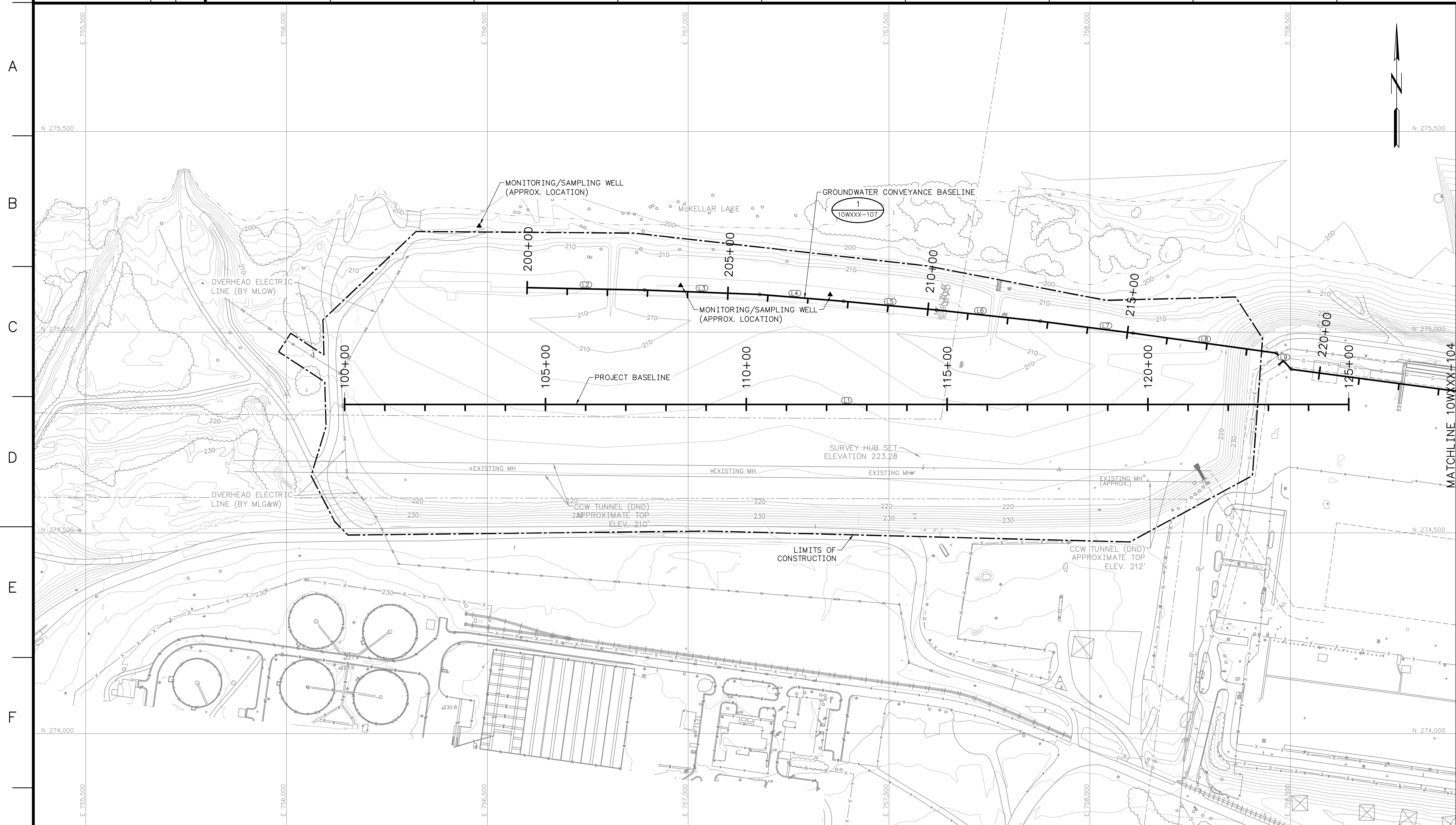


**APPENDIX E –  
DESIGN DRAWINGS**







**SURVEY CONTROL NOTE:**  
 A GLOBAL POSITIONING SYSTEM (GPS) BASE STATION HAS BEEN ESTABLISHED AND TRANSFORMATION PARAMETERS DETERMINED BY TVA USING SELECTED SURVEY CONTROL MONUMENTS. CONTACT WITH TVA SURVEYING DEPARTMENT (423)751-8416 OR (423)751-2571 SHALL BE MADE BEFORE ANY SURVEY OR CONSTRUCTION WORK IS COMMENCED. BASE STATION FREQUENCIES AND TRANSFORMATION PARAMETERS WILL BE PROVIDED TO THE CONTRACTOR FOR USE IN CONSTRUCTION ACTIVITIES AT THE SITE. PREVIOUSLY USED OR ESTABLISHED CONTROL POINTS AND MONUMENTS SHALL NOT BE USED BY THE CONTRACTOR WITHOUT PRIOR APPROVAL BY TVA SURVEYING DEPARTMENT.

**METADATA:**  
 HORIZONTAL PROJECTION: PLANT LOCAL GROUND  
 PLANT LOCAL GROUND COORDINATES ARE BASED ON THE TENNESSEE NAD 27 STATE PLANE COORDINATE SYSTEM, BUT REPRESENT LOCATIONS ON THE GROUND. THEY ARE NOT EQUIVALENT TO GRID POSITIONS.  
 HORIZONTAL DATUM: LOCAL  
 VERTICAL DATUM: NGVD 29  
 H&V ACCURACY: GPS RTK  
 UNITS: US SURVEY FEET (SFT)

**MAPPING SOURCE NOTE:**  
 SEE DRAWING 10WXXX-102 FOR MAPPING SOURCE INFORMATION.

**LEGEND**

PP#	POWER POLE (EXISTING)
SIGN	SIGN
TREE	TREE
POST	POST
TREE LINE	TREE LINE
EDGE OF WATER	EDGE OF WATER
FENCE LINE	FENCE LINE
600	INDEX CONTOUR
INTERMEDIATE CONTOUR	INTERMEDIATE CONTOUR
OHE	OVERHEAD ELECTRIC
EDGE OF ROAD	EDGE OF ROAD
+230.0	SPOT ELEVATION
-232	PROPOSED INDEX CONTOUR
PROPOSED INTERMEDIATE CONTOUR	PROPOSED INTERMEDIATE CONTOUR
LIMITS OF SUBGRADE	LIMITS OF SUBGRADE
BASILINE	BASILINE
LIMITS OF CONSTRUCTION	LIMITS OF CONSTRUCTION
POWER POLE (PROPOSED)	POWER POLE (PROPOSED)
GRAVEL ROAD	GRAVEL ROAD
RIPRAP	RIPRAP
ASPHALT	ASPHALT

**30% SUBMITTAL  
 ISSUED FOR REVIEW  
 NOT FOR CONSTRUCTION**

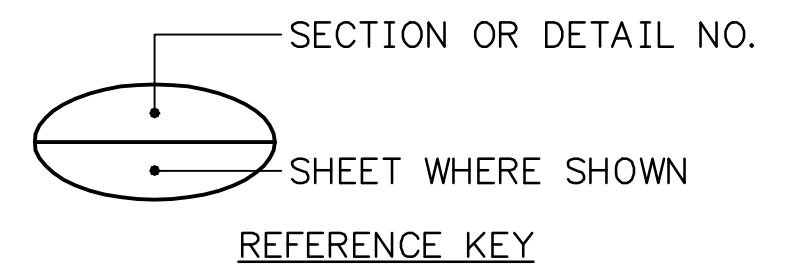
**GROUNDWATER CONVEYANCE BASELINE TABLE OF COORDINATES**

NUMBER	BEGIN STATION	NORTHING	EASTING	LENGTH	BEARING	END STATION	NORTHING	EASTING
L2	200+00.00	275,110.83	756,598.93	292.19'	S88°49'11"E	202+92.19	275,104.81	756,891.06
L3	202+92.19	275,104.81	756,891.06	286.67'	S87°50'51"E	205+78.86	275,094.04	757,177.53
L4	205+78.86	275,094.04	757,177.53	209.75'	S85°19'05"E	207+88.61	275,076.92	757,386.58
L5	207+88.61	275,076.92	757,386.58	233.05'	S84°41'03"E	210+21.66	275,055.33	757,618.62
L6	210+21.66	275,055.33	757,618.62	259.33'	S83°45'20"E	212+80.98	275,027.12	757,876.41
L7	212+80.98	275,027.12	757,876.41	232.73'	S82°43'13"E	215+13.71	274,997.63	758,107.27
L8	215+13.71	274,997.63	758,107.27	360.64'	S82°05'25"E	218+74.35	274,948.00	758,464.47
L9	218+74.35	274,948.00	758,464.47	54.60'	S42°06'24"E	219+28.95	274,907.50	758,501.08
L11	227+86.73	274,813.62	759,353.45	709.55'	S81°23'25"E	234+96.28	274,707.40	760,055.01
L12	234+96.28	274,707.40	760,055.01	259.87'	S80°02'21"E	237+56.15	274,662.45	760,310.96
L13	237+56.15	274,662.45	760,310.96	171.00'	S77°31'58"E	239+27.15	274,625.53	760,477.92
L14	239+27.15	274,625.53	760,477.92	177.73'	S82°28'09"E	241+04.88	274,602.24	760,654.12

**PROJECT BASELINE TABLE OF COORDINATES**

NUMBER	BEGIN STATION	NORTHING	EASTING	LENGTH	BEARING	END STATION	NORTHING	EASTING
L1	100+00.00	274,820.03	756,144.63	2500.00'	S90°00'00"E	125+00.00	274,820.03	758,644.63

GRAPHIC SCALE: 1" = 100'  
 CONTOUR INTERVAL = 2 FEET



SEE 10WXXX-102 FOR LIST OF DESIGN, COMPANION, REFERENCE DRAWINGS AND SUPPORTING DESIGN CALCULATIONS NUMBER.

**Stantec**  
 401 Grassmere Park Road, Suite 22  
 Nashville, Tennessee 37211  
 www.stantec.com

DESIGNED BY: Z.PARKSE	DRAWN BY: B.SHELTON	CHECKED BY: C.PENNINGTON	SUPERVISED BY: B.TOTH	REVIEWED BY:	APPROVED BY:	ISSUED BY:
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**ALLEN FOSSIL PLANT  
 TENNESSEE VALLEY AUTHORITY  
 FOSSIL AND HYDRO ENGINEERING**

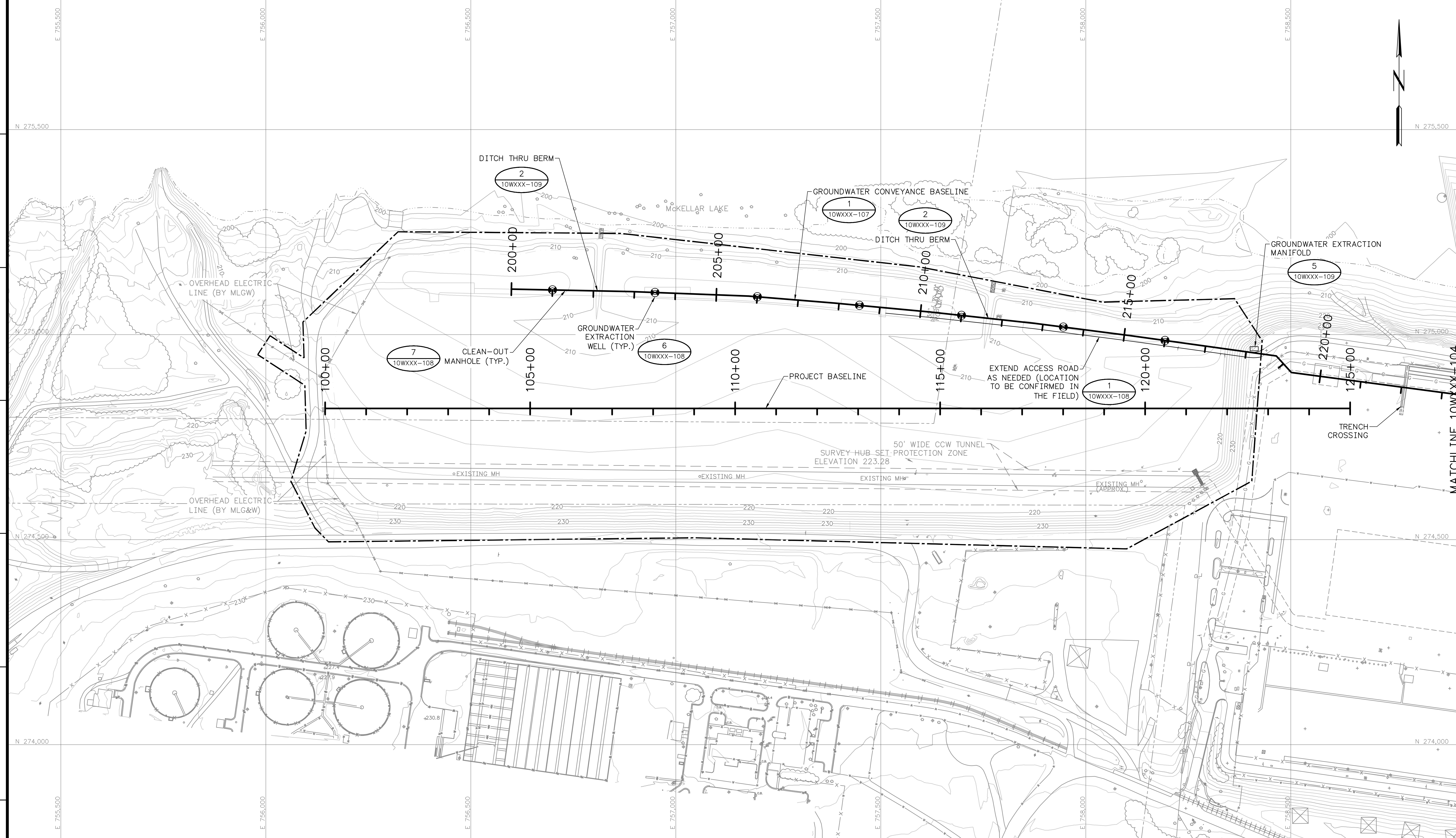
AUTOCAD R DATE 38 C 10WXXX-103 R A

PLOT FACTOR: 1 W\_TVA C.A.D. DRAWING DO NOT ALTER MANUALLY

PLOT DATE: 08/07/2024 USER: PARKSE, ZIDNEY  
 \\s2222-ppfss01\cadd\projects\10wxxx\10wxxx-103-104.dwg SHEET: 10WXXX-103



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**SURVEY CONTROL NOTE:**  
 A GLOBAL POSITIONING SYSTEM (GPS) BASE STATION HAS BEEN ESTABLISHED AND TRANSFORMATION PARAMETERS DETERMINED BY TVA USING SELECTED SURVEY CONTROL MONUMENTS. CONTACT WITH TVA SURVEYING DEPARTMENT (423)751-8416 OR (423)751-2571 SHALL BE MADE BEFORE ANY SURVEY OR CONSTRUCTION WORK IS COMMENCED. BASE STATION FREQUENCIES AND TRANSFORMATION PARAMETERS WILL BE PROVIDED TO THE CONTRACTOR FOR USE IN CONSTRUCTION ACTIVITIES AT THE SITE. PREVIOUSLY USED OR ESTABLISHED CONTROL POINTS AND MONUMENTS SHALL NOT BE USED BY THE CONTRACTOR WITHOUT PRIOR APPROVAL BY TVA SURVEYING DEPARTMENT.

**METADATA:**  
 HORIZONTAL PROJECTION: PLANT LOCAL GROUND  
 PLANT LOCAL GROUND COORDINATES ARE BASED ON THE TENNESSEE NAD 27 STATE PLANE COORDINATE SYSTEM, BUT REPRESENT LOCATIONS ON THE GROUND. THEY ARE NOT EQUIVALENT TO GRID POSITIONS.  
 HORIZONTAL DATUM: LOCAL  
 VERTICAL DATUM: NGVD 29  
 H&V ACCURACY: GPS RTK  
 UNITS: US SURVEY FEET (SFT)

**MAPPING SOURCE NOTE:**  
 SEE DRAWING 10WXXX-102 FOR MAPPING SOURCE INFORMATION.

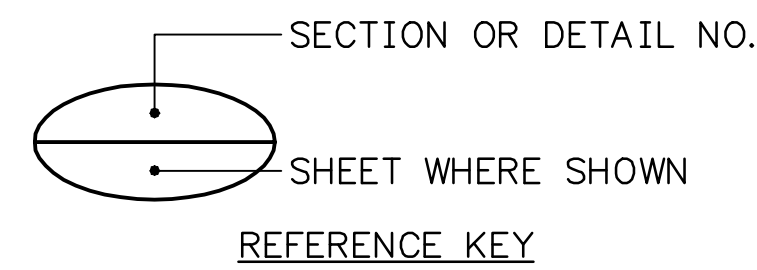
**NOTE:**  
 THIS DRAWING DEPICTS EXISTING CONDITIONS FOLLOWING COMPLETION OF THE FINAL GRADING PLAN FOR THE WEST ASH POND CLOSURE PLAN (SEE DRAWING SERIES 10W274). AS-BUILT CONDITIONS MAY VARY FROM THE DESIGN CONDITIONS SHOWN

- LEGEND**
- PP# POWER POLE (EXISTING)
  - SIGN SIGN
  - TREE TREE
  - POST POST
  - TREE LINE
  - - - EDGE OF WATER
  - X - X - FENCE LINE
  - 600 INDEX CONTOUR
  - - - INTERMEDIATE CONTOUR
  - - - OVERHEAD ELECTRIC
  - - - EDGE OF ROAD
  - +230.0 SPOT ELEVATION
  - 232 PROPOSED INDEX CONTOUR
  - - - PROPOSED INTERMEDIATE CONTOUR
  - - - LIMITS OF SUBGRADE
  - - - BASELINE
  - - - LIMITS OF CONSTRUCTION
  - POWER POLE (PROPOSED)
  - GRAVEL ROAD
  - RIPRAP
  - ASPHALT
  - ⊙ GROUNDWATER EXTRACTION WELL

**30% SUBMITTAL  
 ISSUED FOR REVIEW  
 NOT FOR CONSTRUCTION**

SUBMERSIBLE GROUNDWATER PUMP TABLE				
PUMP	NORTHING	EASTING	DEPTH OF PUMP (FEET)	PUMP TYPE
EW-W01	275,108.77	756,698.91	140.24	SUBMERSIBLE
EW-W02	275,102.64	756,948.83	140.28	SUBMERSIBLE
EW-W03	275,092.32	757,198.60	140.32	SUBMERSIBLE
EW-W04	275,071.23	757,447.71	140.39	SUBMERSIBLE
EW-W05	275,046.81	757,696.50	139.78	SUBMERSIBLE
EW-W06	275,018.38	757,944.87	139.95	SUBMERSIBLE
EW-W07	274,985.76	758,192.73	139.95	SUBMERSIBLE

50 0 100 200 FEET  
 GRAPHIC SCALE: 1" = 100'  
 CONTOUR INTERVAL = 2 FEET



SCALE: 1"=100' EXCEPT AS NOTED

YARD  
 WEST ASH DISPOSAL AREA  
 CARA PLAN  
 GROUNDWATER EXTRACTION PLAN 1

SEE 10WXXX-102 FOR LIST OF DESIGN, COMPANION, REFERENCE DRAWINGS AND SUPPORTING DESIGN CALCULATIONS NUMBER.

DESIGNED BY: Z.PARISE	DRAWN BY: B.SHELTON	CHECKED BY: C.PENNINGTON	SUPERVISED BY: B.TOTH	REVIEWED BY:	APPROVED BY:	ISSUED BY:
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ALLEN FOSSIL PLANT  
 TENNESSEE VALLEY AUTHORITY  
 FOSSIL AND HYDRO ENGINEERING

AUTOCAD R DATE 38 C 10WXXX-105 R A

PLOT FACTOR:1 W\_TVA C.A.D. DRAWING DO NOT ALTER MANUALLY



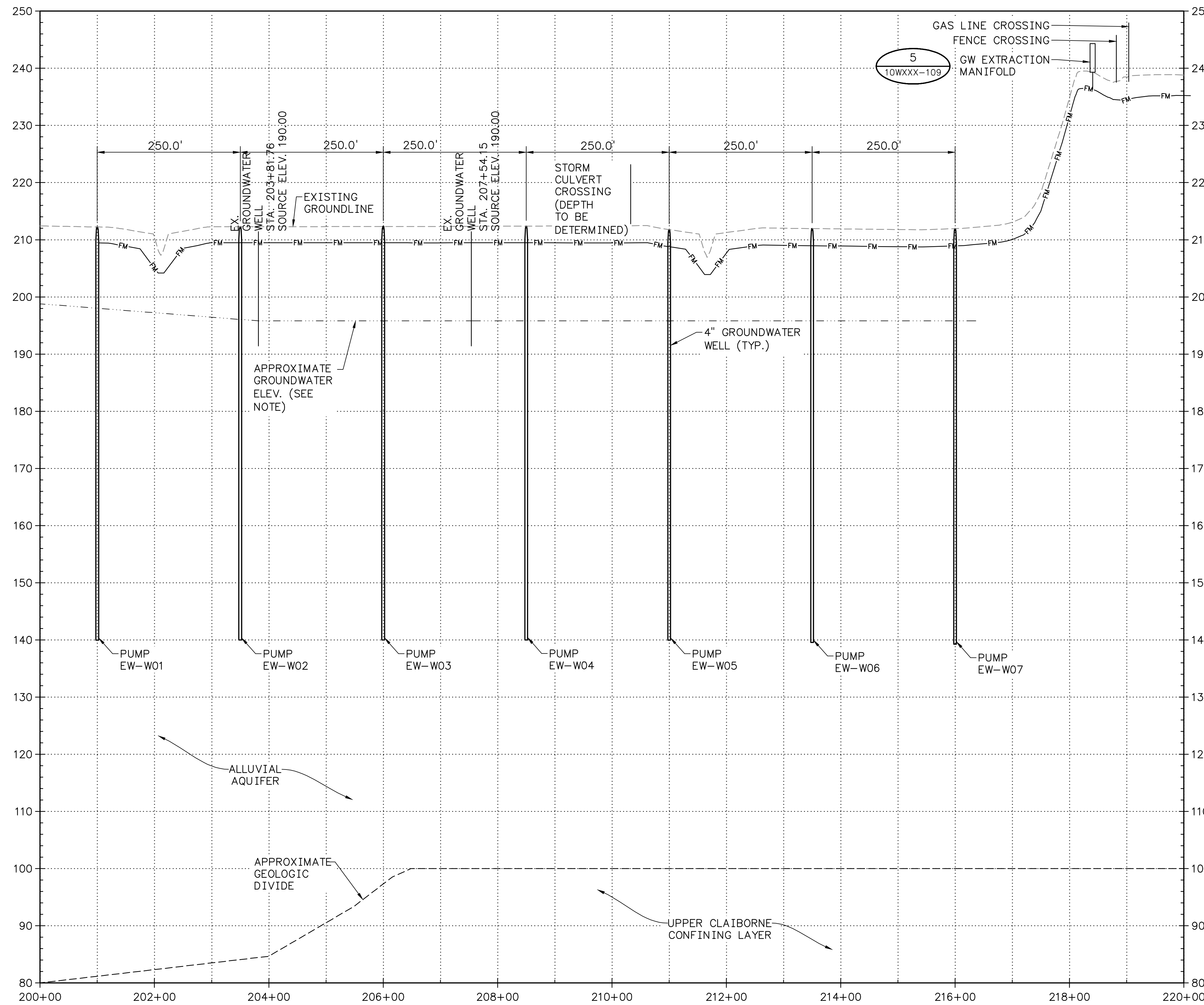
STANTEC A  
 TASK COMPLETED BY: REV NO.

PLOT DATE: 08/07/2024 USER: PARISE, ZODIARY  
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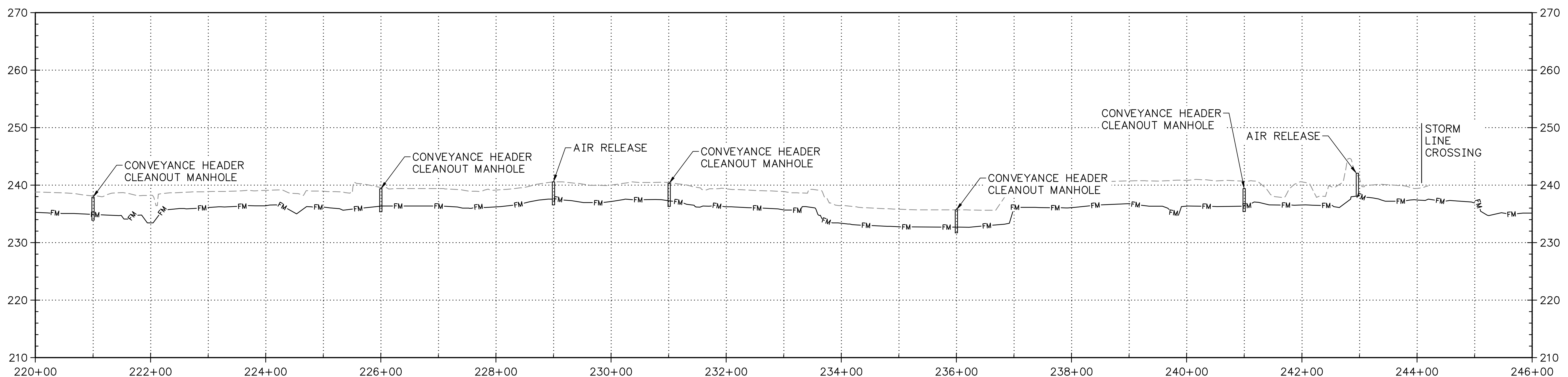


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1 PROFILE - GROUNDWATER CONVEYANCE BASELINE STA. 200+00 ~ 220+00  
SCALE: 1"=100' (HORIZONTAL)  
1"=10' (VERTICAL)



1 PROFILE - GROUNDWATER CONVEYANCE BASELINE STA. 220+00 ~ 244+00  
SCALE: 1"=100' (HORIZONTAL)  
1"=10' (VERTICAL)

SECTION OR DETAIL NO.  
SHEET WHERE SHOWN  
REFERENCE KEY

**NOTE:**  
GROUNDWATER ELEVATION ON 02/2024 IN SHALLOW ALLUVIAL AQUIFER MONITORING WELLS\*

\* THE SCALE OF THE DRAWING PRECLUDES ADDING THE GROUNDWATER ELEVATIONS FOR THE INTERMEDIATE (B-SERIES) OR DEEP (A-SERIES) WELLS. VALUES THAT WERE OFTEN ONLY TENTHS OF FEET DIFFERENT FROM THE SHALLOW WELLS. THE DIFFERENCES WOULD NOT BE DISCERNABLE AT THE SCALE OF THE CROSS SECTIONS.

SUBMERSIBLE GROUNDWATER PUMP TABLE				
PUMP	NORTHING	EASTING	DEPTH OF PUMP (FEET)	PUMP TYPE
EW-W01	275,108.77	756,698.91	140.24	SUBMERSIBLE
EW-W02	275,102.64	756,948.83	140.28	SUBMERSIBLE
EW-W03	275,092.32	757,198.60	140.32	SUBMERSIBLE
EW-W04	275,071.23	757,447.71	140.39	SUBMERSIBLE
EW-W05	275,046.81	757,696.50	139.78	SUBMERSIBLE
EW-W06	275,018.38	757,944.87	139.95	SUBMERSIBLE
EW-W07	274,985.76	758,192.73	139.95	SUBMERSIBLE

**30% SUBMITTAL  
ISSUED FOR REVIEW  
NOT FOR CONSTRUCTION**

SEE 10WXXX-102 FOR LIST OF DESIGN, COMPANION, REFERENCE DRAWINGS AND SUPPORTING DESIGN CALCULATIONS NUMBER.

**Stantec**  
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Nashville, Tennessee 37211  
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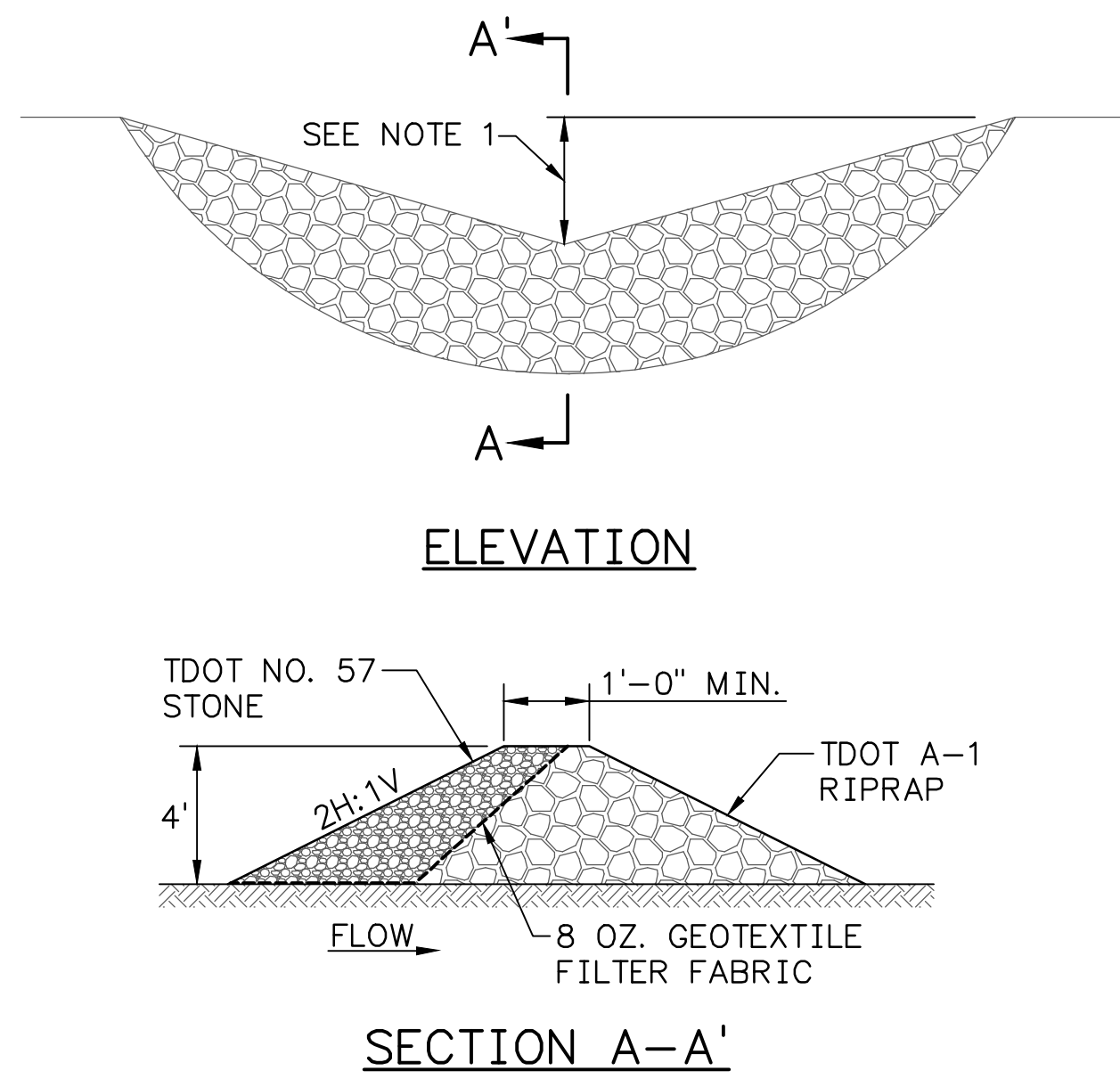
DESIGNED BY: Z.PARISE	DRAWN BY: B.SHELTON	CHECKED BY: C.PENNINGTON	SUPERVISED BY: B.TOTY	REVIEWED BY:	APPROVED BY:	ISSUED BY:
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ALLEN FOSSIL PLANT  
TENNESSEE VALLEY AUTHORITY  
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R DATE 38 C 10WXXX-107 R A

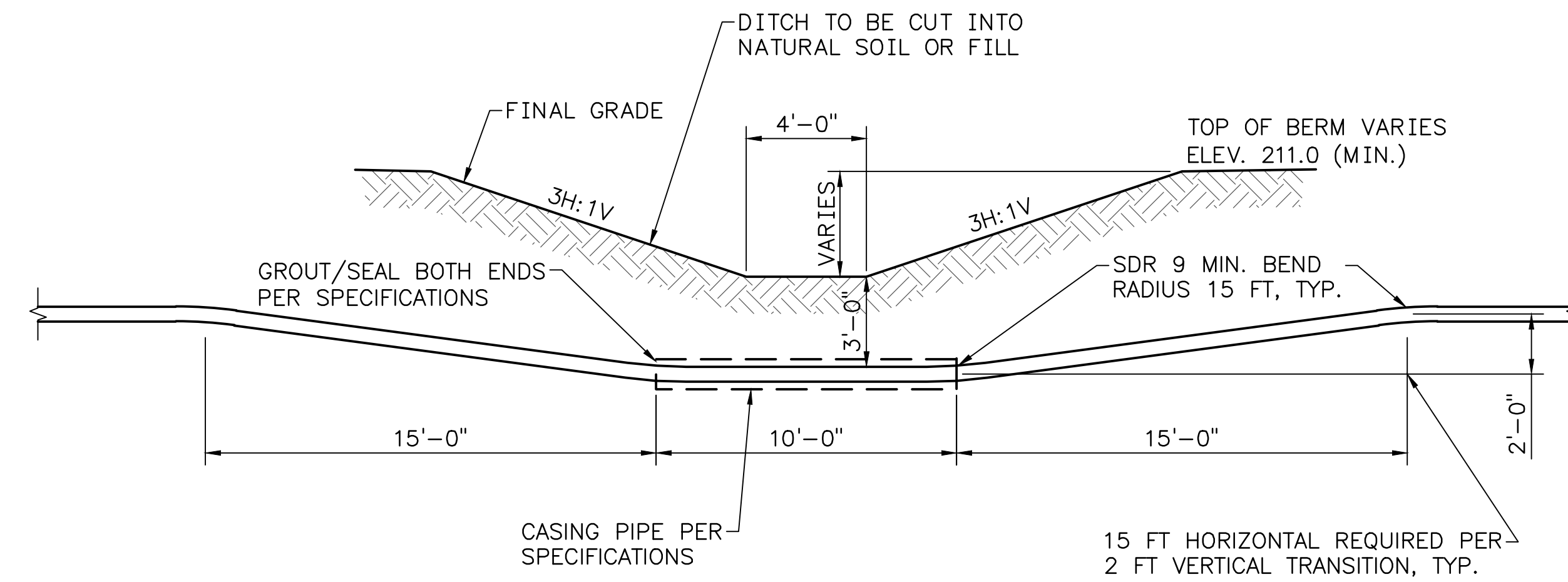
PLOT FACTOR:1  
W\_TVA  
C.A.D. DRAWING  
DO NOT ALTER MANUALLY



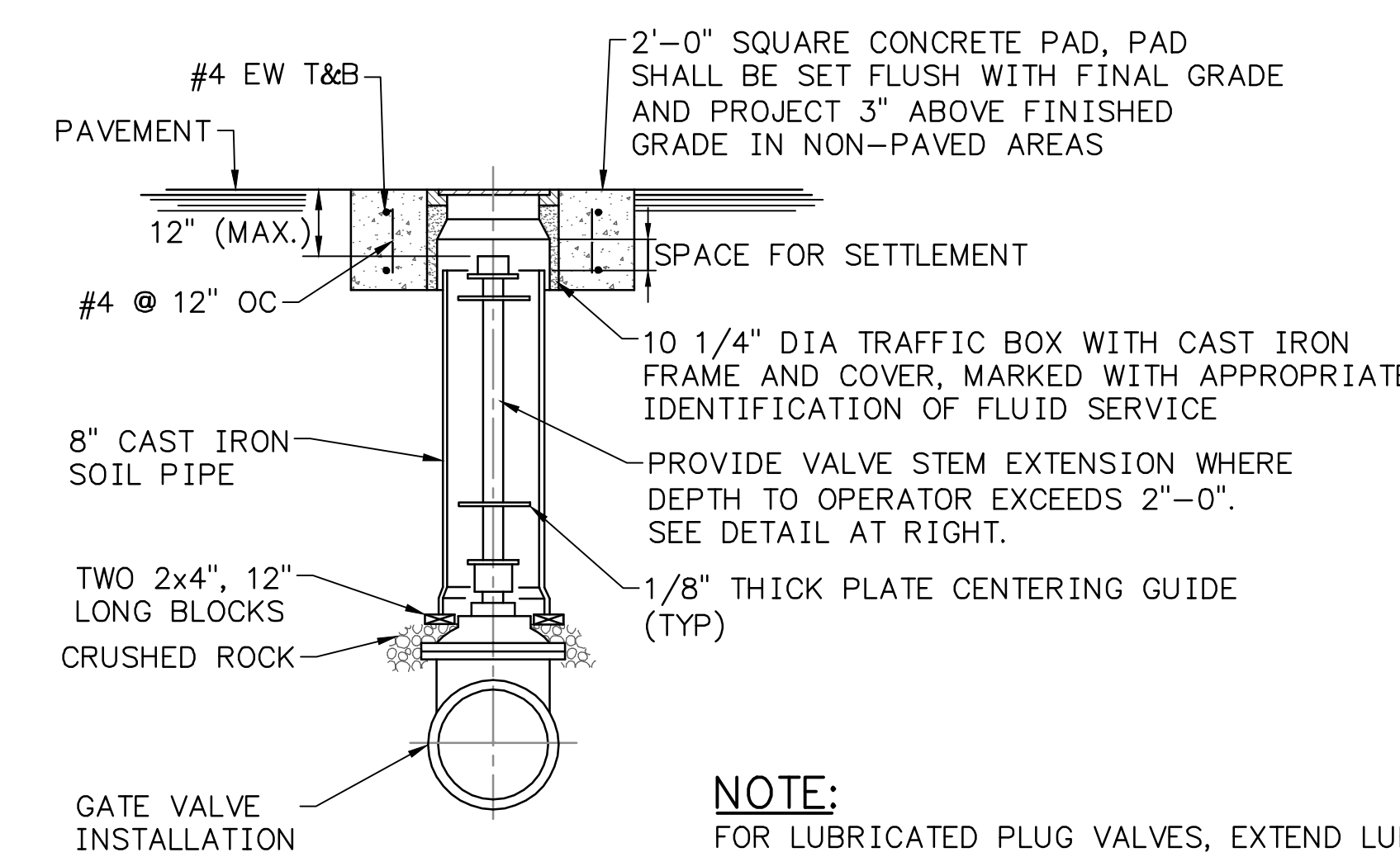


**NOTES:**  
 1. MIDDLE OF ROCK CHECK DAM SHALL BE A MINIMUM OF 1'-0" LOWER THAN SIDES SO FLOW WILL NOT BYPASS TRAP OR ERODE BANKS.  
 2. SPACE ROCK CHECK DAMS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

**1 DETAIL - ROCK CHECK DAM**  
 10WXXX-109 NOT TO SCALE

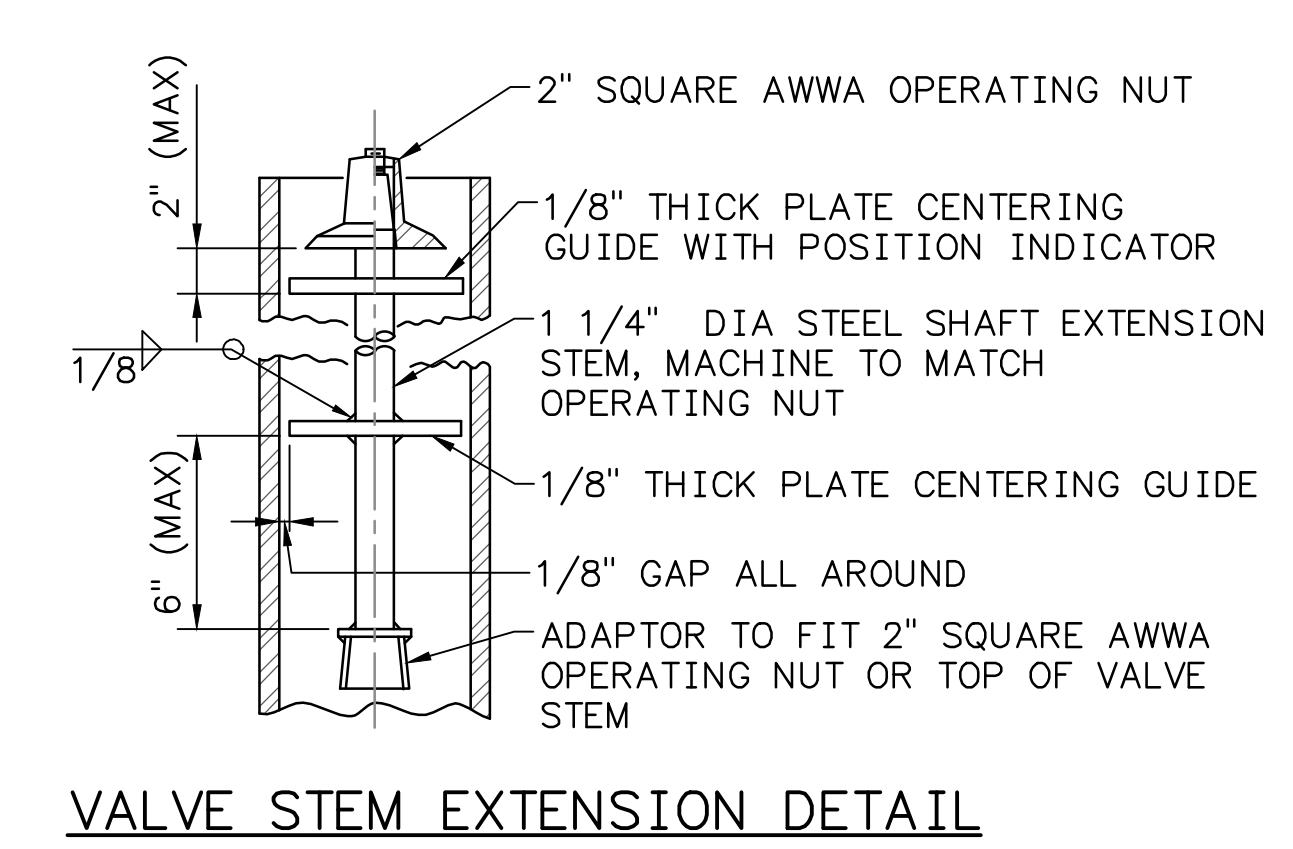


**2 DETAIL - PIPE CROSSING**  
 10WXXX-109 SCALE: 1/4" = 1'-0"

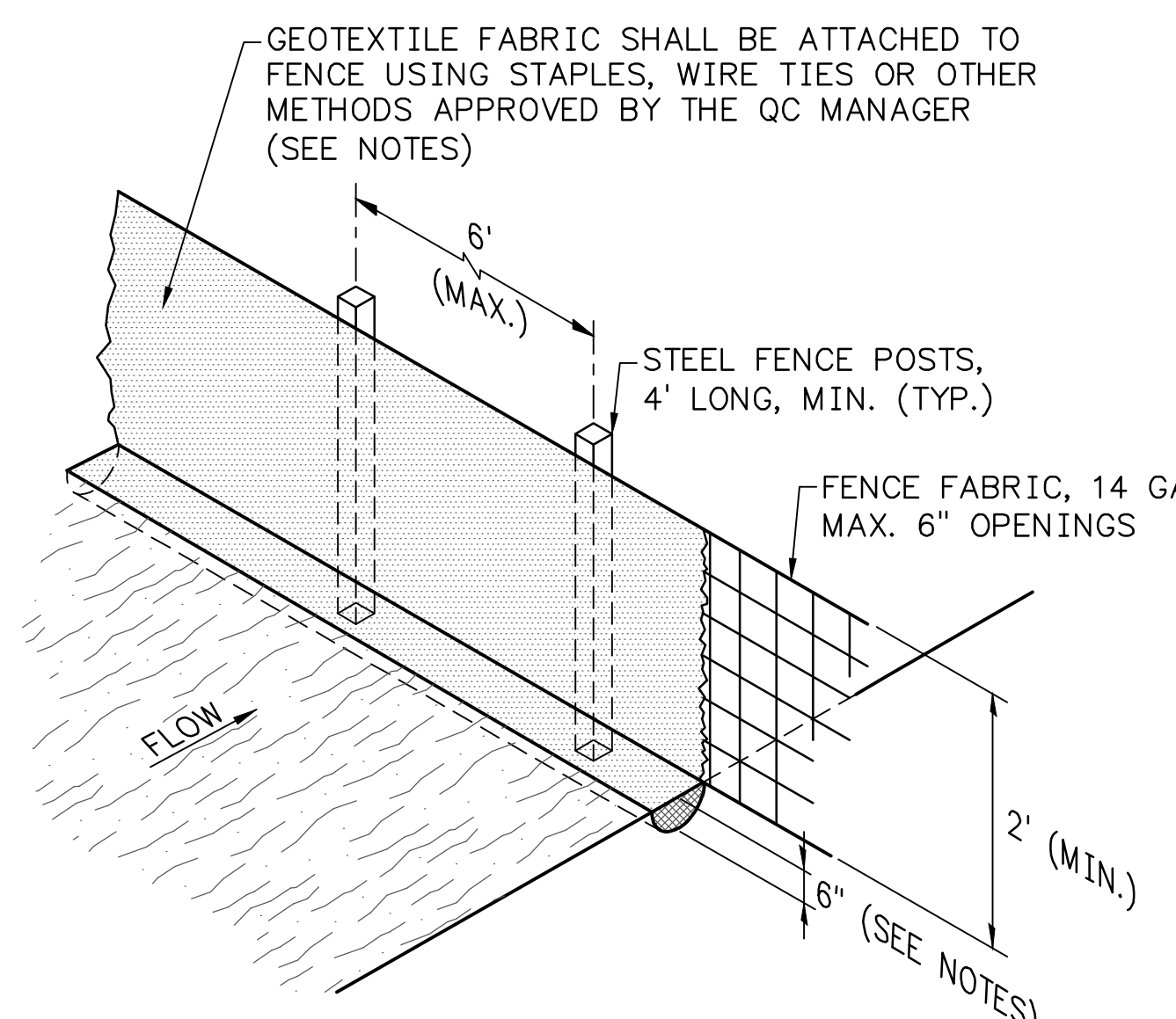


**NOTE:**  
 FOR LUBRICATED PLUG VALVES, EXTEND LUBRICATION LINE TO GRADE PER MANUFACTURER'S INSTRUCTIONS.

**3 DETAIL - BURIED VALVE INSTALLATION**  
 10WXXX-109 NOT TO SCALE

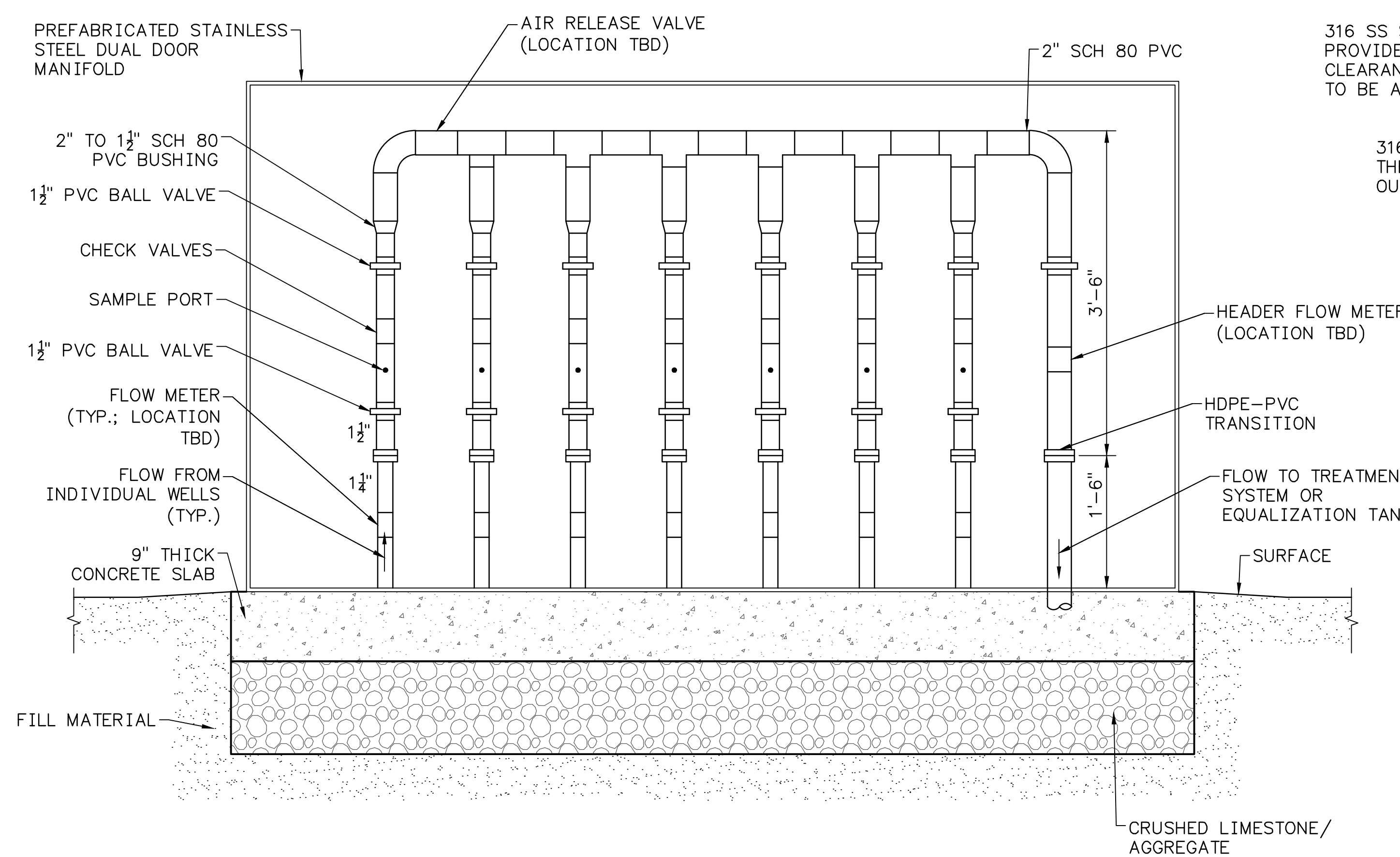


**VALVE STEM EXTENSION DETAIL**



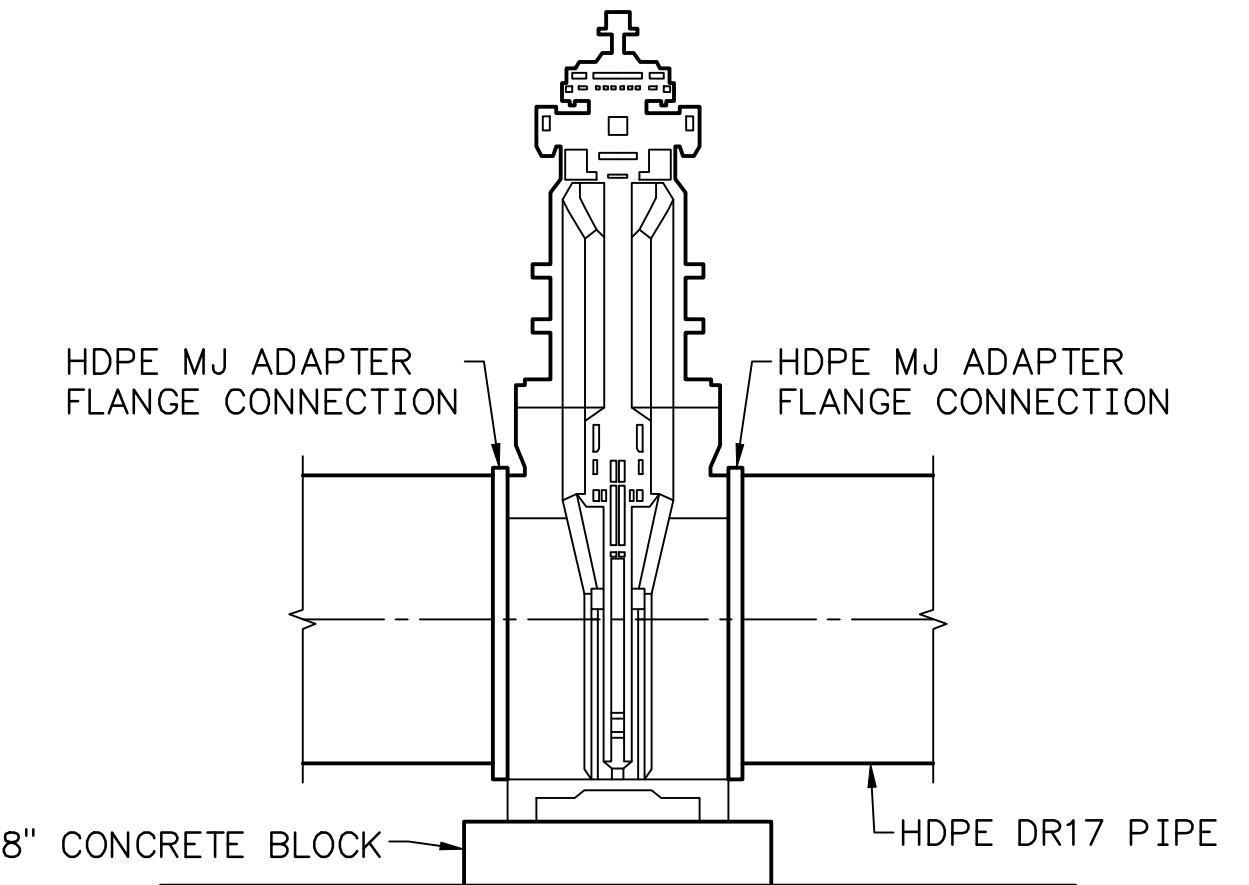
**NOTES:**  
 1. THE BOTTOM 12 INCHES OF THE FABRIC SHALL BE BURIED IN A 6-INCH TRENCH CUT INTO THE GROUND OR COVERED BY 6 INCHES OF FILL MATERIAL TO PREVENT SEDIMENT FROM ESCAPING UNDER THE FENCE. ALL EARTHWORK SHALL BE ON THE UPSTREAM SIDE OF THE FENCE.  
 2. GEOTEXTILE FABRIC SHALL MEET THE FOLLOWING SPECIFICATIONS: GRAB STRENGTH (ASTM D 4632) - 100 LBS. MIN. WIDTH - 3' MIN., APPARENT OPENING SIZE (ASTM D4751) NO. 30. ULTRAVIOLET DEGRADATION (ASTM D 4355) 80% STRENGTH RETAINED. ELONGATION AT 45LB (ASTM D 4632).

**4 DETAIL - SILT FENCE**  
 10WXXX-109 NOT TO SCALE



**NOTE:**  
 PROVIDE 316 STAINLESS STEEL BOLTS AT ALL CONNECTIONS.

**6 DETAIL - AIR/VACUUM VALVE**  
 10WXXX-109 NOT TO SCALE



**7 DETAIL - GATE VALVE**  
 10WXXX-109 NOT TO SCALE

**5 GW EXTRACTION MANIFOLD**  
 10WXXX-109 NOT TO SCALE

**30% SUBMITTAL  
 ISSUED FOR REVIEW  
 NOT FOR CONSTRUCTION**

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
Z.PARISE	B.SHELTON	C.PENNINGTON	B.TOTH			
YARD WEST ASH DISPOSAL AREA CARA PLAN DETAILS						
SEE 10WXXX-102 FOR LIST OF DESIGN, COMPANION, REFERENCE DRAWINGS AND SUPPORTING DESIGN CALCULATIONS NUMBER.						
AUTOCAD R DATE 38 C 10WXXX-109 R A						

