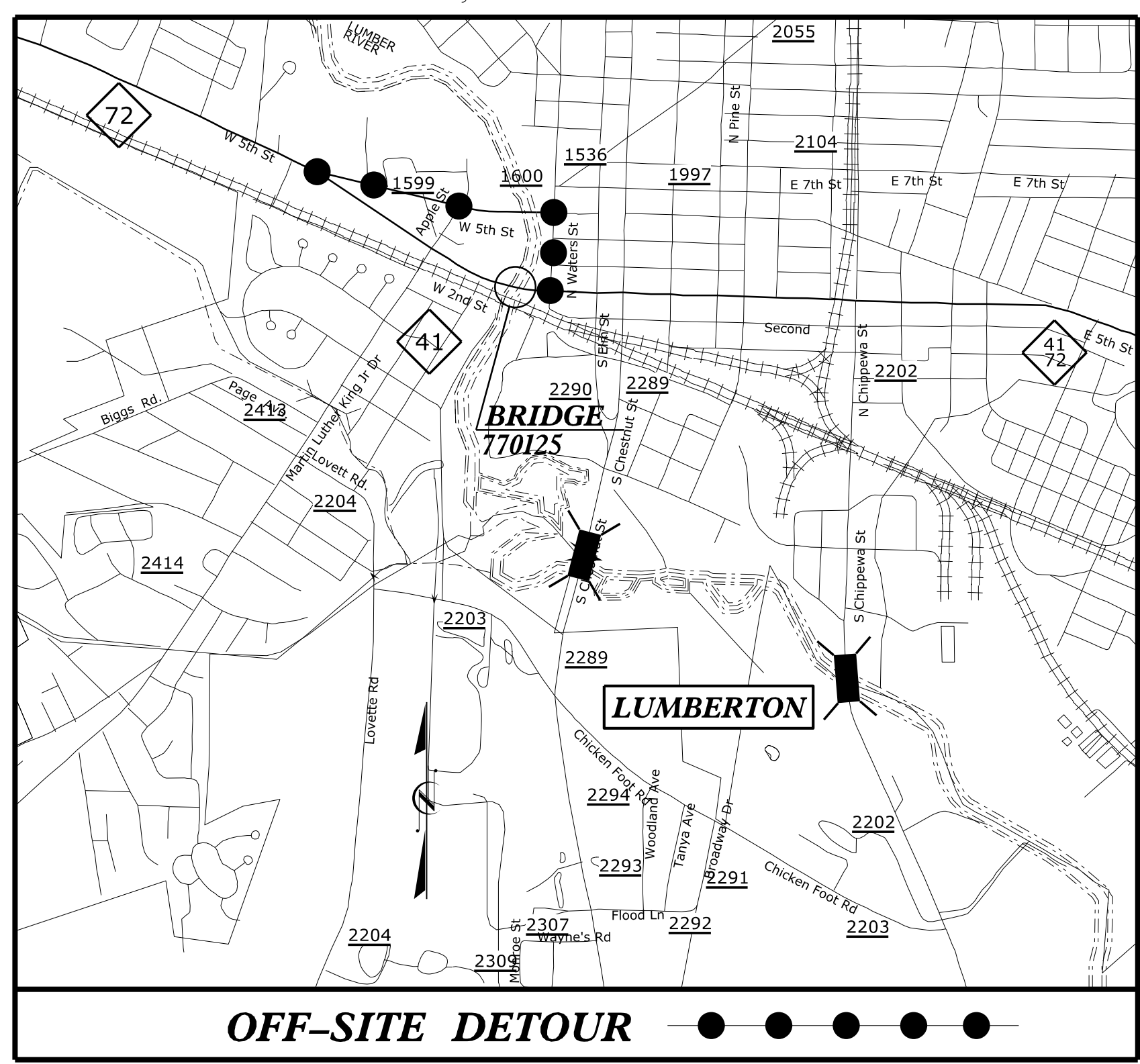


**CONTRACT: C204764 TIP PROJECT: B-5985A**

See Sheet 1A For Index of Sheets  
See Sheet 1B For Conventional Symbols



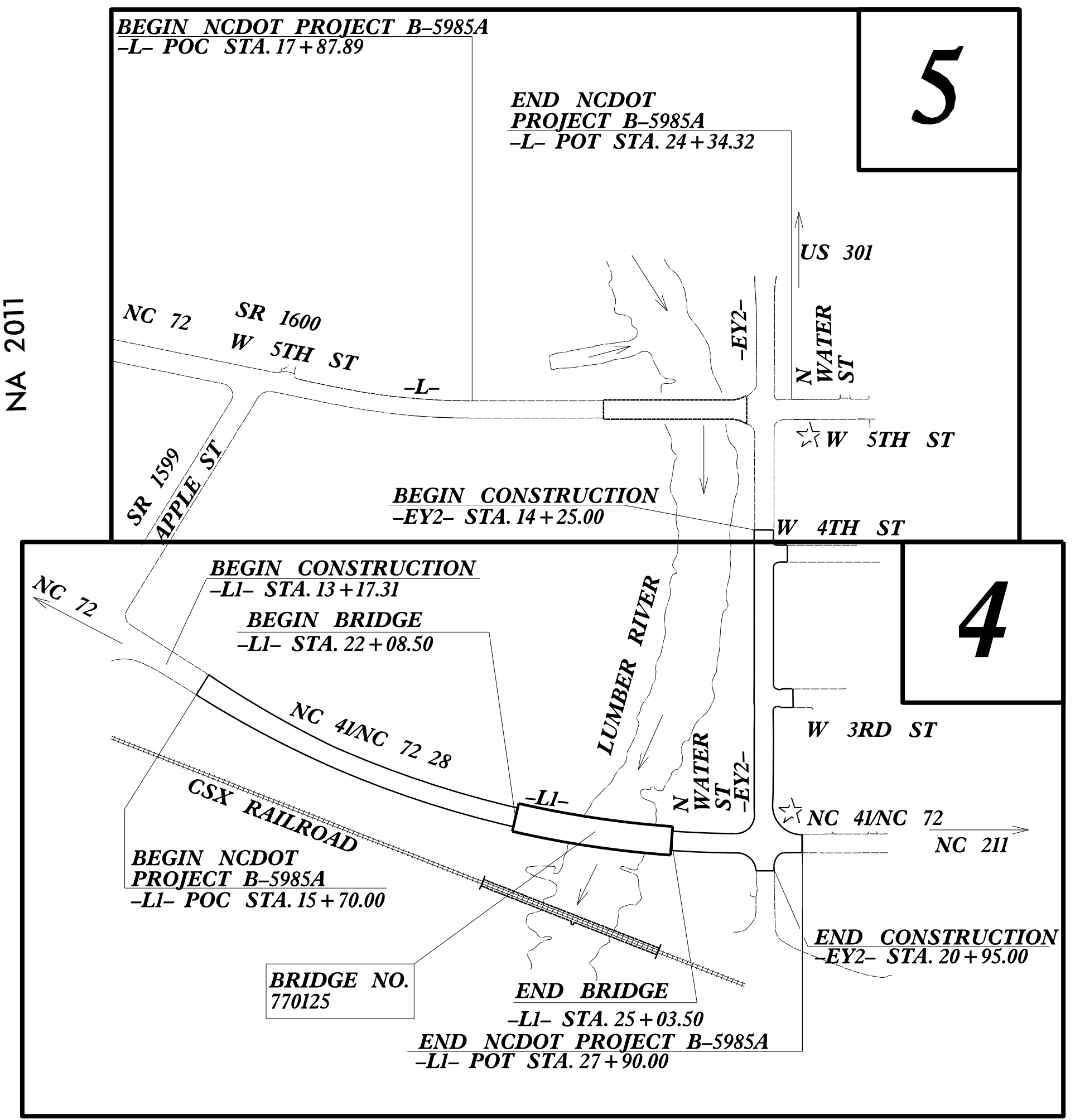
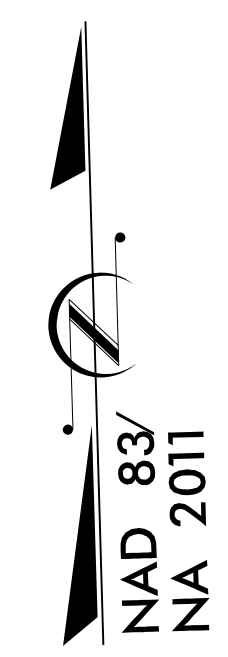
**BRIDGE #770125**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

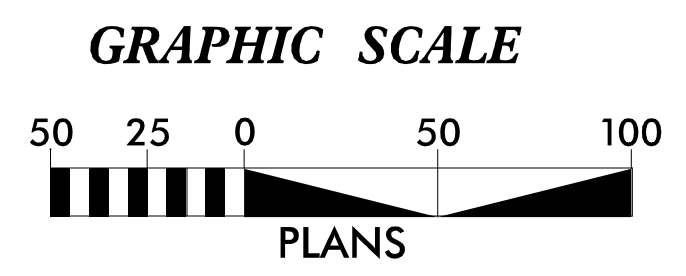
PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL

**ROBESON COUNTY**

**LOCATION: BRIDGE NO. 770125 OVER LUMBER RIVER ON NC 41/72**  
**TYPE OF WORK: GRADING, DRAINAGE, SIGNALS, PAVING & STRUCTURES**



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF LUMBERTON.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH  
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000  
GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019  
AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

**WETHERILL ENGINEERING**  
1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

Prepared in the Office of:  
**WETHERILL ENGINEERING**  
1223 JONES FRANKLIN RD  
RALEIGH NC 27606

Designed by:  
**HARMINDER SINGH** 3519  
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5985A	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

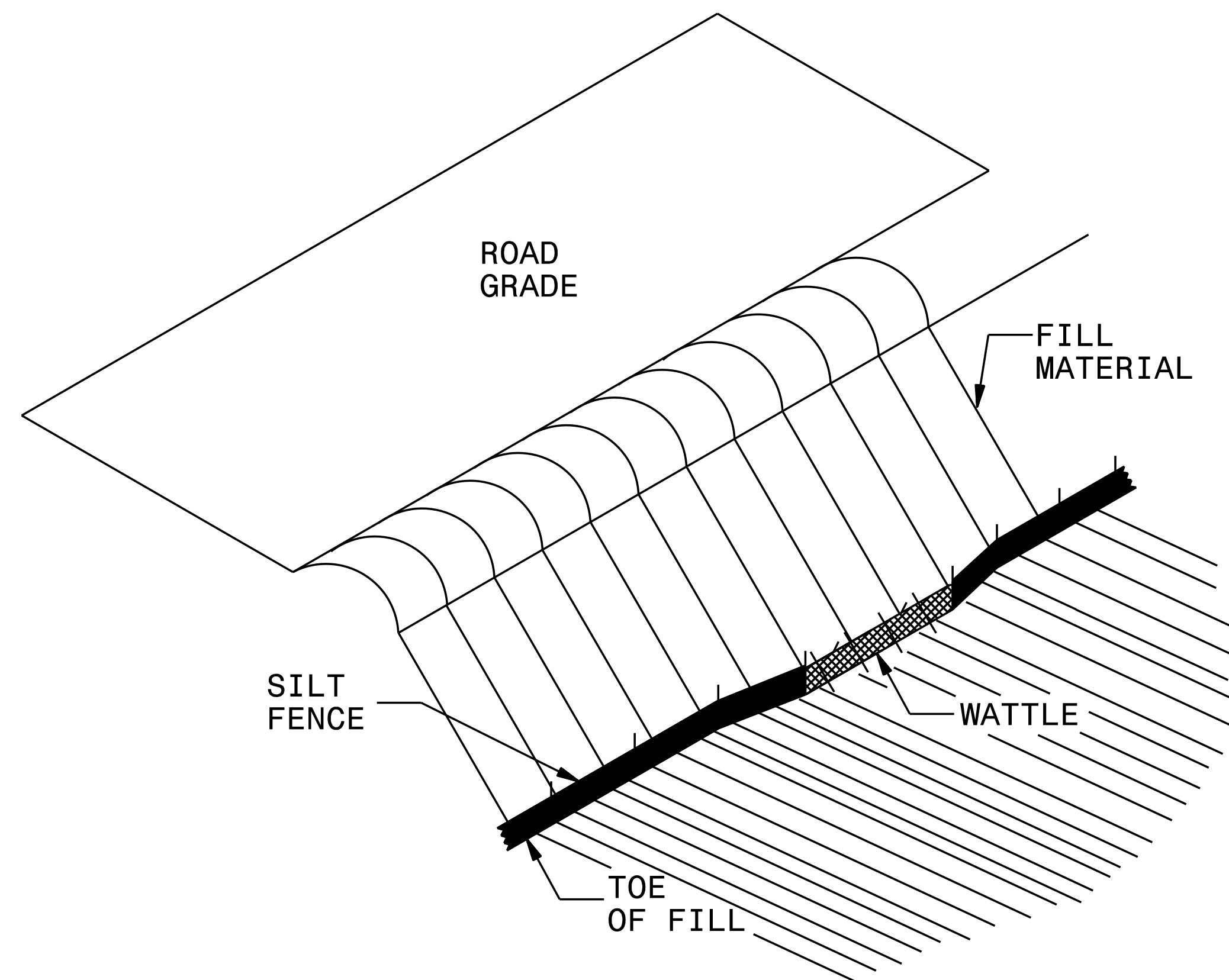
**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSO
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	X X X X X X
1622.01	Temporary Berms and Slope Drains	— T —
1630.02	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▩
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▩
1633.02	Temporary Rock Silt Check Type-B	▩
	Wattle/Coir Fiber Wattle	— W —
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	— W —
1634.01	Temporary Rock Sediment Dam Type-A	▩
1634.02	Temporary Rock Sediment Dam Type-B	▩
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⊂
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊂
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

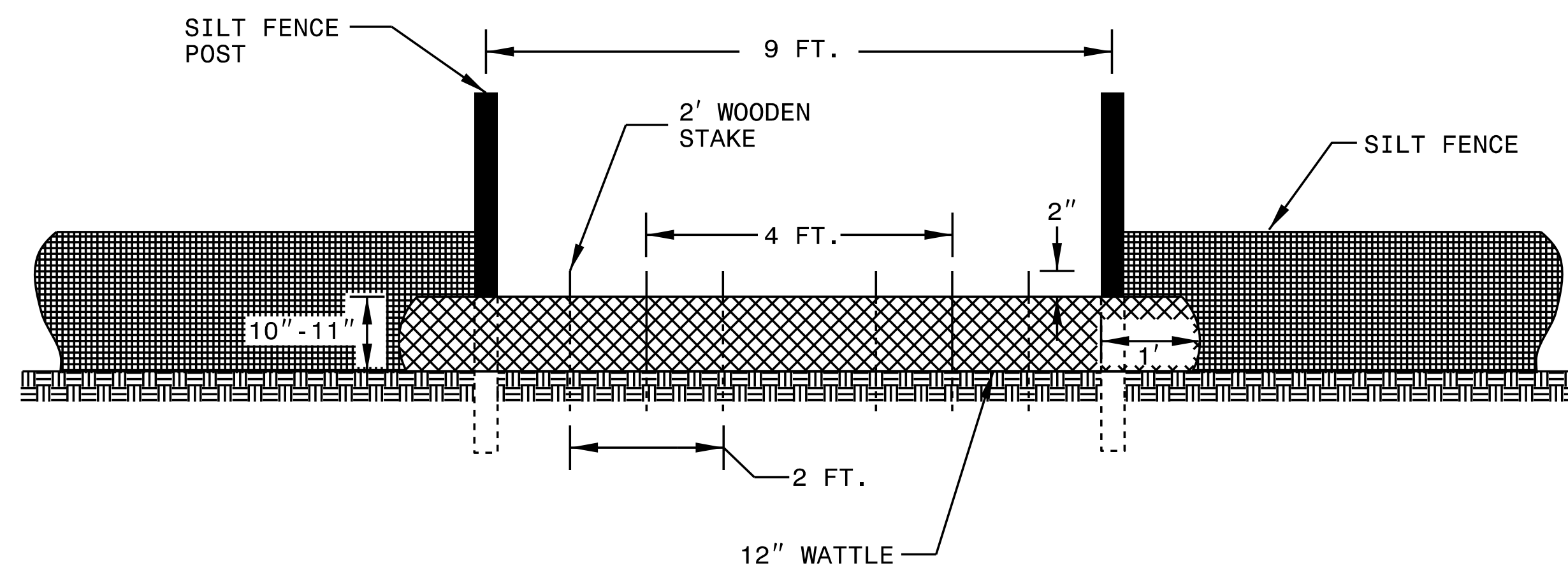
THIS PROJECT CONTAINS  
EROSION CONTROL PLANS  
FOR CLEARING AND  
GRUBBING PHASE OF  
CONSTRUCTION.

# SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO. <i>B-5985A</i>	SHEET NO. <i>EC-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**ISOMETRIC VIEW**



**VIEW FROM SLOPE**

**NOTES:**

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

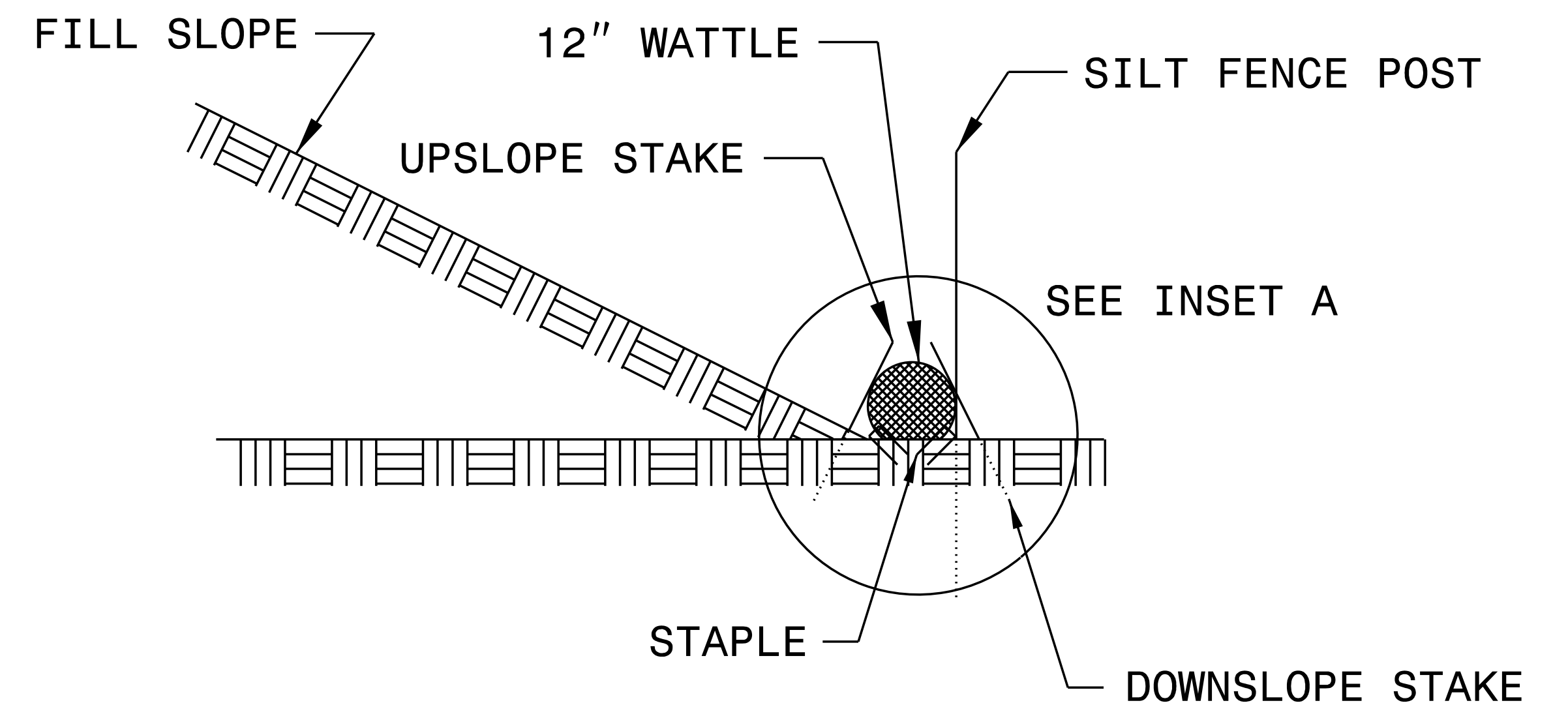
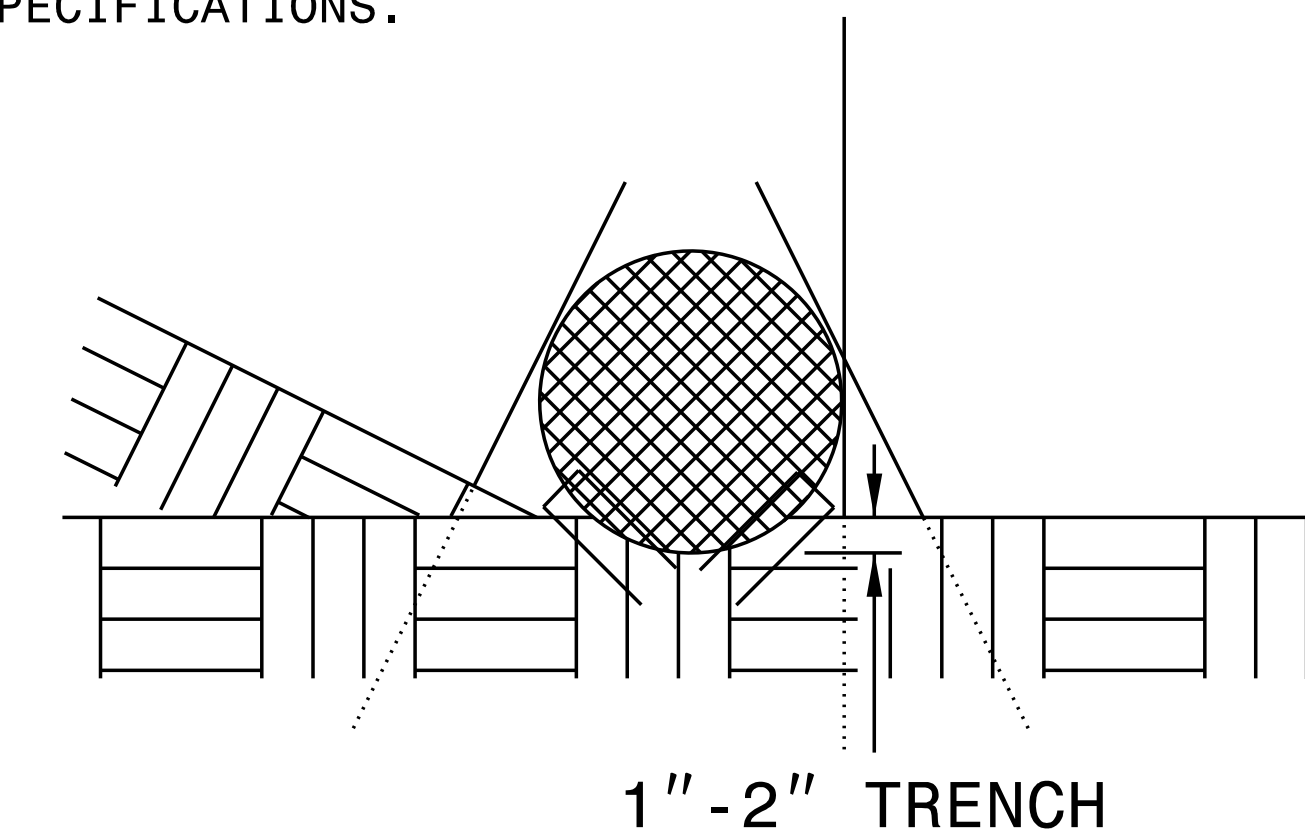
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

**INSET A**



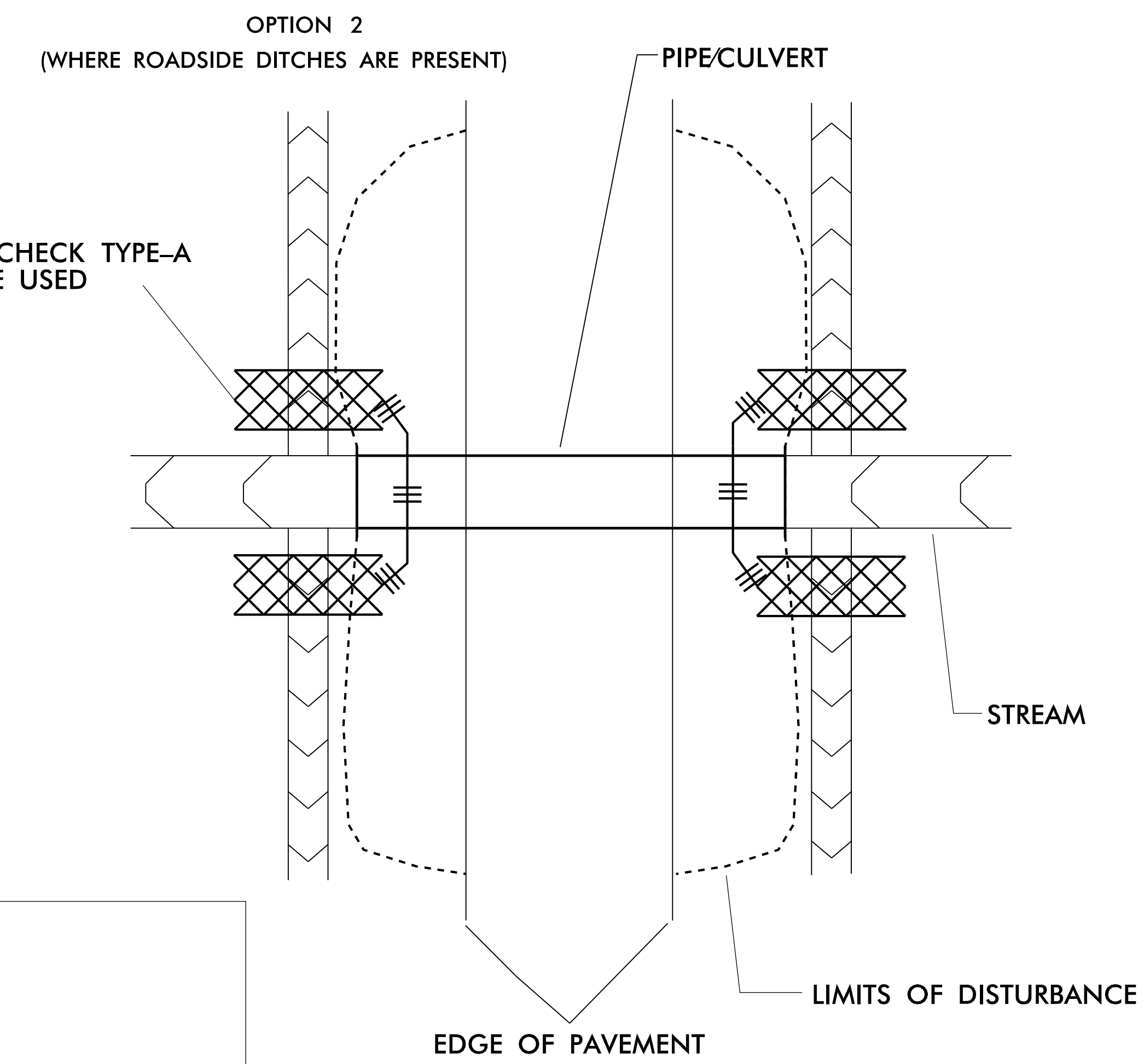
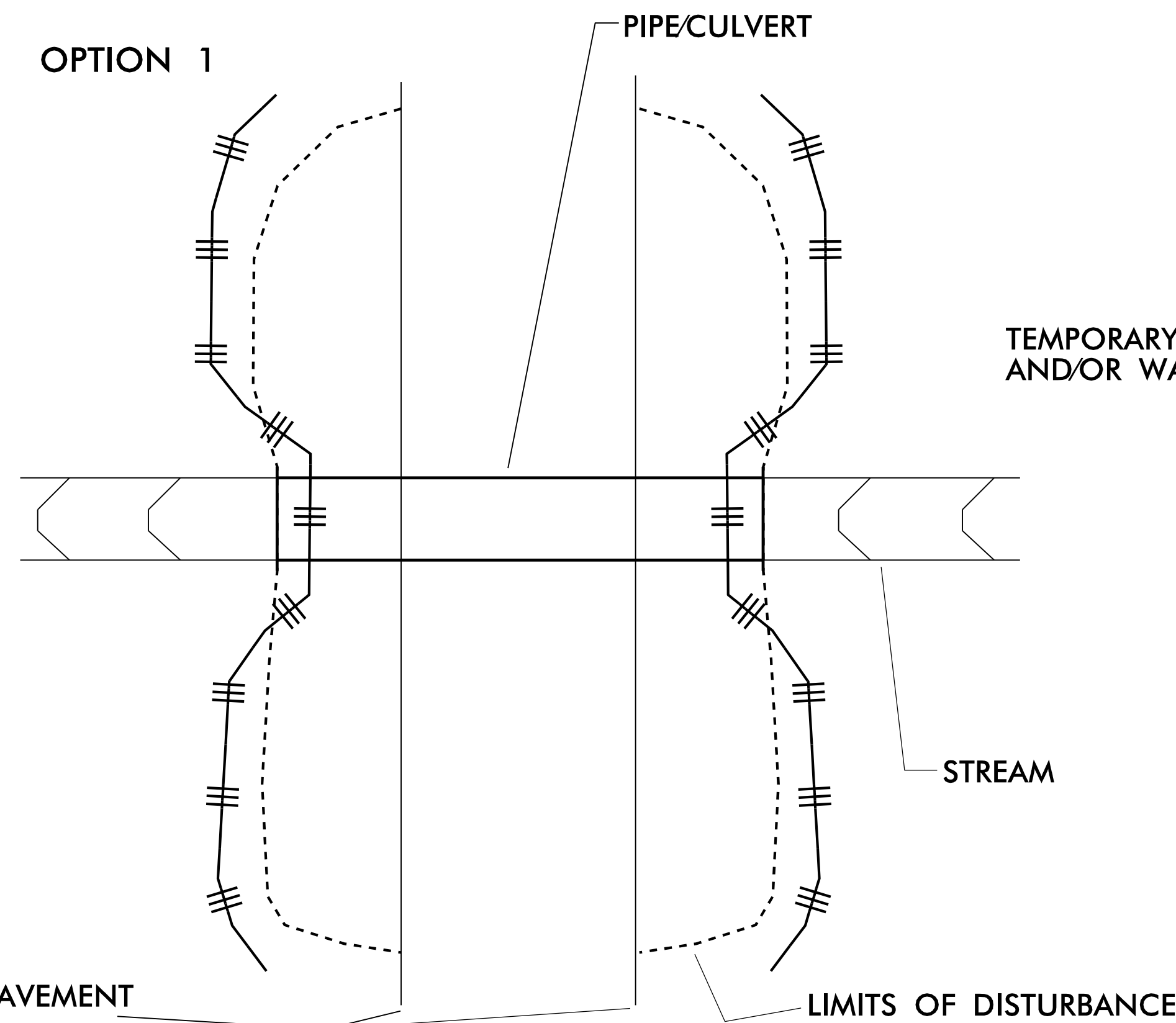
**SIDE VIEW**

PROJECT REFERENCE NO. B-5985A	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ROADSIDE ENVIRONMENTAL UNIT  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.  
2018 STANDARD SPECIFICATIONS  
DRAWINGS NOT DRAWN TO SCALE

LEGEND:

	IMPERVIOUS DIKE
	PUMP
	SPECIAL STILLING BASIN
	STABILIZED DISCHARGE PAD (GEOTEXTILE)
<b>EOP</b>	EDGE OF PAVEMENT
<b>ETF</b>	EXISTING TRANSPORTATION FACILITY (ROW)
	TEMPORARY ROCK SILT CHECK TYPE-A AND/OR WATTLE
	TEMPORARY SILT FENCE



**SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA:**

1. INSTALL SPECIAL STILLING BASIN.
2. INSTALL UPSTREAM PUMP, TEMPORARY FLEXIBLE HOSE, AND STABILIZED DISCHARGE PAD.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION DISCHARGING ONTO STABILIZED OUTLET PAD.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER WORK ZONE. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. INSTALL PIPE(S), STREAM BED STABILIZATION, AND SLOPE STABILIZATION AS DIRECTED.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, TEMPORARY FLEXIBLE HOSE, AND STABILIZED DISCHARGE PAD. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. REMOVE SPECIAL STILLING BASIN AND RESTORE AREA TO ORIGINAL CONDITIONS.
8. STABILIZE ALL DISTURBED AREAS THROUGHOUT PROJECT WITH SEED AND MATTING FOR EROSION CONTROL.

**NOTES:**

INSTALL EROSION CONTROL MEASURES PRIOR TO ANY EARTH DISTURBING ACTIVITIES. INSTALL COIR FIBER WATTLE FENCE BREAKS OR TEMPORARY ROCK SILT CHECKS. TYPE-A AT LOW POINTS IN SILT FENCE.

FOR OPTION 1 INSTALL SILT FENCE SUCH THAT ALL EARTH DISTURBANCE IS CONTAINED. FOR CULVERT CONSTRUCTION SEQUENCING SEE THE PUMP AROUND DETAIL OR CONSULT "BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES".

ALL EXCAVATION IN JURISDICTIONAL STREAMS SHALL BE PERFORMED IN ONLY DRY OR ISOLATED SECTIONS OF THE WORK ZONE.

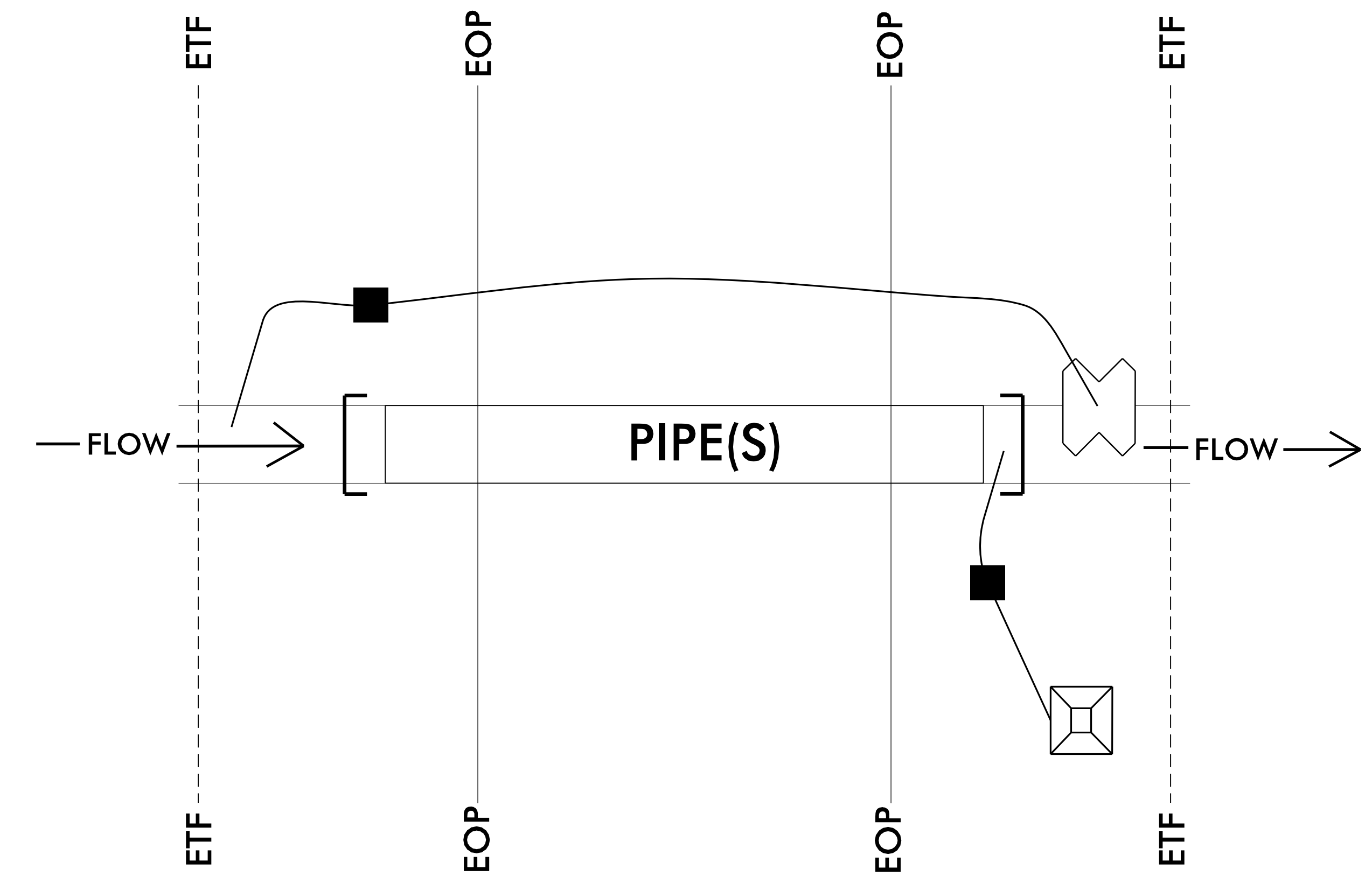
IMPERVIOUS DIKES ARE TO BE USED TO ISOLATE WORK FROM STREAM FLOW WHEN NECESSARY. MAINTENANCE OF STREAM FLOW OPERATIONS SHALL BE INCIDENTAL TO THE WORK. THIS INCLUDES THE DISCHARGE PAD, DIVERSION PIPES, PUMPS, AND HOSES.

PUMPS AND HOSES SHALL BE OF SUFFICIENT SIZE TO MAINTAIN STREAM FLOW AND TO DEWATER THE WORK AREA.

INSTALL SPECIAL STILLING BASIN IN VEGETATED AREA WITHIN RIGHT OF WAY. DISCHARGE SHOULD BE DIRECTED THROUGH VEGETATED BUFFER AWAY FROM WORK SITE.

INSTALL SILT FENCE AS DIRECTED TO CONTAIN DISTURBED AREAS AND/OR EXCAVATED STOCKPILES. BORROW MATERIAL FROM OR DISPOSAL OF MATERIAL TO ANY UNPERMITTED SITE WILL REQUIRE A RECLAMATION PLAN.

INSTALL PIPE(S) IN JURISDICTIONAL AREAS IN ACCORDANCE WITH NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.



**PUMP-AROUND OPERATION FOR PIPE REPLACEMENT IN JURISDICTIONAL STREAMS EROSION CONTROL DETAIL**

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA


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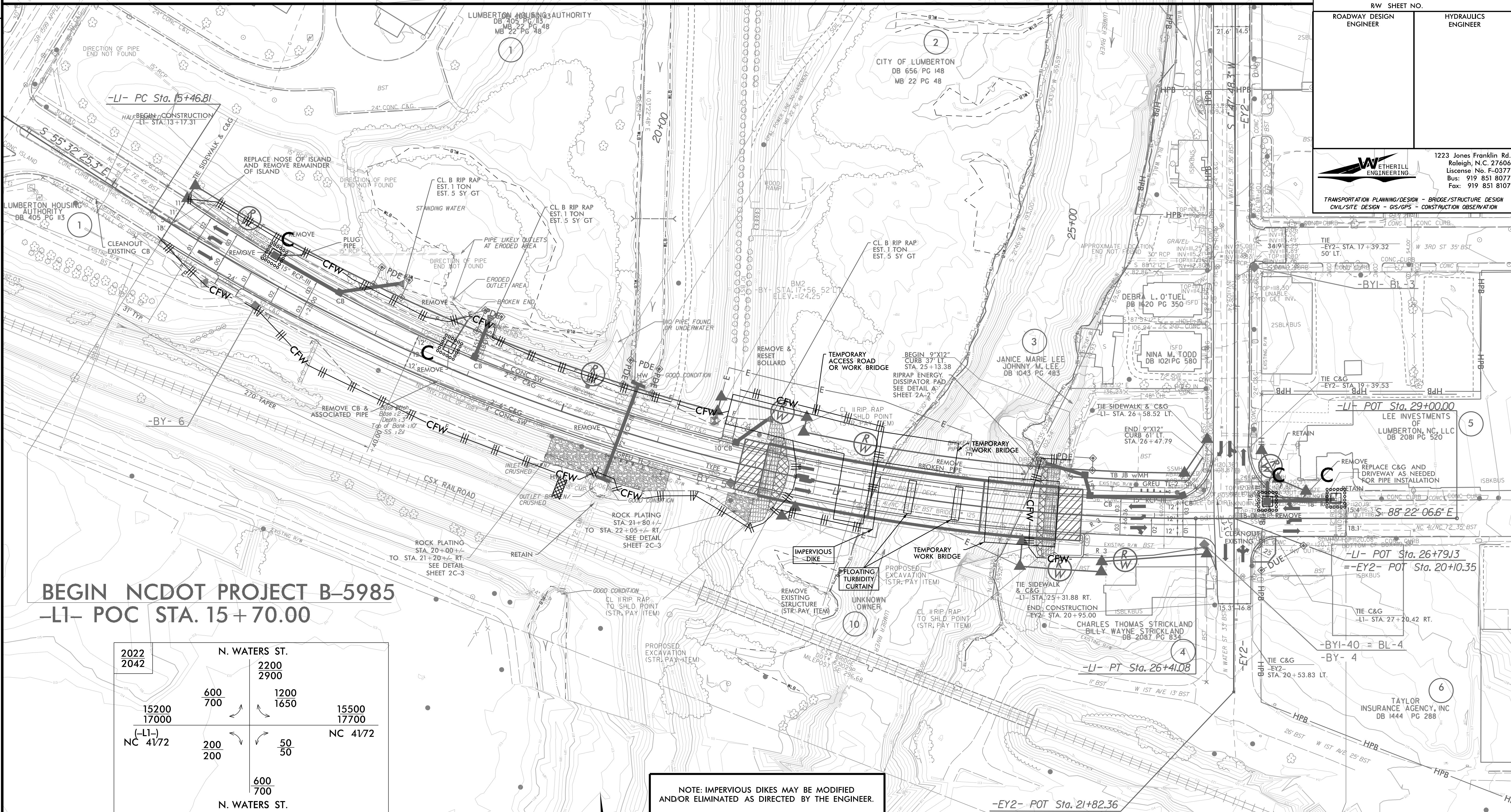
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## ***SOIL STABILIZATION TIMEFRAMES***

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO. B-5985A	SHEET NO. EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION	

REVISIONS

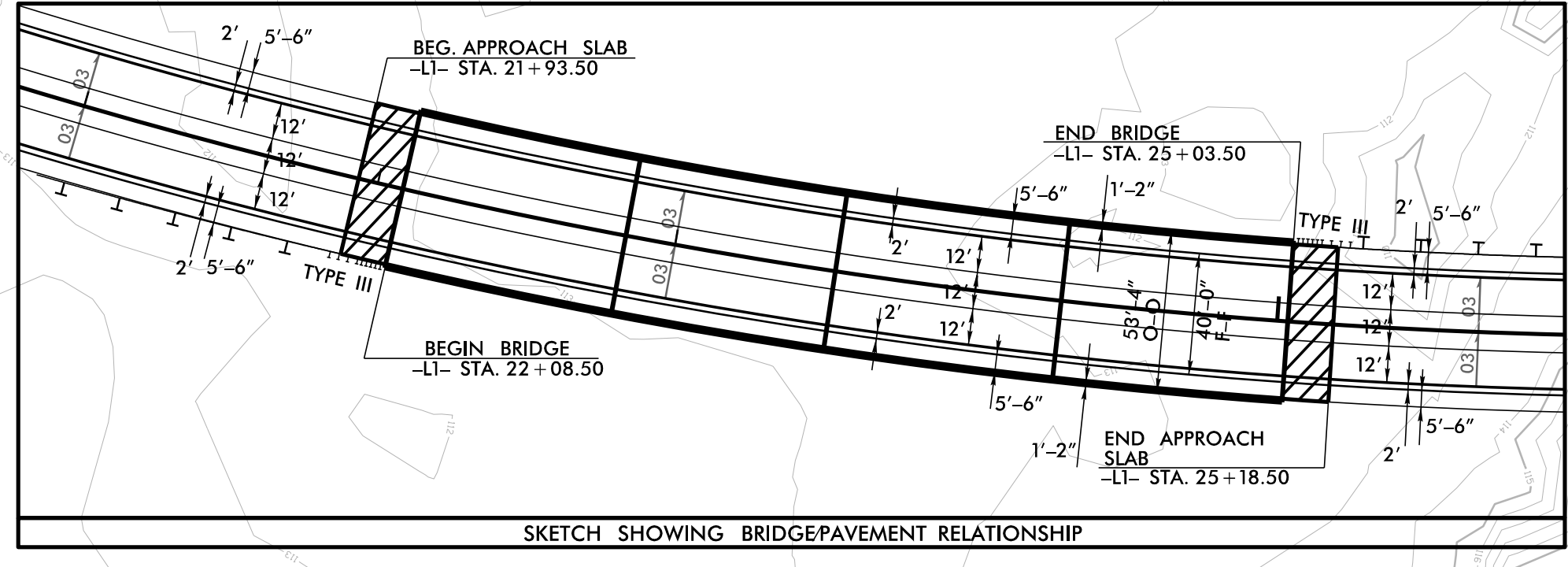


**BEGIN NCDOT PROJECT B-5985**  
**-LI- POC STA. 15+70.00**

2022	N. WATERS ST.			
2042	600	1200	15500	
	700	1650	17700	
	15200		15500	
	17000		17700	
	(-LI-)		NC 4172	
	NC 4172	200	50	
	200	50		
		600		
		700		
	N. WATERS ST.			

NOTE: IMPERVIOUS DIKES MAY BE MODIFIED AND/OR ELIMINATED AS DIRECTED BY THE ENGINEER.

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICE AS DIRECTED BY ENGINEER IN LIEU OF ROCK INLET SEDEMENT TRAP TYPE C TO PREVENT IMPOUNDING RUNOFF ON ROADWAYS OPEN TO THE PUBLIC.



NC GRID  
 NAD 83 NA 2011

**END NCDOT PROJECT B-5985**  
**-LI- POT STA. 27+90.00**

-LI-
PI Sta. 21+09.42
$\Delta = 32^{\circ} 49' 41.4''$ (LT)
$D = 3^{\circ} 00' 00.0''$
$L = 1,094.27'$
$T = 562.61'$
$R = 1,909.86'$
$SE = .03$
$RO = SEE PLANS$
$DS = 40MPH$

UTILIZE SPECIAL STILLING BASIN WHERE APPLICABLE.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

☆ - EXISTING SIGNAL  
 SEE SHEET 6 FOR -LI- PROFILE  
 SEE SHEET 7 FOR -EY2- PROFILE  
 SEE SHEETS S-1 THRU S-?? FOR STRUCTURE PLANS

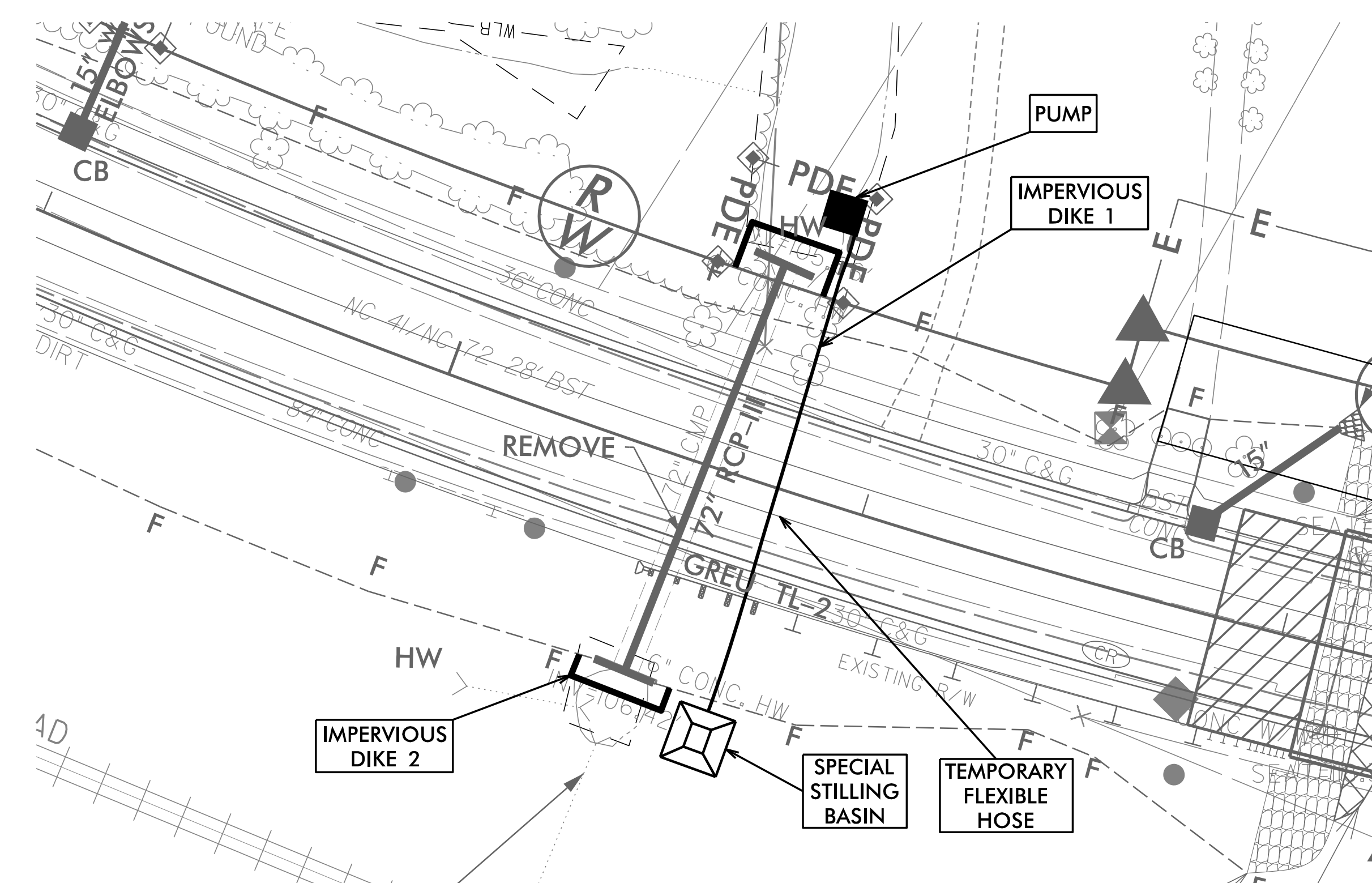
1/3/2023  
 B-5985-EC-CG\_PSH\_4.dgn  
 WETHERILL


# CULVERT CONSTRUCTION SEQUENCE

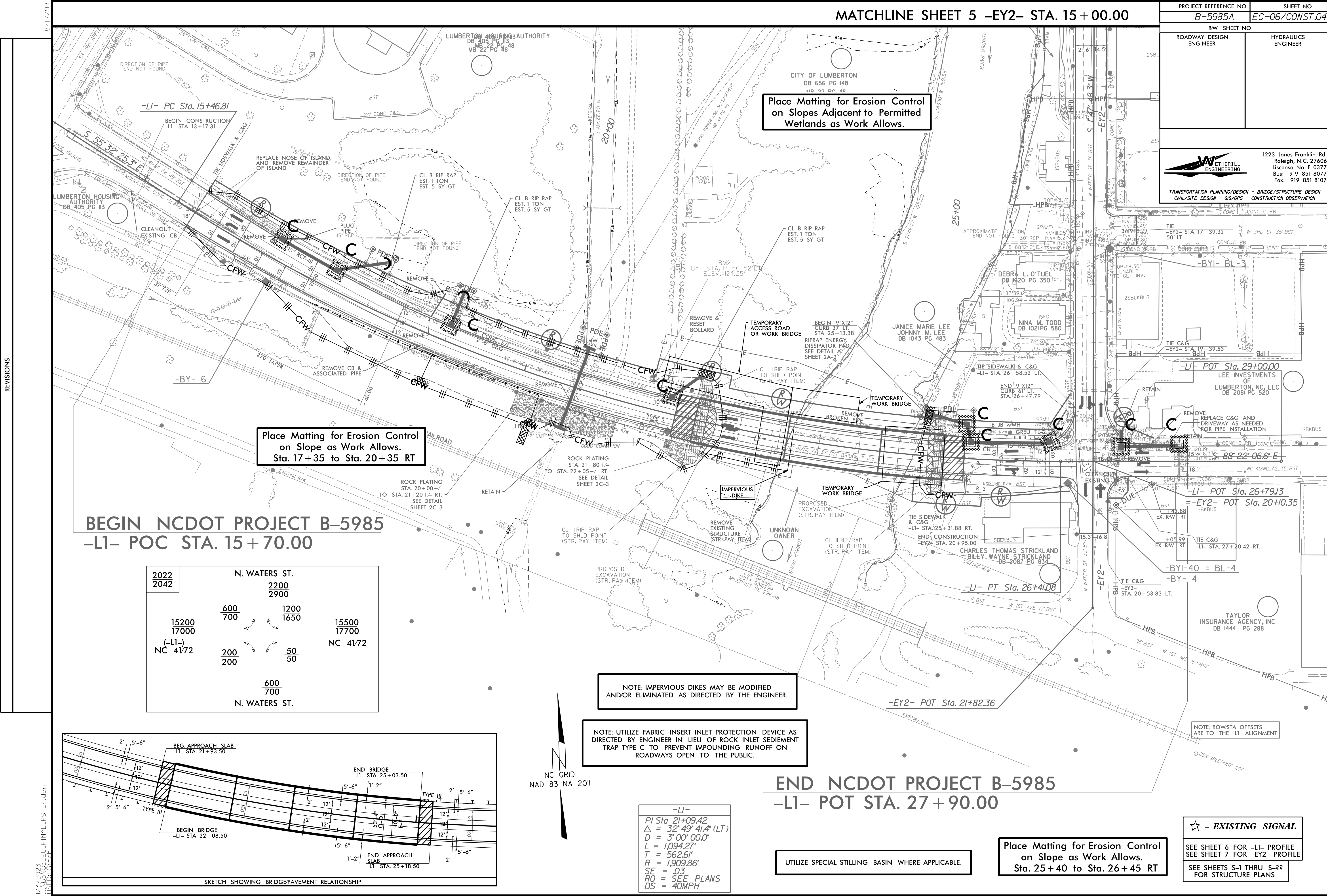
PROJECT REFERENCE NO. <i>B-5985A</i>	SHEET NO. <i>EC-05</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

1. INSTALL EROSION CONTROL C&G PHASE MEASURES FOR THIS SITE PRIOR TO COMMENCING CULVERTWORK (NOT SHOWN FOR CLARITY).
2. INSTALL SPECIAL STILLING BASIN FOR PUMPED EFFLUENT.
3. CLOSE CONSTRUCTION AREA TO TRAFFIC, REROUTE TO OFF-SITE DETOUR.
4. CONSTRUCT IMPERVIOUS DIKES 1-2 AND INSTALL TEMPORARY FLEXIBLE HOSE AND PUMP.
5. CONSTRUCT THE PROPOSED CONCRETE PIPE CULVERT. CONSTRUCT THE PROPOSED INLET AND OUTLET CHANNELS.
6. REMOVE ALL IMPERVIOUS DIKES AND DIVERT FLOW IN TO THE NEWLY CONSTRUCTED CONCRETE PIPE CULVERT.
7. REMOVE TEMPORARY FLEXIBLE HOSE AND SPECIAL STILLING BASIN FOR PUMPED EFFLUENT.
8. FINALIZE CONSTRUCTION OF -L1- ALIGNMENT.

**STA. 20 + 62.6 -L1-**



PROJECT REFERENCE NO. B-5985A	SHEET NO. EC-06/CONST.04
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION	



Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows. Sta. 17+35 to Sta. 20+35 RT

NOTE: IMPERVIOUS DIKES MAY BE MODIFIED AND/OR ELIMINATED AS DIRECTED BY THE ENGINEER.

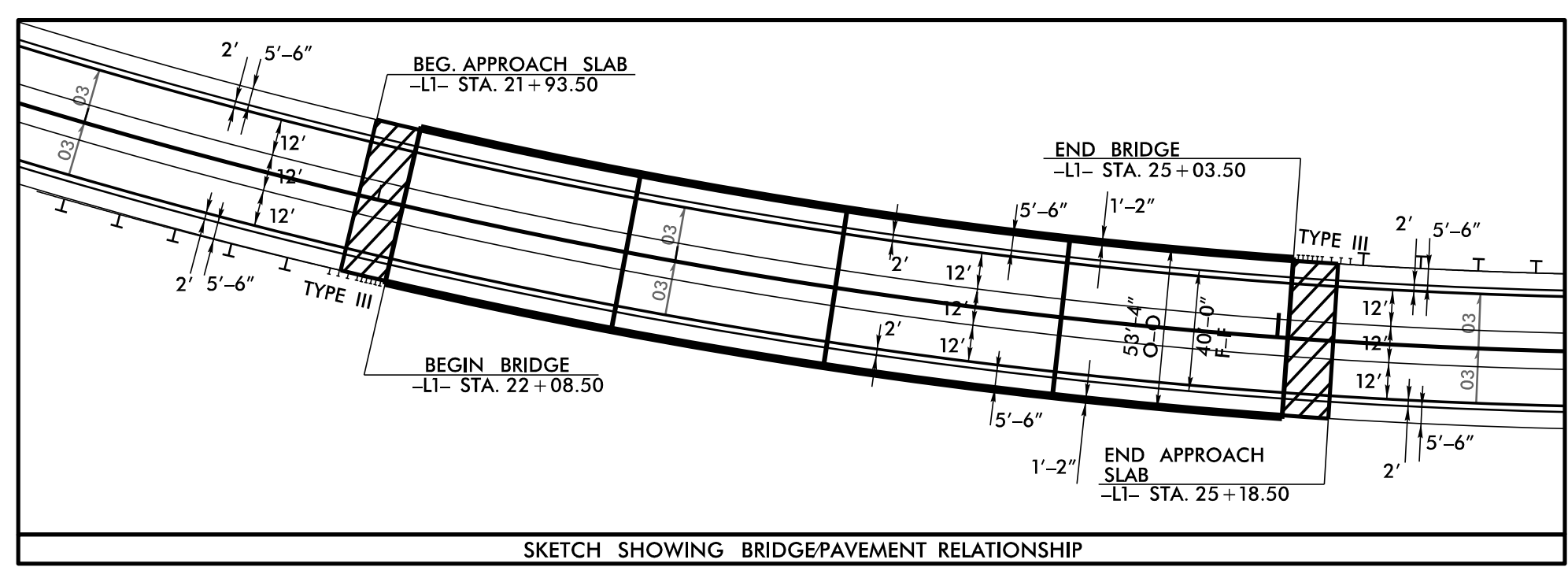
NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICE AS DIRECTED BY ENGINEER IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT IMPOUNDING RUNOFF ON ROADWAYS OPEN TO THE PUBLIC.

NOTE: ROW/STA. OFFSETS ARE TO THE -LI- ALIGNMENT

BEGIN NCDOT PROJECT B-5985  
-LI- POC STA. 15+70.00

END NCDOT PROJECT B-5985  
-LI- POT STA. 27+90.00

2022	N. WATERS ST.			
2042	15200	600	1200	15500
	17000	700	1650	17700
	(-LI-)			NC 41/72
	NC 41/72	200	50	
		200	50	
		600	700	
	N. WATERS ST.			



-LI-  
 PI Sta 21+09.42  
 $\Delta = 32' 49' 41.4" (LT)$   
 $D = 3' 00' 00.0"$   
 $L = 1,094.27'$   
 $T = 562.61'$   
 $R = 1,909.86'$   
 $SE = .03$   
 $RO = SEE PLANS$   
 $DS = 40MPH$

UTILIZE SPECIAL STILLING BASIN WHERE APPLICABLE.

Place Matting for Erosion Control on Slope as Work Allows. Sta. 25+40 to Sta. 26+45 RT

☆ - EXISTING SIGNAL  
 SEE SHEET 6 FOR -LI- PROFILE  
 SEE SHEET 7 FOR -EY2- PROFILE  
 SEE SHEETS S-1 THRU S-?? FOR STRUCTURE PLANS

REVISIONS

8/17/99

1/3/2023  
 I:\B5985\EC-FINAL\_PSH\_4.dgn  
 USER:PSH