

# SEWER SYSTEM

## BATTLE OF ATHENS STATE HISTORIC SITE

### REVERE, MISSOURI

---

OWNER: STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR  
  
DEPARTMENT OF NATURAL RESOURCES DIVISION  
OF STATE PARKS

PROJECT  
MANAGEMENT: OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES MANAGEMENT,  
DESIGN AND CONSTRUCTION

DESIGNER: Klingner & Associates, PC

PROJECT NUMBER: X2302-04

SITE NUMBER: 5103  
ASSET NUMBER: 7815103025



PROJECT LOCATION MAP  
NTS

SHEET NUMBER	SHEET NAME	CURRENT REVISION DATE
G001	COVER SHEET	02/12/2024
G002	GENERAL NOTES AND LEGENDS	02/12/2024
C100	PROPOSED SITE LAYOUT & GRAVITY P&P	02/12/2024
C101	LPP DETAILS	02/12/2024
C102	SEPTIC TANK DETAILS (7,500 GALLON)	02/12/2024
C500	MISCELLANEOUS DETAILS	02/12/2024
E501	ELECTRICAL DETAILS AND SCHEDULES	02/12/2024
E801	CTRL DIAGRAM-PUMP CHAMBER	02/12/2024

THE CONTRACTOR(S) SHALL COMPLY WITH THE LATEST EDITION OF APPLICABLE CODES AND STANDARDS INCLUDING BUT NOT LIMITED TO:

- THE AMERICANS WITH DISABILITIES ACT (ADAAG)
- INTERNATIONAL BUILDING CODE (IBC)
- NATIONAL ELECTRIC CODE (NEC)
- INTERNATIONAL PLUMBING CODE (IPC)
- LIFE SAFETY CODE (NFPA 101)
- AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
- AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
- AMERICAN CONCRETE INSTITUTE (ACI)
- MISSOURI DEPARTMENT OF TRANSPORTATION (MODOT)
- MISSOURI DEPARTMENT OF NATURAL RESOURCES (MODNR)

**GENERAL NOTES**

1. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
2. ANY DISCREPANCIES BETWEEN SPECIFICATIONS, DRAWINGS, AND/OR SITE CONDITIONS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
3. ALL AREAS DESIGNATED TO REMAIN UNDISTURBED SHALL BE PROTECTED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING THE LOCATION OF ALL PROPOSED IMPROVEMENTS, INCLUDING ROUGH AND FINISHED ELEVATIONS AND ALL OTHER PROPOSED IMPROVEMENTS INDICATED ON THE DRAWINGS.
5. THE CONTRACTOR SHALL VERIFY THAT ALL APPLICABLE LOCAL, STATE, & FEDERAL CODES ARE FOLLOWED. ALL APPLICABLE LOCAL AND STATE NOTIFICATIONS AND PERMITS SHALL BE ACQUIRED PRIOR TO CONSTRUCTION, INCLUDING ALL NECESSARY UTILITY CONNECTION PERMITS FROM THE RESPECTIVE UTILITIES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND SERVICES REQUIRED DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL REFERENCE POINTS, BENCHMARKS, MONUMENTS, STAKES, AND PROPERTY CORNERS DURING CONSTRUCTION. REPLACEMENT OF LOST REFERENCE POINTS SHALL BE AT THE CONTRACTORS EXPENSE.
8. REMOVE ALL STRUCTURES, FOUNDATIONS, WALLS, PAVEMENTS, AND ALL OTHER ITEMS IN CONFLICT WITH PROPOSED IMPROVEMENTS IN ACCORDANCE WITH THE SPECIFICATIONS.
9. REFERENCES TO "STANDARD SPECIFICATIONS" SHALL MEAN THE MISSOURI DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", LATEST ADDITION.
10. THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. NO WORK SHALL BE PERFORMED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT OWNER APPROVAL.
12. SITE CLEAN-UP SHALL BE PERFORMED ON A DAILY BASIS. SIDEWALKS, PARKING LOTS, ROADWAYS, AND THE PROJECT SITE SHALL BE KEPT CLEAN AT ALL TIMES. CONTROL DUST IN AND AROUND ALL WORK AND STAGING AREAS.
13. ALL OPEN EXCAVATIONS SHALL BE PROTECTED.
14. MAINTAIN POSITIVE DRAINAGE ON THE SITE THROUGHOUT THE PROJECT DURATION.
15. IF A DISCREPANCY IN THE SPOT ELEVATIONS IS NOTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTING. IF THERE IS A DISCREPANCY BETWEEN THE SPOT ELEVATIONS AND CONTOURS, THE CONTOURS SHALL GOVERN.
16. IF SOIL OR GROUNDWATER IS ENCOUNTERED WHICH EMITS A PETROLEUM ODOR OR IS DISCOLORED THE CONTRACTOR SHALL STOP EXCAVATION AND NOTIFY THE OWNER IMMEDIATELY. THE OWNER WILL COORDINATE ENVIRONMENTAL EFFORTS TO HANDLE THE IMPACTED SOIL OR GROUNDWATER IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL TAKE APPROPRIATE ACTION TO ENSURE PUBLIC AND EMPLOYEE SAFETY.

**UTILITY NOTES**

1. THE LOCATION OF EXISTING UTILITIES IN CONSTRUCTION AREAS SHALL BE FIELD VERIFIED BY THE CONTRACTOR BY CONTACTING THE MISSOURI ONE CALL SYSTEM, INC. OR THE INDIVIDUAL UTILITIES NOT PARTICIPATING IN THIS SYSTEM. EXISTING UTILITIES TO REMAIN SHALL BE PROTECTED. ANY REPAIR OR RELOCATION REQUIRED, AS A RESULT OF DAMAGE BY CONSTRUCTION ACTIVITIES SHALL BE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PAY UTILITY PERMIT AND/OR INSPECTION FEES.
2. UTILITY TRENCHES WITHIN PAVEMENT AREAS SHALL BE BACKFILLED WITH APPROVED COMPACTED GRANULAR BACKFILL.
3. ALL ELECTRIC SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, CURRENT VERSION.
4. ADJUST ALL VALVES, MANHOLES, CASTINGS, GAS VENTS, ETC., TO MATCH THE NEW SURFACE. ADJUSTMENT SHALL BE COORDINATED WITH THE UTILITY COMPANIES AND THE COST FOR ALL ADJUSTMENTS SHALL BE INCIDENTAL TO THE CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER. REPAIR ANY DAMAGE TO SAID STRUCTURES AND APPURTENANCES THAT OCCUR DURING CONSTRUCTION.
5. THE DRAWINGS INDICATE THE BEST KNOWLEDGE OF THE OWNER AND ENGINEER/ARCHITECT ON THE GENERAL LOCATION AND NATURE OF THE EXISTING AND OR PROPOSED UNDERGROUND UTILITIES IN THE AREA OF CONSTRUCTION. EXPLORATORY EXCAVATIONS AT THE SITE TO DETERMINE INSITU LOCATIONS WERE NOT CONDUCTED. QUALITY LEVEL D IN ACCORDANCE WITH C/ASCE 38-02, STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA, WAS UTILIZED. REGARDLESS OF THE LEVEL OF INVESTIGATION, THE UTILITIES SHOWN SHOULD NOT BE CONSIDERED A WARRANTY OR GUARANTEE OF ACTUAL PRESENCE OR LOCATION AND THE CONTRACTOR REMAINS RESPONSIBLE FOR THE LOCATION, VERIFICATION, AND PROPER NOTIFICATION OF POTENTIAL UTILITIES.

**QUALITY LEVELS:**

QUALITY LEVEL A - PROVIDES THE HIGHEST LEVEL OF ACCURACY. BY LOCATING OR POTHOLING UTILITIES IN ADDITION TO QUALITY LEVELS B, C, AND D TASKS. THE LOCATED UTILITY INFRASTRUCTURE IS SURVEYED AND MAPPED TO DEVELOP PLAN AND PROFILE INFORMATION.

QUALITY LEVEL B - INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND RECORDING THE INFORMATION THROUGH A SURVEY METHOD. IN ADDITION TO QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL C - INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. IN ADDITION TO QUALITY LEVEL D TASKS

QUALITY LEVEL D - INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS, THAT MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICE MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASE, CONSTRUCTION PLANS, ETC. DATABASES, CONSTRUCTION PLANS, ETC.

**EROSION CONTROL NOTES**

1. EROSION CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, THE DETAILS IN THESE PLANS, AND THE MISSOURI DEPARTMENT OF NATURAL RESOURCES STANDARDS AND REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL.
2. THE EROSION CONTROL SHOWN ON THIS SET OF PLANS SHALL BE CONSIDERED THE MINIMUM ACCEPTABLE FOR THIS PROJECT. THERE MAY BE ADDITIONAL EROSION CONTROL REQUIRED DUE TO THE VARIOUS CONSTRUCTION TECHNIQUES, WHICH MAY BE USED. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING AND MAINTAINING ALL THE RUNOFF FROM THE SITE, IN A MANNER WHICH KEEPS ALL SILT ON SITE.
3. A LAND DISTURBANCE PERMIT WILL NOT BE REQUIRED SINCE LESS THAN 1 ACRE OF LAND WILL BE DISTURBED BY GRADING OPERATIONS.
4. ALL INLET PROTECTION AND TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED UPON COMPLETION OF PAVING OPERATIONS AND FINAL STABILIZATION OF LANDSCAPED AND SEED AREAS.

**ABBREVIATIONS**

- FL FLOWLINE ELEVATION
- TC TOP OF CURB ELEVATION
- GL GUTTER LINE ELEVATION
- TG TOP OF GRATE ELEVATION
- STA STATION
- FES FLARED END SECTION
- SWI STORM WATER INLET
- FFE FINISH FLOOR ELEVATION
- HP HIGH POINT
- LP LOW POINT
- TW TOP OF WALL ELEVATION
- BW BOTTOM OF WALL ELEVATION
- DS DOWNSPOUT
- EP EDGE OF PAVEMENT
- (NIC) NOT IN CONTRACT
- (M) MATCH EXISTING

**LEGEND**

EXISTING	PROPOSED	
---	---	PROPERTY LINE
---	---	LOT LINE
---	---	RIGHT OF WAY LINE
---	---	CENTERLINE
---	---	EASEMENT
---	---	BUILDING SETBACK
---	---	CONSTRUCTION LIMITS
---	---	FENCE LINE
---	---	CHAIN LINK FENCE
---	---	FENCE W/ SQUARE POSTS
---	---	STREAM
---	---	STRUCTURE
---	---	PAVEMENT MARKINGS
---	---	EDGE OF PAVEMENT
---	---	CURB AND GUTTER
---	---	RAILROAD TRACKS
---	---	WATER LINE
---	---	FIRE PROTECTION
---	---	GAS LINE
---	---	OVERHEAD ELECTRIC
---	---	UNDERGROUND ELECTRIC
---	---	OVERHEAD TELEPHONE
---	---	UNDERGROUND TELEPHONE
---	---	CABLE TELEVISION
---	---	FIBER OPTIC
---	---	COMMUNICATION LINE
---	---	STORM SEWER
---	---	SANITARY SEWER
---	---	FORCE MAIN
---	---	COMBINED SEWER
---	---	IRRIGATION SYSTEM
---	---	MAST ARM SIGNAL (3 SIGNALS)
---	---	MAST ARM SIGNALS (2 SIGNALS)
---	---	UTILITY TRAFFIC SIGN
---	---	SIGN
---	---	MANHOLE
---	---	STORM WATER INLET
---	---	CATCH BASIN
---	---	CLEANOUT
---	---	CULVERT
---	---	BOX CULVERT
---	---	WATER VALVE
---	---	FIRE HYDRANT
---	---	POST INDICATOR VALVE
---	---	WATER METER
---	---	GAS VALVE
---	---	GAS METER
---	---	TELEPHONE PEDESTAL
---	---	CABLE TV PEDESTAL
---	---	ELECTRIC METER
---	---	UTILITY POLE
---	---	LIGHT STANDARD
---	---	LIGHT POLE
---	---	GUY WIRE
---	---	SUMMIT / HIGH POINT
---	---	CONTOURS
---	---	INDEX CONTOURS
---	---	DIRECTION OF DRAINAGE
---	---	SPOT ELEVATION
---	---	DECIDUOUS SHRUB
---	---	DECIDUOUS TREE
---	---	CONIFEROUS SHRUB
---	---	CONIFEROUS TREE

NOTE: ELECTRICAL SERVICE TO BE FINALIZED ONCE THE TREATMENT SYSTEM TYPE HAS BEEN SELECTED

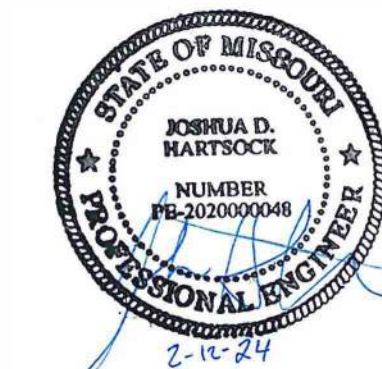


Know what's below.  
Call before you dig.

NOTE  
UTILITY INFORMATION IS FOR THE CONVENIENCE OF THE CONTRACTOR. BEFORE CONSTRUCTION BEGINS THE CONTRACTOR SHALL CONTACT MISSOURI ONE CALL SYSTEM, INC. AT 811 OR 1-800-344-7483 AND THE INDIVIDUAL UTILITIES NOT INCLUDED IN THIS SYSTEM FOR THE LOCATION OF ALL EXISTING UTILITIES.

STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR

BIDDING DOCUMENTS



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OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF NATURAL  
RESOURCES DIVISION OF  
STATE PARKS

**SEWER SYSTEM**

12378 ATHENS STATE  
PARK ROAD  
REVERE, MO 63465

PROJECT # X2302-04  
SITE # 5103  
ASSET # 7815103025

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02-12-2024

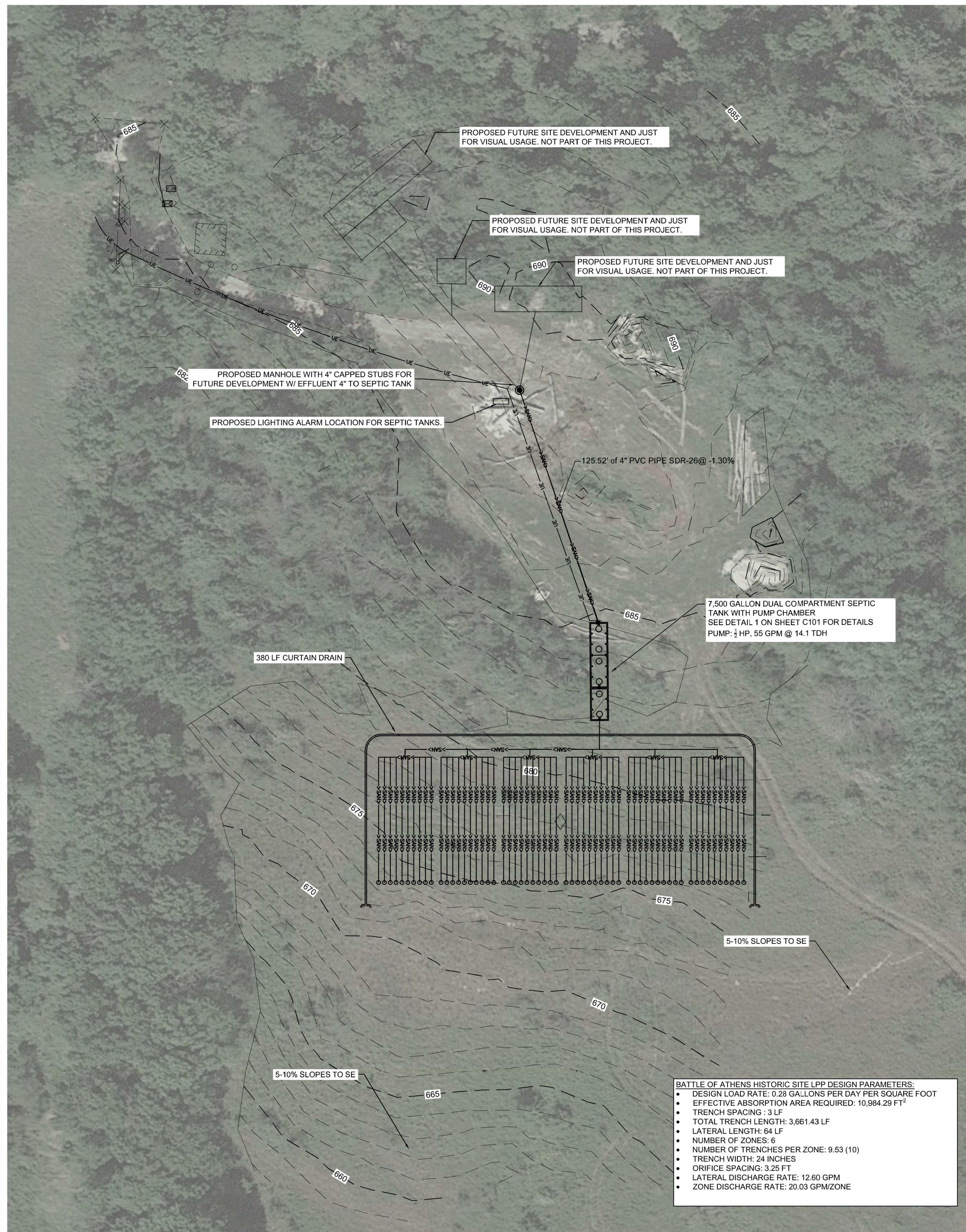
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DRAWING BY: JDH  
CHECKED BY: MCB/JJN  
DESIGNED BY: JDH/MCB/JJN

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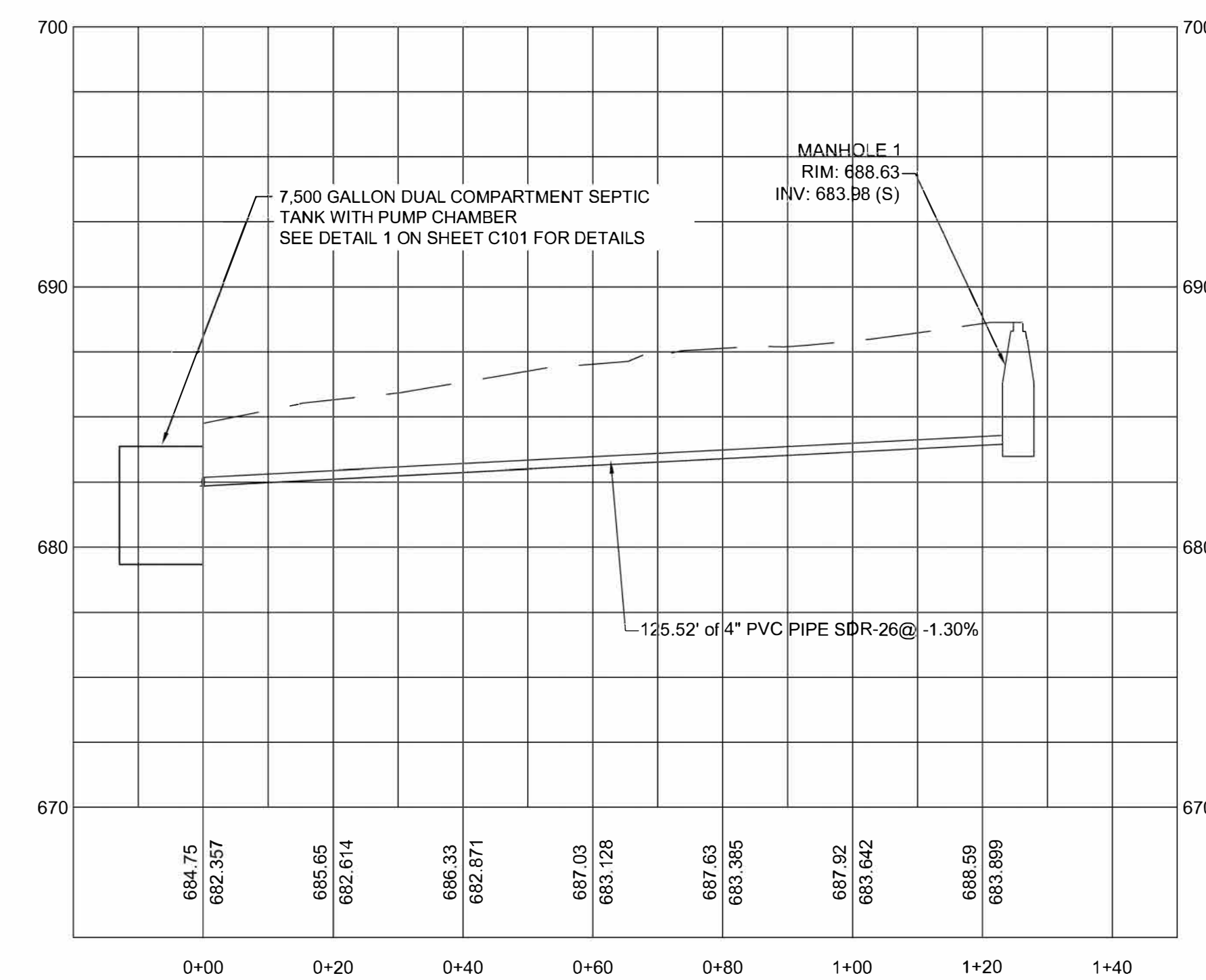
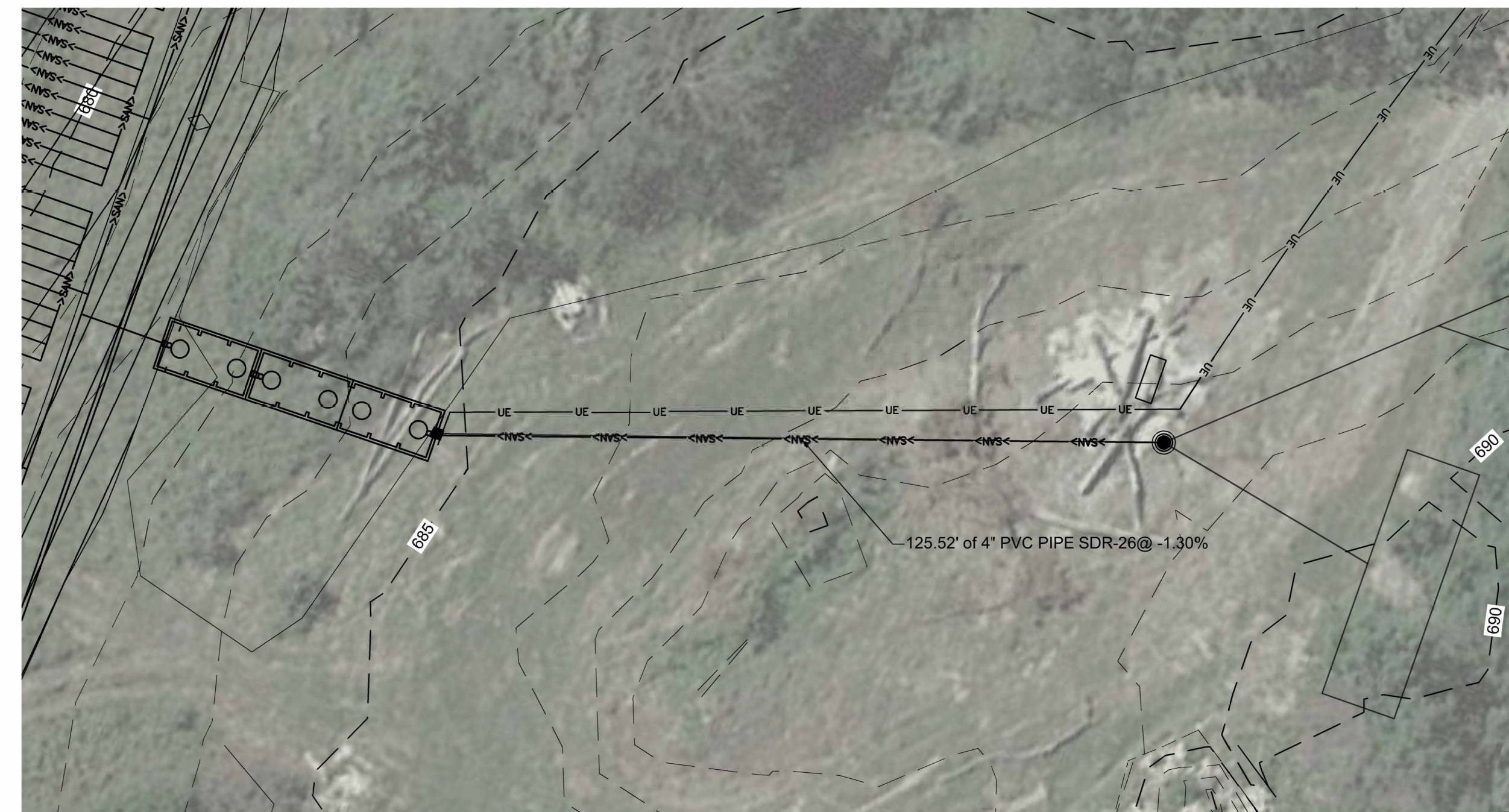
**GENERAL NOTES  
AND LEGENDS**

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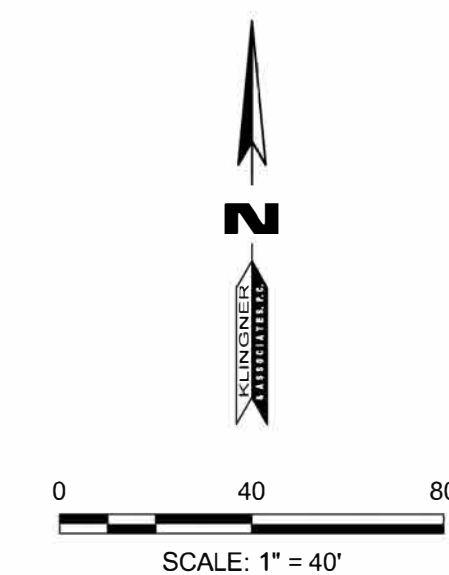
**G002**



**1 PROPOSED SITE LAYOUT- LPP**  
SCALE: 1"=40'



**2 SITE GRAVITY SEWER PLAN AND PROFILE**  
SCALE: 1"=40'



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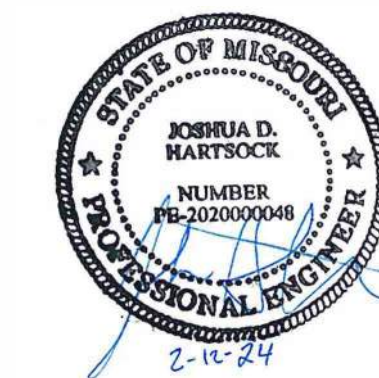
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ISSUE DATE: 02-12-2024

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DRAWING BY: JDH  
CHECKED BY: MCB/JJN  
DESIGNED BY: JDH/MCB/JJN

SHEET TITLE:  
**PROPOSED SITE  
LAYOUT &  
GRAVITY P&P**

SHEET NUMBER:

**C100**



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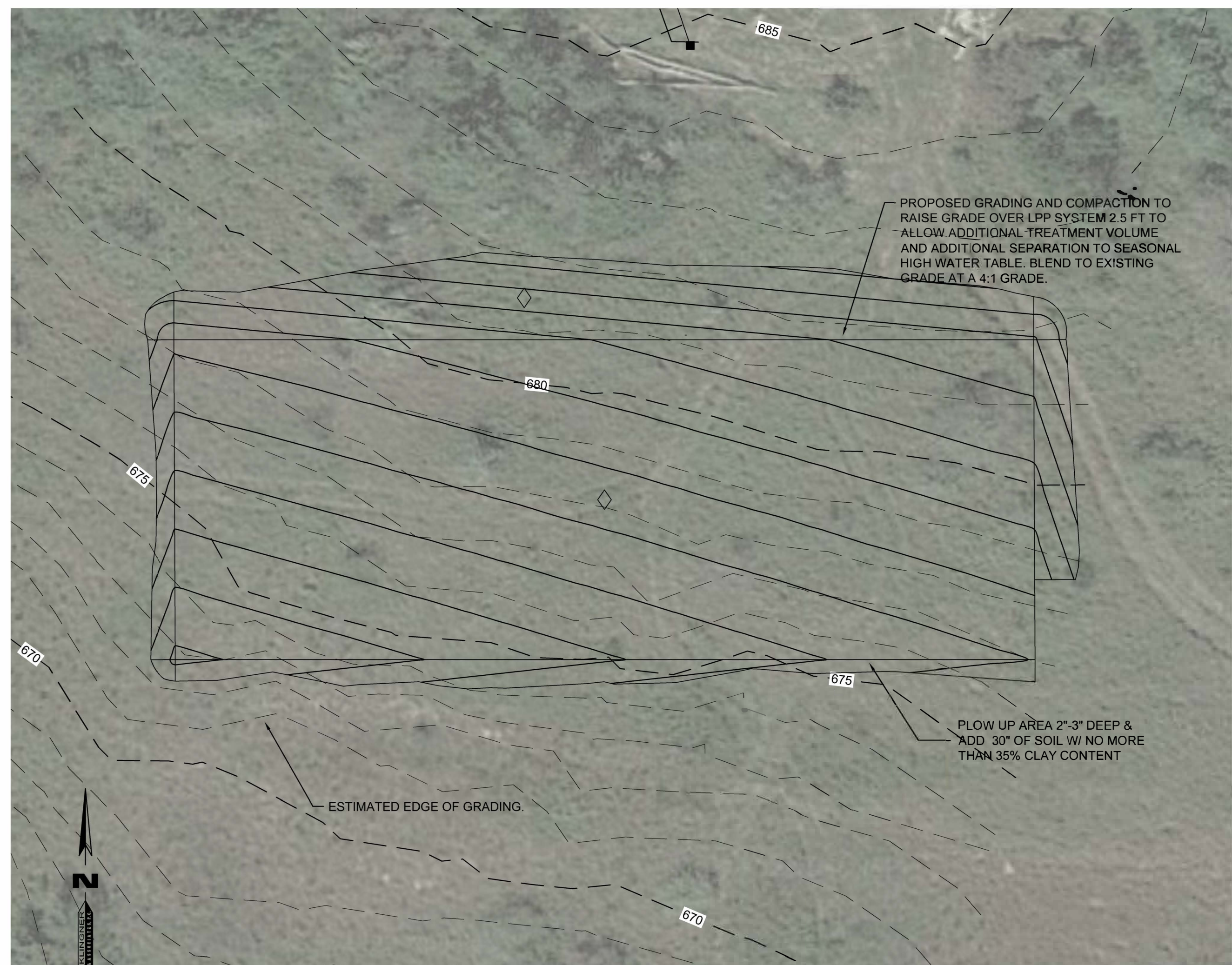
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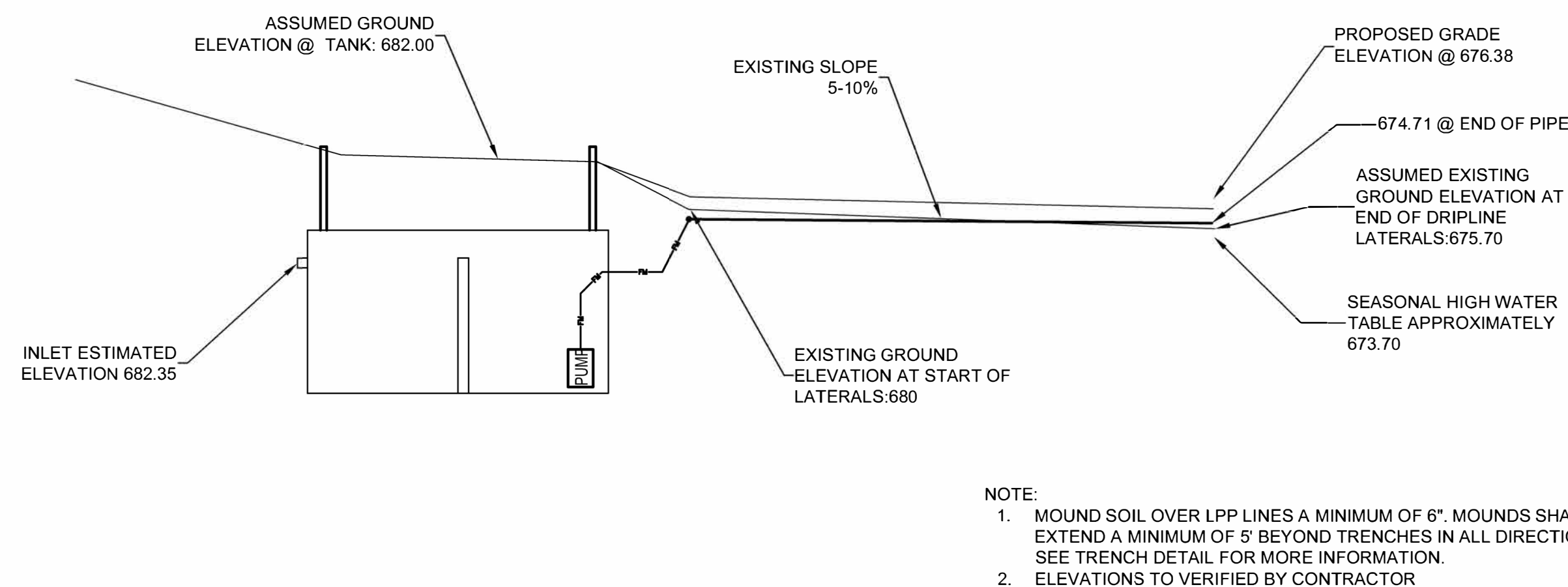
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**LPP DETAILS**

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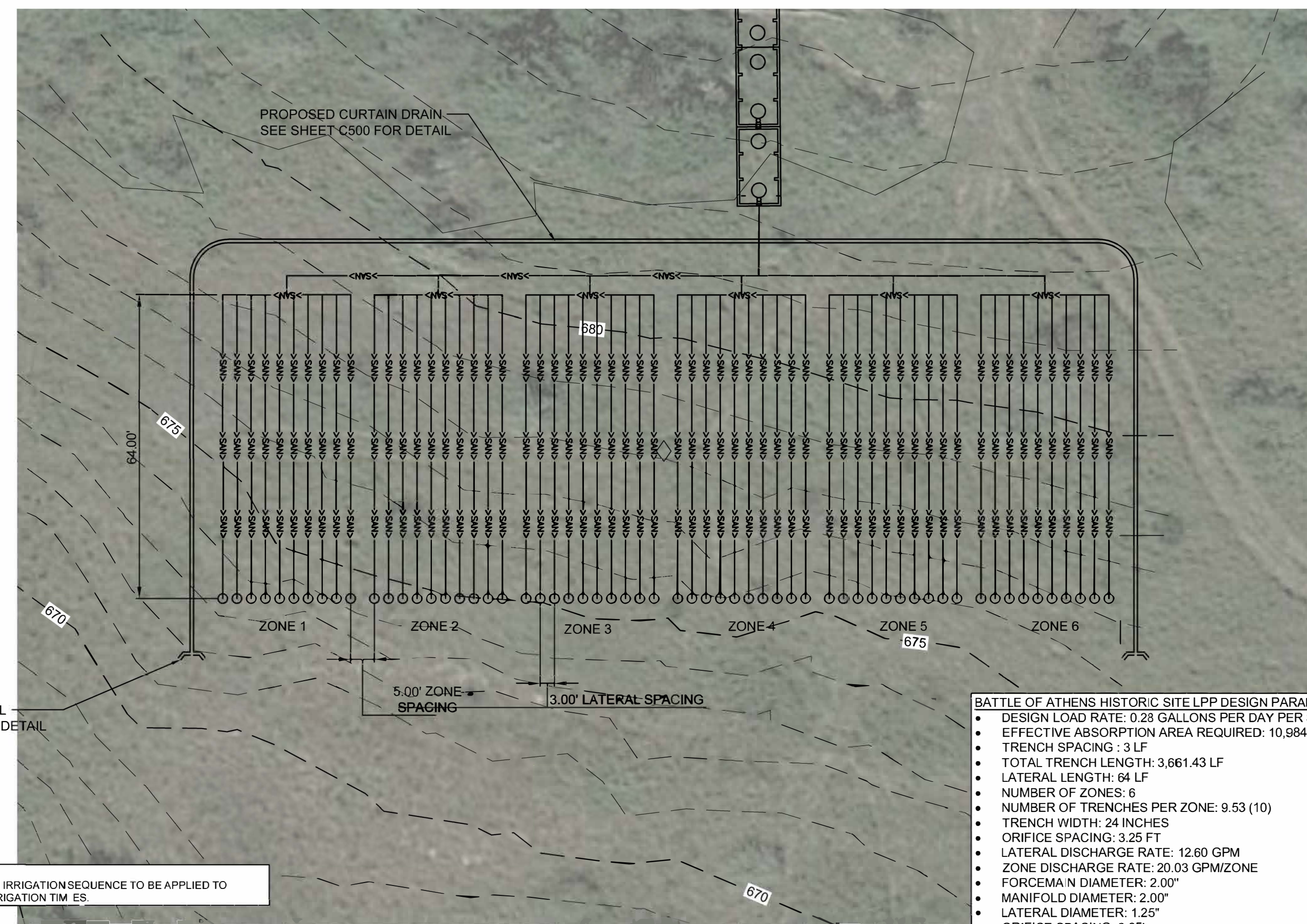
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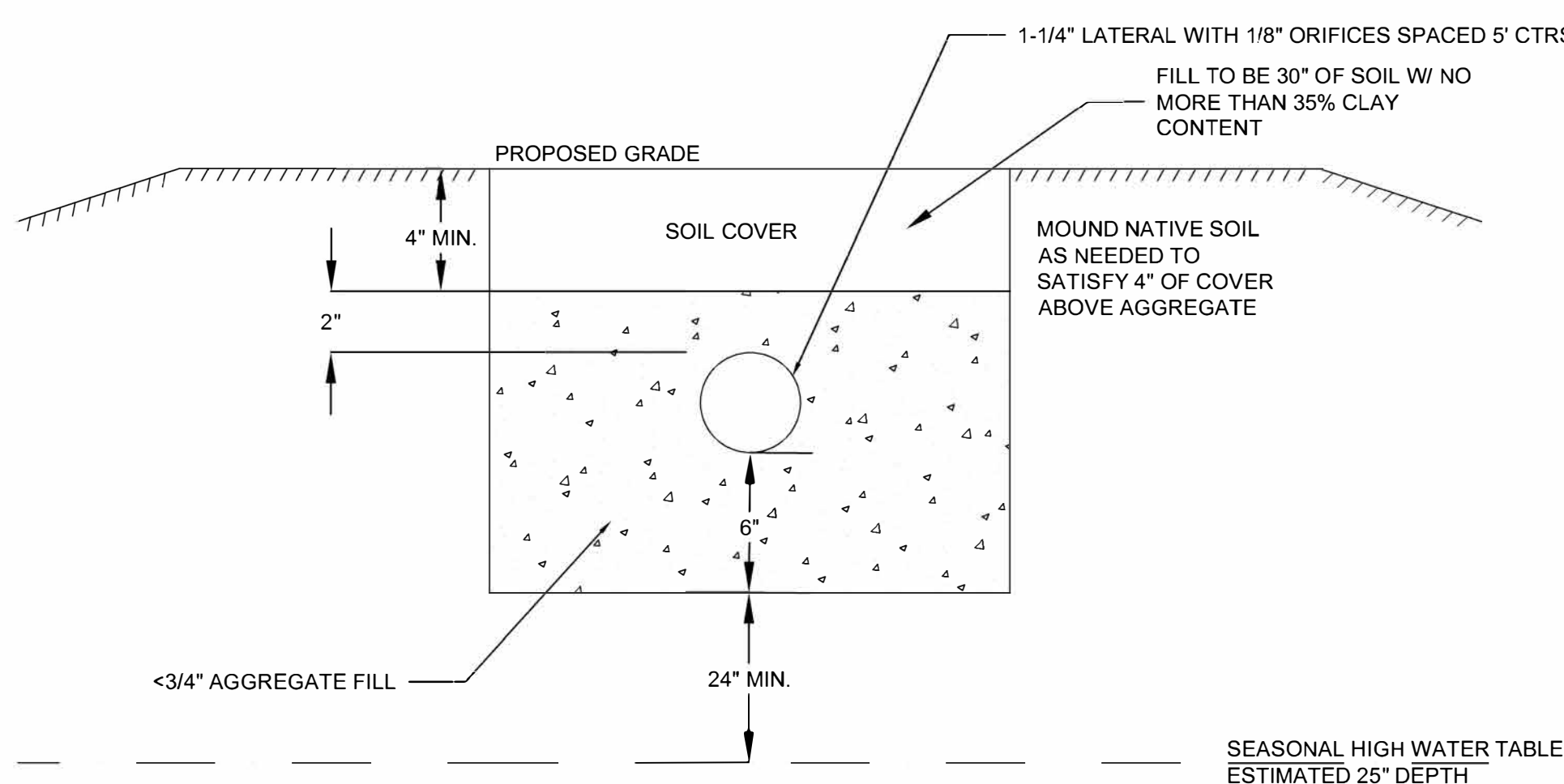
**1** LPP FIELD GRADING  
SCALE: NTS



**2** LPP HYDRAULIC PROFILE  
SCALE: NTS



**4** LPP FIELD LAYOUT  
SCALE: NTS



**3** TYPICAL TRENCH  
SCALE: NTS



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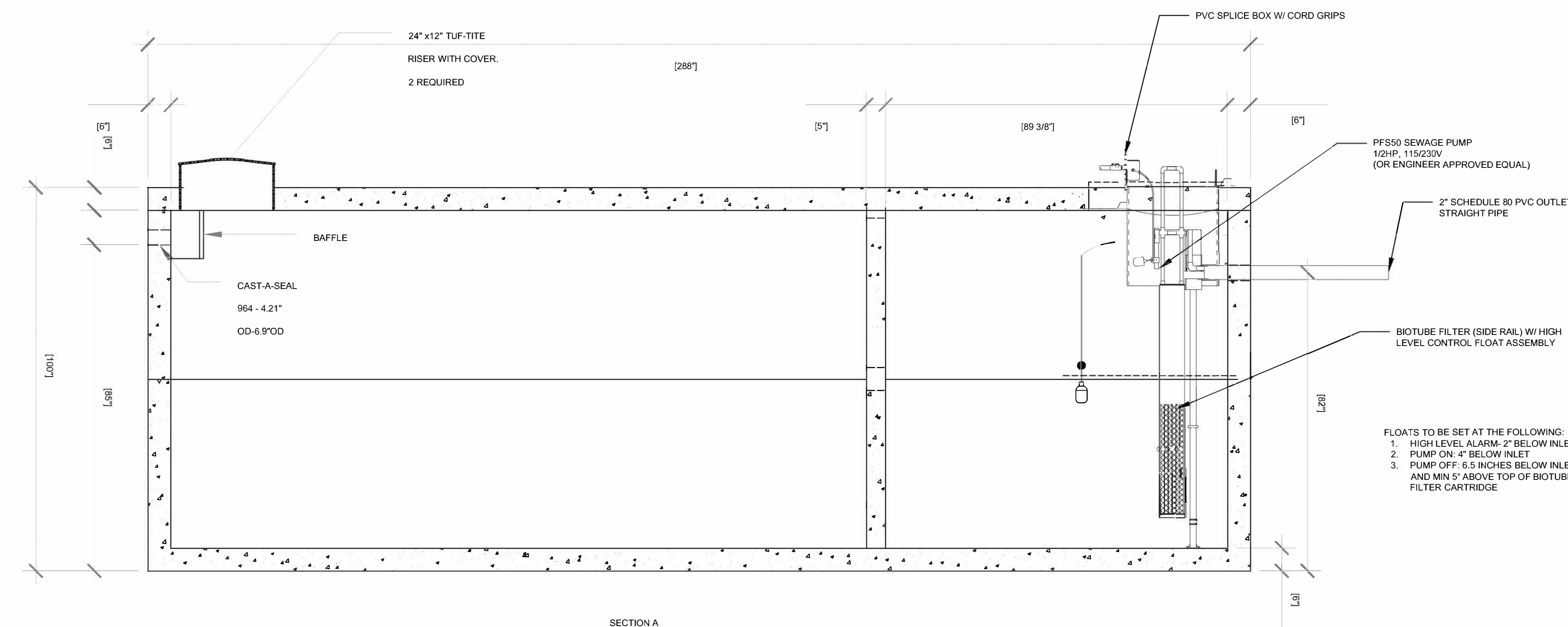
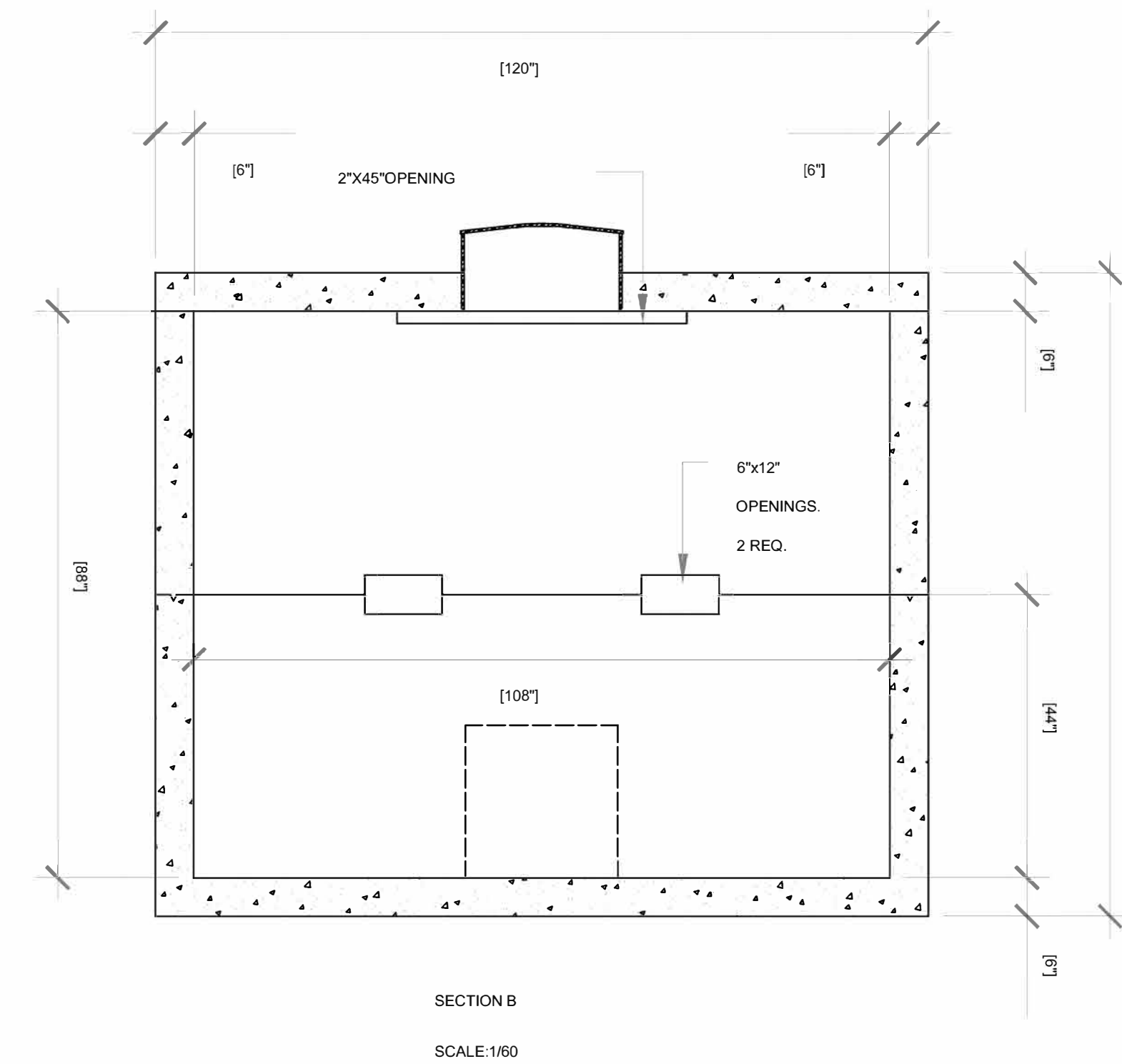
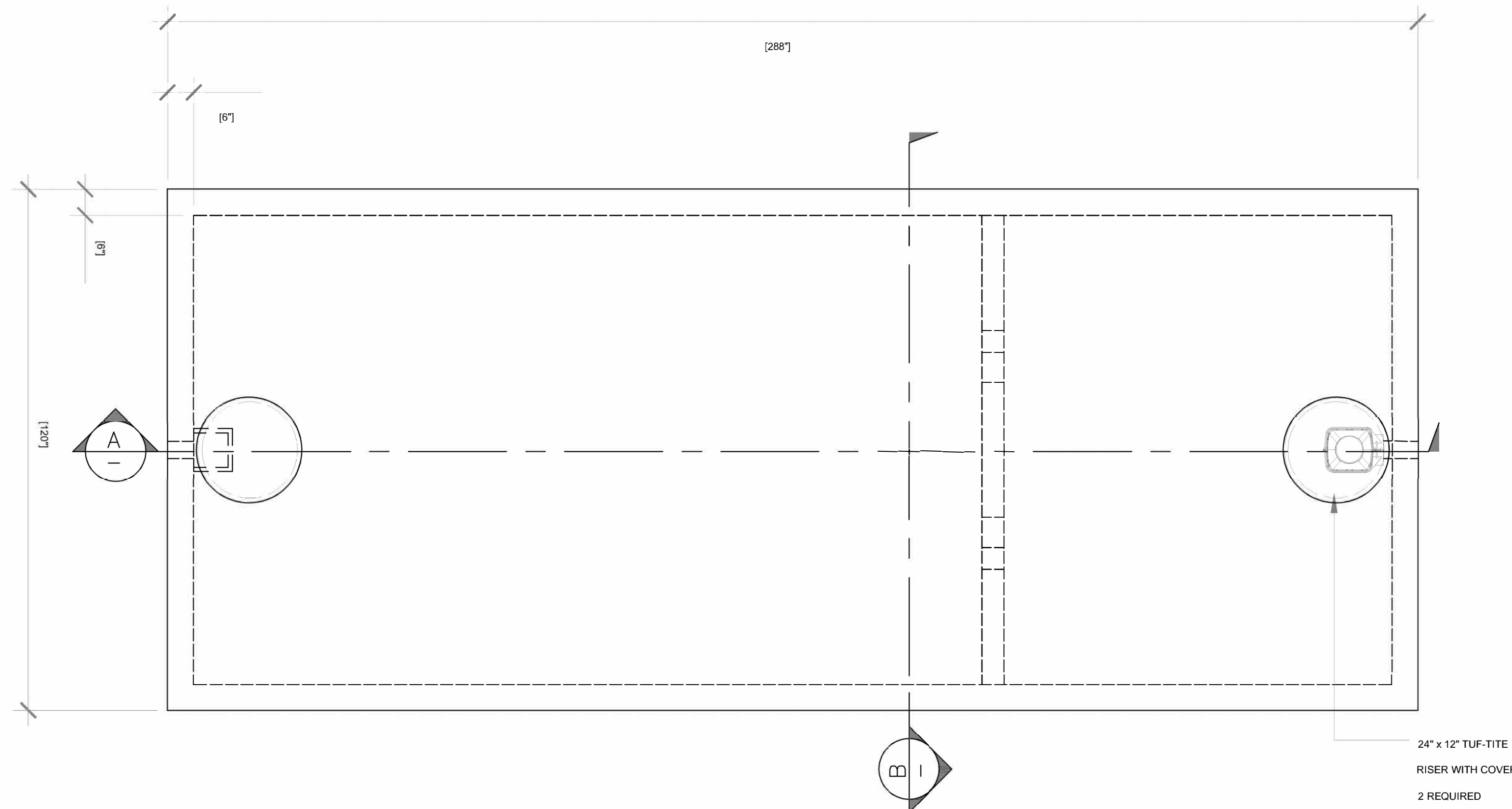
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CAD DWG FILE: \_\_\_\_\_  
DRAWING BY: JDH  
CHECKED BY: MCB/JJN  
DESIGNED BY: JDH/MCB/JJN

SHEET TITLE:  
**SEPTIC TANK  
DETAILS  
(7500 Gallon)**

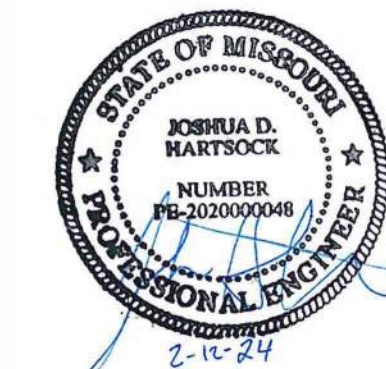
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**C102**



BATTLE OF ATHENS HISTORIC STATE PARK 7,500 GALLON DUAL COMPARTMENT SEPTIC TANK	
•	TANK PARAMETERS
••	VOLUME: 7,500 GALLON MIN
••	MATERIAL: HDPE (DOUBLE WALLED), CONCRETE, OR ENGINEER APPROVED EQUAL
••	LENGTH: 24'
••	WIDTH: 10'
••	HEIGHT: 100"
••	MANWAY ACCESS: 24" MIN
••	BURIAL DEPTH: 12" (FO, LOW MANUFACTURER RECOMMENDATIONS)
••	MAXIMUM BURIAL DEPTH: 30"
•	ANTI-FLOATATION: (CONTRACTOR TO FOLLOW MANUFACTURER'S RECOMMENDATIONS. THE FOLLOWING ARE ESTIMATES AND CONTRACTOR TO VERIFY OWN QUANTITIES FOR QUANTITY TAKEOFFS)
••	TOTAL ANCHORS: 4
••	ANCHOR WIDTH: 36"
••	ANCHOR LENGTH: 120"
••	ANCHOR HEIGHT: 18"
••	WEIGHT PER ANCHOR: 6,500.
•	MATERIAL SPECIFICATIONS
••	MINIMUM CONCRETE STRENGTH - 4,000 PSI
••	REINFORCEMENT - #4 REBAR IN TOP AND BOTTOM
••	WWF 6X6 W/ 1.4W1.4 IN WALLS CONSTRUCTION JOINT
••	SEALED WITH BUTYL RESIN SEALANT

**1** PROPOSED 7,500 GALLON DUAL TANK LAYOUT  
SCALE: 1"=NTS



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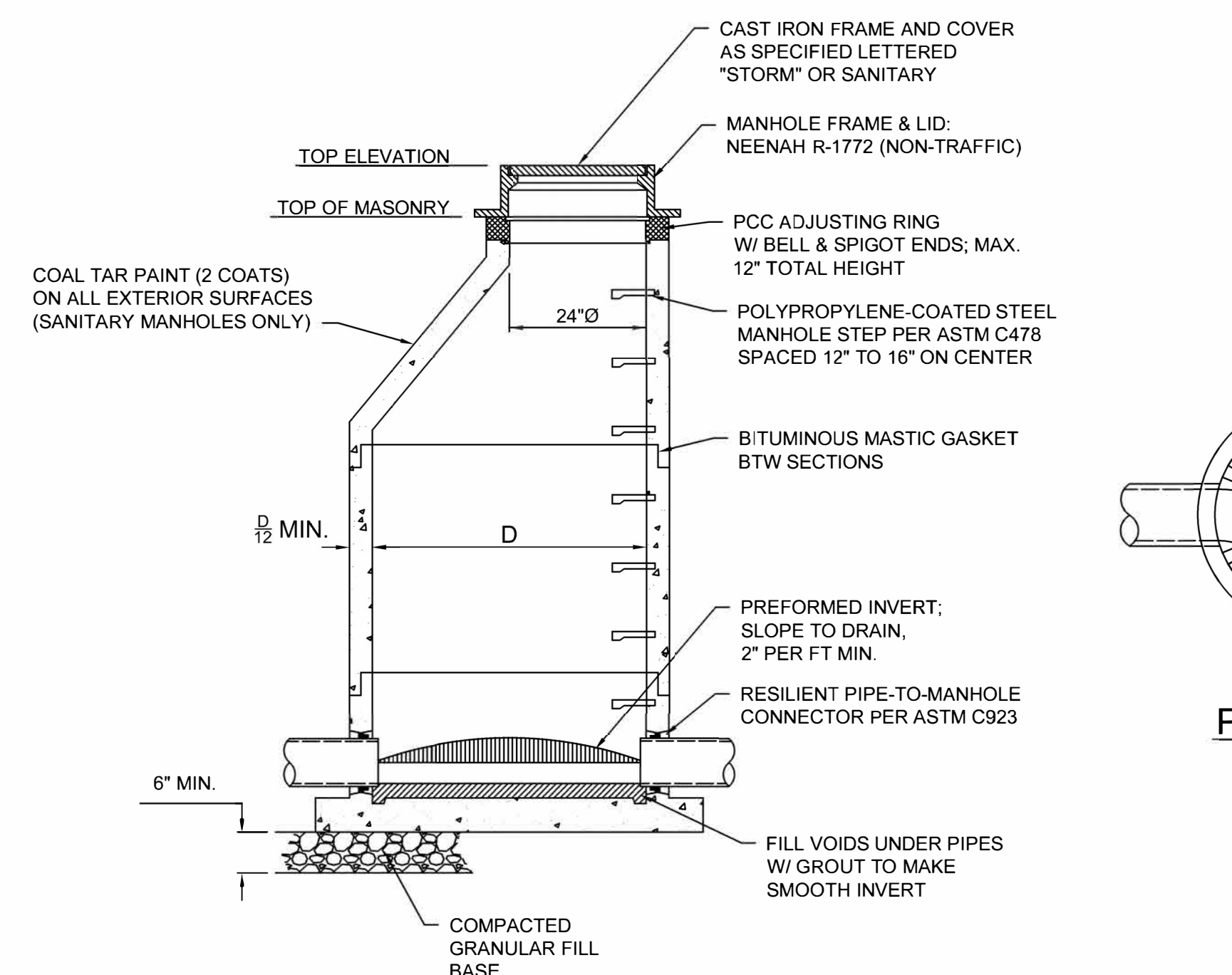
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REVISION: \_\_\_\_\_  
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ISSUE DATE: 02-12-2024

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DRAWING BY: JDH  
CHECKED BY: MCB/JJN  
DESIGNED BY: JDH/MCB/JJN

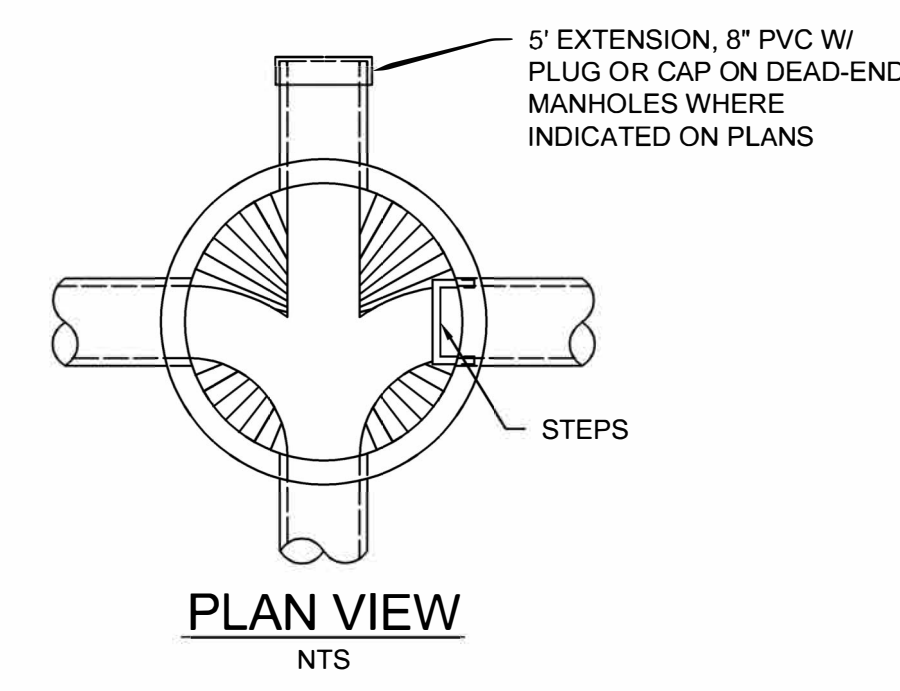
SHEET TITLE:  
**MISCELLANEOUS  
DETAILS**

SHEET NUMBER:

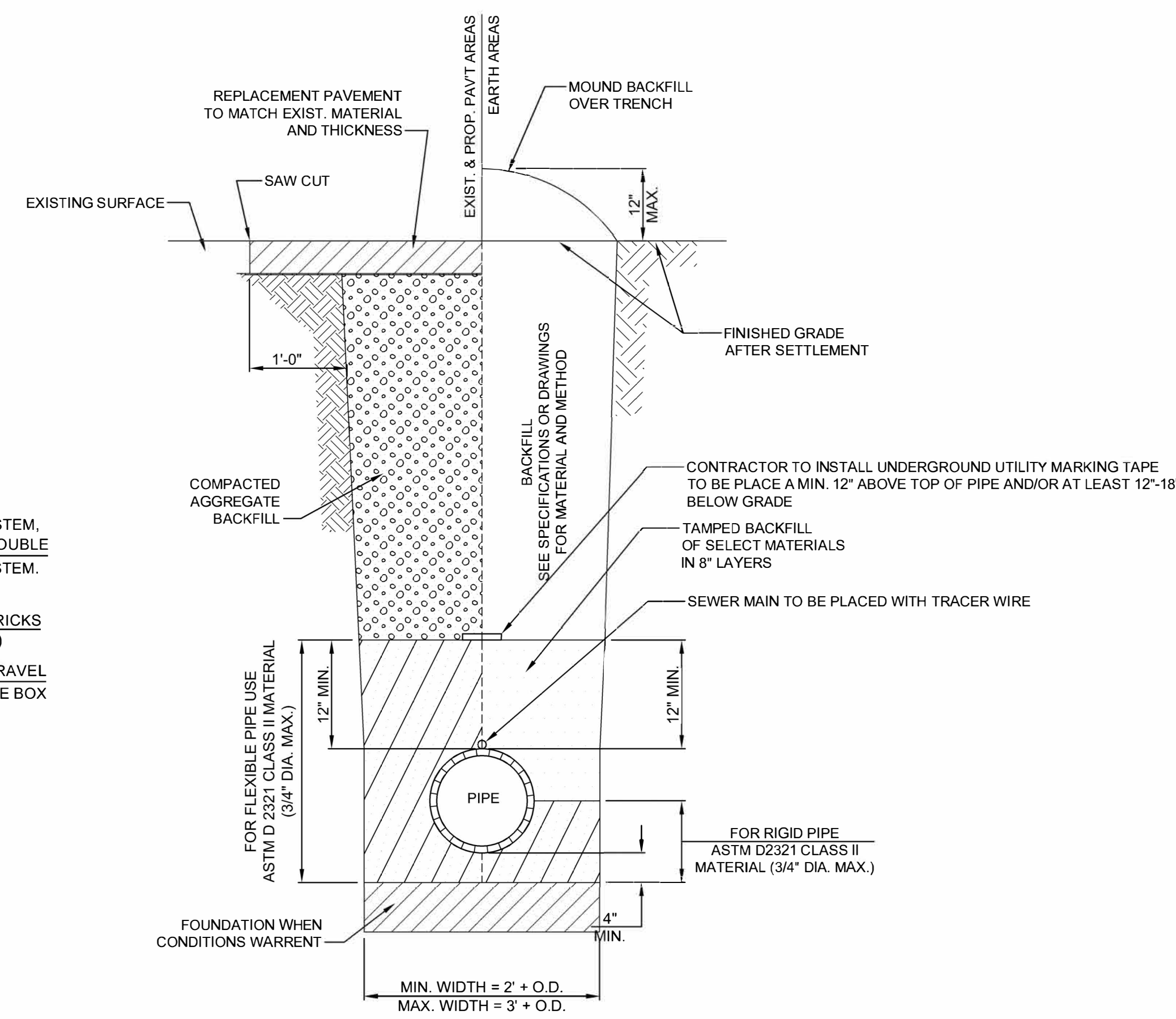
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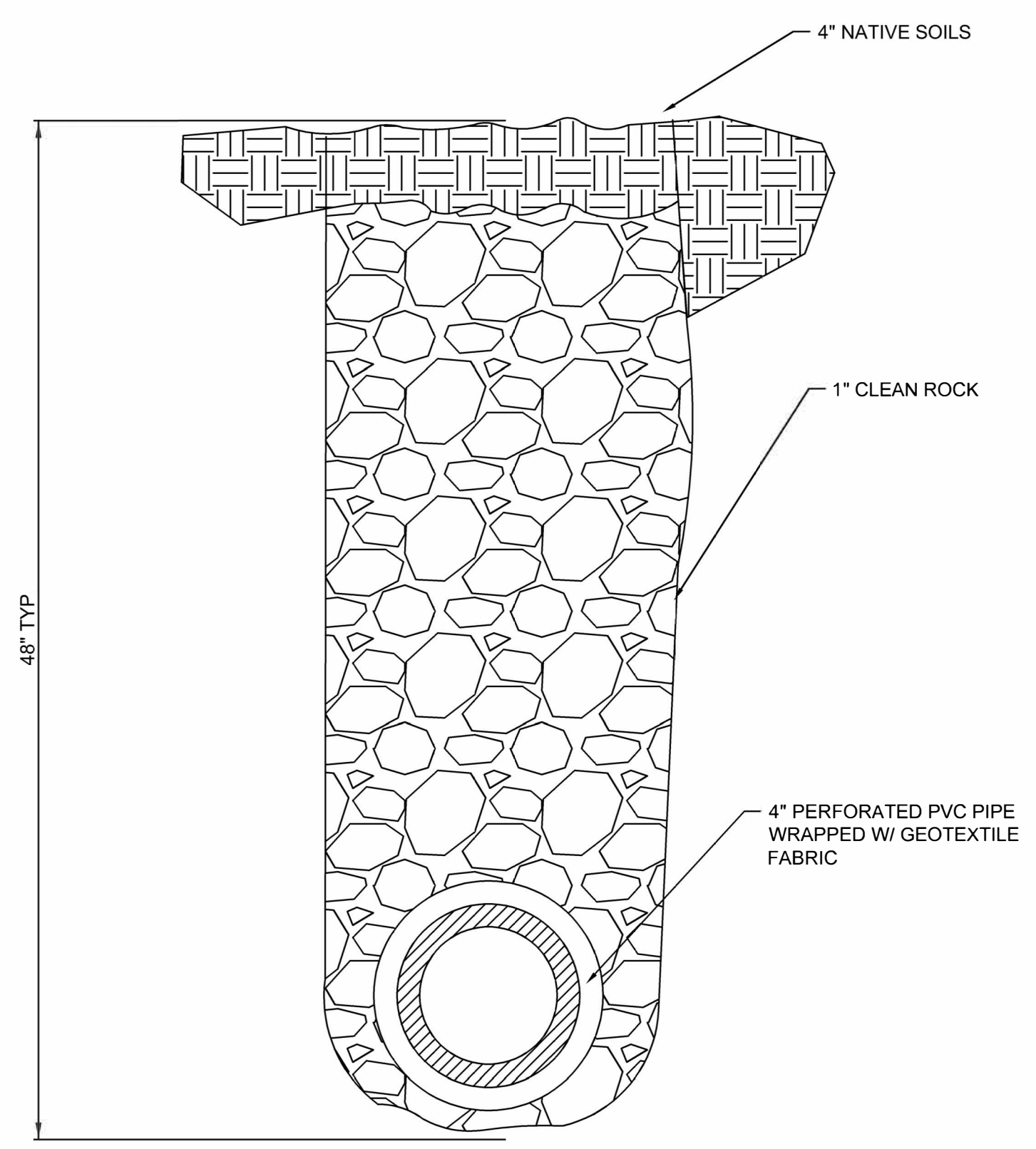
**1 STANDARD MANHOLE DETAIL**  
N.T.S.



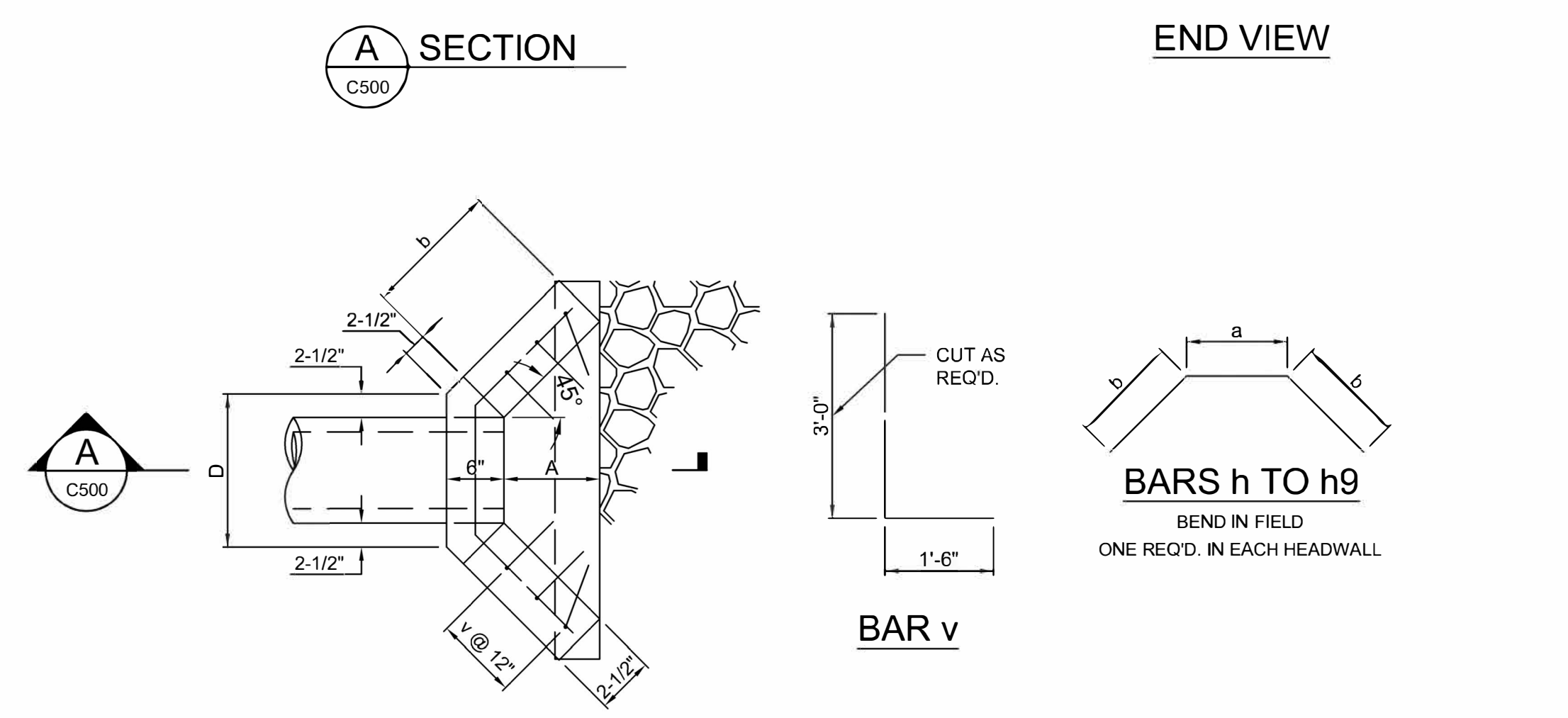
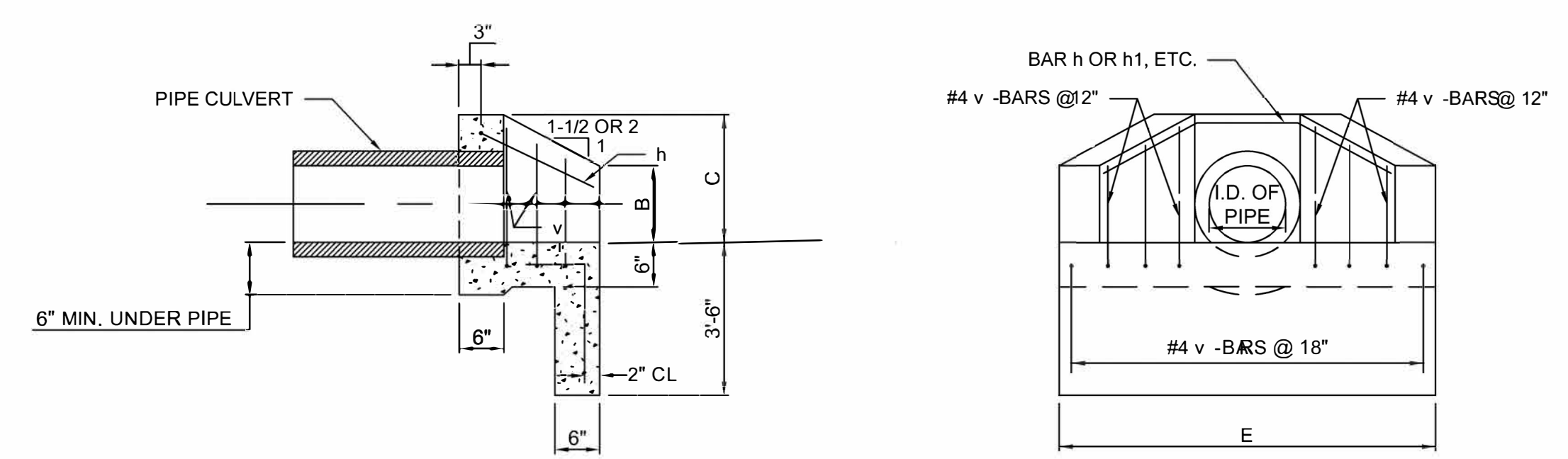
**2 VALVE SETTING**  
N.T.S.



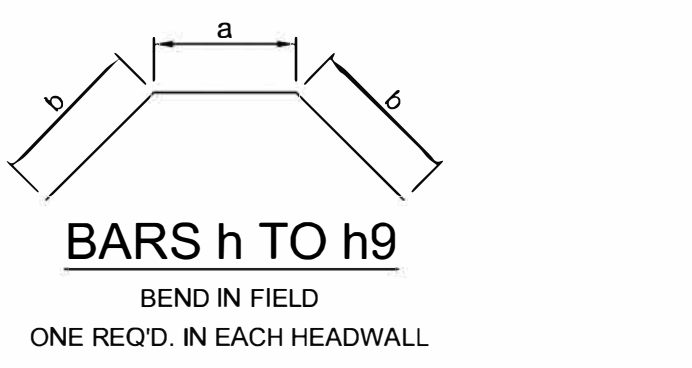
**3 SANITARY SEWER TRENCH DETAIL**  
N.T.S.

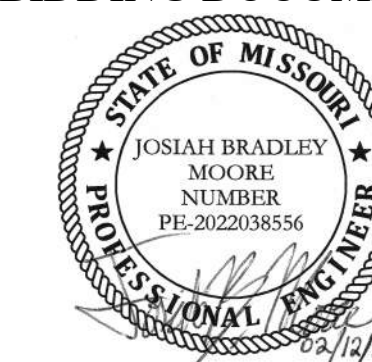


**4 TYPICAL CURTAIN DRAIN LAYOUT**  
SCALE: 1"=NTS



**5 HEADWALL STRUCTURE**  
NTS





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OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

SEWER SYSTEM

BATTLE OF ATHENS  
STATE HISTORIC SITE,  
12378 ATHENS STATE  
PARK ROAD  
REVERE, MO 63465

PROJECT # X2302-04  
SITE # 5103  
ASSET # 7815103025

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/12/2024

CAD DWG FILE: E501  
DRAWING BY: JBM  
CHECKED BY: JJN  
DESIGNED BY: JBM

SHEET TITLE:  
**ELECTRICAL  
DETAILS &  
SCHEDULES**

SHEET NUMBER:

**E501**

7 OF 8 SHEETS  
February 12, 2024

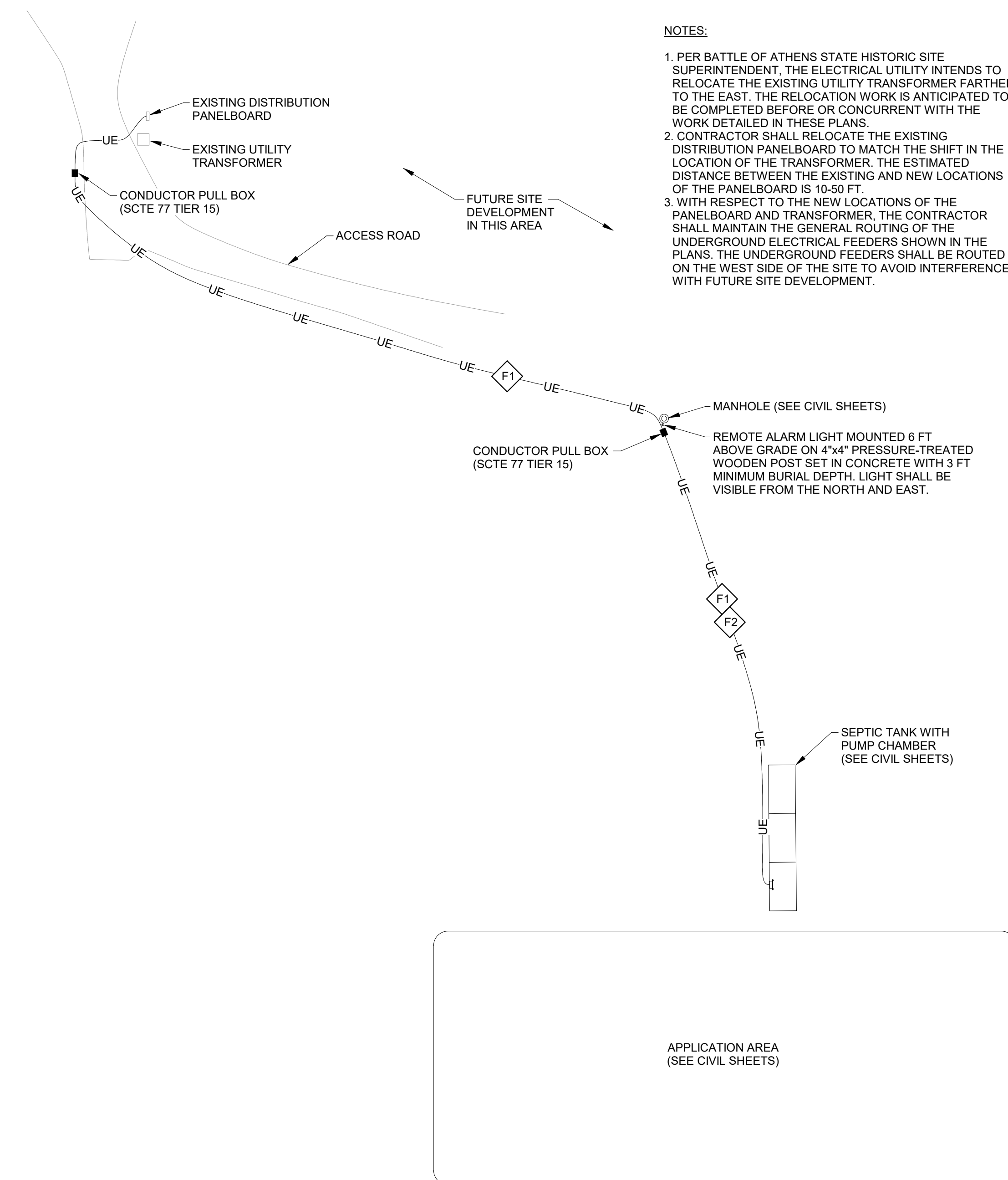
LIGHTING FIXTURE SCHEDULE													
TAG	DESCRIPTION	MOUNT	LENS	LAMP		OUTPUT	DRIVER CONTROL	VOLT	LOAD (W)	BASIS OF DESIGN			REMARKS
				TYPE	COLOR TEMP.					MAKE	MODEL	ACCESSORIES	
F1	EXTERIOR FLOOD LIGHT	TENON SLIP-FITTER	GLASS, IP66	LED	3,000 K	12,054	INTEGRAL PHOTOCELL	120	93	LITHONIA	DSXF2-LED-P3-30K-70CRI-WFL-MVOLT-IS-PE-DBBXD	SLIPFITTER FOR 2-3/8" O.D. TENON	SEE DRAWINGS FOR INSTALLATION DETAILS.
						10,122			85	LUMARK	NFFLD-C25-E-UNV-66-S-CB-PER		
										ENGINEER-APPROVED EQUAL			

FEEDER SCHEDULE (BATTLE OF ATHENS)					
FEEDER TAG	PARALLEL SETS	PHASE CONDUCTORS QUANTITY	CONDUCTOR SIZE	NEUTRAL SIZE	CONDUIT SIZE
F1	1	2	#6 AWG Cu	#6 AWG Cu	1"
F2	1	2	#10 AWG Cu	N/A	1"

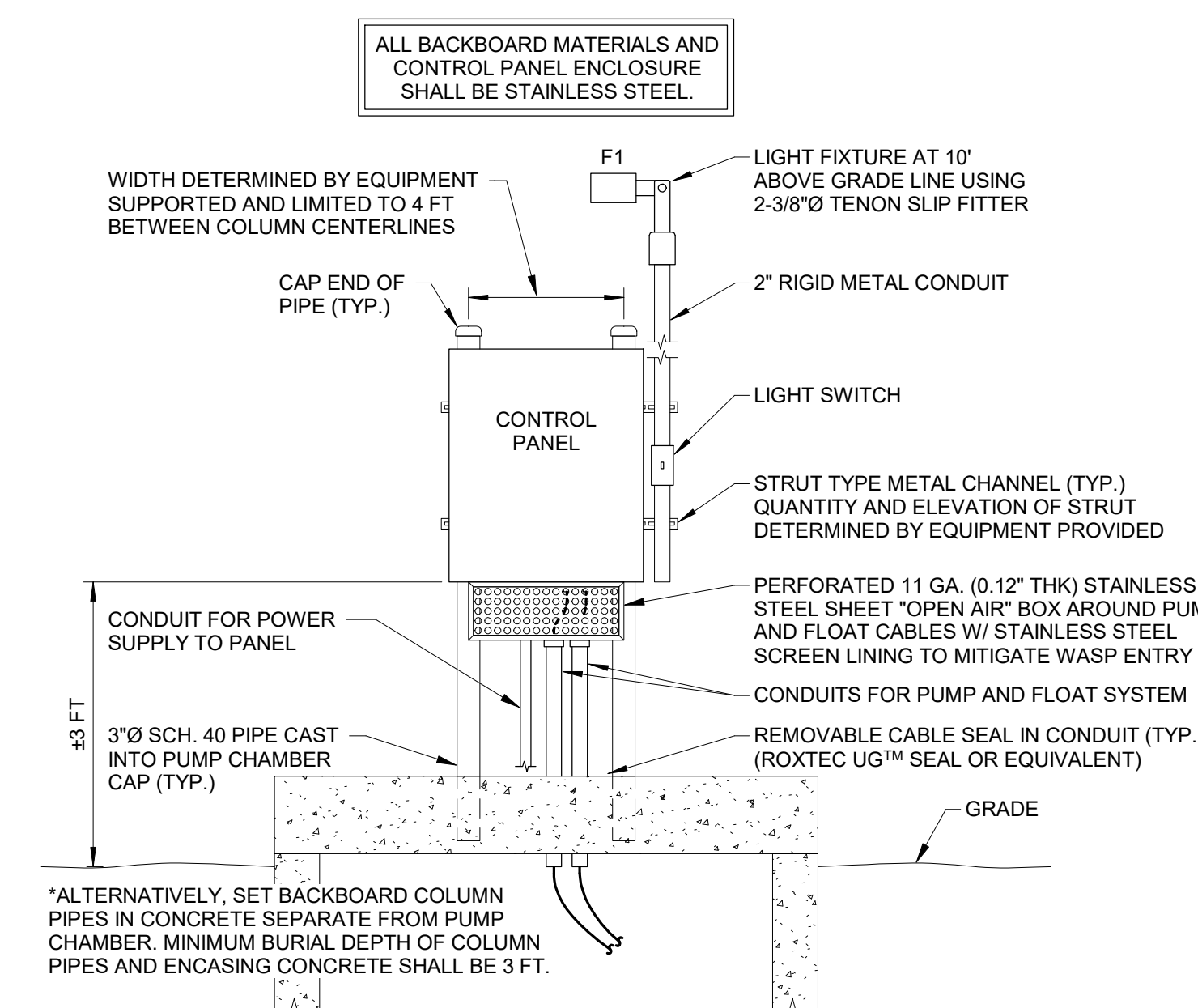
GEC SCHEDULE	
GEC TAG	GEC SIZE
G1	#4 AWG Cu
G2	#6 AWG Cu

**GENERAL ELECTRICAL NOTES:**

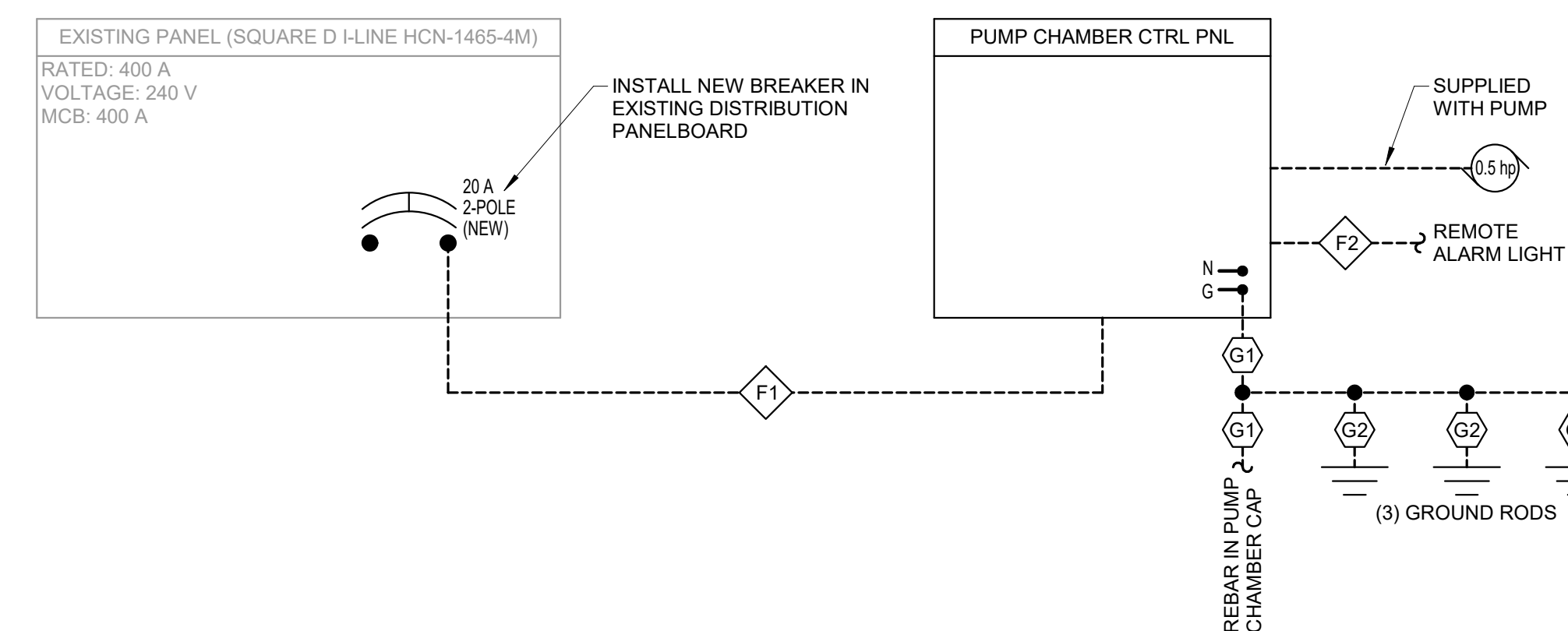
- APPLICABLE STANDARDS: NFPA-70 AND THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) OF 1971 AND ALL AMENDMENTS THERETO; EQUIPMENT, DEVICES, APPARATUS, SYSTEMS, AND INSTALLATIONS SHALL BE ENTIRELY SUITABLE AND SAFE FOR EACH INTENDED APPLICATION AND BE IN FULL COMPLIANCE WITH APPLICABLE STANDARDS, REQUIREMENTS, RULES, REGULATIONS, CODES, STATUTES, ORDINANCES, ETC., OF MUNICIPAL, COUNTY, AND STATE GOVERNMENTS, OWNER'S INSURANCE COMPANY, LOCAL UTILITIES, AND LABOR REGULATIONS. NOTHING CONTAINED IN THESE PLANS AND SPECIFICATIONS SHALL BE CONSTRUED TO CONFLICT WITH THESE LAWS, CODES, AND ORDINANCES.
- DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF SYSTEMS. INSTALL SYSTEMS AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ARRANGE FOR ALL INSPECTIONS REQUIRED BY LOCAL AUTHORITIES.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS, ACCESSORIES, TOOLS, EQUIPMENT, TRANSPORTATION, LABOR, SERVICES, AND OPERATIONS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM.
- CONTRACTOR SHALL PERFORM EXCAVATION REQUIRED TO INSTALL HIS WORK.
- COORDINATE INSTALLATION OF ELECTRICAL EQUIPMENT ON TOP OF WET WELL AND PUMP CHAMBER CONCRETE CAPS WITH LOCATION OF ACCESS HATCHES. DO NOT INSTALL ELECTRICAL EQUIPMENT DIRECTLY ABOVE ACCESS HATCHES.
- ELECTRICAL UTILITY PROVIDER: LEWIS COUNTY RURAL ELECTRIC COOPERATIVE.



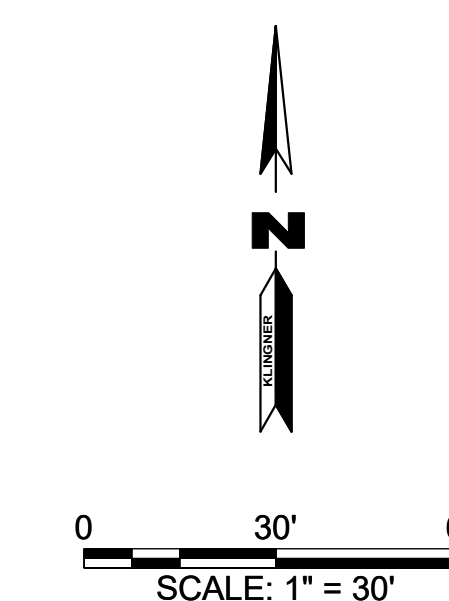
1 ELECTRICAL SITE PLAN  
1" = 30'-0"

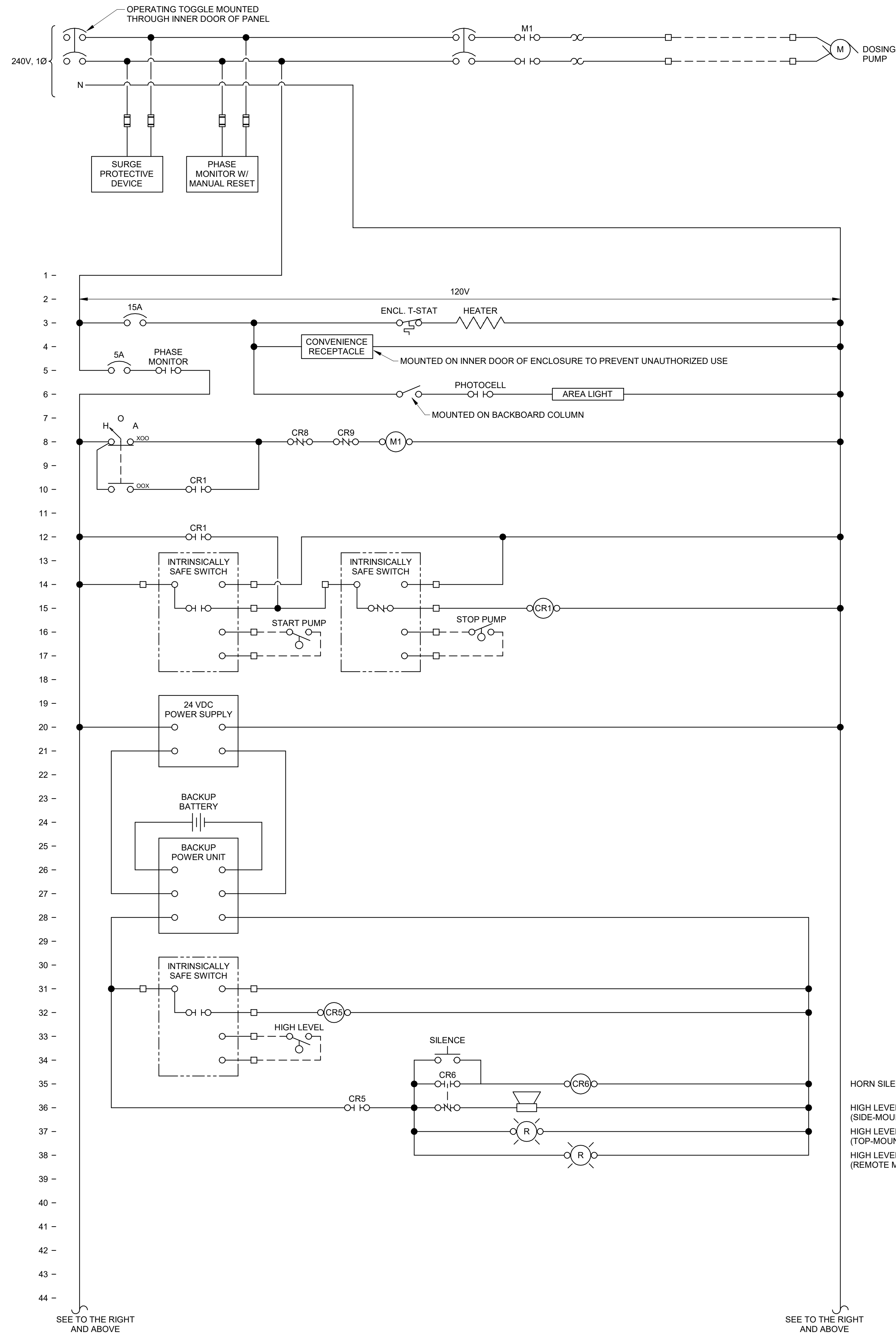


2 PUMP CONTROL PANEL ELEVATION  
NTS

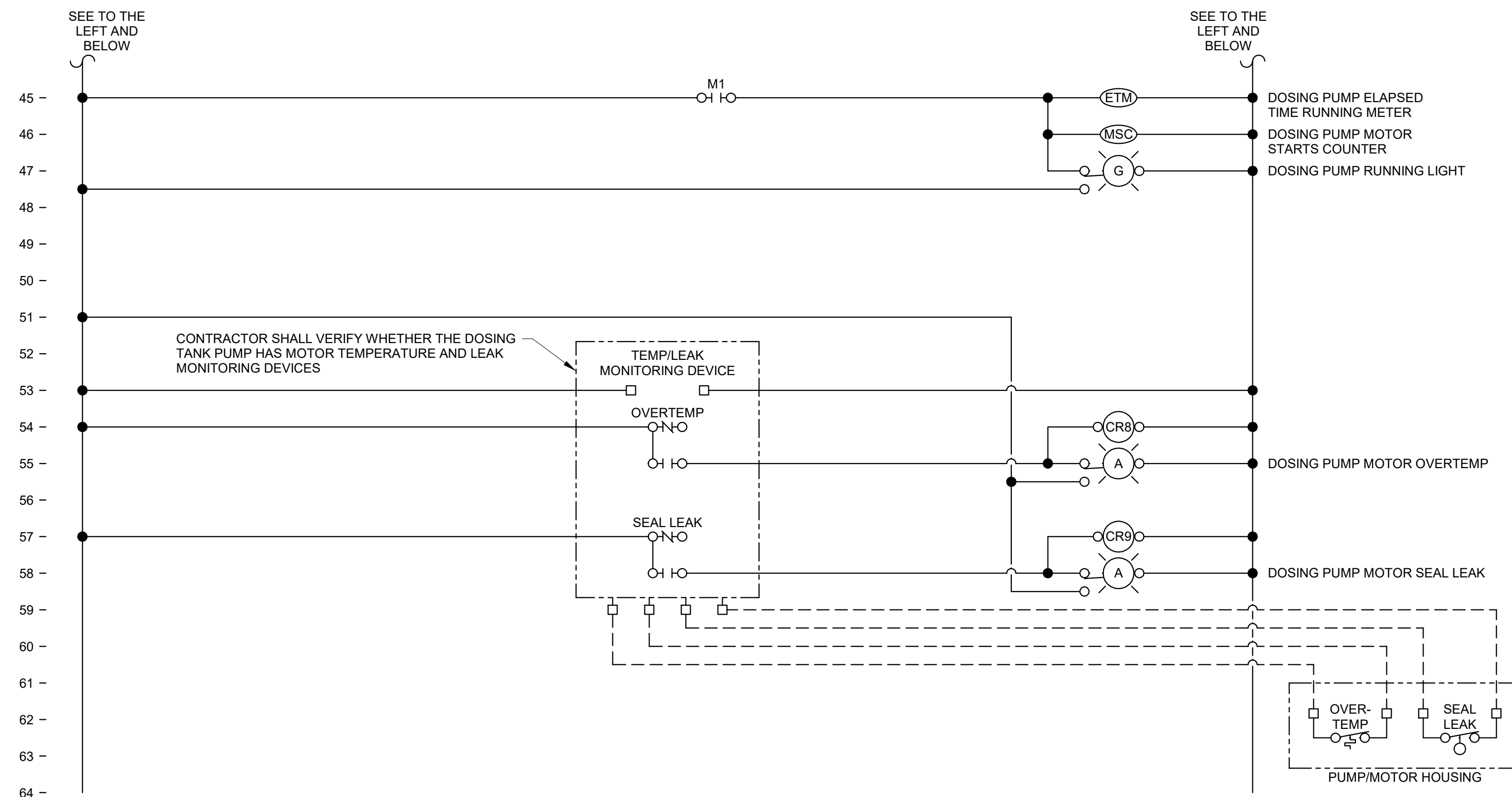


3 POWER ONE-LINE DIAGRAM  
NTS





1 PUMP CONTROL DIAGRAM  
NTS



- CONTROL SEQUENCE:**
- PUMP OPERATION SHALL BE PREVENTED WHENEVER THE PHASE MONITOR IS IN A FAULT CONDITION.
  - THE PUMP SHALL HAVE A DEDICATED HAND-OFF-AUTO (HOA) SWITCH.
  - WHEN OFF IS SELECTED ON THE HOA SWITCH, THE PUMP SHALL BE OFF.
  - WHEN MANUAL (HAND) IS SELECTED ON THE HOA SWITCH, THE PUMP SHALL RUN.
  - WHEN AUTO IS SELECTED ON THE HOA SWITCH, THE PUMP SHALL OPERATE AUTOMATICALLY ACCORDING TO THE WET WELL FLOAT ELEVATIONS:
    - THE WET WELL SHALL HAVE (3) FLOATS: STOP PUMP, START PUMP, AND HIGH LEVEL. FLOAT ELEVATIONS SHALL BE FINALIZED DURING CONSTRUCTION WITH OWNER INPUT.
    - WHEN THE LIQUID LEVEL IN THE WET WELL SURPASSES THE STOP PUMP AND START PUMP LEVELS, THE PUMP SHALL TURN ON AND CONTINUE OPERATING UNTIL THE LIQUID LEVEL FALLS BELOW THE STOP PUMP LEVEL.

STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR

BIDDING DOCUMENTS



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ISSUE DATE: 02/12/2024

CAD DWG FILE: E801  
DRAWING BY: JBM  
CHECKED BY: JJN  
DESIGNED BY: JBM

SHEET TITLE:  
**CTRL DIAGRAM –  
PUMP CHAMBER**

SHEET NUMBER:  
**E801**

8 OF 8 SHEETS  
February 12, 2024