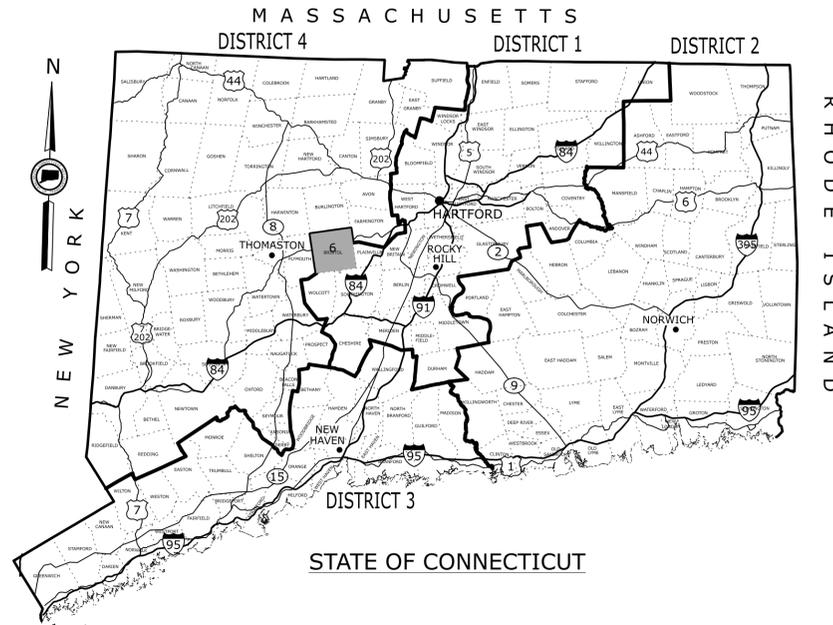


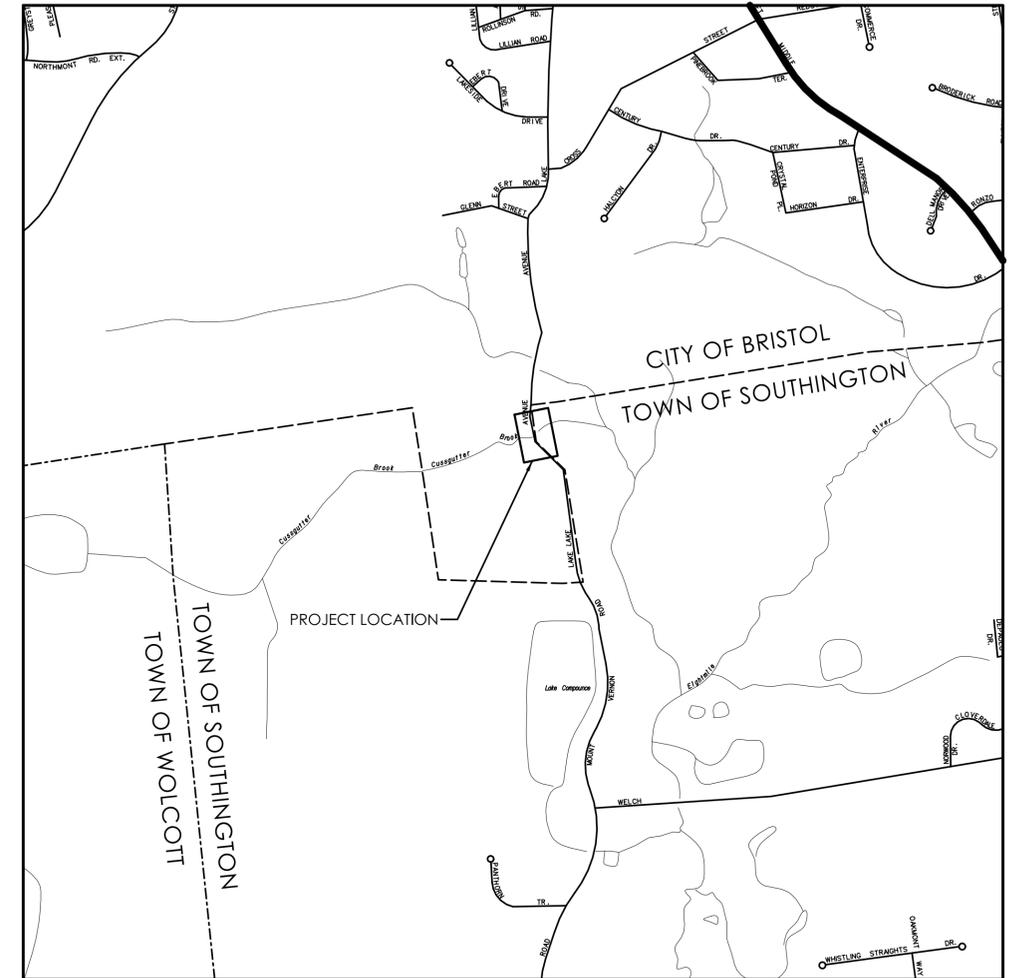
Plans For
**REPLACEMENT OF BRIDGE NO. 017005
 LAKE AVENUE OVER CUSSGUTTER BROOK**

Town(s)/City of
CITY OF BRISTOL



ROAD	MAINTENANCE RESPONSIBILITY	LENGTH
LAKE AVENUE	CITY OF BRISTOL	291 FEET

F.A.P. #	MAINTENANCE RESPONSIBILITY	PROJECT #
####(###)	CITY	9017-0005



LOCATION PLAN
 NOT TO SCALE

GENERAL NOTES:

- CONSTRUCTION SPECIFICATIONS:
 Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 818, dated 2020; Supplemental Specifications, dated January 2023; and Special Provisions
- 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM N.A.D. 1983
- VERTICAL DATUM BASED ON NAVD 1988
- Surveyed By: WSP USA
- ALL CONSTRUCTION ACTIVITIES WILL BE CONDUCTED IN ACCORDANCE WITH THE DEPARTMENTS STANDARD SPECIFICATIONS FOR ROADS, BRIDGE, AND INCIDENTAL CONSTRUCTION, FORM 818, SECTION 1.10 AND WILL ALSO FOLLOW REQUIRED BEST MANAGEMENT PRACTICES (BMPs) AND SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE 2002 EROSION & SEDIMENTATION CONTROL GUIDELINES AND THE 2004 STORMWATER QUALITY MANUAL.

LIST OF SUBSETS

SUBSET NO.	SUBSET TITLE	*SUBSET SHEET COUNT
01	GENERAL	2
02	REVISIONS	1
03	CIVIL	15
04	STRUCTURES	13
	HIGHWAY STANDARDS	16
	TRAFFIC STANDARDS	8

LIST OF DRAWINGS

DWG. NO.	DRAWING TITLE
G-01	TITLE SHEET
G-02	DETAILED ESTIMATE SHEET

STANDARD CONVENTIONS

North Arrow W/No. Coord.	Grid Arrow	Chain Link Fence	Water Edge	Riprap
Edge Of Road	Limit Of Marsh	Rustic Fence	Stream	Hedge Row
Concrete Pavement	Stone Wall	Pipe Fence	Ditch	Tree Line
Dirt Road	Ledge Outcrop	Board Fence	TOWN LINE	Shrub
B.C.L.C.	Inland Wetland Limits	Property Line	Highway Line	Evergreen Tree
Granite Curb	STATE LINE	Lot Line	Street Line	Deciduous Tree
Guide Rail	Power Line	Easement Line		Retaining Wall
Concrete Median Barrier	Swamp			
Bit. Walk	Building			
Conc. Sidewalk	Transmission Tower			
Railroad Tracks				

Plans For
**REPLACEMENT OF BRIDGE NO. 017005
 LAKE AVENUE OVER CUSSGUTTER BROOK**

Town(s)/City
CITY OF BRISTOL

STATE PROJECT NO.

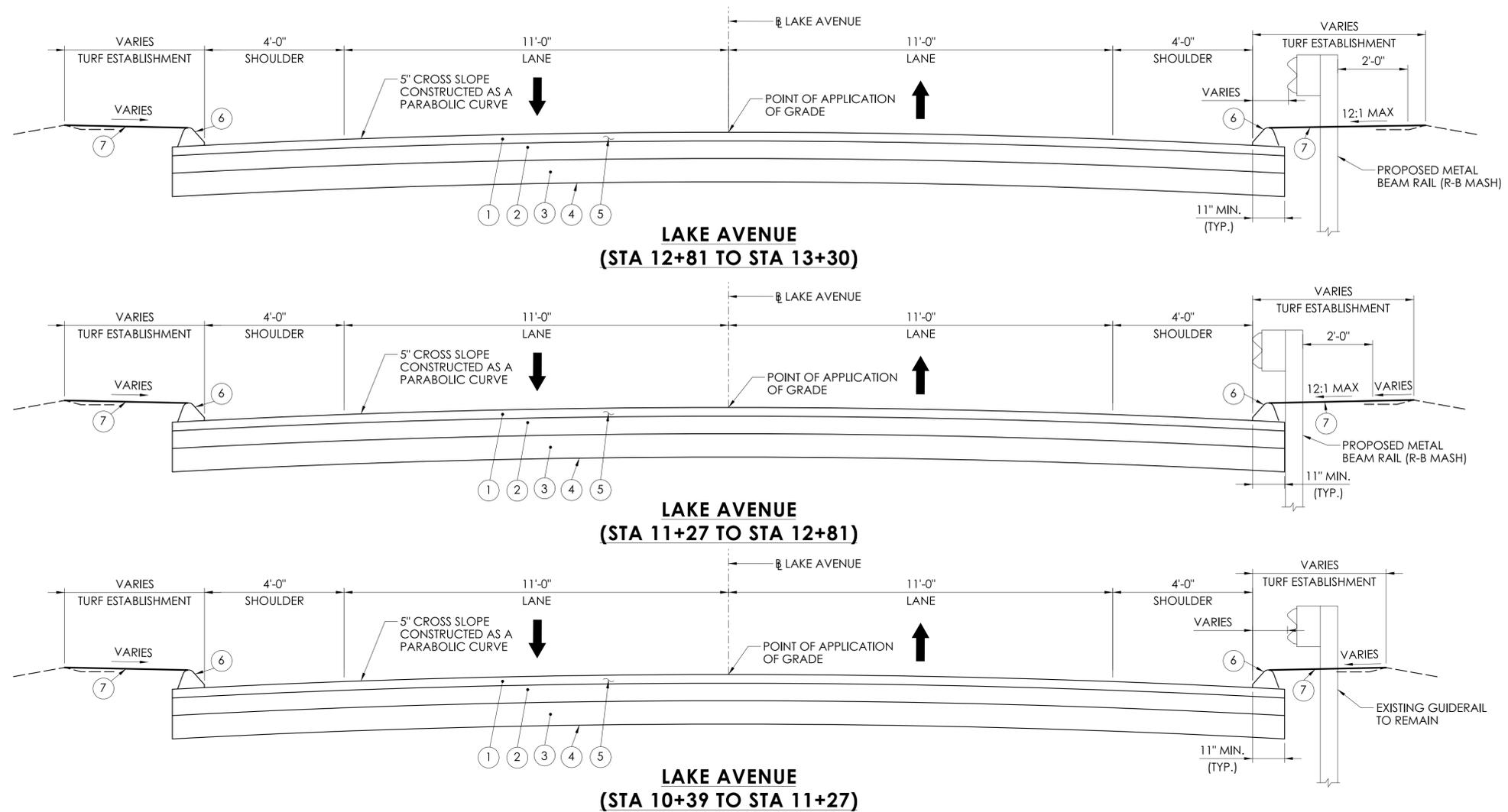
9017-0005

DRAWING NO.

G-01

SHEET NO.

1



LEGEND

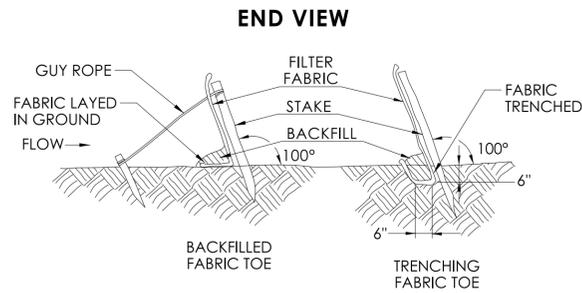
- ① 4" HMA S0.5 TRAFFIC LEVEL 2 (PLACED IN 2 EQUAL LIFTS)
- ② 6" PROCESSED AGGREGATE BASE
- ③ 8" SUBBASE
- ④ FORMATION OF SUBGRADE
- ⑤ MATERIAL FOR TACK COAT
- ⑥ BITUMINOUS CONCRETE LIP CURBING (6" REVEAL)
- ⑦ 4" FURNISHING AND PLACING TOPSOIL & TURF ESTABLISHMENT - LAWN
- ↑ DIRECTION OF TRAVEL AHEAD STATION
- ↓ DIRECTION OF TRAVEL BACK STATION

NOTES:

1. SEE HW-922_01 FOR BITUMINOUS CONCRETE DRIVEWAY TYPICAL SECTION
2. SEE MAINTENANCE AND PROTECTION OF TRAFFIC, STAGING, AND WATER HANDLING PLAN - NOTES FOR TEMPORARY PAVEMENT SECTION

GENERAL NOTES:

1. TOPOGRAPHIC INFORMATION IS BASED UPON FIELD SURVEY CONDUCTED BY WSP USA, INC (HORIZONTAL DATUM - NAD83, VERTICAL DATUM NAVD 1988). STREET AND PROPERTY LINE INFORMATION DEPICTED ARE BASED ON LIMITED FIELD SURVEYS AND FROM VARIOUS SOURCES.
2. THE LOCATION OF EXISTING UTILITIES HAS BEEN BASED UPON AVAILABLE INFORMATION AND MAY BE INCOMPLETE, AND WHERE SHOWN, SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO BEGINNING CONSTRUCTION. CALL "CALL BEFORE YOU DIG", 1-800-922-4455. ALL UTILITY LOCATIONS THAT DO NOT MATCH THE VERTICAL OR HORIZONTAL CONTROL SHOWN ON THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
3. WSP USA ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF MAPS AND DATA WHICH HAVE BEEN SUPPLIED BY OTHERS.
4. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR, PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY FOR DETERMINATION.
5. SEDIMENT AND EROSION CONTROL MEASURES, AS DEPICTED ON THESE PLANS, SHALL BE IMPLEMENTED PRIOR TO CONSTRUCTION AND MAINTAINED UNTIL PERMANENT COVER STABILIZATION IS ESTABLISHED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL CONFORM TO THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", AND IN ALL CASES BEST MANAGEMENT PRACTICES SHALL PREVAIL. THE DESIGNATED BRISTOL INLAND WETLANDS AGENT SHALL BE NOTIFIED OF ANY SOIL AND EROSION CONTROL MEASURES NOT DEPICTED ON THE PLANS.
6. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH APPROPRIATE UTILITY COMPANIES REGARDING RESETTING OF THEIR FACILITIES AND SCHEDULING OF SUCH WORK.
7. ANY MAINTENANCE OR REFUELING OF EQUIPMENT AND VEHICLES SHALL BE PERFORMED AT LEAST 50' FROM WETLANDS OR WATERCOURSES. OIL, GASOLINE, AND CHEMICALS NEEDED AT THE SITE SHALL BE STORED IN A SECONDARY CONTAINER AT LEAST 50' FROM WETLANDS OR WATERCOURSES TO PREVENT CONTAMINATION FROM POSSIBLE LEAKS. CONTRACTOR SHALL HAVE A SPILL KIT ON SITE AT ALL TIMES.
8. THE PLANS REQUIRE A CONTRACTOR'S WORKING KNOWLEDGE OF LOCAL, MUNICIPAL, WATER AUTHORITY, AND STATE CODES FOR UTILITY SYSTEMS. ANY CONFLICTS BETWEEN MATERIALS AND LOCATIONS SHOWN, AND LOCAL REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE EXECUTION OF WORK. THE ENGINEER WILL NOT BE HELD LIABLE FOR COSTS INCURRED TO IMPLEMENT OR CORRECT WORK WHICH DOES NOT CONFORM TO LOCAL CODE.
9. ALL SLOPES AND DISTURBED AREAS ARE TO BE STABILIZED WITH 4" TOPSOIL AND TURF MUST BE ESTABLISHED UNLESS OTHERWISE NOTED ON THE PLANS.
10. DRIVEWAY PAVING LIMITS SHALL MATCH EXISTING CONDITIONS. DRIVEWAYS SHALL BE SAWCUT NEAT AND TACK COAT SHALL BE APPLIED PRIOR TO PAVING.
11. WATER FOR DUST CONTROL SHALL BE USED, OTHER MEANS WILL REQUIRE CITY APPROVAL PRIOR TO USE.
12. THE CONTRACTOR SHALL RESET ANY DISTURBED MONUMENTS IDENTIFIED ON THE PLANS TO THE PROPER ELEVATION AND LOCATION AT HIS OWN EXPENSE. (THE ENGINEER AND THE CITY MUST BE NOTIFIED WHEN THIS IS DONE.)

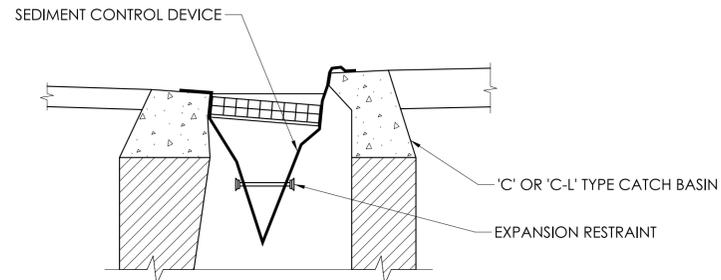


SELF SUPPORTING SILT FENCE SHOULD BE PLACED SO THE FENCE LEANS TOWARD THE SOURCE OF SEDIMENT. SPACING OF STAKES AND USE OF GUY ROPES ARE DETERMINED ACCORDING TO FIELD NEEDS.

GUY ROPE/WIRE AND TIE BACK STAKE SHOULD BE OF SUFFICIENT SIZE TO WITHSTAND THE EXPECTED LOAD. FOLLOW MANUFACTURER'S RECOMMENDATION FOR TRENCH DIMENSIONS.

SEDIMENTATION CONTROL SYSTEM INSTALLATION

NOT TO SCALE

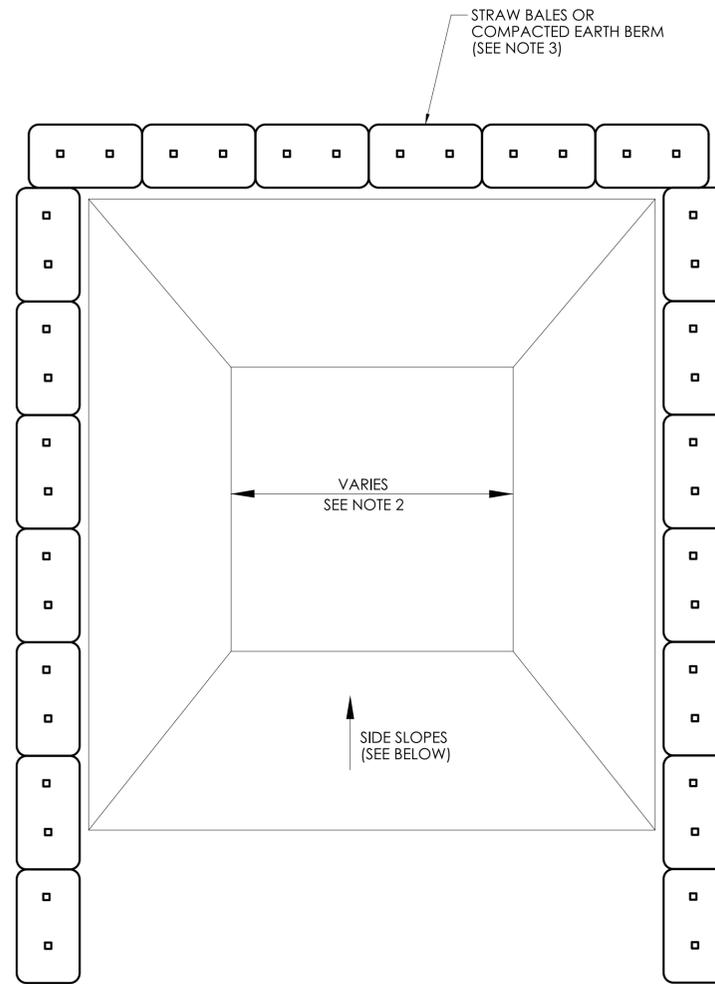


NOTE: SEDIMENT CONTROL DEVICE TO REMAIN IN CB UNTIL AREA IS COMPLETELY STABILIZED.

SEDIMENT CONTROL SYSTEM AT CATCH BASIN

NOTES:

1. MINIMUM STAKE LENGTH IS 42 INCHES.
2. MINIMUM STAKE EMBEDMENT DEPTH IS 18 INCHES.
3. MINIMUM LENGTH OF SILT FENCE IS 15 FEET.
4. MAXIMUM POST SPACING IS 10 FEET.
5. JOINTS ONLY AT SUPPORT POST WITH MINIMUM 6 INCH OVERLAP, SECURELY SEALED.
6. SEDIMENTATION DEPOSITS SHALL BE REMOVED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILT FENCE.
7. SILT FENCE SHALL NOT BE USED IN A WATER COURSE.
8. UPON ESTABLISHMENT OF GROUND COVER ON DISTURBED AREAS, AND WHEN DIRECTED BY THE ENGINEER, FENCE WILL BE REMOVED AND ANY SEDIMENTATION WILL BE THINLY SPREAD UPON EXISTING GROUND COVER.



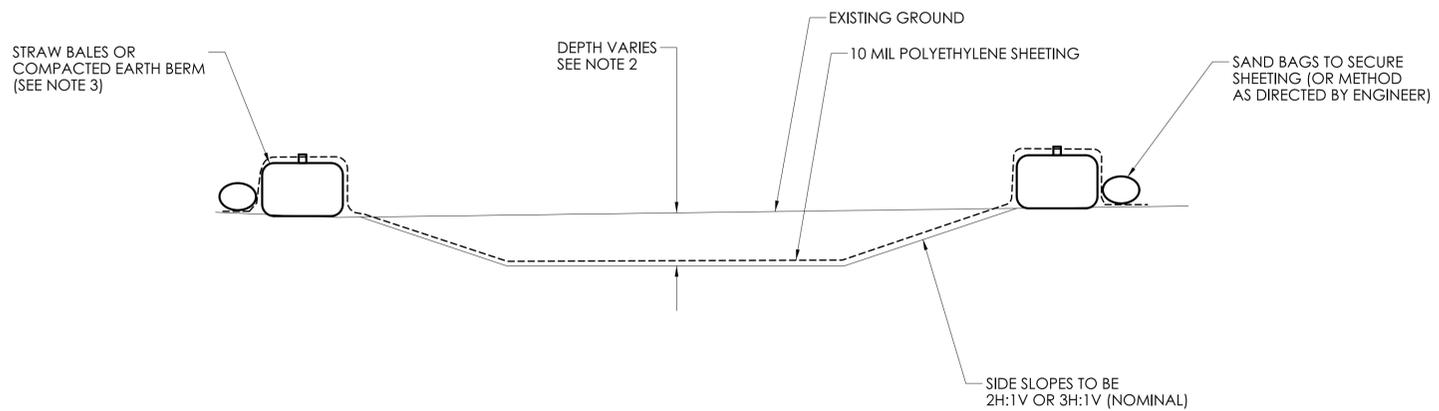
PLAN

GENERAL NOTES:

1. CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. THE CONCRETE WASHOUT AREA SHALL BE ENTIRELY SELF-CONTAINED.
2. THE CONTRACTOR SHALL SUBMIT THE DESIGN, LOCATION AND SIZING OF THE CONCRETE WASHOUT AREA(S) WITH THE PROJECT'S EROSION AND SEDIMENTATION CONTROL PLAN AND SHALL BE APPROVED BY THE ENGINEER.

LOCATION: WASHOUT AREA(S) ARE TO BE LOCATED AT LEAST 50 FEET FROM ANY STREAM, WETLAND, STORM DRAINS, OR OTHER SENSITIVE RESOURCE. THE FLOOD CONTINGENCY PLAN MUST ADDRESS THE CONCRETE WASHOUT IF THE WASHOUT IS TO BE LOCATED WITHIN THE FLOODPLAIN.

SIZE: THE WASHOUT MUST HAVE SUFFICIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS INCLUDING, BUT NOT LIMITED TO, OPERATIONS ASSOCIATED WITH GROUT AND MORTAR.
3. SURFACE DISCHARGE IS UNACCEPTABLE. THEREFORE, STRAW BALES OR OTHER CONTROL MEASURES, AS APPROVED BY THE ENGINEER, SHOULD BE USED AROUND THE PERIMETER OF THE CONCRETE WASHOUT AREA FOR CONTAINMENT.
4. SIGNS SHOULD BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CONCRETE AREA(S) AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS. WASHOUT AREA(S) SHOULD BE FLAGGED WITH SAFETY FENCING OR OTHER APPROVED METHOD.
5. WASHOUT AREA(S) ARE TO BE INSPECTED AT LEAST ONCE A WEEK FOR STRUCTURAL INTEGRITY, ADEQUATE HOLDING CAPACITY AND CHECKED FOR LEAKS, TEARS, OR OVERFLOWS. (AS REQUIRED BY THE CONSTRUCTION SITE ENVIRONMENTAL INSPECTION REPORT) WASHOUT AREA(S) SHOULD BE CHECKED AFTER HEAVY RAINS.
6. HARDENED CONCRETE WASTE SHOULD BE REMOVED AND DISPOSED OF WHEN THE WASTE HAS ACCUMULATED TO HALF OF THE CONCRETE WASHOUT'S DEPTH. THE WASTE CAN BE STORED AT AN UPLAND LOCATION, AS APPROVED BY THE ENGINEER. ALL CONCRETE WASTE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH ALL APPLICABLE LAWS, REGULATIONS, AND GUIDELINES.
7. PAYMENT FOR THIS ITEM IS TO BE INCLUDED UNDER THE GENERAL COST OF THE WORK FOR THE PROJECT, INCLUDING SITE RESTORATION.



CONCRETE WASHOUT AREA

NOT TO SCALE (SEE NOTE 2)

NOT TO SCALE

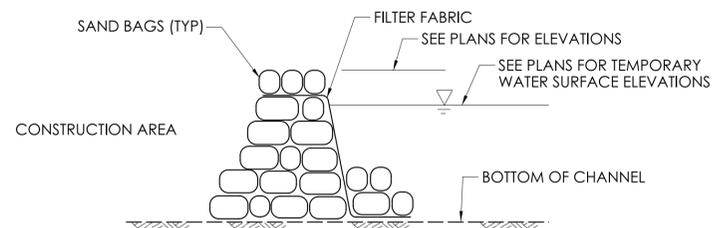
SIGNATURE/
BLOCK:



S - SERIES						W1 - SERIES						W2 - SERIES						W3 - SERIES						W4 - SERIES						W5 - SERIES						W6 - SERIES						W7 - SERIES						W8 - SERIES																													
 LEGEND - BLACK BACKGROUND - FLUORESCENT YELLOW GREEN						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.75 36 41-2112 1 .080 12.00 48 41-2113 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4006 1 .080 9.00 36 41-4031 1 .080						 LEGEND - BLACK BACKGROUND - FLUORESCENT YELLOW (LEFT OR RIGHT) AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 8.00 48X24 41-4223 2 .100 12.50 60X30 41-4262 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4226 1 .080 9.00 36 41-4236 1 .080						 OCTAGON - RED AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-0501 1 .080 16.00 48 41-0503 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4448 1 .080 16.00 48 41-4452 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4449 1 .080 16.00 48 41-4459 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4402 1 .080 16.00 48 41-4404 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4335 1 .080 16.00 48 41-4330 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4335 1 .080 16.00 48 41-4330 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4506 1 .080 9.00 36 41-4530 1 .080 16.00 48 41-4508 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4519 1 .080 9.00 36 41-4520 1 .080 16.00 48 41-4521 2 .100					

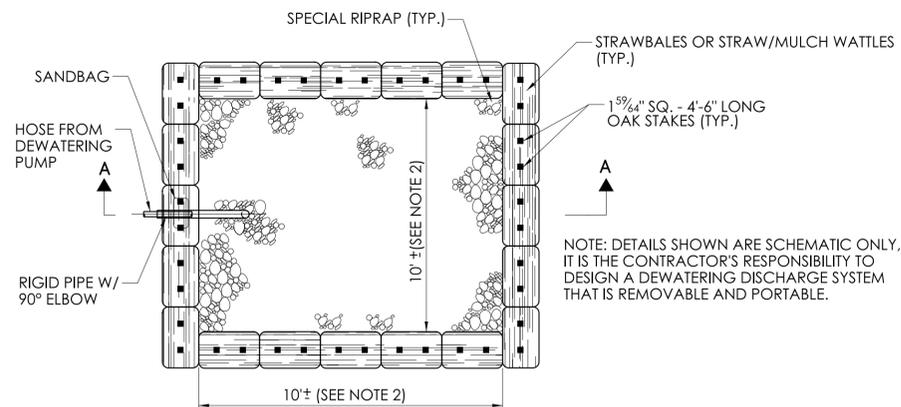
 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4029 1 .080 9.00 36 41-4169 1 .080						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4168 1 .080 9.00 36 41-4032 1 .080						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 8.00 48X24 41-4207 2 .100 12.50 60X30 41-4208 2 .100						 (LEFT OR RIGHT) AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4225 1 .080 9.00 36 41-4235 1 .080						 TRIANGLE - RED & WHITE AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-0504 1 .080 16.00 48 41-0506 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4442 1 .080 16.00 48 41-4446 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4441 1 .080 16.00 48 41-4447 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4329 1 .080 16.00 48 41-4331 2 .100					
 LEGEND - BLACK BACKGROUND - FLUORESCENT YELLOW (LEFT OR RIGHT) AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 3.00 18X24 41-3951 1 .080 7.50 30X36 41-4211 1 .080 12.00 36X48 41-4260 2 .080						 SYMBOL & LEGEND - BLACK BACKGROUND - YELLOW TOP CIRCLE - RED BOTTOM CIRCLE - GREEN AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-0835 1 .080 16.00 48 41-0848 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4468 1 .080 16.00 48 41-4435 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4470 1 .080 16.00 48 41-4434 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4470 1 .080 16.00 48 41-4434 2 .100																							
 WHEN FLASHING STOP AHEAD W/ FLASHERS AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 25.00 60 41-0534 2 .125																																															

W9 - SERIES						W11 - SERIES						W12 - SERIES						W13 - SERIES						W16 - SERIES						RETROREFLECTIVE STRIP																																			
 LEFT LANE ENDS AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4443 1 .080 16.00 48 41-4444 2 .100						 RIGHT LANE ENDS AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4440 1 .080 16.00 48 41-4445 2 .100						 LEGEND - BLACK BACKGROUND - FLUORESCENT YELLOW GREEN AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4829 1 .080 9.00 36 41-4830 1 .080						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4213 1 .080 9.00 36 41-4215 1 .080						 00'-0" AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4706 1 .080 16.00 48 41-4708 2 .100						 00 M.P.H. (SUBPLATE) AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 2.25 18X18 41-5566 .080 4.00 24X24 41-5567 .080 6.25 30X30 41-5574 .080						 000 FT (SUBPLATE) USE AT ADVANCE SIGN LOCATION LEGEND - BLACK BACKGROUND - FLUORESCENT YELLOW GREEN AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 2.00 24X12 41-6140 .080						 (SUBPLATE) USE AT CROSSWALK LEGEND - BLACK BACKGROUND - FLUORESCENT YELLOW GREEN AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 2.00 24X12 41-2617 .080						 (SUBPLATE) USE AT CROSSWALK LEGEND - BLACK BACKGROUND - FLUORESCENT YELLOW GREEN AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 2.00 24X12 41-2619 .080						 AHEAD (SUBPLATE) USE AT ADVANCE SIGN LOCATION LEGEND - BLACK BACKGROUND - FLUORESCENT YELLOW GREEN AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 2.00 24X12 41-6126 .080 3.75 30X18 41-6137 .080						LEGEND - N/A BACKGROUND - FLUORESCENT YELLOW GREEN AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 1.50 4X48 41-5001 1 .080 2.00 4X72 41-5006 1 .080					
 LANE ENDS MERGE LEFT AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4454 1 .080 16.00 48 41-4456 2 .100						 LANE ENDS MERGE RIGHT AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 9.00 36 41-4453 1 .080 16.00 48 41-4455 2 .100						 AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 6.25 30 41-4680 1 .080 9.00 36 41-4681 1 .080						 (SUBPLATE) AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 5.00 30X24 41-4721 .080						 (SUBPLATE) AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 5.00 30X24 41-4722 .080						 EXIT 00 M.P.H. AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 12.00 36X48 41-5596 2 .100						 41-6130 000 FT 41-6134 0000 FT (SUBPLATE) USE AT ADVANCE SIGN LOCATION AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 2.00 24X12 41-6130 .080 3.75 30X18 41-6134 .080						NOTES: 1. FOR SPECIFIC SIGN DESIGN CONTACT CONN. D.O.T., DIVISION OF TRAFFIC ENGINEERING. FOR BOLT HOLE PATTERN REFER TO FHWA PUBLICATION "STANDARD HIGHWAY SIGNS". SIGNS OF DIFFERENT DIMENSIONS TO BE ERRECTED ON THE SAME POSTS, OR SPAN/MAST ARM MOUNTED, MAY REQUIRE SPECIAL BOLT HOLE PATTERNS. 2. POSTS - SEE STANDARD SHEET TR-1208_02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS." 3. POSTS SHALL BE 4 LBS./FT. 4. SIGNS SHALL BE FABRICATED OF ONE CONTINUOUS PIECE OF SHEET ALUMINUM. SPLICING OF SHEET ALUMINUM WILL NOT BE ACCEPTED. 5. FLUORESCENT YELLOW RETROREFLECTIVE STRIPS SHALL BE INSTALLED ON ALL SIGN POSTS FOR W1-6 AND W1-8 SIGNS. FLUORESCENT YELLOW GREEN RETROREFLECTIVE STRIPS SHALL BE INSTALLED ON ALL SIGN POSTS FOR S1-1 AND W11-2 SIGNS LOCATED AT CROSSINGS. RETROREFLECTIVE STRIPS SHOULD NOT BE INSTALLED ON ADVANCE CROSSING WARNING SIGNS. SEE STANDARD SHEET TR-1208_01 "SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS" FOR RETROREFLECTIVE STRIP DETAILS AND INSTALLATION. COLORS: BACKGROUND - YELLOW - EXCEPT AS NOTED. LEGEND - BLACK - EXCEPT AS NOTED. ALL SIGNS TO USE TYPE XI RETROREFLECTIVE SHEETING.						LEGEND - N/A BACKGROUND - FLUORESCENT YELLOW AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 1.50 4X48 41-5001 1 .080 2.00 4X72 41-5006 1 .080																	
 RAMP 00 M.P.H. AREA (SQ. FT) SIZE (INCHES) CONN. D.O.T. # POSTS ALUM. THK. 12.00 36X48 41-5581 2 .100																																																																	



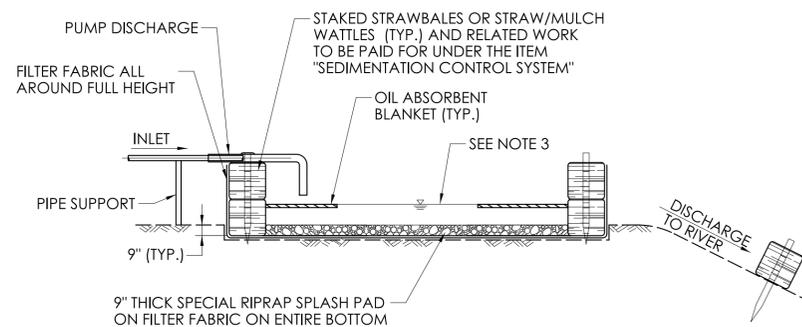
NOTE: THE COST OF THIS WORK SHALL BE INCLUDED UNDER THE ITEM "HANDLING WATER". SEE SPECIAL PROVISIONS.

**SUGGESTED WATER-HANDLING-COFFERDAM
DETAIL - SANDBAGS**
NOT TO SCALE



NOTE: DETAILS SHOWN ARE SCHEMATIC ONLY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO DESIGN A DEWATERING DISCHARGE SYSTEM THAT IS REMOVABLE AND PORTABLE.

PLAN



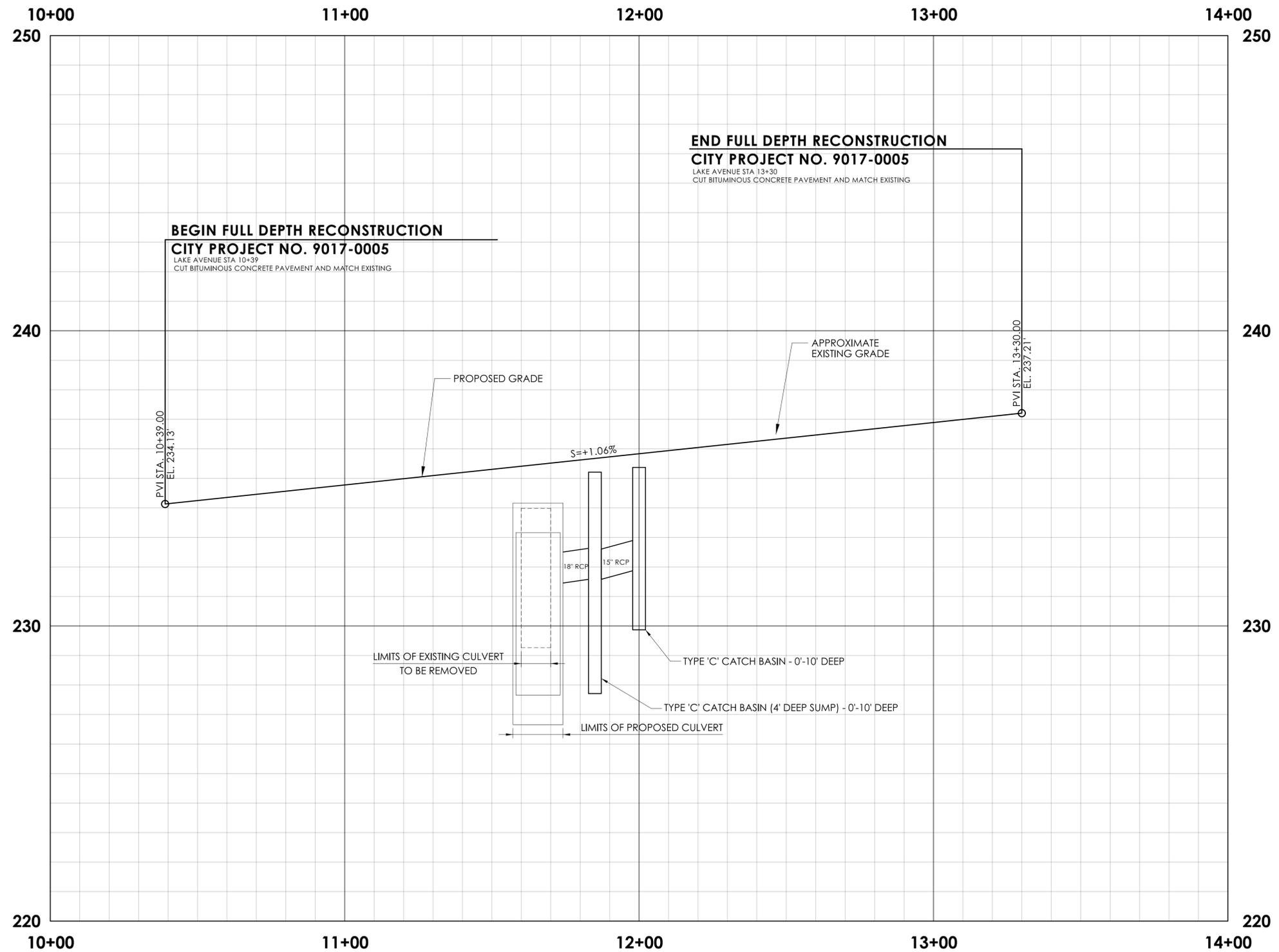
SECTION A-A

**TEMPORARY SEDIMENT BASIN FOR
DEWATERING DISCHARGE**

NOT TO SCALE

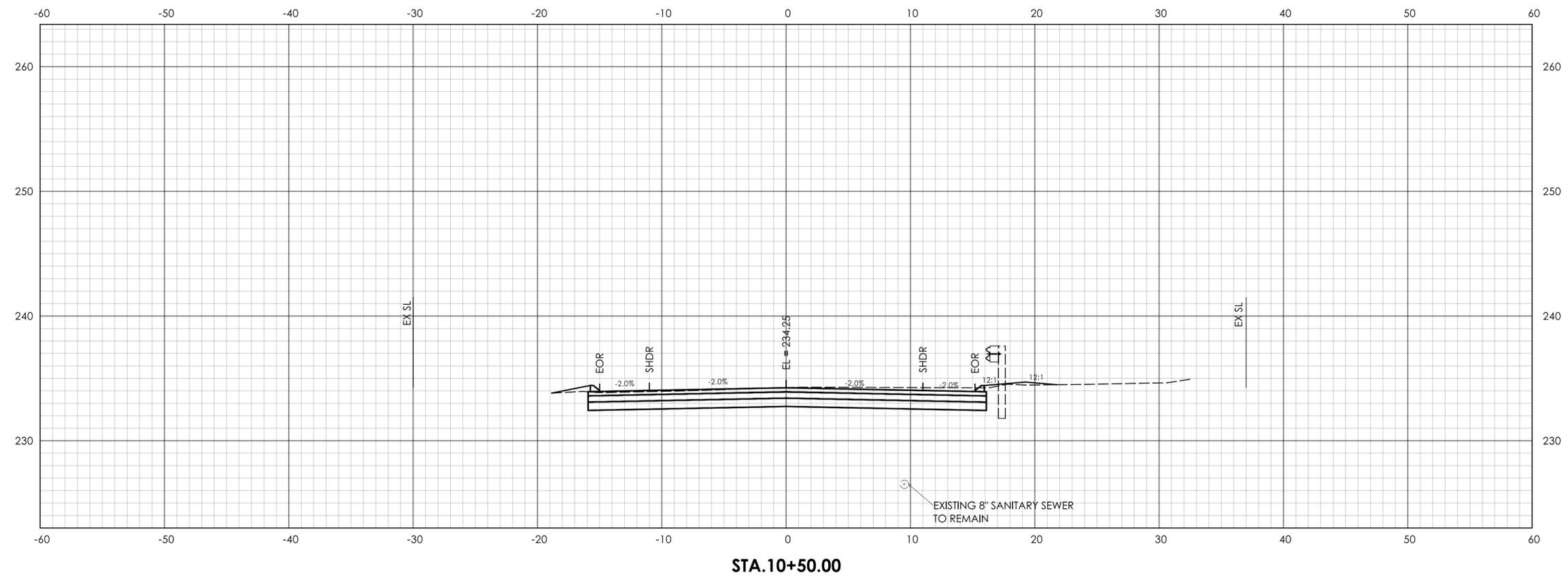
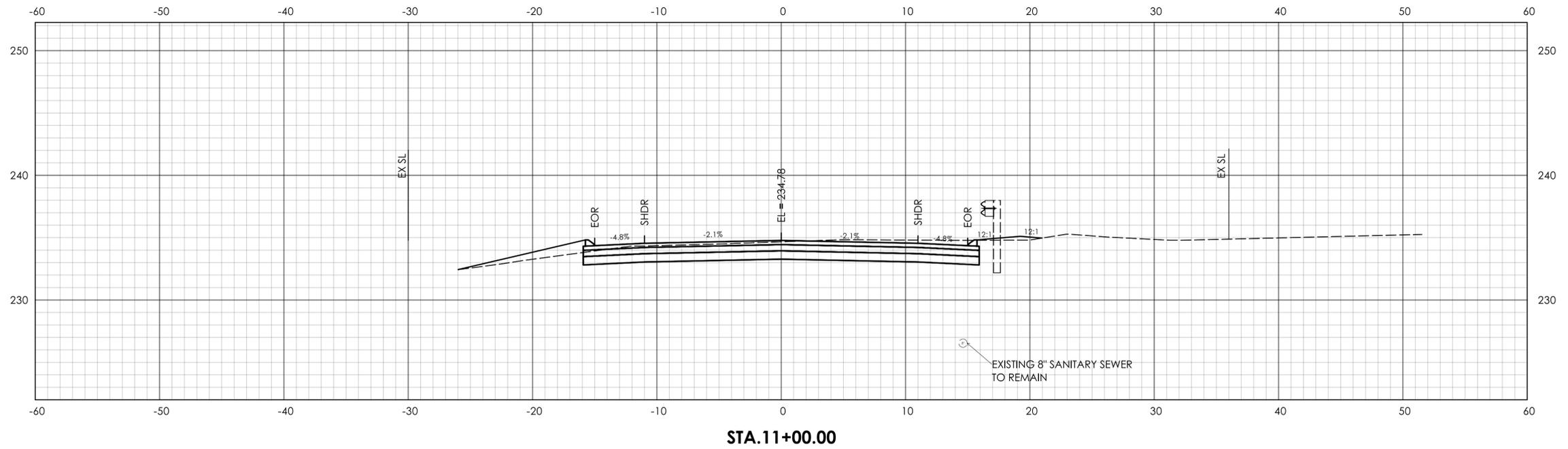
BASIN NOTES:

1. CONTRACTOR TO BRACE STRAWBALES OR STRAW/MULCH WATTLES AS REQUIRED FOR STABILITY.
2. DIMENSIONS TO VARY DEPENDENT UPON DE-WATERING RATE.
3. VOLUME OF BASIN IS EQUAL TO THE MAXIMUM VOLUME OF WATER CAPABLE OF BEING PUMPED.
4. SPECIAL RIPRAP STONE SHALL CONFORM TO NO. 3 STONE AS SHOWN IN SECTION M.01.01 OF CONNDOT FORM 818.
5. AT THE COMPLETION OF THE WORK, THE BASIN AND ALL RELATED MATERIALS SHALL BE REMOVED FROM THE SITE, AND THE AREA SHALL BE RETURNED TO ITS ORIGINAL CONDITION BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK WILL BE INCLUDED UNDER EACH ITEM, EXCEPT THE CLEAN-UP WHICH WILL NOT BE MEASURED FOR PAYMENT BUT INCLUDED IN THE GENERAL COST OF THE WORK.
6. THE TEMPORARY SEDIMENT BASIN SHALL BE DESIGNED IN ACCORDANCE WITH 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

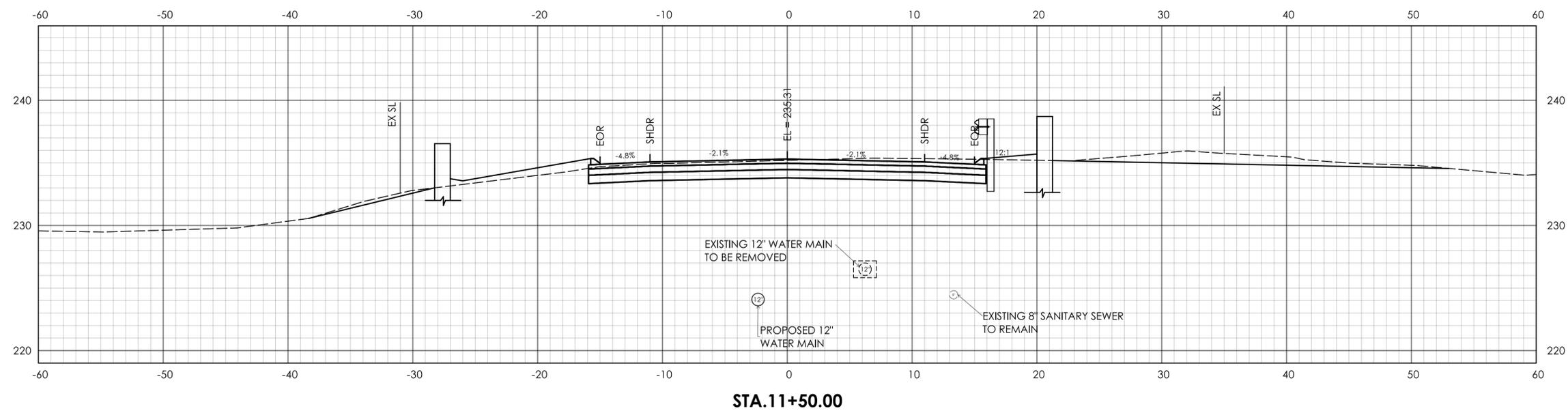
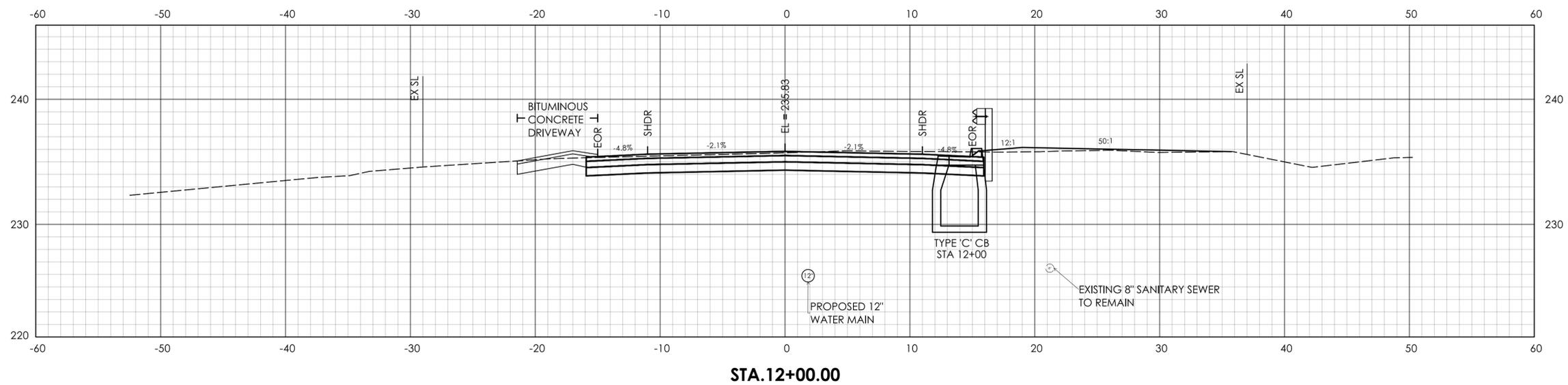


NOTES:

- 1. EXISTING WATER MAIN AND SEWER FORCE MAIN NOT SHOWN.
- 2. SEE WTR-01 FOR PROPOSED WATER MAIN INFORMATION.

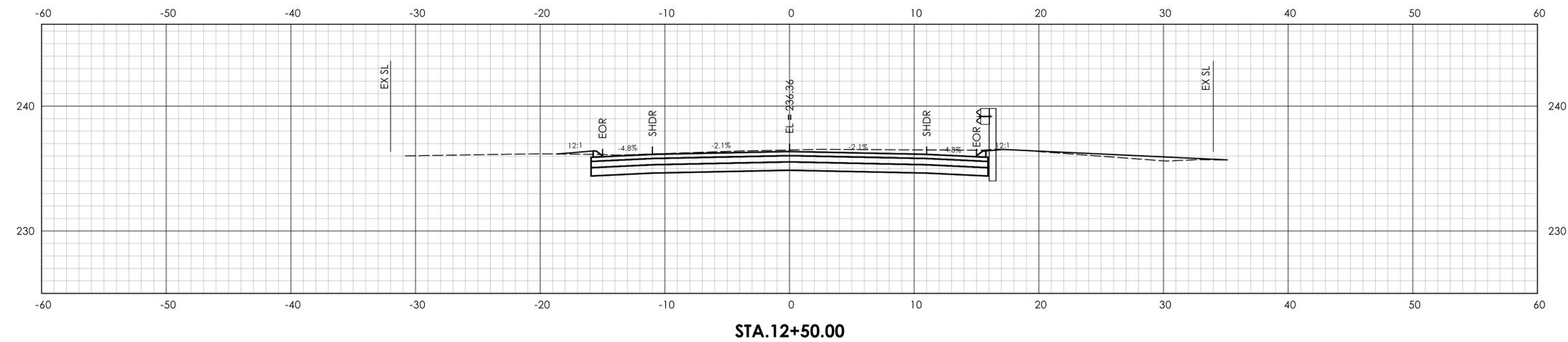
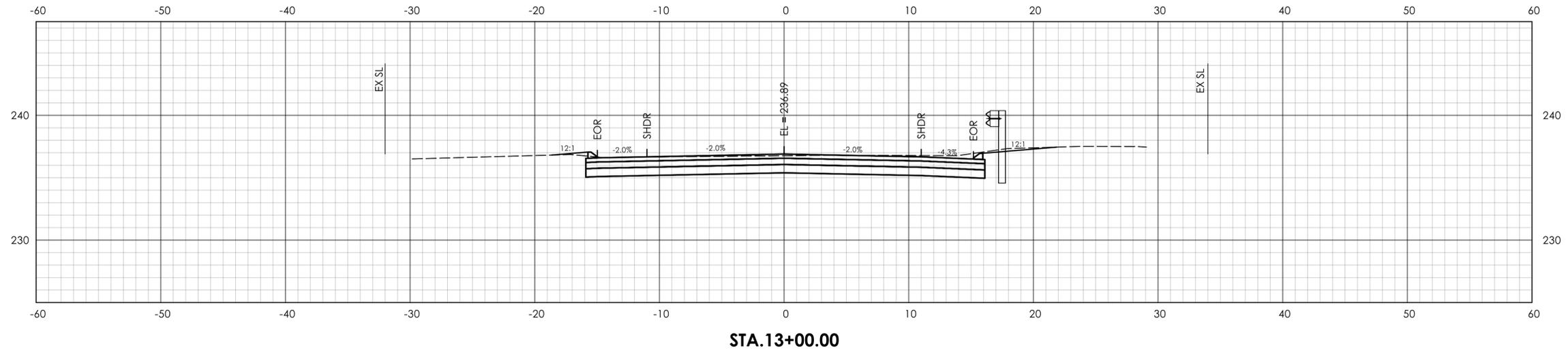


- NOTES:
1. EXISTING 6" SEWER FORCE MAIN WAS NOT ABLE TO BE LOCATED DURING DESIGN INVESTIGATIONS AND THEREFORE IS NOT SHOWN IN CROSS SECTIONS.
 2. EXISTING 12" WATER MAIN SHOWN AT TEST PIT STATION ONLY.



NOTES:

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NOTES:

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2. EXISTING 12' WATER MAIN SHOWN AT TEST PIT STATION ONLY.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

1. TRAFFIC SHALL BE MAINTAINED IN BOTH DIRECTIONS THROUGHOUT CONSTRUCTION UNLESS NOTED OTHERWISE. CONSTRUCTION OF THE CULVERT SHALL BE STAGED TO ACCOMPLISH THIS.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISIONS FOR SECTION 1.08 - PROSECUTION AND PROGRESS AND ITEM NO. 0971001A - MAINTENANCE AND PROTECTION OF TRAFFIC.
3. EXISTING CONFLICTING PAVEMENT MARKINGS AND CONFLICTING PAVEMENT MARKINGS FROM ANY PREVIOUS STAGE THAT ARE NOT BEING REMOVED WITH THE REMOVAL OF THE PAVEMENT SHALL BE REMOVED AND PAID UNDER ITEM NO. 1211001 "REMOVAL OF PAVEMENT MARKINGS", INCLUDING THOSE PAVEMENT MARKINGS OUTSIDE OF THE TRAVELED WAY.
4. EXISTING SIGNS IN CONFLICT WITH TEMPORARY SIGNS SHALL BE COVERED, REMOVED, OR REVISED TO MEET FIELD CONDITIONS.
5. THE LOCATIONS OF TEMPORARY SIGNS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE ADJUSTED BY THE CONTRACTOR TO MEET FIELD CONDITIONS.
6. TEMPORARY SIGNS SHALL BE MOUNTED ON POSTS WHEN FEASIBLE.
7. THE LOCATIONS OF TRAFFIC DRUMS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE ADJUSTED BY THE CONTRACTOR TO MEET FIELD CONDITIONS AND TO CLEARLY DEFINE ACCESS TO AND EGRESS FROM ALL ROADWAYS AND DRIVEWAYS.
8. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION. COORDINATE ACCESS WITH PAVING OPERATIONS SO THAT JOINTS ARE MINIMIZED.
9. TEMPORARY TRAFFIC BARRIER LOCATIONS, TRAFFIC DRUM LOCATIONS, AND PAVEMENT LIMITS BETWEEN STAGES SHOWN IS SUGGESTED. CONTRACTOR SHALL SUBMIT CONSTRUCTION STAGING PLAN FOR REVIEW PRIOR TO START OF CONSTRUCTION
10. ALL TEMPORARY CONSTRUCTION SIGNS SHALL BE REMOVED BY THE CONTRACTOR AT THE CONCLUSION OF THE PROJECT.
11. ANY RELOCATION OF TEMPORARY TRAFFIC BARRIER SHALL BE MEASURED ONCE IN EACH STAGE. THE RELOCATION REQUIRED EACH DAY FOR CONSTRUCTION OPERATIONS SHALL NOT BE MEASURED FOR PAYMENT.
12. CONTRACTOR SHALL ALLOW ACCESS BY UTILITY COMPANIES WITHIN WORK AREA FOR ANY UTILITY RELOCATION WORK.
13. TEMPORARY TRAFFIC BARRIER SHALL BE PINNED WHEN LIMITATIONS OF HIGHWAY STANDARD DRAWING HW-822_01 FOR EDGE CLEARANCE CAN NOT BE MET.
14. ONE-WAY ALTERNATING TRAFFIC FOR ACTIVITIES APPROVED BY THE CITY SHALL REQUIRE THE USE OF ITEM NO. 0970006 TRAFFICPERSON (MUNICIPAL POLICE OFFICER) AND ITEM NO. 0970007 TRAFFICPERSON (UNIFORMED FLAGGER).

WATER HANDLING NOTES:

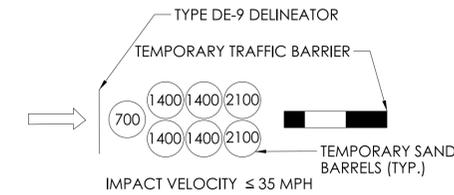
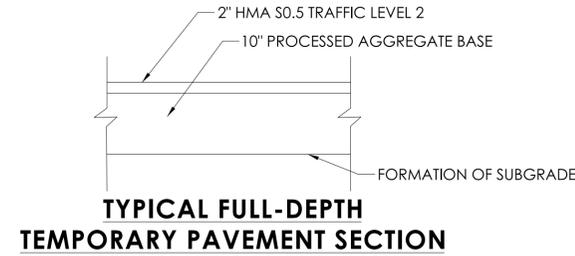
1. THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY WATER HANDLING SYSTEM BY PROVIDING THE MINIMUM HYDRAULIC OPENINGS, SHOWN ON THE STAGING PLANS DURING THE CONSTRUCTION OF THE NEW STRUCTURE.
2. EQUIPMENT SHALL NOT BE PERMITTED IN THE BROOK WHEN TEMPORARY WATER HANDLING SYSTEM IS NOT IN PLACE WITHOUT APPROVAL FROM THE ENGINEER.
3. A DEWATERING BASIN SHALL BE ESTABLISHED AS SHOWN ON PLANS.
4. TEMPORARY SUPPORT OF EXCAVATION SHALL CONSIST OF AN APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH SHALL SAFELY CONVEY TRAFFIC THROUGH THE CONSTRUCTION AREAS. SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND SHALL CONFORM TO PERMITS. PAID AS ITEM NO. 0716000 TEMPORARY EARTH RETAINING SYSTEM.
5. WATER HANDLING MEASURES SHALL NOT EXCEED IMPACT AREAS SHOWN ON THE WETLAND/WATERCOURSE IMPACT PLAN OF THE PERMIT PLANS.
6. IF A SHORT DURATION PUMP SYSTEM IS PROPOSED DURING LOW FLOW CONDITIONS, THE PUMP SYSTEM SHALL BE DESIGNED BY THE CONTRACTOR AND HAVE A MINIMUM CAPACITY AS SHOWN IN THE TEMPORARY HYDRAULIC TABLE. PUMP SYSTEM PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
7. THE "SUGGESTED CONSTRUCTION SEQUENCE" IS SHOWN TO OUTLINE SEQUENCE OF MAJOR WORK ONLY. THE CONTRACTOR SHALL PLAN AND PERFORM OTHER ACTIVITIES ACCORDINGLY.
8. THE CONTRACTOR TO PERFORM SIMULTANEOUS ACTIVITIES WHEREVER POSSIBLE.
9. WETLAND LIMITS AND STREAM WIDTH TO BE CONSIDERED COINCIDENTAL.

NATURAL STREAMBED MATERIAL NOTES:

1. NATIVE STREAMBED MATERIAL EXCAVATED DURING EXISTING STRUCTURE REMOVAL AND NEW STRUCTURE INSTALLATION SHALL BE STOCKPILED AND THEN REMOVED TO THE DEPTH SHOWN ON THE PLANS, AS DIRECTED BY THE ENGINEER, AND IN ACCORDANCE WITH SPECIAL PROVISION "EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL".
2. ADDITIONAL STREAMBED MATERIAL, IF REQUIRED, SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISION "SUPPLEMENTAL CHANNEL MATERIAL".
3. THE STOCKPILE SHALL BE LOCATED OUTSIDE THE WETLAND LIMITS AND PROTECTED WITH SEDIMENTATION CONTROL SYSTEM.

WORK RESTRICTIONS:

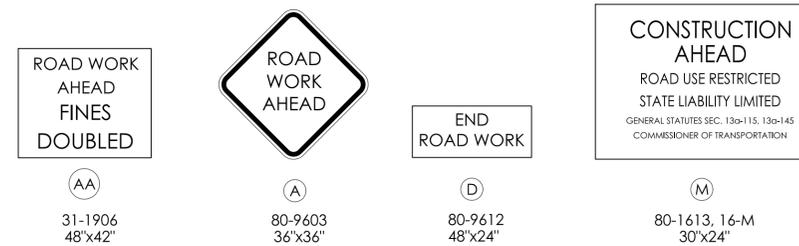
1. UNCONFINED, IN-STREAM WORK, NOT INCLUDING INSTALLATION AND REMOVAL OF COFFERDAMS, IS LIMITED TO THE LOWFLOW PERIOD, JUNE 1 – SEPTEMBER 30.
2. IN-WATER WORK IS PROHIBITED FROM APRIL 1 TO MAY 30 UNLESS IT OCCURS BEHIND A COFFERDAM (SEE ABOVE).
3. CONTROLS SHALL ONLY BE INSTALLED AND REMOVED DURING THE APPROVED WINDOW FOR WORK (JUNE 1 – MARCH 31) AND MUST NOT ENCROACH >25% OF THE STREAM WIDTH MEASURED FROM OHW DURING THE PROHIBITED WORK WINDOW.



LEGEND:

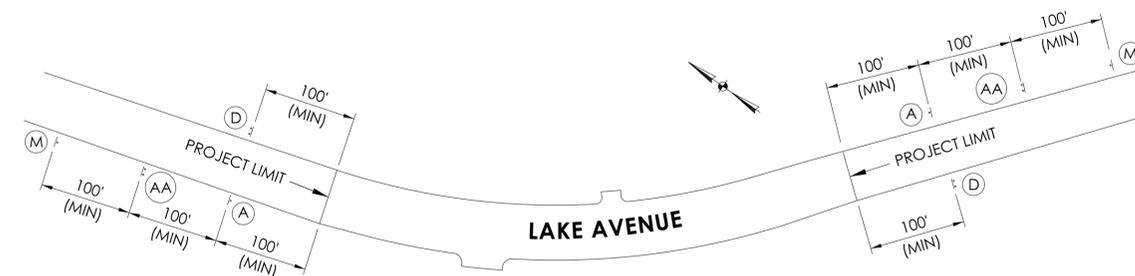
- FULLY CONSTRUCTED ROADWAY/DRIVEWAY
- PERMANENT ROADWAY UP TO TOP OF FIRST COURSE OF BITUMINOUS UNDER CONSTRUCTION
- PREVIOUSLY CONSTRUCTED ROADWAY UP TO TOP OF FIRST COURSE OF BITUMINOUS
- TEMPORARY PAVEMENT UNDER CONSTRUCTION
- PREVIOUSLY CONSTRUCTED TEMPORARY PAVEMENT
- TEMPORARY IMPACT ATTENUATOR SYSTEM W/TYPE DE-9 DELINEATOR (SEE DETAILS)
- TEMPORARY TRAFFIC BARRIER
- TRAFFIC DRUM
- SINGLE POST MOUNTED SIGN
- DOUBLE POST MOUNTED SIGN
- SUGGESTED TEMPORARY SUPPORT OF EXCAVATION LIMITS
- DIRECTION OF TRAFFIC

TEMPORARY IMPACT ATTENUATOR SYSTEM



ADVANCED CONSTRUCTION SIGN LEGEND

NOTE: ADVANCED CONSTRUCTION SIGNS AND SIGNS SHOWN ON MPT-04 PAID AS ITEM NO 1220027 CONSTRUCTION SIGNS.



ADVANCED CONSTRUCTION SIGN LEGEND

N.T.S.

NOTE: ADVANCED CONSTRUCTION SIGNS TO BE INSTALLED PRIOR TO THE START OF STAGE 1 CONSTRUCTION AND SHALL REMAIN UNTIL PROJECT COMPLETION.

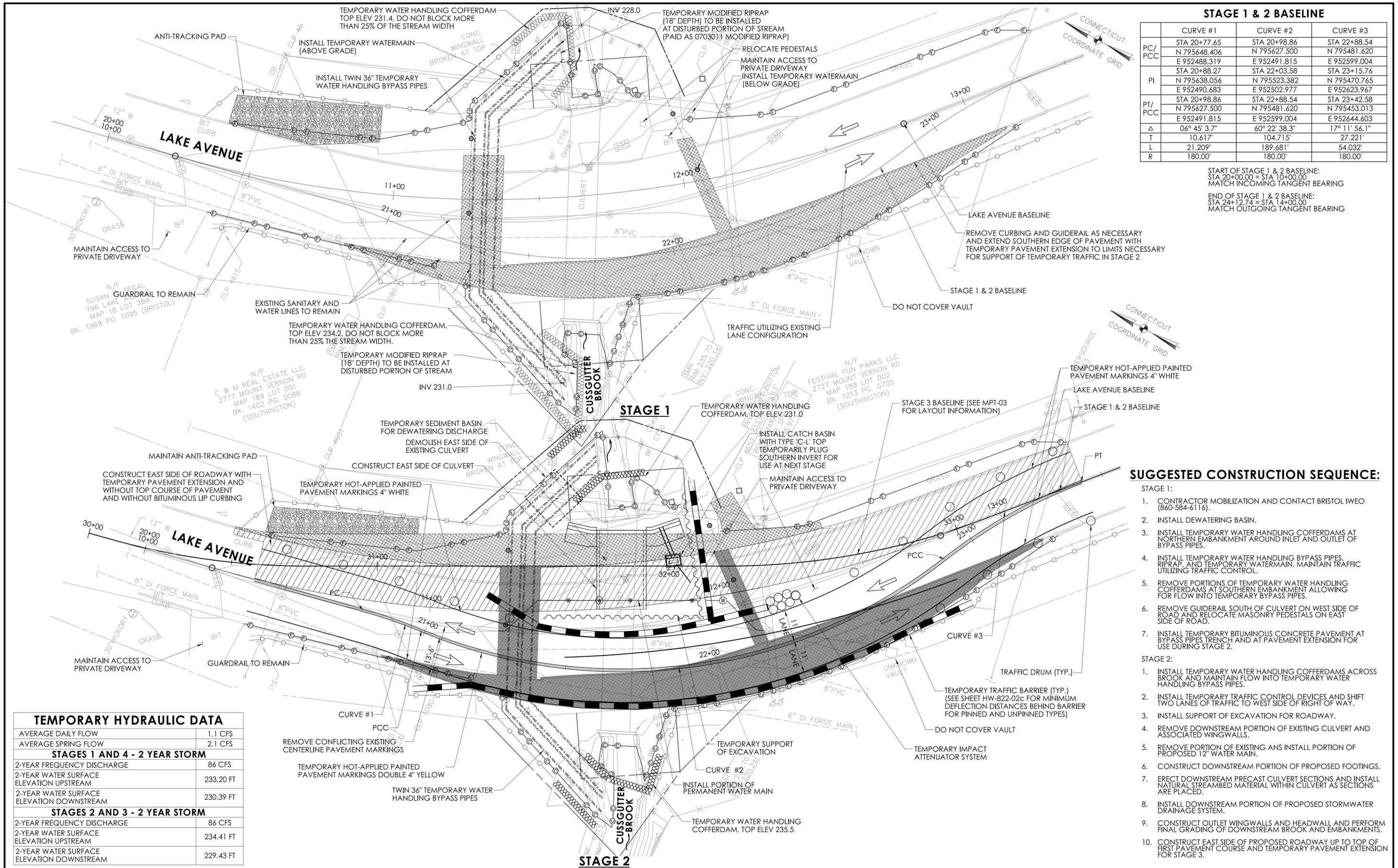
DESIGNER/DRAFTER: JCG/JCG	CHECKED BY: KLM	SIGNATURE/BLOCK:		PROJECT NUMBER: 9017-0005	DRAWING NO. MPT-01
NOT TO SCALE				PROJECT DESCRIPTION: REPLACEMENT OF LAKE AVENUE CULVERT OVER CUSSGUTTER BROOK	SHEET NO.

STAGE 1 & 2 BASELINE

	CURVE #1	CURVE #2	CURVE #3
PC/	STA 20+77.65	STA 20+98.86	STA 22+88.54
PCC	N 795648.406	N 795627.500	N 795481.620
	E 952488.319	E 952491.815	E 952599.004
PI	STA 20+88.27	STA 22+03.58	STA 23+15.76
	N 795638.056	N 795523.382	N 795470.765
	E 952490.683	E 952502.977	E 952623.967
PT/	STA 20+98.86	STA 22+88.54	STA 23+42.58
PCC	N 795627.500	N 795481.620	N 795453.013
	E 952491.815	E 952599.004	E 952644.603
Δ	06° 45' 3.7"	60° 22' 38.3"	17° 11' 56.1"
T	10.617'	104.715'	27.221'
L	21.209'	189.681'	54.032'
R	180.00'	180.00'	180.00'

START OF STAGE 1 & 2 BASELINE:
 STA 20+00.00 = STA 10+00.00
 MATCH INCOMING TANGENT BEARING

END OF STAGE 1 & 2 BASELINE:
 STA 24+12.74 = STA 14+00.00
 MATCH OUTGOING TANGENT BEARING



SUGGESTED CONSTRUCTION SEQUENCE:

- STAGE 1:**
1. CONTRACTOR MOBILIZATION AND CONTACT BRISTOL IWEQ (860-584-6116).
 2. INSTALL DEWATERING BASIN.
 3. INSTALL TEMPORARY WATER HANDLING COFFERDAMS AT NORTHERN EMBANKMENT AROUND INLET AND OUTLET OF BYPASS PIPES.
 4. INSTALL TEMPORARY WATER HANDLING BYPASS PIPES, RIPRAP, AND TEMPORARY WATERMAIN. MAINTAIN TRAFFIC UTILIZING TRAFFIC CONTROL.
 5. REMOVE PORTIONS OF TEMPORARY WATER HANDLING COFFERDAMS AT SOUTHERN EMBANKMENT ALLOWING FOR FLOW INTO TEMPORARY BYPASS PIPES.
 6. REMOVE GUARDRAIL SOUTH OF CULVERT ON WEST SIDE OF ROAD AND RELOCATE MASONRY PEDESTALS ON EAST SIDE OF ROAD.
 7. INSTALL TEMPORARY BITUMINOUS CONCRETE PAVEMENT AT BYPASS PIPES TRENCH AND AT PAVEMENT EXTENSION FOR USE DURING STAGE 2.
- STAGE 2:**
1. INSTALL TEMPORARY WATER HANDLING COFFERDAMS ACROSS BROOK AND MAINTAIN FLOW INTO TEMPORARY WATER HANDLING BYPASS PIPES.
 2. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND SHIFT TWO LANES OF TRAFFIC TO WEST SIDE OF RIGHT OF WAY.
 3. INSTALL SUPPORT OF EXCAVATION FOR ROADWAY.
 4. REMOVE DOWNSTREAM PORTION OF EXISTING CULVERT AND ASSOCIATED WINGWALLS.
 5. REMOVE PORTION OF EXISTING ANS AND INSTALL PORTION OF PROPOSED 12" WATER MAIN.
 6. CONSTRUCT DOWNSTREAM PORTION OF PROPOSED FOOTINGS.
 7. ERECT DOWNSTREAM PRECAST CULVERT SECTIONS AND INSTALL NATURAL STREAMBED MATERIAL WITHIN CULVERT AS SECTIONS ARE PLACED.
 8. INSTALL DOWNSTREAM PORTION OF PROPOSED STORMWATER DRAINAGE SYSTEM.
 9. CONSTRUCT OUTLET WINGWALLS AND HEADWALL AND PERFORM FINAL GRADING OF DOWNSTREAM BROOK AND EMBANKMENTS.
 10. CONSTRUCT EAST SIDE OF PROPOSED ROADWAY UP TO TOP OF FIRST PAVEMENT COURSE AND TEMPORARY PAVEMENT EXTENSION FOR STAGE 3.

TEMPORARY HYDRAULIC DATA

AVERAGE DAILY FLOW	1.1 CFS
AVERAGE SPRING FLOW	2.1 CFS
STAGES 1 AND 4 - 2 YEAR STORM	
2-YEAR FREQUENCY DISCHARGE	86 CFS
2-YEAR WATER SURFACE ELEVATION UPSTREAM	233.20 FT
2-YEAR WATER SURFACE ELEVATION DOWNSTREAM	230.39 FT
STAGES 2 AND 3 - 2 YEAR STORM	
2-YEAR FREQUENCY DISCHARGE	86 CFS
2-YEAR WATER SURFACE ELEVATION UPSTREAM	234.41 FT
2-YEAR WATER SURFACE ELEVATION DOWNSTREAM	229.43 FT



SIGNATURE/
 BLOCK:



PROJECT NUMBER: 9017-0005
 PROJECT DESCRIPTION: REPLACEMENT OF LAKE AVENUE CULVERT OVER CUSSGUTTER BROOK
 TOWN(S): BRISTOL
 DRAWING TITLE: MAINTENANCE AND PROTECTION OF TRAFFIC, STAGING, AND WATER HANDLING PLAN - STAGES 1 & 2

MPT-02
 SHEET NO.

	CURVE #1	CURVE #2
PC	STA 30+07.31	STA 32+19.80
	N 795736.484	N 795546.142
	E 952468.195	E 952561.185
PI	STA 30+41.75	STA 32+65.55
	N 795702.910	N 795505.958
	E 952475.865	E 952583.055
PT	STA 30+75.75	STA 33+10.29
	N 795672.661	N 795476.123
	E 952492.328	E 952617.737
Δ	15° 41' 12.4"	20° 44' 25.9"
T	34.439'	45.749'
L	68.446'	90.498'
R	250.00'	250.00'

STAGE 3 BASELINE

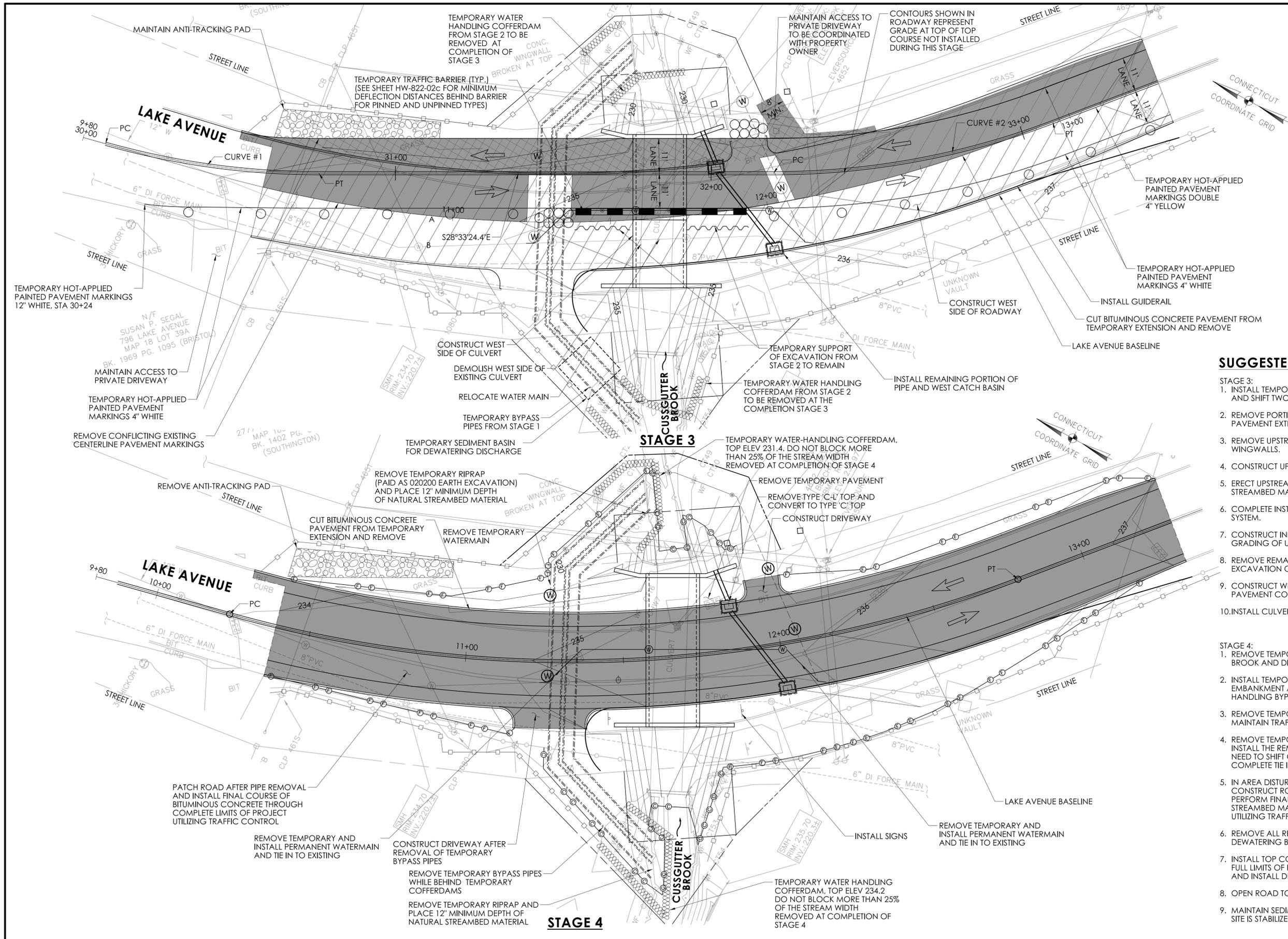
START OF STAGE 3 BASELINE:
STA 30+00.00 = STA 9+80.00
MATCH INCOMING TANGENT BEARING

END OF STAGE 3 BASELINE:
STA 34+51.90 = STA 14+00.00
MATCH OUTGOING TANGENT BEARING

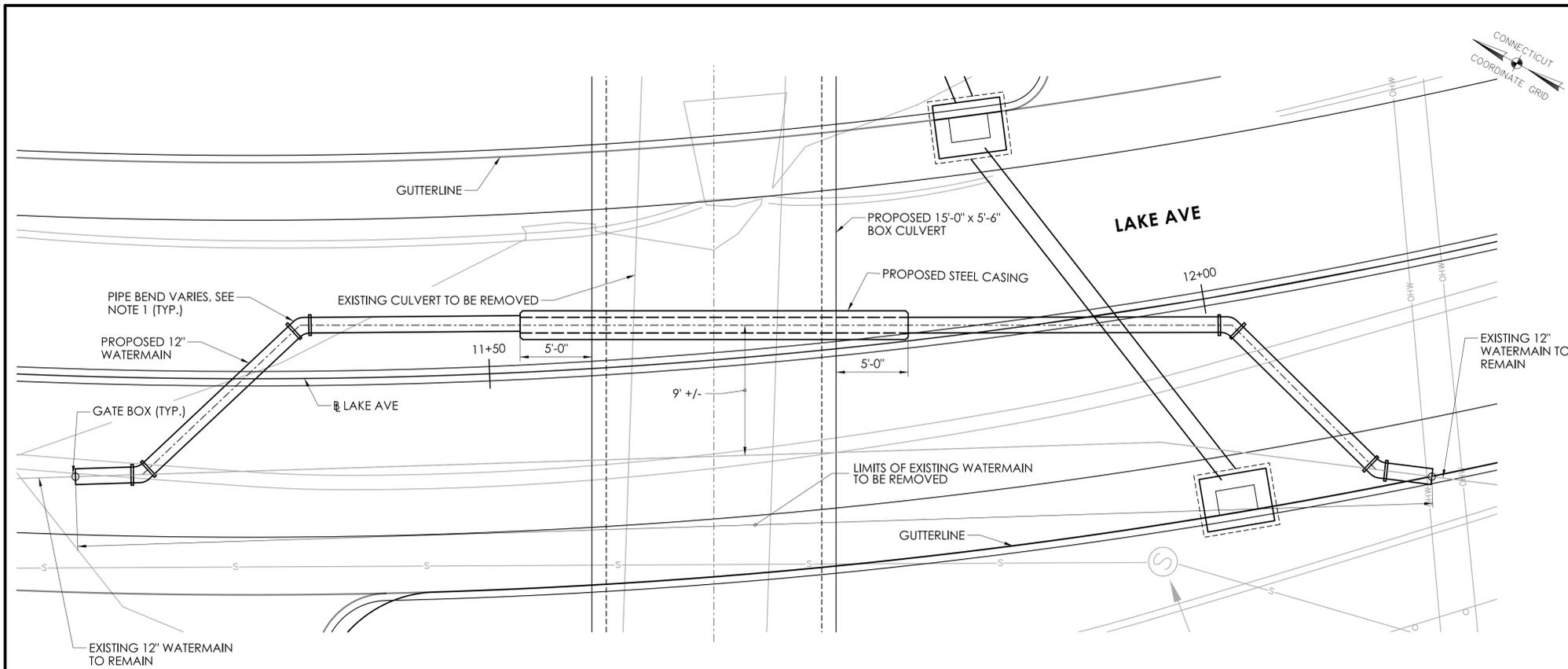
TAPER: WS/2 / 60 = 95 FT
W = 9 FT
S = 25 MPH

SUGGESTED CONSTRUCTION SEQUENCE:

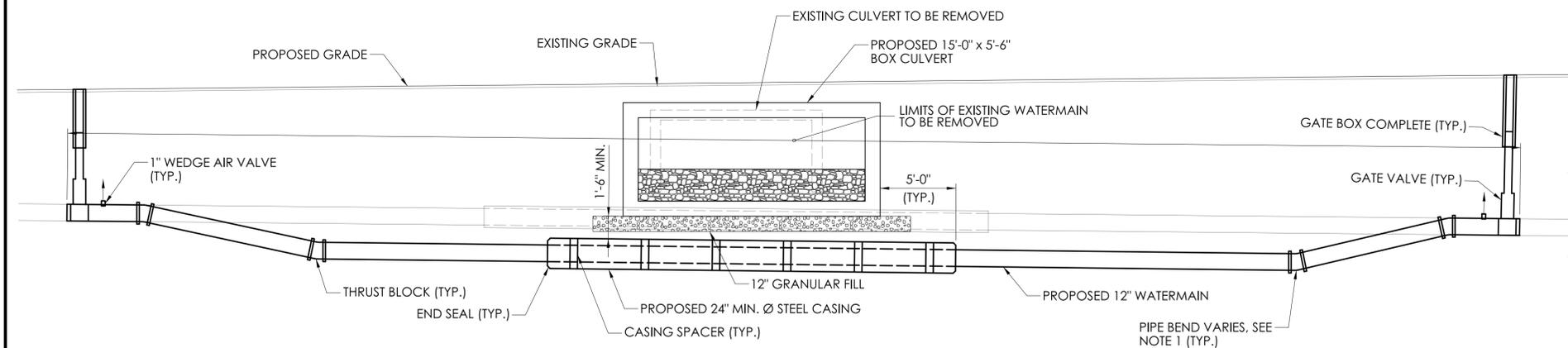
- STAGE 3:
1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND SHIFT TWO LANES OF TRAFFIC TO THE EAST SIDE OF RIGHT OF WAY.
 2. REMOVE PORTIONS OF SUPPORT OF EXCAVATION AND TEMPORARY PAVEMENT EXTENSION NO LONGER REQUIRED.
 3. REMOVE UPSTREAM PORTION OF EXISTING CULVERT AND ASSOCIATED WINGWALLS.
 4. CONSTRUCT UPSTREAM PORTION OF PROPOSED FOOTINGS.
 5. ERECT UPSTREAM PRECAST CULVERT SECTIONS AND INSTALL NATURAL STREAMBED MATERIAL WITHIN CULVERT AS SECTIONS ARE PLACED.
 6. COMPLETE INSTALLATION OF PROPOSED STORMWATER DRAINAGE SYSTEM.
 7. CONSTRUCT INLET WINGWALLS AND HEADWALL AND PERFORM FINAL GRADING OF UPSTREAM BROOK AND EMBANKMENTS.
 8. REMOVE REMAINING PORTIONS OF TEMPORARY SUPPORT OF EXCAVATION ONCE NO LONGER REQUIRED.
 9. CONSTRUCT WEST SIDE OF PROPOSED ROADWAY UP TO TO OF FIRST PAVEMENT COURSE.
 10. INSTALL CULVERT GUIDERAIL AND ROADWAY GUIDERAIL.
- STAGE 4:
1. REMOVE TEMPORARY WATER HANDLING COFFERDAMS ACROSS BROOK AND DIVERT FLOW INTO COMPLETE PROPOSED CULVERT.
 2. INSTALL TEMPORARY WATER HANDLING COFFERDAMS AT NORTHERN EMBANKMENT AROUND INLET AND OUTLET OF TEMPORARY WATER HANDLING BYPASS PIPES AND RIPRAP.
 3. REMOVE TEMPORARY WATER HANDLING PIPES AND RIPRAP. MAINTAIN TRAFFIC UTILIZING TRAFFIC CONTROL.
 4. REMOVE TEMPORARY WATERMAIN PIPE. INSTALL THE REMAINING PERMANENT WATERMAIN PIPES. TRAFFIC WILL NEED TO SHIFT ONTO STAGE 3 TEMPORARY PAVEMENT TO COMPLETE TIE INS.
 5. IN AREA DISTURBED BY TEMPORARY WATER HANDLING BYPASS PIPES, CONSTRUCT ROADWAY UP TO TOP OF FIRST PAVEMENT COURSE AND PERFORM FINAL GRADING INCLUDING INSTALLATION OF NATURAL STREAMBED MATERIAL AT DISTURBED STREAM. MAINTAIN TRAFFIC UTILIZING TRAFFIC CONTROL.
 6. REMOVE ALL REMAINING TEMPORARY PAVEMENT AND DEWATERING BASIN.
 7. INSTALL TOP COURSE OF BITUMINOUS CONCRETE PAVEMENT THROUGH FULL LIMITS OF PROJECT LIMITS. INSTALL BITUMINOUS LIP CURBING, AND INSTALL DRIVEWAY APRONS.
 8. OPEN ROAD TO TRAFFIC.
 9. MAINTAIN SEDIMENTATION CONTROL SYSTEMS UNTIL PROJECT SITE IS STABILIZED.



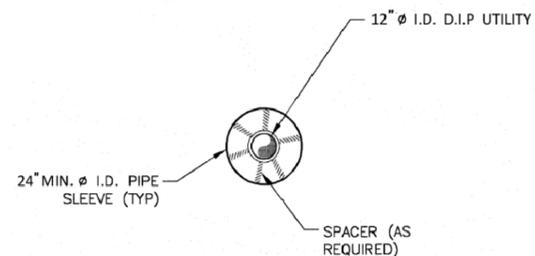
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 PLOTTED DATE: 7/26/2023



WATERMAIN RELOCATION PLAN
SCALE: 1" = 5'



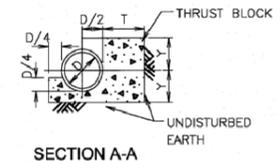
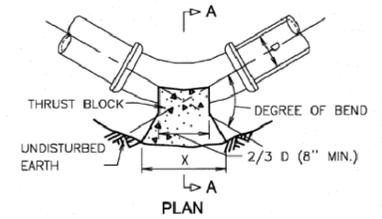
WATERMAIN RELOCATION ELEVATION
SCALE: 1" = 5'



WATER MAIN RELOCATION SLEEVE TYPICAL SECTION
N.T.S.

SLEEVE NOTES:

1. THE COST OF FURNISHING AND INSTALLING THE STEEL COLLAR, LINK SEAL, MODULAR SEAL, AND INCIDENTALS SHALL BE PAID FOR UNDER THE ITEM WATER MAIN RELOCATION.
2. PIPE SLEEVE AND STEEL COLLAR SHALL CONFORM TO THE REQUIREMENT OF ASTM A53 GR. B OR ASTM A501
3. THE PRE-ASSEMBLED PIPE SLEEVE AND COLLAR SHALL BE FINISHED SHOP BLACK.
4. PIPE SLEEVE SHALL BE COATED WITH COAL TAR EPOXY. SEE SPECIAL PROVISIONS.

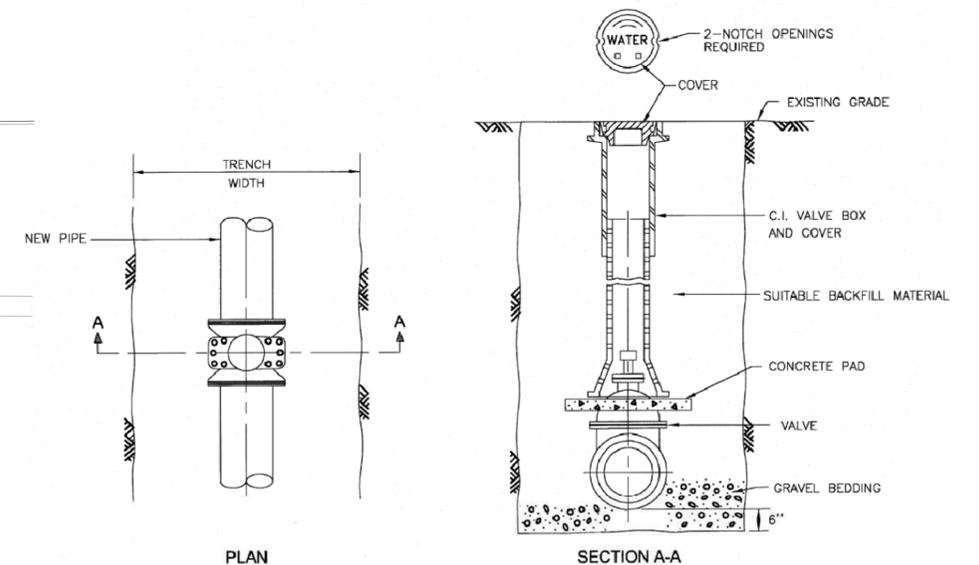


NOTES:

1. ALL CONCRETE SHALL BE 3300 P.S.I @ 28 DAYS (PCC03340 CONCRETE)
2. DIMENSIONS SHOWN ARE MINIMUM AND ARE BASED UPON SOIL PRESSURE OF 1500 P.S.F. AND TOTAL WATER PRESSURE OF 250 P.S.I. TOTAL PRESSURE IS WORKING PRESSURE PLUS SURGE PRESSURE.
3. THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.

TABLE OF DIMENSIONS		90° BEND				45° BEND				22 1/2° BEND				11 1/4° BEND					
D (in.)		4	6	8	10	12	14	4	6	8	10	12	14	4	6	8	10	12	14
X (in.)		35	35	50	56	72	80	24	24	35	45	51	60	28	28	30	32	37	42
Y (in.)		20	20	24	32	35	40	16	16	19	21	27	33	13	13	13	16	19	22
T (in.)		11	11	14	16	19	22	11	11	14	16	19	22	11	11	13	16	19	22

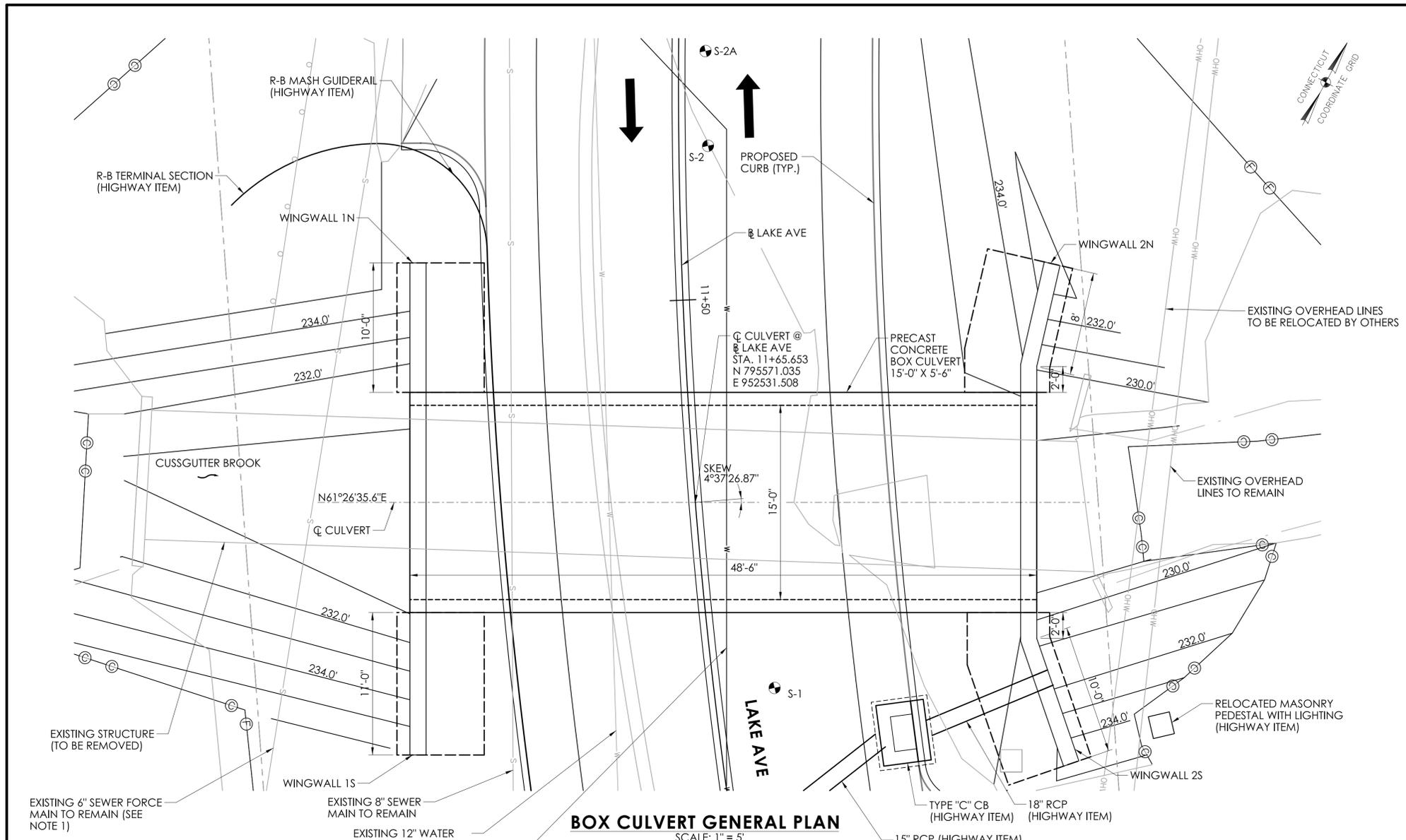
CONCRETE THRUST BLOCK DETAIL AT WATER MAIN BEND
N.T.S.



TYPICAL VALVE INSTALLATION DETAIL 12" I.D. PIPE AND SMALLER
N.T.S.

NOTES:

1. FOR ADDITIONAL WATER MAIN RELOCATION REQUIREMENTS, SEE SPECIAL PROVISION "RELOCATION OF WATER MAINS". LAYOUT SHOWN IS SCHEMATIC. CONTRACTOR TO DESIGN FINAL WATER MAIN LAYOUT AND SUBMIT TO THE ENGINEER FOR REVIEW.
2. NO INTERRUPTION OF EXISTING UTILITIES SERVICING ADJACENT STRUCTURES SHALL OCCUR UNLESS AUTHORIZED IN WRITING BY THE CITY OF BRISTOL OR THE ENGINEER. INTERRUPTIONS SHALL ONLY OCCUR AFTER APPROVAL IN WRITING FROM THE CITY OF BRISTOL OR THE ENGINEER AND TEMPORARY SERVICES HAVE BEEN PROVIDED.



BOX CULVERT GENERAL PLAN
SCALE: 1" = 5'

NOTICE TO BRIDGE INSPECTORS

THE DEPARTMENT'S BRIDGE SAFETY PROCEDURES REQUIRE THIS BRIDGE TO BE INSPECTED FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUALS FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS. (THE LISTING OF COMPONENTS FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF ANY OTHER COMPONENT OF THE STRUCTURE.) THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE MANAGER OF THE BRIDGE SAFETY AND EVALUATION.

COMPONENT OR DETAIL	DRAWING NUMBER REFERENCE
FOLLOW NORMAL INSPECTION PROCEDURES	-

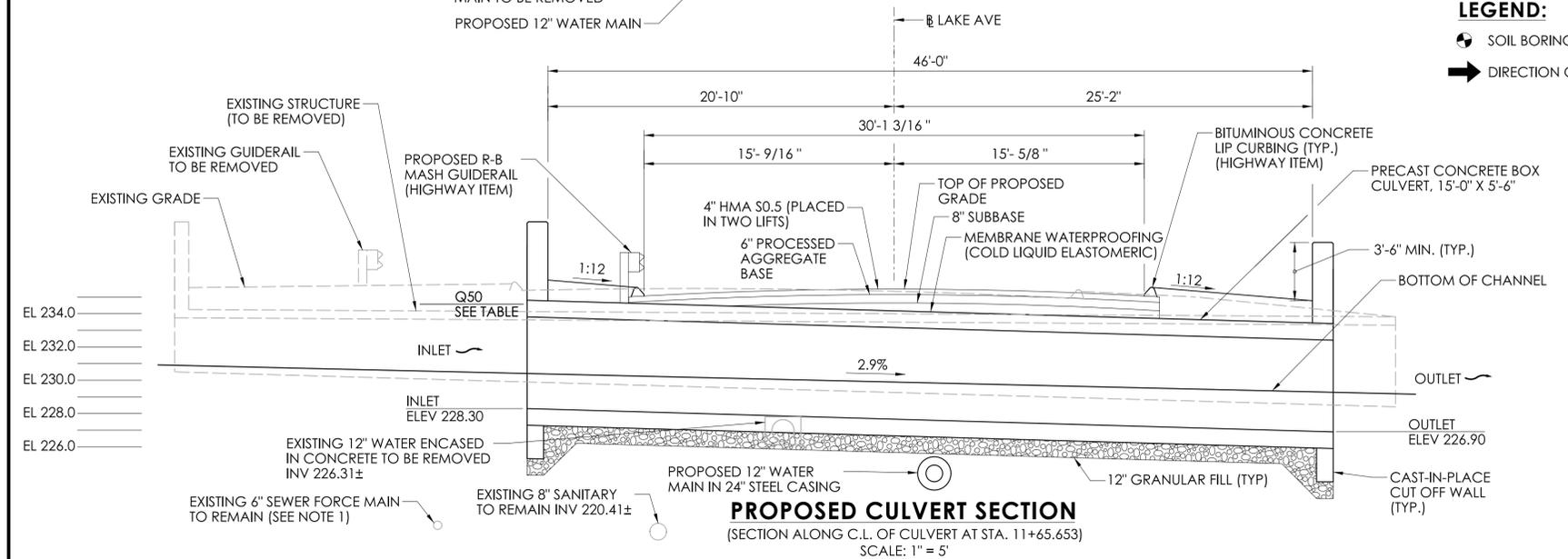
ESTIMATED SHIPPING DATA

MEMBER	SHIPPING HEIGHT	SHIPPING LENGTH	SHIPPING WIDTH	SHIPPING WEIGHT
MAXIMUM CULVERT UNIT	7.50 FT	5.00 FT	17.00 FT	33750 LBS

HYDRAULIC DATA

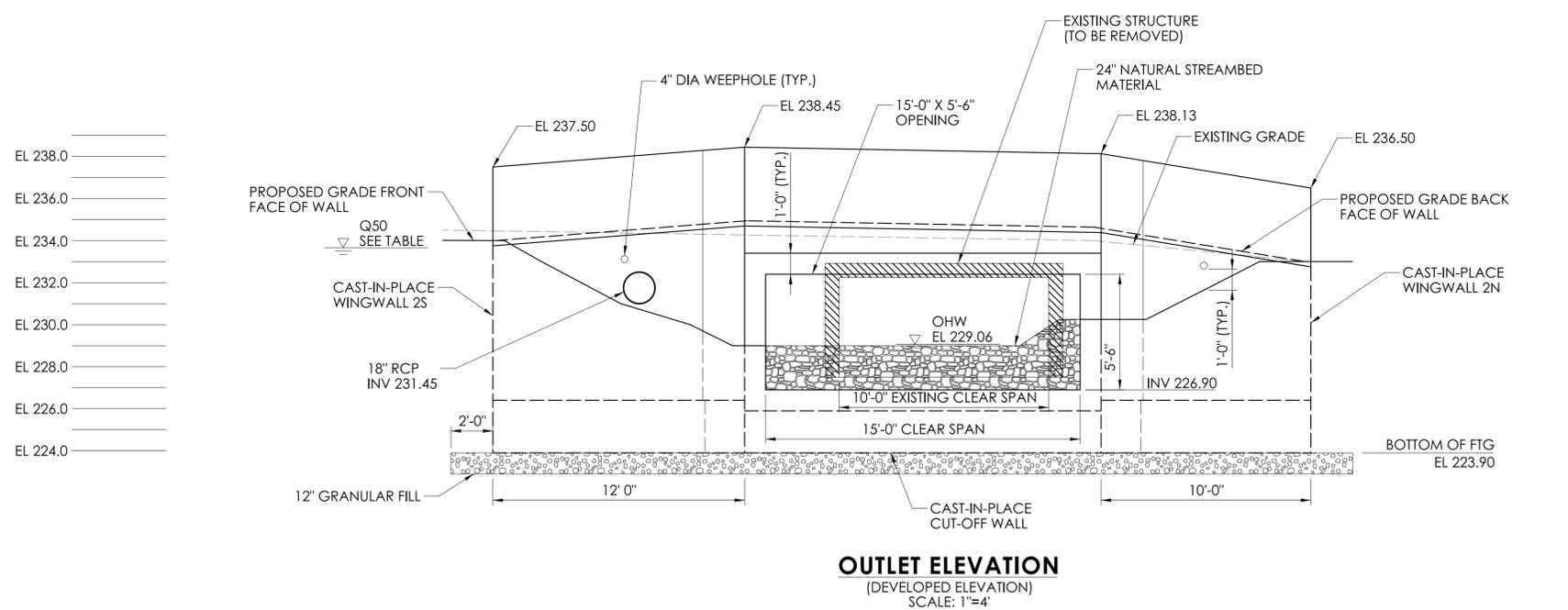
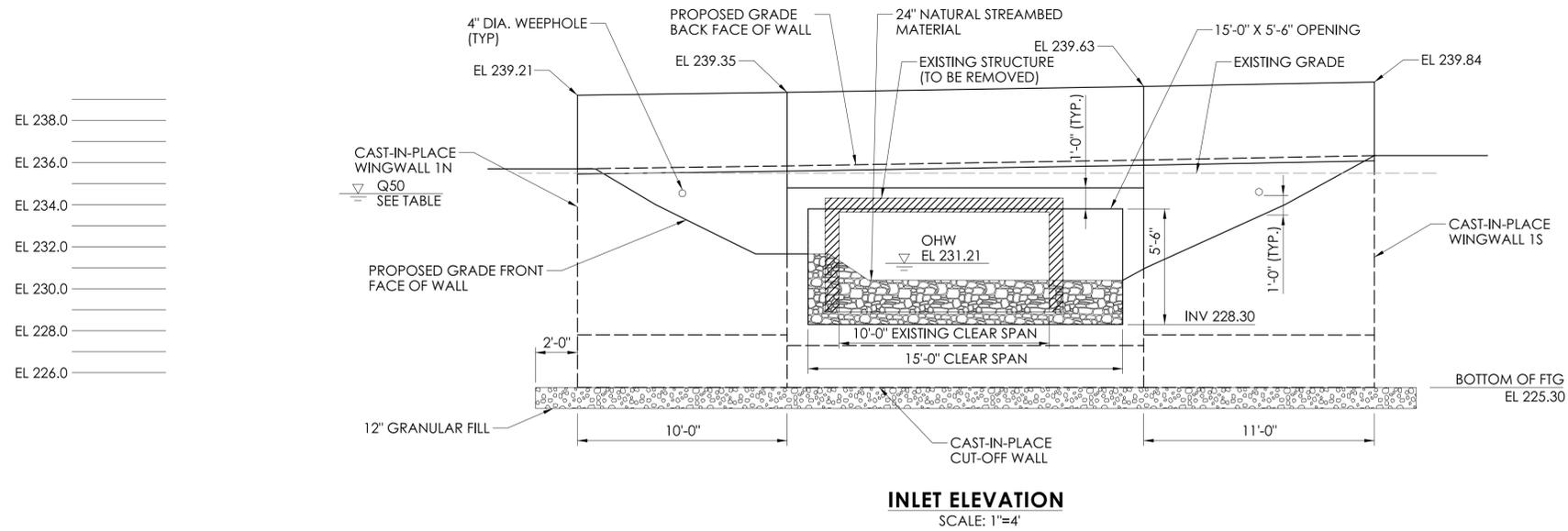
DRAINAGE AREA	0.57± SQ. MILE
DESIGN FREQUENCY	50 YR
DESIGN DISCHARGE	398 CFS
AVERAGE DAILY FLOW ELEVATION	231.2 FT
UPSTREAM DESIGN WATER SURFACE ELEVATION	234.58 FT
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	233.66 FT

LEGEND:
 SOIL BORING
 DIRECTION OF TRAFFIC



PROPOSED CULVERT SECTION
(SECTION ALONG C.L. OF CULVERT AT STA. 11+65.653)
SCALE: 1" = 5'

- NOTES:**
1. THE EXISTING 6" SEWER FORCE MAIN WAS UNABLE TO BE IDENTIFIED DURING DESIGN INVESTIGATIONS. THE CONTRACTOR SHALL LOCATE THIS UTILITY VIA TEST PIT PRIOR TO PROCEEDING WITH REMOVAL OF EXISTING CULVERT. SEE SPECIAL PROVISION "TEST PIT" FOR ADDITIONAL INFORMATION.
 2. STRUCTURE DIMENSIONS ARE BASED ON 12" CULVERT WALL THICKNESS. CONTRACTOR SHALL ADJUST DIMENSIONS IF CULVERT WALL THICKNESS DIFFERS.
 3. REMOVAL OF EXISTING STRUCTURE TO BE PAID FOR UNDER ITEM 0974000 REMOVAL OF EXISTING MASONRY.
 4. FOR CULVERT CONSTRUCTION STAGING AND WATER HANDLING DETAILS SEE DWGS. MPT-02 AND MPT-03.



BANK FULL WIDTH NOTES:

BFW = 12 FT (MEASURE PERPENDICULAR TO FLOW)
 1.2 X BFW = 14.4 FT
 15 FT = PROPOSED CLEAR SPAN

THE FOLLOWING PAY ITEMS AND CONCRETE CLASS ARE REQUIRED FOR CAST-IN-PLACE CONCRETE BRIDGE COMPONENTS:

ITEM	BRIDGE COMPONENTS	PCC CLASS
ABUTMENT AND WALL CONCRETE	HEADWALLS, WINGWALL STEMS	PCC03340
FOOTING CONCRETE	CUT-OFF WALLS, RETURN WALLS, WINGWALL FOOTINGS	PCC03340
PARAPET CONCRETE	WINGWALL PARAPET, HEADWALL PARAPET	PCC03340

NATURAL STREAMBED MATERIAL NOTES:

- NATIVE STREAMBED MATERIAL EXCAVATED DURING EXISTING STRUCTURE REMOVAL AND NEW STRUCTURE INSTALLATION SHALL BE STOCKPILED AND THEN REPLACED TO THE DEPTH SHOWN ON THE PLANS, AS DIRECTED BY THE ENGINEER, AND IN ACCORDANCE WITH SPECIAL PROVISION "EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL"
- ADDITIONAL STREAMBED MATERIAL, IF REQUIRED, SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISION "SUPPLEMENTAL STREAMBED CHANNEL MATERIAL".
- THE STOCKPILE SHALL BE LOCATED OUTSIDE THE WETLAND LIMITS AND PROTECTED WITH SEDIMENTATION CONTROL SYSTEM.

GENERAL NOTES:

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 818 (2020); SUPPLEMENTAL SPECIFICATIONS DATED JANUARY 2023 AND SPECIAL PROVISIONS
 DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION (2017), WITH INTERIM SPECIFICATIONS, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003), AS UPDATED THROUGH DECEMBER 2019.

MATERIAL STRENGTHS:
 CONCRETE:
 -CLASS PCC03340 $f'_c = 3,000$ PSI
 -PRECAST CONCRETE $f'_c = 5,000$ PSI

THE CONCRETE STRENGTH, f'_c , USED IN THE DESIGN OF THE CONCRETE COMPONENTS IS NOTED ABOVE, THE COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTED COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 6.01 - CONCRETE FOR STRUCTURES, AND M.03 - PORTLAND CEMENT CONCRETE.

REINFORCEMENT:
 -ASTM A615 GRADE 60 $f_y = 60,000$ PSI

LIVE LOAD: HL-93, LEGAL AND PERMIT VEHICLES

FUTURE PAVING ALLOWANCES: NONE

HMA OVERLAY SHALL CONSIST OF:
 4" HMA S0.5 TRAFFIC LEVEL 2 ON
 6" PROCESSED AGGREGATE BASE ON
 8" SUBBASE
 MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC).

DIMENSIONS: WHEN DECIMAL DIMENSIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.

EXISTING DIMENSIONS: DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

UTILITIES: THE FOLLOWING UTILITIES ARE LOCATED WITHIN THE PROJECT LIMITS: CITY OF BRISTOL WATER, CITY OF BRISTOL SEWER, FRONTIER, CROWN CASTLE FIBER, EVERSOURCE. THE CONTRACTOR SHALL COORDINATE ALL WORK RELATED TO UTILITY RELOCATION WITH THE RESPECTIVE UTILITY COMPANIES.

TRAFFIC: ALL WORK SHALL BE DONE IN ACCORDANCE WITH SECTION 1.08 "PROSECUTION AND PROGRESS" AND ITEM 0971001A" MAINTENANCE AND PROTECTION OF TRAFFIC".

DEMOLITION: THE CONTRACTOR SHALL SUBMIT DEMOLITION PROCEDURES PRIOR TO THE REMOVAL OF THE EXISTING CULVERT.

MASH TEST LEVEL: THE CONCRETE PARAPET MEETS THE TL-4 CRITERIA FOR MASH 2016.

CONCRETE NOTES:

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1" UNLESS DIMENSIONED OTHERWISE.

CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE 2 INCHES COVER UNLESS DIMENSIONED OTHERWISE.

REINFORCEMENT: ALL REINFORCEMENT SHALL BE GALVANIZED AFTER FABRICATION UNLESS NOTED OTHERWISE. ALL REINFORCEMENTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. THE COST OF FURNISHING AND PLACING THIS REINFORCEMENT SHALL BE INCLUDED IN THE ITEM "DEFORMED STEEL BARS - GALVANIZED".

PREFORMED EXPANSION JOINT FILLER: THE COST OF FURNISHING AND INSTALLING PREFORMED EXPANSIONS JOINT FILLER SHALL BE INCLUDED IN THE COST FOR ITEM "1/2" PREFORMED EXPANSION JOINT FILLER FOR BRIDGES".

CONSTRUCTION JOINT: CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON PLANS, WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

BRIDGE IDENTIFICATION PLACARDS: THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW BRIDGE IDENTIFICATION SIGNS AT THE LEADING END OF EACH BRIDGE WINGWALL. THE SIGNS SHALL BE FABRICATED WITH 40 GAUGE ALUMINUM SHEET METAL. THE SIGNS SHALL BE 4' X 12" WITH 3" WHITE REFLECTIVE BLOCK LETTERS ON GREEN REFLECTIVE SHEETING. EACH SIGN SHALL READ: 17005. ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE BRIDGE SIGNS SHALL BE COVERED UNDER ITEM 1208931 SIGN FACE SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING.) THE FINAL LOCATION AND ATTACHMENT METHOD FOR THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

PRECAST CONCRETE NOTES:

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 818 (2020); SUPPLEMENTAL SPECIFICATIONS DATED JANUARY 2023 AND SPECIAL PROVISIONS, "15' X 5.5' PRECAST CONCRETE BOX CULVERT".

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 8TH EDITION, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL(2003), AS UPDATED THROUGH DECEMBER 2019.

RATINGS SPECIFICATIONS: THE MANUAL FOR BRIDGE EVALUATION (AASHTO LRFR) SECOND EDITION-2010 WITH THE LATEST INTERIMS AND CTDOT BRIDGE LOAD RATING MANUAL (MARCH 29, 2018 REVISION).

MATERIAL PROPERTIES: THE CONCRETE MIX FOR PRECAST BOX CULVERT UNITS, CUT-OFF WALLS, AND RETURN WALLS SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI, REINFORCEMENT (ASTM A615, GRADE 60); $f_y = 60$ KSI.

REINFORCEMENT: ALL STEEL REINFORCING BARS IN BOX CULVERT UNITS, CUT-OFF WALLS, AND RETURN WALLS SHALL CONFORM TO ASTM A615, GRADE 60 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A767, CLASS 1.

THE FIRST DIMENSION FOR THE BOX CULVERT IS WIDTH, SECOND DIMENSION IS HEIGHT.

CONCRETE COVER: REINFORCEMENT IN PRECAST CONCRETE CUT-OFF WALLS AND RETURN WALLS SHALL HAVE THE MINIMUM COVER INDICATED ON THE PLANS, COVER IN THE PRECAST CONCRETE BOX CULVERT SHALL BE 2".

THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE DESIGN OF THE LIFTING DEVICES, WHICH SHALL BE ADEQUATE FOR THE SAFETY FACTORS REQUIRED BY THE ERECTION PROCEDURE.

DESIGNER/DRAFTER: JCG/JCG CHECKED BY: KLM
 LASTED SAVED BY: greene FILE NAME: c:\bms\wsp-pb-us-pw-02\wsp_jcdi.greene\d0285635\HW_MSH_017_0000_HWY-01.dgn PLOTTED DATE: 7/26/2023

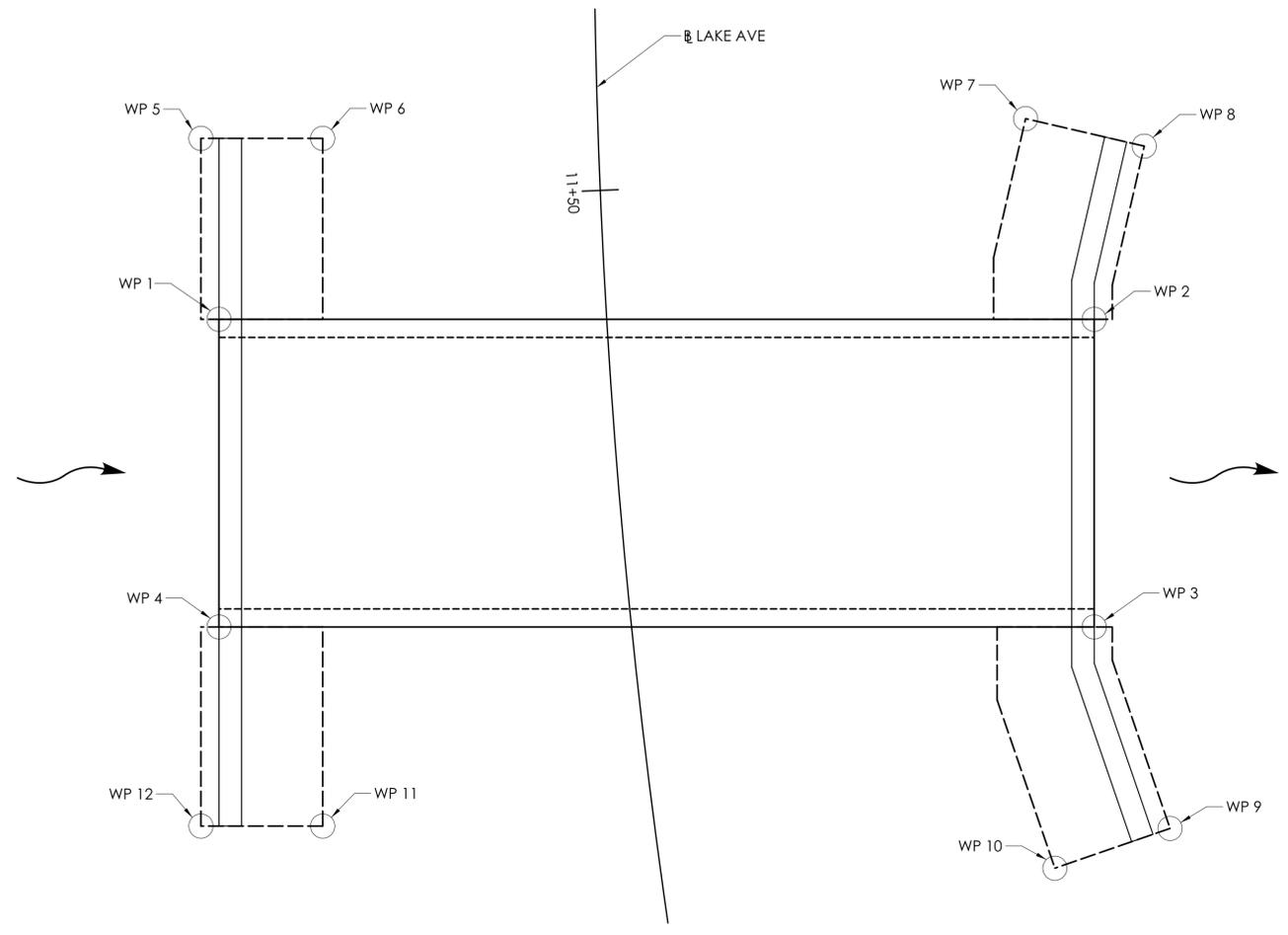
HORIZONTAL SCALE 1"=4'

SIGNATURE/BLOCK:

Bristol CONNECTICUT All Hands

PROJECT NUMBER: 9017-0005
 PROJECT DESCRIPTION: REPLACEMENT OF LAKE AVENUE CULVERT OVER CUSSGUTTER BROOK
 TOWN(S): BRISTOL
 DRAWING TITLE: GENERAL NOTES & CROSS SECTION

DRAWING NO. BR-03
 SHEET NO.



WORKING POINT COORDINATES			
WORKING POINTS	NORTHING	EASTING	LOCATION
WP 1	795567.9448	952508.0480	NW EXTERIOR CORNER OF BOX CULVERT
WP 2	795591.1292	952550.6477	NE EXTERIOR CORNER OF BOX CULVERT
WP 3	795576.1974	952558.7742	SE EXTERIOR CORNER OF BOX CULVERT
WP 4	795553.0130	952516.1745	SW EXTERIOR CORNER OF BOX CULVERT
WP 5	795576.2502	952502.3894	NW FOOTING CORNER AT TOE
WP 6	795579.4769	952508.3182	NW FOOTING CORNER AT HEEL
WP 7	795599.0507	952542.0067	NE FOOTING CORNER AT HEEL
WP 8	795600.8610	952548.5095	NE FOOTING CORNER AT TOE
WP 9	795568.4301	952567.7846	SE FOOTING CORNER AT TOE
WP 10	795563.4489	952563.2293	SE FOOTING CORNER AT HEEL
WP 11	795546.0999	952526.4833	SW FOOTING CORNER AT HEEL
WP 12	795542.8732	952520.5545	SW FOOTING CORNER AT TOE

CULVERT LAYOUT - PLAN VIEW
SCALE: 1" = 5'

- NOTES:**
- STRUCTURE DIMENSIONS ARE BASED ON 12" CULVERT WALL THICKNESS. CONTRACTOR SHALL ADJUST DIMENSIONS IF CULVERT WALL THICKNESS DIFFERS.

BORING S-1

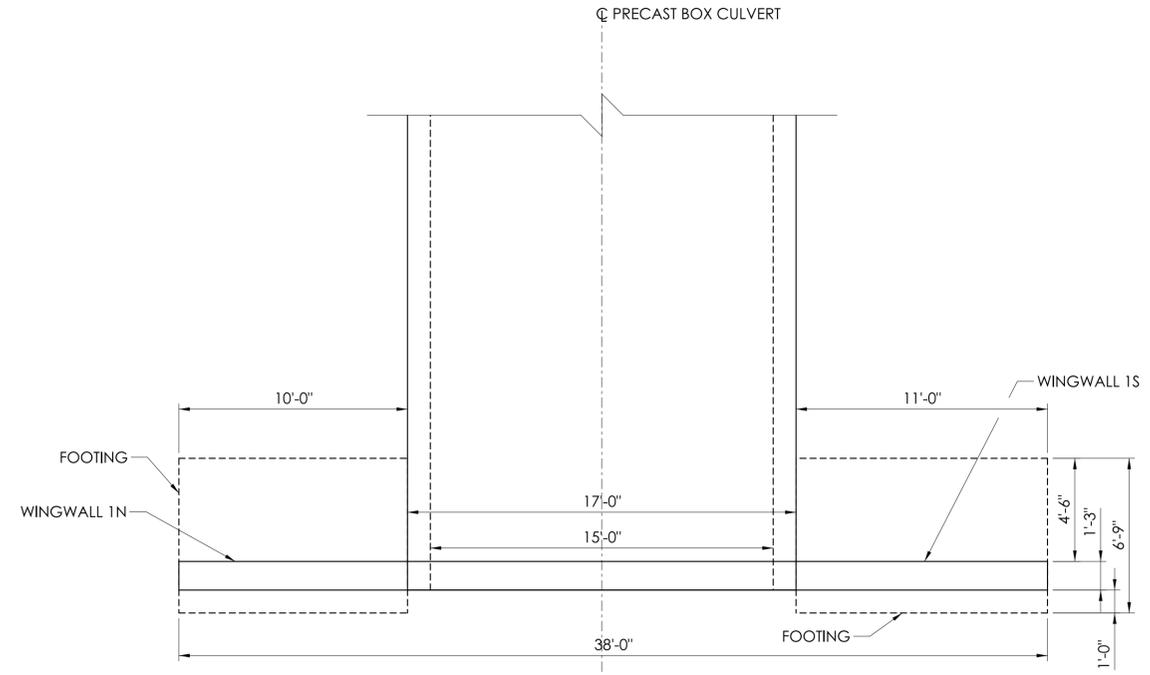
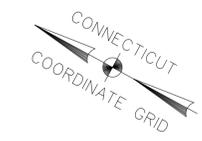
Driller: D. Guillem		Connecticut DOT Boring Report Format		Hole No.: S-1		
Inspector: N. Johnson		Town: Bristol		Sheet/Offset:		
Engineer: A. McCauliffe		Project No.: 2019-0117.1		Northing: 795659		
Start Date: 3-4-21		Route No.:		Easting: 952532.5		
Finish Date: 3-4-21		Bridge No.:		Surface Elevation: 235.3		
Project Description: Lake Avenue Culvert Replacement						
Casing Size/Type: 4-in Casing		Sampler Type/Size: 1-3/8 inch ID		Core Barre Type: N/A		
Hammer Wt.: 300lb. Fall: 30in.		Hammer Wt.: 140lb. Fall: 30in.				
Groundwater Observations: 5.5 ATD						
Depth (ft)	SAMPLES					Elevation (ft)
	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (ft)	ROC. (ft)	ROD %	
0						235
1	S-1	4 10 13 14	24	13		
2	S-2	14 8 11 17	24	6		
3	S-3	21 50/5"	11	5		
4	S-4	9 12 25 22	24	8		
5						230
6	S-5	13 17 16 17	24	13		
7	S-6	8 11 12 16	24	12		
8	S-7	9 15 25 31	24	24		
9	S-8	9 12 13 15	24	12		
10						225
11						220
12						215
13						210
14						205
15						200
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%						
Total Penetration in Earth: 32ft Rock: 0ft No. of Sol Samples: 8 Core Runs: 0						Sheet 1 of 1
NOTES:						SM-001-M REV. 102

BORING S-2

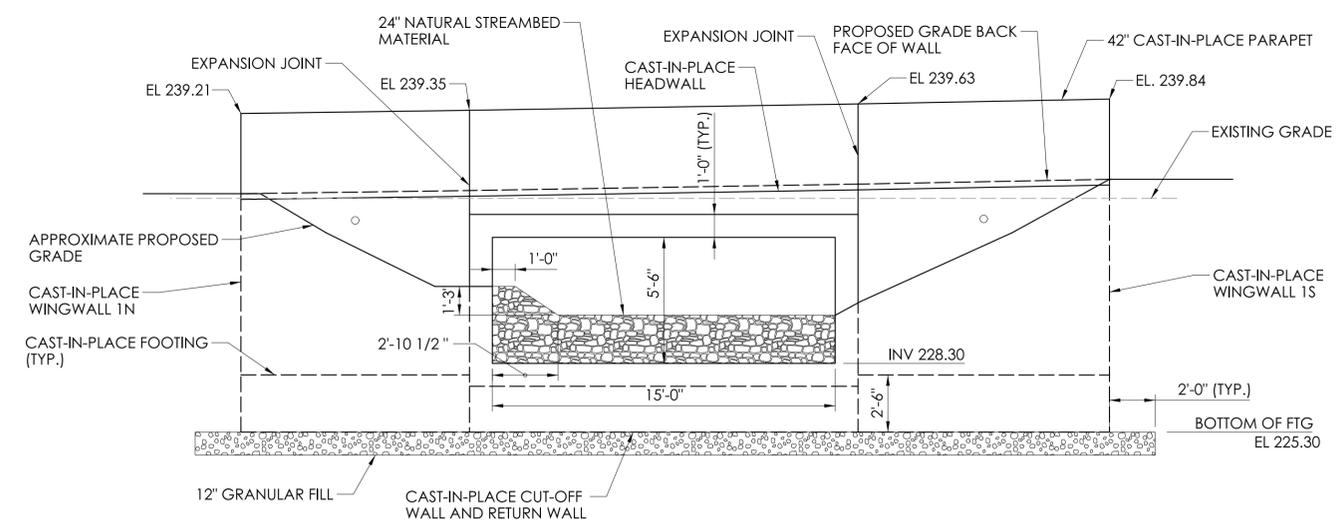
Driller: D. Guillem		Connecticut DOT Boring Report Format		Hole No.: S-2		
Inspector: N. Johnson		Town: Bristol		Sheet/Offset:		
Engineer: A. McCauliffe		Project No.: 2019-0117.1		Northing: 795624.1		
Start Date: 3-4-21		Route No.:		Easting: 952502.2		
Finish Date: 3-4-21		Bridge No.:		Surface Elevation: 235.0		
Project Description: Lake Avenue Culvert Replacement						
Casing Size/Type: 4-in Casing		Sampler Type/Size: 1-3/8 inch ID		Core Barre Type: N/A		
Hammer Wt.: 300lb. Fall: 30in.		Hammer Wt.: 140lb. Fall: 30in.				
Groundwater Observations: Not Encountered						
Depth (ft)	SAMPLES					Elevation (ft)
	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (ft)	ROC. (ft)	ROD %	
0						235
1	S-1	14 13 40 50	24	12		
2	S-2	39 50/5"	11	7		
3						230
4						225
5						220
6						215
7						210
8						205
9						200
10						195
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%						
Total Penetration in Earth: 3.5ft Rock: 0ft No. of Sol Samples: 2 Core Runs: 0						Sheet 1 of 1
NOTES:						SM-001-M REV. 102

BORING S-2A

Driller: D. Guillem		Connecticut DOT Boring Report Format		Hole No.: S-2A		
Inspector: N. Johnson		Town: Bristol		Sheet/Offset:		
Engineer: A. McCauliffe		Project No.: 2019-0117.1		Northing: 795613.5		
Start Date: 3-4-21		Route No.:		Easting: 952472.3		
Finish Date: 3-4-21		Bridge No.:		Surface Elevation: 234.9		
Project Description: Lake Avenue Culvert Replacement						
Casing Size/Type: 4-in Casing		Sampler Type/Size: 1-3/8 inch ID		Core Barre Type: N/A		
Hammer Wt.: 300lb. Fall: 30in.		Hammer Wt.: 140lb. Fall: 30in.				
Groundwater Observations: 5.5 ATD						
Depth (ft)	SAMPLES					Elevation (ft)
	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (ft)	ROC. (ft)	ROD %	
0						235
1	S-1	18 21 18 13	24	10		
2	S-2	4 4 9 17	24	12		
3	S-3	16 26 16 10	24	14		
4	S-4	15 20 25 37	24	15		
5	S-5	22 26 32 21	24	12		
6	S-6	12 13 13 18	24	14		
7	S-7	10 10 12 19	24	24		
8	S-8	8 9 9 14	24	24		
9	S-9	50/5"	5	0		
10						225
11						220
12						215
13						210
14						205
15						200
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%						
Total Penetration in Earth: 30.4ft Rock: 0ft No. of Sol Samples: 7 Core Runs: 0						Sheet 1 of 1
NOTES: Offset approximately 5ft north of S-2 to confirm shallow refect						SM-001-M REV. 102



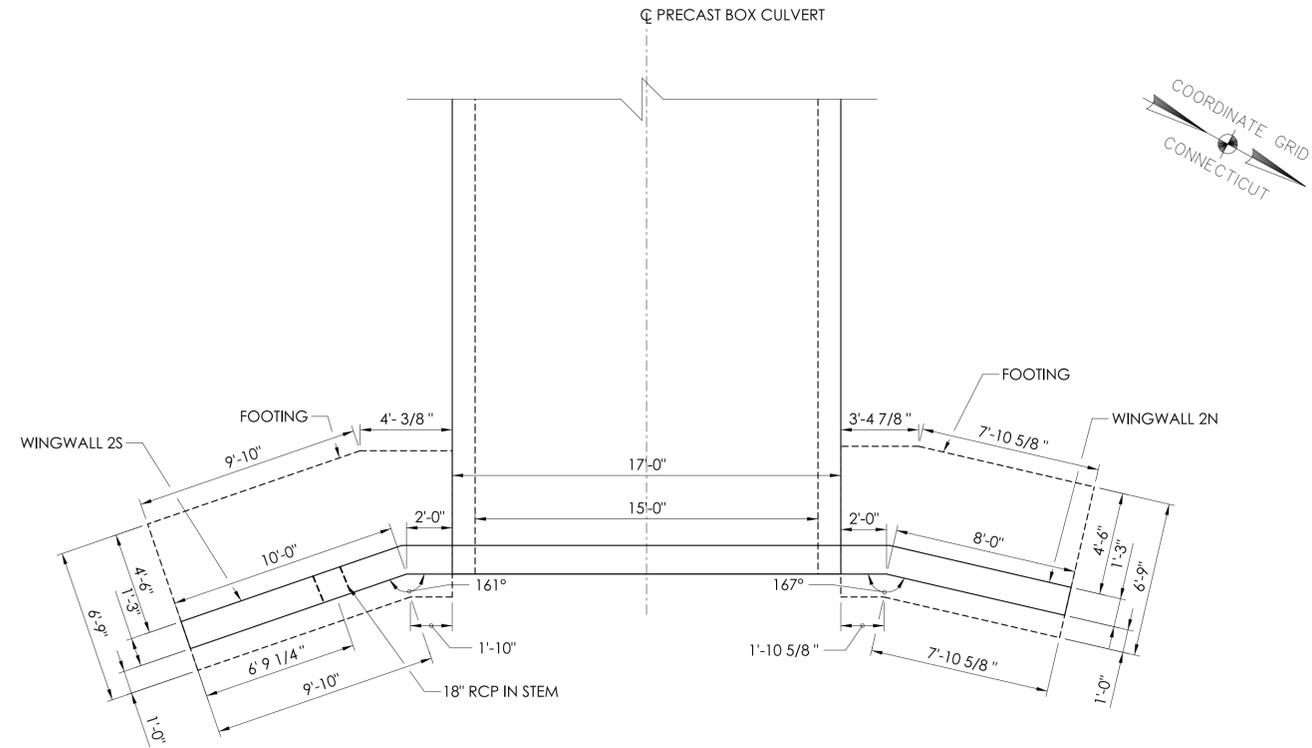
INLET PLAN
SCALE: 1/4" = 1'-0"



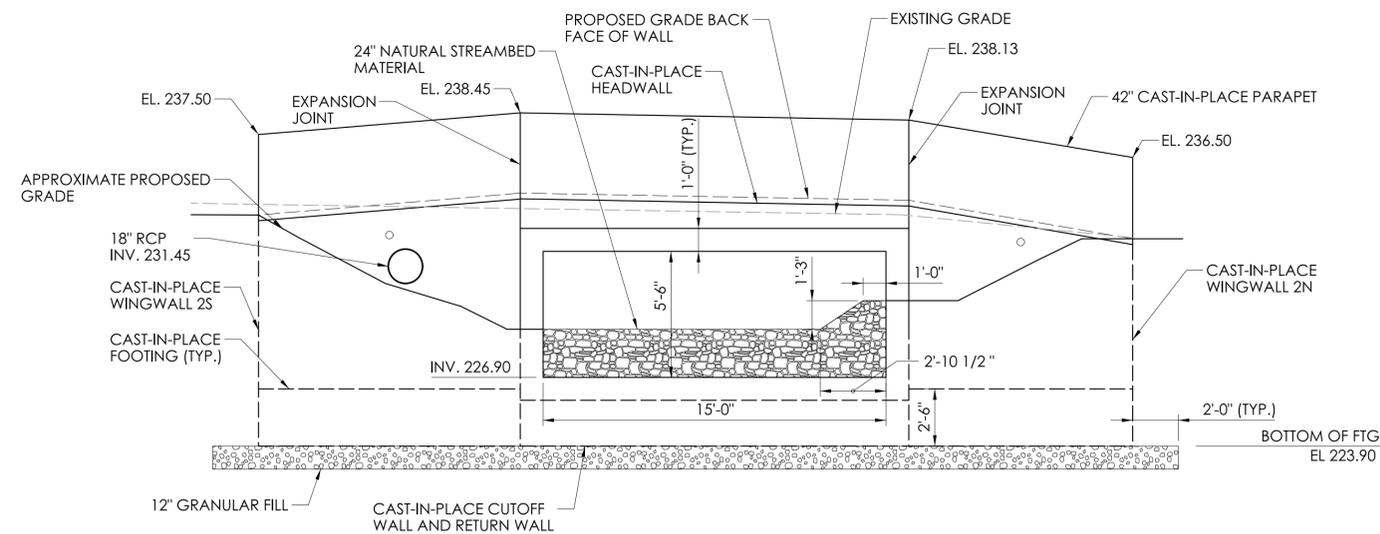
INLET ELEVATION
SCALE: 1/4" = 1'-0"

NOTES:

1. REFER TO DWG BR-04 FOR LAYOUT OF WORKING POINTS.
2. PROVIDE 1/2" PREFORMED EXPANSION JOINT FILLER FOR BRIDGES, FULL HEIGHT OF WINGWALL, TYP. AT EXPANSION JOINT.
3. STRUCTURE DIMENSIONS ARE BASED ON 12" CULVERT WALL THICKNESS. CONTRACTOR SHALL ADJUST DIMENSIONS IF CULVERT WALL THICKNESS DIFFERS.



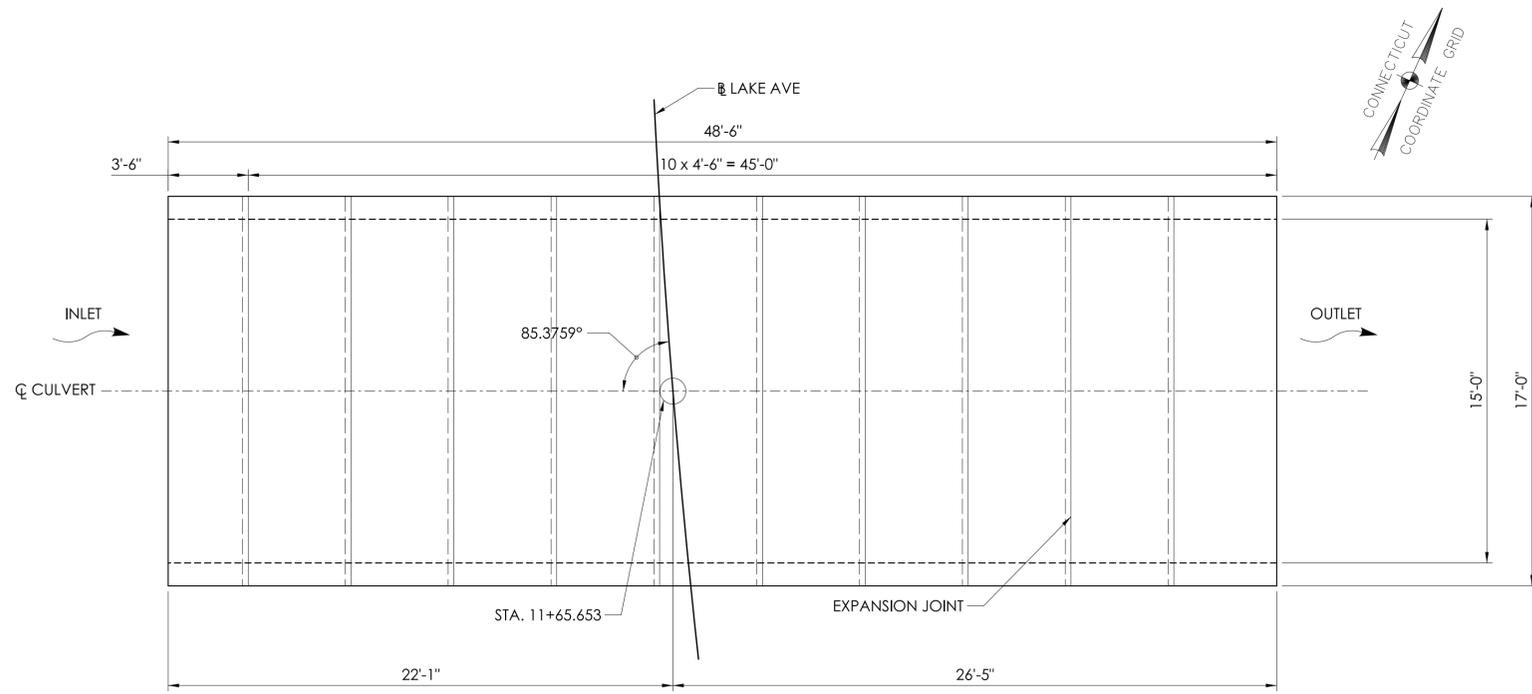
OUTLET PLAN
SCALE: 1/4" = 1'-0"



OUTLET ELEVATION
SCALE: 1/4" = 1'-0"

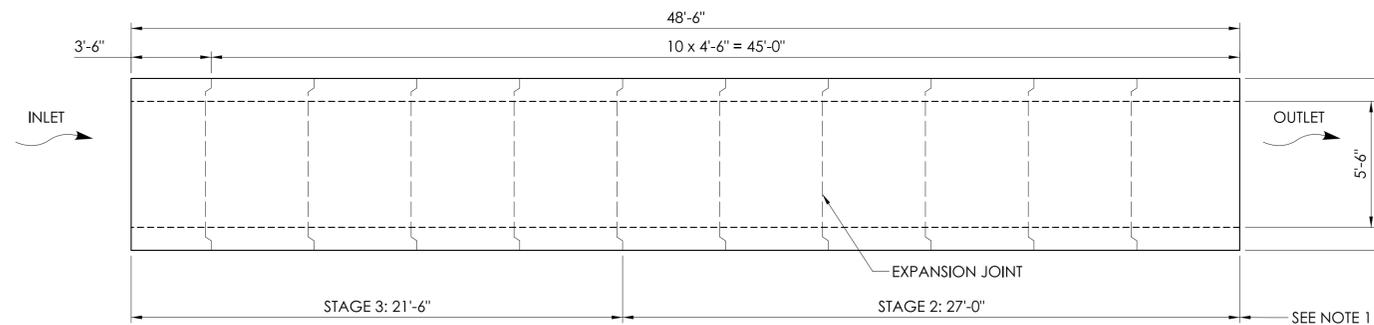
NOTES:

1. REFER TO DWG BR-04 FOR LAYOUT OF WORKING POINTS.
2. PROVIDE 1/2" PREFORMED EXPANSION JOINT FILLER FOR BRIDGES, FULL HEIGHT OF WINGWALL, TYP. AT EXPANSION JOINT.
3. STRUCTURE DIMENSIONS ARE BASED ON 12" CULVERT WALL THICKNESS. CONTRACTOR SHALL ADJUST DIMENSIONS IF CULVERT WALL THICKNESS DIFFERS.



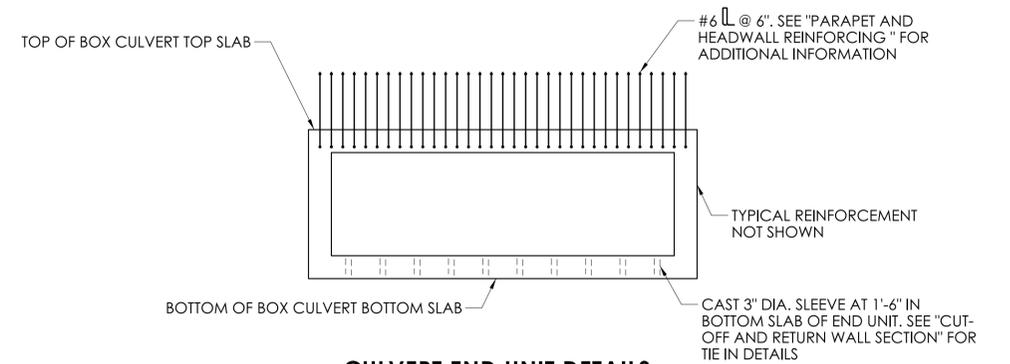
CULVERT LAYOUT - PLAN VIEW

SCALE: 1" = 4'



CULVERT LAYOUT - ELEVATION VIEW

SCALE: 1" = 4'

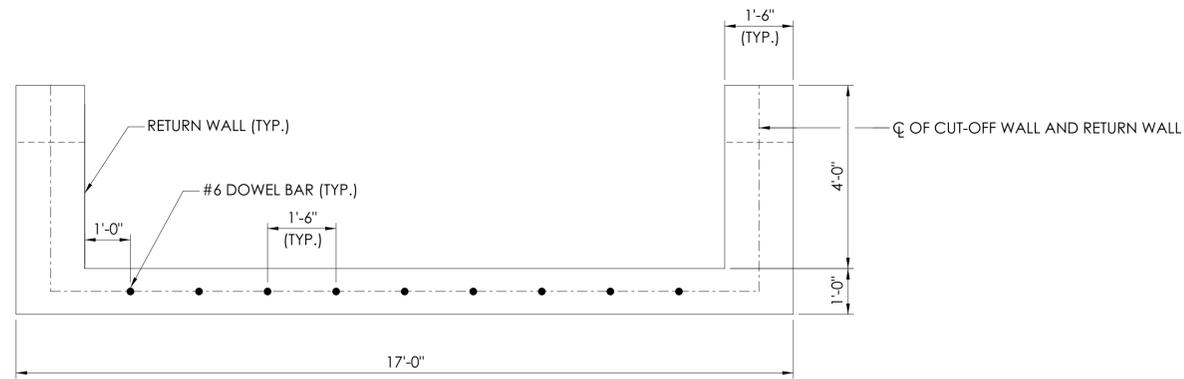


CULVERT END UNIT DETAILS

SCALE: 1" = 4'

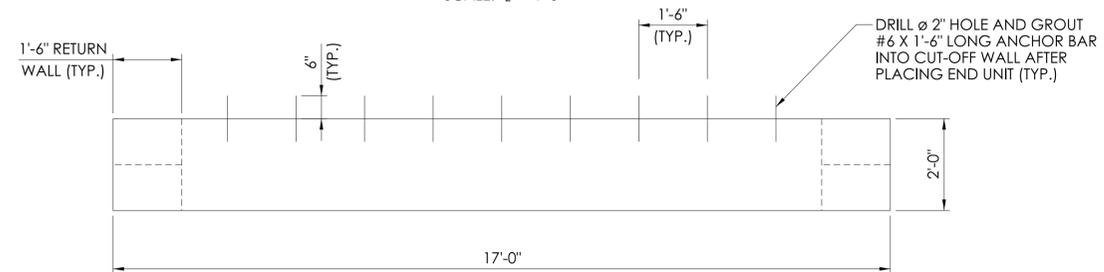
NOTES:

1. FOR STAGING DETAILS, SEE DWGS. MPT-02 AND MPT-03.
2. STRUCTURE DIMENSIONS ARE BASED ON 12" CULVERT WALL THICKNESS. CONTRACTOR SHALL ADJUST DIMENSIONS IF CULVERT WALL THICKNESS DIFFERS.



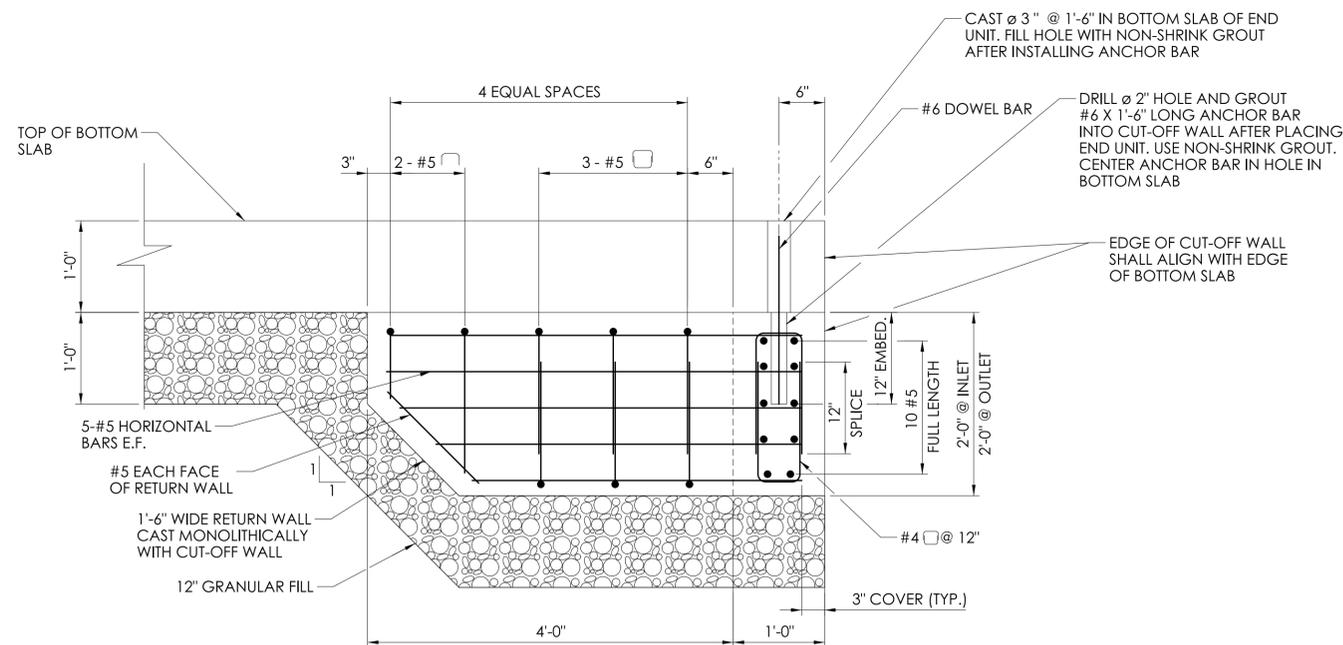
CUT-OFF WALL AND RETURN WALL PLAN

SCALE: 1/2" = 1'-0"



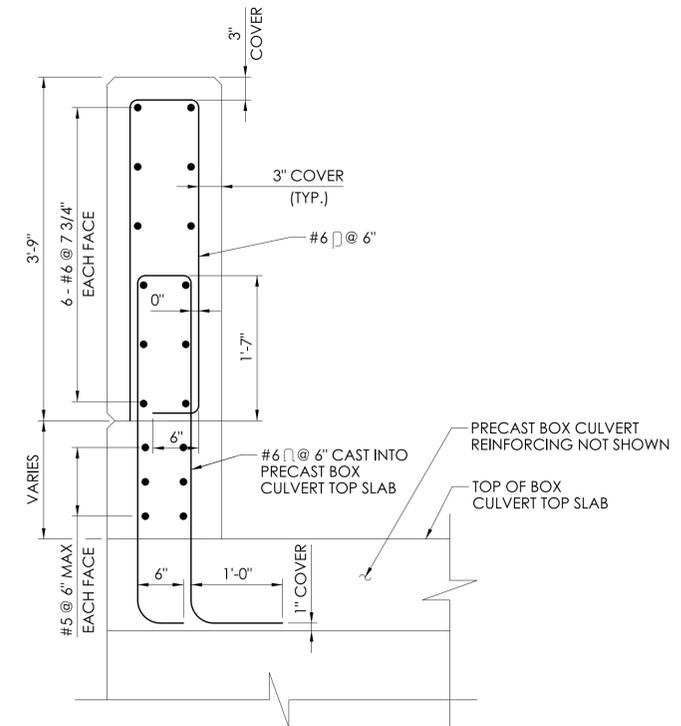
CUT-OFF WALL ELEVATION

SCALE: 1/2" = 1'-0"



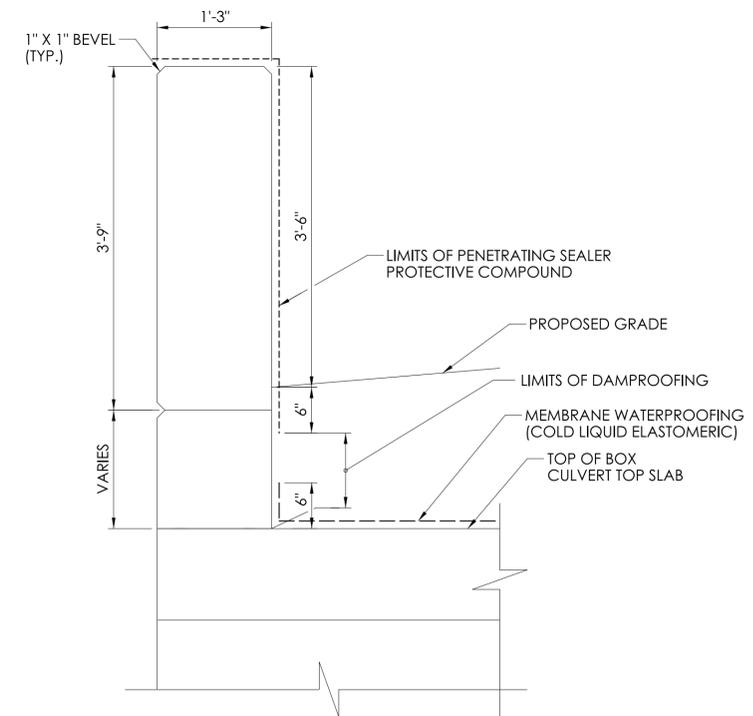
CUT-OFF AND RETURN WALL SECTION

SCALE: 1" = 1'-0"



PARAPET AND HEADWALL REINFORCING

SCALE: 1" = 1'-0"

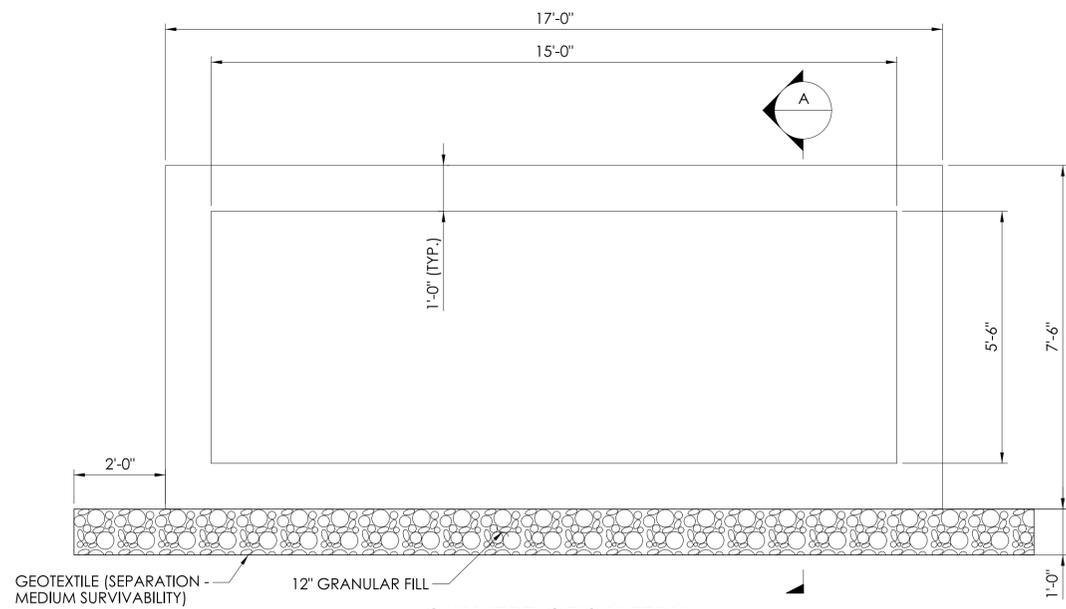


PARAPET AND HEADWALL SECTION

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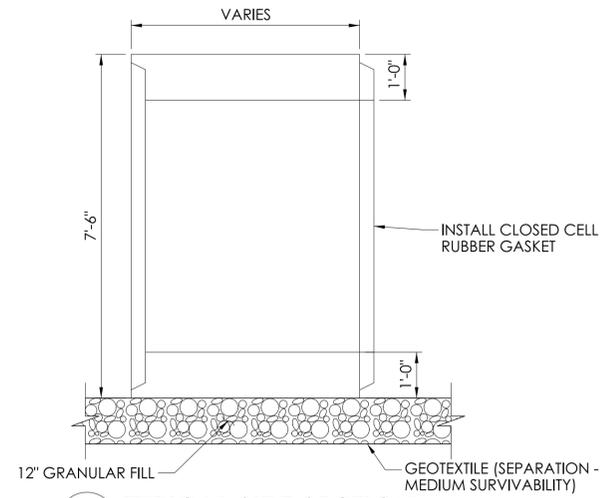
NOTES:

1. STRUCTURE DIMENSIONS ARE BASED ON 12" CULVERT WALL THICKNESS. CONTRACTOR SHALL ADJUST DIMENSIONS IF CULVERT WALL THICKNESS DIFFERS.
2. PENETRATING SEALER PROTECTIVE COMPOUND TO BE PAID FOR UNDER ITEM 0819002A PENETRATING SEALER PROTECTIVE COMPOUND.



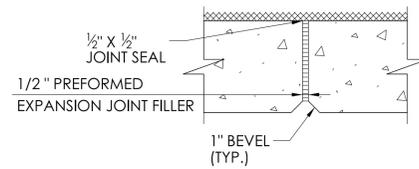
CULVERT GEOMETRY

SCALE: 1/2" = 1'-0"



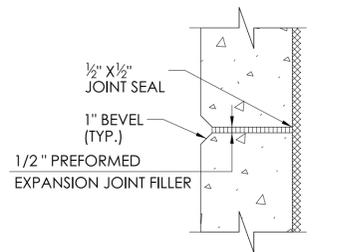
TYPICAL SIDE SECTION

SCALE: 1/2" = 1'-0"



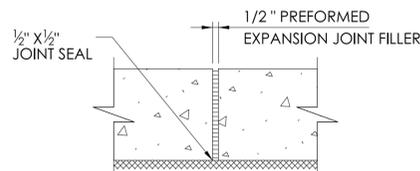
SECTION C

SCALE: 1 1/2" = 1'-0"



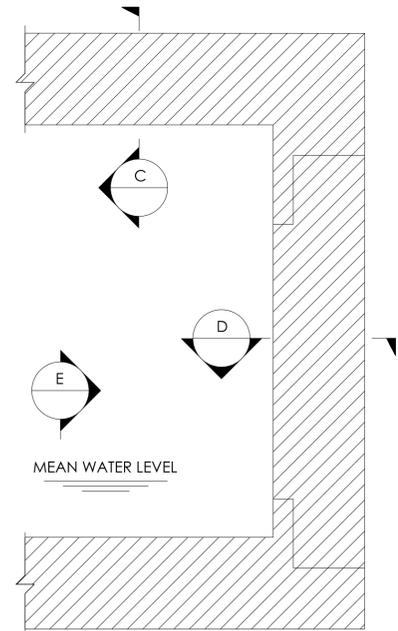
SECTION D

SCALE: 1 1/2" = 1'-0"



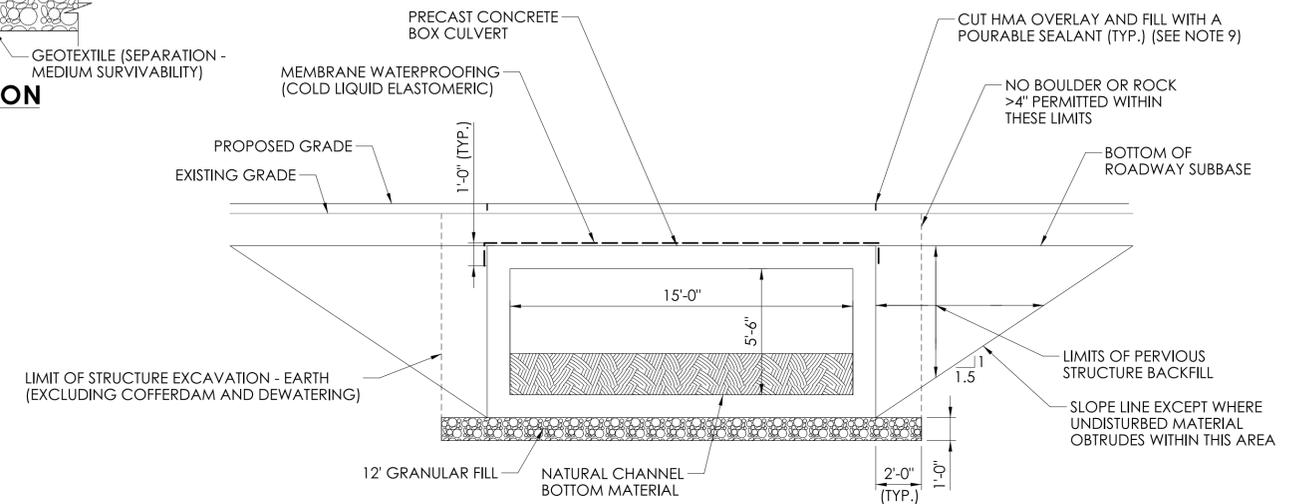
SECTION E

SCALE: 1 1/2" = 1'-0"



PARTIAL SECTION THROUGH CULVERT AT EXPANSION JOINT

SCALE: 1/2" = 1'-0"

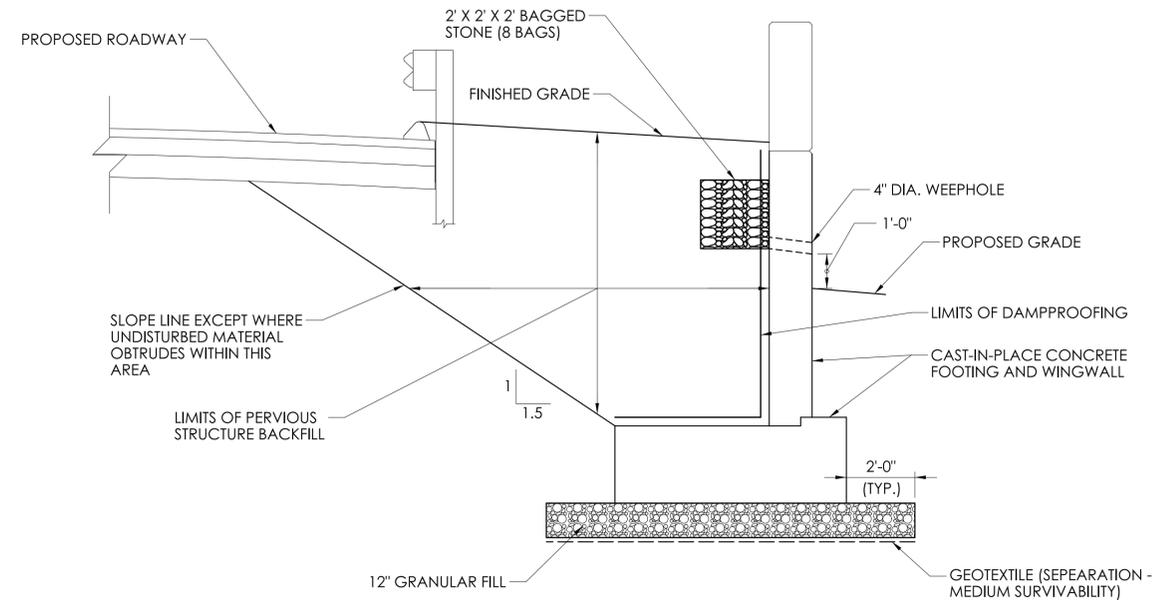
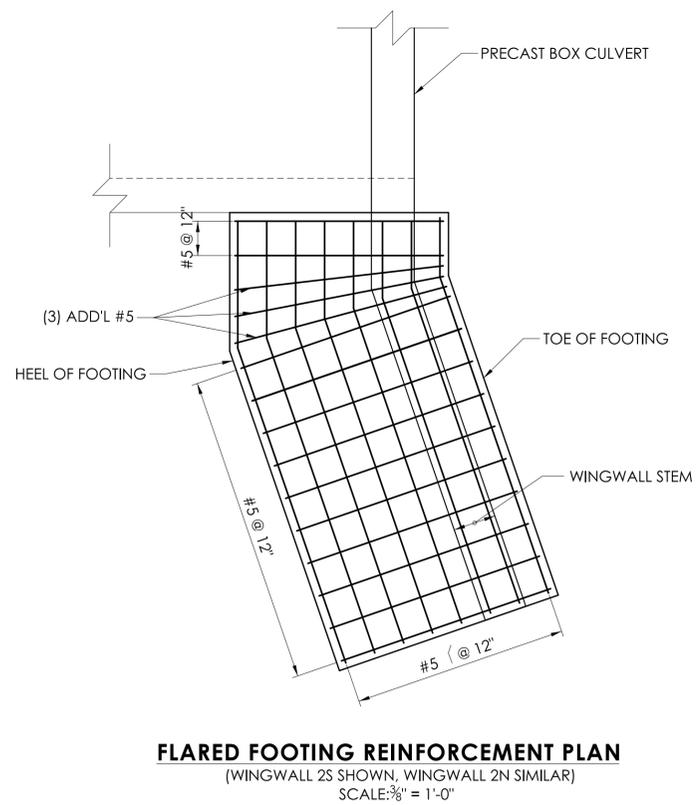
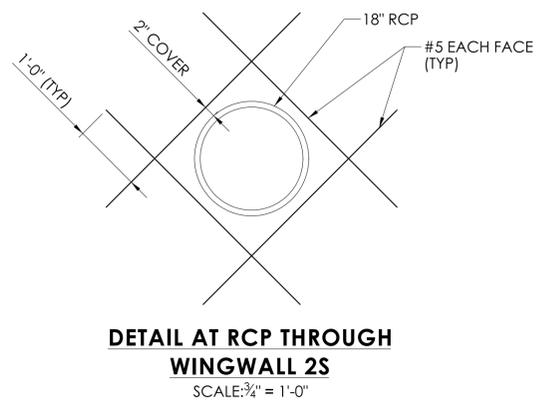
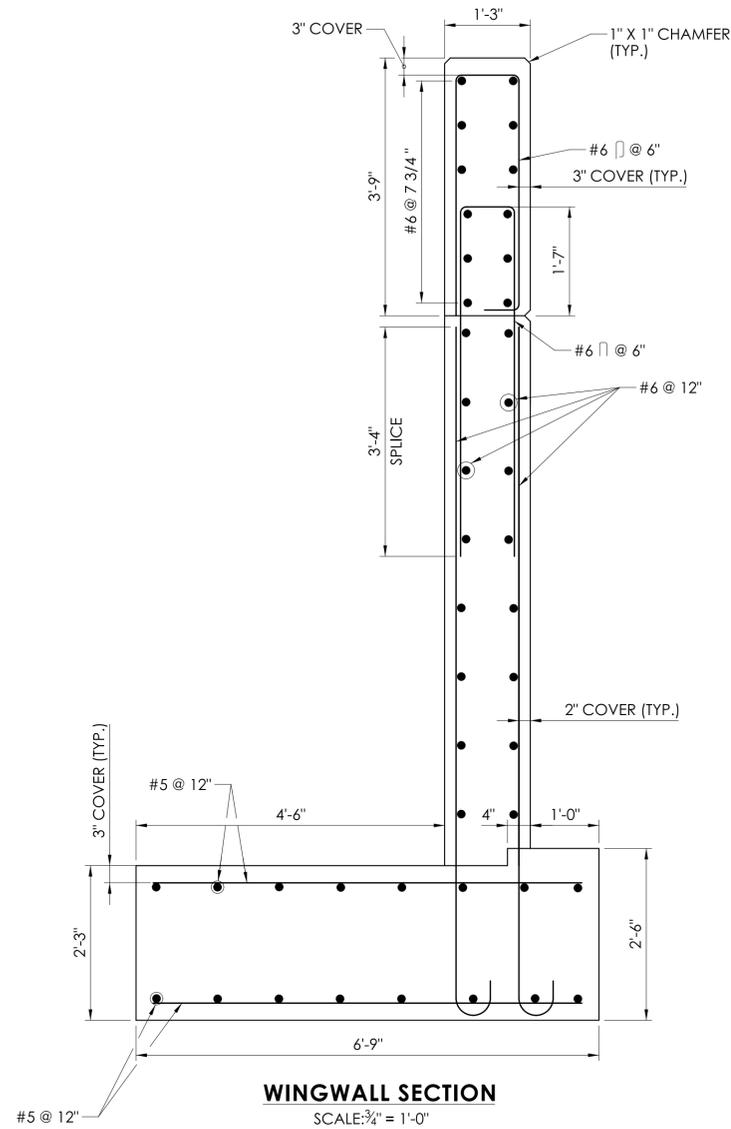


PRECAST CONCRETE BOX CULVERT PAY LIMITS

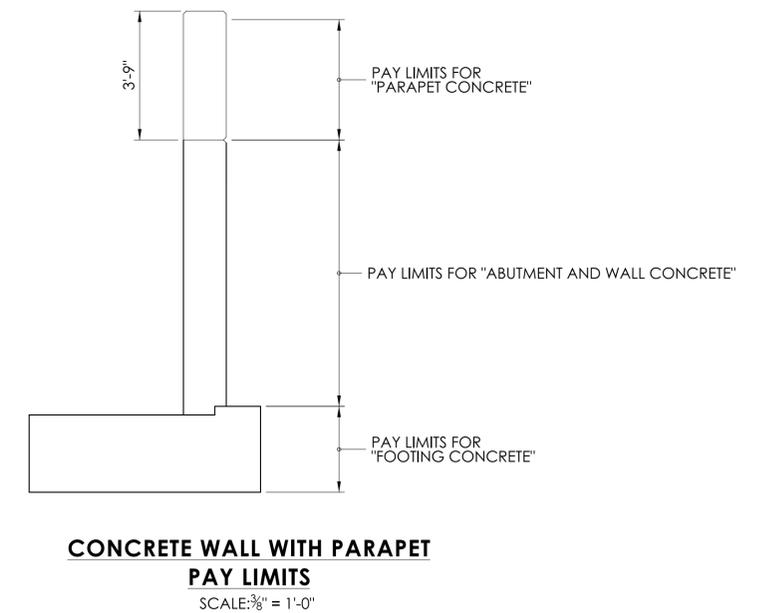
SCALE: 1/4" = 1'-0"

NOTES:

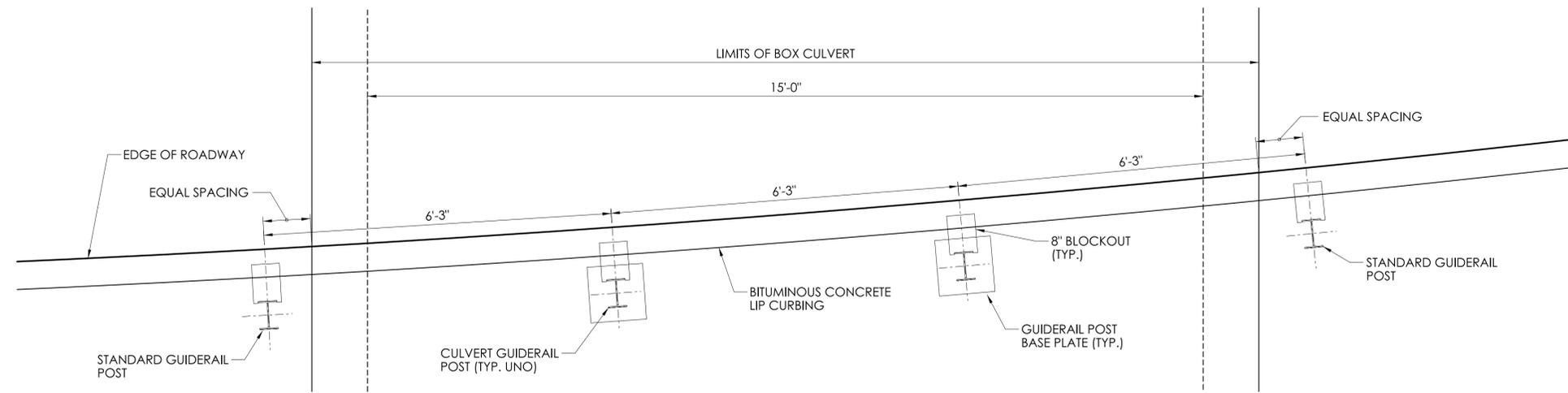
1. THE CONTRACTOR SHALL DESIGN, MANUFACTURE AND CONSTRUCT PRECAST BOX CULVERT IN ACCORDANCE WITH THE SPECIAL PROVISIONS FOR "15' X 5.5' PRECAST BOX CULVERT" AND THE INSIDE DIMENSIONS, LENGTH AND DETAILS SHOWN ON THESE PLANS.
2. ALL INSERTS OR HOLES CAST INTO THE CULVERT SECTIONS FOR THE SOLE PURPOSE OF HANDLING AND SETTING THE UNITS SHALL BE GROUTED OVER TO A SMOOTH FINISH UPON COMPLETION OF THE WORK.
3. NON-SHRINK GROUT SHALL BE USED TO GROUT THE REINFORCEMENT.
4. THE COST OF FURNISHING AND INSTALLING INSERTS SHALL BE INCLUDED IN THE ITEM "15' X 5.5' PRECAST CONCRETE BOX CULVERT" AND SHALL BE ONE OF THE FOLLOWING:
 1. STAR EXPANSION INDUSTRIES CORP. TYPE P-35-T
 2. RICHMOND SCREW ANCHOR CO. TYPE LF
 3. DAYTON SUPERIOR CORP. TYPE F-57
 ALL INSERTS SHALL HAVE CORROSIVE RESISTANT COATING.
5. ALL REINFORCEMENT TO HAVE 2" COVER UNLESS OTHERWISE NOTED.
6. ALL INTERIOR JOINTS BETWEEN BOX CULVERT SECTIONS SHALL BE GROUTED AS OUTLINED IN THE SPECIFICATION FOR "15' X 5.5' PRECAST CONCRETE BOX CULVERT".
7. ALL PRECAST ELEMENT REINFORCING INCLUDING CAST DOWELL BAR SPLICER INSERTS AND THREADED ROD DOWELS AT HEADWALLS SHALL BE INCLUDED IN ITEM FOR "15' X 5.5' PRECAST CONCRETE BOX CULVERT".
8. STRUCTURE DIMENSIONS ARE BASED ON 12" CULVERT WALL THICKNESS. CONTRACTOR SHALL ADJUST DIMENSIONS IF CULVERT WALL THICKNESS DIFFERS.
9. COST OF CUTTING AND SEALING HMA TO BE PAID FOR UNDER ITEM 0202529 CUT BITUMINOUS CONCRETE PAVEMENT (HIGHWAY ITEM).
10. GEOTEXTILE (SEPARATION - MEDIUM SURVIVABILITY) TO BE PAID FOR UNDER ITEM 0755010 GEOTEXTILE (SEPARATION - MEDIUM SURVIVABILITY).



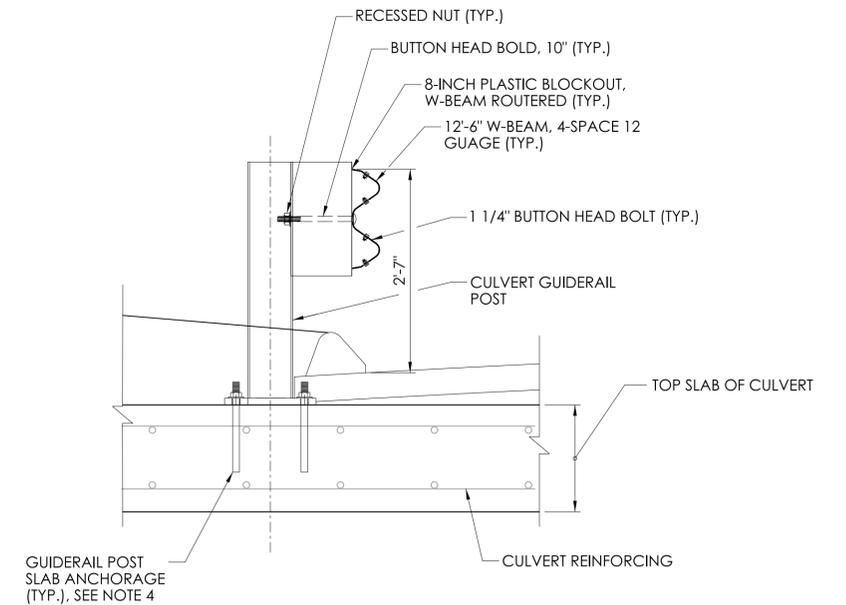
NOTE: GEOTEXTILE (SEPARATION MEDIUM SURVIVABILITY) SHALL NOT BE PLACED WITHIN THE WATER COURSE



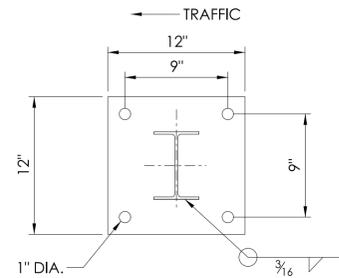
- NOTE:
- DAMPPROOFING TO BE PAID FOR UNDER ITEM 0708001 DAMPPROOFING.
 - GEOTEXTILE (SEPARATION - MEDIUM SURVIVABILITY) TO BE PAID FOR UNDER ITEM 0755010 GEOTEXTILE (SEPARATION - MEDIUM SURVIVABILITY).



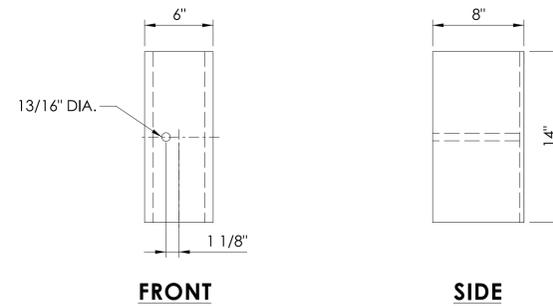
GUIDERRAIL POST LAYOUT OVER CULVERT
SCALE: 3/4" = 1'-0"



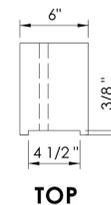
GUIDERRAIL MOUNTING DETAIL
SCALE: N.T.S.



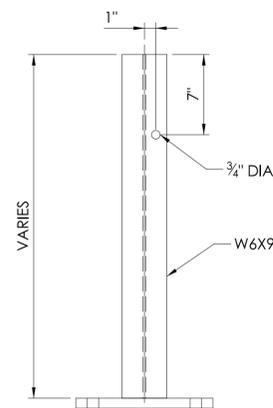
**CULVERT GUIDERRAIL POST
BASEPLATE DETAIL**



FRONT SIDE



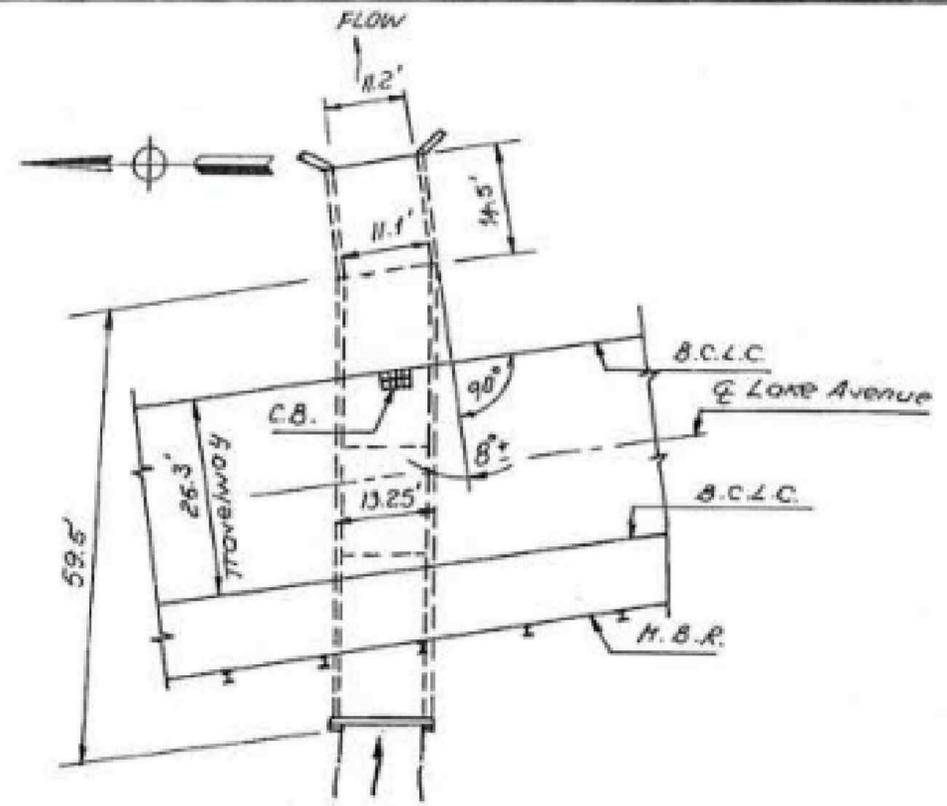
8" PLASTIC BLOCKOUT DETAILS
SCALE: N.T.S.



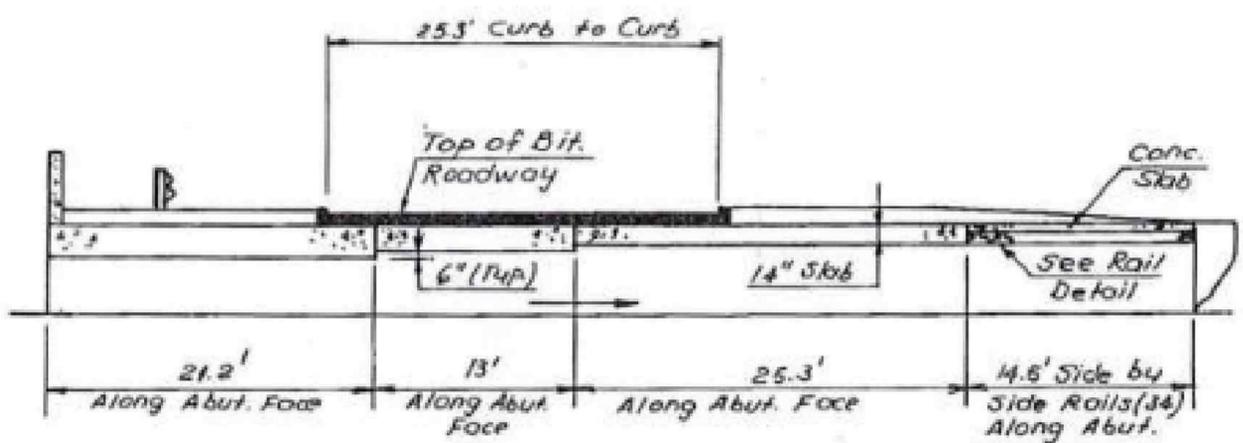
CULVERT GUIDERRAIL POST DETAIL
SCALE: N.T.S.

NOTES:

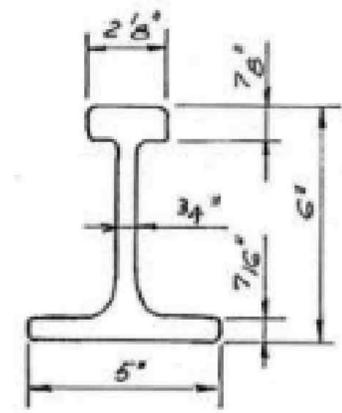
1. ALL POST SPACINGS ON CULVERT SHALL BE 75" CENTER TO CENTER WITH W-BEAM SPLICE LOCATED AT MIDPOINT OF POST BAY SPACING.
2. CULVERT GUIDERRAIL POST SHALL BE ASTM A992.
3. CULVERT GUIDERRAIL POST BASEPLATE SHALL BE ASTM A36.
4. CULVERT GUIDERRAIL POST DECK ANCHORAGE SHALL BE HILTI HAS-E 7/8" DIA. 10" LONG WITH WASHER AND NUT. ANCHORAGE SHALL BE INSTALLED WITH HILTI RE500 EPOXY ACCORDING TO MANUFACTURER REQUIREMENTS. ANCHORAGE SHALL HAVE MINIMUM 6" EMBEDMENT.
5. CULVERT GUIDERRAIL POSTS AND HARDWARE TO BE PAID FOR UNDER ITEM 0910300A METAL BEAM RAIL (R-B MASH).



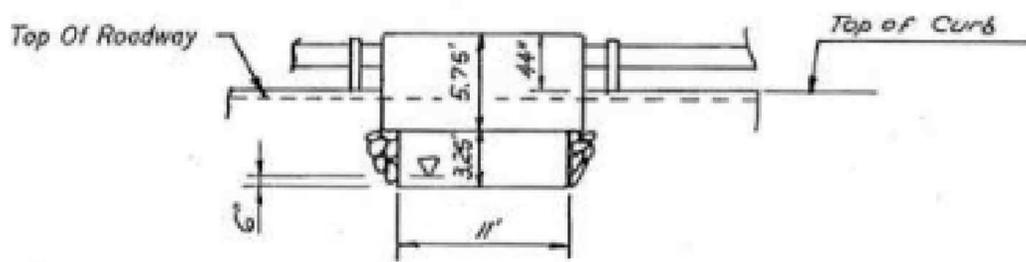
PLAN
SCALE : 1" = 20'



**CROSS SECTION
LOOKING NORTH**
SCALE : 1" = 10'



RAIL DETAIL
SCALE : 3" = 1'- 0"



ELEVATION
SCALE : 1" = 10'

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		
BRISTOL LAKE AVENUE OVER CUSSGUTTER BROOK		
Steinman Boynton Gronquist & Birdsell 1800 Silas Deane Highway - Rocky Hill, CT 06067		
SCALE: NOTED	DATE: 05/22/91	BR. NO. 017005