# MOWBRAY MOUNTAIN WATER STORAGE - PHASE I

# FOR NORTH WEST UTILITY DISTRICT

SODDY-DAISY, TN

# PROJECT SUMMARY

THIS PROJECT CONSISTS OF INSTALLING APPROXIMATELY 6,300 LF OF NEW 8" DIP WATER LINE ALONG HENSON GAP ROAD STARTING AT THE COUNTY LINE PUMP STATION AND CONNECTING TO THE EXISTING 8" DIP WATER MAIN NEAR 1035 HENSON GAP RD.

# FEMA MAP National Flood Hazard Layer FIRMette With BFE or Depth Zone AE, AO, AH, VE, AR 17.5 Water Surface Elevation 10 --- Base Flood Elevation Line (BFI Limit of Study PROJECT AREA Digital Data Available No Digital Data Available The pin displayed on the map is an approximate point selected by the user and does not represe digital flood maps if it is not void as described below. The basemap shown compiles with FEMA's basemap The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/25/2023 at 11:55 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for 2,000 Basemap Imagery Source: USGS National Map 2023

# FEMA STATEMENT

THIS PROPERTY IS NOT LOCATED WITHIN A 100 YEAR FLOOD HAZARD AREA BASED ON THE FLOOD INSURANCE RATE MAP FOR THIS AREA. THE MAP NUMBER FOR THIS PROJECT AREA IS 47153C0200C AND THE DATE OF SAID MAP IS 06/04/2010.

MIENSON GAD  END  AMENSON GAD  END  AMENSON GAD  AMENSON	PROJECT AREA
71 53	PROJECT AREA
1 100	
	MOWBRAY PIKE
A DANE	A CONTRACTOR OF THE PROPERTY O
	BEGINNING
	Cooper Cr 1500 Redbird P
Parker Pounds	Cooper Cr 1500
Barker Pounds	Redbird P
SOURCE: USGS — HENSON GAP, TN	LOCATION MAP 1" = 1000'

Sheet Number	Sheet Title			
C-000	COVER			
C-001	GENERAL NOTES & LEGEND			
C-100	OVERALL SITE PLAN			
C-200	WATER LINE LAYOUT			
C-201	WATER LINE LAYOUT			
C-202	WATER LINE LAYOUT			
C-900	DETAILS			
C-901	DETAILS			
EC-000	SWPPP COVER			
EC-100	SWPPP INITIAL & FINAL PHASE			
EC-101	SWPPP INITIAL & FINAL PHASE			
EC-102	SWPPP INITIAL & FINAL PHASE			
EC-900	EROSION CONTROL DETAILS			
EC-901	EROSION CONTROL DETAILS			

Sheet List Table

SOURCE: USGS — HENSON GAP, TN DATE: 2022

THE PROPERTY SHOWN HEREON LIES WITHIN FLOOD ZONE "X", AS SHOWN ON THE FEDERAL INSURANCE RATE MAP 47153C0200C, DATE 06/04/2010, BUT IS NOT PRINTED

# ENGINEER/PREPARER:

CROY ENGINEERING, LLC MELANIE D. BRUEGGEMANN, P.E. TEL: (470)648-6033



OWNER/DEVELOPER:
NORTH WEST UTILITY DISTRICT
9905 DAYTON PIKE
SODDY-DAISY, TN 37379
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# TDEC APPROVAL STAMP

1270 MARKET CHATTANOOGA, PHONE: (423)

- PHASE I DISTRICT

NORTH WEST UTILITY DIST

NO. REVISION REFERENCE DATE

SEAL



SHEET TITLE COVER

DRAWN BY CHECKED BY QM MDB

SCALE ISSUE DATE
AS SHOWN 3/8/2024

PROJECT NUMBER
2388.009

C-000



# GENERAL NOTES

- 1. ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL AND LOCAL CODES.
- 2. ALL MATERIALS AND CONSTRUCTION METHODS TO BE IN ACCORDANCE WITH CLEVELAND UTILITIES STANDARDS AND THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION AS APPLICABLE.
- 3. DEVIATION FROM THESE PLANS AND SPECIFICATIONS WITHOUT THE PRIOR WRITTEN CONSENT OF THE ENGINEER MAY CAUSE THE WORK TO BE DEEMED UNACCEPTABLE.
- 4. THE CONTRACTOR AND SUBCONTRACTORS SHALL OBTAIN A COPY OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, THE TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK, AND NORTH WEST UTILITY DISTRICT DESIGN STANDARDS AND DETAILS (LATEST EDITION) AND BECOME FAMILIAR WITH THE CONTENTS PRIOR TO COMMENCING WORK.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS UNLESS OTHERWISE INDICATED, REMOVING TREES, STUMPS, ROOTS, MUCK, EXISTING PAVEMENT AND ALL OTHER DELETERIOUS MATERIAL.
- 6. EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE HE COMMENCES ANY WORK IN THE VICINITY. FURTHERMORE, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
- 7. IF CONTRACTOR DAMAGES ANY EXISTING UTILITIES DURING CONSTRUCTION, HE SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR THE UTILITIES TO ORIGINAL CONDITION AND QUALITY, AS APPROVED BY THE ENGINEER AND REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY.
- 8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE 48 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
- 9. CONSTRUCTION EQUIPMENT SHALL NOT BE PARKED IN AREAS OF TRAFFIC THOROUGHFARE AND MUST BE STORED WITHIN SITE.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CONSTRUCTION PERMITS AND BONDS IF REQUIRED PRIOR TO CONSTRUCTION.
- 11. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
- 12. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER AND NOTIFICATION TO THE ENGINEER.
- 13. ALL COPIES OF COMPACTION, CONCRETE AND OTHER REQUIRED TEST RESULTS ARE TO BE SENT TO THE OWNER AND DESIGN ENGINEER OF RECORD DIRECTLY FROM THE TESTING AGENCY.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES AS REQUIRED

# PAVING, GRADING AND DRAINAGE NOTES

- 1. ALL PAVING. CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH TDOT SPECIFICATIONS AND STANDARDS (LATEST EDITION) IF NOT COVERED BY LOCAL OR COUNTY REGULATIONS.
- 2. ALL UNPAVED AREAS DISTURBED BY CONSTRUCTION SHALL BE REGRADED AND SODDED.
- TRAFFIC CONTROL ON ALL TDOT, LOCAL AND COUNTY RIGHTS-OF-WAY SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- 4. ALL OPEN AREAS WITHIN THE PROJECT SITE SHALL BE STABILIZED WITH PERMANENT VEGETATION.
- 5. ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL FILTER FABRIC OVER ALL DRAINAGE STRUCTURES FOR THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF THE PROJECT BY THE OWNER. ALL DRAINAGE STRUCTURES SHALL BE CLEANED OF DEBRIS AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE FLOWS.
- 7. IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE REQUIRED PERMITS. THE CONTRACTOR IS TO COORDINATE WITH THE OWNER AND THE DESIGN ENGINEER PRIOR TO ANY EXCAVATION.
- 8. FIELD DENSITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL AGENCY OR TO TDOT STANDARDS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- 9. ALL TRENCHES SHALL BE CLOSED OR PLACED AT THE END OF EACH DAY TO ALLOW FOR TWO-WAY TRAFFIC. TRENCHES SHALL BE PATCHED WITH HOT MIX ASPHALT OR COVERED WITH STEEL PLATE. ROADWAY SHALL NOT BE OPEN TO TRAFFIC ON A CRUSHED STONE SURFACE.
- 10. THE CONTRACTOR SHALL MAINTAIN THE PAVEMENT BROOM CLEAN AT ALL TIMES.
- 11. THE CONTRACTOR SHALL KEEP DRIVEWAY ACCESS OR TEMPORARY ACCESS TO RESIDENTS AT ALL TIMES.

# EROSION CONTROL NOTES

- 1. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AS DEEMED NECESSARY BY THE ON-SITE INSPECTOR(S).
- 2. SEE EROSION CONTROL PLAN SHEET FOR INITIAL BMP'S THAT MUST BE INSTALLED PRIOR TO COMMENCING DEMOLITION OR SITE WORK.
- 3. CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
- 5. THE CONTRACTOR SHALL TAKE ALL REQUIRED MEASURES TO CONTROL TURBIDITY, INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF TURBIDITY BARRIERS AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. TURBIDITY BARRIERS MUST BE MAINTAINED IN EFFECTIVE CONDITION AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THEREAFTER, THE CONTRACTOR MUST REMOVE THE BARRIERS.
- 6. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
- 7. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- 8. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- 9. ON-SITE & OFF SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE EROSION CONTROL PLAN AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- 10. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACK FILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
- 11. ALL MEASURES STATED ON THE EROSION, SEDIMENT AND POLLUTION CONTROL PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT.

# WATER UTILITY NOTES

- 1. THE CONTRACTOR SHALL CONSTRUCT DOMESTIC WATER AND FIRE PROTECTION SYSTEM AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, MACHINERY, TOOLS, MEANS OF TRANSPORTATION AND LABOR NECESSARY TO COMPLETE THE WORK IN FULL AND COMPLETE ACCORDANCE WITH THE SHOWN, DESCRIBED AND REASONABLY INTENDED REQUIREMENTS OF THE CONTRACT DOCUMENTS AND JURISDICTIONAL AGENCY REQUIREMENTS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- 2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED VEGETATION IN KIND, UNLESS SHOWN OTHERWISE.
- 3. DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS. SECURELY CLOSE ALL OPEN ENDS OF PIPE AND FITTINGS WITH A WATERTIGHT PLUG WHEN WORK IS NOT IN PROGRESS. THE INTERIOR OF ALL PIPES SHALL BE CLEAN AND JOINT SURFACES WIPED CLEAN AND DRY AFTER THE PIPE HAS BEEN LOWERED INTO THE TRENCH. VALVES SHALL BE PLUMB AND LOCATED ACCORDING TO THE PLANS.
- 4. ALL PHASES OF INSTALLATION, INCLUDING UNLOADING, TRENCHING, LAYING AND BACK FILLING, SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER. ALL PIPE AND FITTINGS SHALL BE CAREFULLY STORED FOLLOWING MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE COATING OR LINING IN ANY D.I. PIPE FITTINGS. ANY PIPE OR FITTING WHICH IS DAMAGED OR WHICH HAS FLAWS OR IMPERFECTIONS WHICH, IN THE OPINION OF THE ENGINEER OR OWNER, RENDERS IT UNFIT FOR USE, SHALL NOT BE USED. ANY PIPE NOT SATISFACTORY FOR USE SHALL BE CLEARLY MARKED AND IMMEDIATELY REMOVED FROM THE JOB SITE, AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 5. ALL UTILITY AND STORM DRAIN TRENCHES LOCATED UNDER AREAS TO RECEIVE PAVING SHALL BE COMPLETELY BACK FILLED IN ACCORDANCE WITH THE GOVERNING JURISDICTIONAL AGENCY'S SPECIFICATIONS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- 6. ALL WORK WILL BE CONDUCTED IN CLOSE COORDINATION WITH THE NORTH WEST UTILITY DISTRICT PERSONNEL.
- 7. NOTIFY NWUD INSPECTOR NOT LESS THAN 48 HOURS PRIOR TO START OF CONSTRUCTION.
- 8. NO WATER LINE WILL BE REMOVED FROM SERVICE WITHOUT A MINIMUM OF 48 HOUR NOTICE TO ALL AFFECTED USERS.
- 9. NEW WATER LINE TO BE INSTALLED WITH A MIN. OF 30 INCHES COVER.
- 10. THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF WATER AND SEWER LINE IS 10'. THE MINIMUM VERTICAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINES IS 18".
- 11. ALL WATER LINE TIE-INS ARE TO BE DETAILED IN A CONTRACTOR'S SUBMITTED "PLAN OF ACTION".
- 12. ALL EXISTING FEATURES SHOWN ON THIS DRAWING, INCLUDING CONTOURS, ELEVATIONS, ETC., ARE BASED ON LIDAR MAPPING PROVIDED BY SETD AND SUPPLEMENTED BY CROY FIELD RECONNAISSANCE.
- 13. ELEVATIONS ARE BASED ON MEAN SEA LEVEL.
- 14. CONTOUR INTERVAL SHOWN IS TWO FEET AND IS FROM LIDAR MAPPING PROVIDED
- 15. BOUNDARY INFORMATION SHOWN ON THESE DRAWINGS IS SHOWN FOR THE CONTRACTOR'S ORIENTATION. BOUNDARY INFORMATION IS FROM TENNESSEE PROPERTY VIEWER PARCEL DATA.
- 16. THE CONTRACTOR SHALL VERIFY THE DEPTH AND LOCATION OF BOTH THE INITIAL FACILITIES AND THE TIE-IN FACILITY PRIOR TO ANY CONSTRUCTION.
- 17. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OR OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL IMPLEMENT SUPPORT SYSTEMS, SLOPING, BENCHING, & OTHER MEANS OF PROTECTION. THIS INCLUDES, BUT IS NOT LIMITED TO, ACCESS & EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA FOR OSHA.
- 18. CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS, AND IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- 19. CONTRACTOR'S WORK, PRODUCTS, AND INSTALLATION SHALL CONFORM TO NWUD STANDARD SPECIFICATIONS, LATEST EDITION, APPROVED BY TDEC.

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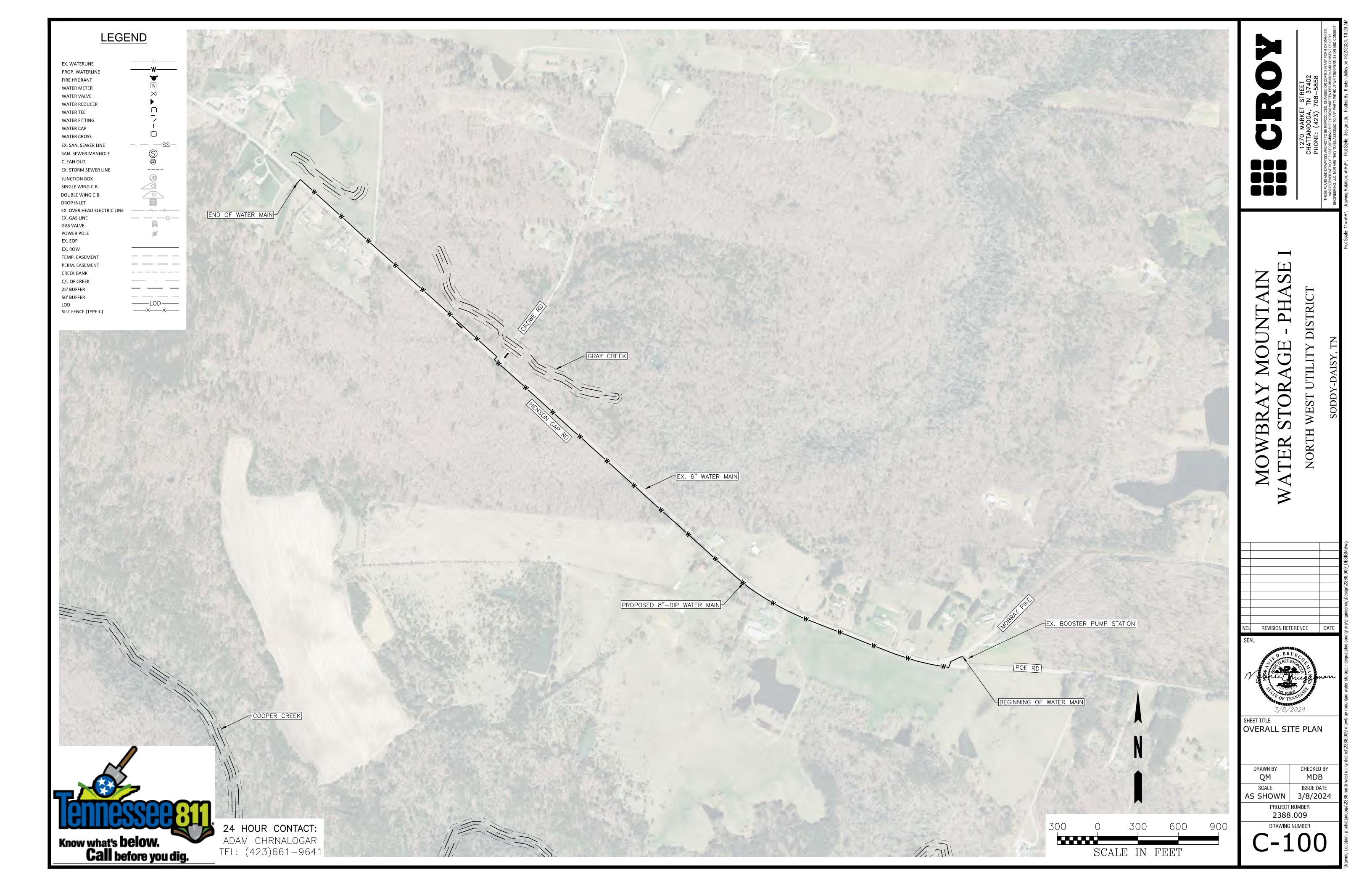
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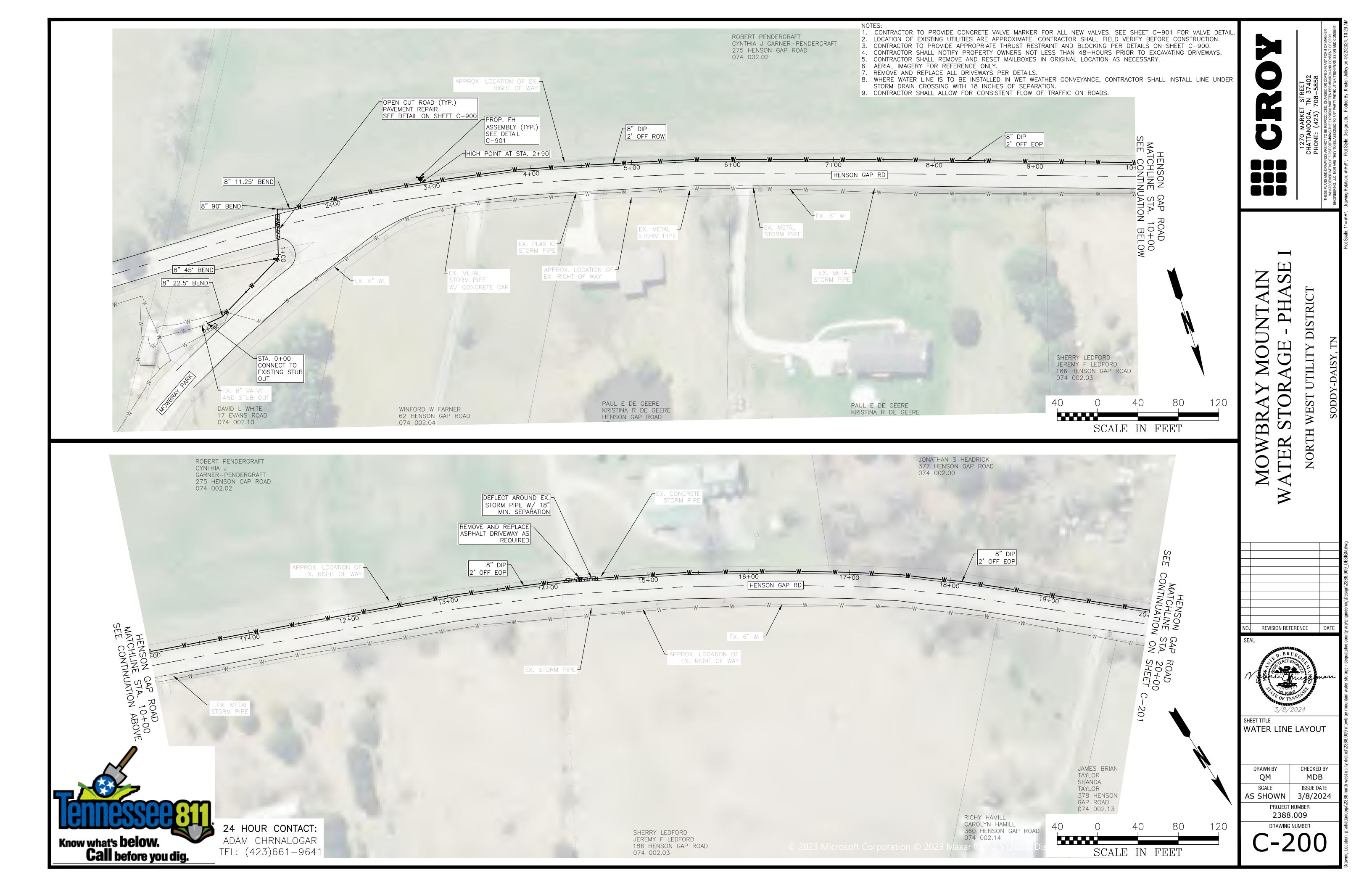
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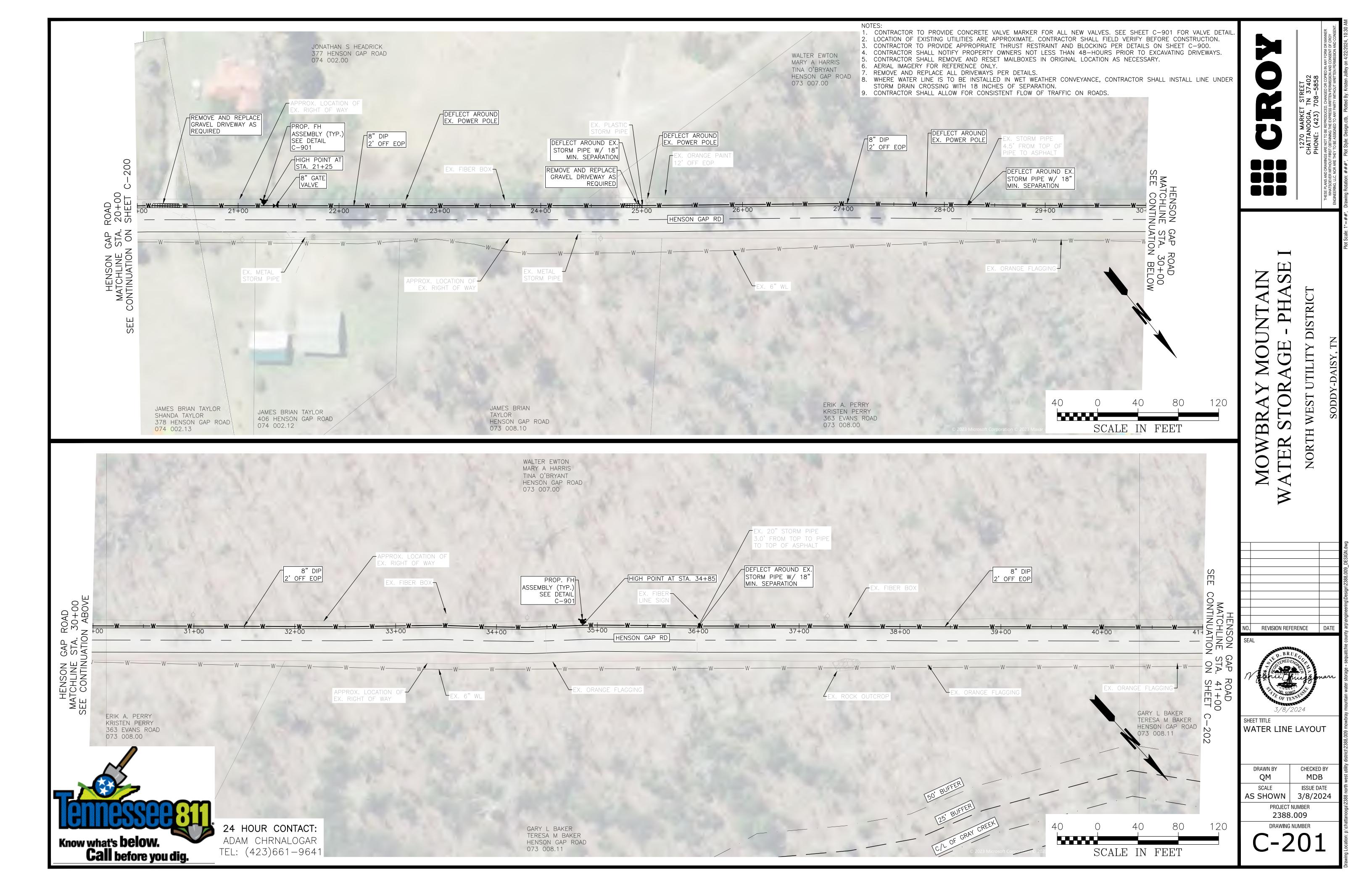
SHFFT TITLE **GENERAL NOTES &** LEGEND

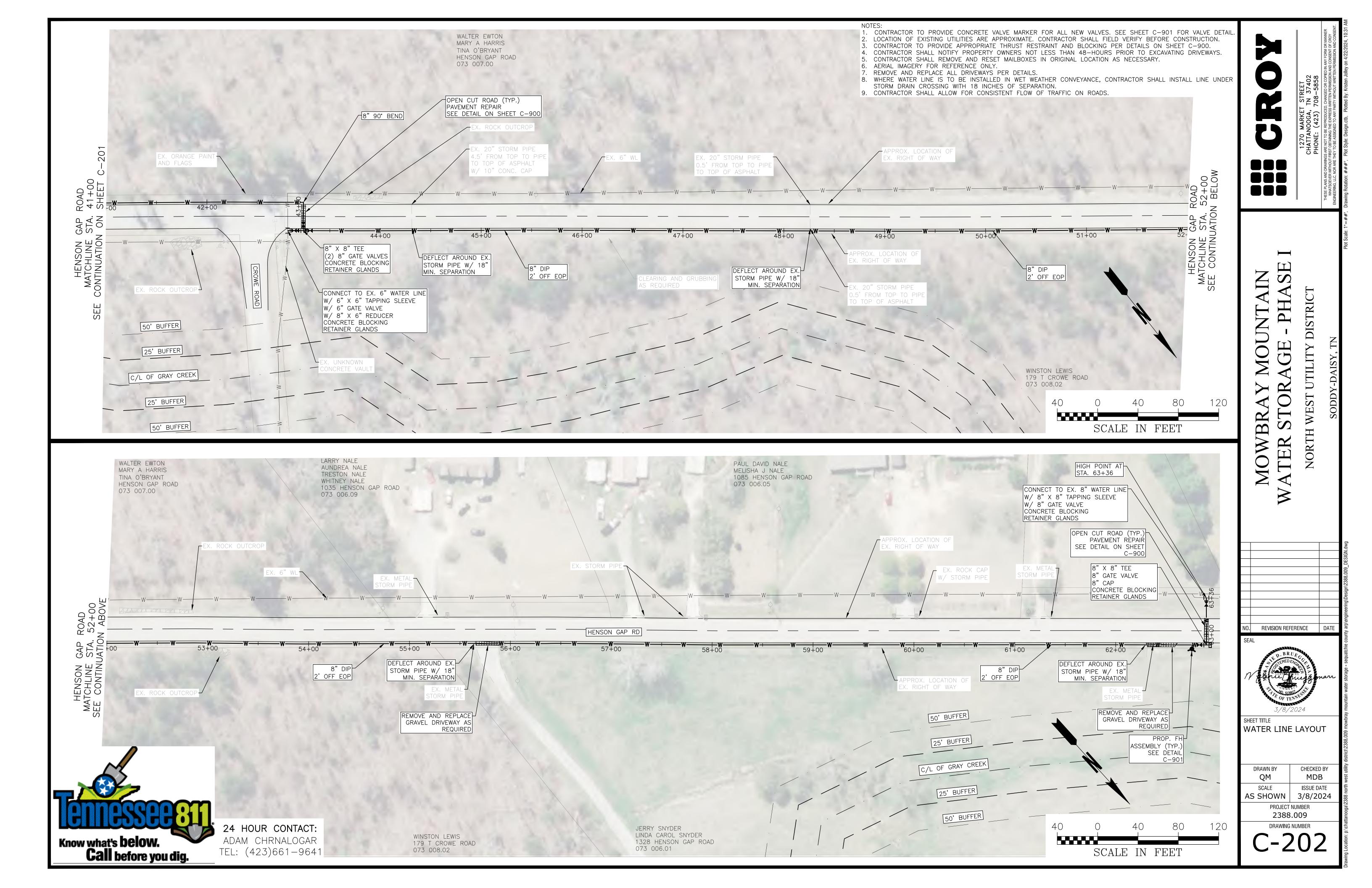
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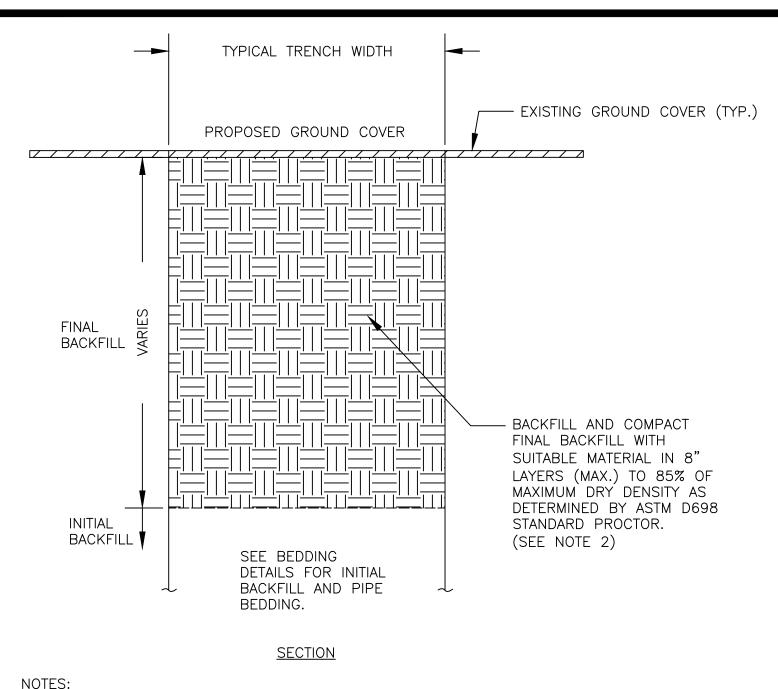
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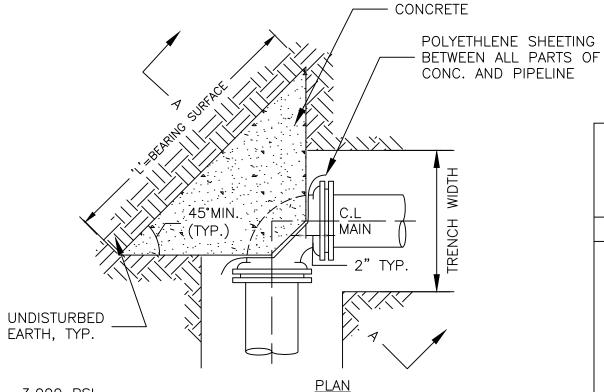


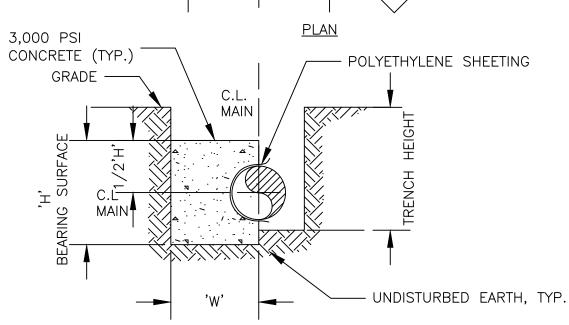




- NOTES:
  1. ALL MATERIAL AND METHODS OF INSTALLATION SHALL COMPLY WITH THE TDOT
- "ROADWAY DESIGN GUIDELINES" LATEST REVISION.
- 2. FINAL BACKFILL MATERIAL SHALL BE REUSED OR IMPORTED EARTH FREE OF CLODS, ORGANIC MATERIAL, RUBBISH, OR OTHER UNSUITABLE MATERIAL. STONES LARGER THAN 4" DIAMETER MUST BE PLACED TO THE SIDES OF THE TRENCH.

# OUTSIDE ROADWAY CUT-FINAL BACKFILL NOT TO SCALE





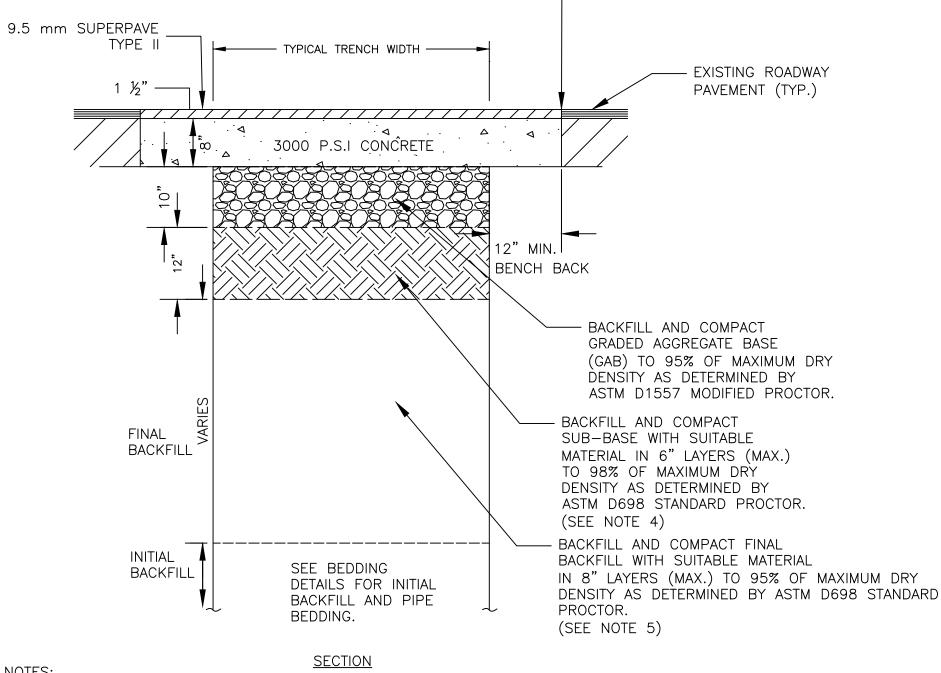
SECTION A-A

- 1. SOIL PREPARATION SHALL BE APPROVED BY NWUD PRIOR TO POURING
- 2. REFER TO TYPICAL HORIZONTAL THRUST RESTRAINT DRAWING FOR ADDITIONAL DETAILS.

# DESIGN CRITERIA

1. THRUST RESTRAINT DIMENSIONS ARE BASED ON PRESSURE CLASS DUCTILE IRON PIPE WITH BITUMASTIC EXTERIOR COATING, MINIMUM SOIL BEARING PRESSURE OF 2,000 PSF, A COHESIVE SOIL, TEST PRESSURE OF 250 PSI, WITH A SAFETY FACTOR OF 1.0.

> TYPICAL HORIZONTAL <u>THRUST BLOCK</u> NOT TO SCALE



PROVIDE STRAIGHT VERTICAL

SAWCUTS ALONG TRENCH WIDTH

OF EXISTING ROADWAY SURFACE

- 1. ALL MATERIAL AND METHODS OF INSTALLATION SHALL COMPLY WITH THE TDOT "ROADWAY DESIGN GUIDELINES" LATEST REVISION.
- 2. NEW ROADWAY PAVEMENT SHALL MATCH CROSS SLOPE AND GRADE OF EXISTING
- 3. SEE CONCRETE PAVEMENT AND GRAVEL REPAIR DETAIL.
- 4. SUB-BASE MATERIAL SHALL BE RE-USED OR IMPORTED EARTH FREE OF CLODS, ORGANIC MATTER, RUBBISH STONES LARGER THAN 4" DIAMETER, OR OTHER UNSUITABLE MATERIAL.
- 5. FINAL BACKFILL MATERIAL SHALL BE REUSED OR IMPORTED EARTH FREE OF CLODS, ORGANIC MATERIAL, RUBBISH, OR OTHER UNSUITABLE MATERIAL. STONES LARGER THAN 4" DIAMETER MUST BE PLACED TO THE SIDES OF THE TRENCH.

# PERPENDICULAR ROADWAY CUT-FINAL BACKFILL NOT TO SCALE

MAIN		DIMENSIONS (FT.)		CONC. VOLUME (C.Y.)	THRUST (LBS.)	MA	IN	DIME	ENSIONS (	FΤ	
				<b>r</b>			BEND	SIZE	'H'	<b>'</b> L'	
BEND	SIZE	'H'	'L'	'W'				4	1.67	2.00	
	4	1.00	1.00	1.67	0.05	887		0	0.05	7.00	
	6	1.00	1.00	1.67	0.05	1,557		6	2.25	3.00	
						0.044		8	3.25	3.50	
4 4 1e	8	1.00	1.50	1.67	0.07	2,814	90°				
11 ½°	10	1.25	1.75	1.67	0.11	4,309		10	3.33	5.25	
	12	1.67	2.00	1.67	0.17	6,150		12	3.67	6.67	
	16	2.00	2.75	1.67	0.28	10,761		16	4.50	9.50	

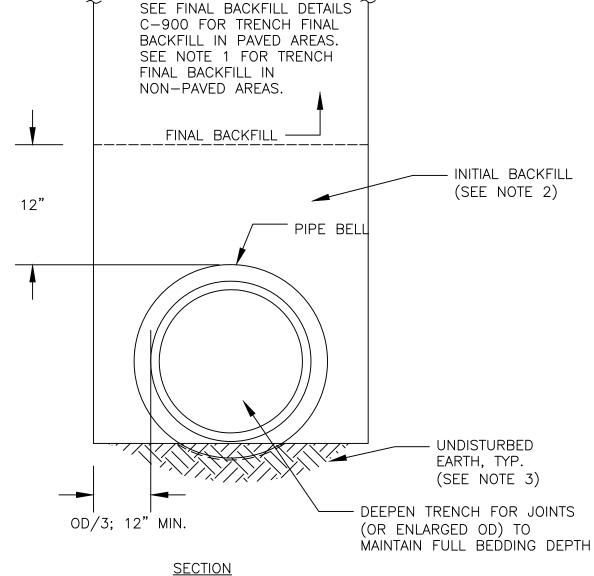
MA	AIN	DIMI	ENSIONS (	CONC. VOLUME (C.Y.)	THRUST (LBS.)	-		
BEND	SIZE	'H'	,r,	'W'				
	4	1.00	1.00	1.67	0.05	1,765		
	6	1.33	1.50	1.67	0.10	3,647		
00.4/0	8	1.67	2.00	1.67	0.15	6,275		7
22 1/2°	10	2.00	2.50	1.67	0.22	9,439		
	12	2.50	2.75	2.00	0.37	13,349		
	16	3.00	4.00	2.00	0.39	23,195		

MA	AIN	DIMI	ENSIONS (	CONC. VOLUME (C.Y.)	THRUST (LBS.)	
BEND	SIZE	'H'	'L'	'W'		
	4	1.00	1.75	1.67	0.07	3,462
	6	1.67	2.33	1.67	0.16	7,155
	8	2.50	2.50	1.67	0.26	12,308
45°	10	2.67	3.50	1.67	0.37	18,516
	12	3.33	4.00	2.00	0.64	26,185
	16	4.00	5.75	2.50	1.29	45,499

MA	AIN	DIMENSIONS (FT.)			CONC. VOLUME (C.Y.)	THRUST (LBS.)
BEND	SIZE	'H'	'L'	'W'		
	4	1.67	2.00	1.67	0.14	6,398
	6	2.25	3.00	1.67	0.27	13,220
	8	3.25	3.50	1.67	0.46	22,743
90°	10	3.33	5.25	2.00	0.81	34,213
	12	3.67	6.67	2.75	1.51	48,383
	16	4.50	9.50	3.75	3.76	84,070

MAIN		DIMENSIONS (FT.)			CONC. VOLUME (C.Y.)	THRUST (LBS.)
BEND	SIZE	'H'	'L'	'W'		
	4	1.33	1.75	1.67	0.12	4,524
	6	2.00	2.50	1.67	0.24	9,348
TEES &	8	2.33	3.50	1.67	0.36	16,082
PLUGS	10	2.67	4.67	1.67	0.54	24,192
	12	3.00	5.75	2.00	0.86	34,212
	16	4.00	7.50	2.00	1.85	59,447

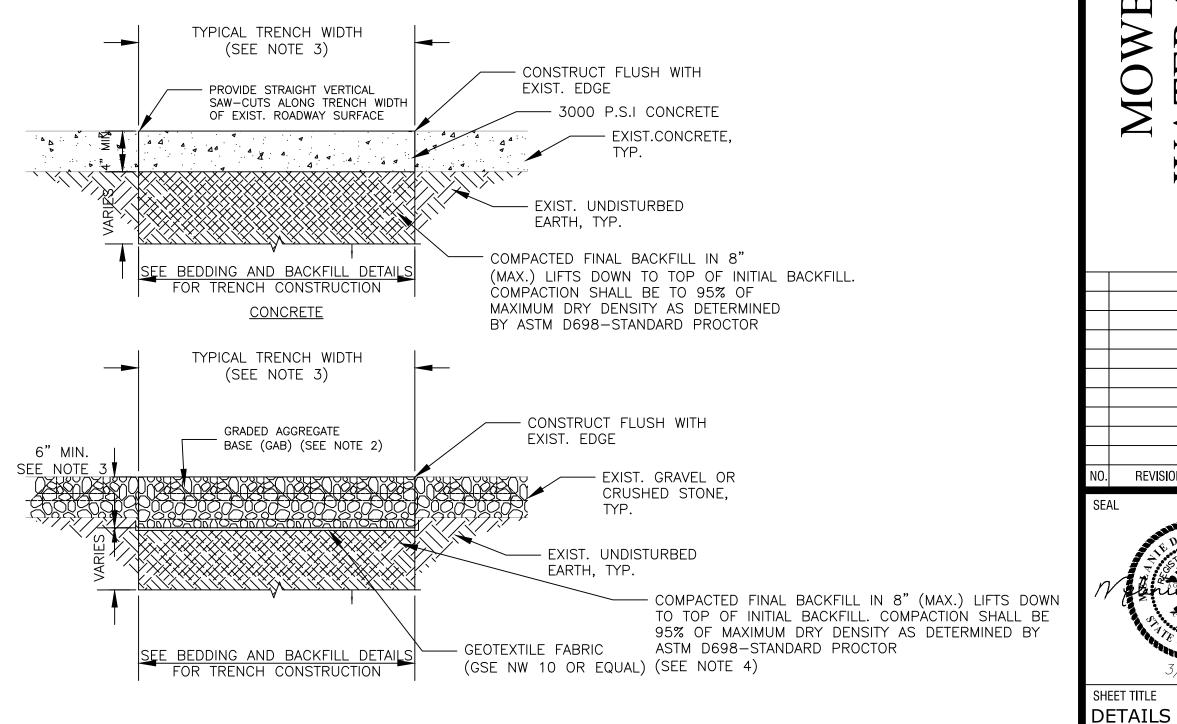
NOTE: SIZE IN TABLE DENOTES NOMINAL PIPE SIZES IN INCHES



DIP WATER MAINS

- 1. FINAL BACKFILL UNDER NON-PAVED AREAS WITHIN ROAD RIGHT-OF-WAY SHALL BE PLACED IN LAYERS NOT TO EXCEED EIGHT (8) INCHES IN THICKNESS AND COMPACTED TO 90% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698-STANDARD PROCTOR.
- FINAL BACKFILL UNDER NON-PAVED AREAS OUTSIDE OF ROAD RIGHT-OF-WAY SHALL BE PLACED IN LAYERS AND COMPACTED TO 85% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D698 STANDARD PROCTOR, OR AS DIRECTED BY OWNER.
- 2. PLACE INITIAL BACKFILL IN LAYERS NOT EXCEEDING SIX (6) INCHES IN THICKNESS AND CONSOLIDATE BY TAMPING ON BOTH SIDES OF THE PIPE. INITIAL BACKFILL MATERIAL SHALL BE REUSED OR IMPORTED EARTH FREE OF STONES LARGER THAN 4" DIAMETER, CLODS, ORGANIC MATTER, RUBBISH, OR OTHER UNSUITABLE MATERIAL
- WHEN BOTTOM OF TRENCH IS INADVERTENTLY DISTURBED, COMPACT TRENCH BOTTOM TO 90% OF MAXIMUM DRY DENSITY AS DETERMIND BY ASTM D698 STANDARD PROCTOR.

# BEDDING AND INITIAL



# <u>GRAVEL</u>

- 1. ALL MATERIAL AND METHODS OF INSTALLATION SHALL COMPLY WITH THE TDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST
- 2. WHERE DEPTH OF EXISTING GRAVEL ROADWAY IS GREATER THEN 6" THEN NEW
- MAB STONE DEPTH SHALL MATCH EXISTING ROADWAY DEPTH.
- 3. NEW ROADWAY PAVEMENT SHALL MATCH GROSS SLOPE AND GRADE OF EXISTING ROADWAY.
- 4. CONCRETE OR GRAVEL FINAL BACKFILL SUB-BASE MATERIAL SHALL BE REUSED OR IMPORTED EARTH FREE OF STONES LARGER THAN 4" DIAMETER, CLODS, ORGANIC MATTER, RUBBISH, OR OTHER UNSUITABLE MATERIAL.

CONCRETE OR GRAVEL PAVEMENT CUT-FINAL BACKFILL

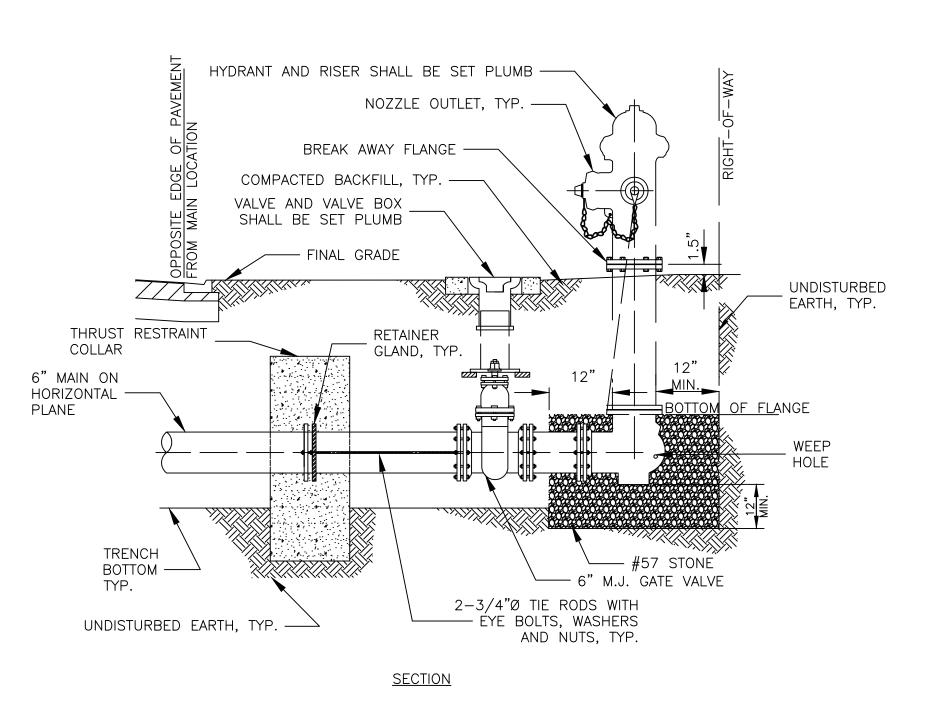
# SE Hd

REVISION REFERENCE

SHEET TITLE

CHECKED BY ISSUE DATE SCALE AS SHOWN | 3/8/2024

PROJECT NUMBER 2388.009 DRAWING NUMBER

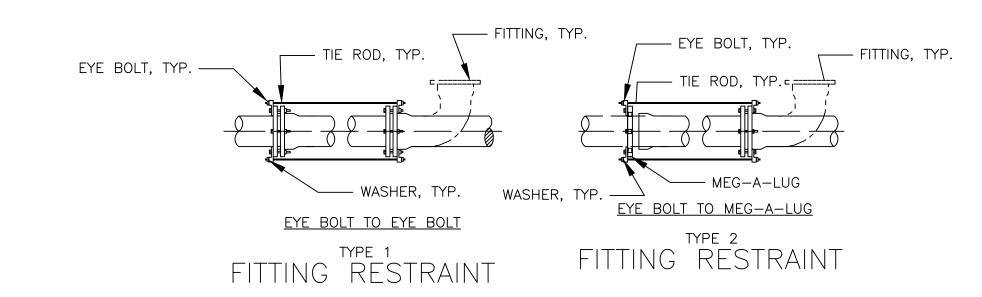


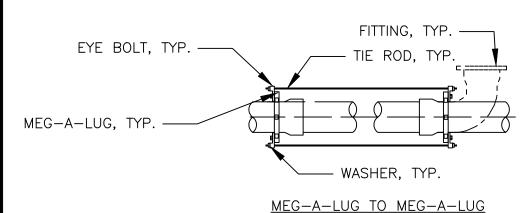
NOTES:

1. REFER TO TYPICAL TIE-ROD THRUST RESTRAINT DRAWING FOR ADDITIONAL DETAILS.

- 2. REFER TO TYPICAL HORIZONTAL THRUST BLOCK DRAWINGS FOR ADDITIONAL DETAILS.
- 3. REFER TO TYPICAL VALVE BOX DRAWING FOR ADDITIONAL DETAILS.

# TYPICAL FIRE HYDRANT INSTALLATION NOT TO SCALE





TYPE 1 FITTING RESTRAINT

- NOTES:

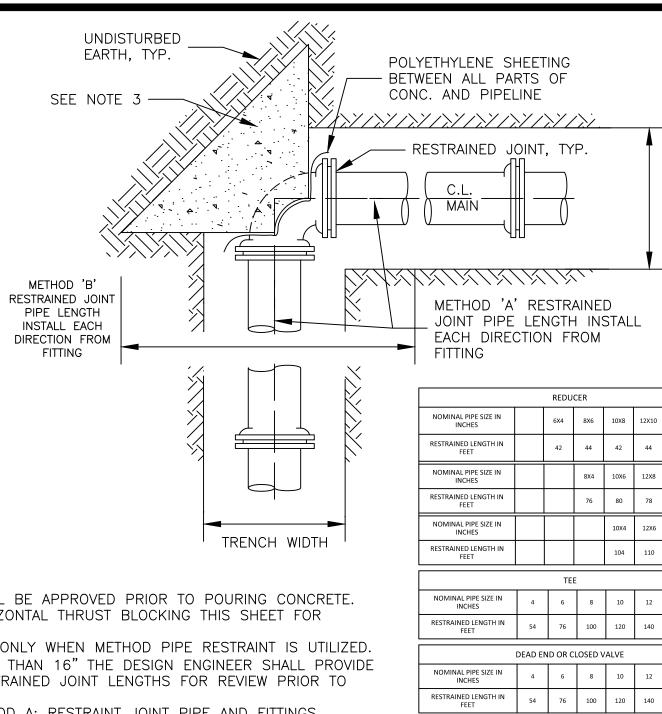
  1. RODS SHALL BE MINIMUM 304 S.S. ALL THREAD RODS WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI.
- 2. USE LISTED NUMBER OF RODS AS SHOWN ON TIE ROD CHART (MINIMUM NUMBER SHOWN).
- 3. ALL STEEL MUST BE CLEANED AND COATED WITH ROYSTON ROSKOTE, KOPPERS SUPER SERVICE BLACK OR APPROVED EQUAL.
- 4. RODS MUST HAVE A MINIMUM OF 6" OF THREAD ON EACH END.
- 5. ALL NUTS USED ON TIES RODS MUST HAVE A WASHER.

# **DESIGN CRITERIA:**

1. FITTING SHOWN IS REPRESENTATIVE FOR ALL FITTINGS, VALVES, DEAD ENDS,

2. FOR WATER MAINS AT A RATED TEST PRESSURE OF 250 PSI.

TYPICAL TIE ROD RESTRAINT INSTALLATION NOT TO SCALE



NOTES:
1. SOIL PREPARATION SHALL BE APPROVED PRIOR TO POURING CONCRETE. REFER TO TYPICAL HORIZONTAL THRUST BLOCKING THIS SHEET FOR

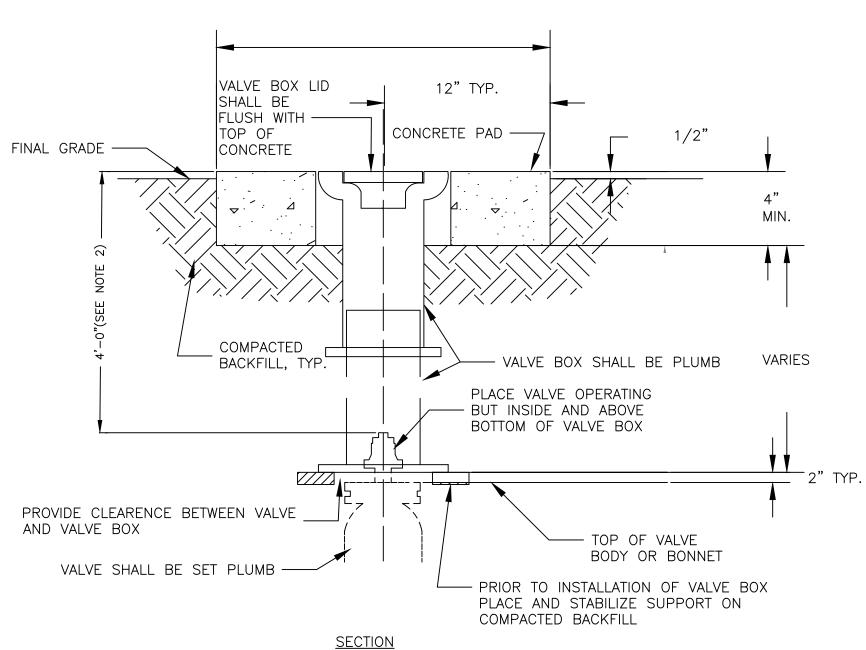
- DETAILS. 3. INSTALL THRUST BLOCK ONLY WHEN METHOD PIPE RESTRAINT IS UTILIZED 4. FOR PIPE SIZES LARGER THAN 16" THE DESIGN ENGINEER SHALL PROVIDE CALCULATIONS FOR RESTRAINED JOINT LENGTHS FOR REVIEW PRIOR TO INSTALLATION.
- RESTRAINED JOINT METHOD A: RESTRAINT JOINT PIPE AND FITTINGS. RESTRAINED JOINT METHOD B: ONE (1) OF THE FOLLOWING DUAL (2)
- INDEPENDENT RESTRAINTS: A. MEGA-LUGS PLUS THRUST BLOCKING.
- B. MEGA-LUGS PLUS RODDING.

THRUST RESTRAINT DIMENSIONS ARE BASED ON PRESSURE CLASS DUCTILE IRON PIPE WITH BITUMASTIC EXTERIOR COATING (WITHOUT POLYWRAP), MINIMUM SOIL BEARING PRESSURE OF 2,000 PSF, SILTY SOIL, TEST PRESSURE OF 250 PSI, 4 FEET OF UNSATURATED SOIL COVER, WITH A SAFETY FACTOR OF 1.5.

NOMINAL PIPE SIZE IN INCHES		6X4	8X6	10X8	12X10	14X12	16X14
RESTRAINED LENGTH IN FEET		42	44	42	44	44	44
NOMINAL PIPE SIZE IN INCHES			8X4	10X6	12X8	14X10	16X12
RESTRAINED LENGTH IN FEET			76	80	78	80	82
NOMINAL PIPE SIZE IN INCHES				10X4	12X6	14X8	16X10
RESTRAINED LENGTH IN FEET				104	110	112	116
		TEE					
NOMINAL PIPE SIZE IN INCHES	4	6	8	10	12	14	16
RESTRAINED LENGTH IN FEET	54	76	100	120	140	160	180
DEAD END OR CLOSED VALVE							
NOMINAL PIPE SIZE IN INCHES	4	6	8	10	12	14	16
RESTRAINED LENGTH IN FEET	54	76	100	120	140	160	180
	90	DEGRE	E BEND				
NOMINAL PIPE SIZE IN INCHES	4	6	8	10	12	14	16
RESTRAINED LENGTH IN FEET	54	76	100	120	140	160	180
	45	5 DEGRE	E BEND				
NOMINAL PIPE SIZE IN INCHES	4	6	8	10	12	14	16
RESTRAINED LENGTH IN FEET	23	32	41	50	58	67	75
	22 1	L/2 DEGF	REE BEN	D			
NOMINAL PIPE SIZE IN	4	6	8	10	12	14	16
INCHES	ı						

# TYPICAL HORIZONTAL THRUST RESTRAINT NOT TO SCALE

2'0" SQUARE CONCRETE COLLAR



- 1. SLIP-TYPE VALVE BOXES ONLY (NO EXCEPTIONS).
- 2. WHERE DEPTH OF COVER IS MORE THAN 5 FEET, CONTRACTOR SHALL PROVIDE SUITABLE, PERMANENTLY INSTALLED VALVE STEM EXTENSION AND GUIDE AT NO EXTRA COST TO GCDWR.
- 3. USE 6" SDR 35 PVC FOR DEEP EXTENSIONS.

TYPICAL VALVE BOX INSTALLATION NOT TO SCALE

# PH

REVISION REFERENCE

CHECKED BY

MDB

ISSUE DATE

SHEET TITLE

DETAILS

SCALE

AS SHOWN | 3/8/2024

PROJECT NUMBER

2388.009

DRAWING NUMBER

# **SWPPP NOTES**

- BEFORE CLEARING AND GRADING COMMENCE, IT IS REQUIRED THAT ALL NECESSARY EROSION AND SEDIMENT CONTROL MEASURES BE INSTALLED AS THE FIRST ITEM OF CONSTRUCTION.
- SITE EROSION CONTROLS SHALL BE CHECKED AND IF NECESSARY, REPAIRED WEEKLY AND WITHIN 24 HOURS AFTER EACH RAINFALL ≥ 1/2". IN THE EVENT OF CONTINUOUS RAINFALL, EROSION CONTROLS SHALL BE CHECKED DAILY.
- 4. SITE SHALL BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITIES HAVE CEASED.
- AT A MINIMUM OF TWICE A WEEK AND AT LEAST 72 HOURS APART, THE SITE IS TO BE INSPECTED BY AT LEAST A TDEC LEVEL 1 CERTIFIED PERSON TO ENSURE COMPLIANCE WITH MINIMUM EROSION CONTROL MEASURES.
- WITHIN TREE CONSERVATION AREAS, WATER QUALITY BUFFERS, ETC. THERE WILL BE NO PARKING, STORAGE, STOCKPILING, CONCRETE WASHOUT, OR DISTURBANCE OF ANY KIND ALLOWED.
- 7. ANY EXCAVATED SLOPES 35% OR STEEPER IS TO BE STABILIZED WITHIN 7 DAYS.
- ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL CONFORM TO THE LATEST EROSION AND SEDIMENT CONTROL REGULATIONS FOR THE STATE, COUNTY, OR CITY.
- 9. WHEN ANY CONSTRUCTION BORDERS A DRAINAGE COURSE, THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY BUILDING OR OTHER EXCAVATION SPOILED DIRT, CONSTRUCTION TRASH OR DEBRIS, ETC. FROM THE DRAINAGE AREAS SHOWN HEREON IN AN EXPEDITIOUS MANNER AS CONSTRUCTION PROGRESSES.
- 10. EROSION CONTROL MEASURES TO BE PLACED AT DOWNSTREAM TOE OF ALL CUT AND FILL SLOPES. SILT FENCE TO
- 11. SILT FENCE MUST MEET REQUIREMENTS OF THE SPECIFICATIONS CONTAINED IN THE CONSTRUCTION DETAILS OR AN EQUIVALENT PRODUCT APPROVED BY THE OWNER'S REPRESENTATIVE.
- PRIOR TO ANY OTHER CONSTRUCTION A STABILIZED CONSTRUCTION ENTRANCE SITE. THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY, THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLE OR SITE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED IMMEDIATELY.
- PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE ACTIVITY SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO LAND DISTURBANCE SHALL OCCUR OUTSIDE THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS. IF WETLAND EXIST ON-SITE ANY CLEARING MUST BE IN ACCORDANCE WITH THE WETLANDS PERMIT.
- 14. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION DEVICES AND STORMWATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
- 15. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAYS HAVE BEEN PAVED.
- 16. EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO GROUND DISTURBANCE. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL
- 17. CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES UNTIL PERMANENT VEGETATION HAS BEEN
- 18. THE CONTRACTOR SHALL REMOVE ACCUMULATED SILT WHEN THE SILT IS WITHIN 12" OF THE TOP OF THE SILT FENCE UTILIZED FOR EROSION CONTROL. IN THE SEDIMENTATION POND, SILT SHALL BE REMOVED WHEN A DEPTH OF 18" HAS
- 19. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB UNTIL SUCH MEASURES ARE CORRECTED.
- 20. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
- 21. ALL OPEN SWALES MUST BE GRASSED AND RIP-RAP PLACED AS REQUIRED TO CONTROL EROSION. A MINIMUM OF 4.5 SQUARE YARDS OF 50-LB STONES SHALL BE PLACED AT ALL DOWNSTREAM HEADWALLS. THE PLACEMENT OF RIP-RAP AT THE DOWNSTREAM HEADWALLS SHALL BE PLACED IMMEDIATELY UPON THE INSTALLATION OF PIPES AND DRAINAGE
- 22. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY
- 23. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE
- 24. EROSION AND SEDIMENT CONTROL SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR COMPLIANCE, INSTALLATION, MAINTENANCE AND REMOVAL AS REQUIRED BY THE REGULATIONS OF THE STATE. THE INSTALLATION OF THE REQUIRED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS A FIRST STEP IN CONSTRUCTION.
- 25. CONTRACTOR TO MAINTAIN ON-SITE DAILY LOG OF ALL MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES. LOG SHALL BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.
- 26. THE CONTRACTOR IS RESPONSIBLE TO SUBMIT THE NPDES NOTICE OF INTENT AND NOTICE OF TERMINATION TO THE APPROPRIATE STATE AGENCY.
- 27. IF ANY CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE
- 28. DURING THE FINAL PHASE OF THE SWPPP, ALL AREAS THAT ARE PLANTED WITH NATURAL VEGETATION SHALL HAVE AN APPROVED SOURCE OF OFFSITE 4" TOPSOIL LAYER APPLIED TO ASSIST IN THE ESTABLISHMENT OF NEW PLANTINGS.

# **GENERAL NOTES**

- . BASE MAP TOPOGRAPHIC DATA PROVIDED BY SEQUATCHIE COUNTY, TN GIS ON OCT. 26, 2023 2. THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
- 3. ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL AND LOCAL CODES.
- 4. ALL MATERIALS AND CONSTRUCTION METHODS TO BE IN ACCORDANCE WITH SEQUATCHIE COUNTY STANDARDS AND THE TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARDS, AS APPLICABLE.
- . DEVIATION FROM THESE PLANS AND SPECIFICATIONS WITHOUT THE PRIOR WRITTEN CONSENT OF THE ENGINEER MAY CAUSE THE WORK TO BE DEEMED UNACCEPTABLE.
- 6. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATIONS AND LIAISON WITH UTILITY COMPANIES IN THE PROCESS OF LOCATING, RELOCATION AND TIE-IN TO PUBLIC UTILITIES. ALSO, CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL INSPECTORS, INCLUDING COUNTY AND CITY INSPECTORS PRIOR TO BEGINNING SITE
- 7. THERE MAY BE ADDITIONAL UTILITIES THAN THOSE SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS AND NECESSARY INVERTS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE DEPARTMENT OF THE UTILITY COMPANIES. THE CONTRACTOR IS RESPONSIBLE FOR THE NOTIFICATIONS AND LIAISON WITH UTILITY COMPANIES IN THE PROCESS OF LOCATING, RELOCATING AND TIE-IN TO THE PUBLIC UTILITIES.
- B. IF CONTRACTOR DAMAGES ANY EXISTING UTILITIES DURING CONSTRUCTION, HE SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR THE UTILITIES TO ORIGINAL CONDITION AND QUALITY, AS APPROVED BY THE ENGINEER AND REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY.
- 9. LAND DISTURBANCE PERMIT TO BE DISPLAYED ON SITE AT ALL TIMES DURING CONSTRUCTION.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SET OF DESIGN DRAWINGS SHOWING ALL "AS-BUILT "CONDITIONS. THESE "RECORD DRAWINGS" SHALL BE MADE AVAILABLE TO THE DESIGNER AND/OR THE CITY INSPECTOR UPON REQUEST. THE MARK-UPS SHALL BE AT THE SITE AT ALL TIMES AND SHALL BE UTILIZED BY THE CONTRACTOR TO DEVELOP FINAL RECORD DRAWINGS.
- 11. STUMPS AND CONSTRUCTION DEBRIS SHALL BE DEPOSITED IN A PROPERLY PERMITTED LANDFILL.

# SWPPP:

# MOWBRAY MOUNTAIN WATER STORAGE - PHASE I

# NORTH WEST UTILITY DISTRICT

SODDY-DAISY, TN MARCH, 2024

### **FEMA MAP** National Flood Hazard Layer FIRMette Legend With BFE or Depth Zone AE, AO, AH, VE, AR SPECIAL FLOOD of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile 2 Future Conditions 1% Annual Chance Flood Hazard Zone X Area with Reduced Flood Risk due to Levee, See Notes, Zane X Area with Flood Risk due to Levee: Effective LOMRs GENERAL - - - Channel, Culvert, or Storm Sewe \_\_17.5 Water Surface Elevation Coastal Transect - sp--- Base Flood Elevation Line (BFE Limit of Study Jurisdiction Boundary -- -- Coastal Transect Baseline — Profile Baseline - Hydrographic Feature PROJECT AREA No Digital Data Available The pin displayed on the map is an approximat point selected by the user and does not represdigital flood maps if it is not void as described below. The basemap shown compiles with FEMA's basemap accuracy standards The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map vas exported on 10/25/2023 at 11:55 AM and does not flect changes or amendments subsequent to this date and time. The NFHL and effective information may change or This map image is void if the one or more of the following map legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for

# FEMA STATEMENT

THIS PROPERTY IS LOCATED WITHIN A 100 YEAR FLOOD HAZARD AREA BASED ON THE FLOOD INSURANCE RATE MAP FOR THIS AREA. THE MAP NUMBER FOR THIS PROJECT AREA IS 47011C0225E AND THE DATE OF SAID MAP IS 02/02/2007.

# RECEIVING WATERS INFORMATION

THE RECEIVING WATERS FOR THIS SITE ARE NORTH CHICKAMAUGA CREEK OF COOPER CREEK AND UNIDENTIFIED WATER OF GRAY CREEK. THERE ARE NO IMPAIRED STREAMS WITHIN 1 MILE OF THE SITE. NORTH CHICKAMAUGA CREEK OF COOPER CREEK IS NOT CONSIDERED A TMDL PRIORITY FOR SEDIMENTATION/SILTATION BY OFF-ROAD VEHICLES. UNIDENTIFIED WATER OF GRAY CREEK IS NOT CONSIDERED A TMDL PRIORITY FOR SEDIMENTATION/SILTATION BY OFF-ROAD VEHICLES. CONSTRUCTION OF THE MOWBRAY MOUNTAIN WATER STORAGE - PHASE I WATER LINE WILL NOT DISTURB OR IMPACT NORTH CHICKAMAUGA CREEK OF COOPER CREEK OR THE UNIDENTIFIED WATER OF GRAY CREEK THAT ARE SHOWN ON THE USGS AND PROJECT MAPS.

# **ENGINEER/PREPARER:**

Know what's **below**.

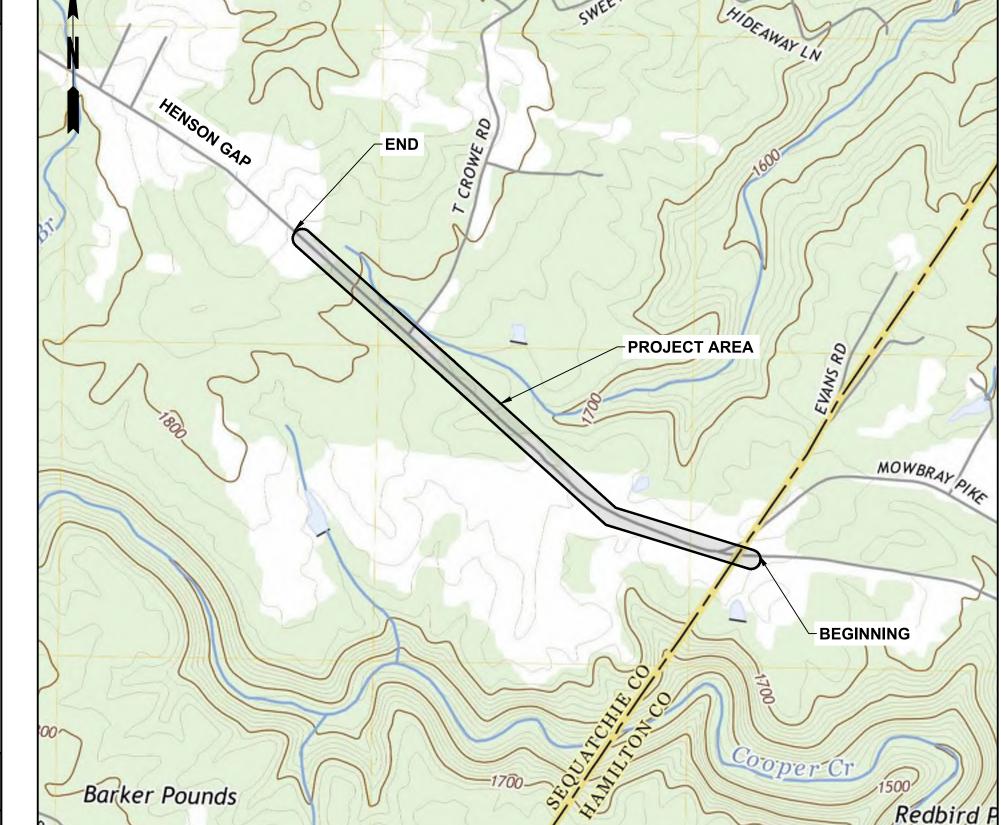
**Call** before you dig.

CROY ENGINEERING, LLC MELANIE BRUEGGEMANN, P.E. PHONE: (470)648-6033

# OWNER/DEVELOPER:

NORTH WEST UTILITY DISTRICT 9905 DAYTON PIKE SODDY-DAISY, TN 37379 TEL: (423)332-2427

TOTAL AREA = .29DISTURBED AREA = .29



SOURCE: USGS - HENSON GAP, TN DATE: 2022

24 HOUR CONTACT:

ADAM CHRNALOGAR

TEL: (423)661-9641

LEROSION CONTROL DETAILS

	SHEET INDEX					
DRAWING NAME	SHEET NAME	LAST REVISED				
EC-000	SWPPP COVER					
EC-100	SWPPP INITIAL & FINAL PHASE					
EC-101	SWPPP INITIAL & FINAL PHASE					
EC-102	SWPPP INITIAL & FINAL PHASE					
EC-900	EROSION CONTROL DETAILS					

LOCATION MAP

\_\_\_\_

1" = 1000

REVISION REFERENCE DATE



SWPPP COVER

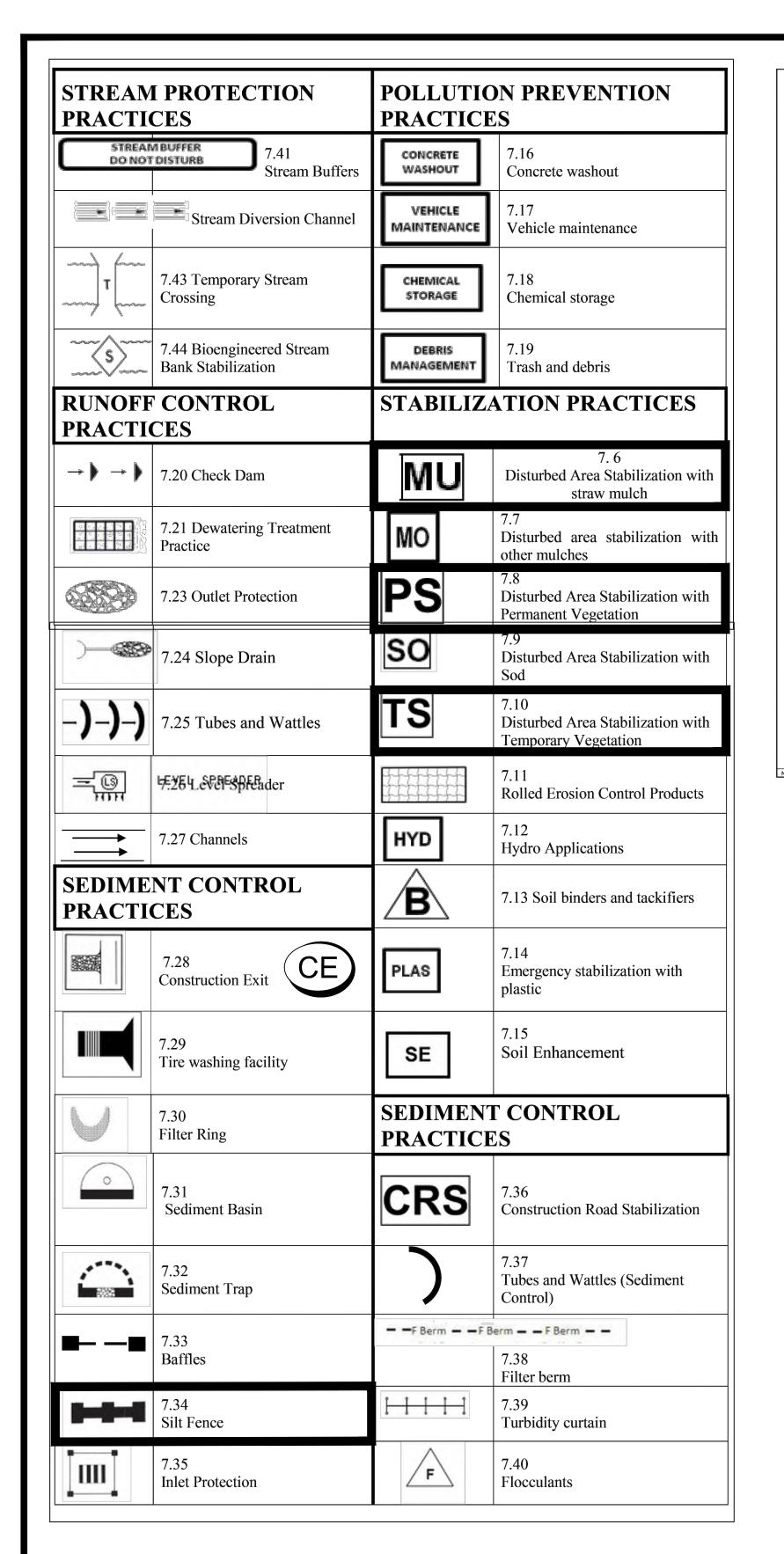
DRAWN BY	CHECKED BY
QM	MDB
SCALE	ISSUE DATE
AS SHOWN	3/8/2024

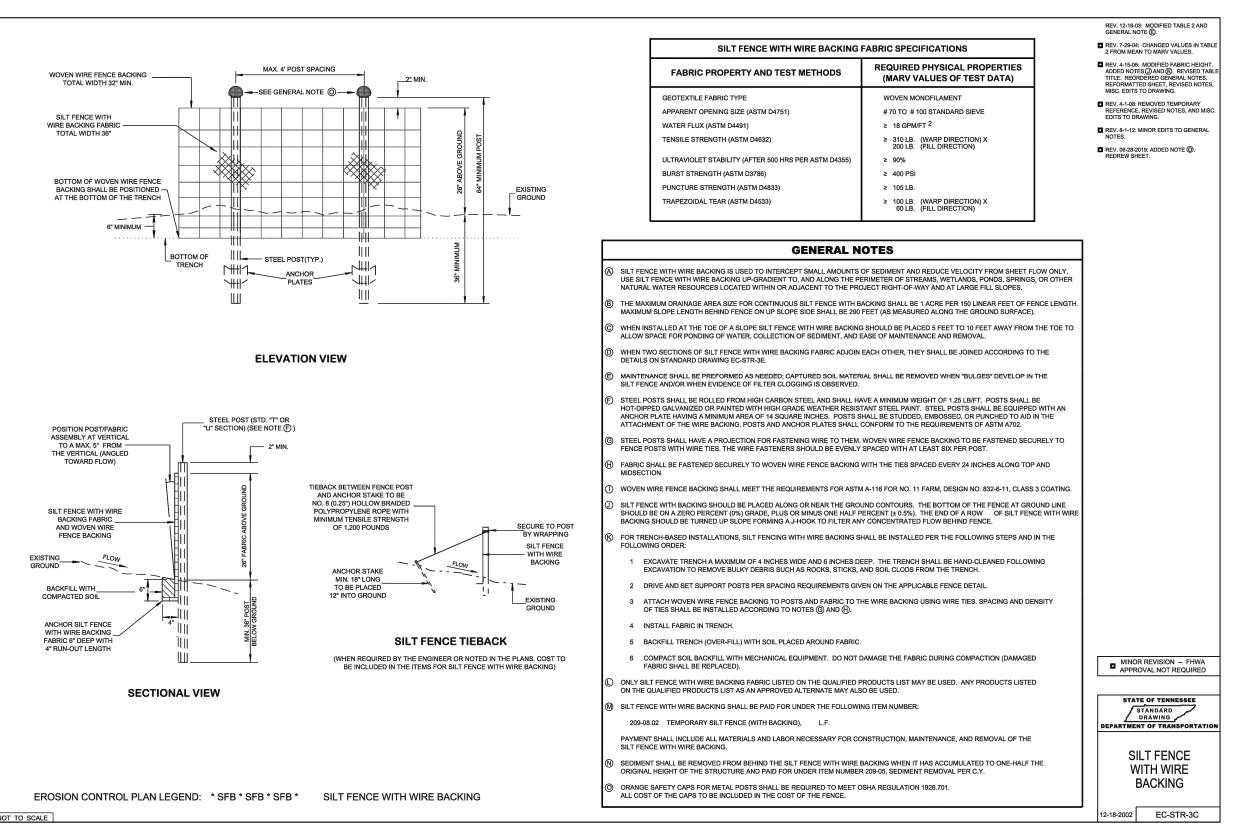
PROJECT NUMBER 2388.009











1270 MARKET STREE CHATTANOOGA, TN 374 PHONE: (423) 708-58



# MOWBRAY MOUNTAIN WATER STORAGE - PHASE NORTH WEST UTILITY DISTRICT

D. REVISION REFERENCE DATE

SEAL

OF TENNIS

SHEET TITLE
EROSION CONTROL
DETAILS

DRAWN BY
QM
MDB

SCALE
AS SHOWN
CHECKED BY
MDB
ISSUE DATE
3/8/2024

PROJECT NUMBER
2388.009
DRAWING NUMBER

EC-900

# PREFERRED SEED MIXES - PERMANENT VEGETATION

Table 7.9-1 Preferred seed mixes using natives or naturalized plants and planting dates.

	Zone	Best	Marginal	Preferred Rate/Mix (lb/ac PLS)
	Poorly drained soils	Feb 1 – Mar 20 Sept 1 – Sept 30	Mar 20 – Apr 30 Sept 30 – Oct 31	15 Browntop millet* (muse crop 2 switch grass 4 little bluestem 4 Virginia wild rye 4 purpletop 2 partridge pea 2 black-eyed susan
Region I	Well drained soils	Apr 1 – July 15		15 Browntop millet* (muse crop 4 little blue stem 4 purpletop 2 sideoats gramma 2 partridge pea 2 black-eyed susan
	High maintenance	Apr 1 – July 15		15 Browntop millet* (mase crop 2 partridge pea 45 Red fescue* 45 hard fescue* 25 chewing fescue*
	Low maintenance; Slopes and Poor, shallow soils	Ang 25 = Sept 15 Feb 15 = May 30	Sept 15 = Oct 25 Mar 21 = May 30	15 Browntop millet* (mase crop 5 little bluestem 2 switch grass 2 tall dropseed 5 sideoats gramma 2 black-eyed susan 2 partridge pea 1 greyheaded coneflower
Region II	Low maintenance; Moderate slopes; soils >6 in. depth	Aug 25 – Sept 15 Feb 15 – May 30	Sept 15 – Oct 25 Mar 21 – Apr 15	15 Browntop millet* (mase crop 5 purpletop 5 little bluestem 5 Virginia wild rye 2 black-eyed susan 2 partridge pea 1 greyheaded coneflower
	High maintenance	Aug 30 - Oct 15	Feb 15 Apr 15	15 Browntop millet* (mase crop 2 partridge pea 45 Red fescue* 45 hard fescue* 25 chewing fescue*
	>2500 ft elevation; steep slopes	Mar 20 - Apr 30	Aug 15 – Aug 30 Mar 1 – Mar 20 Apr 20 – June 15	15 Browntop millet* (muse crop 5 purpletop 10 little bluestem
	<2500 ft elevation; steep slopes	Aug 15 - Sept 1 Mar 1 - Apr 1	Sept 1 – Sept 15 Apr 1 – June 10	10 Indian grass 2 black-eyed susan 0.5 monarda (bergamot) 4 Maryland senna
	>2500 ft elev.; Shallow soils	Mar 20 – Apr 20	Ang 15 – Aug 30 Mar 5 – Mar 20 April 20 – June 15	15 Browntop millet* (muse crop 4 purpletop 10 little bluestem
Region III	<2500 ft elev.; Shallow soils	Aug 15 – Sept 1 Mar 1 – Apr 1	Sept 1 = Sept 15 Apr 1 = June 10	10 broomsedge 2 partridge pea 2 black-eyed susan 0.5 monarda (bergamot)
	>2500 ft. elev.; Moderate slopes	Mar 20 – Apr 20	Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – June 15	15 Browntop millet* (nurse crop 4 purpletop 10 little bluestem
	<2500 ft. elev.; Moderate slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	Sept 1 – Sept 15 Apr 1 – June 10	10 Indian grass 2 black-eyed susan 0.5 monarda (bergamot) 4 Maryland senna
	>2500 ft elev.; High maintenance	Mar 20 - Apr 20	Aug 15 - Aug 30 Mar 5 - Mar 20 Apr 20 - June 15	15 Browntop millet* (muse crop 45 Red fescue* 45 hard fescue*
	2500 ft elev.; High maintenance	Aug 15 - Sept 1 Mar 1 - Apr 1	Sept 1 – Sept 15 Apr 1 – June 10	25 chewing fescue*

PERMANENT SEEDING SCHEDULE								
BEST PLANTING DATES	MARGINAL PLANTING DATES	RATE/MIX (POUNDS PER ACRE OF PURE LIVE SEED)						
AUGUST15 — SEPTEMBER 1; MARCH 1 — APRIL 1	SEPTEMBER 1 — SEPTEMBER 15; APRIL 1 — JUNE 10	15 BROWNTOP MILLET 4 PURPLETOP 10 LITTLE BLUESTEM 10 INDIAN GRASS 2 BLACK-EYED SUSAN 0.5 MONARDA 4 MARYLAND SENNA						

# REVEGETATION NOTES:

- 1. TOTAL AREA TO BE REVEGETATED: 0.27 ACRES
- 2. ANY DISTURBED AREAS TO RECEIVE SEED PER SEEDING SCHEDULE (SHOWN ABOVE).
- 3. ALL SÉED VARIETIES WITHIN SEED MIX SHALL HAVE A MINIMUM OF 80% PURE LIVE SEED; ALL MIX TAGS SHOULD BE RETAINED BY CONTRACTOR FOR VERIFICATION BY OWNER.
- 4. STRAW MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS AND MUST BE APPLIED IMMEDIATELY AFTER THE APPLICATION OF SEED. THE APPLICATION RATE FOR MULCH IS 2 TONS PER ACRE WITH OVERALL UNIFORM SOIL COVERAGE OF 70%. ALL MULCH MUST BE ANCHORED.
- 5. AN ACCEPTABLE STAND OF VEGETATION MUST BE ESTABLISHED PRIOR TO ACCEPTANCE AS DETERMINED BY LANDSCAPE ARCHITECT.

# ALLOWABLE SEED MIXES - PERMANENT VEGETATION

Table 7.9-2 Allowable seed mixes and planting dates.

	Zone	Best	Marginal	Rate/Mix (lb/ac PLS)	
Region I	Peorly drained soils	Feb 1 – Mar 20 Sept 1 – Sept 30	Mar 20 – Apr 30 Sept 30 – Oct 31	80 Pensacola bahiagrass 30 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**	
	Well drained soils	Apr 1 – July 15		50 Pensacola bahiagrass 15 Bermudagrass (hulled) 30 Korean lespedeza** 15 Foxtail millet**	
	High maintenance	Apr 1 - July 15		40 Bermudagrass (hulled)	
Region II	Low maintenance; Slopes and Poor, shallow soils	Aug 25 - Sept 15 Feb 15 - Mar 21	Sept 15 – Oct 25 Mar 21 – Apr 15	100 Pensacola bahiagrass 40 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**	
	Low maintenance; Moderate slopes; soils >6 in. depth	Aug 25 - Sept 15 Feb 15 - Mar 21	Sept 15 = Oct 25 Mar 21 = Apr 15	80 Pensacola bahiagrass 30 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**	
	High maintenance	Aug 15 - Oct 15	Feb 15 - Apr 15	200 KY 31 fescue**	
Region III	>2500 ft elevation; steep slopes	July 25 - Aug 15 Mar 20 - Apr 20	July 15 – July 25 Ang 15 – Aug 30 Mar 1- Mar 20 Apr 20 – May 15	100 KY 31 fescue** 20 Kobe lespedeza** 10 Korean lespedeza**	
	<2500 ft elevation; steep slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 - Aug 15 Sept 1 - Sept 15 Apr 1 - May 10	5 Redtop	
	>2500 ft elev.; Shallow soils	July 25 - Aug 15 Mar 20 - Apr 20	July 15 – July 25 Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – May 15	40 KY 31 Fescue** 10 Korean lespedeza**	
	<2500 ft elev.; Shallow soils	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 - Aug 15 Sept 1 - Sept 15 Apr 1 - May 10	10 Redtop 10 Crown vetch**	
	>2500 ft. elev.; Moderate slopes	July 25- Aug 15 Mar 20 – Apr 20	July 15 = July 25 Ang 15 = Aug 30 Mar 5 = Mar 20 Apr 20 = May 15	60 KY 31 fescue** 15 Korean lespedeza**	
	<2500 ft. elev.; Moderate slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 - Aug 15 Sept 1 - Sept 15 Apr 1 - May 10	15 Kobe lespedeza**	
	>2500 ft elev.; High maintenance	July 25 - Aug 15 Mar 20 - Apr 20	July 15 - July 25 Aug 15 - Aug 30 Mar 5 - Mar 20 Apr 20 - May 15	200 KY 31 fescue**	
	<2500 ft elev.; High maintenance	Aug 15 - Sept 1 Mar 1 - Apr 1	July 25 - Aug 15 Sept 1 - Sept 15 Apr 1 - May 10		

# TEMPORARY SEEDING REQUIREMENTS

Rate (lb/acre)
120
S
Above 2500 feet: Feb. 15 - May 15
Below 2500 feet: Feb. 1- May 1
Jan. 1 - May 1
Dec. 1 - Apr. 15

### Soil amendments

Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

### Mulch

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool

### Maintenance

Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

# Temporary Seeding Recommendation for Late Winter and Early Spring

Species Oats	Rate (lb/acre)	
Oats	60	
Brown top millet	30	
Brown top millet Seeding dates		
East		
Middle	May 1 - Aug. 15 Apr. 15 - Aug. 15	
West	Apr. 15 - Aug. 15	
Soil amendments		
	is of soil tests or apply 2,000 lb/acre ground agr	ricultural limestone

# and 750 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring

### Maintenance

Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

**Temporary Seeding Recommendation for Summer** 

Species	Rate (lb/acre)		
Oats	30		
Winter wheat	30		
Seeding dates			
East	Aug 15 – Dec 15		
Middle Aug. 15 – Dec 30			
West	Aug. 15 – Dec 30		

# **Soil amendments**

Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

# Mulch

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

# Maintenance

Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage. If necessary to extend temporary cover beyond June 15, overseed with 50 lb/ac crimson clover in late February or early March.

**Temporary Seeding Recommendations for Fall** 

MARKET STREET 400GA, TN 37402 (423) 708–5858

1270 MARK
CHATTANOOG,
PHONE: (423)

TATO

CHATTA

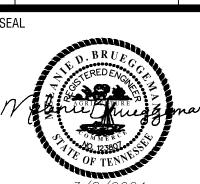
PHONE

THESE PLANS AND DRAWINGS ARE NOT TO

WHATSOEVER WITHOUT FIRST OBTAIN
ENGINEERING 11.C. NOR ARE THEY TO BE ASSISTED.

ATER STORAGE - PHA NORTH WEST UTILITY DISTRICT

. REVISION REFERENCE DATE



SHEET TITLE
EROSION CONTROL
DETAILS

DRAWN BY	CHECKED BY
QM	MDB
SCALE	ISSUE DATE
AS SHOWN	3/8/2024

PROJECT NUMBER
2388.009
DRAWING NUMBER

EC-901