHT SHALL BE ADJUSTED TO HAVE EDGE OCCUR AT NEAREST JOINT.

**AC 3** DUPLEX RECEPTACLE - 120-VOLT, 20-AMP. MOUNT 18" ABOVE FINISHED FLOOR OR 8" ABOVE COUNTERTOPS OR BACK SPLASHES UNLESS OTHERWISE NOTED. "3" REFERS TO THE CIRCUIT NUMBER.

**AC 3** GROUND FAULT CIRCUIT INTERRUPTING DUPLEX RECEPTACLE - 120-VOLT, 20-AMP WITH GFCI PROTECTION IN THE RECEPTACLE. MOUNTING HEIGHT AND NOTATIONS SAME AS FOR DUPLEX RECEPTACLE.

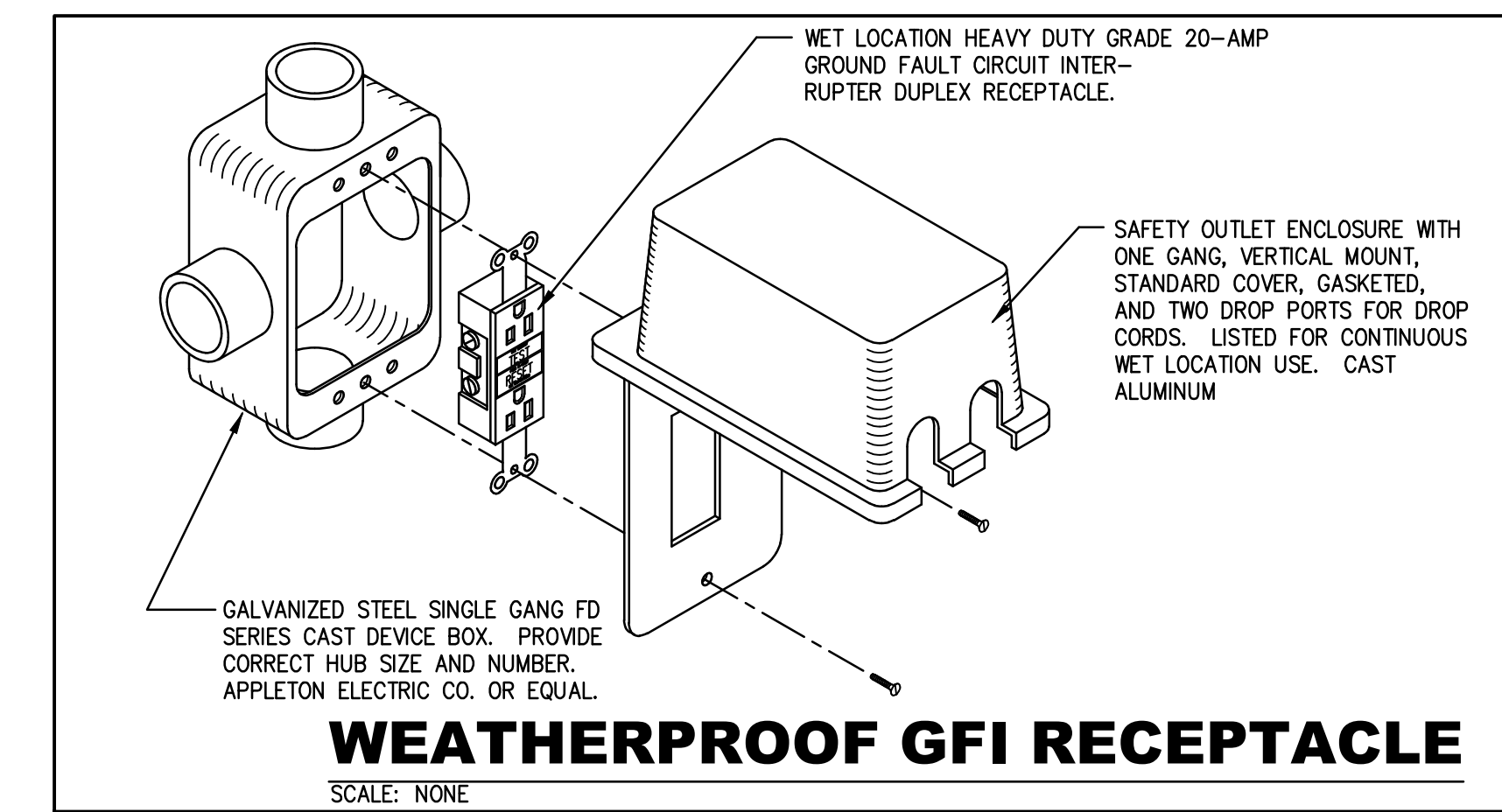
**3** QUAD RECEPTACLE - TWO 120-VOLT, 20-AMP RECEPTACLES MOUNTED IN A TWO GANG BOX UNDER A SINGLE COVERPLATE. MOUNTING HEIGHT AND NOTATIONS SAME AS FOR DUPLEX RECEPTACLE.

**3** SINGLE RECEPTACLE - 120-VOLT, 20-AMP. MOUNTING HEIGHT AND NOTATIONS SAME AS FOR DUPLEX RECEPTACLE.

**DISC** FUSED DISCONNECT SWITCH - RATING TO MATCH THE REQUIREMENTS OF THE EQUIPMENT BEING SERVED. HEAVY DUTY NEMA 4XSS UNLESS NOTED OTHERWISE.

**JB** JUNCTION BOX - SIZE AND USE AS REQUIRED. WHEN RECESSED COVERPLATE SHALL OVERLAP THE BOX EDGE BY 1/2".

**M** ELECTRIC MOTOR - PROVIDE CONNECTION AS INDICATED. VERIFY EXACT CONNECTION REQUIREMENTS WITH SUBMITTAL INFORMATION PRIOR TO ROUGH-IN TO ENSURE PROPER SERVICE SIZE AND CONNECTION LOCATION. USE FLEXIBLE CONDUIT WITHIN 18" OF EQUIPMENT.



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WWR PROJECT# 121075

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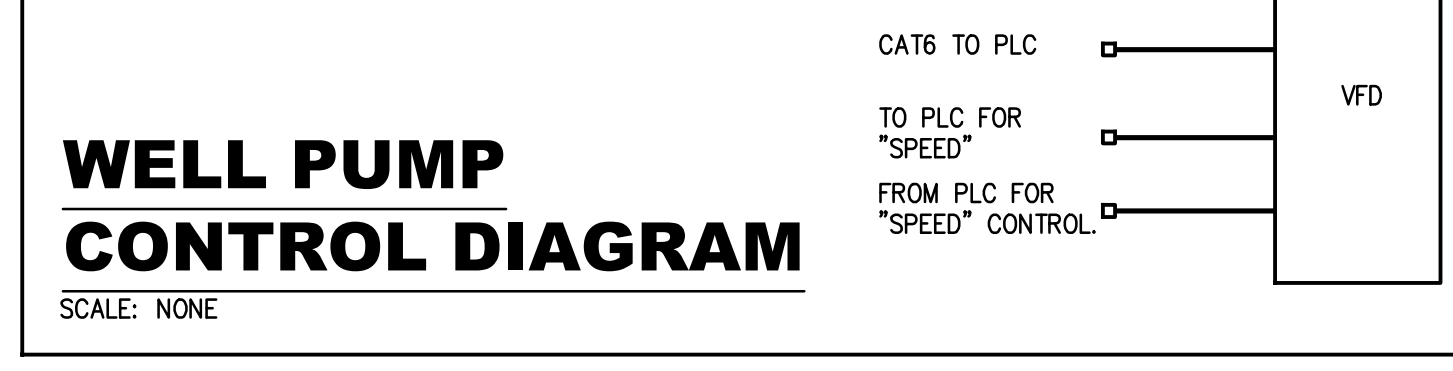
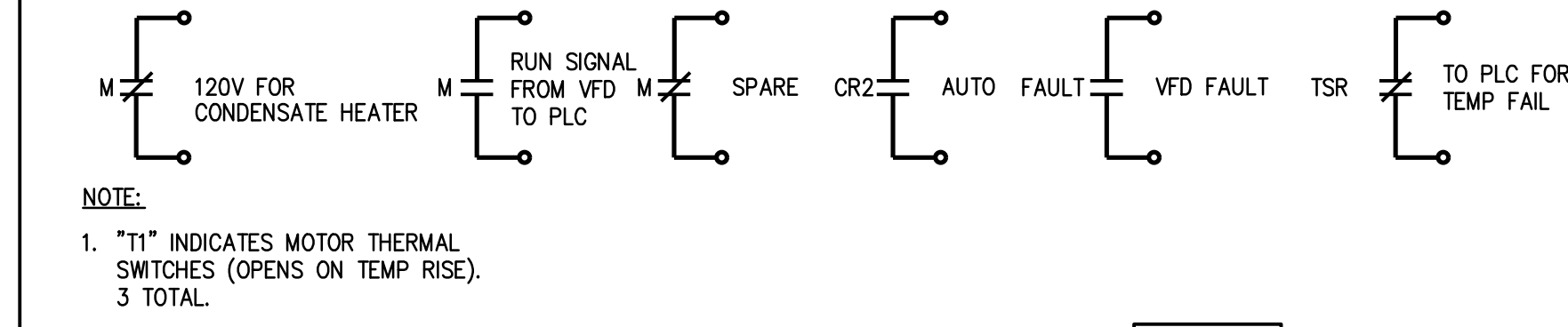
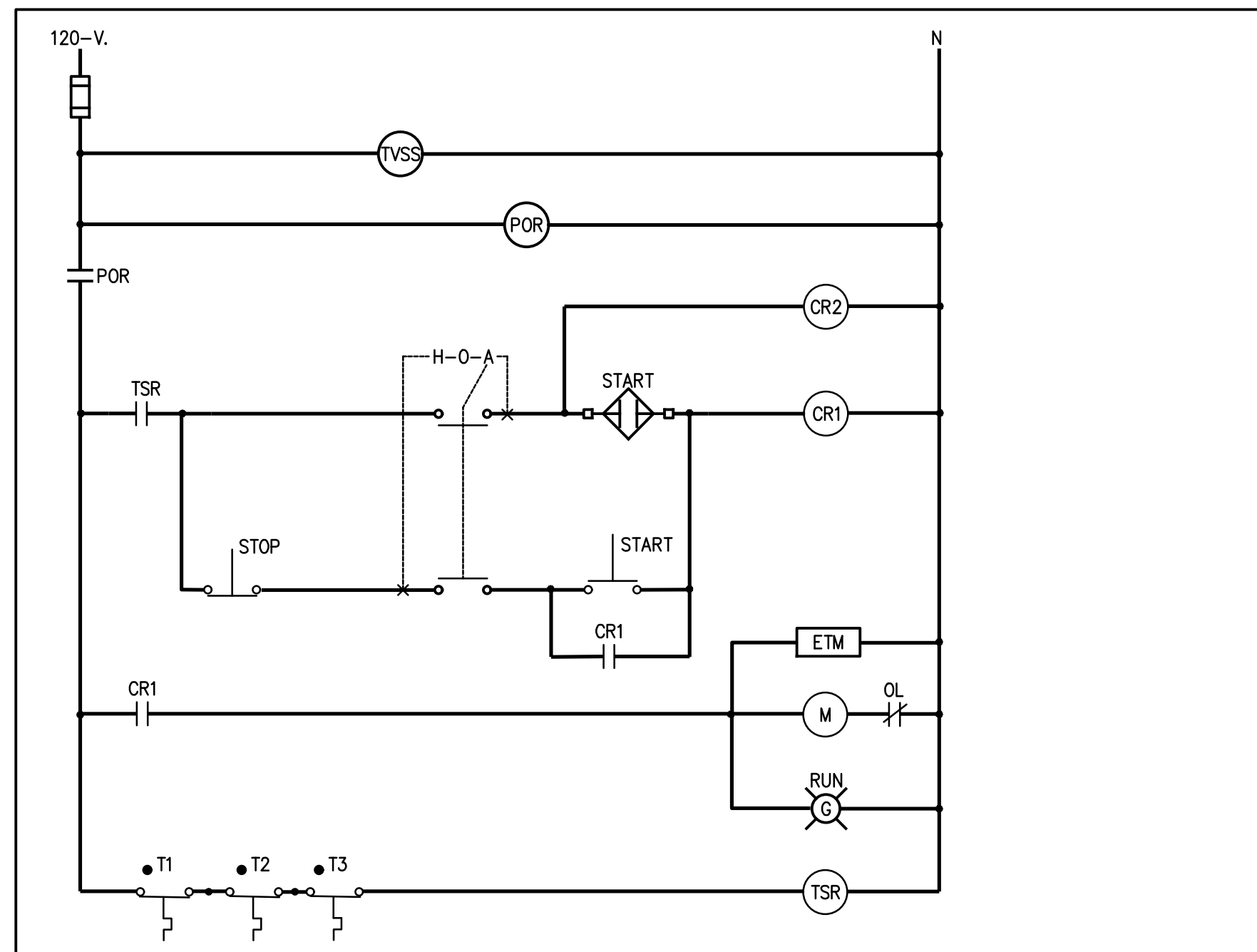
REVISIONS	DATE
<b>CANNON &amp; CANNON INC.</b> CONSULTING ENGINEERS - FIELD SURVEYORS TEL: 865.670.8555   8550 Kingston Pike WWW.CANNON-CANNON.COM   Knoxville, TN 37919	
CLIENT:	Bardonia 1 Water District 1400 RODGERSVILLE ROAD RADCLIFF, KENTUCKY 40160
PROJECT:	<b>PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS</b>
<b>GRAY LANE INTAKE STATION - ELECTRICAL DETAILS</b>	
CCI PROJECT NO.	00904-0010
DRAWING DATE	JANUARY 3, 2022
PM	RAC PC RAC
DRAWN	JCM FR -
<b>E2.01</b>	



# CONTROL DIAGRAMS LEGEND

SYMBOL	DESCRIPTION
•	INDICATES DEVICE IS LOCATED AT MOTOR, PUMP, EQUIPMENT OR IN THE FIELD.
□	TERMINAL IN MAIN OR PLANT CONTROL PANELS.
◇	NORMALLY OPEN CONTACT IN A PLC CONTROL PANEL.
◇	NORMALLY CLOSED CONTACT IN A PLC CONTROL PANEL.
○	NORMALLY OPEN MOMENTARY PUSHBUTTON SWITCH.
○	NORMALLY CLOSED MOMENTARY PUSHBUTTON SWITCH.
M	NORMALLY OPEN CONTACT CONTROLLED BY A STARTER OR RELAY COIL. "M" INDICATES THE COIL.
M	NORMALLY CLOSED CONTACT CONTROLLED BY A STARTER OR RELAY COIL. "M" INDICATES THE COIL.
M	COIL FOR A MOTOR STARTER OR CONTROL RELAY. "M" INDICATES MOTOR STARTER, "VFD" INDICATES VARIABLE FREQUENCY DRIVE AND "SS" INDICATES REDUCED VOLTAGE STARTER (SOFT START).
G	PILOT LIGHT. "G" INDICATES GREEN, "R" INDICATES RED AND "A" INDICATES AMBER
ETM	ELAPSED TIME METER. HOUR TIMER AND TOTALIZERS
POR	"POR" INDICATES A POWER "ON" DELAY RELAY. PROVIDE A POR WITH SETTINGS FROM 0 TO 10 MINUTES. MOUNT IN DOOR PANEL. THE POR WILL DELAY POWER TO CONTROL DEVICES AFTER A POWER OUTAGE. THIS WILL ALLOW THE MOTOR TO COMPLETELY STOP BEFORE RESTART. FIELD SET DELAY TIME.
TVSS	"TVSS" INDICATES A SECONDARY SURGE ARRESTOR SQUARE D SDSA1175. CONNECT TO 120V CONTROL CIRCUIT.
LOS	NEMA 4XSS LOCK OUT SWITCH
H-O-A	HAND-OFF-AUTOMATIC SWITCH.

CONTROL DIAGRAMS GENERAL NOTES:  
 1. ALL DEVICES ARE LOCATED IN MCC UNLESS OTHERWISE NOTED.

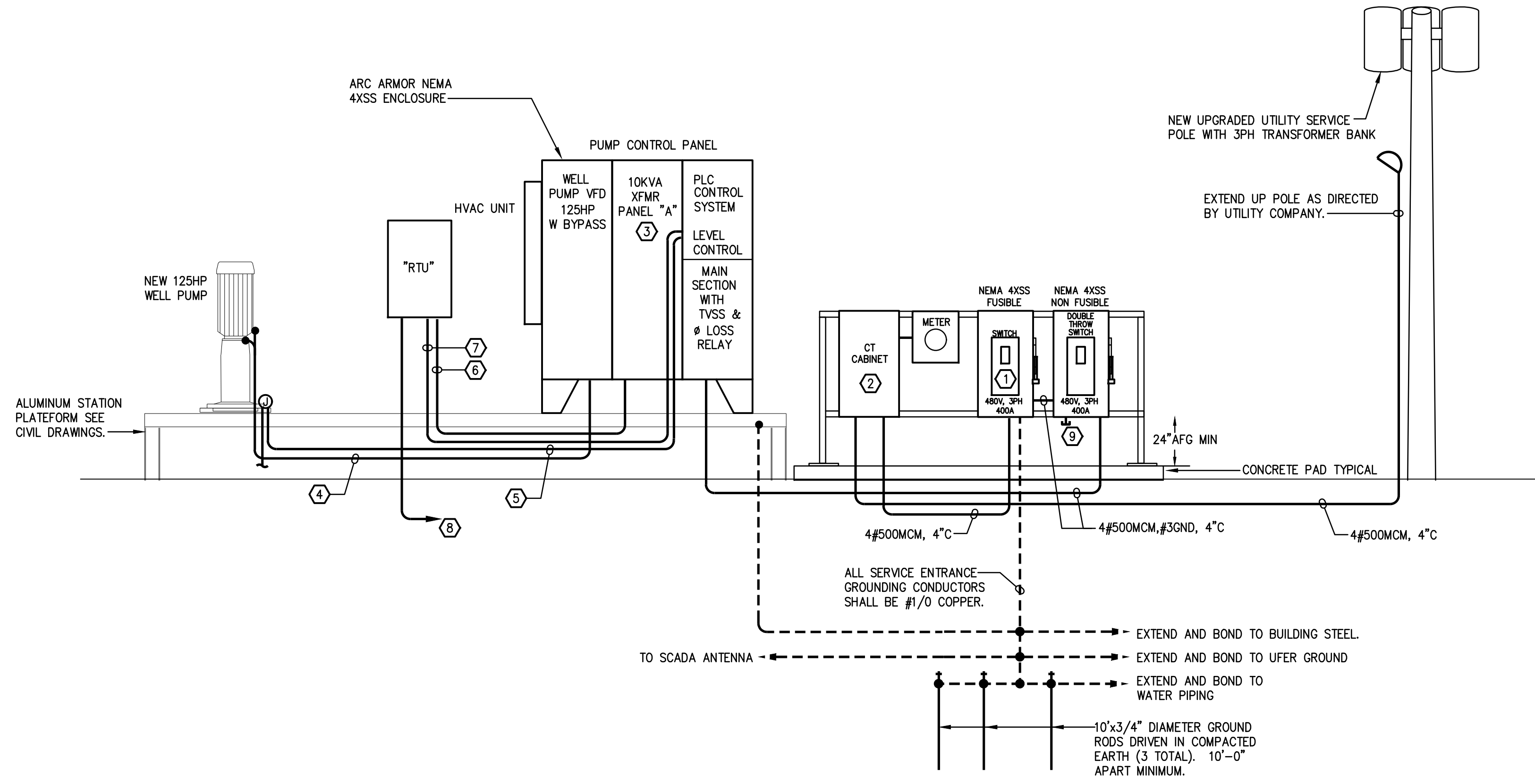


**WELL PUMP CONTROL DIAGRAM**  
 SCALE: NONE

PANEL DESIGNATION	RATING: 50 AMPS		VOLTAGE: 120/240		LOAD SUMMARY	
	MAIN BREAKER	WIRE: 3	MOUNTING: CP MOUNTING	#A:	#B:	TOTAL:
"A"	PHASE: 1	SCCR: 10,000 AIC	ENCLOSURE: NEMA 1	2.3 KW	0.6 KW	2.9 KW
	FEEDER: SEE RISER DIAGRAM			SIZE (WxD): 20"x6"		

LOAD DESCRIPTION	BKR	KW	A	B	KW	BKR	LOAD DESCRIPTION
SERVICE RECEPTACLE	20/1	1.0	1	1	2	1.0	CONTROL POWER FOR PUMP CONTROL PANEL
AREA POLE LIGHT	20/1	0.5	3	4	4	0.3	PUMP CONDENSATE HEATER
PUMP CONTROL PANEL ENCLOSURE LIGHTS	20/1	0.3	5	4	6	0.1	CANOPY LIGHT
RTU	20/1	0.1	7	1	8	20/1	SPARE
SPARE	20/1	0.1	9	1	10	20/1	SPARE
SPARE	20/1	0.1	11	1	12	20/1	PROVISION
PROVISION	20/1	0.1	13	1	14	20/1	PROVISION
PROVISION	20/1	0.1	15	1	16	20/1	PROVISION
PROVISION	20/1	0.1	17	1	18	20/1	PROVISION
PROVISION	20/1	0.1	19	1	20	20/1	PROVISION

- DRAWING NOTES:
- NEMA 4XSS 400A FUSED DISCONNECT. SERVICE RATED.
  - PROVIDE METER BASE AND CT CABINET AS DIRECTED BY LOCAL UTILITY.
  - PUMP CONTROL PANEL. SEE SPECIFICATIONS.
  - PUMP WIRING 3/1/2" C, #3/0 VFD CABLE BELDEN 29531F, 4#14, 3/4" C, 2#12, #12GND FOR CONDENSATE HEATER.
  - 1 1/2" C WITH SUBMERSIBLE LEVEL SENSOR LOCATE IN WETWELL PER MANF. RECOMMENDATIONS. SENSORS SHALL ENTER THROUGH PUMP MOUNTING PLATE.
  - 3/4" C, 2#12, #12GND FOR RTU POWER
  - 3-1 1/2" C WITH CONTROL WIRING FOR MONITORING SEE SCHEDULE SHEET E2.01.
  - 2" C WITH SCADA ANTENNA WIRING TO EXISTING TOWER. TOWER TO BE RELOCATED BY OWNER. COORDINATE IN THE FIELD.
  - PROVIDE 2-4" C STUB OUT AND THREADED END CAP FOR OWNER CONNECTION TO MOBILE GENERATOR.



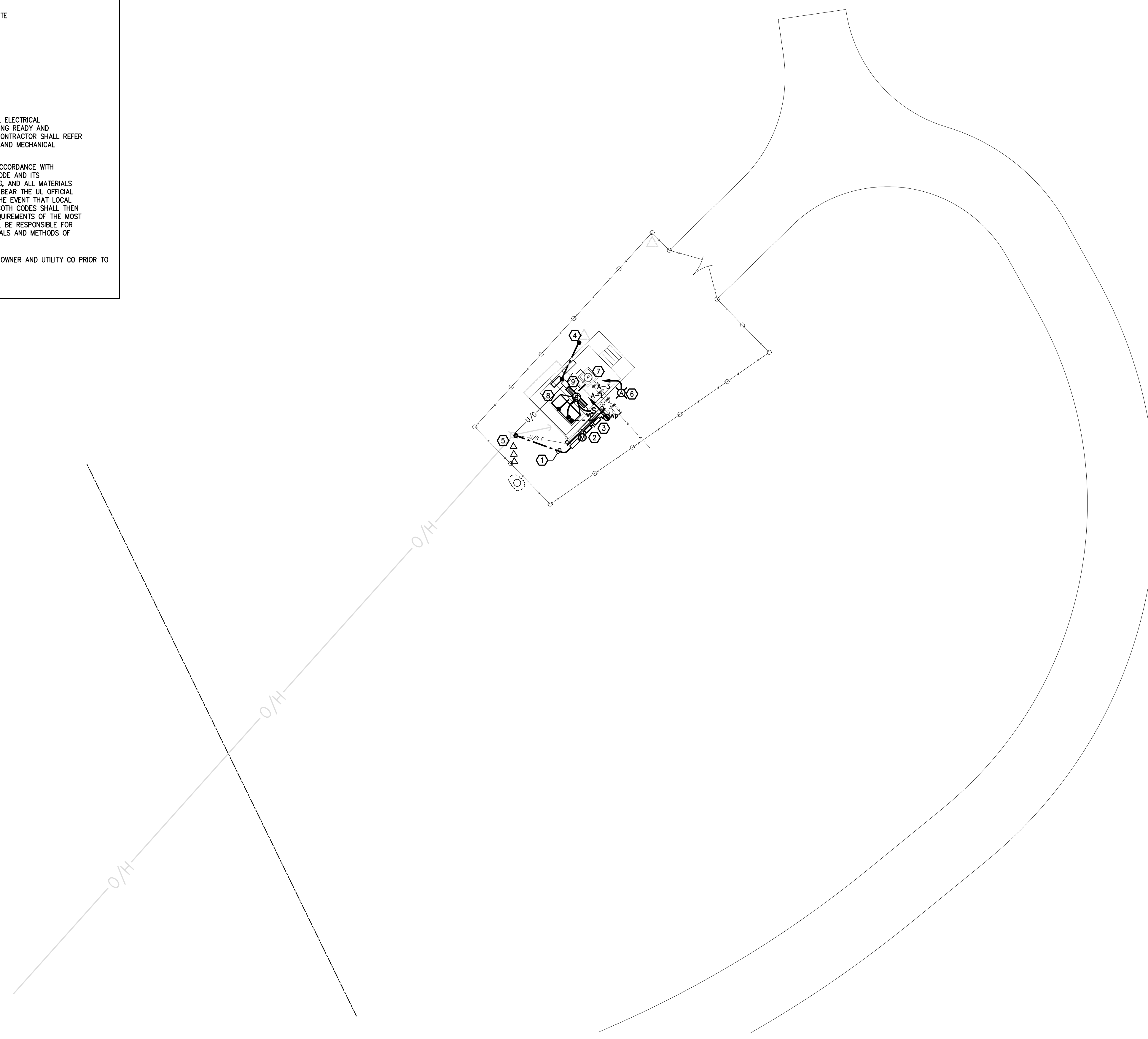
**FEEDER DIAGRAM**  
 NO SCALE

REVISIONS	DATE
 CONSULTING ENGINEERS - FIELD SURVEYORS TEL: 865.670.8555   8550 Kingston Pike WWW.CANNON-CANNON.COM   Knoxville, TN 37919	
CLIENT:	 1400 RODGERSVILLE ROAD RADCLIFF, KENTUCKY 40160
PROJECT:	PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS
<b>GRAY LANE INTAKE FEEDER DIAGRAM</b>	
CCI PROJECT NO.	00904-0010
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<b>E2.02</b>	

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**GENERAL NOTES:**

1. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL DEVICES PRIOR TO ROUGH-IN.
2. COORDINATE ALL WIRING WITH EQUIPMENT SHOP DRAWING PRIOR TO ROUGH-IN.
3. CONTRACTOR SHALL FIELD ROUTE ALL CONDUIT. ROUTE CONCEALED, WHEN EVER POSSIBLE.
4. ALL EXPOSED OR SURFACE-MOUNTED CONDUITS AND FITTINGS SHALL BE RIGID GALVANIZED STEEL.
5. ALL JUNCTION BOXES, NEMA 4 OR 4X EQUIPMENT ENCLOSURES, MP DEVICE ENCLOSURES, AND ALL BRACKETS, CLAMPS, AND FASTENERS SHALL BE 304 STAINLESS STEEL UNLESS NOTED OTHERWISE.
6. ALL DISCONNECTS SHALL BE NEMA 4X SS.
7. THE ELECTRICAL CONTRACT WORK SHALL INCLUDE ALL ELECTRICAL MATERIALS AND INSTALLATION TO RESULT IN A BUILDING READY AND SUITABLE FOR USE AS INTENDED BY OWNER. THE CONTRACTOR SHALL REFER TO ALL PLANS INCLUDING THE SITE, ARCHITECTURAL, AND MECHANICAL PLANS.
8. ALL ELECTRICAL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ITS SUPPLEMENTS IN FORCE AT THE TIME OF BID OPENING, AND ALL MATERIALS EMPLOYED SHALL BE UL LISTED AND APPROVED AND BEAR THE UL OFFICIAL LABELS WHERE SUCH LABELING IS CUSTOMARY. IN THE EVENT THAT LOCAL CODES ARE MORE RIGID THAN THE NATIONAL CODE, BOTH CODES SHALL THEN BE CONSIDERED AS JOINTLY GOVERNING AND THE REQUIREMENTS OF THE MOST RIGID SHALL THEN PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SELECTION AND APPLICATION OF MATERIALS AND METHODS OF THEIR INSTALLATION.
9. CONTRACTOR SHALL COORDINATE ANY OUTAGES WITH OWNER AND UTILITY CO PRIOR TO PERFORMING WORK.



**DRAWING NOTES:**

- 1 PROPOSED NEW LOCATION OF UNDERGROUND SECONDARY. SEE FEEDER DIAGRAM.
- 2 LOCATION OF SERVICE DISCONNECT, CT CABINET AND METER. SEE FEEDER DIAGRAM.
- 3 MANUAL TRANSFER SWITCH. SEE FEEDER DIAGRAM.
- 4 LOCATION OF EXISTING SCADA ANTENNA TO REMAIN AND BE REUSED. EXTEND 2" C WITH CABLING TO NEW SCADA RTU. PROVIDE GROUNDING AT ANTENNA AS RECOMMENDED BY SCADA INTEGRATOR.
- 5 PROPOSED LOCATION OF NEW POWER POLE WITH SERVICE TRANSFORMER. INSTALLED BY UTILITY COMPANY
- 6 LIGHT FIXTURE TYPE "A" SHALL BE PHILIPS SVM 90W4LED4K-R LES UNIV SP1PH8G3 ON A ULS RTA53202 20' POLE. INTEGRAL PHOTOCELL CONTROL. 3/4"C, 2#12, #12GND
- 7 LOCATION OF NEW 125HP WELL PUMP. SEE FEEDER DIAGRAM
- 8 RACK MOUNTED SCADA RTU. SEE FEEDER DIAGRAM AND SPECS.
- 9 LIGHT FIXTURE TYPE "B" SHALL BE LITHONIA FEML48 6000LM LPAFL MD MVOLT 4K 80CRI WL STSL. MOUNT ON UNDERSIDE OF CANOPY AND PROVIDE NEMA 4 LIGHT SWITCH ON COLUMN FOR CONTROL. 3/4"C, 2#12, #12GND.

**SITE UTILITIES NOTE**  
 PRIOR TO STARTING SERVICE ENTRANCE WORK, THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY & SHALL DETERMINE ALL REQUIREMENTS. PROVIDE NECESSARY LABOR AND MATERIALS UNDER THE CONTRACT TO INSTALL EACH SERVICE ENTRANCE COMPLETE. CONTRACTOR SHALL PAY ALL FEES & CONTRIBUTIONS TO CONSTRUCTION REQUIRED BY THE LOCAL POWER COMPANY.

**SITE PLAN - ELECTRICAL**

SCALE: 1" = 10'-0"

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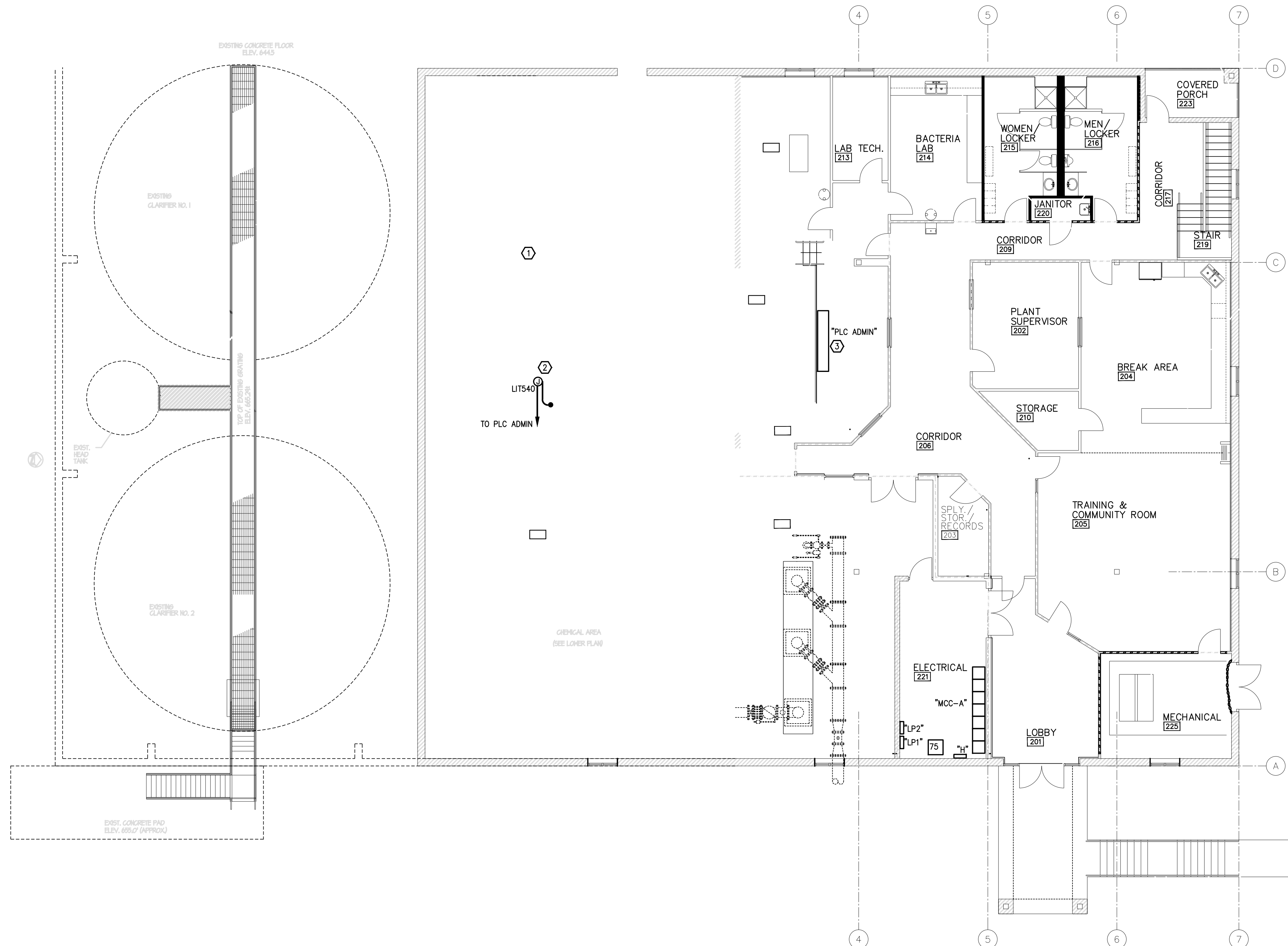
CLIENT: **Hardin County Water District**  
 1400 RODGERSVILLE ROAD  
 RADCLIFF, KENTUCKY 40160

PROJECT: **PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS**

**GRAY LINE PS  
 SITE PLAN - ELECTRICAL**

CCI PROJECT NO.	00904-0010
DRAWING DATE	JANUARY 3, 2022
PM	RAC PC RAC
DRAWN	JCM FR -

**E2.03**



- GENERAL NOTES:**
1. THE ELECTRICAL CONTRACT WORK SHALL INCLUDE ALL ELECTRICAL MATERIALS AND INSTALLATION TO RESULT IN A BUILDING READY AND SUITABLE FOR USE AS INTENDED BY OWNER. THE CONTRACTOR SHALL REFER TO ALL PLANS INCLUDING THE SITE, ARCHITECTURAL, AND MECHANICAL PLANS.
  2. ALL ELECTRICAL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ITS SUPPLEMENTS IN FORCE AT THE TIME OF BID OPENING, AND ALL MATERIALS EMPLOYED SHALL BE UL LISTED AND APPROVED AND BEAR THE UL OFFICIAL LABELS WHERE SUCH LABELING IS CUSTOMARY. IN THE EVENT THAT LOCAL CODES ARE MORE RIGID THAN THE NATIONAL CODE, BOTH CODES SHALL THEN BE CONSIDERED AS JOINTLY GOVERNING AND THE REQUIREMENTS OF THE MOST RIGID SHALL THEN PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SELECTION AND APPLICATION OF MATERIALS AND METHODS OF THEIR INSTALLATION.
  3. ALL SCADA INTEGRATION EQUIPMENT, PROGRAMMING, AND STARTUP SHALL BE INCLUDED UNDER A SEPARATE CONTRACT. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE SCADA EQUIPMENT WITH THE INSTALLATION OF THE INSTRUMENTATION EQUIPMENT WHICH IS INCLUDED IN THE CONTRACTOR'S SCOPE OF WORK.
  4. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL DEVICES PRIOR TO ROUGH-IN.
  5. COORDINATE ALL WIRING WITH EQUIPMENT SHOP DRAWING PRIOR TO ROUGH-IN.
  6. ALL EXPOSED OR SURFACE-MOUNTED CONDUITS AND FITTINGS SHALL BE RIGID GALVANIZED STEEL. ALL BOXES AND CLAMPS SHALL BE STAINLESS STEEL.
  7. ALL DISCRETE AND ANALOG CONTROL SIGNALS SHALL BE INSTALLED IN SEPARATE CONDUITS. CONTRACTOR MAY COMBINE CONDUIT HOMERUNS TO CONSOLIDATE CONDUITS TO PLC CONTROL PANELS.

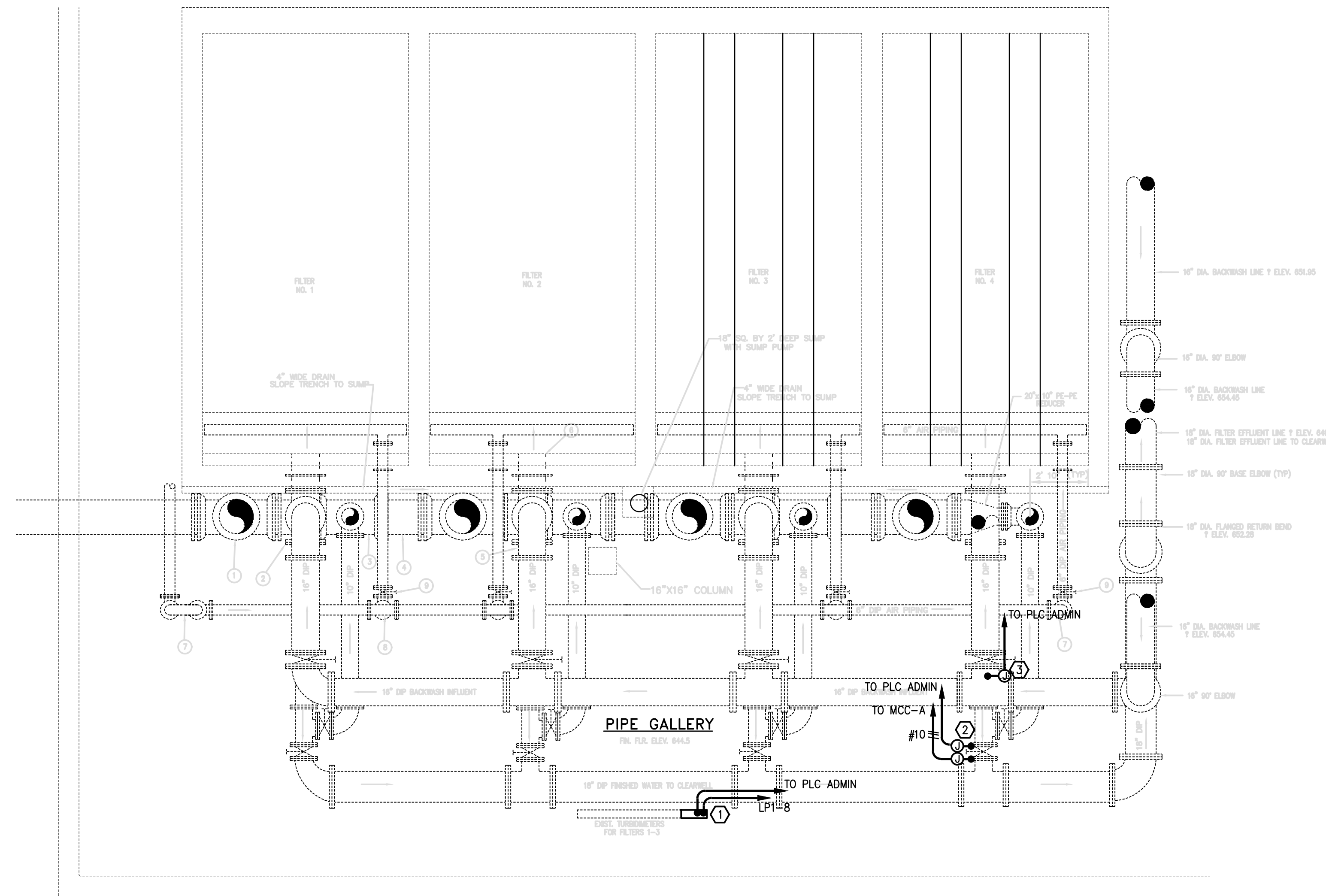
- DRAWING NOTES:**
- ① LOCATION OF EXISTING FILTER CONTROL CONSOLE TO REMAIN.
  - ② FILTER LEVEL TRANSDUCER/TRANSMITTER 3/4" C, 2C#16TSP TO PLC ADMIN. REUSE EXISTING CONDUIT AT THIS LOCATION WHERE POSSIBLE.
  - ③ LOCATION OF EXISTING PLC ADMIN CONTROL PANEL. EXTEND WIRING FROM NEW DEVICES TO PANEL AND TERMINATE. COORDINATE INSTALLATION WITH SCADA INTEGRATOR STEVE OSBORNE AT SEWELL INDUSTRIAL 502-968-3825

**WTP PLANT OPERATING FLOOR PLAN - ELECTRICAL**

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

**WWR ENGINEERS INC.**  
 5417 Ball Camp Pike  
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 WWR PROJECT# 121075  
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REVISIONS	DATE
 TEL 865.670.8555   8550 Kingston Pike Knoxville, TN 37919 WWW.CANNON-CANNON.COM	
CLIENT:	 1400 RODGERSVILLE ROAD RADCLIFF, KENTUCKY 40160
PROJECT:	<b>PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS</b>
<b>PIRTLE SPRINGS WTP OPERATING FLOOR PLAN ELECTRICAL</b>	
CCI PROJECT NO.	00904-0010
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PM	RAC PC RAC
DRAWN	JCM FR -
 <b>E3.01</b>	



**PARTIAL PIPE GALLERY FLOOR PLAN - ELECTRICAL**

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

**GENERAL NOTES:**

1. THE ELECTRICAL CONTRACT WORK SHALL INCLUDE ALL ELECTRICAL MATERIALS AND INSTALLATION TO RESULT IN A BUILDING READY AND SUITABLE FOR USE AS INTENDED BY OWNER. THE CONTRACTOR SHALL REFER TO ALL PLANS INCLUDING THE SITE, ARCHITECTURAL, AND MECHANICAL PLANS.
2. ALL ELECTRICAL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ITS SUPPLEMENTS IN FORCE AT THE TIME OF BID OPENING, AND ALL MATERIALS EMPLOYED SHALL BE UL LISTED AND APPROVED AND BEAR THE UL OFFICIAL LABELS WHERE SUCH LABELING IS CUSTOMARY. IN THE EVENT THAT LOCAL CODES ARE MORE RIGID THAN THE NATIONAL CODE, BOTH CODES SHALL THEN BE CONSIDERED AS JOINTLY GOVERNING AND THE REQUIREMENTS OF THE MOST RIGID SHALL THEN PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SELECTION AND APPLICATION OF MATERIALS AND METHODS OF THEIR INSTALLATION.
3. ALL SCADA INTEGRATION EQUIPMENT, PROGRAMMING, AND STARTUP SHALL BE INCLUDED UNDER A SEPARATE CONTRACT. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE SCADA EQUIPMENT WITH THE INSTALLATION OF THE INSTRUMENTATION EQUIPMENT WHICH IS INCLUDED IN THE CONTRACTOR'S SCOPE OF WORK.
4. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL DEVICES PRIOR TO ROUGH-IN.
5. COORDINATE ALL WIRING WITH EQUIPMENT SHOP DRAWING PRIOR TO ROUGH-IN.
6. ALL EXPOSED OR SURFACE-MOUNTED CONDUITS AND FITTINGS SHALL BE RIGID GALVANIZED STEEL. ALL BOXES AND CLAMPS SHALL BE STAINLESS STEEL.
7. ALL DISCRETE AND ANALOG CONTROL SIGNALS SHALL BE INSTALLED IN SEPARATE CONDUITS. CONTRACTOR MAY COMBINE CONDUIT HOMERUNS TO CONSOLIDATE CONDUITS TO PLC CONTROL PANELS.

**DRAWING NOTES:**

- ① NEW TURBIDIMETER, ROUTE 2C#16TSP-1°C SIGNAL CABLING UP TO PLC ADMIN. PROVIDE NEW POWER TO TURBIDIMETER AS INDICATED. REUSE EXISTING CONDUIT WHERE APPLICABLE. EXTEND UNISTRUT RACK AS REQUIRED TO MOUNT NEW EQUIPMENT. MATCH EXISTING CONSTRUCTION.
- ② NEW BUTTERFLY VALVE FCV 506 ACTUATOR, ROUTE 10#14, #14GND, 1°C TO PLC ADMIN. REUSE EXISTING CONDUIT WHERE APPLICABLE. CONNECT TO EXISTING 480V POWER AS INDICATED.
- ③ NEW ELECTROMAGNETIC FLOW METER FT-506, THREE 2C#16TSP, 1°C, 10#14, #14GND 1°C TO PLC ADMIN. REUSE EXISTING CONDUIT WHERE APPLICABLE. PROVIDE 120V AS REQUIRED. PROVIDE GROUNDING AROUND METER PER MANF. RECOMMENDATIONS.

REVISIONS	DATE

**CANNON & CANNON INC**  
 CONSULTING ENGINEERS · FIELD SURVEYORS  
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CLIENT: **Hardin County Water District**  
 1400 RODGERSVILLE ROAD  
 RADCLIFF, KENTUCKY 40160

PROJECT: **PIRTLE SPRING W.T.P., GRAY LANE P.S. AND BRIZENDINE B.S. IMPROVEMENTS**

**PIRTLE SPRINGS WTP PARTIAL PIPE GALLERY FLOOR PLAN - ELECTRICAL**

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PM	RAC PC RAC
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**E3.02**