

GENERAL CONSTRUCTION NOTES - MISCELLANEOUS:

- CONTRACTOR SHALL UNCOVER EXISTING SEWER LINES, WATER LINES, AND OTHER SITE PIPING TO VERIFY GRADES AND SIZES PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL ALSO LOCATE AND VERIFY EXISTING UTILITIES AND STORM DRAINAGE THAT ARE IN THE VICINITY OF THE CONSTRUCTION PRIOR TO COMMENCING WORK AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS. THE CONTRACTOR PROCEEDS AT HIS OWN RISK IF UTILITIES ARE NOT UNCOVERED AND VERIFIED AHEAD OF TRENCHING ACTIVITIES TWO WEEKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL SUBMIT A PLAN OF ACTION DETAILING CONSTRUCTION SEQUENCE AND METHODS USED TO MAINTAIN EXISTING SERVICES TO THE ENGINEER AND OWNER FOR REVIEW AND APPROVAL.
- UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE PLANS, AND THE LOCATION OF THE UTILITIES SHOWN MAY VARY FROM THE LOCATION SHOWN ON THE PLANS. IN ACCORDANCE WITH THE ARKANSAS UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, AT LEAST 48 HOURS PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE ARKANSAS ONE CALL CENTER, (800) 482-8998 OR 811, AND ARRANGE FOR THE LOCATION AND MARKING OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL OBSERVE ANY REQUIREMENTS, INCLUDING REQUIREMENTS TO HAND DIG NEAR EXISTING UTILITIES, OF THE UTILITY OWNER/OPERATOR REGARDING WORK NEAR THEIR FACILITIES AND SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY. THE COST TO REPAIR ANY DAMAGE CAUSED BY THE CONTRACTOR TO PROPERLY MARKED UTILITIES, AS WELL AS ANY FINES OR PENALTIES THAT ARE A RESULT OF THE DAMAGE OR FAILURE TO FOLLOW THE REQUIREMENTS OF THE ARKANSAS UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- RESTORATION, RELOCATION OR REPAIR OF OTHER UTILITY SERVICES WHICH ARE IN CONFLICT WITH PROPOSED IMPROVEMENTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION.
- THE CONSTRUCTION PLANS INDICATE THE LOCATION OF TEMPORARY BENCHMARKS. USE ONLY THOSE BENCHMARKS NOTED AS TBM FOR ELEVATION DATUM. THE CONSTRUCTION PLANS INCLUDE RIM AND INVERT ELEVATIONS ON EXISTING MANHOLES AND DRAINAGE STRUCTURES FOR INFORMATION PURPOSES ONLY. DO NOT USE THESE ELEVATIONS AS BENCHMARKS UNDER ANY CIRCUMSTANCES. ALL EXISTING ELEVATIONS SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- PROTECT ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA DURING ALL PHASES OF CONSTRUCTION. A PROFESSIONAL LAND SURVEYOR MUST BE USED TO RE-ESTABLISH ANY DISTURBED MONUMENTATION AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE TEMPORARY EXCAVATION SUPPORT SYSTEMS INCLUDING TRENCH BOXES, SHEETING, SHORING, AND BRACING TO INSURE THE SAFETY OF ALL PERSONNEL AND PROTECT ADJACENT UTILITIES AND STRUCTURES (NEW OR EXISTING) IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND REQUIREMENTS.
- CONTRACTOR SHALL REMOVE AND REPLACE FENCING AS NEEDED FOR CONSTRUCTION. TEMPORARY FENCING SHALL BE INSTALLED AS NEEDED FOR SECURITY OF FACILITIES. REPLACED FENCING SHALL BE EQUAL TO OR BETTER THAN ORIGINAL FENCING CONDITION.
- THE CONSTRUCTION WORKING HOURS SHALL CONFORM TO ROGERS WATER UTILITIES NORMAL WORK HOURS INCLUDING HOLIDAYS. WORK OUTSIDE OF THESE HOURS SHALL BE REQUESTED IN WRITING AND ALL COSTS BORNE BY THE OWNER FOR THIS WORK SHALL BE REIMBURSED BY THE CONTRACTOR.
- SOIL BORING INFORMATION IS TAKEN FROM A INVESTIGATION BY GTS, INC. DATED DECEMBER 7, 2023.
- ACCESS BY THE OWNER TO THE EXISTING WASTEWATER TREATMENT PLANT SHALL BE MAINTAINED AT ALL TIMES.

GENERAL CONSTRUCTION NOTES - SITE PIPING

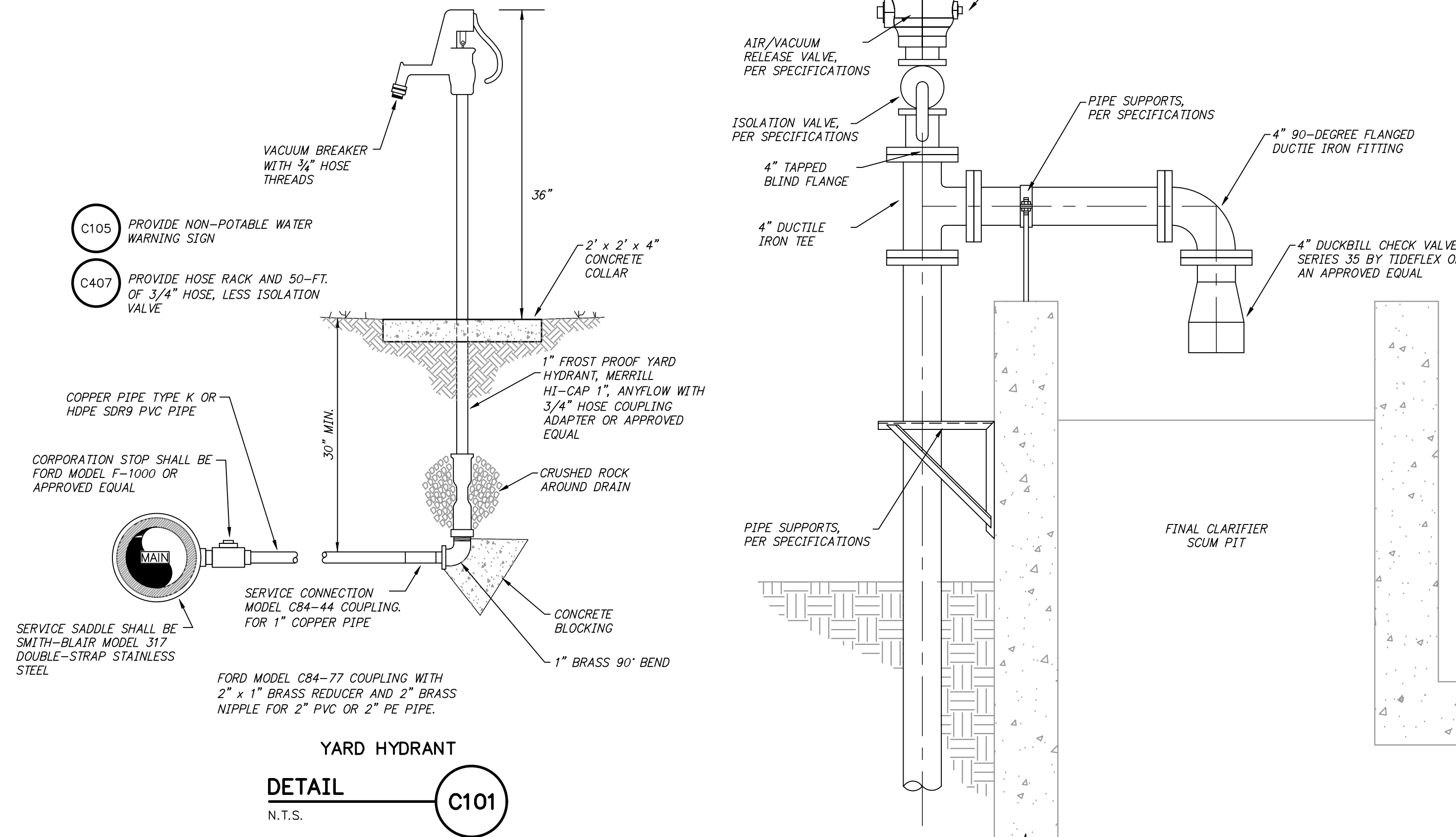
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A PIPING LAYOUT AND FITTING SCHEDULE FOR REVIEW BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL ALSO PREPARE A SCHEDULE OF PIPE CONSTRUCTION ACTIVITIES AND SEQUENCE, INCLUDING THE ANTICIPATED LENGTH OF SERVICE INTERRUPTION. THE PIPING LAYOUT AND CONSTRUCTION SCHEDULE MUST BE APPROVED BY THE OWNER AND THE RESIDENT ENGINEER PRIOR TO CONSTRUCTION.
- UNLESS OTHERWISE SPECIFICALLY NOTED ON THE PLANS SHEET, ALL BURIED PRESSURE PIPE SHALL BE RESTRAINED IN ACCORDANCE WITH SPECIFICATION SECTION 02516. PIPE MANUFACTURE SHALL FURNISH CERTIFICATION OF COMPLIANCE WITH REFERENCED STANDARDS.
- PRESSURIZED WATER LINE PIPE SHALL BE INDICATED ON THE PLANS. ALL PIPING SHALL BE BEDDED WITH CLASS "B" BEDDING MATERIAL PER THE SPECIFICATIONS AND DETAILS.
 - DUCTILE IRON WATER LINES SHALL BE CLASS 350 AND CEMENT LINED. ALL DUCTILE IRON PIPE SHALL BE INSTALLED WITH POLYETHYLENE ENCASEMENT PER AWWA C105.
 - PRESSURIZED DUCTILE IRON WATER LINES SHALL BE CONSTRUCTED OF UNRESTRAINED PUSH JOINT PIPE WITH RESTRAINED JOINT FITTINGS PLUS A MINIMUM OF 100-FT OF RESTRAINED JOINT PIPE IN ALL DIRECTIONS UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS.
 - PRESSURIZED PVC WATER LINES SHALL BE CONSTRUCTED OF UNRESTRAINED PUSH JOINT PIPE WITH RESTRAINED JOINT FITTINGS PLUS A MINIMUM OF 40-FT OF RESTRAINED JOINT PIPE IN ALL DIRECTIONS UNLESS SPECIFICALLY NOTED ON THE PLANS.
 - ALL WATER LINES SHALL BE BURIED WITH TRACER WIRE. INSTALL TRACER WIRE TERMINALS AS SHOWN ON THE PLANS SHEETS. CONNECT EXISTING TRACER WIRE TO NEW TERMINALS WHERE APPLICABLE.
- ALL DUCTILE IRON FITTINGS SHALL BE RESTRAINED, MECHANICAL JOINT OR RESTRAINED, PUSH JOINT SIMILAR AND EQUAL TO FASTITE JOINT FITTINGS WITH FAST-GRIP GASKETS, AS MANUFACTURED BY AMERICAN DUCTILE IRON PIPE. ALL MECHANICAL JOINTS SHALL UTILIZE A WEDGE ACTION RETAINER GLAND THAT SHALL BE SECURED WITH SET SCREWS. SET SCREWS SHALL BE TIGHTENED TO TORQUE LIMITS RECOMMENDED BY THE MANUFACTURER. MECHANICAL JOINT RESTRAINT SYSTEMS SHALL BE SIMILAR OR EQUAL TO MEG-A-LUG SERIES BY EBAA IRON SALES, INC. OR APPROVED EQUAL. DUCTILE IRON FITTINGS SHALL HAVE THE FOLLOWING PRESSURE CLASSIFICATION: 3" TO 24", CLASS 350; 24" TO 48", CLASS 250.
- INSTALL GATE VALVES, CONFIRMING AWWA C509, WITH IRON BODIES, BRONZE MOUNTED, RESILIENT WEDGES, AND NON-RIISING STEMS DESIGNED FOR 150 PSI MINIMUM WORKING PRESSURE RATING. VALVES SHALL INCLUDE O-RING PACKING AND OPEN COUNTERCLOCKWISE WITH A 2-INCH (2") AWWA NUT OPERATOR. GATE VALVES SHALL INCORPORATE STAINLESS STEEL, TYPE 304, BONNET AND STUFFING BOX BOLTS AND NUTS, WRENCH CAP SCREW, AND VALVE STEM. INSTALL MUELLER MODEL A-2360-20 MECHANICAL JOINT GATE VALVES, OR APPROVED EQUAL. INSTALL MUELLER MODEL T-2360-16 TAPPING VALVES, CONFORMING TO THE REQUIREMENTS FOR GATE VALVES SPECIFIED ABOVE.
- VALVE BOXES SHALL BE CAST IRON WITH SCREW TYPE EXTENSION. VALVE BOXES FOR POTABLE WATER (W) AND PLANT WATER (PW) SHALL INCLUDE A CAST IRON, DROP-IN LID MARKED WITH THE INSCRIPTION "WATER" CAST INTO THE TOP. VALVE BOXES FOR ALL OTHER PROCESS LINE SHALL INCLUDE LID WITH INSCRIPTION "DRAIN" CAST INTO THE TOP. VALVE BOX BASES SHALL BE OF THE PROPER SIZE FOR THE VALVE IT ID TO BE USED WITH, AND VALVE STEM EXTENSIONS SHALL BE INCLUDED AS SHOWN ON THE PLANS AND DETAILS. VALVE BOXES SHALL BE SIMILAR AND EQUAL TO TLER TWO-PIECE VALVE BOX SERIES 8850 OR 8855, WITH 5 1/4" SHAFT. THE BOXES SHALL BE OF SUCH SIZE AND LENGTH THAT THEY CAN BE ADJUSTED TO THE DEPTH OF COVER REQUIRED OVER THE PIPE AT THE VALVE LOCATION WITHOUT USING THE FULL EXTENSION. VALVE BOXES SHALL HAVE ONE PRIMUM COAT AND TWO FINISH COATS OF COAL TAR.
- UNLESS OTHERWISE SHOWN ON THE PLANS, THE MINIMUM DEPTH OF COVER FOR WATER OR PROCESS LINES IS 36-INCHES.
- ALL PROCESS LINES, DRAIN LINES, WATER LINES, AND MANHOLES SHALL BE TESTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO PERFORM THE SPECIFIED TESTS. ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER. ALL LINES SHALL BE CLEAN PRIOR TO PERFORMING TESTS. THE CONTRACTOR SHALL, AT HIS EXPENSE, CORRECT AND RETEST ALL SECTIONS OF LINE WHICH FAIL TO PASS THE TESTING. ALL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS.

9. TESTING WATER LINES - CHLORINATE AND STERILIZE THE WATER LINE IN ACCORDANCE WITH AWWA SPECIFICATIONS C651. UTILIZE EITHER LIQUID CHLORINE OR CALCIUM HYPOCHLORITE IN AN AMOUNT THAT WILL PROVIDE A DOSAGE OF AT LEAST 50 PPM WITH RESIDUAL OF 25PPM AFTER A 24-HOUR PERIOD. TAKE WATER SAMPLES ON TWO CONSECUTIVE DAYS AND SUBMIT THEM TO THE ARKANSAS DEPARTMENT OF HEALTH FOR BACTERIOLOGICAL TESTING. SUBMIT SAMPLES NO LATER THAN MIDNIGHT OF THE NEXT CALENDAR WEEK. PERFORM A LEAKAGE TEST TO DETERMINE THE "AIR TIGHTNESS" OF THE LINE. PRESSURIZE THE WATER LINE AT LEAST 50% ABOVE THE NORMAL OPERATING PRESSURE AND NEVER LESS THAN 150 PSI FOR THE DURATION OF THE TEST. AFTER A PERIOD OF TWO HOURS, THE MEASURED WATER LOSS IN THE LINE SHALL NOT EXCEED THE VOLUME INDICATED BY THE FORMULA:

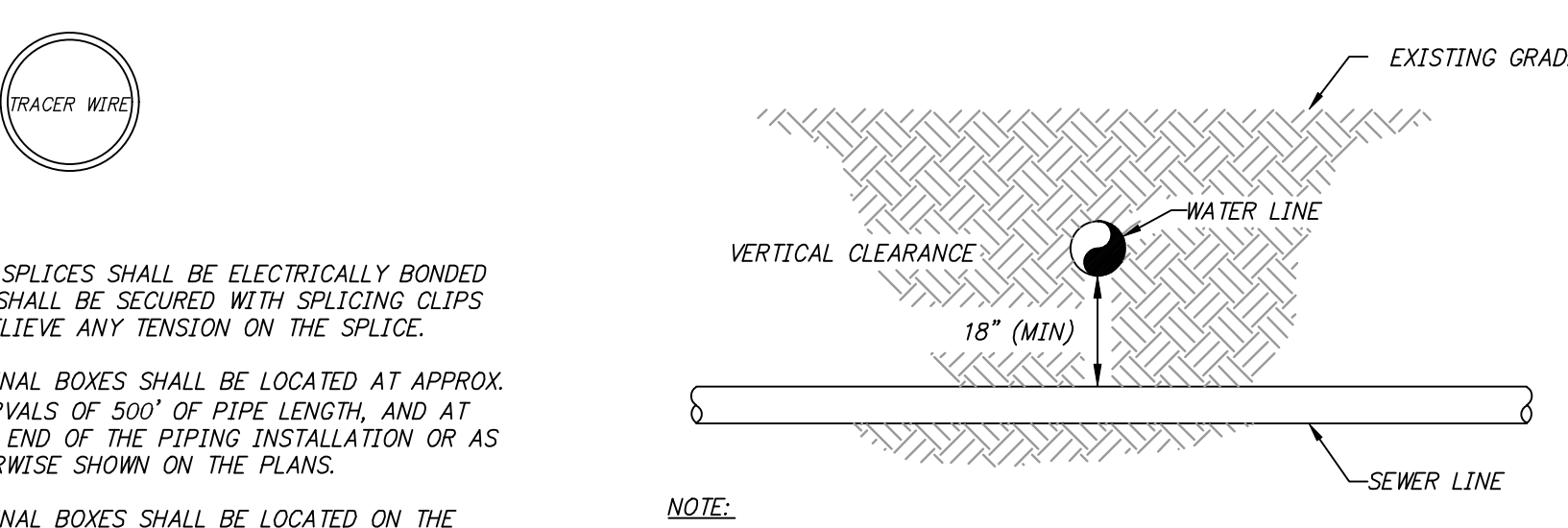
$$L = \frac{S \cdot D \cdot \sqrt{P}}{143,000}$$

WHERE L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
 S = LENGTH OF PIPE TESTED, IN FEET
 D = NOMINAL DIAMETER OF THE PIPE, IN INCHES
 P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN PSIG

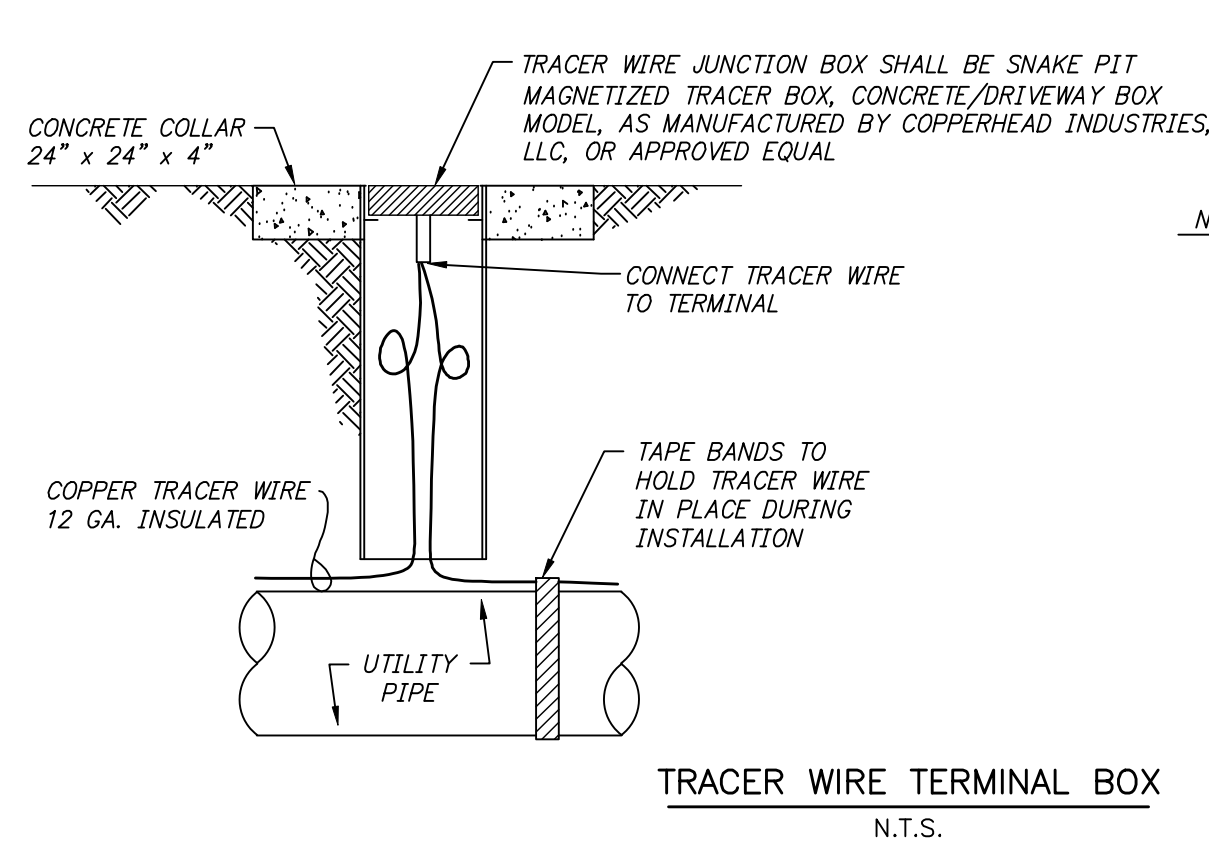
- PROVIDE ALL TEMPORARY TAPS, BLOW-OFFS, ECT., REQUIRED FOR FLUSHING, BACTERIOLOGICAL TESTING AND SAMPLING, AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AT LEAST 48 HOURS PRIOR TO SCHEDULED CONNECTIONS OF POTABLE WATER MAINS OR ANY WORK INVOLVING WATER OR PROCESS PIPING. INTERRUPTION OF POTABLE, WASH WATER OR FIRE PROTECTION SERVICE SHALL BE KEPT TO A MINIMUM. SCHEDULING SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER AND RESIDENT ENGINEER.
- THE CONTRACTOR SHALL MAINTAIN ALL OTHER ADJACENT WATER OR PROCESS LINES IN SERVICE DURING CONSTRUCTION, EXCEPT AS ALLOWED BY THE OWNER AND THE RESIDENT ENGINEER. IN ALL CASES, THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, PIPE SUPPORT AND / OR TRENCH BOXES TO MAINTAIN THE INTEGRITY OF EXISTING FACILITIES.
- ALL SITE PIPING AND DRAINAGE CULVERTS, NOT SPECIFICALLY IDENTIFIED FOR DEMOLITION, SHALL BE PROTECTED DURING CONSTRUCTION AND MAINTAINED IN SERVICE. INTERRUPTION OF SERVICE SHALL BE COORDINATED WITH THE OWNER AND THE ENGINEER. TEMPORARY RELOCATION OF PIPING OR CULVERTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY PIPING OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- CUT, PLUG AND BLOCK EXISTING LINES IDENTIFIED FOR ABANDONMENT. THIS SHALL INCLUDE THE REMOVAL AND SALVAGE OF ANY EXISTING GATE VALVES OR FIRE HYDRANTS TO THE OWNER AS NOTED ON THE PLANS. FIELD VERIFY TYPE AND SIZE OF EXISTING LINES IDENTIFIED FOR ABANDONMENT AND DEVISE A PLAN FOR SUCH WORK FOR THE APPROVAL OF THE ENGINEER. INSTALL POSITIVELY RESTRAINED PLUGS ON EXISTING LINE TERMINATIONS AND ABANDONED FIRE HYDRANT LEADS. AVOID ANY PROLONGED PERIODS OF SERVICE SHUT-OFF.
- ALL MANHOLES SHALL BE CAST-IN-PLACE OR APPROVED PRECAST WITH CONCENTRIC CONES AND BOLT DOWN, GASKETED COVERS. 6" DIAMETER MANHOLE SHALL EITHER HAVE A CONCENTRIC CONE OR A TRANSITION SECTION AND A 4' DIAMETER CONCENTRIC CONE.



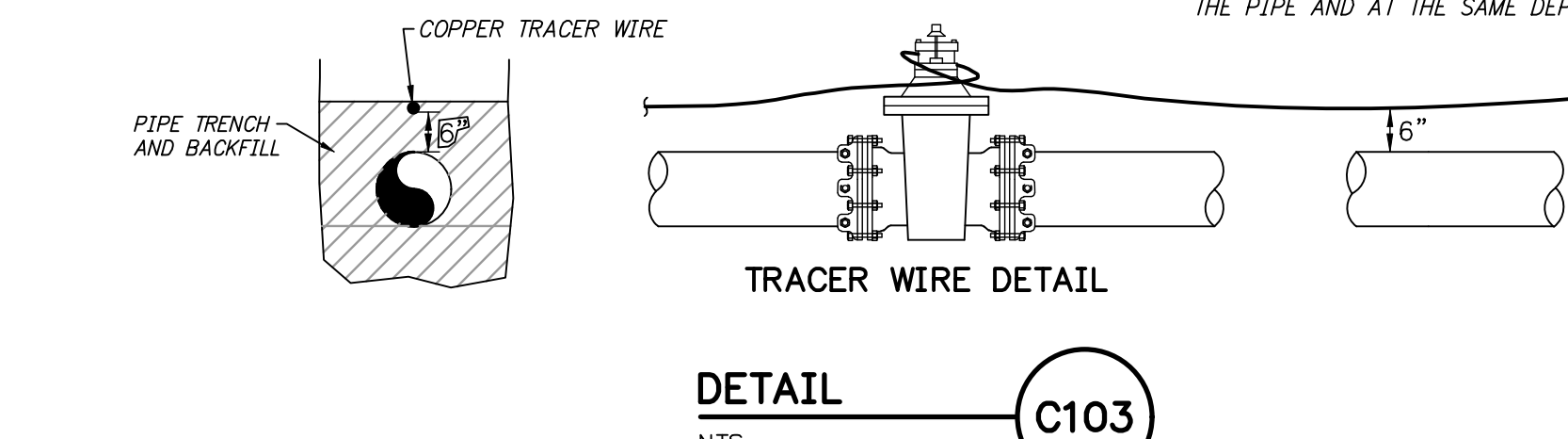
YARD HYDRANT
DETAIL C101
 N.T.S.



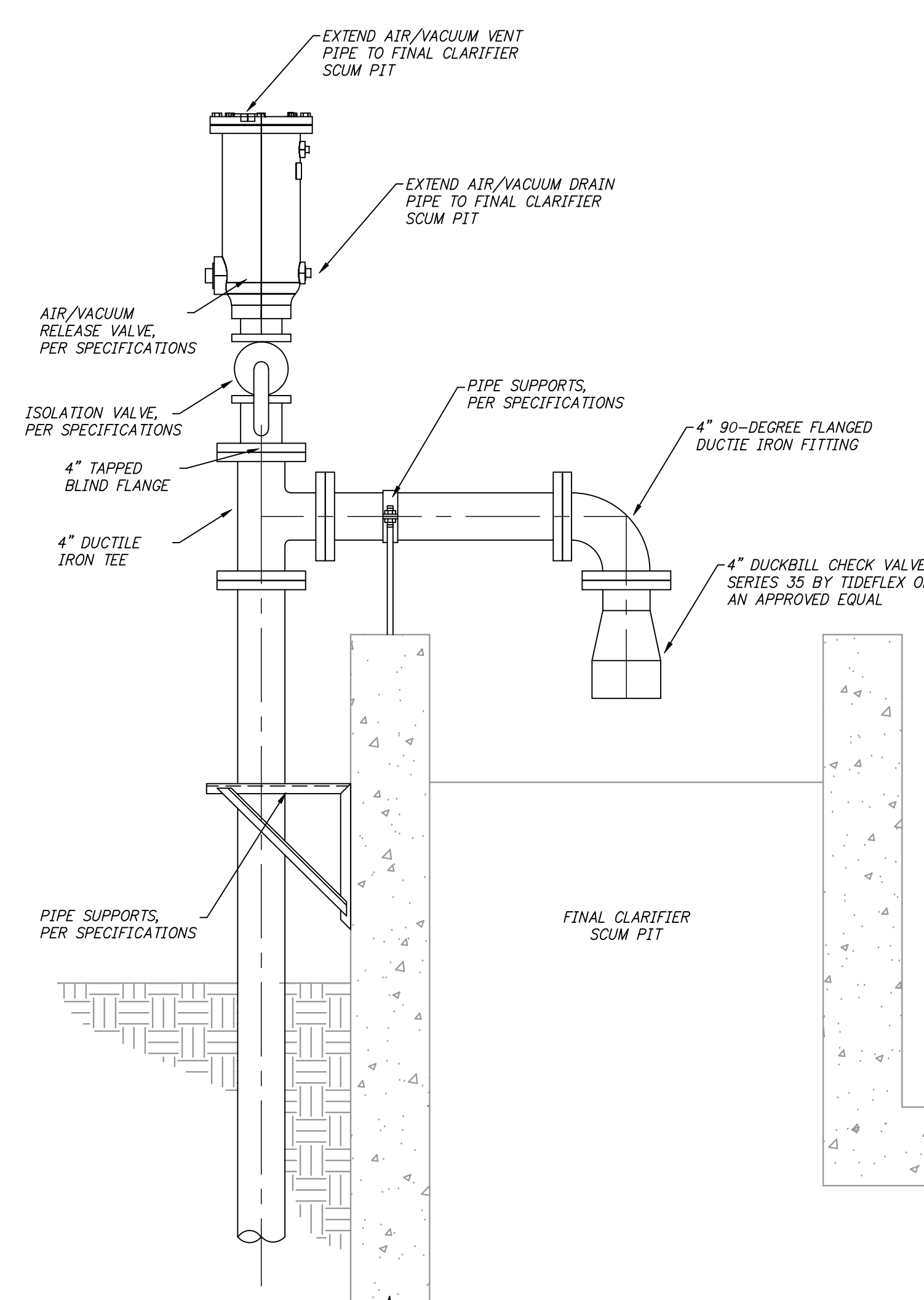
WATER/SEWER LINE SEPARATION
DETAIL C104
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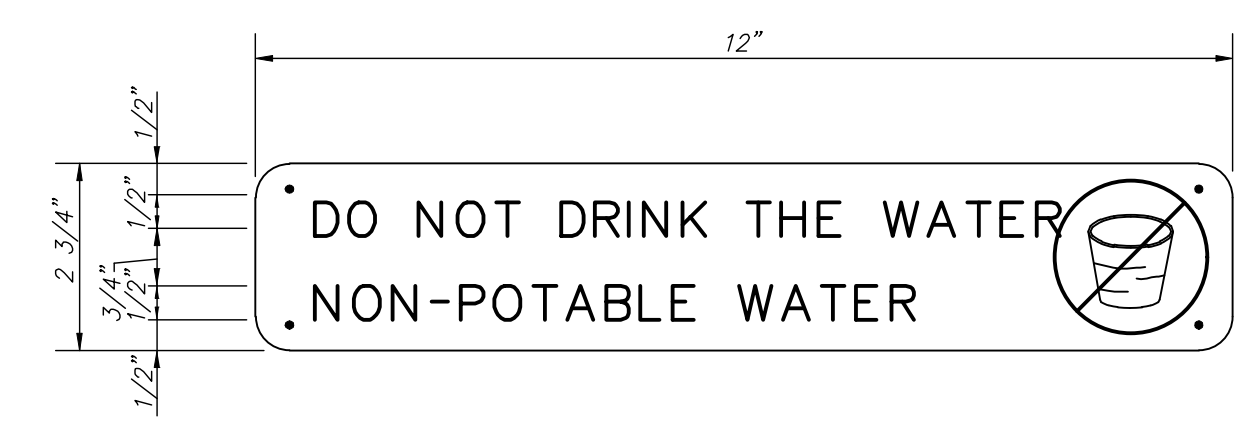
TRACER WIRE TERMINAL BOX
DETAIL C103
 N.T.S.



TRACER WIRE DETAIL
DETAIL C103
 N.T.S.



FINAL CLARIFIER SCUM PIPING
DETAIL C102
 N.T.S.



NON-POTABLE WATER SIGN
DETAIL C105
 N.T.S.

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION



HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

ROGERS, ARKANSAS
 ROGERS POLLUTION CONTROL FACILITY (PCF)
 SOLIDS HANDLING IMPROVEMENTS, PHASE II
 CIVIL DETAILS I
 FOR: ROGERS WATER UTILITIES

DATE: AUGUST 2024
 SCALE: AS SHOWN
 DESIGNED BY: JDS
 DRAWN BY: MAW
 HWI NO.: 2020043
 FILENAME: CZ-01

SHEET NO.
CZ-1

Z:\20\2020043 ROGERS SOLIDS HANDLING IMPROVEMENTS, PH. 2\DRAWINGS\CONSTRUCTION DRAWINGS\WMP\CZ-01.DWG, 8/26/2024 11:10 AM, MATT WEIR, LAYOUT