

**ADDENDUM NO. 3**

DATE: September 26, 2022

PROJECT: Benton Washington Regional Public Water Authority
Phase 1A – Water Treatment Plant Improvements – 4MG Elevated Storage Tank
Rogers, Arkansas

BID DATE: October 6, 2022, at 1:00PM

This Addendum forms a part of the Contract Documents and modifies the original documents provided to Bidders, as noted below. Acknowledge receipt of this Addendum in the space provided in the BID FORM. Failure to do so may subject the Bidder to disqualification.

Item No. 1. Plans

- a. Remove all sheets and replace with Construction Documents – Addendum No. 3.
- b. Add sheet 5A, Alternate Elevation & Section, Addendum No. 3.
- c. Add sheet 6A, Alternate Ground Floor & Piping Details, Addendum No. 3.
- d. Add sheet 7A, Alternate Grating Plans and Sections, Addendum No. 3.

Item No. 2. Bid Form

- a. Remove Section 004100-Bid Form in its entirety and replace with Section 004100- Bid Form, Addendum No. 3, attached hereto.

Item No. 3. Specifications

- a. Specification 331619 Composite Elevated Storage Tank. Modify Section 1.3-System Description, as follows:
 - B. Operating Parameters
 1. Minimum capacity within operating range: 4,000,000 gallons
 2. Maximum operating range: 45 feet
 3. Maximum fill rate: ~~5,000~~ **21,000** gpm
- b. Specification 331619 Composite Elevated Storage Tank. Modify Section 2.6-Appurtenances and Accessories, L-Piping as follows:
 1. Inlet/Outlet Pipe

- a. Provide a 30-inch diameter inlet pipe and a separate 36-inch diameter outlet pipe that extends from the base of the support structure to the tank floor elevation. ~~Provide a minimum 6-inch high removable silt stop where the inlet/outlet pipe enters the tank.~~ The bottom capacity level of the tank's operating range shall be at or above the elevation of the top of the silt stop. Pipe material within the support structure shall be Schedule 10S Type 304L stainless steel. Piping below the grade slab shall be flanged cement lined ductile iron suitably restrained to prevent movement.
- c. Specification 331619 Composite Elevated Storage Tank. Modify Section 2.6 -Appurtenances and Accessories, L-Piping as follows:

2. Overflow Pipe

- a. Provide an 18-inch diameter overflow. The top of the overflow shall be located within the tank at the overflow elevation. It shall run vertically beside the central access tube and extend through the tank floor, at which point it shall turn 90° and run under the tank floor to the support wall. This horizontal run shall be sloped to drain. The pipe shall then turn 90° and run vertically beside the support wall to grade. A base elbow shall direct the overflow through the support wall, where the pipe shall be terminated with a ~~flap valve~~ **duckbill**. Pipe material within the support structure shall be Type 304L (minimum 11 gauge) stainless steel. If the top of overflow is located above top capacity level, the tank shall be designed for the additional capacity provided by the difference.

END OF ITEMS

All other provisions of the Contract Documents remain unchanged. Acknowledge receipt of this addendum on the Bid Form. Bids must be received at Benton Washington Regional Public Water Authority office, 15531 Woods Lodge Road, Rogers, AR 72756 by 1:00 PM on October 6, 2022.



Matt Dunn, PE (Crist Engineers, Inc.)

9/26/22

Date

BID FORM

BENTON WASHINGTON REGIONAL PUBLIC WATER AUTHORITY ROGERS, ARKANSAS

Water Treatment Plant Improvements 4.0 MG Composite Elevated Storage Tank

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

**Benton Washington Regional Public Water Authority
15531 Woods Lodge Road
Rogers, Arkansas 72756**

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
"coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BID SCHEDULE Water Treatment Plant Improvements 4 MG Base Bid and 3.5 MG Deductive Alternate Bid for Composite Elevated Storage Tank Rogers, Arkansas		
Item No.	Description	Bid Price
1	Insurance, Bonds, Mobilization, Demobilization	\$
2	Site Work	\$
3	Tank Foundation	\$
4	Concrete Support Pedestal	\$
5	4,000,000 Gallon Steel Tank	\$
6	Coatings	\$
7	Mechanical and Electrical	\$
8	Stormwater Pollution Prevention Plan (SWPPP) Measures and Actions	\$
9	Trench and Excavation Safety Systems applicable to the Contract per Act 291 of the 1993 Arkansas General Assembly	\$
10	All other work, equipment, materials, tools, labor, incidentals, and other costs to accomplish all Work within the Scope of this Contract and not otherwise included in this Bid Form; however, the Lump Sum Amount for this Bid Form line-item shall not exceed ten (10) percent of the Total Lump Sum Bid Amount.	\$
TOTAL LUMP SUM BASE BID PRICE: 4,000,000 GALLON COMPOSITE ELEVATED TANK _____ Dollars		\$

Deductive Alternate No. 1: <u>DELETE INTERMEDIATE FLOOR AND RELATED COMPONENTS</u> The Purpose of the Deductive Alternate Bid is to provide price reduction to the Owner by deleting the intermediate floor and related appurtenances as shown in the Drawings. This deduct will also include the piping modifications as shown on the drawings.	
<i>TOTAL DEDUCTIVE ALTERNATE #1:</i> _____ Dollars	\$
<i>BASE BID MINUS DEDUCTIVE ALTERNATE #1:</i> _____ Dollars	\$
Deductive Alternate No. 2: <u>REDUCE THE TANK CAPACITY TO 3,500,000 GALLONS</u> The Purpose of the Deductive Alternate is to provide a price reduction to the Owner to reduce the capacity from 4,000,000 gallons to 3,500,000 gallons. If chosen by the Owner, this deductive alternate will be taken after deductive alternate #1.	
<i>TOTAL DEDUCTIVE ALTERNATE #2:</i> _____ Dollars	\$
<i>BASE BID MINUS DEDUCTIVE ALTERNATE #1 MINUS DEDUCTIVE ALTERNATE #2:</i> _____ Dollars	\$

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete within **600 calendar days** after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **660 calendar days** after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. List of Proposed Subcontractors.

- B. Bid Bond.
- C. Copy of current Contractors License.

ARTICLE 8 – DEFINED TERMS

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By: _____
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: *[Signature]* _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices: _____

Telephone Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____

CAPITAL IMPROVEMENTS PLAN PHASE IA

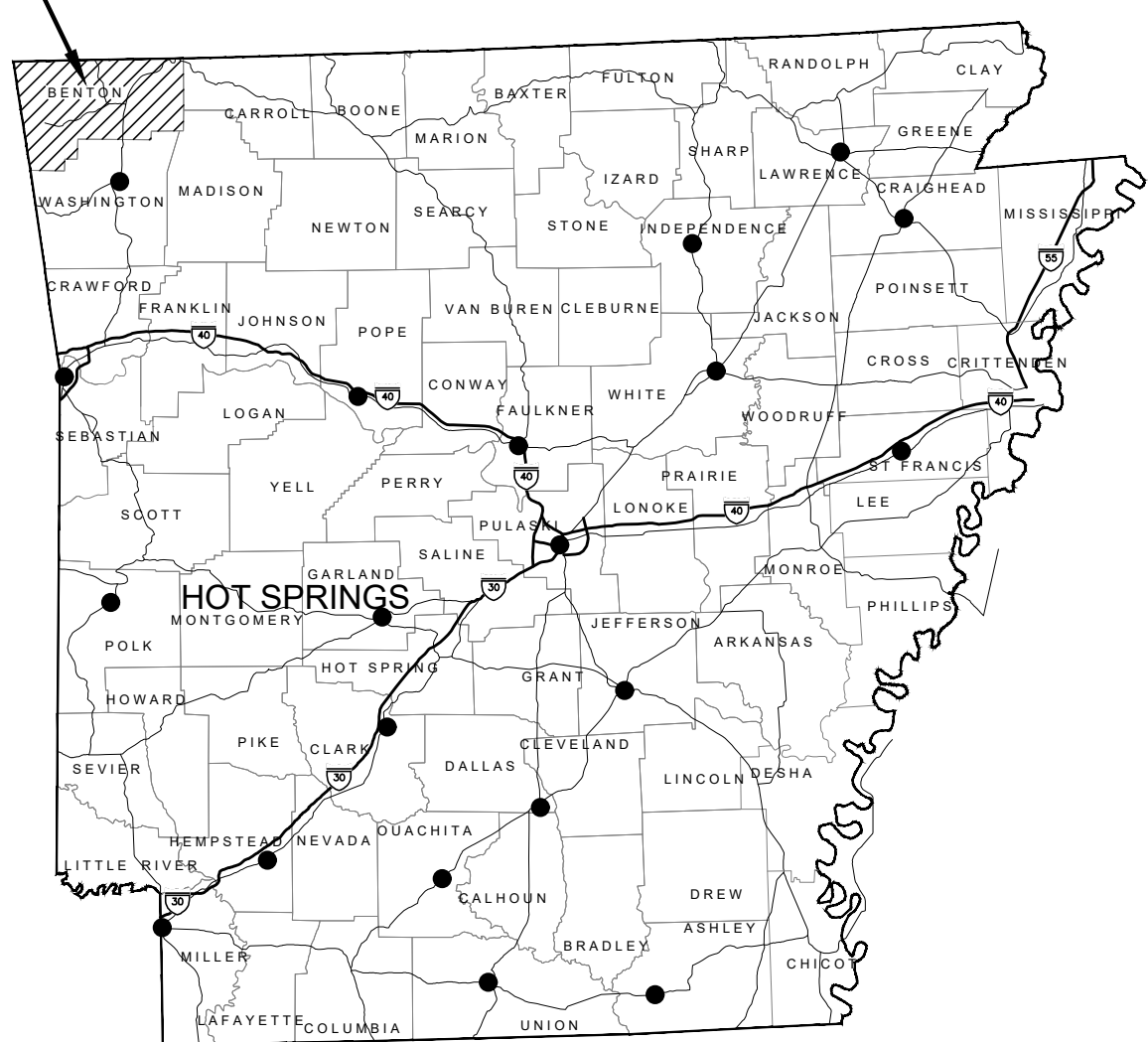
WATER TREATMENT PLANT IMPROVEMENTS 4 MG ELEVATED WATER STORAGE TANK

BENTON COUNTY, ARKANSAS

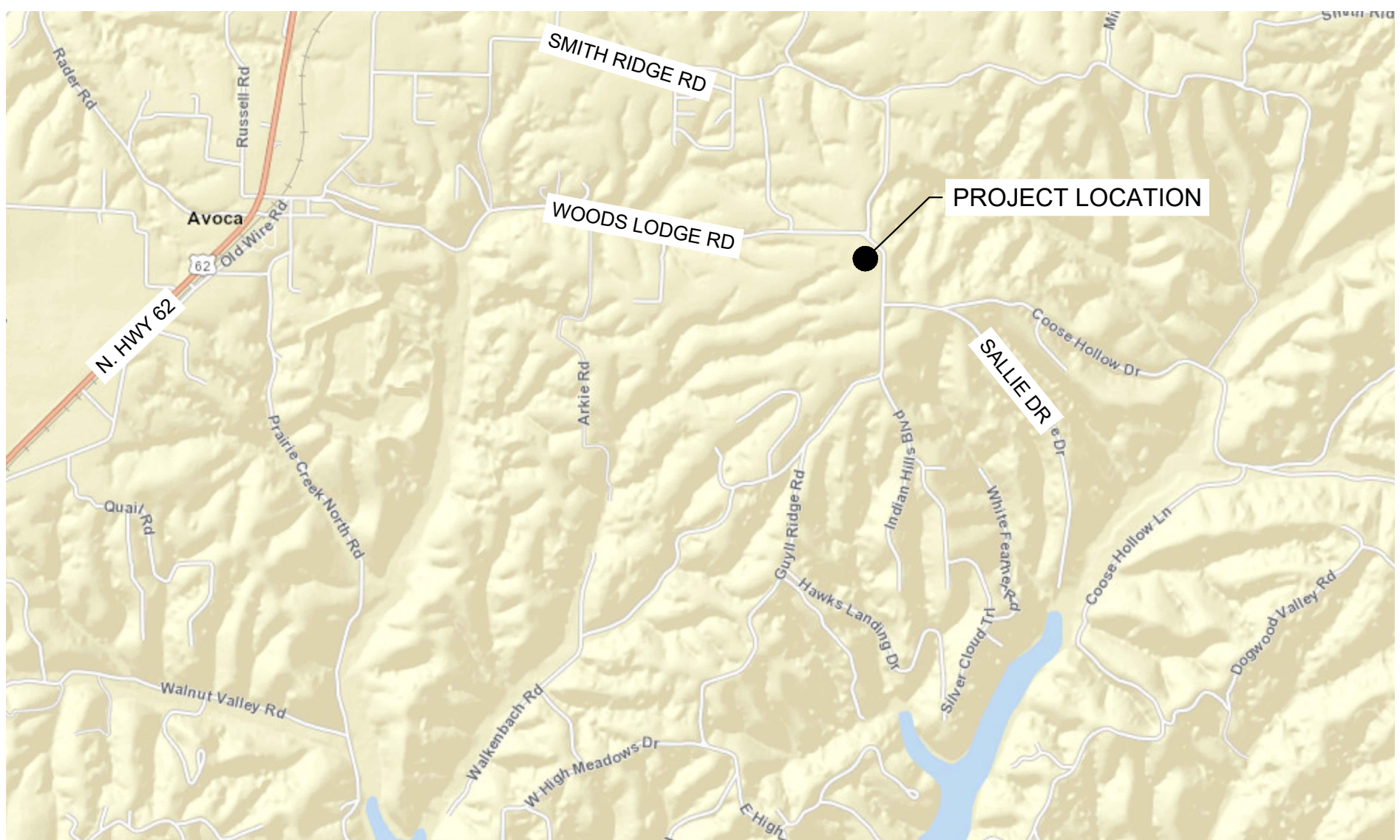
PREPARED FOR:

BENTON WASHINGTON
PUBLIC WATER AUTHORITY

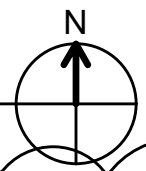
ROGERS,
ARKANSAS



AUGUST, 2022

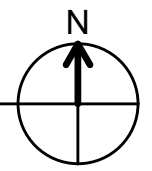


LOCATION MAP
N.T.S.



CONSTRUCTION DOCUMENTS - ADD NO 3
CRIST PROJECT NO. 2122

VICINITY MAP
N.T.S.



INDEX OF SHEETS

DWG NO.	DESCRIPTION
--	COVER SHEET
1	GENERAL NOTES CONTACTS & LEGEND
2	OVERALL SITE MAP
3	EXISTING SITE PLAN
4	SITE AND GRADING PLAN
5	ELEVATION & SECTION
6	GROUND FLOOR PLAN & PIPING DETAILS
7	INTERMEDIATE SECONUD FLOOR PLAN & DETAILS
8	GRATING PLANS AND SECTIONS
9	ROOF PLAN
5A	ALT ELEVATION & SECTION
6A	ALT GROUND FLOOR PLAN & PIPING DETAILS
7A	ALT GRATING PLANS AND SECTIONS

INDEX OF SHEETS

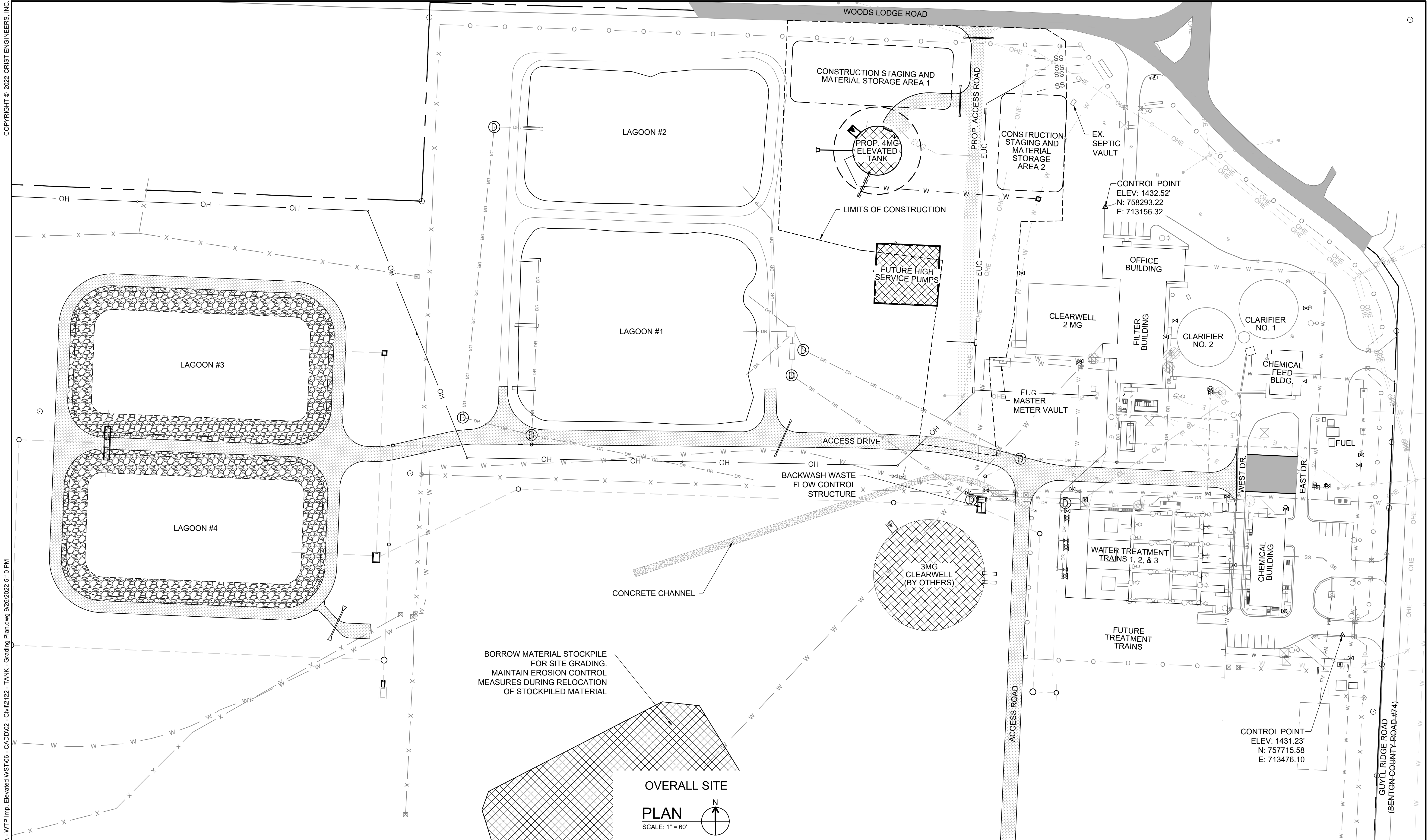
DWG NO.	DESCRIPTION
10	TANK DETAILS
11	CIVIL SITE DETAILS 1
12	CIVIL SITE DETAILS 2
13	EROSION CONTROL PLAN
14	EROSION CONTROL DETAILS I
15	EROSION CONTROL DETAILS II
E1	LEGEND AND ABBREVIATIONS
E2	SITE PLAN
E3	TANK SECTION
E4	TANK PLANS
M1	HVAC TANK PLANS



CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
LITTLE ROCK, ARKANSAS



GENERAL CONSTRUCTION NOTES - SITE WORK					GENERAL CONSTRUCTION NOTES - SITE PIPING					CONTACTS			
1. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THE DRAWINGS, AND ACTUAL LOCATION OF THE UTILITIES MAY VARY FROM THE LOCATION SHOWN ON THE DRAWINGS. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT ARKANSAS ONE CALL, AND MAKE ARRANGEMENTS FOR THE LOCATION OF ALL UTILITIES UNDER THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY MARKINGS UNTIL THEY ARE NO LONGER NECESSARY. 2. LOCATIONS OF EXISTING UTILITIES WERE DETERMINED IN THE FIELD WHERE POSSIBLE, SUCH AS MANHOLE LOCATIONS, VALVE BOXES ON EXISTING PIPING, AND DRAINAGE CULVERTS. BEFORE ANY TRENCHING COMMENCES, THE CONTRACTOR SHALL EXPOSE ALL EXISTING UTILITY AND PROCESS LINES WHICH ARE TO BE CROSSED OR CONNECTED WITH NEW PIPING, AND DETERMINE THE POTENTIAL FOR CONFLICTS. CONFLICTS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY AND TRENCHING SHALL NOT COMMENCE UNTIL ALL CONFLICTS ARE RESOLVED. 3. SURVEY CONTROL POINTS ARE SHOWN ON THE DRAWINGS. ALL CONTROL POINTS AND LAND MONUMENTS LOCATED WITHIN AND ADJACENT TO THE CONSTRUCTION AREA SHALL BE PROTECTED DURING ALL PHASES OF CONSTRUCTION. ANY DISTURBED MONUMENTATION SHALL BE RE-ESTABLISHED BY A PROFESSIONAL LAND SURVEYOR. THE COST OF RE-ESTABLISHING THE MONUMENTATION SHALL BE BORNE BY THE CONTRACTOR. 4. RIM AND INVERT ELEVATIONS ON EXISTING MANHOLES AND DRAINAGE STRUCTURES ARE INCLUDED FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL NOT USE THESE ELEVATIONS AS BENCHMARKS UNDER ANY CIRCUMSTANCES. PRIOR TO CONSTRUCTION INVOLVING THESE STRUCTURES, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM ALL EXISTING ELEVATIONS. 5. ALL REFERENCES TO ELEVATION DENOTE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS. 6. TREES THAT DO NOT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED. CARE SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED ARE PROTECTED FROM CONSTRUCTION OPERATIONS. CONSTRUCTION EQUIPMENT SHALL NOT WORK WITHIN THE DRIP LINE OF TREES TO BE PROTECTED. 7. STRIP 6" MINIMUM OF TOPSOIL FROM ALL PLANNED STRUCTURES, DRIVEWAYS, AND PONDS. STOCKPILE TOPSOIL ONSITE FOR LATER USE. 8. CRUSHER SCREENINGS (CRUSHER DUST) MAY NOT BE USED AS SELECT FILL. 9. THE GROUND SURFACE DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE GRADED TO DRAIN AWAY FROM THE DISTURBANCE. ALL ROCK AND DEBRIS (2" DIAMETER AND LARGER) SHALL BE REMOVED AND DISPOSED OF OFF THE JOB SITE. ALL DISTURBED AREAS SHALL BE RESTORED WITH A 4-INCH (4") LAYER OF TOPSOIL AND SOLID SOD OR SEED, FERTILIZER, AND MULCH AS SPECIFIED. AREAS TO RECEIVE SOLID SOD ARE DESIGNATED ON THE DRAWINGS. ALL OTHER AREAS WILL BE SEEDED. 10. WHERE IT IS NECESSARY TO CUT EXISTING ASPHALT OR CONCRETE PAVEMENT FOR TRENCHING, PAVEMENT REPAIR OR MATCHING NEW CONSTRUCTION, THE CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT PER DETAIL.					1. UNLESS OTHERWISE NOTED ON THE DRAWINGS, DEMOLISHED ASPHALT PAVEMENT AND CONCRETE, FENCES, STRUCTURES, AND EXCAVATION UNSUITABLE FOR EMBANKMENT OR BACKFILL SHALL BE REMOVED OFFSITE AND CONSTRUCTION MATERIAL SHALL BE DISPOSED OF AT AN APPROVED LANDFILL OR SITE. 2. CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING TEMPORARY EXCAVATION SUPPORT SYSTEMS, INCLUDING SHEETING, SHORING, AND BRACING TO INSURE THE SAFETY OF PERSONNEL AND PROTECT ADJACENT STRUCTURES, PIPING, ETC. IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, AND REQUIREMENTS. 3. THE CONTRACTOR SHALL DE-WATER STRUCTURAL AND TRENCH EXCAVATION IN ACCORDANCE WITH THE SPECIFICATIONS. 4. THE CONTRACTOR SHALL, BY REPAIR OR REPLACEMENT, RETURN TO EQUAL OR BETTER CONDITION ALL PAVEMENT, FENCES, LAWNS, UTILITIES, AND OTHER ITEMS DAMAGED BY THIS CONSTRUCTION ACTIVITY OR OPERATIONS. 5. THE CONTRACTOR SHALL MAINTAIN POSITIVE SITE DRAINAGE AT ALL TIMES. 6. THE CONTRACTOR SHALL MAINTAIN A SECURED SITE AT ALL TIMES. 7. A NOTICE OF INTENT (NOI) SHALL BE FILED WITH THE ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) BY THE CONTRACTOR FOR THE PROJECT TO BE COVERED UNDER THE ARKANSAS GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. A. THE CONTRACTOR SHALL BE REQUIRED TO IMPLEMENT THE SWPPP ACCORDING TO THE REQUIREMENTS OF THE GENERAL PERMIT ADMINISTERED BY ADEQ. B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL PAY ALL COSTS ASSOCIATED WITH FINES OR PENALTIES THAT MAY BE IMPOSED BY THE GOVERNMENTAL AUTHORITY FOR THE FAILURE OF THE CONTRACTOR, THE CONTRACTOR'S SUBCONTRACTORS, THE CONTRACTOR'S SUPPLIERS, OR THE CONTRACTOR'S AGENTS HAVING ACCESS TO THE SITE TO COMPLY WITH THE REQUIREMENTS OF THE GENERAL PERMIT AND/OR COMPLY WITH THE STORM WATER POLLUTION PREVENTION PLAN. THE OWNER SHALL BE ENTITLED TO WITHHOLD SUCH FROM CONTRACT FUNDS THAT MAY BE DUE TO THE CONTRACTOR AND/OR CLAIM THROUGH THE APPROPRIATE COURT HAVING JURISDICTION. C. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE POSTING AND MAINTENANCE OF NOTICES IN THE AREA OF THE CONSTRUCTION WITH INFORMATION AS REQUIRED BY ADEQ REGULATION. D. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN AND UPDATE RECORDS AND INSPECTIONS REPORTS REQUIRED BY THE GENERAL PERMIT FROM STORM WATER DISCHARGES AND THE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN. COPIES OF ALL DOCUMENTS SHALL BE AVAILABLE AT ALL TIMES AND PROVIDED TO THE OWNER AND/OR THE OWNER'S REPRESENTATIVE UPON DEMAND AND SHALL BE DELIVERED TO THE OWNER PRIOR TO FINAL PAYMENT. E. INFORMATION REGARDING THE STORM WATER POLLUTION PREVENTION PLAN AND THE PERTINENT REGULATION MAY BE ACCESSED AT WWW.ADEQ.STATE.AR.US					OWNER BENTON WASHINGTON REGIONAL PUBLIC WATER AUTHORITY 15531 WOODS LODGE RD. ROGERS, AR 72756 PHONE: 479-925-7655 FAX: 877-450-5783 ENGINEER CRIST ENGINEERS, INC. MATHEW D. DUNN, P.E. 205 EXECUTIVE COURT LITTLE ROCK, AR, 72205 VOICE: 501.664.1552 FAX: 501.664.8579 UTILITY INFORMATION ARKANSAS ONE CALL VOICE: 800.482.8998		CONTRACTOR T.B.D. FIRE MARSHAL STATE FIRE MARSHAL MAJOR LINDSEY WILLIAMS 1 STATE POLICE PLAZA DRIVE LITTLE ROCK, AR 72209 VOICE: 501.618.8601	
LEGEND — W — EXISTING WATER LINE — + — PROPOSED WATER LINE — FM — EXISTING SEWER FORCE MAIN ⊗ EXISTING FIRE HYDRANT ⦿ PROPOSED FIRE HYDRANT — — UTILITY MARKER ⊞ EXISTING WATER METER ⊗ PROPOSED WATER METER ⊞ EXISTING WATER VALVE ⦿ PROPOSED WATER VALVE — UGE — EXISTING UNDERGROUND ELECTRIC LINE — OHE — EXISTING OVERHEAD ELECTRIC LINE ∅ EXISTING POWER POLE — —●— EXISTING GUY WIRE ⊗ EXISTING ELECTRICAL METER — FOC — EXISTING UNDERGROUND FIBER OPTIC CABLE — T — EXISTING OVERHEAD TELEPHONE LINE — UGT — EXISTING UNDERGROUND TELEPHONE LINE ⊞ EXISTING TELEPHONE PEDESTAL — G — EXISTING NATURAL GAS LINE — X — EXISTING FENCE ⊞ EXISTING FENCE GATE POST ----- 1450 ----- EXISTING MAJOR GROUND CONTOUR ----- ----- EXISTING MINOR GROUND CONTOUR ———— 1450 ———— PROPOSED GROUND CONTOUR ← DITCH FLOWLINE — RW — ROAD RIGHT-OF-WAY — . . . — PROPERTY LINE ~~~~~ EXISTING TREE LINE EXISTING TREE BENCHMARK GEOTECHNICAL BORE LOCATION													



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/23/22	KEG	DK	ADDENDUM NO. 3



THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

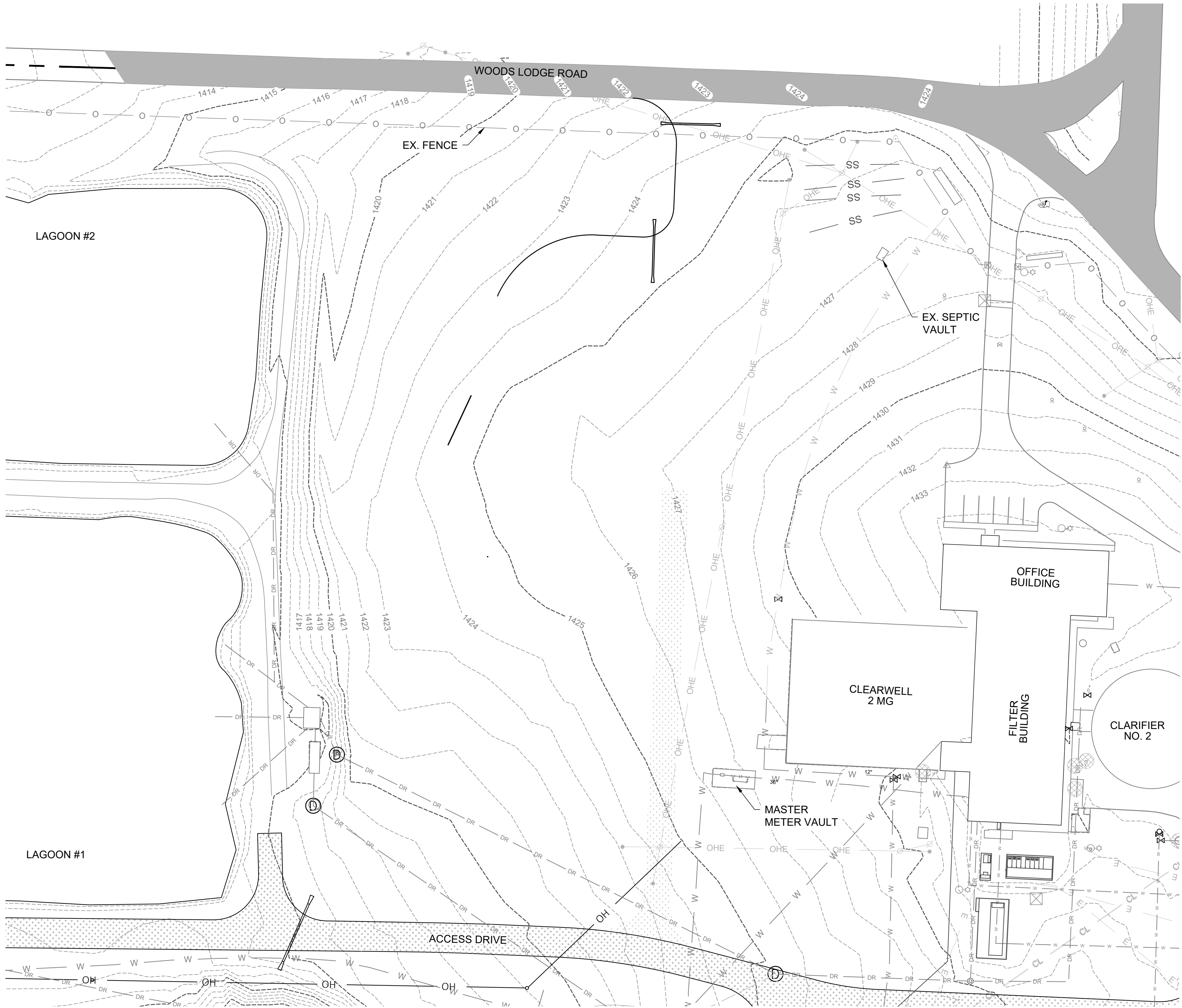
DESIGNED:	MDD
DRAFTED:	KEG
CHECKED:	DK
DATE:	AUG 2022



CRIST ENGINEERS, INC.
CONSULTING ENGINEERS
205 EXECUTIVE COURT
LITTLE ROCK, ARKANSAS 72205
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

ROGERS, ARKANSAS
CAPITAL IMPROVEMENTS PLAN PHASE IA
WATER TREATMENT PLANT IMPROVEMENTS
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
OVERALL SITE MAP

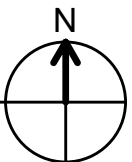
JOB NO.	2122
SHEET NO.	2



EXISTING SITE

PLAN

SCALE: 1" = 40'



0 1"
1" = 1"
THIS LINE MEASURES 1"
WHEN PLOTTED FULL SIZE



DESIGNED:	MDD
DRAFTED:	KEG
CHECKED:	DK
DATE:	AUG 2022



CRIST ENGINEERS, INC.
CONSULTING ENGINEERS

205 EXECUTIVE COURT
LITTLE ROCK, ARKANSAS 72205
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

ROGERS, ARKANSAS

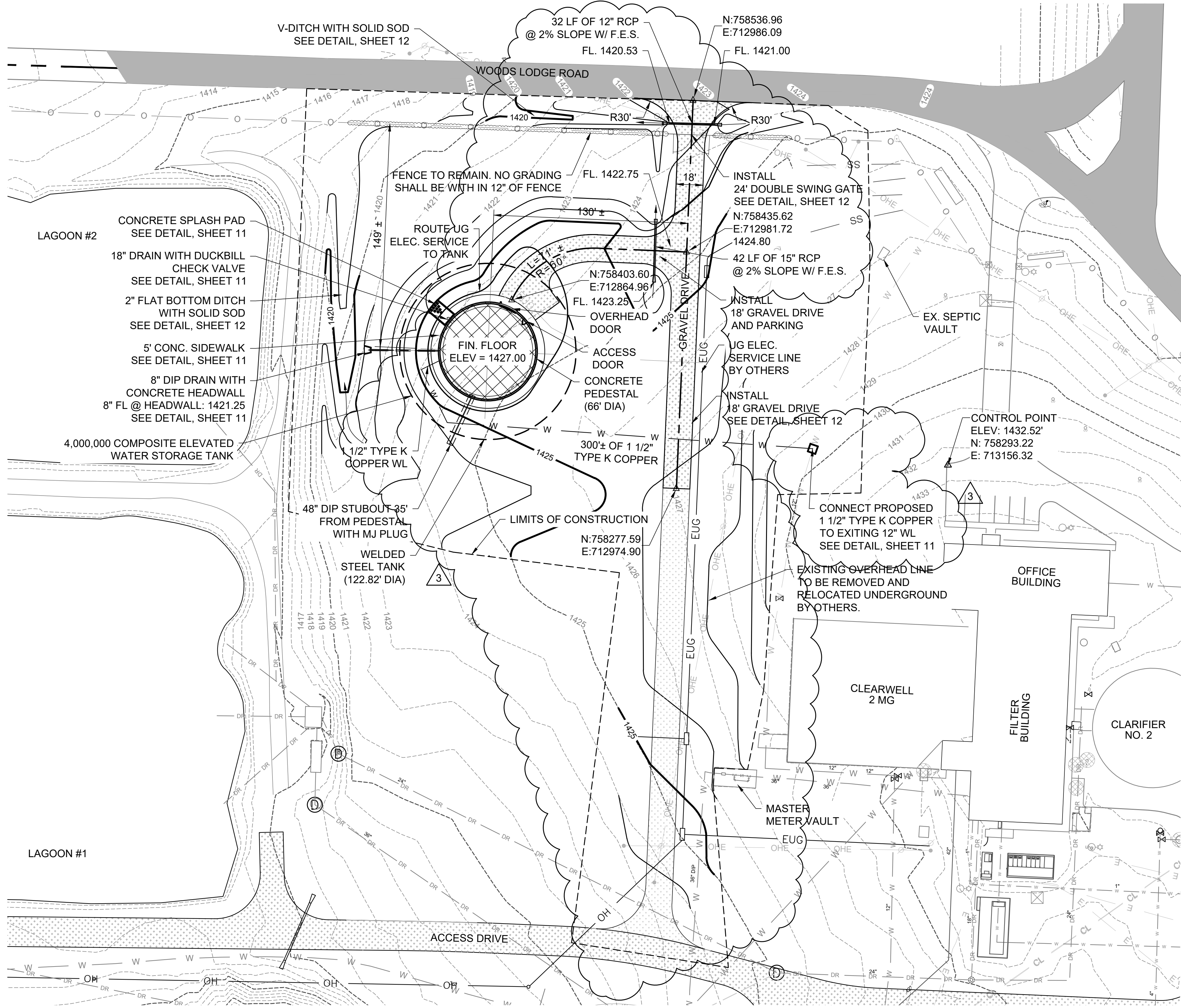
**CAPITAL IMPROVEMENTS PLAN PHASE 1A
WATER TREATMENT PLANT IMPROVEMENTS**

CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
EXISTING SITE PLAN

JOB NO.
2122

SHEET NO.

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/23/22	KEG	DK	ADDENDUM NO. 3



SITE AND GRADING

PLAN

SCALE: 1" = 40'



0 1"
1" = 1'
THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

- GENERAL GRADING NOTES:
1. CLEAR AND GRUB 6" OF TOPSOIL FROM ALL AREAS TO BE CUT AND FILLED.
 2. STOCKPILE AND PROTECT TOPSOIL ONSITE.
 3. SPREAD STOCKPILED TOPSOIL AROUND CLEARWELL AFTER EARTHWORK OPERATIONS ARE COMPLETED.
 4. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS SOON AS THE WORK IN THE DISTURBED AREA IS COMPLETE.
 5. FILL SHALL BE BORROWED FROM STOCKPILE SOUTH OF THE CLEARWELL SITE.

3	9/23/22	KEG	DK	ADDENDUM NO. 3	REMARKS
REV. NO.	DATE	DRWN	CHKD		



DESIGNED:	MDD
DRAFTED:	KEG
CHECKED:	DK
DATE:	AUG 2022

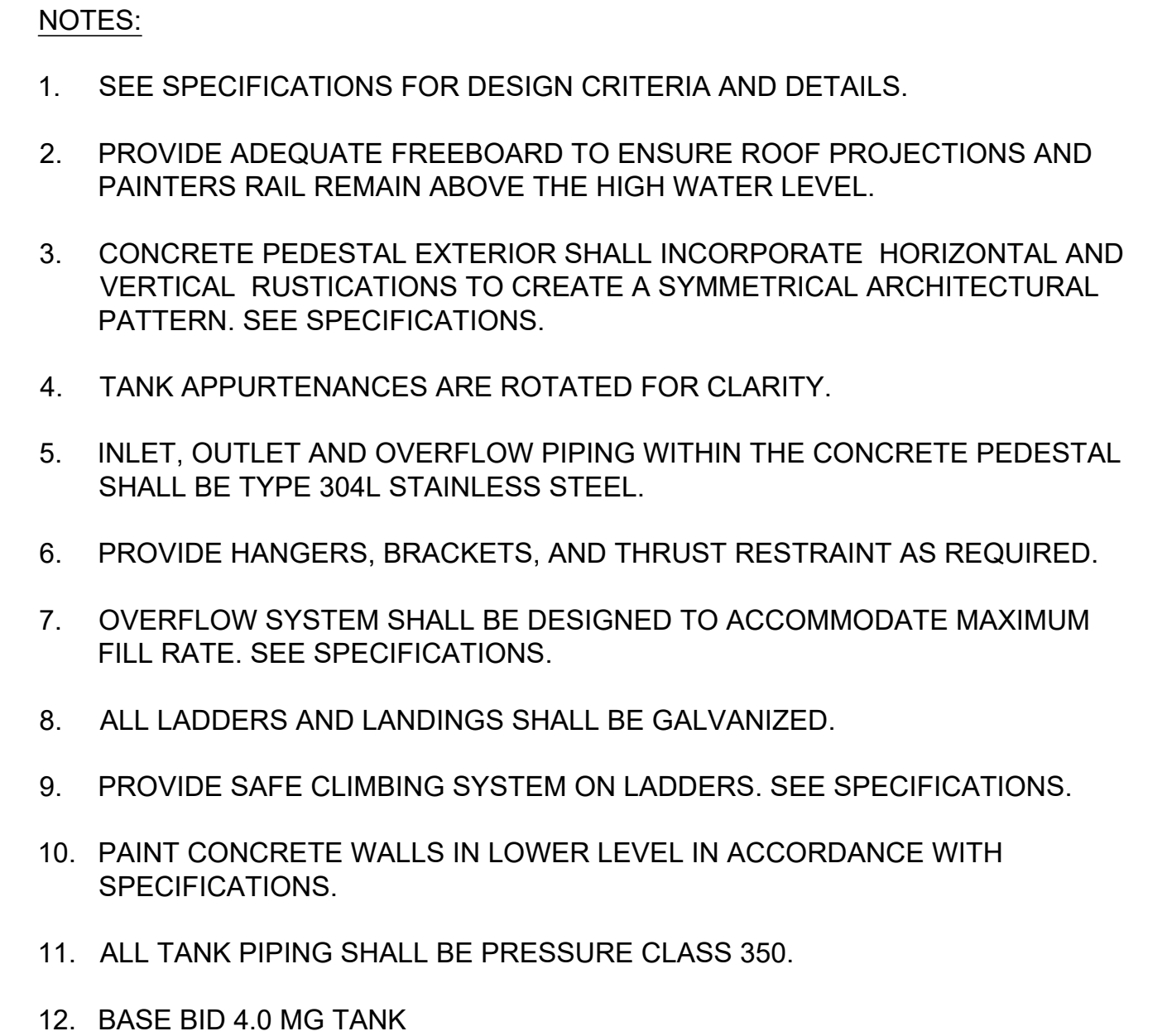


CRIST ENGINEERS, INC.
CONSULTING ENGINEERS

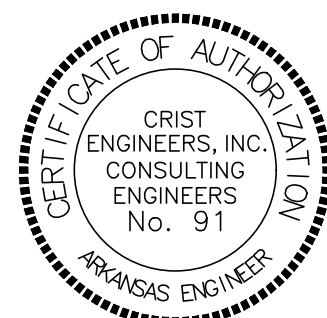
205 EXECUTIVE COURT
LITTLE ROCK, ARKANSAS 72205
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

ROGERS, ARKANSAS
CAPITAL IMPROVEMENTS PLAN PHASE IA
WATER TREATMENT PLANT IMPROVEMENTS
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
SITE AND GRADING PLAN

JOB NO.
2122
SHEET NO.
4



3	9/23/22	KEG	DK	ADDENDUM NO. 3
REV. NO.	DATE	DRWN	CHKD	REMARKS



THIS LINE MEASURES 1"
WHEN PLOTTED FULL SIZE

DESIGNED:	MDD
DRAFTED:	KEG
CHECKED:	DK
DATE:	AUG 2022



CRIST ENGINEERS, INC.
CONSULTING ENGINEERS

205 EXECUTIVE COURT
LITTLE ROCK, ARKANSAS 72205
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
WWW.CRISTENGINEERS.COM

ROGERS, ARKANSAS

CAPITAL IMPROVEMENTS PLAN PHASE IA

WATER TREATMENT PLANT IMPROVEMENTS

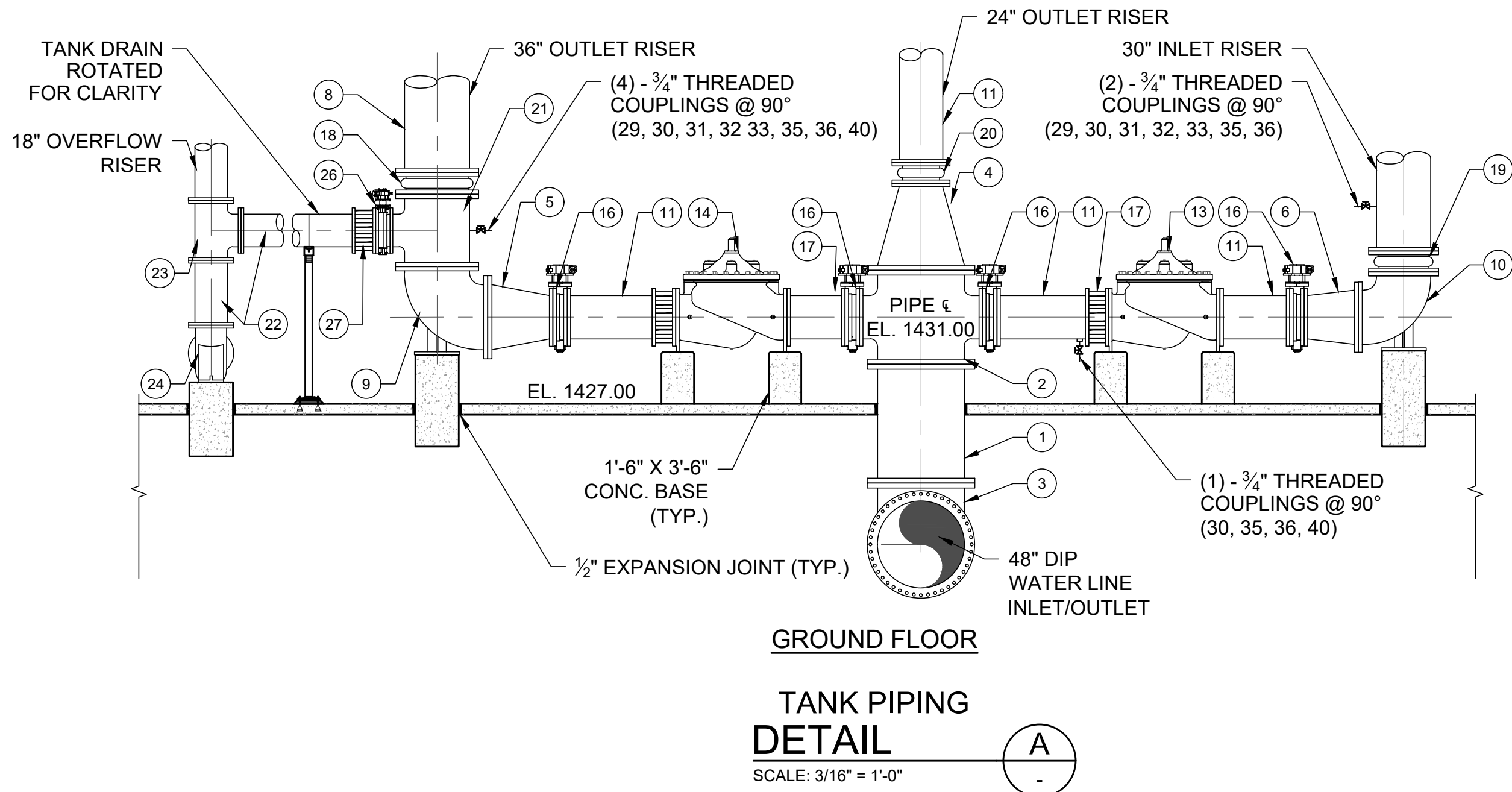
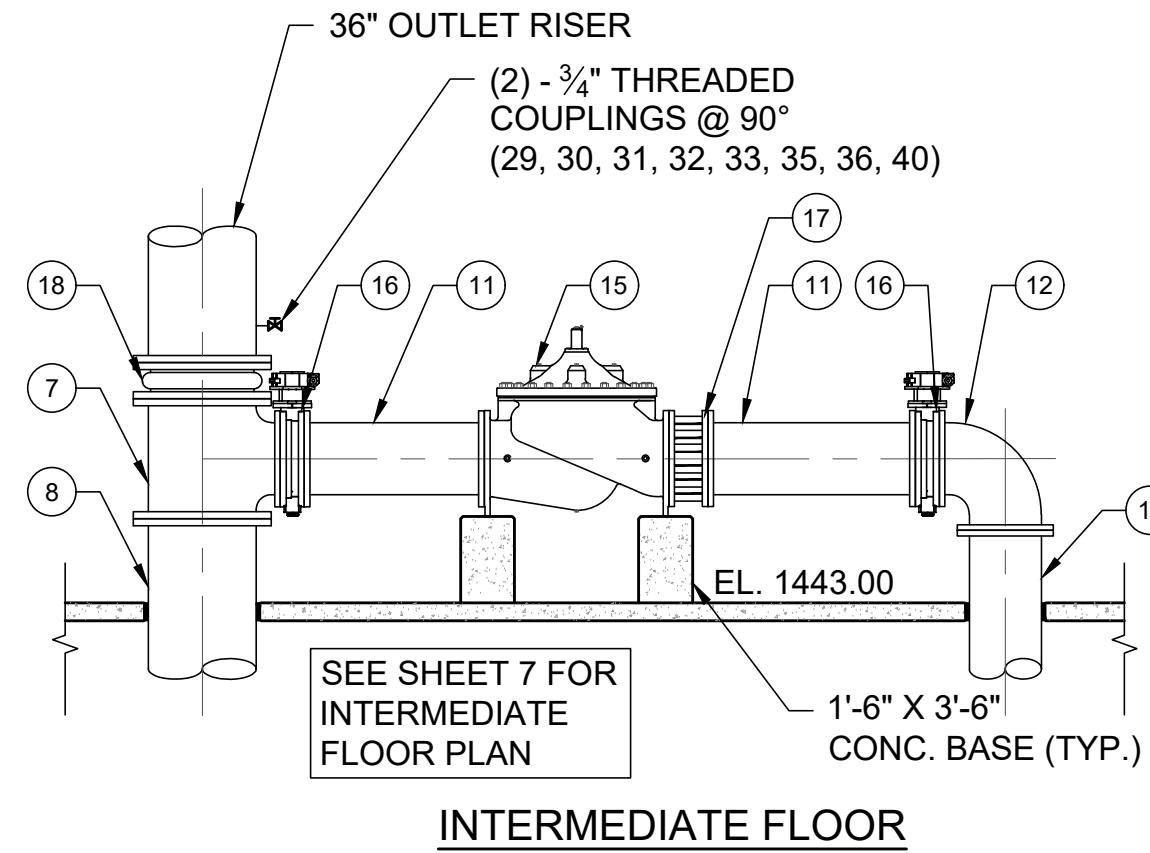
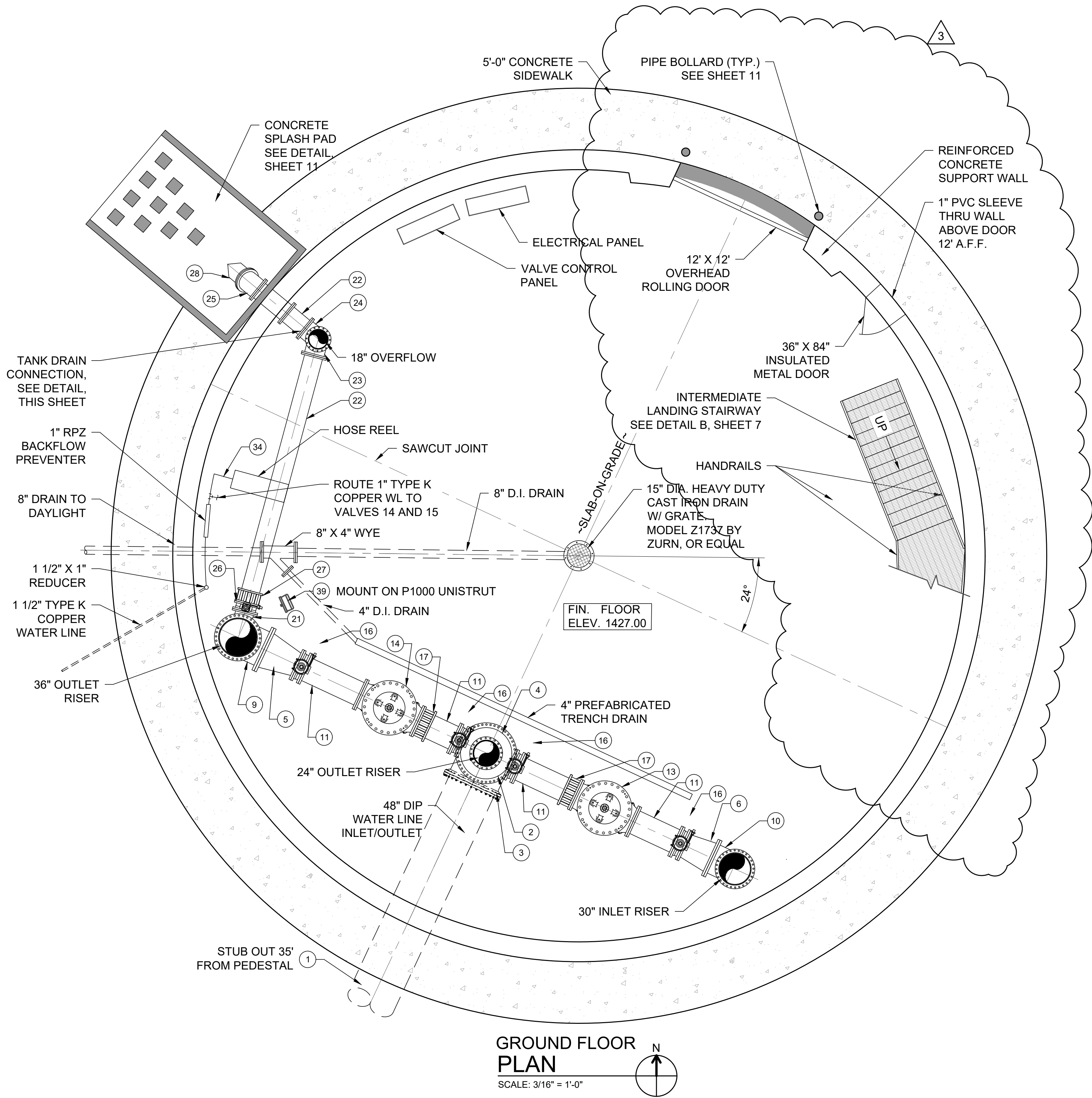
CONSTRUCTION DOCUMENTS - ADD NO 3

4 MG ELEVATED WATER STORAGE TANK

ELEVATION & SECTION

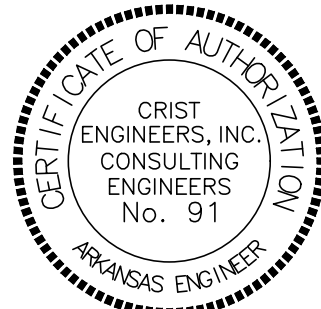
JOB NO.
2122

SHEET NO.



- PIPING NOTES:**
1. INSTALL INLET AND OUTLET VALVE PILOT CONTROL SYSTEM PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 2. 4" OIL FILLED PRESSURE GAUGE (0 TO 100 PSI) AND GAUGE COCK TO BE INSTALLED IN PILOT CONTROL SYSTEM PIPING.
 3. CONSTRUCT CONCRETE BASE UNDER ALL CONTROL VALVES AND EACH 90 DEGREE BASE BEND. SIZE OF BASE SHALL BE DETERMINED BY TANK MANUFACTURER.
 4. MEGALUGS REQUIRED ON ALL MJ FITTINGS.
 5. PROVIDE THRUST RESTRAINT AND SUPPORT FOR OVERFLOW, INLET, & OUTLET PIPING AS REQUIRED.
 6. PROVIDE 1/2" EXPANSION JOINT BETWEEN FLOOR & WALL & AT ALL FLOOR PENETRATIONS. CAP WITH SELF LEVELING SEALANT.
 7. PAINT ALL PIPING IN ACCORDANCE WITH SPECIFICATIONS.
 8. HEAT TRACE & INSULATE ALL PIPING ABOVE THE INTERMEDIATE FLOOR WITH 1/2" THK. ARMAFLEX OR INSUL-TUBE ELASTOMERIC PIPE INSULATION, GLUED. HEAT TRACING AT 4 WATTS/FT. NOMINAL, SELF REGULATING WITH LOW TEMP. THERMOSTAT.
 9. TANK PLANS ARE BASED ON 4MG BASE BID DIMENSIONS.
 10. ALL TANK PIPING SHALL BE PRESSURE CLASS 350.
 11. SEE SHEET 7 FOR MATERIAL SCHEDULE.
 12. 48" DIP MAY BE SUBSTITUTED WITH AWWA C200 STEEL PIPE WITH 16 MILS OF N140 COATING ON THE INSIDE AND OUTSIDE OF THE PIPE.

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/23/22	KEG	DK	ADDENDUM NO. 3



THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

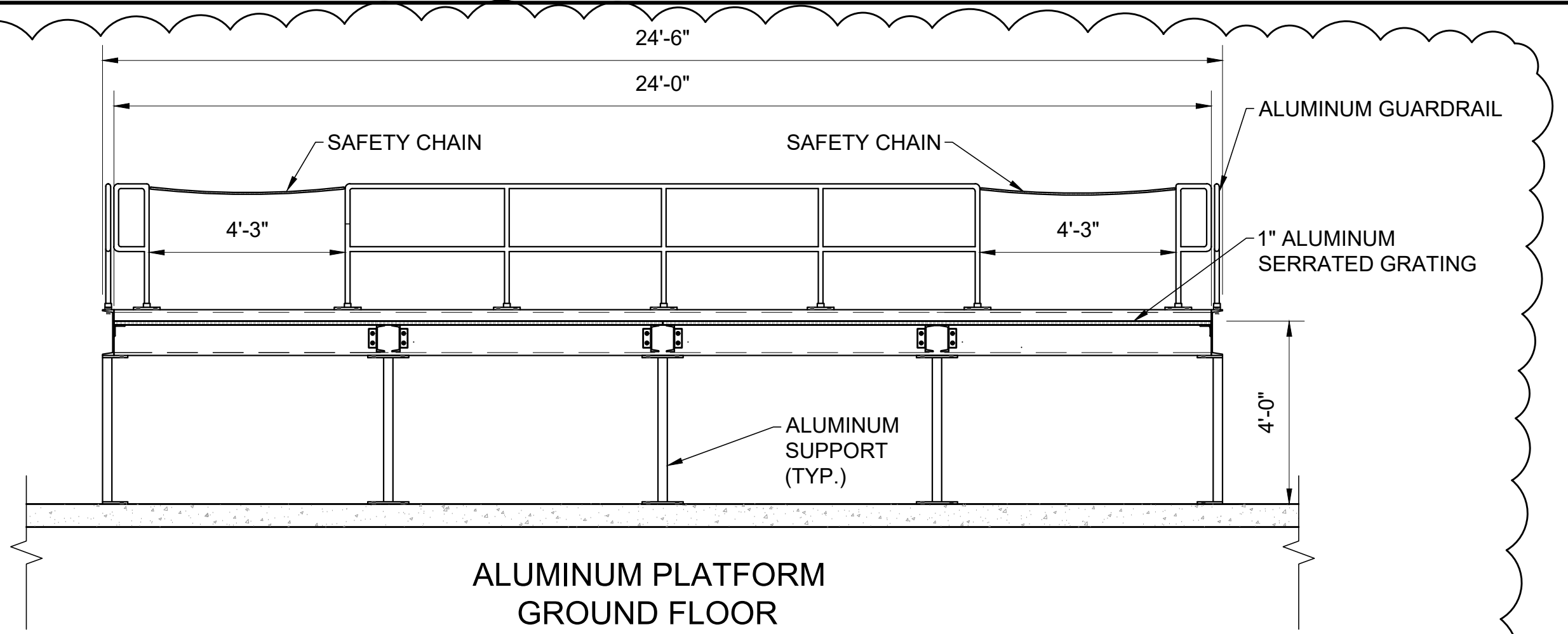
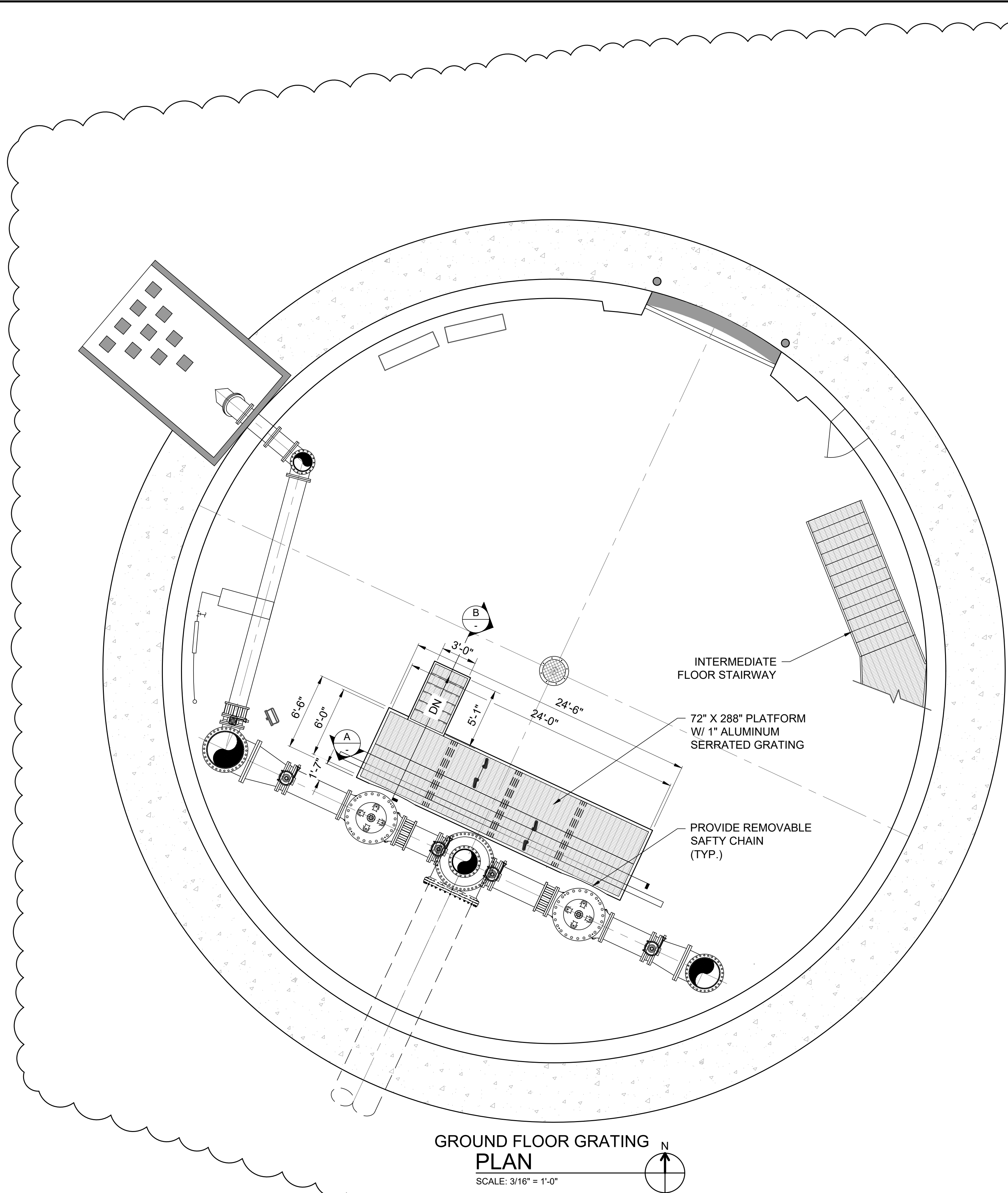
DESIGNED:	MDD
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DATE:	AUG 2022



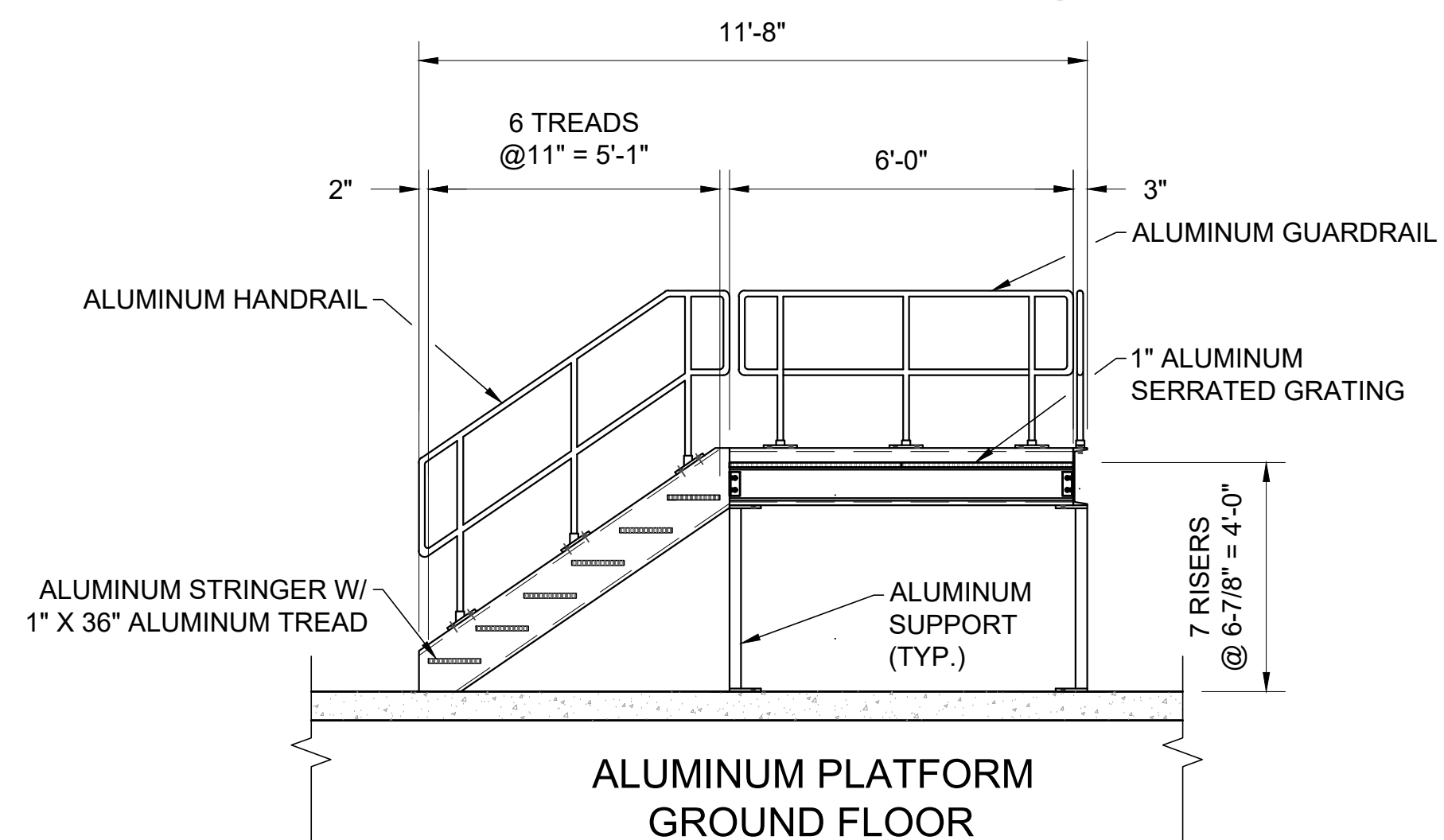
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CONSULTING ENGINEERS
205 EXECUTIVE COURT
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TELEPHONE: (501) 664-1552
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ROGERS, ARKANSAS
CAPITAL IMPROVEMENTS PLAN PHASE 1A
WATER TREATMENT PLANT IMPROVEMENTS
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
GROUND FLOOR PLAN & PIPING DETAILS

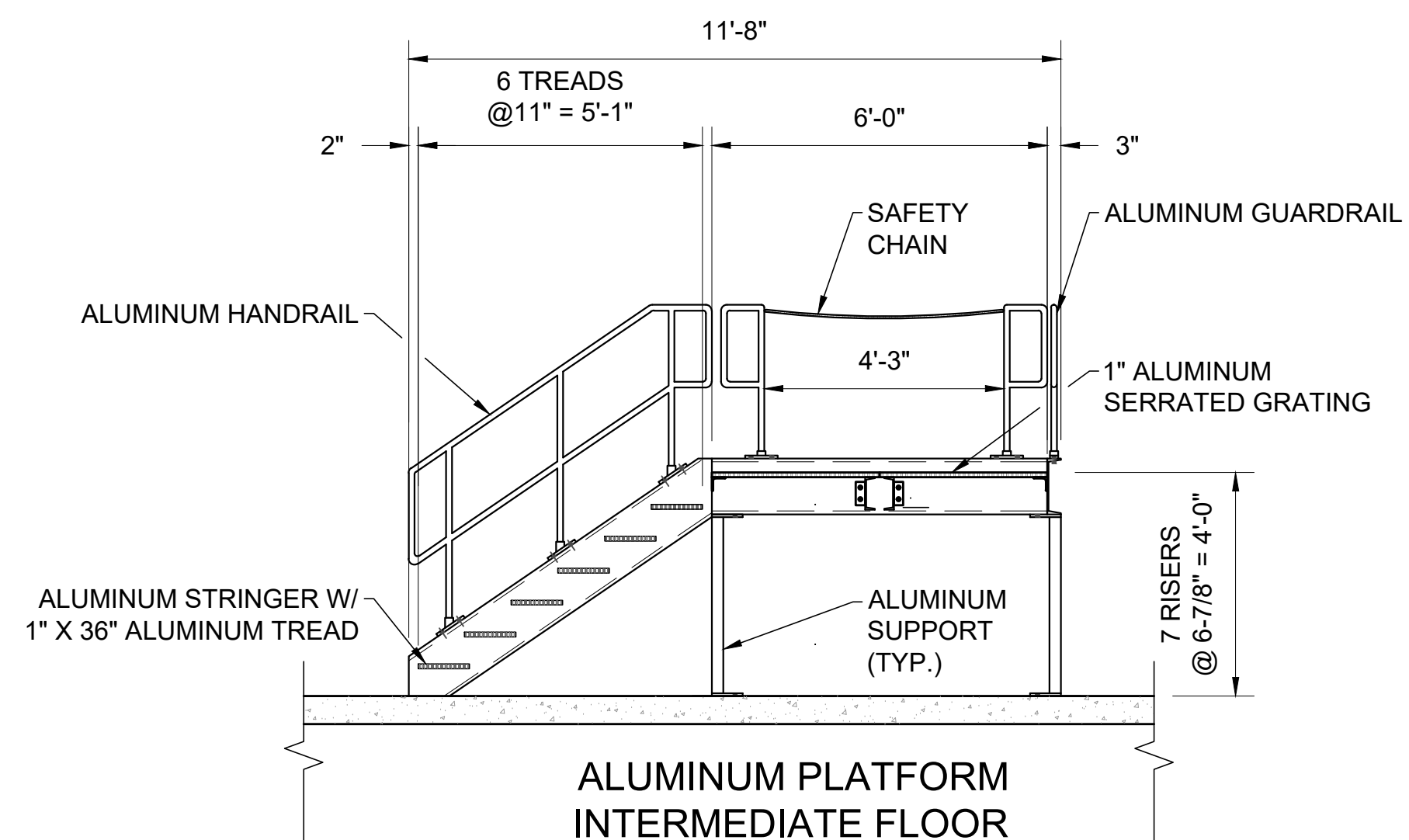
JOB NO.
2122
SHEET NO.
6



ALUMINUM PLATFORM
GROUND FLOOR
SECTION A
N.T.S. 8

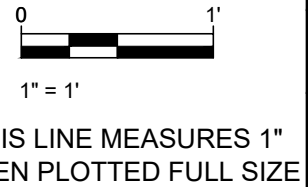
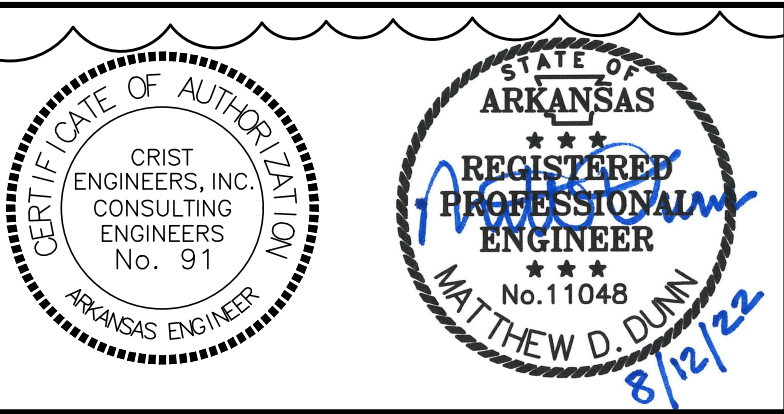


ALUMINUM PLATFORM
GROUND FLOOR
SECTION B
N.T.S. 8



ALUMINUM PLATFORM
INTERMEDIATE FLOOR
SECTION C
N.T.S. 7

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/23/22	KEG	DK	ADDENDUM NO. 3



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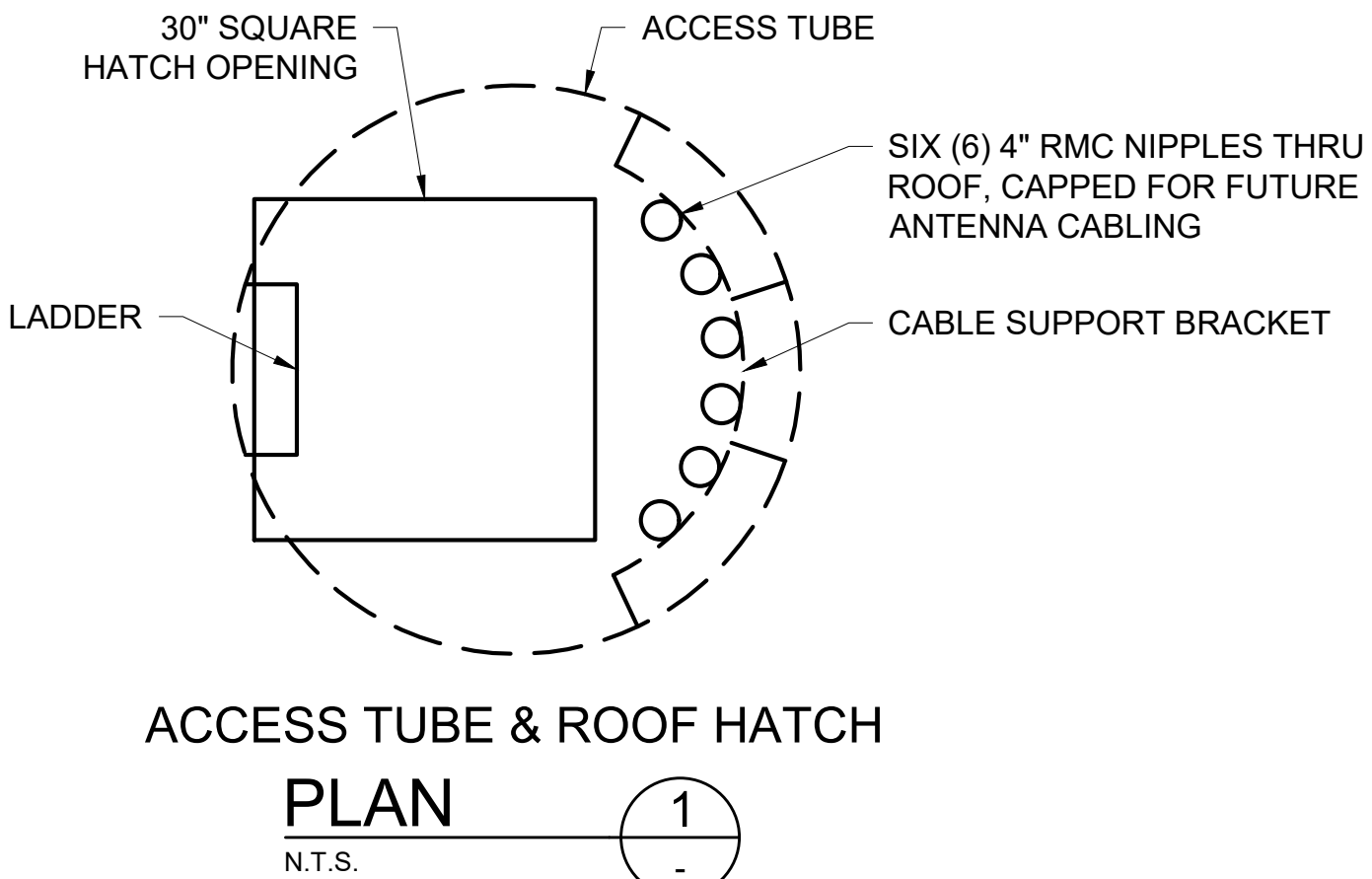
ROGERS, ARKANSAS

**CAPITAL IMPROVEMENTS PLAN PHASE IA
WATER TREATMENT PLANT IMPROVEMENTS**

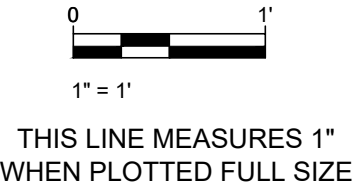
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
GRATING PLANS AND SECTIONS

JOB NO.
2122

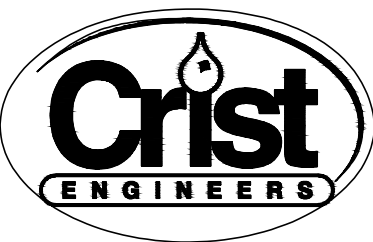
SHEET NO.
8



3	9/23/22	KEG	DK	ADDENDUM NO. 3
REV. NO.	DATE	DRWN	CHKD	REMARKS



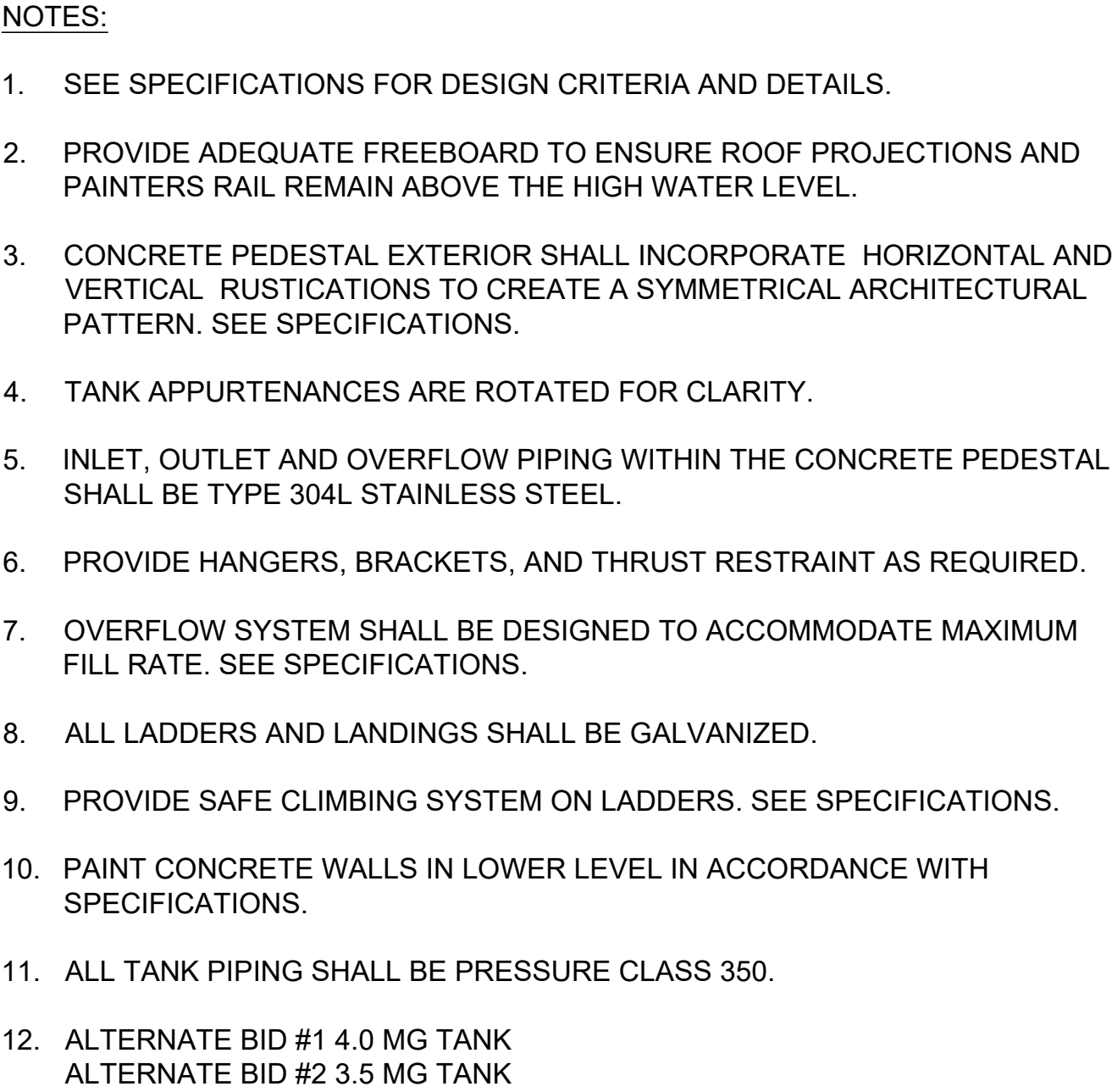
DESIGNED:	MDD
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DATE:	AUG 2022



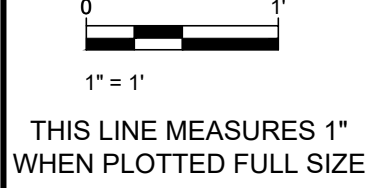
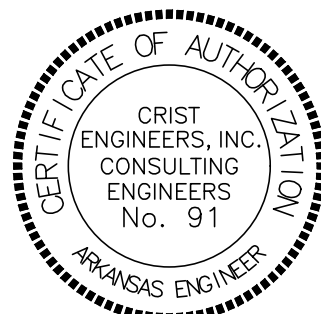
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ROGERS, ARKANSAS
CAPITAL IMPROVEMENTS PLAN PHASE 1A
WATER TREATMENT PLANT IMPROVEMENTS
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
ROOF PLAN

JOB NO.	2122
SHEET NO.	9



3	9/23/22	KEG	DK	ADDENDUM NO. 3
REV. NO.	DATE	DRWN	CHKD	REMARKS



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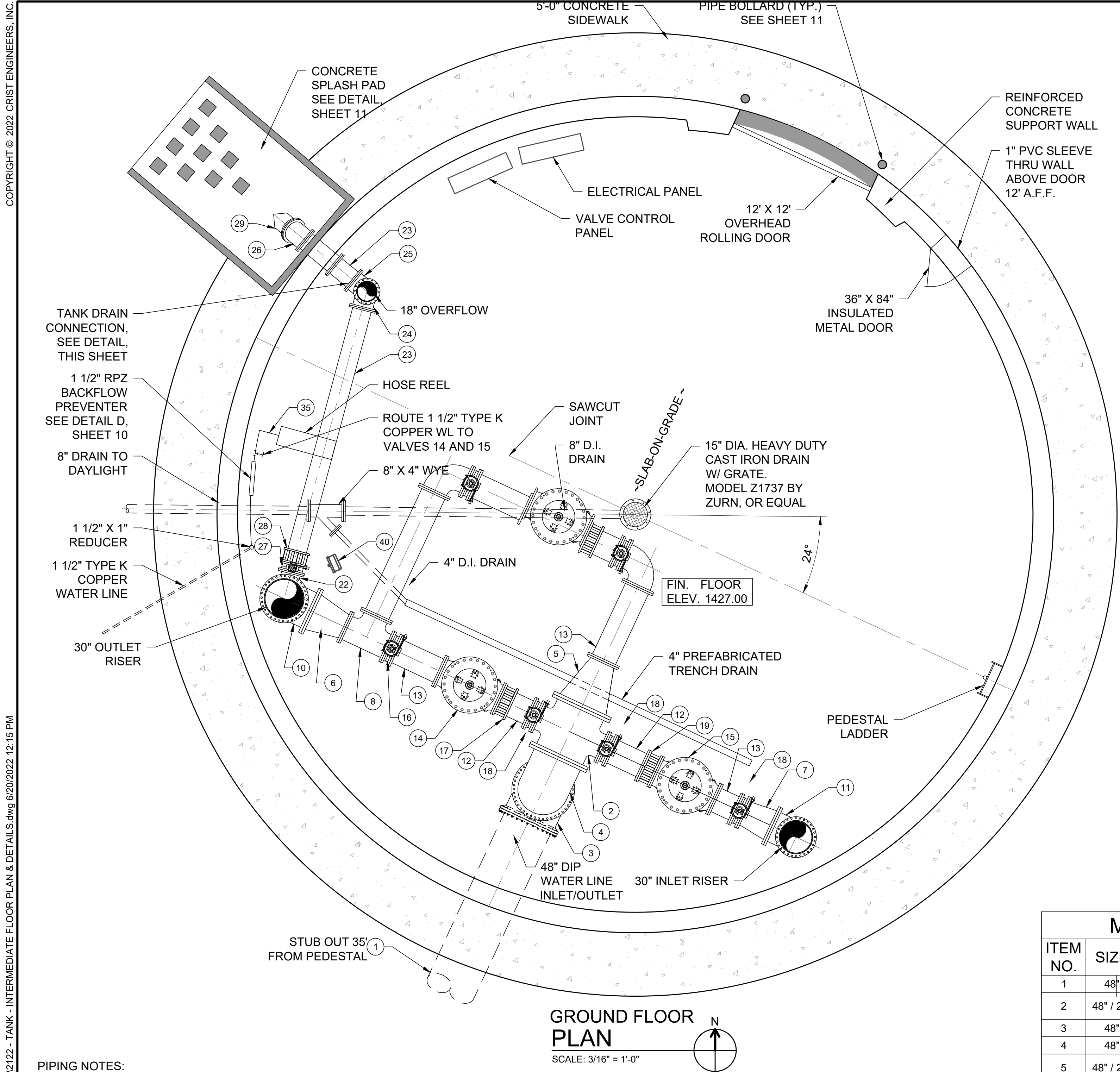
ROGERS, ARKANSAS

CAPITAL IMPROVEMENTS PLAN PHASE IA
WATER TREATMENT PLANT IMPROVEMENTS

CONSTRUCTION DOCUMENTS - ADD NO 3

4 MG ELEVATED WATER STORAGE TANK
ALT ELEVATION & SECTION

JOB NO.	2122
SHEET NO.	5A



PIPING NOTES:

1. INSTALL INLET AND OUTLET VALVE PILOT CONTROL SYSTEM PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. 4" OIL FILLED PRESSURE GAUGE (0 TO 100 PSI) AND GAUGE COCK TO BE INSTALLED IN PILOT CONTROL SYSTEM PIPING.
3. CONSTRUCT CONCRETE BASE UNDER ALL CONTROL VALVES AND EACH 90 DEGREE BASE BEND. SIZE OF BASE SHALL BE DETERMINED BY TANK MANUFACTURER.
4. MEGALUGS REQUIRED ON ALL MJ FITTINGS.
5. PROVIDE THRUST RESTRAINT AND SUPPORT FOR OVERFLOW, INLET, & OUTLET PIPING AS REQUIRED.
6. PROVIDE 1/2" EXPANSION JOINT BETWEEN FLOOR & WALL & AT ALL FLOOR PENETRATIONS. CAP WITH SELF LEVELING SEALANT.
7. PAINT ALL PIPING IN ACCORDANCE WITH SPECIFICATIONS.
8. HEAT TRACE & INSULATE ALL PIPING 12" ABOVE THE GROUND FLOOR WITH 1/2" THK. ARMAFLEX OR INSUL-TUBE ELASTOMERIC PIPE INSULATION, GLUED. HEAT TRACING AT 4 WATTS/FT. NOMINAL, SELF REGULATING WITH LOW TEMP. THERMOSTAT.
9. TANK PLANS ARE BASED ON 4MG BASE BID DIMENSIONS.
10. ALL TANK PIPING SHALL BE PRESSURE CLASS 350.
11. 48" DIP MAY BE SUBSTITUTED WITH AWWA C200 STEEL PIPE WITH 16 MILS OF N140 COATING ON THE INSIDE AND OUTSIDE OF THE PIPE.

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/23/22	KEG	DK	ADDENDUM NO. 3



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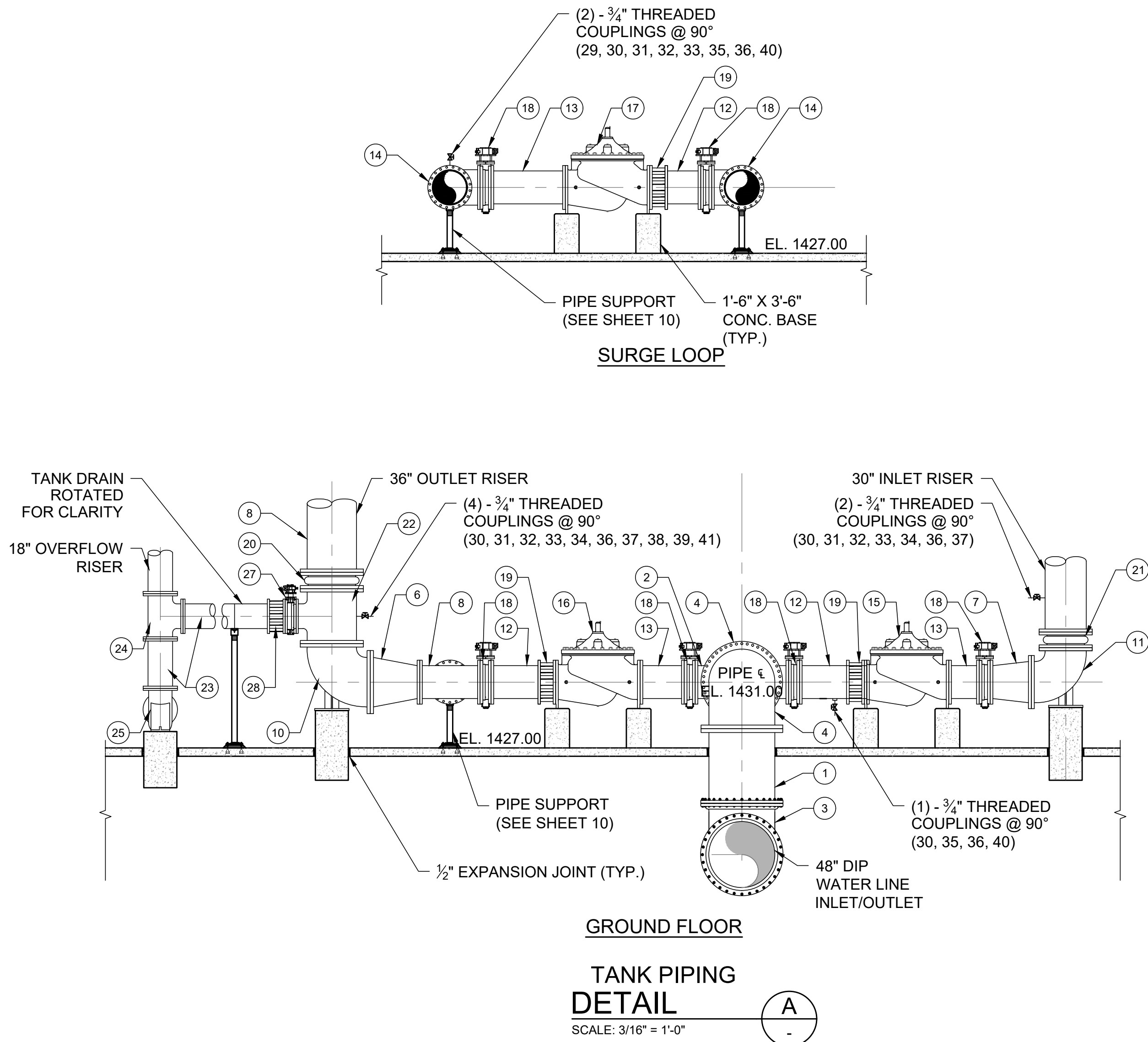


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ROGERS, ARKANSAS
CAPITAL IMPROVEMENTS PLAN PHASE IA
WATER TREATMENT PLANT IMPROVEMENTS
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
ALT GROUND FLOOR PLAN & PIPING DETAILS

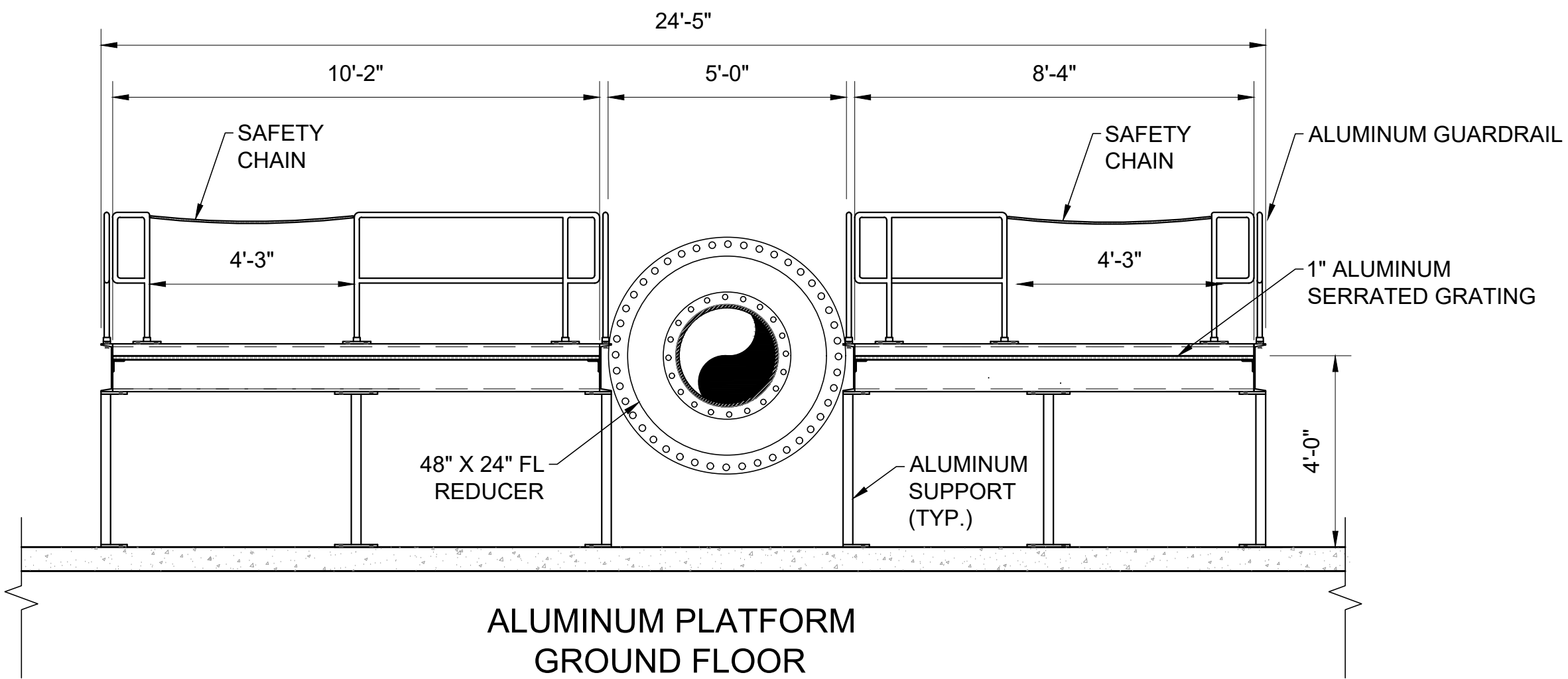
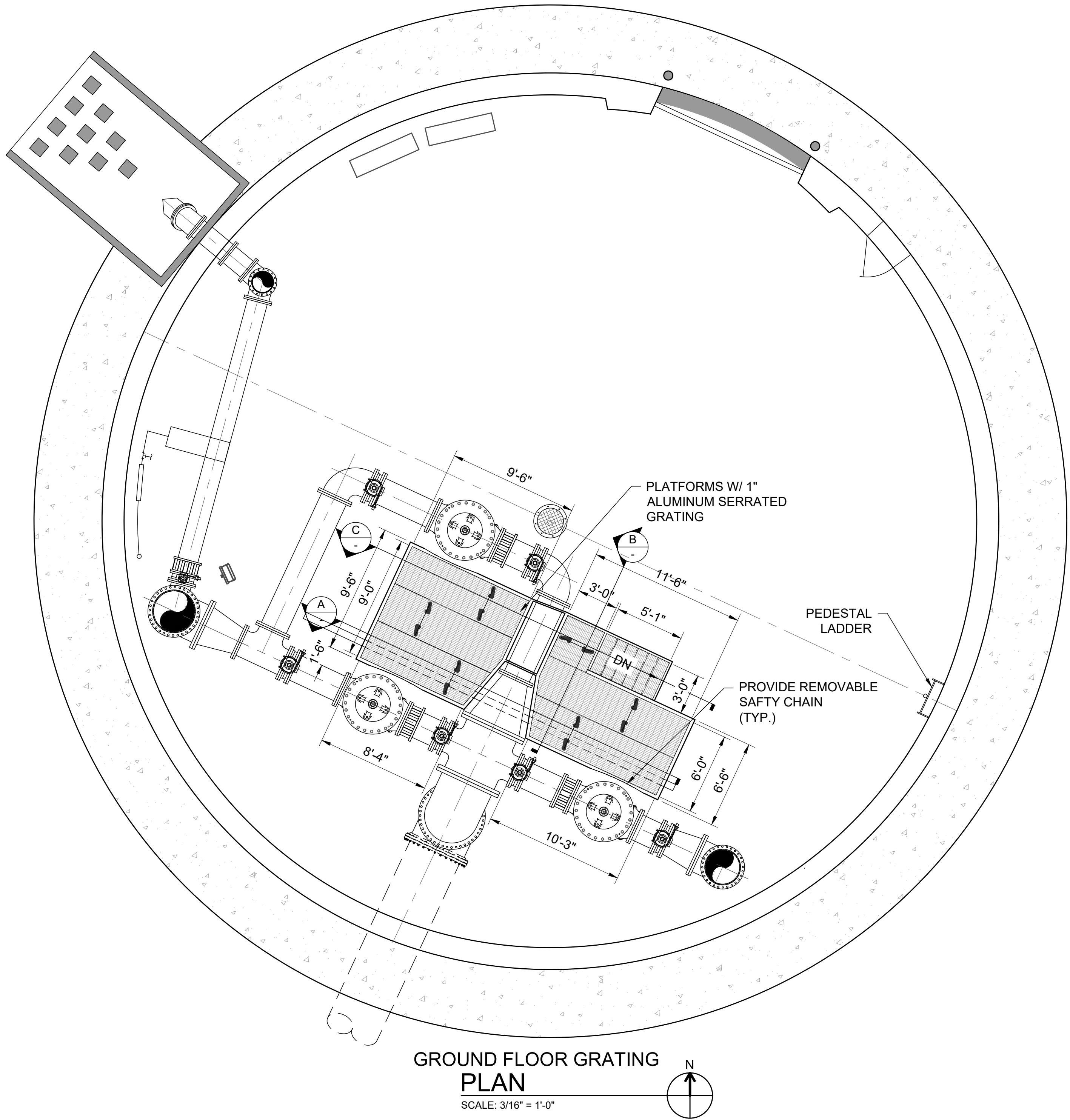
JOB NO.
2122
SHEET NO.
6A



MATERIAL SCHEDULE		
ITEM NO.	SIZE	DESCRIPTION
1	48"	D.I.P. - SPOOL (FL X PE)
2	48" / 24"	48" X 24" D.I. CROSS (FL X FL)
3	48"	D.I. 90° BEND (MJ X MJ)
4	48"	D.I. 90° BEND (FL X FL)
5	48" / 24"	48" X 24" D.I. REDUCER (FL X FL)
6	36" / 24"	36" X 24" D.I. REDUCER (FL X FL)
7	30" / 24"	30" X 24" D.I. REDUCER (FL X FL)
8	24"	24" X 24" D.I. TEE (FL X FL)
9	36"	D.I.P. - SPOOL (FL X FL)
10	36"	D.I. 90° BASE BEND (FL X FL)
11	30"	D.I. 90° BASE BEND (FL X FL)
12	24"	D.I.P. - SPOOL (FL X PE)
13	24"	D.I.P. - SPOOL (FL X FL)
14	24"	D.I. 90° BEND (FL X FL)

MATERIAL SCHEDULE		
ITEM NO.	SIZE	DESCRIPTION
15	24"	ALTITUDE VALVE, CLA-VAL 358-06-KO (FL X FL) SOLENOID SHUTOFF W/ PSI RELIEF OVERRIDE & ANTI-CAVITATION TRIM
16	24"	CLA-VAL 131-66 (FL X FL) W/ VC-22D CONTROLLER SOLENOID CONTROLLED, NORMALLY OPEN, W/ INTEGRAL CHECK VALVE
17	24"	CLA-VAL 90-XX (FL X FL) SOLENOID CONTROLLED, NORMALLY CLOSED, INTEGRAL CHECK VALVE, FAST OPEN ON DS PRESSURE DROP
18	24"	BUTTERFLY VALVE (FL X FL)
19	24"	FLANGE COUPLING ADAPTER
20	36"	EXPANSION JOINT (FL X FL)
21	30"	EXPANSION JOINT (FL X FL)
22	36" / 18"	36" X 18" D.I. TEE (FL X FL)
23	18"	D.I.P. SPOOL (FL X FL)
24	18"	D.I. TEE (FL X FL)
25	18"	D.I. 90° BASE BEND (FL X FL)
26	18"	D.I. 45° BEND (FL X FL)

MATERIAL SCHEDULE		
ITEM NO.	SIZE	DESCRIPTION
27	18"	BUTTERFLY VALVE (FL X FL)
28	18"	FLANGE COUPLING ADAPTER
29	18"	RED VALVE SERIES 35 DUCKBILL CHECK VALVE
30	3/4"	SMOOTH - NOSED SAMPLING TAP
31	3/4"	BALL VALVE - BRONZE
32	3/4"	PLUG - BRONZE
33	3/4" X 2"	THREADED BRONZE NIPPLE
34	1/2"	PRESSURE GAUGE
35	1"	SCH 80 PVC PIPING TO HOSE REEL
36	3/4"	BRONZE 90° BEND
37	1/2" / 3/4"	REDUCING BUSHING
38	2"	NIPPLE
39	2"	GATE VALVE
40	-	CL17 CHLORINE ANALYZER (MOUNT ON P1000 UNISTRUT)
41	-	PRESSURE TRANSMITTER

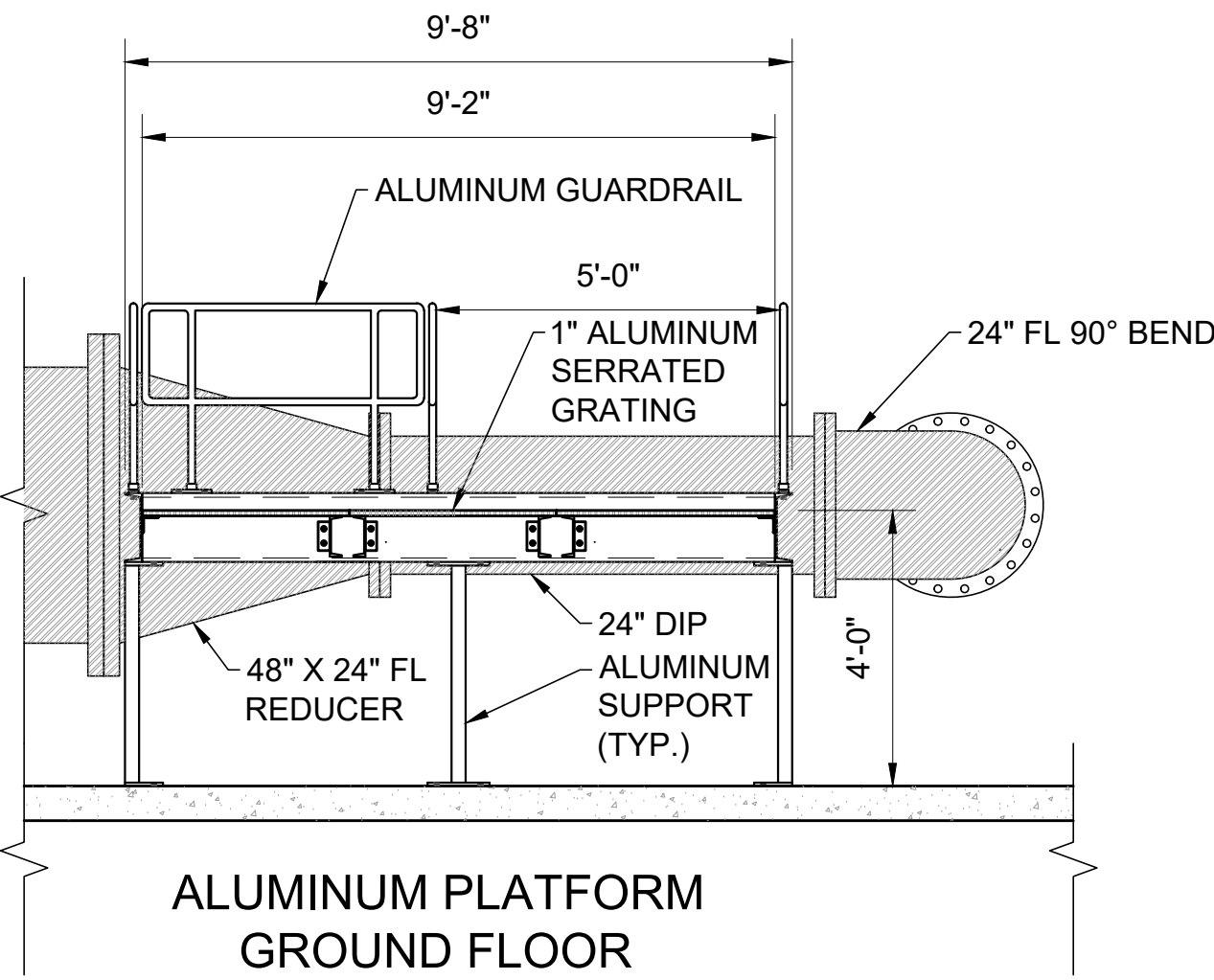


ALUMINUM PLATFORM
GROUND FLOOR

SECTION

N.T.S.

A
7A

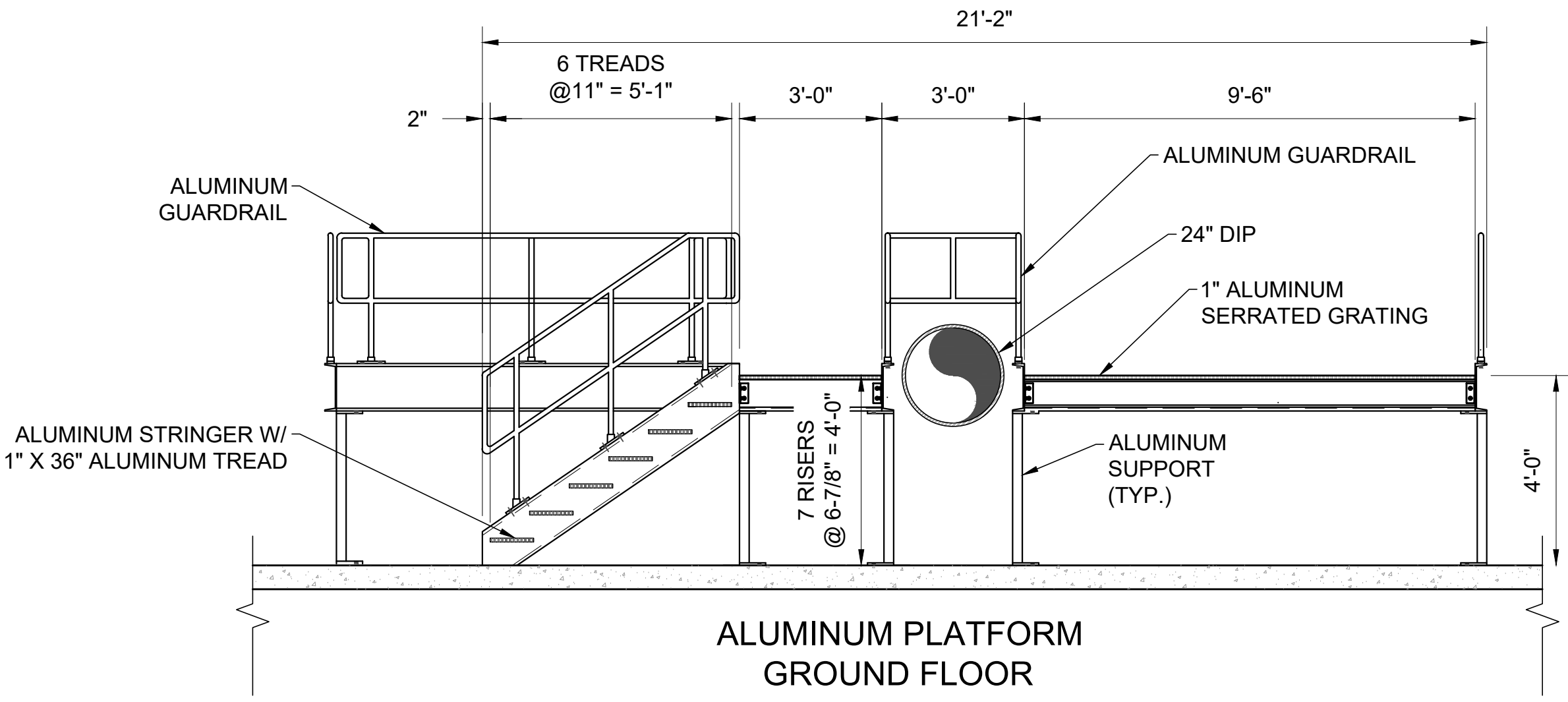


ALUMINUM PLATFORM
GROUND FLOOR

SECTION

N.T.S.

B
7A



ALUMINUM PLATFORM
GROUND FLOOR

SECTION

N.T.S.

C
7A

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/23/22	KEG	DK	ADDENDUM NO. 3



1" = 1'
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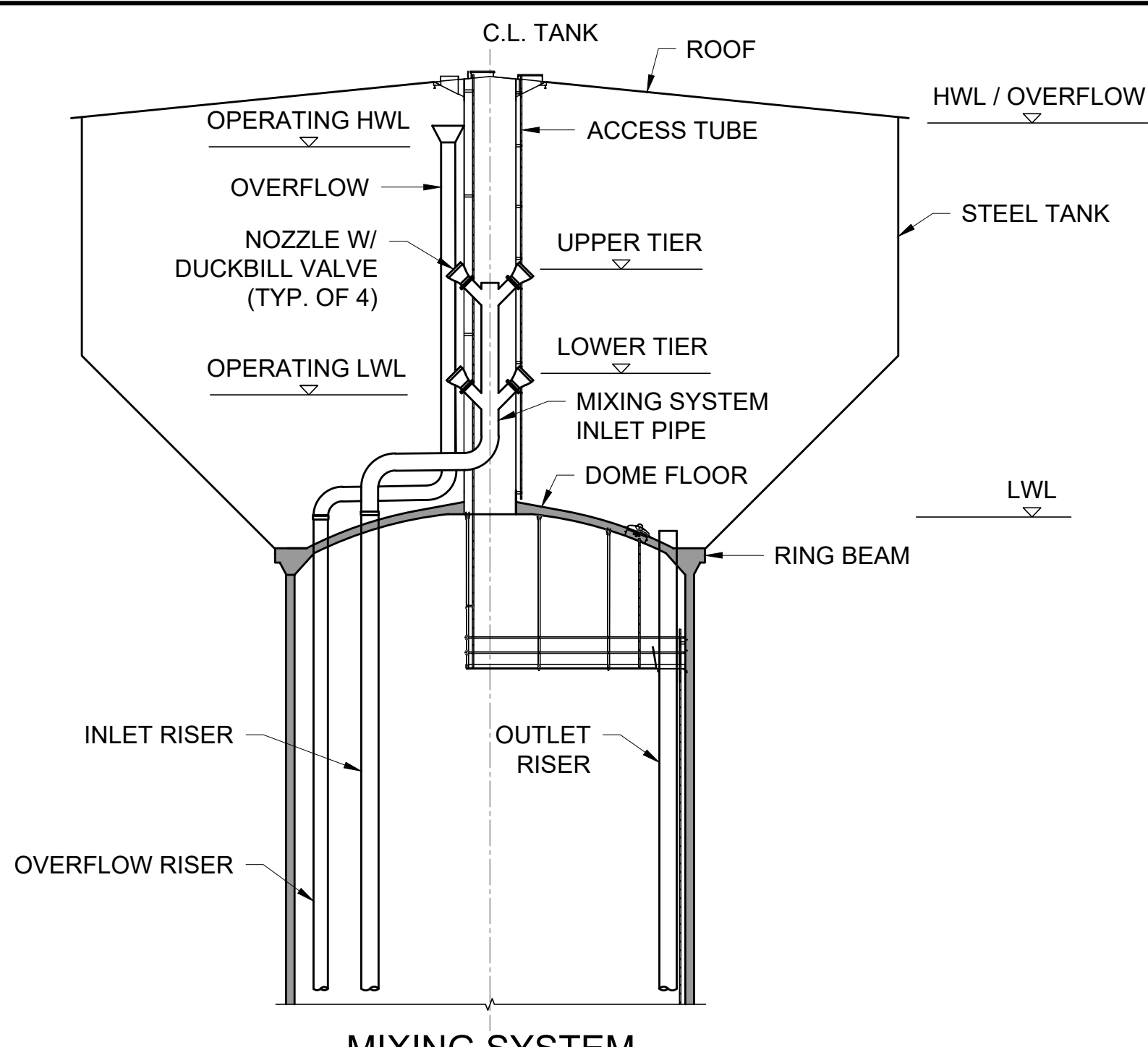


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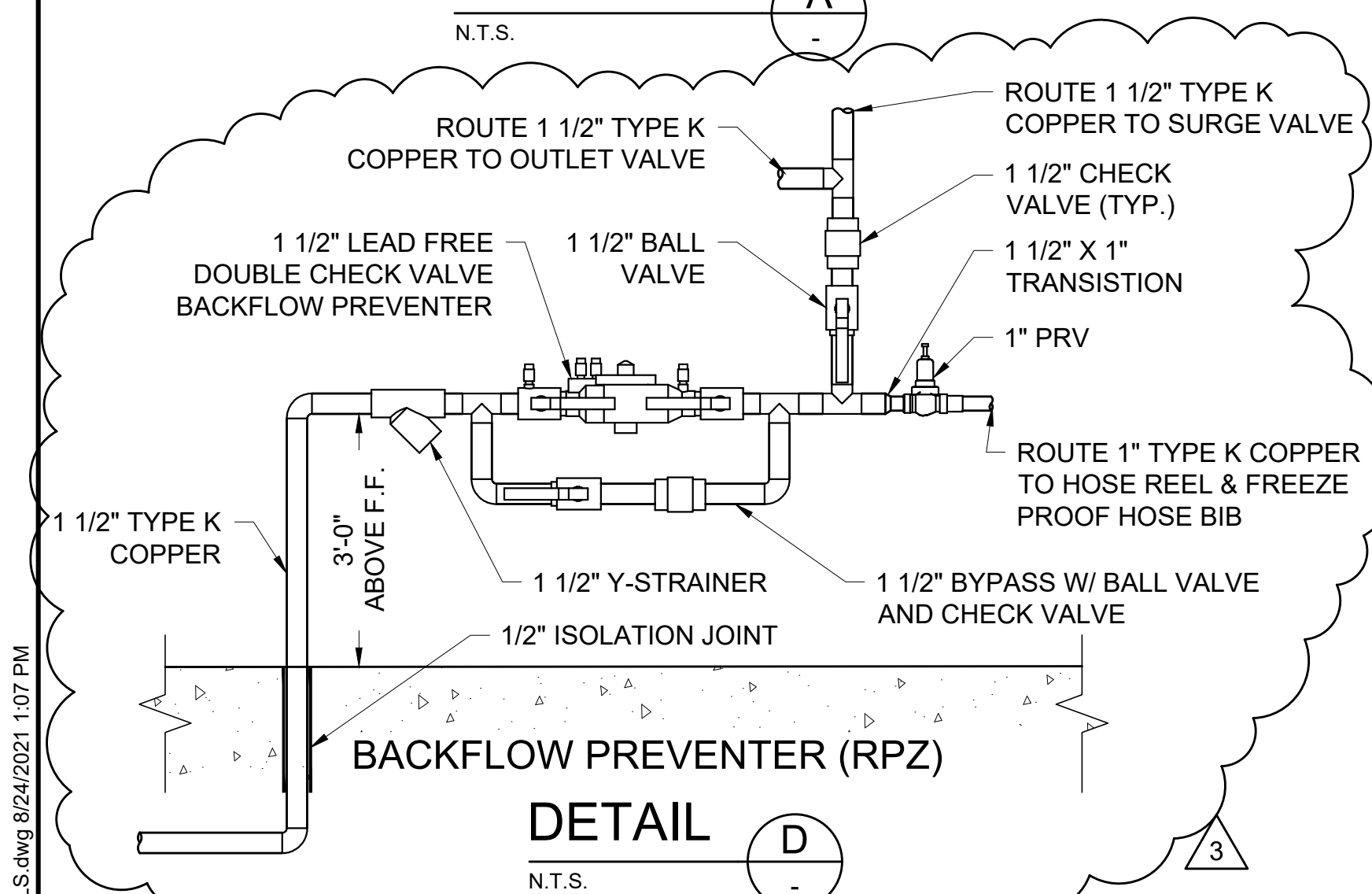
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ROGERS, ARKANSAS
CAPITAL IMPROVEMENTS PLAN PHASE 1A
WATER TREATMENT PLANT IMPROVEMENTS
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
ALT GRATING PLANS AND SECTIONS

JOB NO.	2122
SHEET NO.	7A



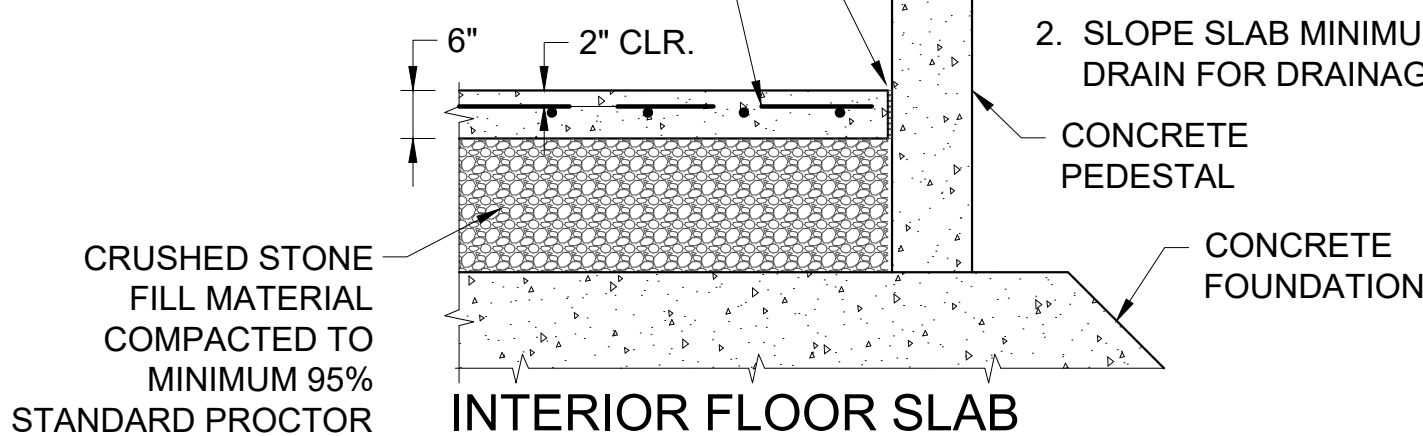
MIXING SYSTEM
DETAIL
N.T.S. A



BACKFLOW PREVENTER (RPZ)
DETAIL
N.T.S. D

1/2" EXPANSION JOINT BETWEEN FLOOR & WALL & AT ALL FLOOR PENETRATIONS. CAP WITH SELF LEVELING SEALER

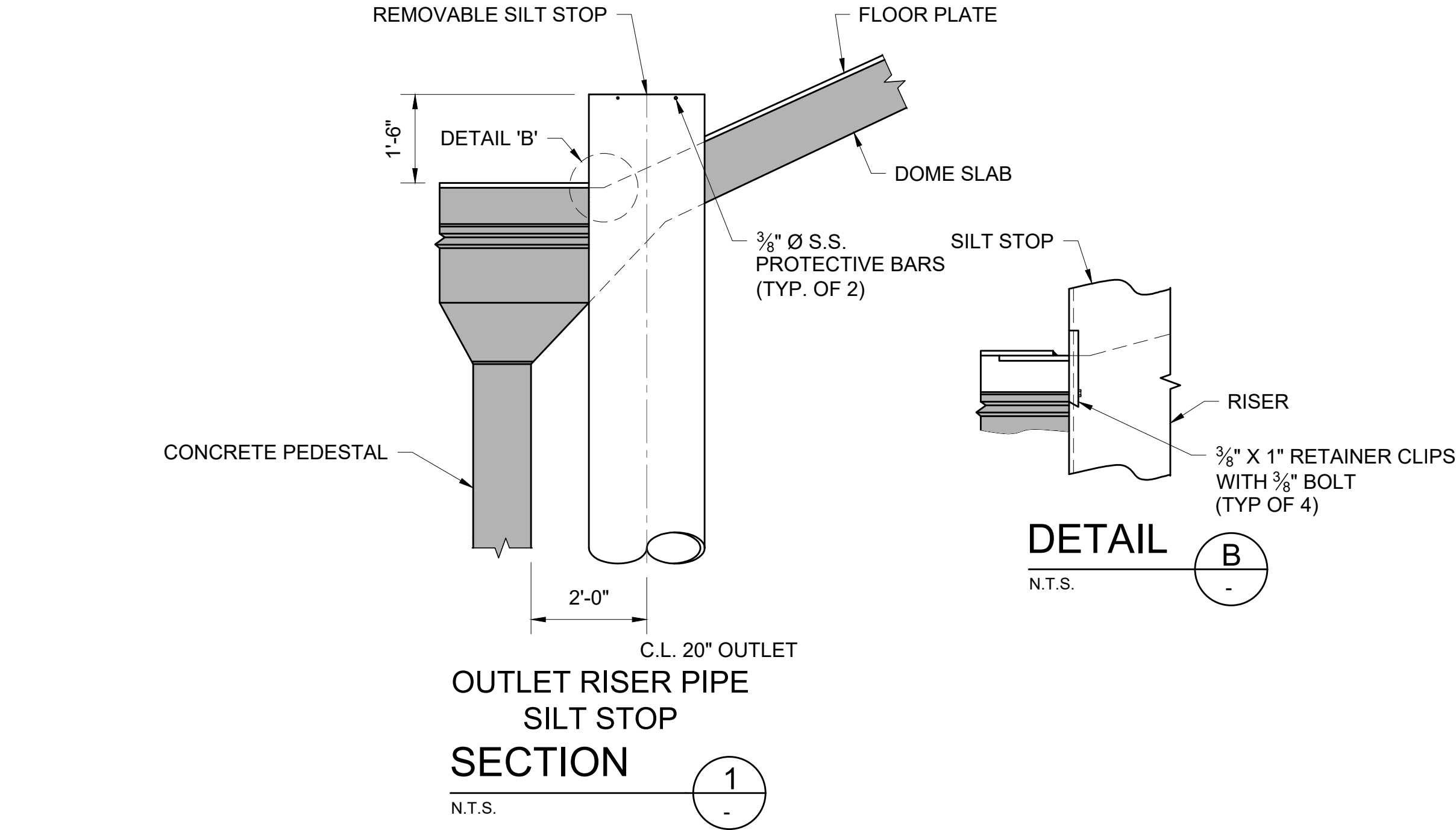
#4'S @ 12" BOTH WAYS



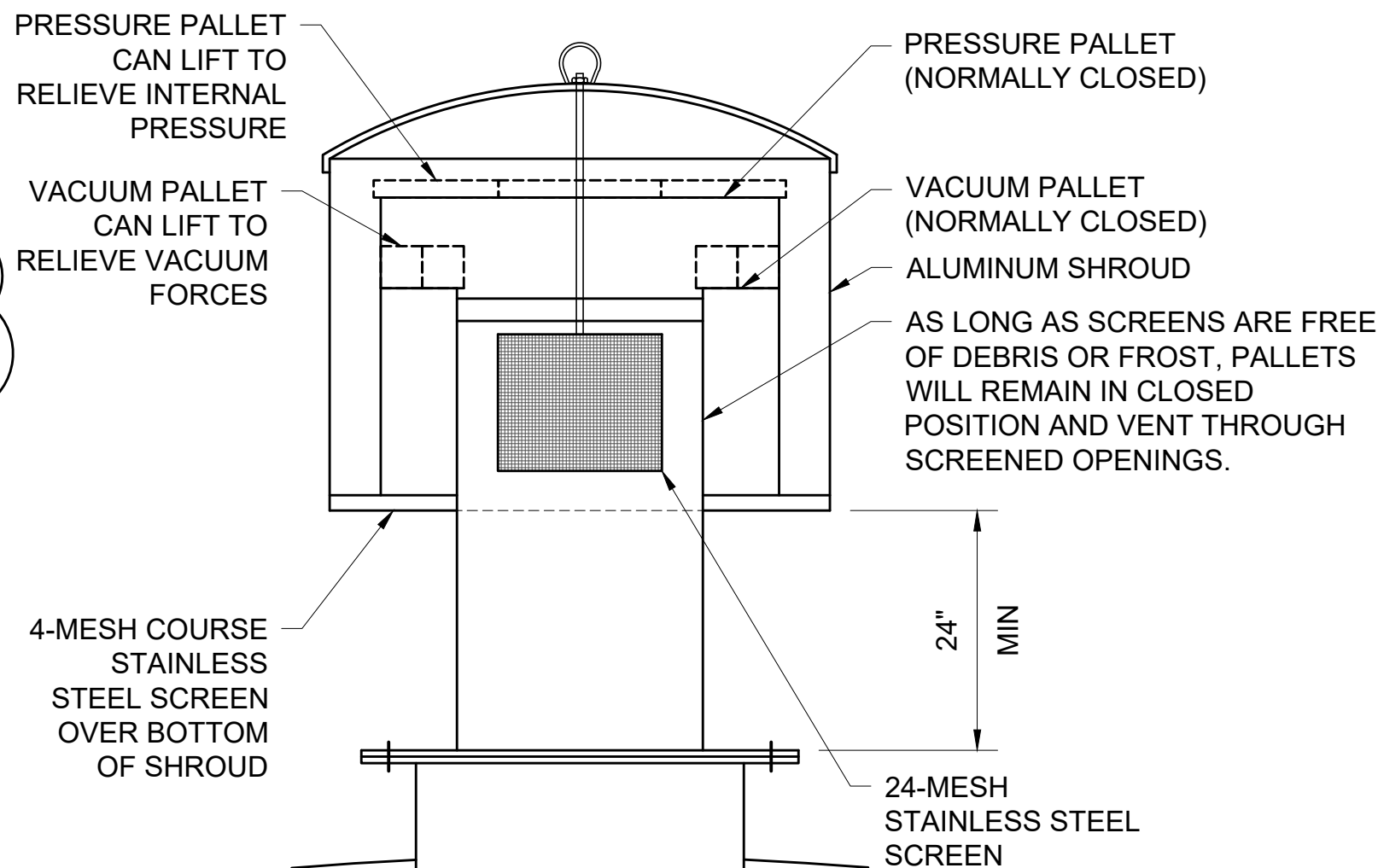
INTERIOR FLOOR SLAB
DETAIL
SCALE: 1/2" = 1'-0" F

NOTES:

1. SAW CUT CONTROL JOINTS 1 1/2" DEEP AT 20 FEET MAXIMUM CENTERS
2. SLOPE SLAB MINIMUM 0.5% TO DRAIN FOR DRAINAGE



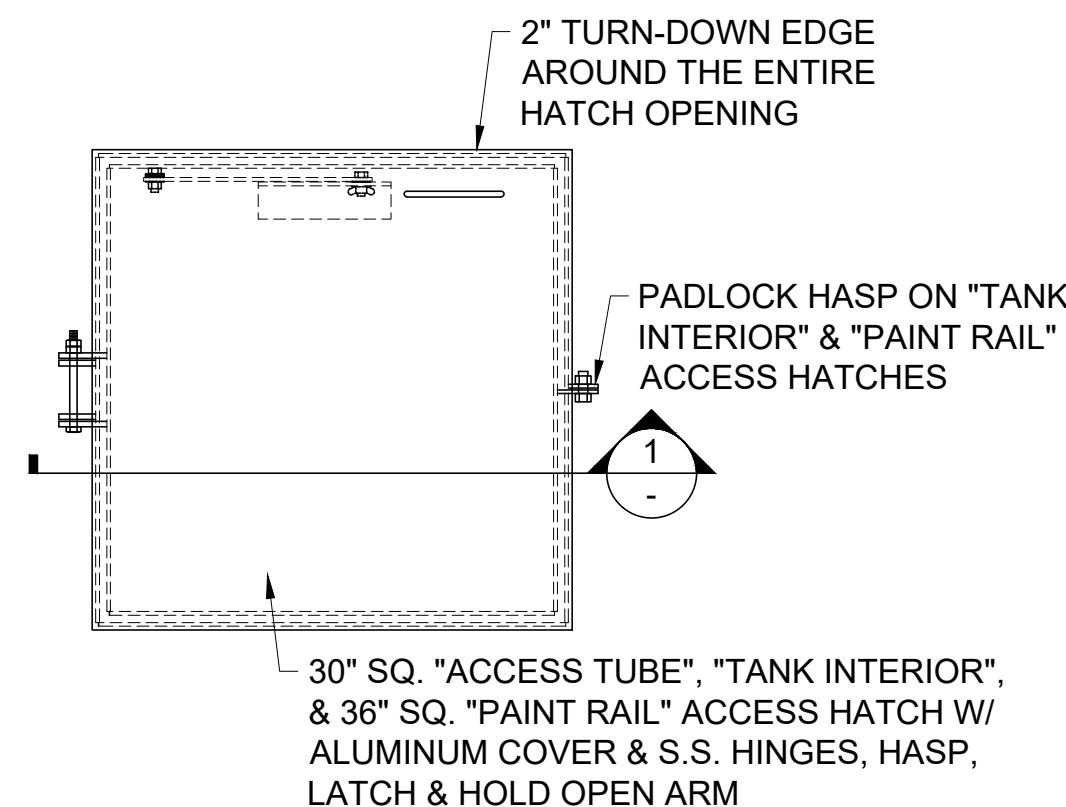
OUTLET RISER PIPE
SILT STOP
SECTION
N.T.S. 1



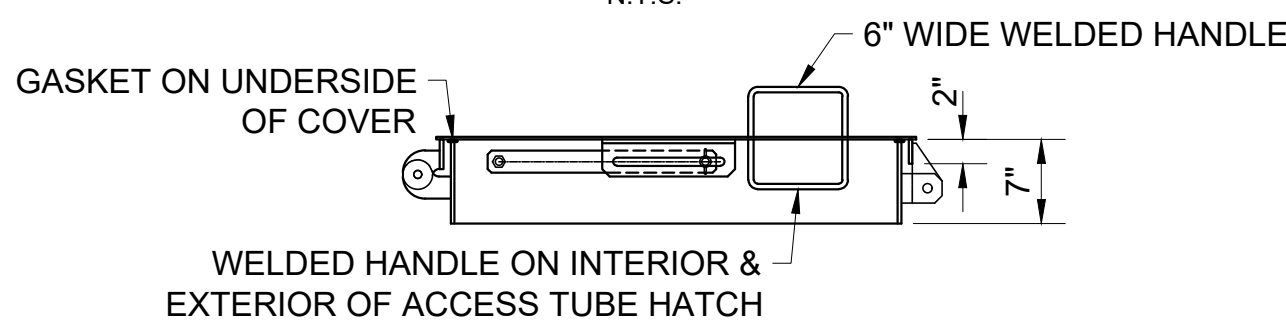
VENT
DETAIL
N.T.S. G

NOTES:

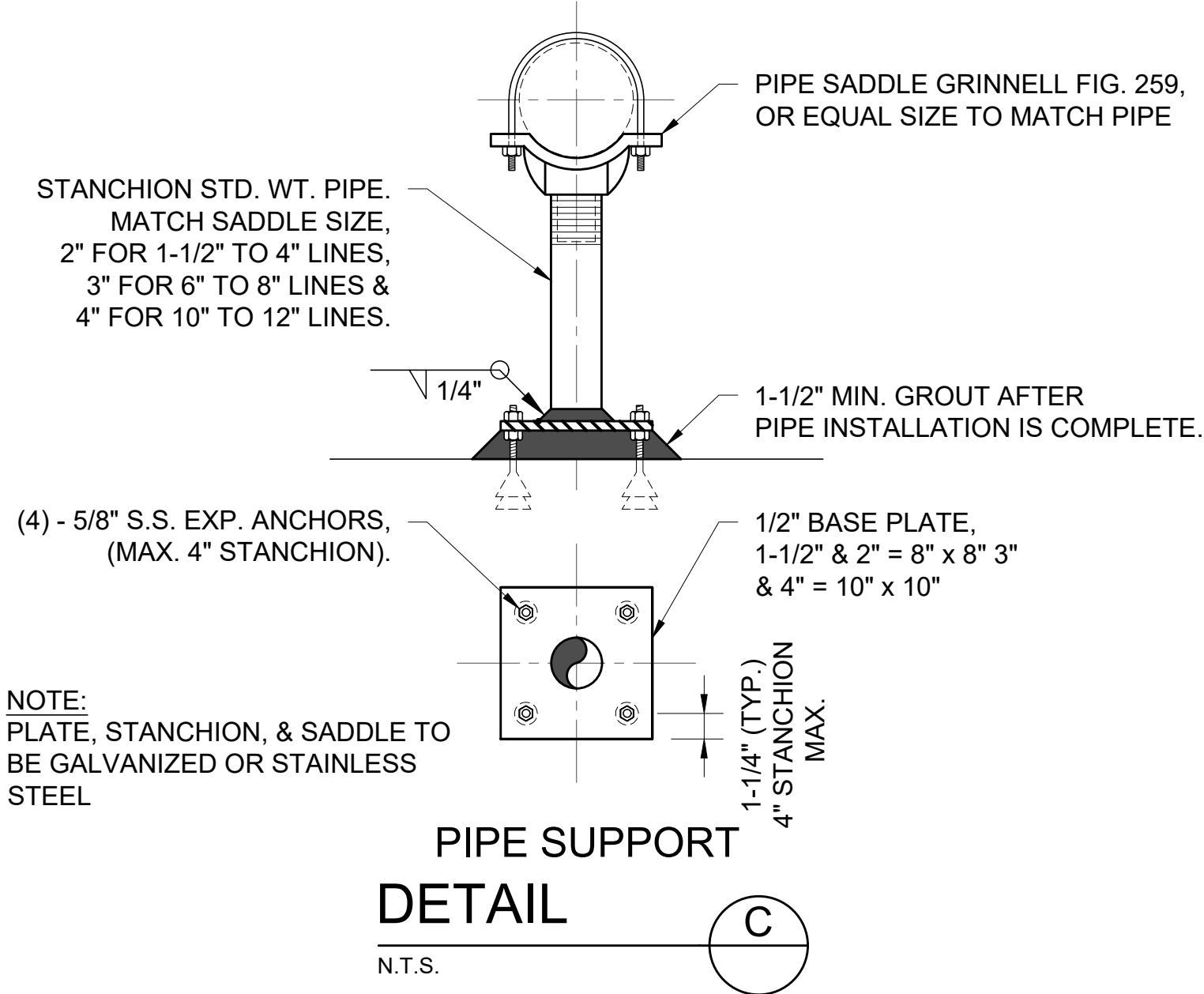
1. THE VENT SHALL BE AN AST VENT BY ADVANCE TANK CONSTRUCTION CO.
2. THE VENT SHALL BE ALL ALUMINUM CONSTRUCTION.
3. THE VENT SHALL HAVE A LOCKING MECHANISM TO PREVENT ACCESS TO THE TANK.
4. THE VENT SHALL BE SCREENED WITH 24-MESH S.S. SCREEN.
5. THE BOTTOM OF THE SHROUD SHALL BE PROTECTED BY COVERING WITH 4-MESH COURSE S.S. SCREEN TO PREVENT BIRD ENTRY.



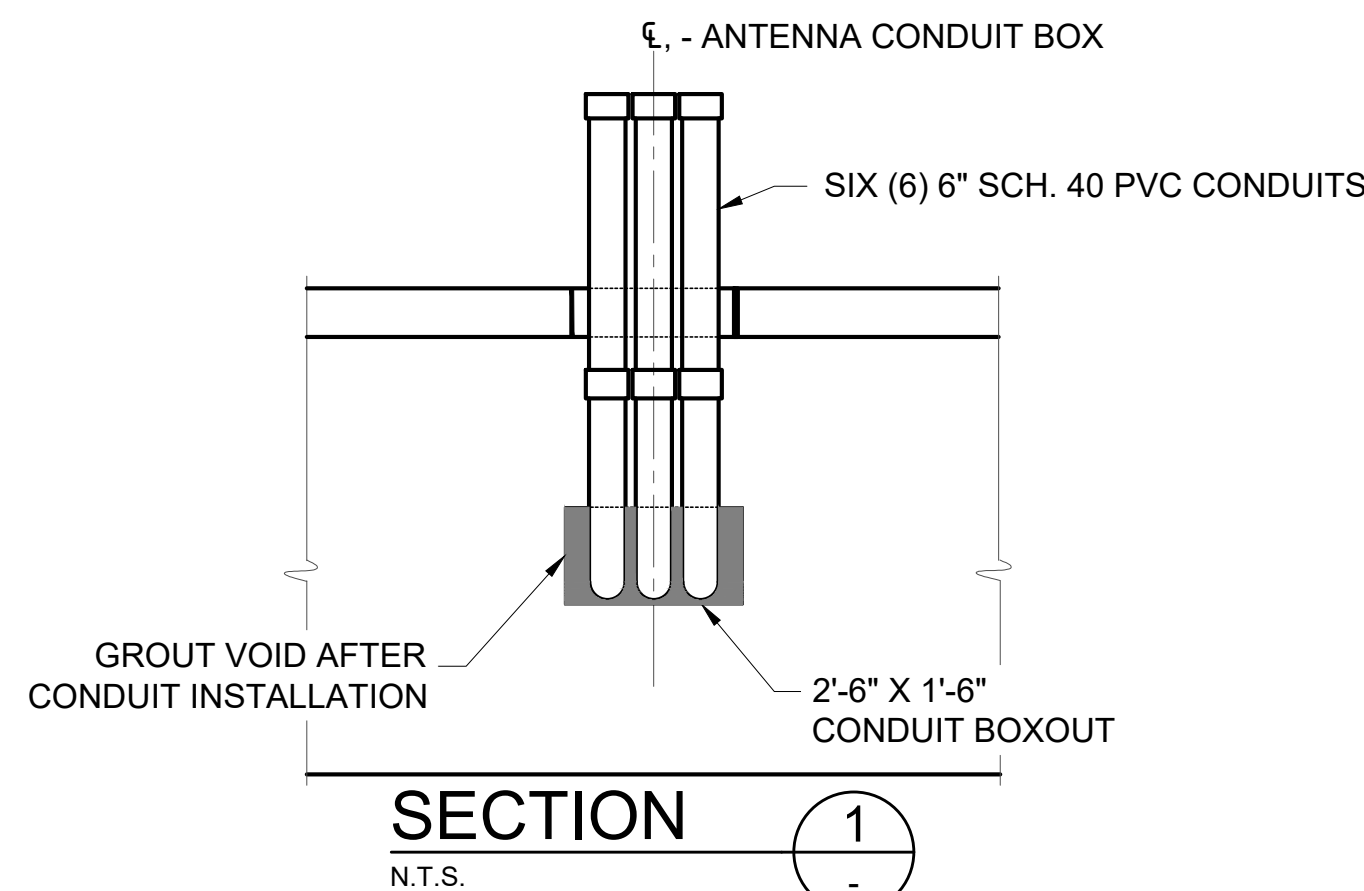
PLAN
N.T.S.



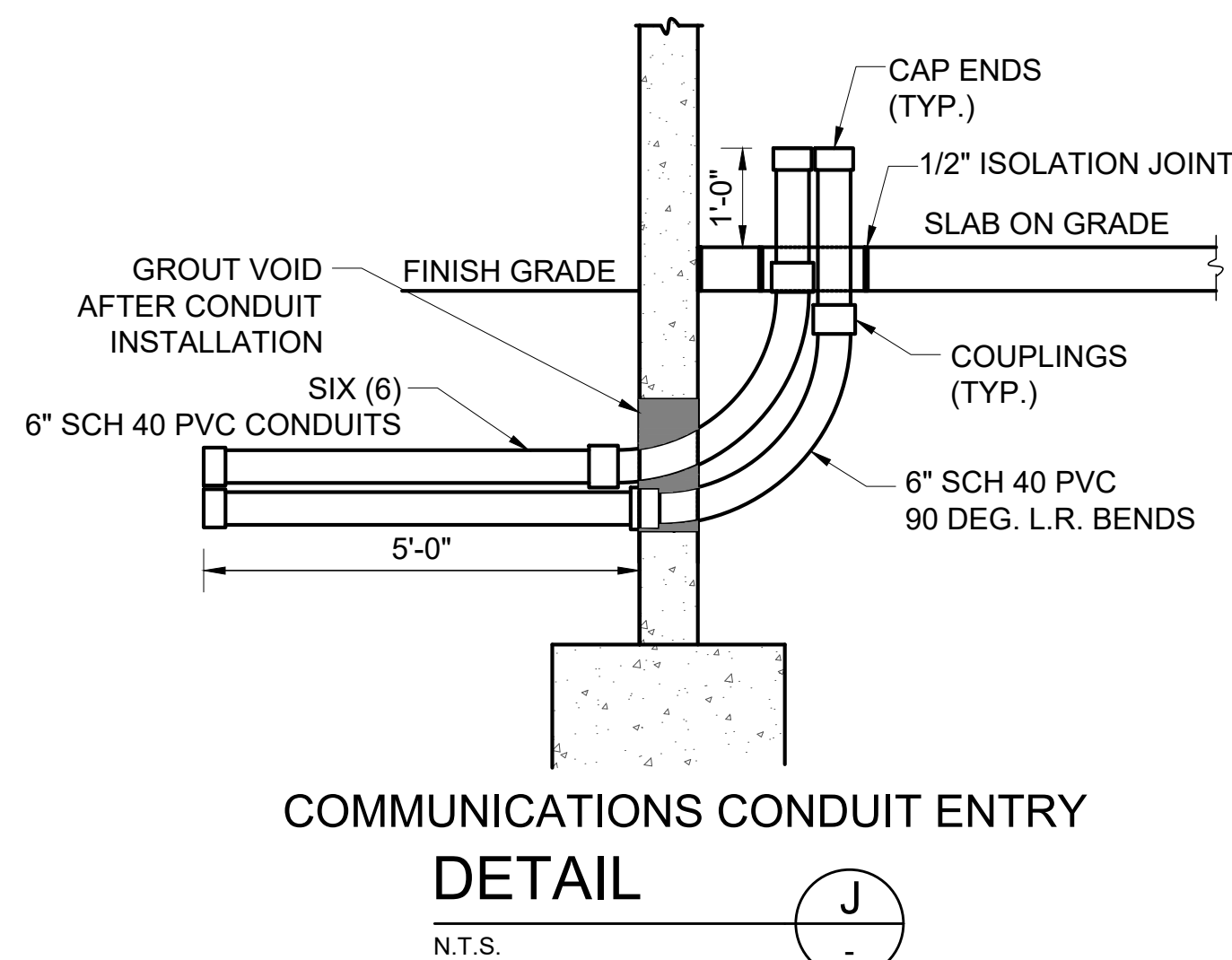
ACCESS TUBE, TANK INTERIOR,
+ PAINT RAIL HATCH
DETAIL
N.T.S. H



PIPE SUPPORT
DETAIL
N.T.S. C



SECTION
N.T.S. 1



COMMUNICATIONS CONDUIT ENTRY
DETAIL
N.T.S. J

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/23/22	KEG	DK	ADDENDUM NO. 3



0 1' = 1' THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

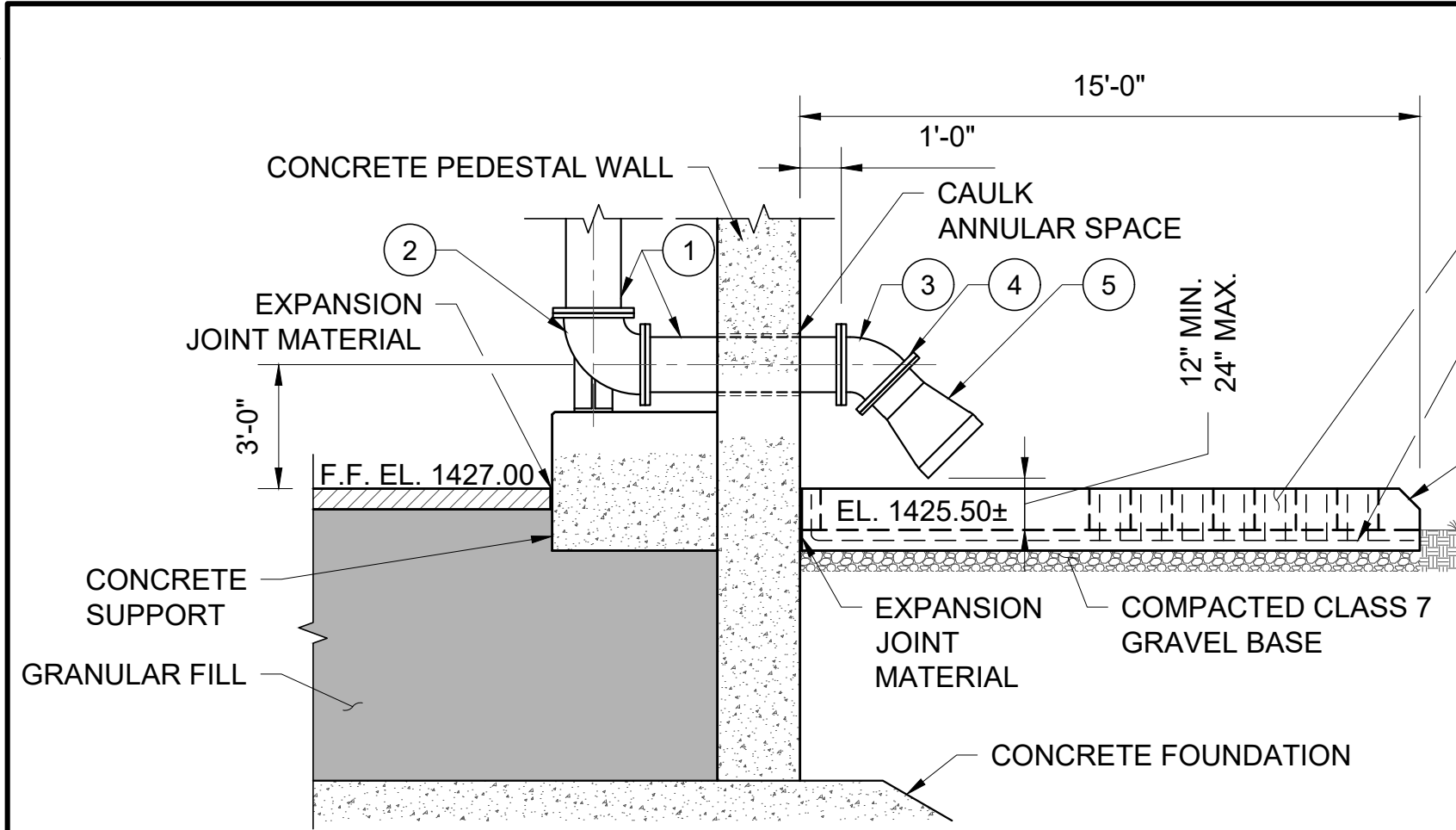
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ROGERS, ARKANSAS
**CAPITAL IMPROVEMENTS PLAN PHASE IA
WATER TREATMENT PLANT IMPROVEMENTS**
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
TANK DETAILS

JOB NO.
2122
SHEET NO.
10

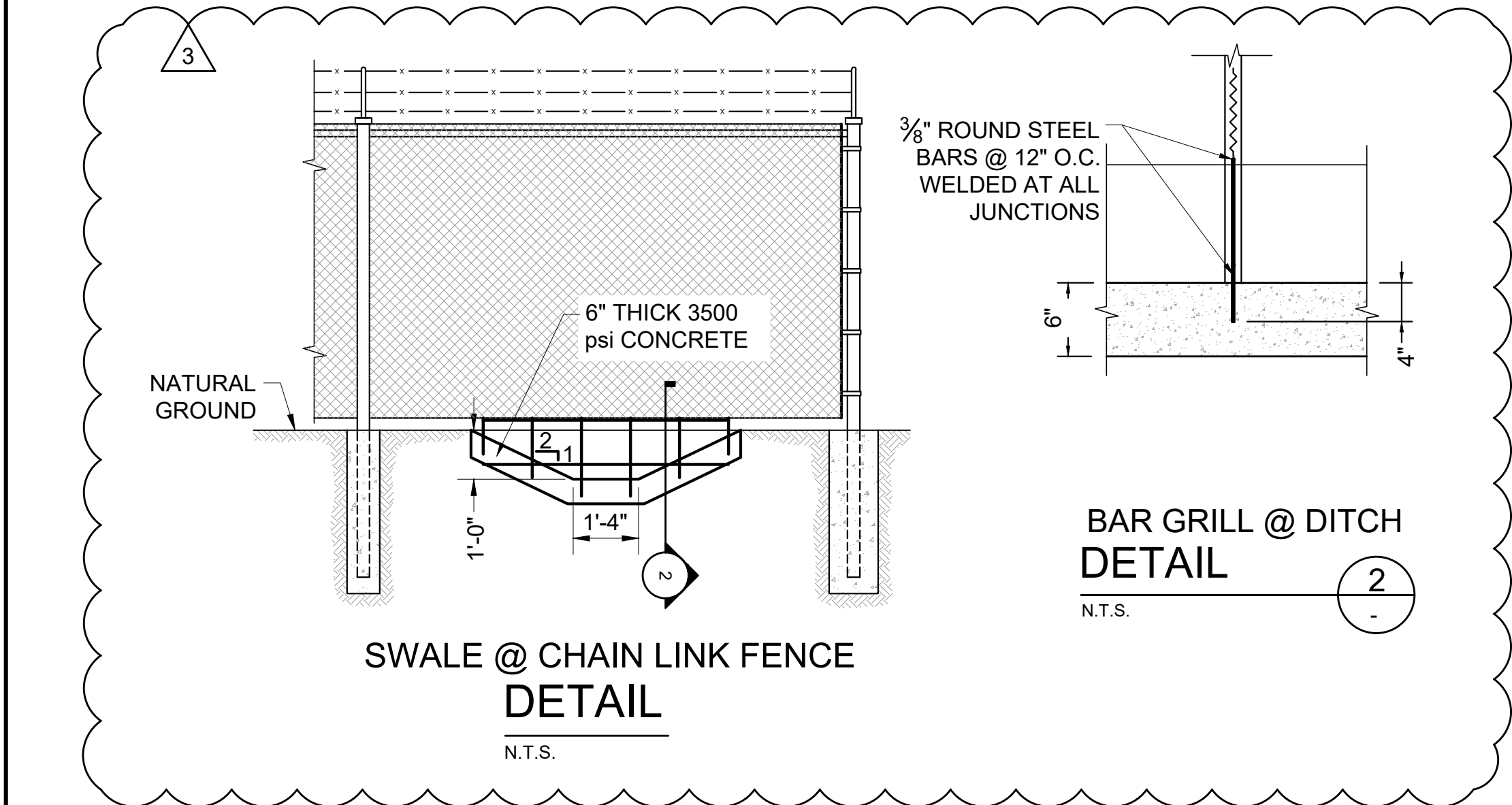


OVERFLOW OUTLET
DETAIL

N.T.S.

(A)

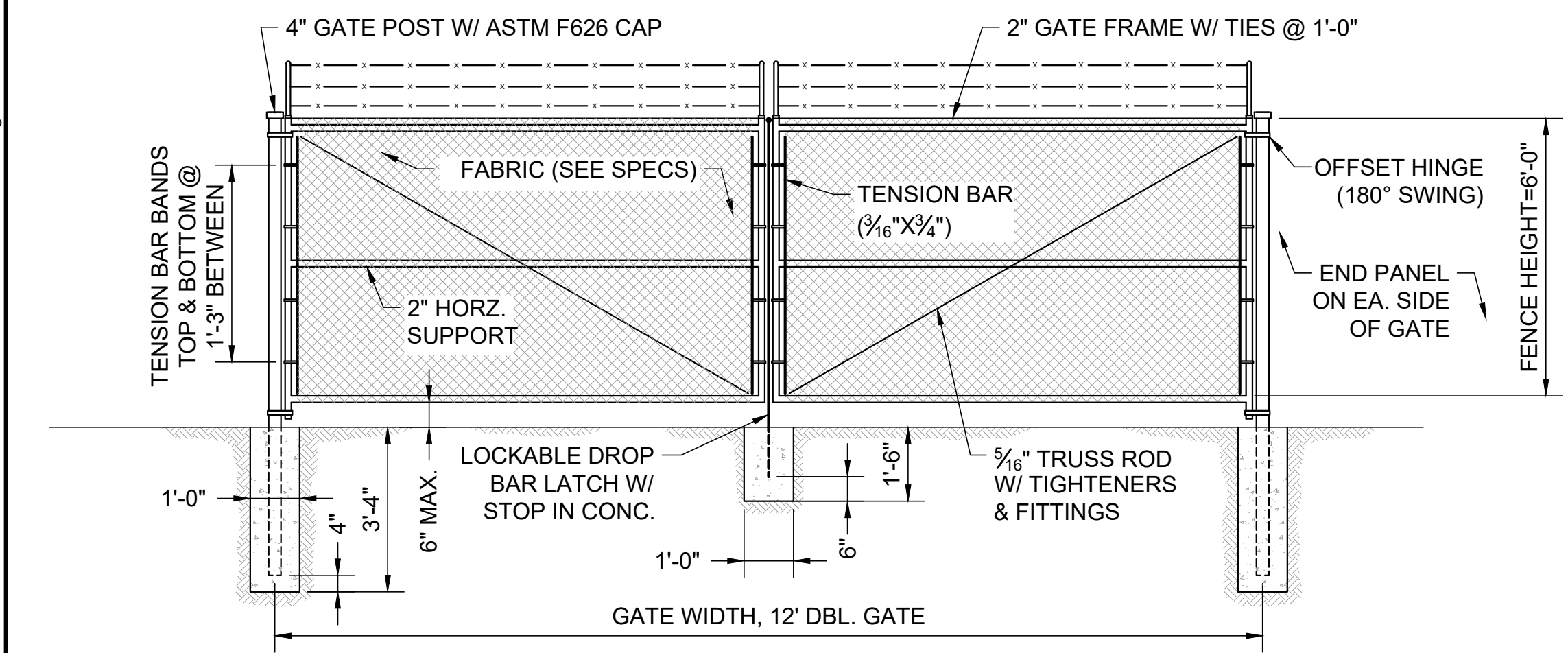
MARK	DESCRIPTION
1	18" D.I.P - SPOOL (FL X FL)
2	18" D.I. BASE 90° BEND
3	18" D.I. 45° BEND
4	#24 MESH STAINLESS STEEL SCREEN BETWEEN FLANGES
5	18" RED VALVE SERIES 35 DUCKBILL CHECK VALVE



SWALE @ CHAIN LINK FENCE
DETAIL

N.T.S.

(2)



CHAIN LINK FENCE DBL SWING GATE
DETAIL

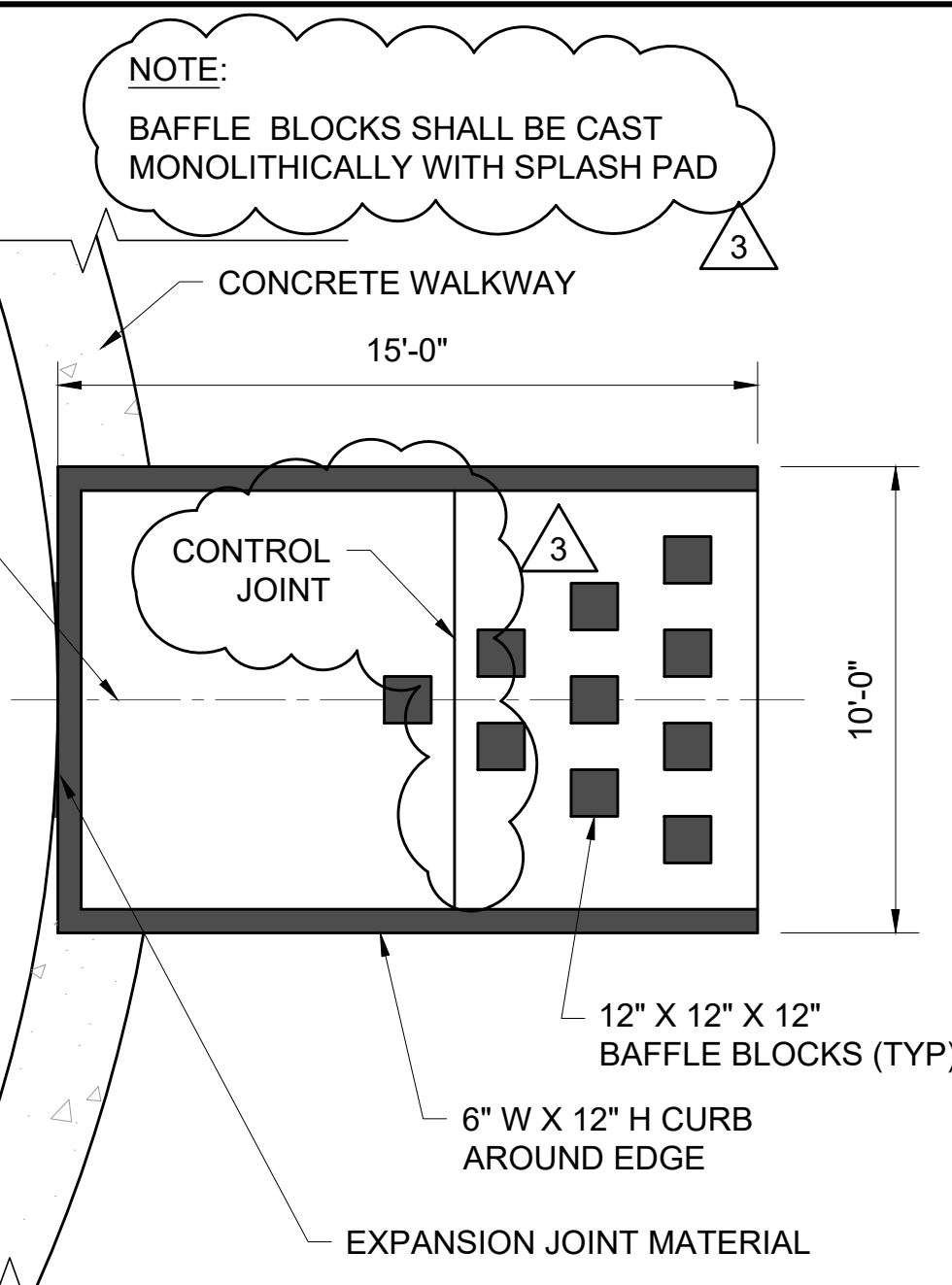
N.T.S.

(G)

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/23/22	KEG	DK	ADDENDUM NO. 3



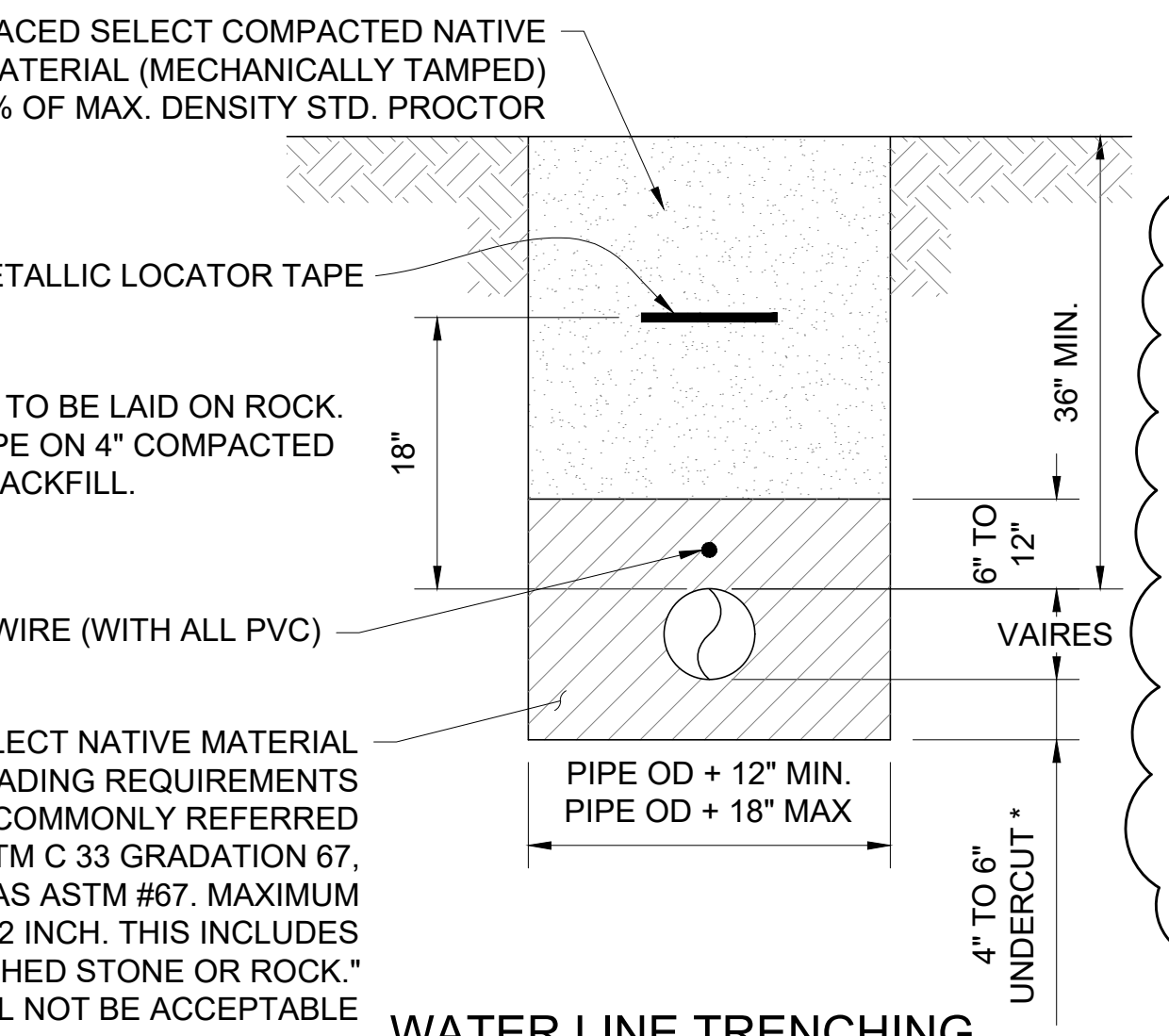
THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE



CONCRETE SPLASH PAD
DETAIL

N.T.S.

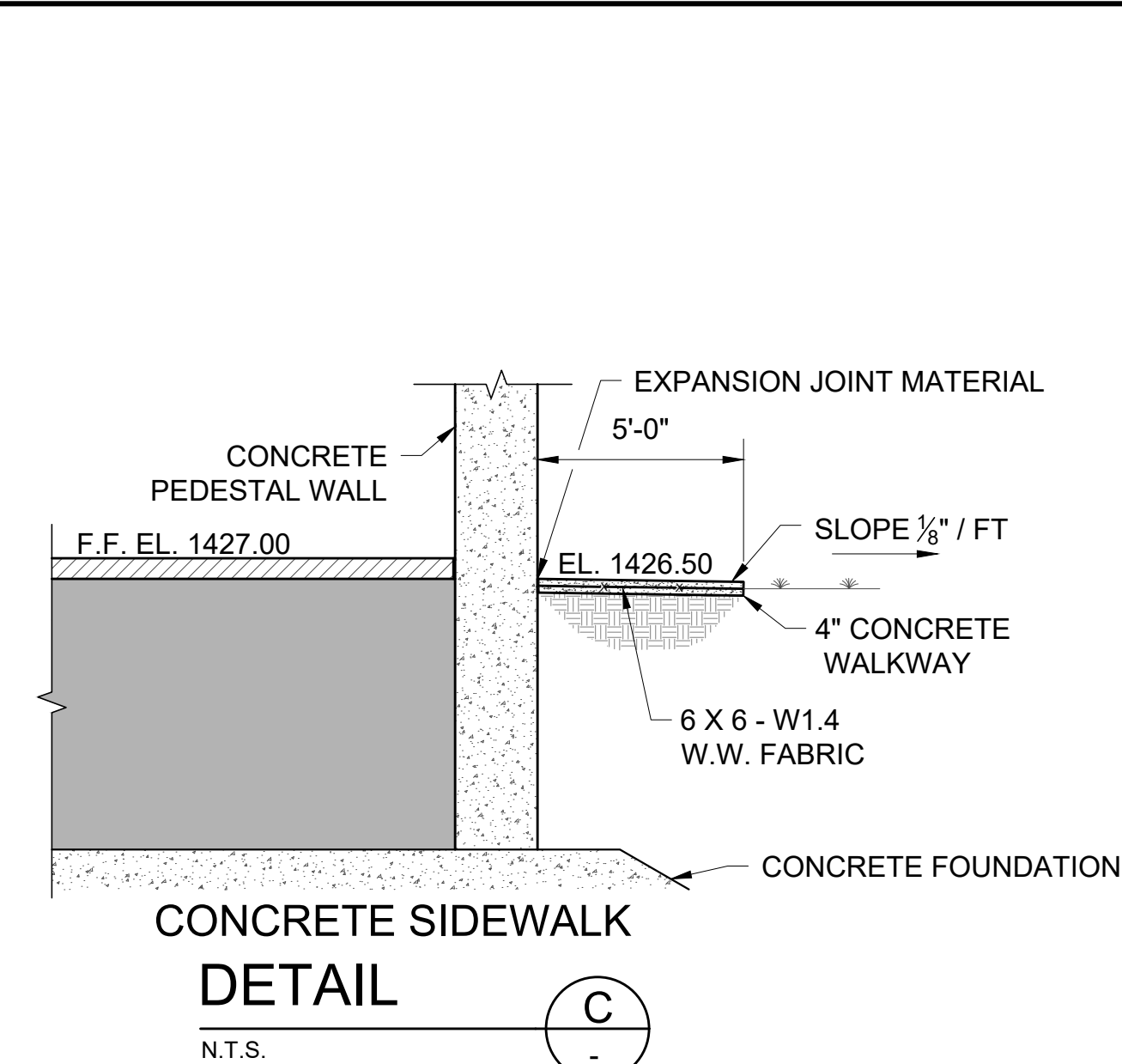
(B)



WATER LINE TRENCHING
DETAIL

N.T.S.

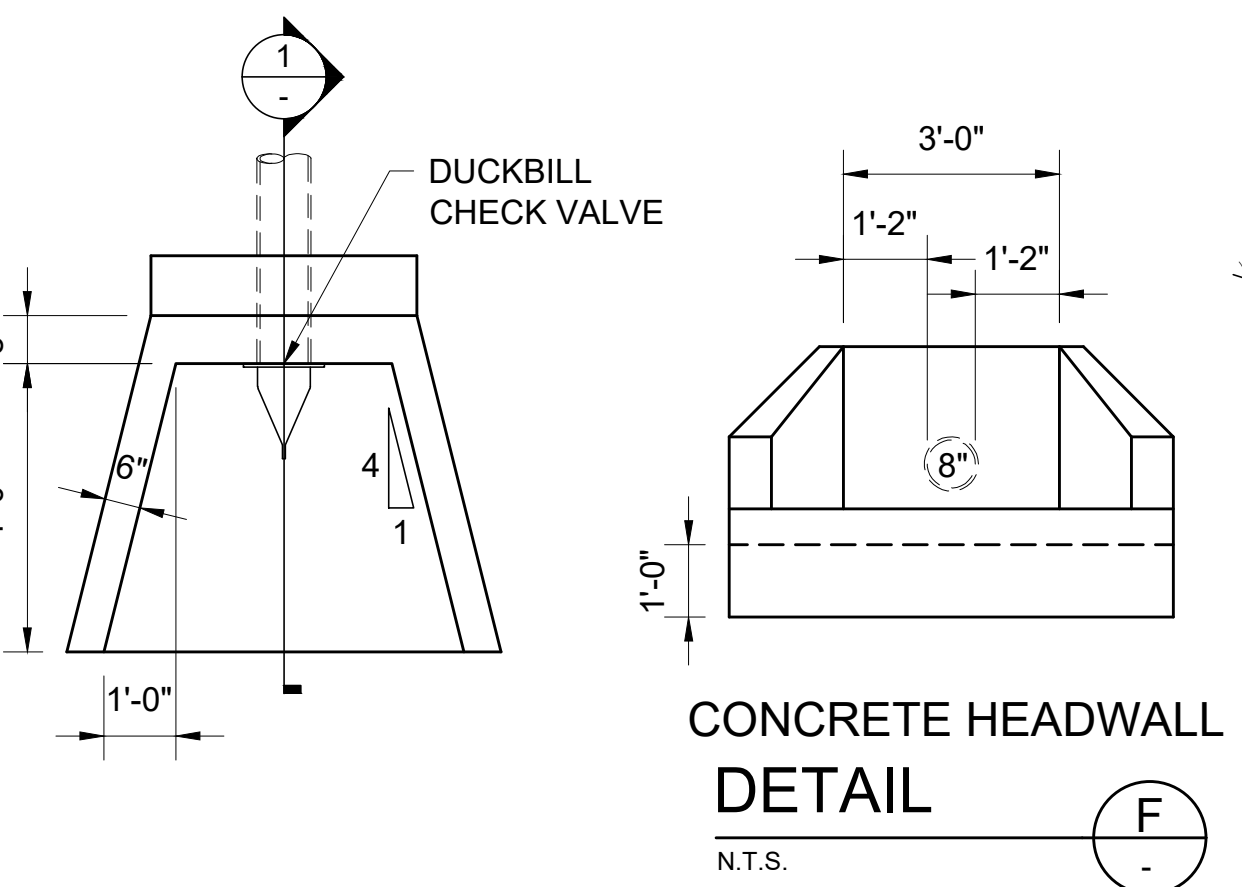
(H)



CONCRETE SIDEWALK
DETAIL

N.T.S.

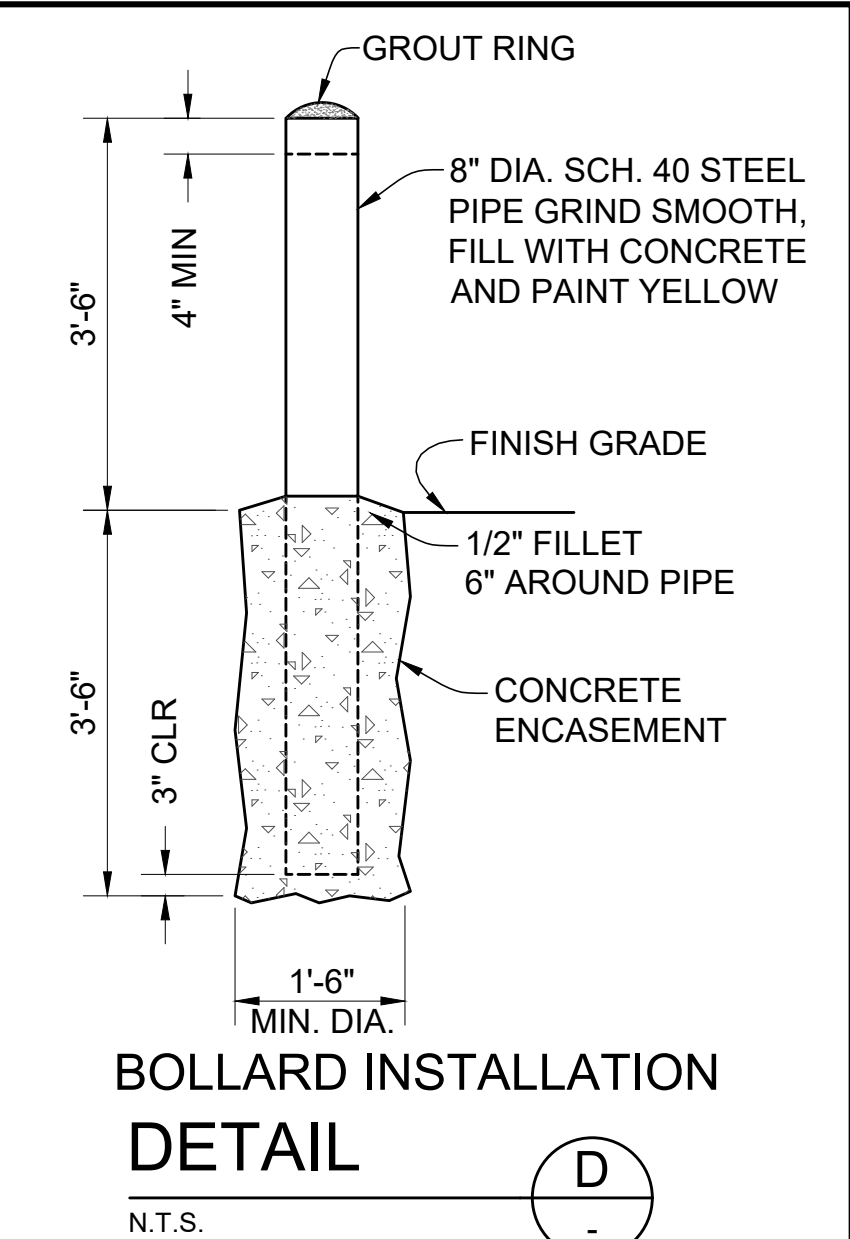
(C)



CONCRETE HEADWALL
DETAIL

N.T.S.

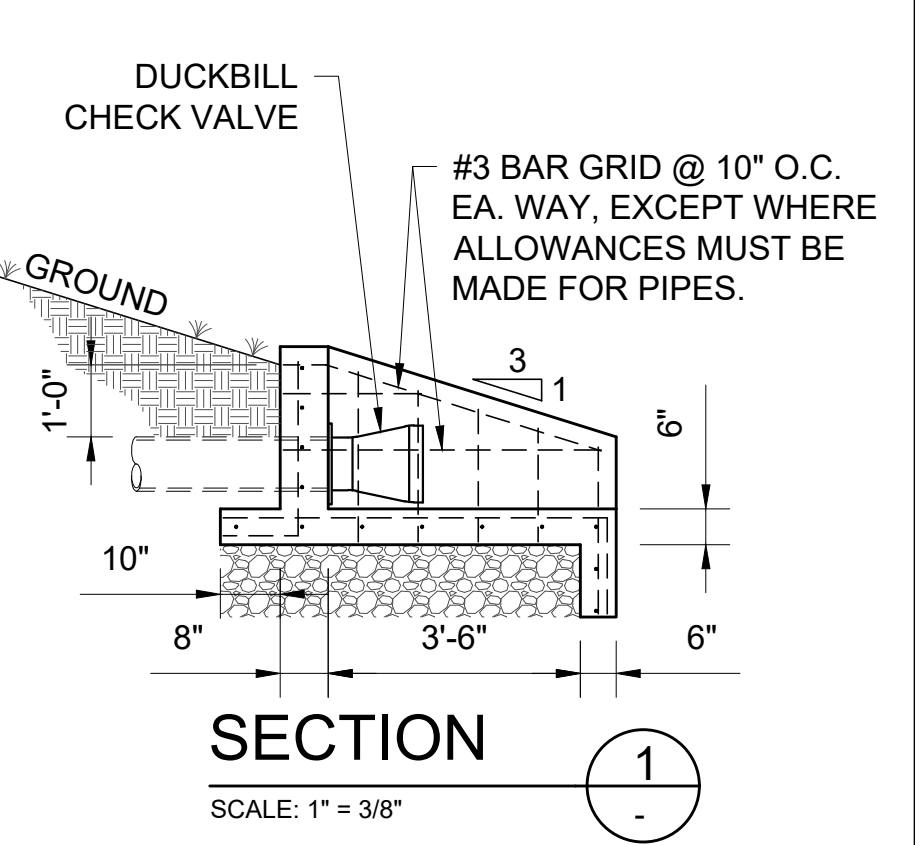
(F)



BOLLARD INSTALLATION
DETAIL

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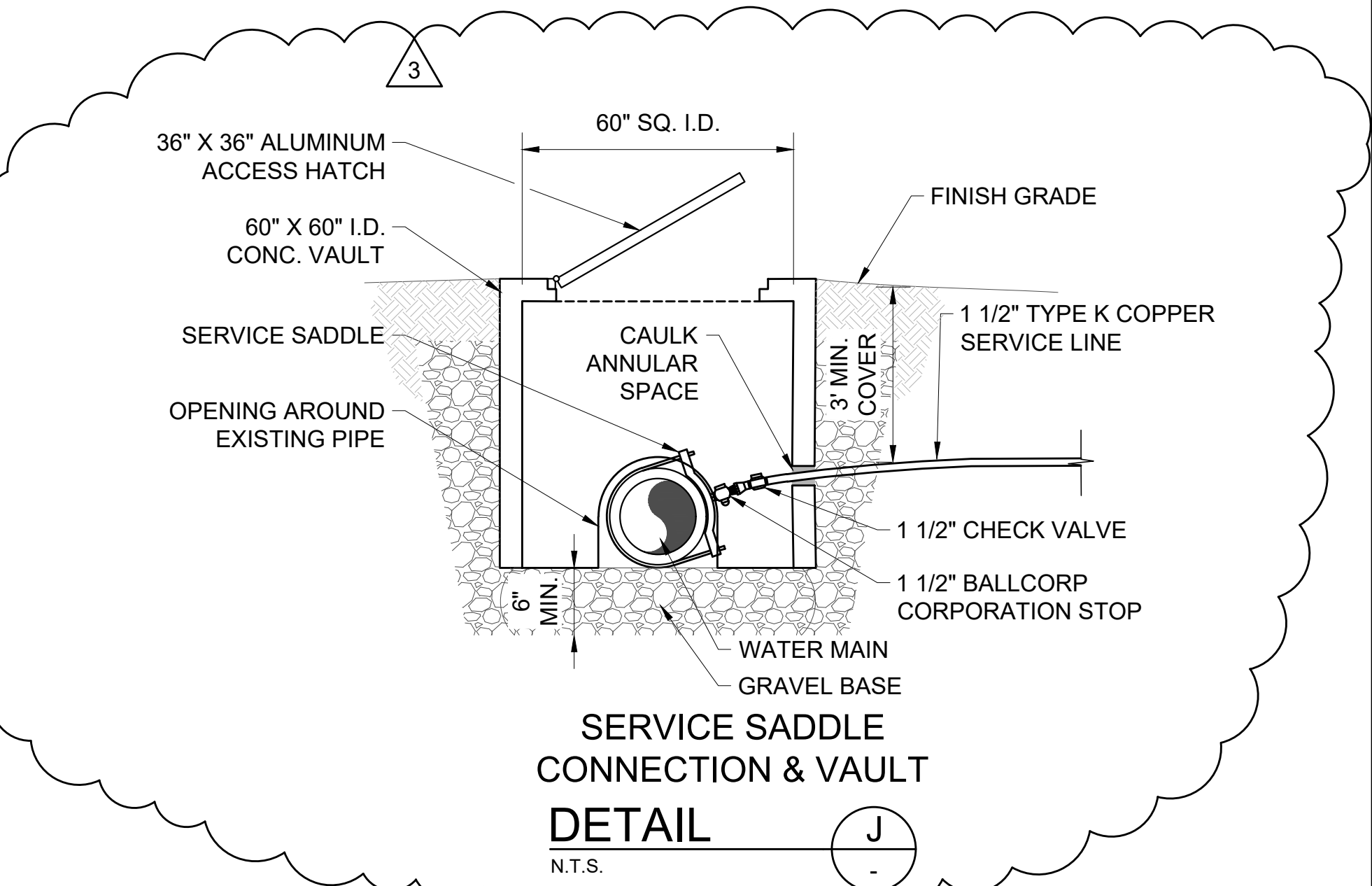
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SECTION

SCALE: 1" = 3/8"

(1)



SERVICE SADDLE
CONNECTION & VAULT
DETAIL

N.T.S.

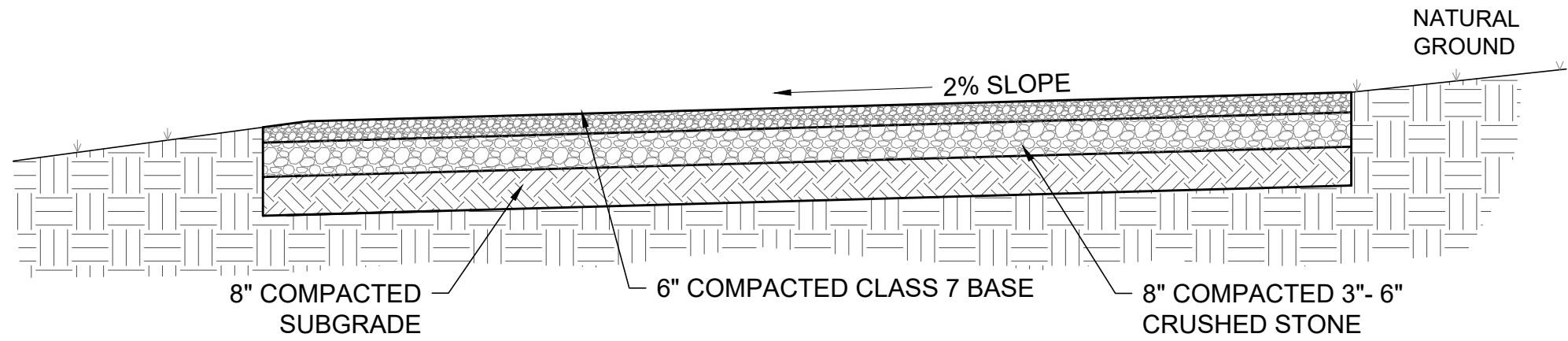
(J)

DESIGNED:	MDD
DRAFTED:	KEG
CHECKED:	DK
DATE:	AUG 2022

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CONSULTING ENGINEERS
205 EXECUTIVE COURT
LITTLE ROCK, ARKANSAS 72205
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
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ROGERS, ARKANSAS
CAPITAL IMPROVEMENTS PLAN PHASE IA
WATER TREATMENT PLANT IMPROVEMENTS
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
CIVIL SITE DETAILS 1

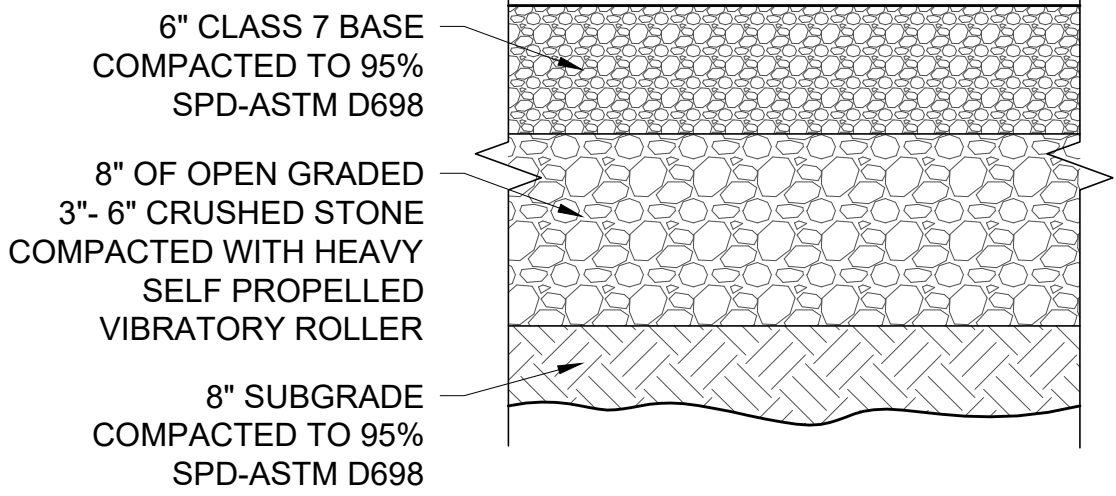
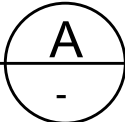
JOB NO. 2122
SHEET NO. 11



- ACCESS DRIVE NOTES:
1. STRIP AND REMOVE TOPSOIL FOR NEW ACCESS ROADS.
 2. PROOFROLL ALL SUBGRADE AND REMOVE SOFT YIELDING AREAS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
 3. SLOPE SUBGRADE 2% MIN.

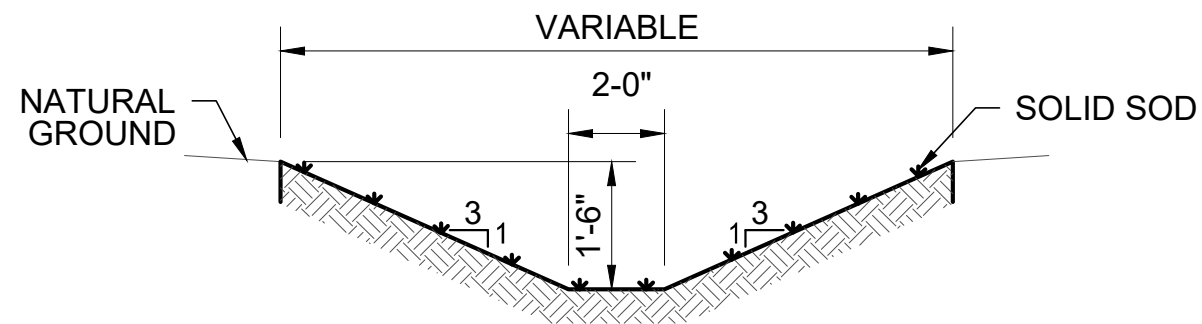
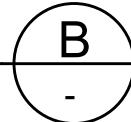
20' GRAVEL DRIVE
DETAIL

N.T.S.



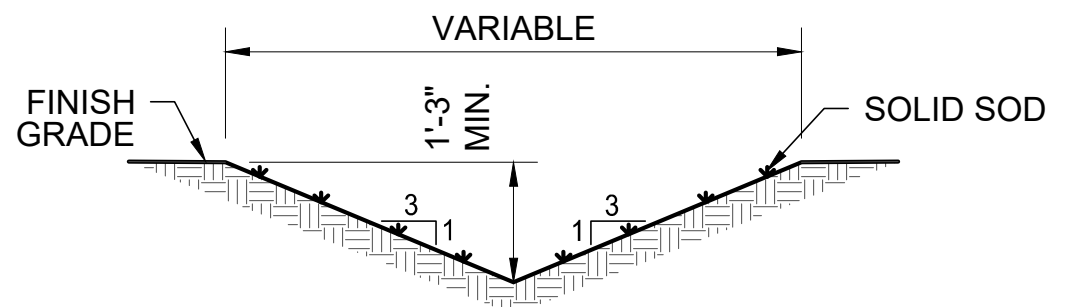
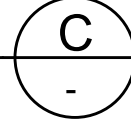
GRAVEL SURFACING
DETAIL

N.T.S.



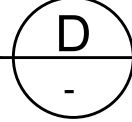
TYPICAL 2' FLAT BOTTOM DITCH SECTION
DETAIL

N.T.S.

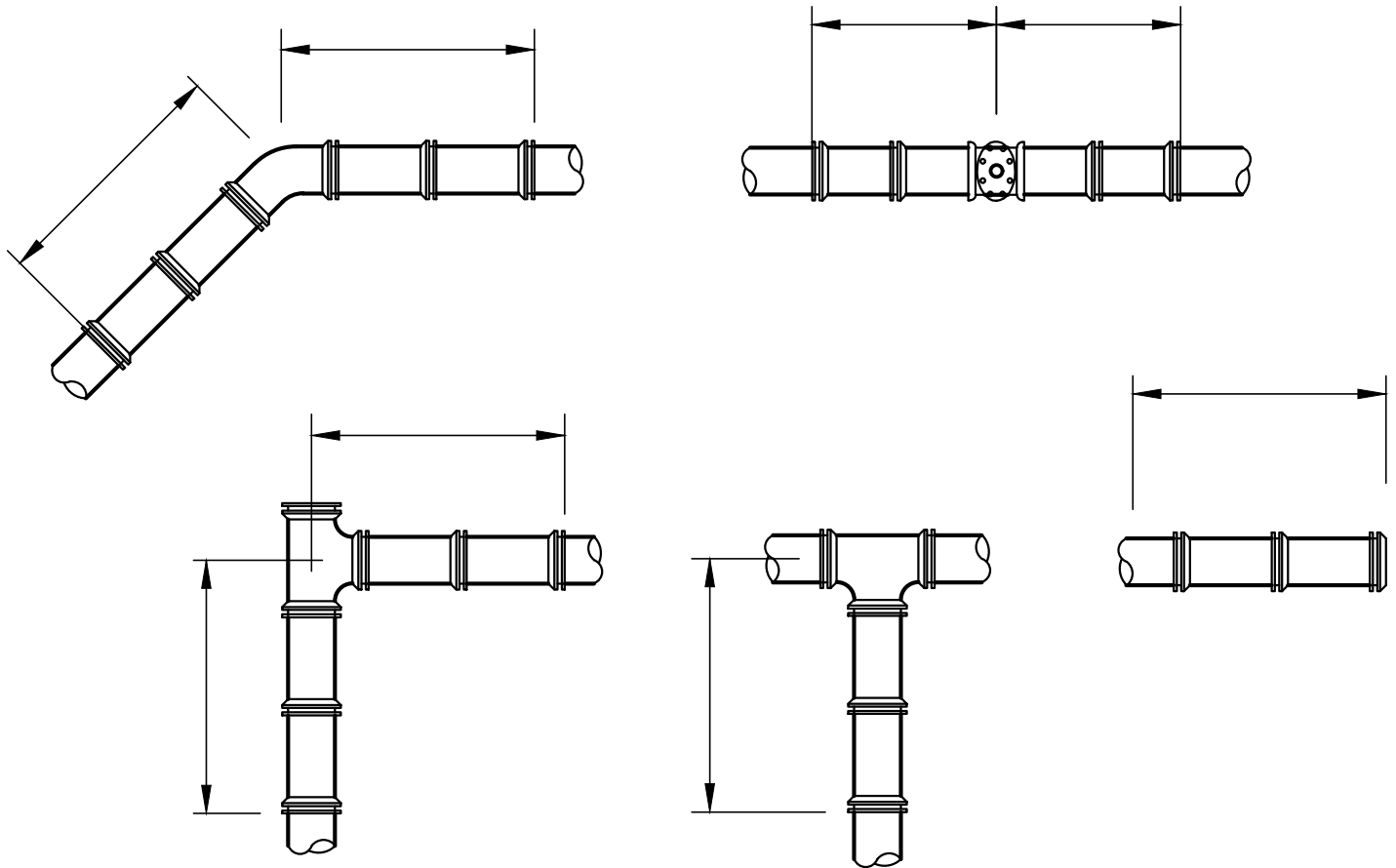


TYPICAL V-DITCH SECTION
DETAIL

N.T.S.



DIP - HORIZONTAL					
SIZE (IN)	TEE & PLUG (FT OR INLINE VALVE)	90° BEND (FT)	45° BEND (FT)	22 1/2° BEND (FT)	11 1/4° BEND (FT)
6	100	20	20	20	20
8	120	40	20	20	20
10	140	40	20	20	20
12	140	60	40	20	20
14	160	80	40	20	20
16	200	80	40	20	20
18	220	100	40	20	20
20	200	100	40	20	20
24	280	120	60	40	20
30	360	140	60	40	20
36	440	160	60	40	20
42	520	160	80	40	20
48	600	120	80	40	20
54	680	300	80	40	20



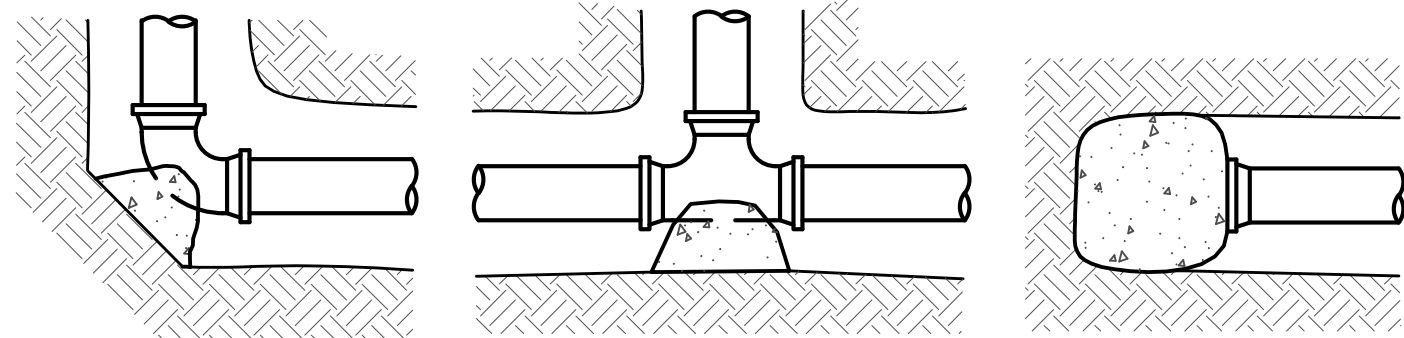
HORIZONTAL

FITTINGS	THRUST PER 100 P.S.I. PRESSURE **															
	THRUST (TONS)															
	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"	48"
11 1/4°	0.03	0.1	0.1	0.3	0.5	0.8	1.1	1.5	2.0	2.5	3.1	4.4	6.9	10.0	13.6	11.7
22 1/2°	0.10	0.1	0.2	0.6	1.0	1.5	2.2	3.0	3.9	5.0	6.1	8.8	13.6	19.9	27.0	35.3
45°	0.10	0.3	0.5	1.1	1.9	3.0	4.3	5.9	7.7	9.7	12.0	17.3	27.1	30.0	53.0	69.2
90°	0.20	0.5	0.9	2.0	3.6	5.6	8.0	10.9	14.2	18.0	22.2	32.0	50.0	72.0	98.0	128.0
Plug	0.20	0.4	0.6	1.4	2.5	3.9	5.7	7.7	10.1	12.7	15.7	22.6	35.3	50.3	69.3	90.5

** THE TABLE ABOVE LISTS THE RESULTANT THRUST AT A PRESSURE OF 100 P.S.I. IN ORDER TO DETERMINE THRUST AT ACTUAL TEST PRESSURE. MULTIPLY TABLE VALUES BY A FACTOR EQUAL TO THE TEST PRESSURE, DIVIDED BY 100.

HORIZONTAL THRUST BLOCKING NOTES:

1. CONCRETE FOR THRUST BLOCKS SHALL DEVELOP NOT LESS THAN 3,000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS AND SHALL BE PLACED AGAINST UNDISTURBED SOIL.
2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE THRUST BLOCKING. THE INFORMATION SHOWN IS FOR CONTRACTORS USE.
3. THRUST BLOCKING SHALL NOT BE BACKFILLED UNTIL CONCRETE HAS OBTAINED INITIAL SET.
4. WRAP ALL BOLTS AND NUTS WITH PLASTIC TO PROTECT FROM CONCRETE.



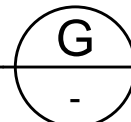
ALL BENDS SIMILAR

TEE

PLUG OR CAP

HORIZONTAL THRUST BLOCKING
DETAIL

N.T.S.



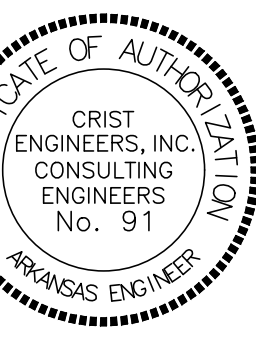
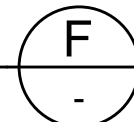
TYPE OF SOIL	SUGGESTED SAFE BEARING VALUES (TONS/S.F.)
SOLID ROCK	25.00
HARD SLATE	6.00
MEDIUM SHALE	4.00
SOFT SHALE	2.00
DRY CLAY GRAVEL	4.00
SOFT CLAY	1.50
DRY SAND OR LOAM	2.50
WET CLAY	0.75

* CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING BEARING VALUES.

1. TABLE SHOWS MINIMUM LENGTH OF RESTRAINED PIPE AND FITTINGS IN FEET.
2. RESTRAINED JOINT LENGTHS ARE BASED UPON EBBA RJ CALCULATOR UTILIZING GRANULAR BEDDING (GP), TRENCH TYPE 5, MINIMUM BURY DEPTH - 4' AND A 350psi WORKING PRESSURE. LENGTHS OF PIPE IS BASED ON 20' LENGTHS.

RESTRAINED JOINTS
DETAIL

N.T.S.



0 1'
1" = 1'
THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

DESIGNED: MDD
DRAFTED: KEG
CHECKED: DK
DATE: AUG 2022

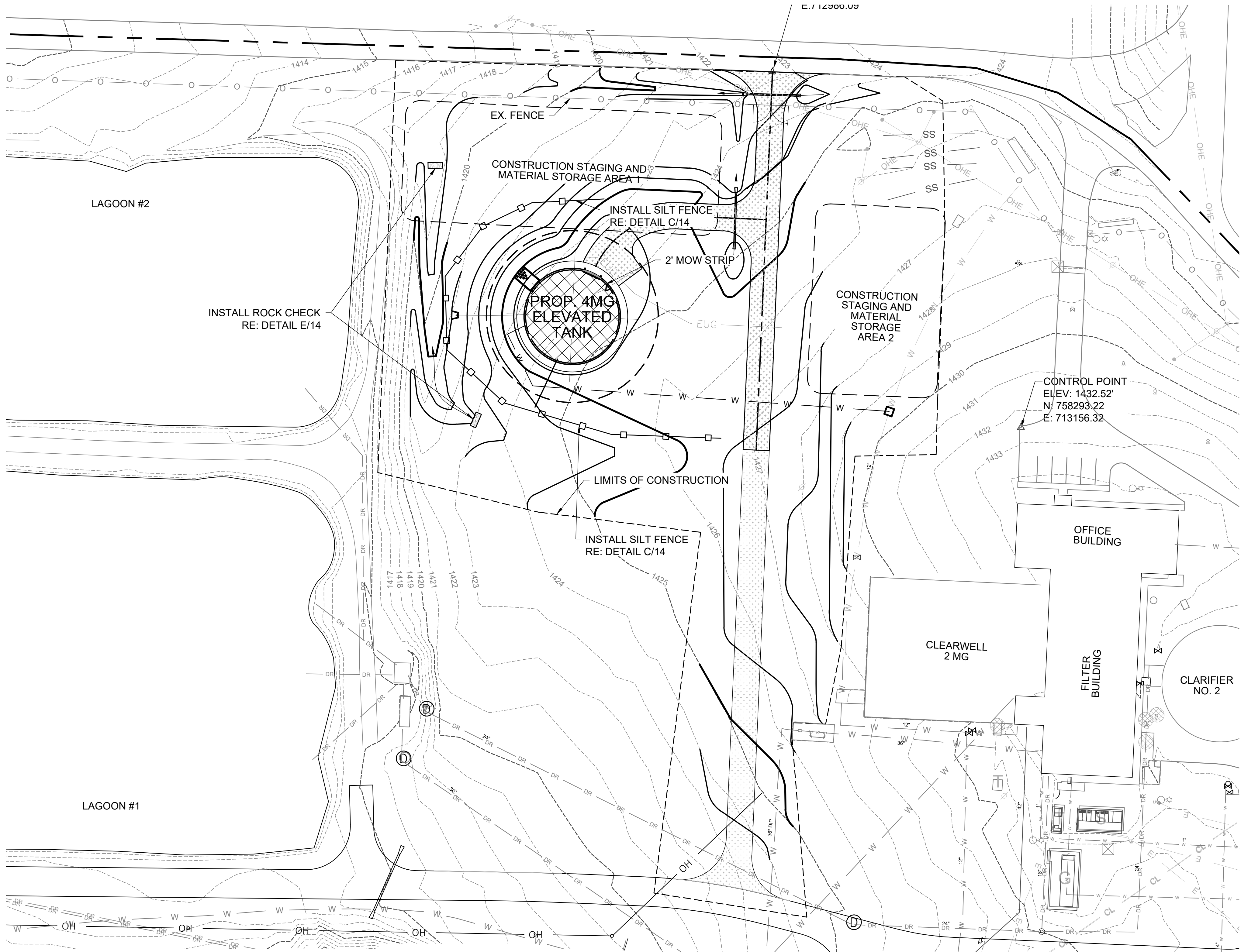


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CONSULTING ENGINEERS

205 EXECUTIVE COURT
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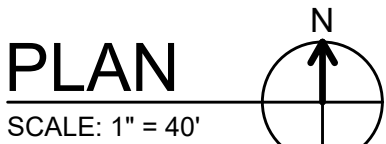
ROGERS, ARKANSAS
CAPITAL IMPROVEMENTS PLAN PHASE IA
WATER TREATMENT PLANT IMPROVEMENTS
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
CIVIL SITE DETAILS 2

JOB NO.
2122
SHEET NO.
12



- EROSION CONTROL NOTES:**
- STAGE 1 (BEFORE CONSTRUCTION)
1. ALL EXISTING OR NEW SILT FENCE MUST BE INSTALLED PER DETAIL C ON SHEET 14 BEFORE ANY GRADING OR DIGGING BEGINS.
 2. CHECK DAMS IN DITCHES BELOW PROPOSED GRADING AREAS SHALL BE IN PLACE BEFORE GRADING BEGINS.
- STAGE 2 (DURING CONSTRUCTION)
3. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED AND WORKING AS INTENDED DURING CONSTRUCTION.
 4. FILL AREA SHALL BE CONSTRUCTED IN SUCH A WAY AS TO CREATE NO RUN OFF UNTIL THE FINAL ELEVATION AND TOP SOIL IS IN PLACE AND SEEDED AND STRAWED.
- STAGE 3 (AFTER CONSTRUCTION)
5. ESTABLISH PERMANENT VEGETATION COVER AROUND CLEARWELL.
 6. SEED AND STRAW ALL REMAINING DISTURBED AREAS.

EROSION CONTROL PLAN



3	9/23/22	KEG	DK	ADDENDUM NO. 3
REV. NO.	DATE	DRWN	CHKD	REMARKS



0 1"
1" = 1'
THIS LINE MEASURES 1" WHEN PLOTTED FULL SIZE

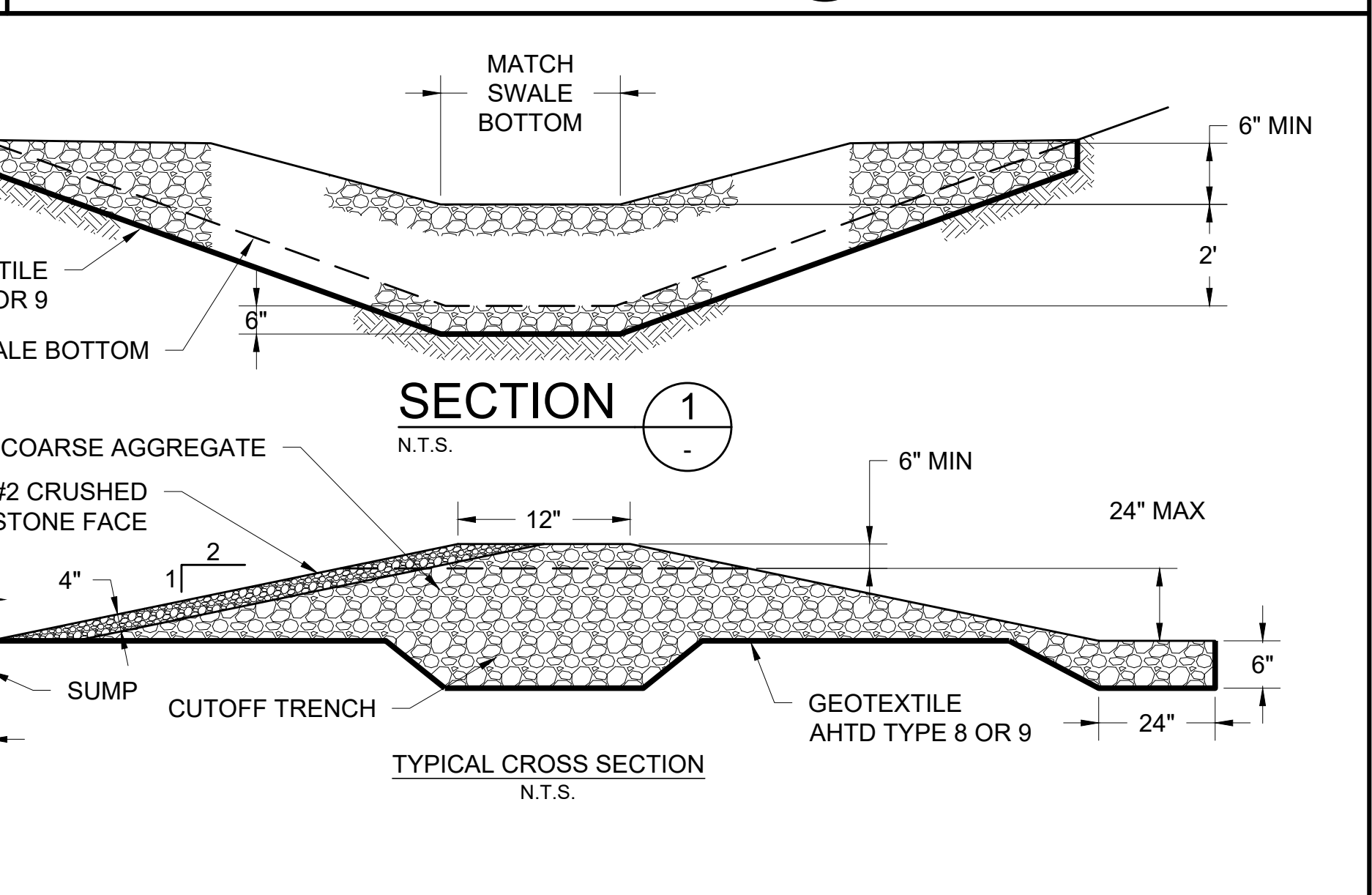
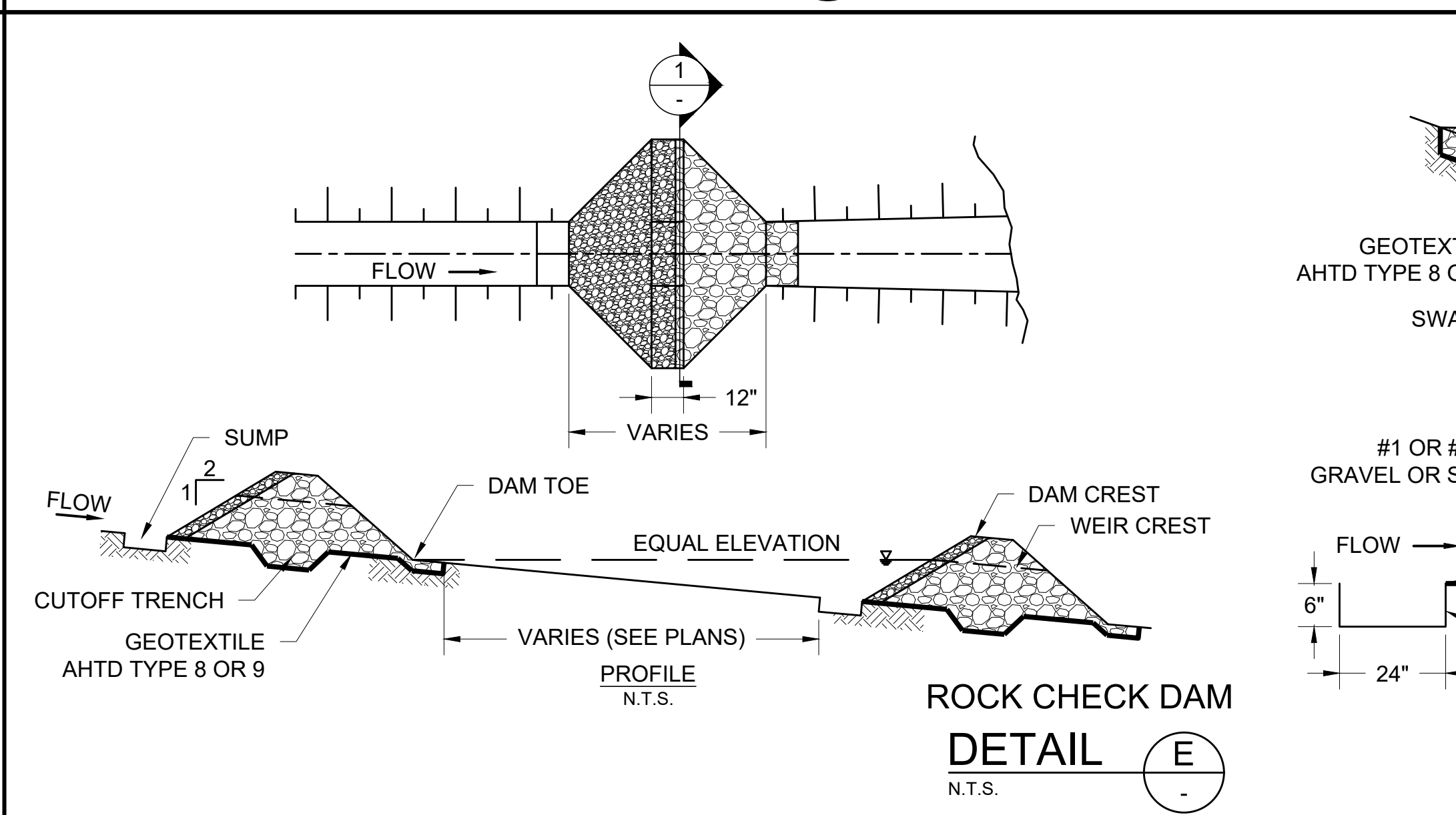
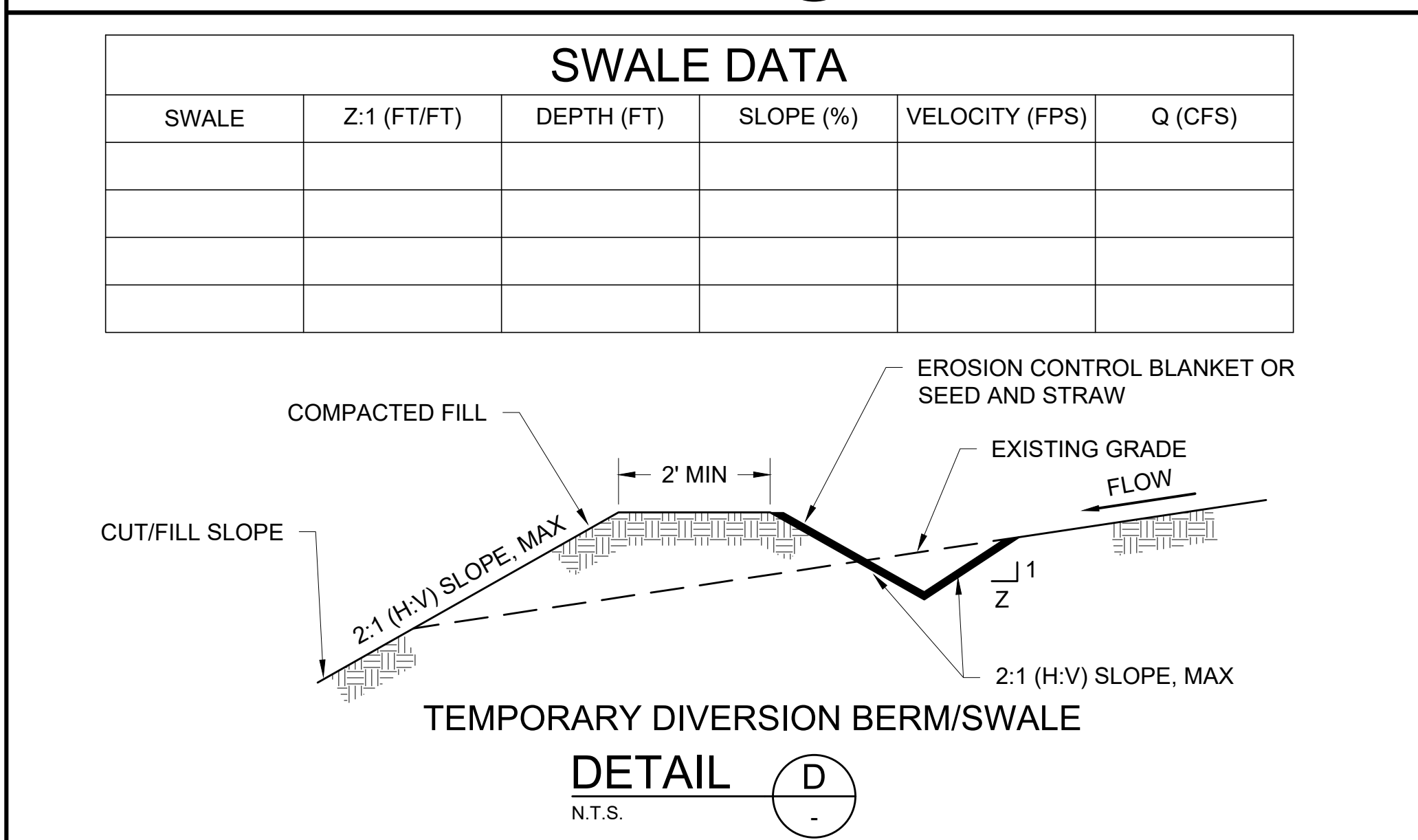
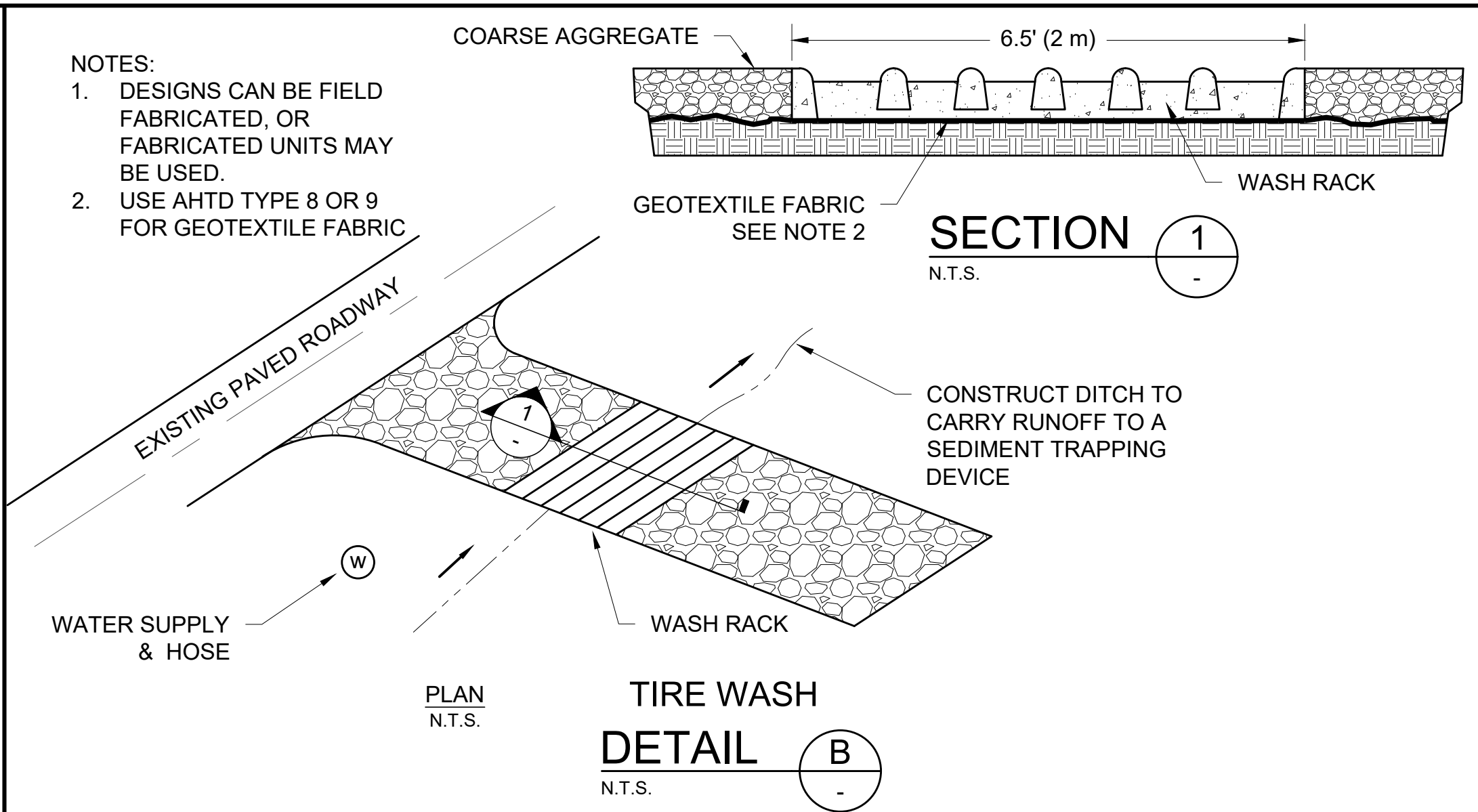
DESIGNED:	MDD
DRAFTED:	KEG
CHECKED:	DK
DATE:	AUG 2022



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CONSULTING ENGINEERS
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FAX: (501) 664-8579
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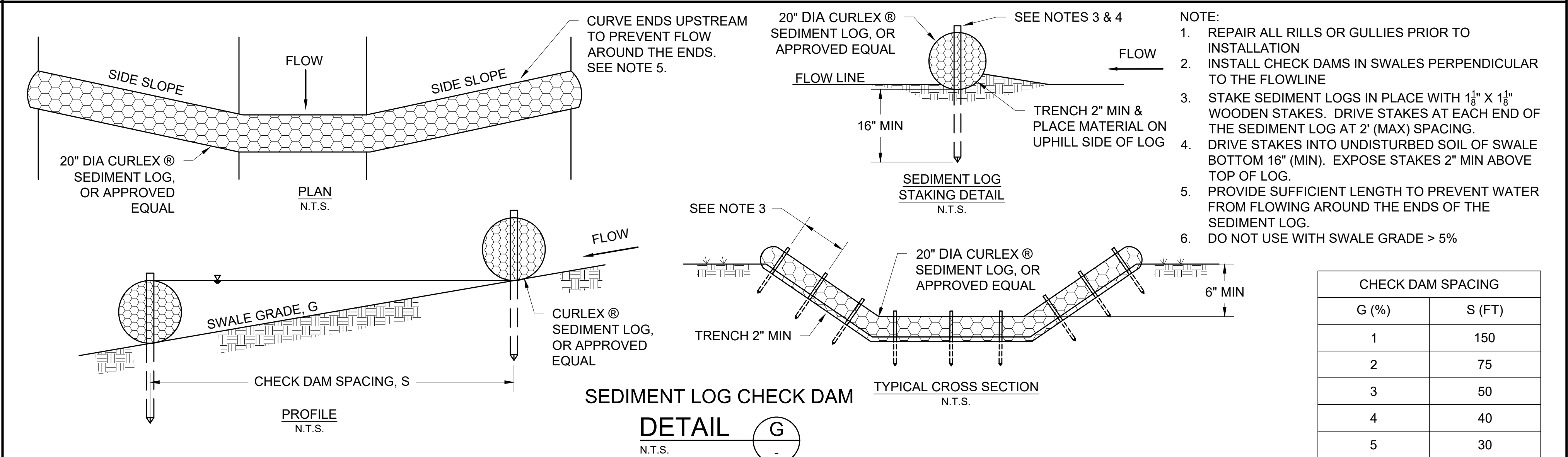
ROGERS, ARKANSAS
CAPITAL IMPROVEMENTS PLAN PHASE 1A
WATER TREATMENT PLANT IMPROVEMENTS
CONSTRUCTION DOCUMENTS - ADD NO 3
4 MG ELEVATED WATER STORAGE TANK
EROSION CONTROL PLAN

JOB NO.
2122
SHEET NO.
13



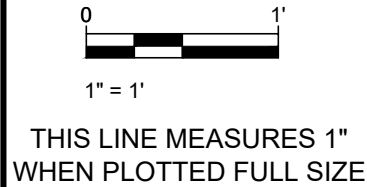
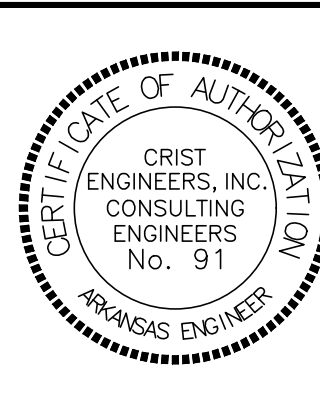
NOTES:

1. THE AREA DESIGNATED OR DIRECTED TO BE TEMPORARILY SEEDED DOES NOT HAVE TO BE BROUGHT TO GARDEN-LINE CONDITION, BUT SHALL BE LIGHTLY TILLED.
2. FERTILIZER SHALL BE APPLIED AT THE RATE OF 11.5 LB/1,000 FT² OF 10-20-10 OR THE EQUIVALENT AMOUNT OF PLANT FOOD.
3. MULCH COVER SHALL CONSIST OF STRAW FROM THRESHED RICE, OATS, WHEAT, BARLEY, OR RYE; OF WOOD EXCELSIOR, OR OF HAY OBTAINED FROM VARIOUS LEGUMES OR GRASSES SUCH AS LESPEDEZA, CLOVER, VETCH, SOYBEANS, BERMUDA, CARPET SEDGE, BAHIA, FESCUE, OR OTHER LEGUMES OR GRASSES; OR A COMBINATION THEREOF. MULCH SHALL BE DRY AND REASONABLY FREE FROM NOXIOUS WEEDS. MULCH COVER SHALL BE APPLIED AT THE RATE OF 92 LB/1,000 FT² IMMEDIATELY AFTER SEEDING AND SHALL BE SPREAD UNIFORMLY OVER THE ENTIRE AREA.
4. FROM APRIL 1 TO DECEMBER 31, EITHER THE DAY BEFORE THE TEMPORARY SEEDING IS PLACED OR ON THE DAY OF THE TEMPORARY SEEDING OPERATION (EITHER BEFORE THE SEED IS PLACED OR AFTER THE APPLICATION OF THE MULCH COVER), A MINIMUM OF 0.5 M GAL/1,000 FT² OF WATER WILL BE APPLIED.



CHECK DAM SPACING	
G (%)	S (FT)
1	150
2	75
3	50
4	40
5	30

3	9/23/22	KEG	DK	ADDENDUM NO. 3
REV. NO.	DATE	DRWN	CHKD	REMARKS



DESIGNED:	MDD
DRAFTED:	SBM
CHECKED:	DK
DATE:	AUG 2022



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CONSULTING ENGINEERS

205 EXECUTIVE COURT
LITTLE ROCK, ARKANSAS 72205
TELEPHONE: (501) 664-1552
FAX: (501) 664-8579
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ROGERS, ARKANSAS

CAPITAL IMPROVEMENTS PLAN PHASE IA

WATER TREATMENT PLANT IMPROVEMENTS

CONSTRUCTION DOCUMENTS - ADD NO 3

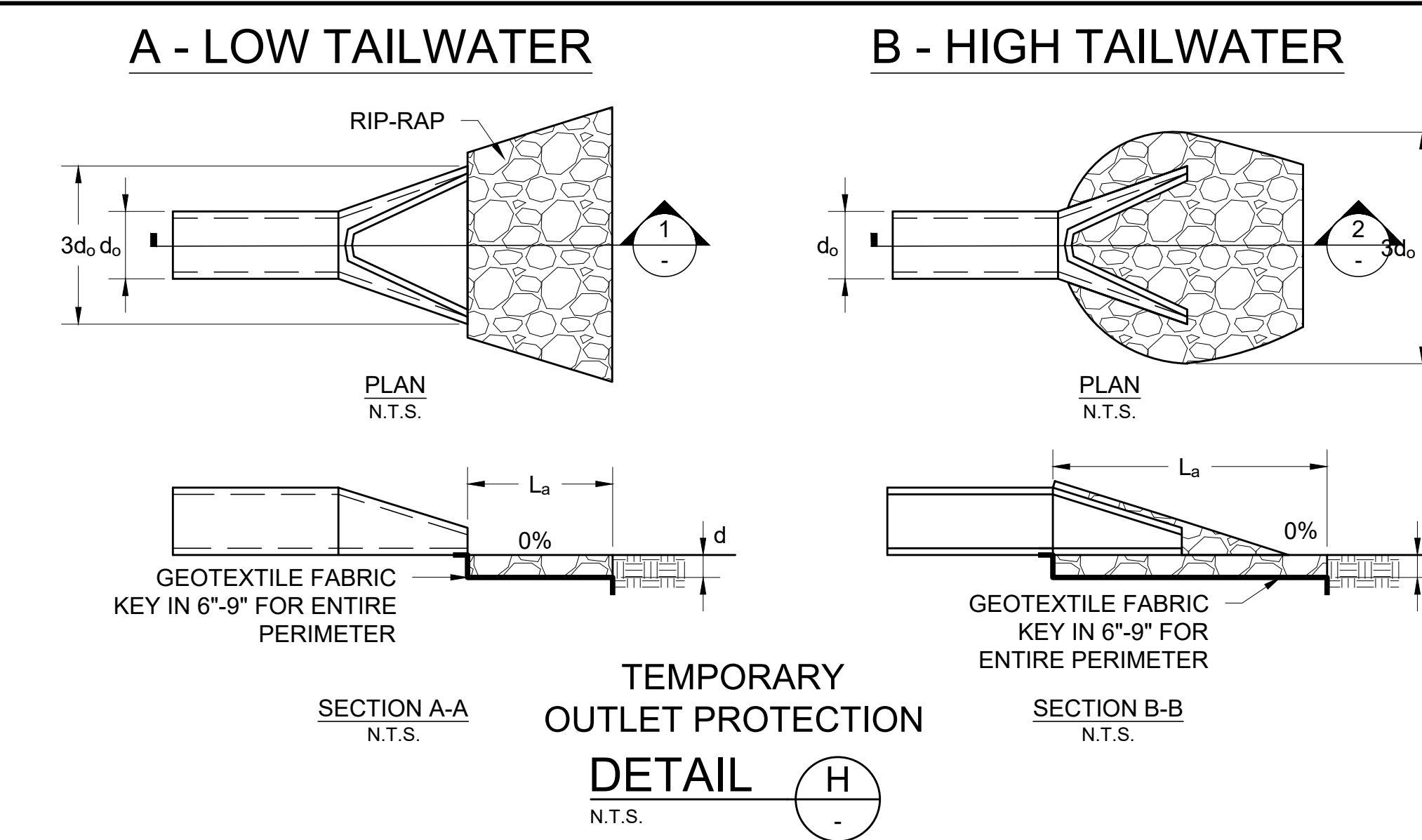
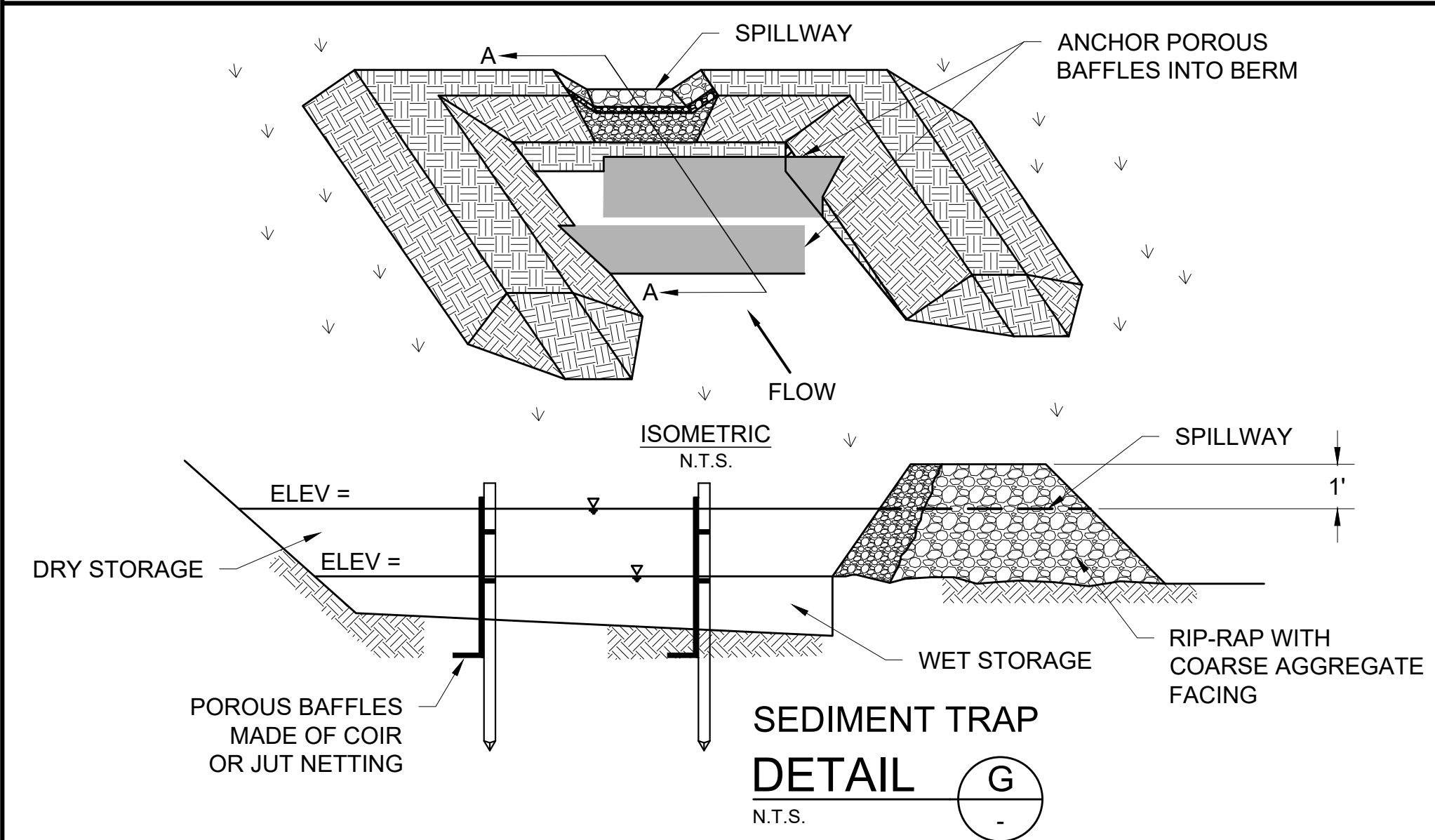
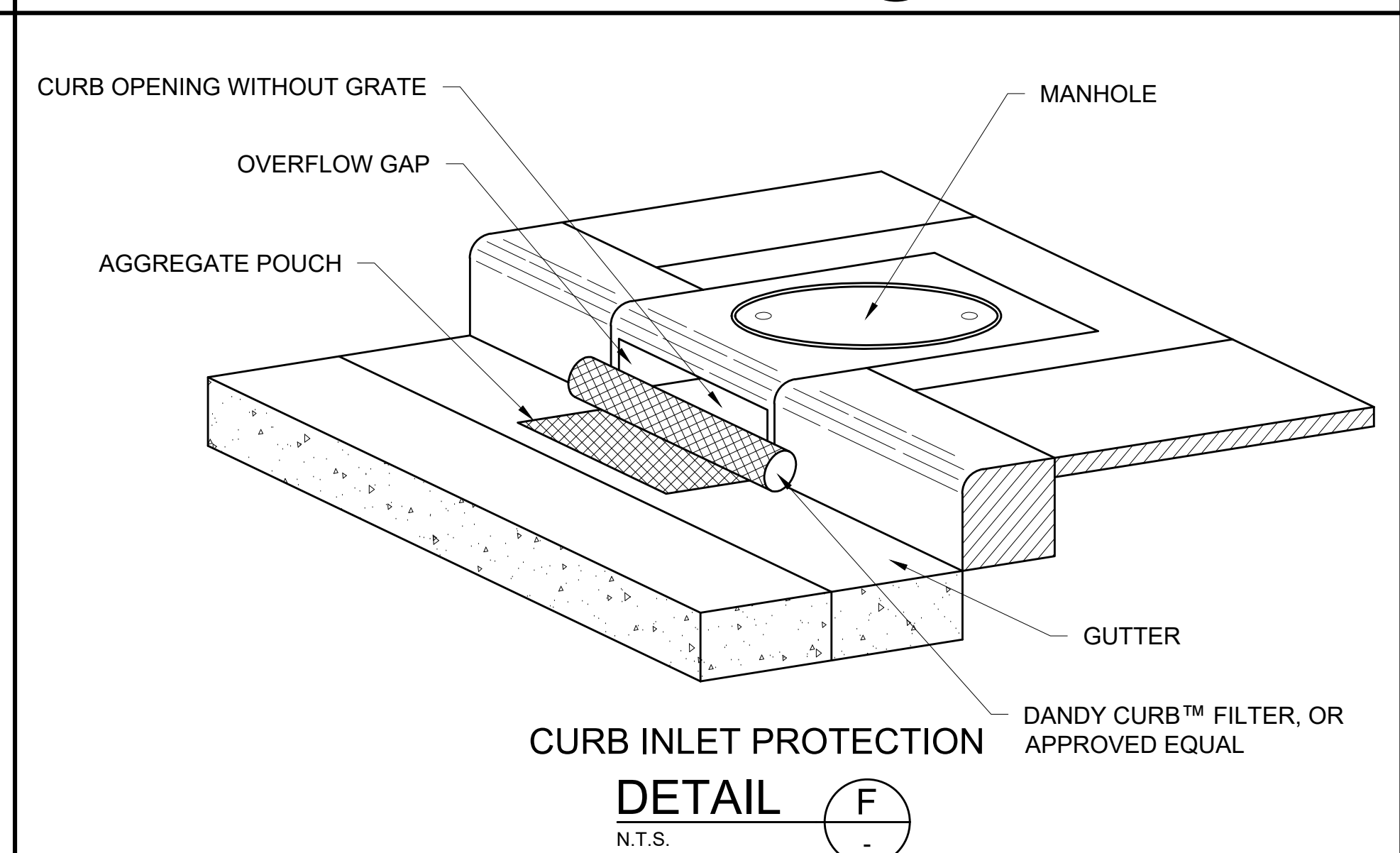
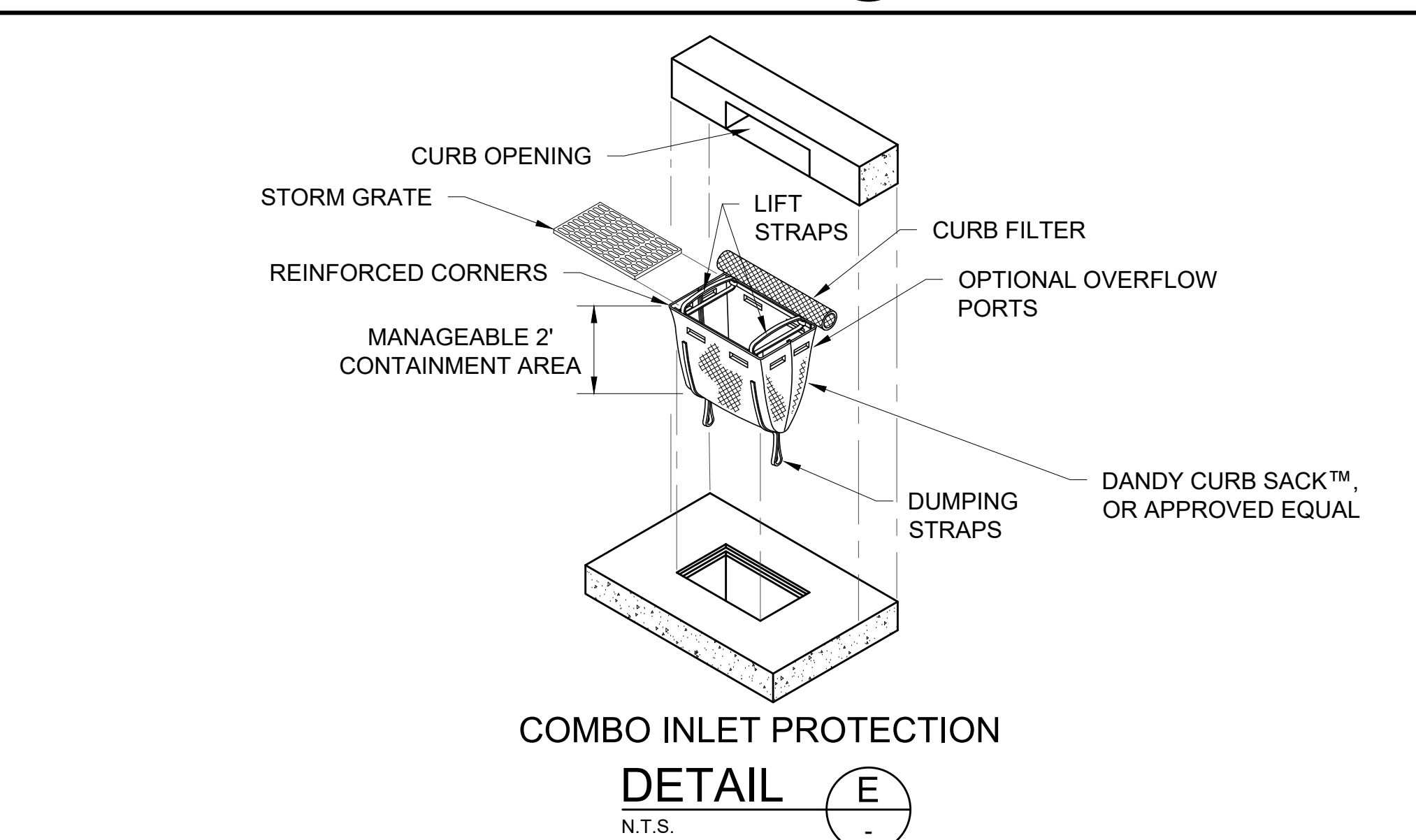
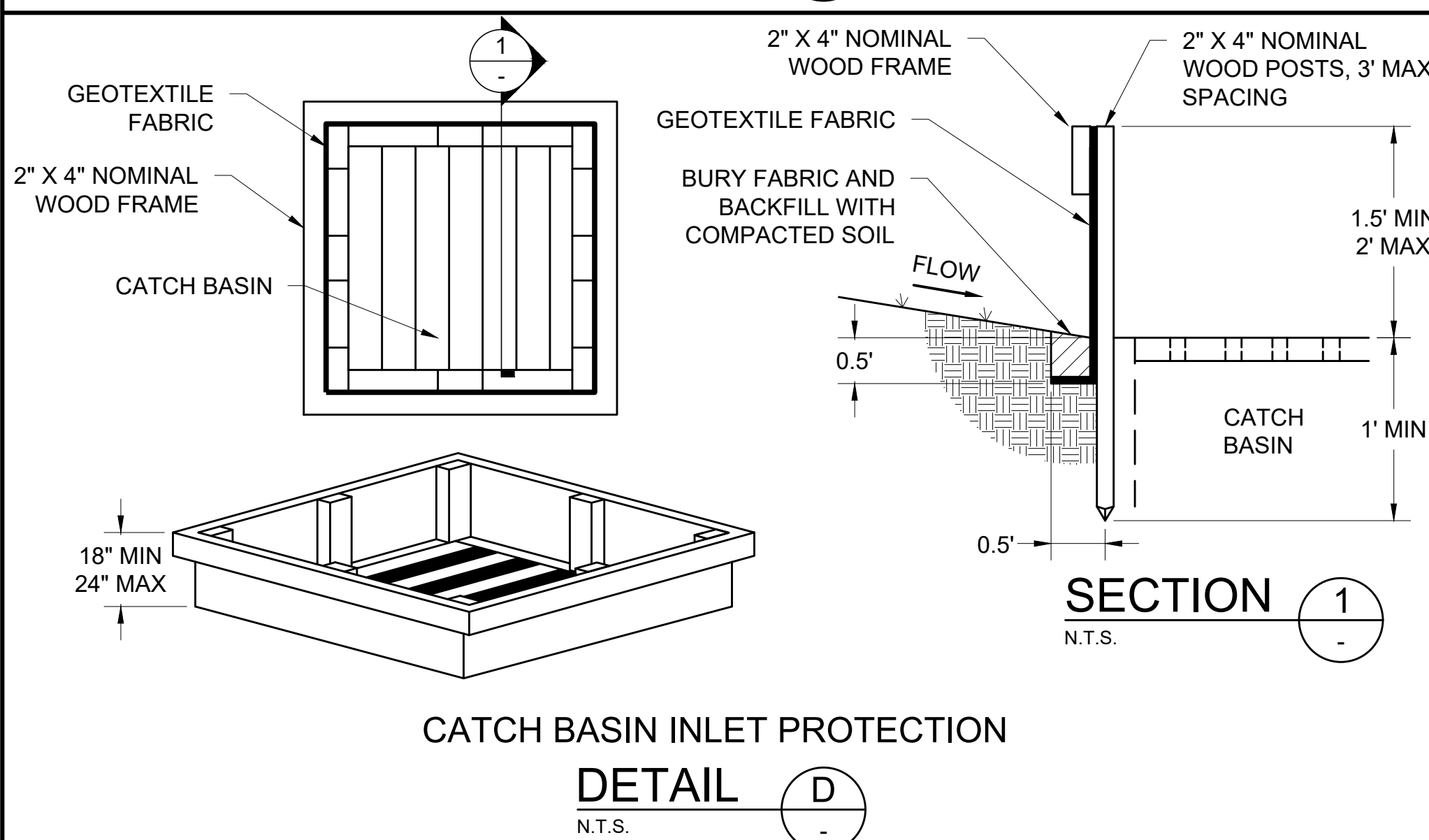
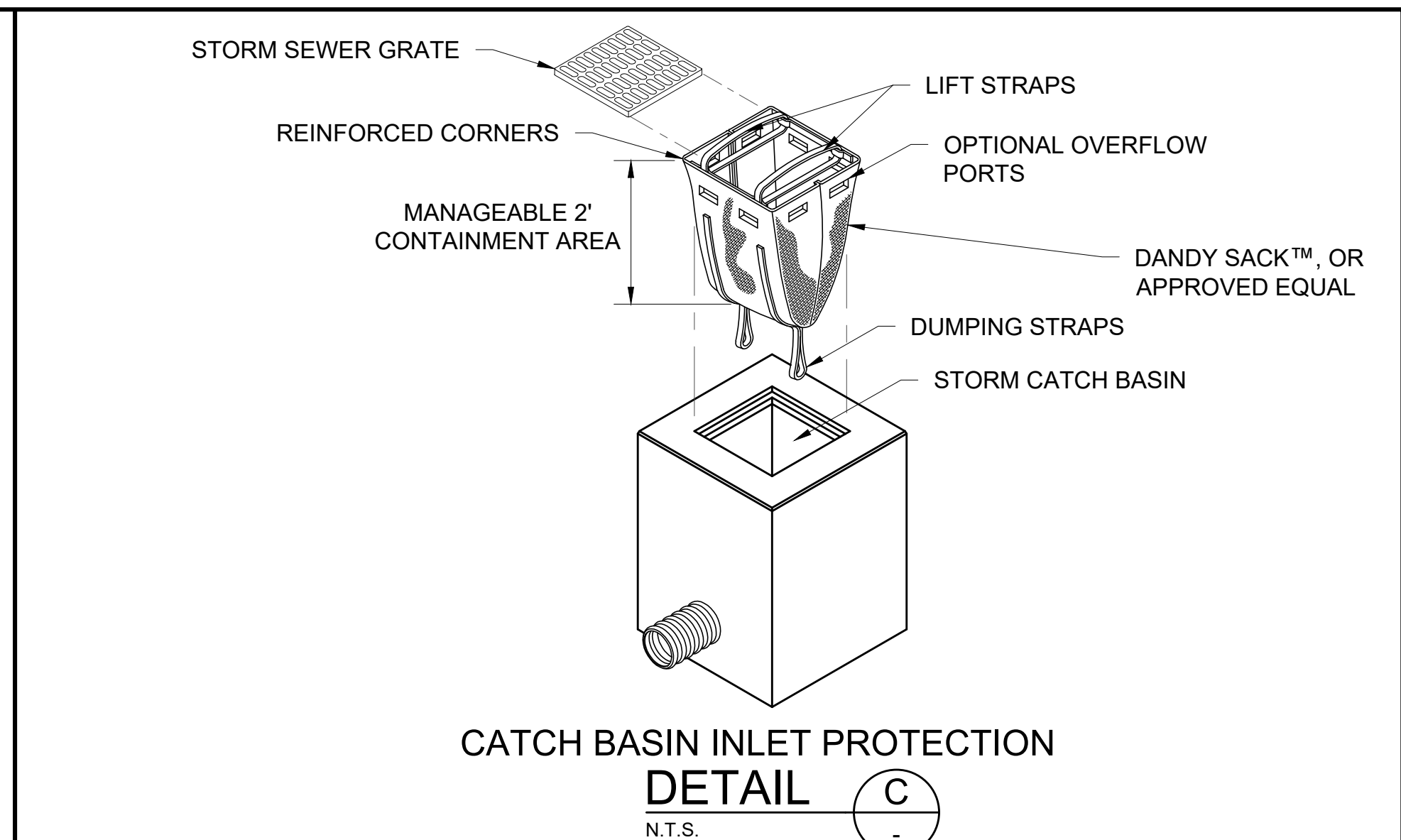
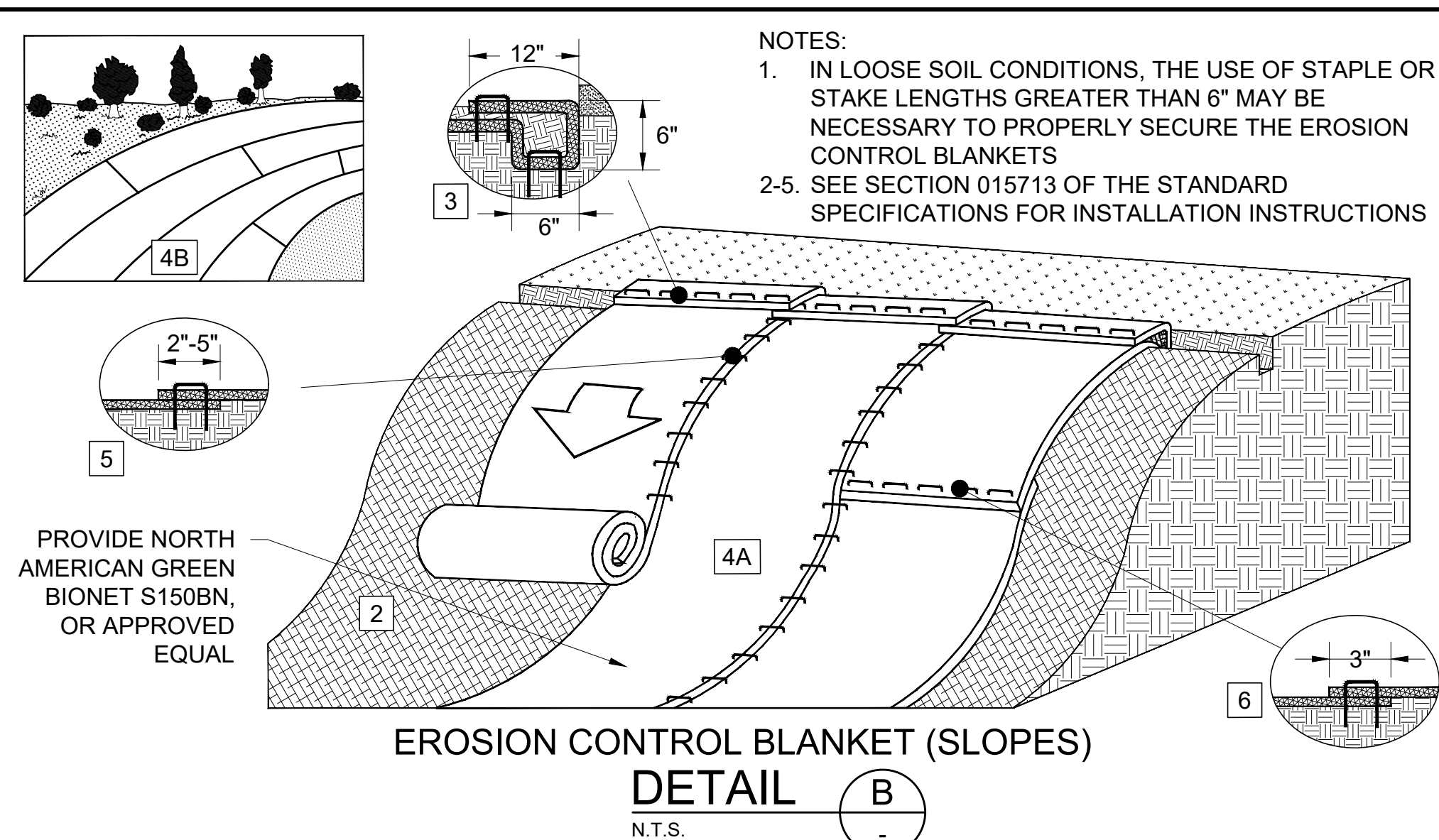
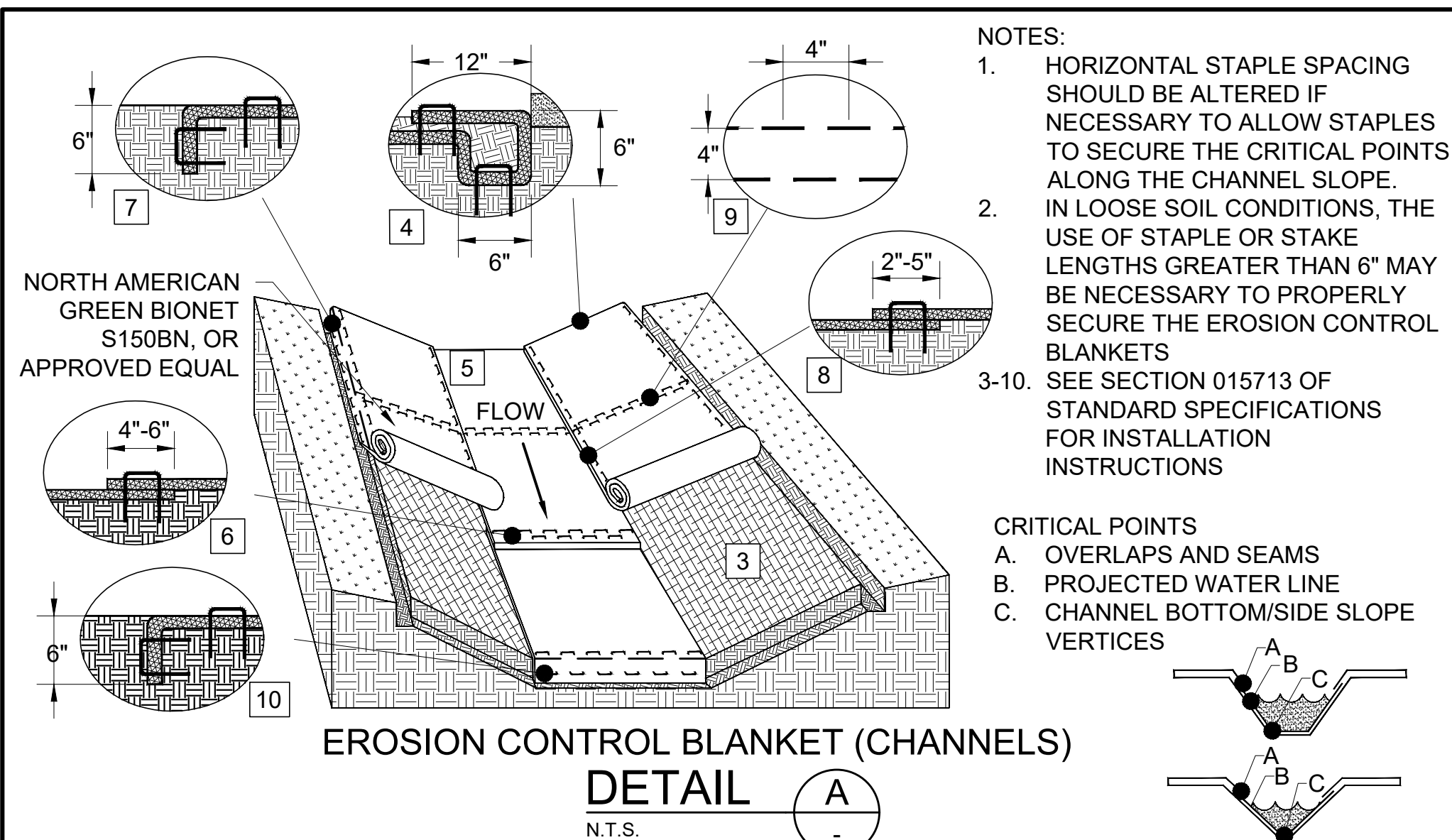
4 MG ELEVATED WATER STORAGE TANK EROSION CONTROL DETAILS I

JOB NO.

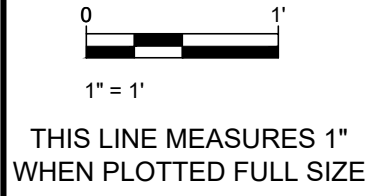
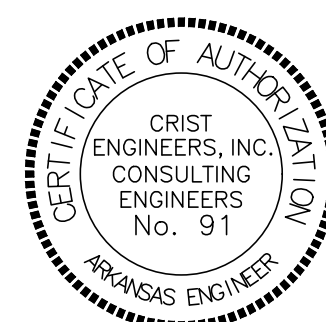
2122

SHEET NO.

14



3	9/23/22	KEG	DK	ADDENDUM NO. 3
REV. NO.	DATE	DRWN	CHKD	REMARKS



DESIGNED:	MDD
DRAFTED:	SBM
CHECKED:	DK
DATE:	AUG 2022



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CONSULTING ENGINEERS

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CAPITAL IMPROVEMENTS PLAN PHASE IA
WATER TREATMENT PLANT IMPROVEMENTS

CONSTRUCTION DOCUMENTS - ADD NO 3

4 MG ELEVATED WATER STORAGE TANK
EROSION CONTROL DETAILS II

JOB NO.	2122
SHEET NO.	15