

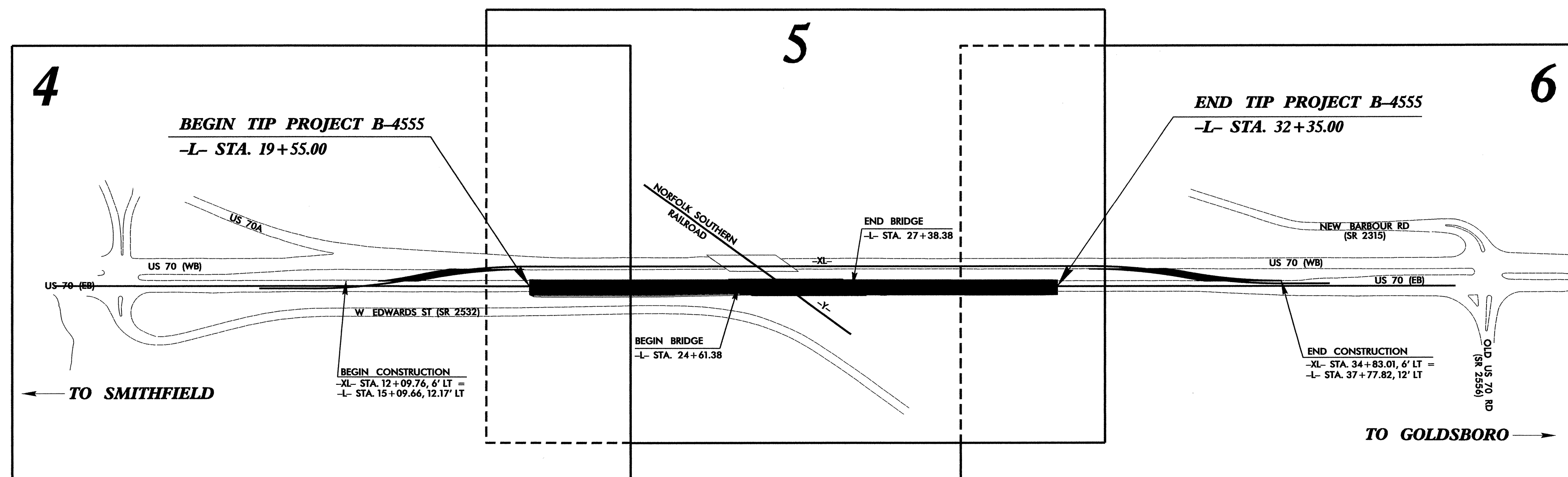
TIP PROJECT: B-4555

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

JOHNSTON COUNTY

**LOCATION: BRIDGE NO. 97 ON US 70 (EAST) OVER
NORFOLK SOUTHERN RAILROAD**

**TYPE OF WORK: GRADING, PAVING, DRAINAGE
AND STRUCTURE**



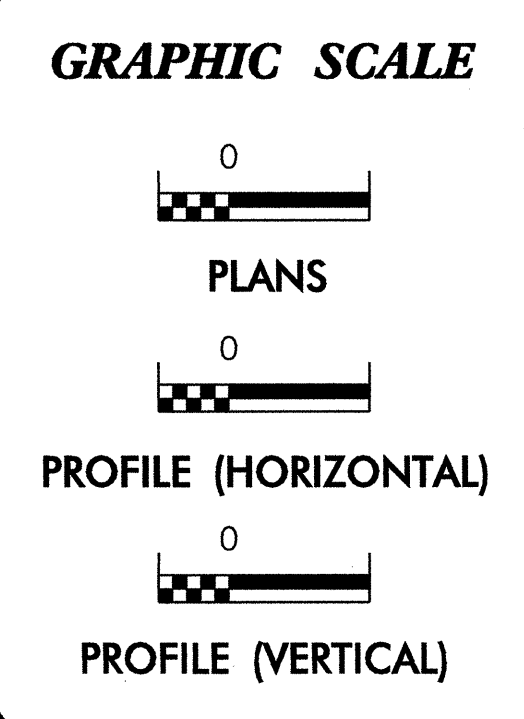
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4555	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

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

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

**THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.**



ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY
WITH THE REGULATIONS SET FORTH BY THE
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611
2012 STANDARD SPECIFICATIONS

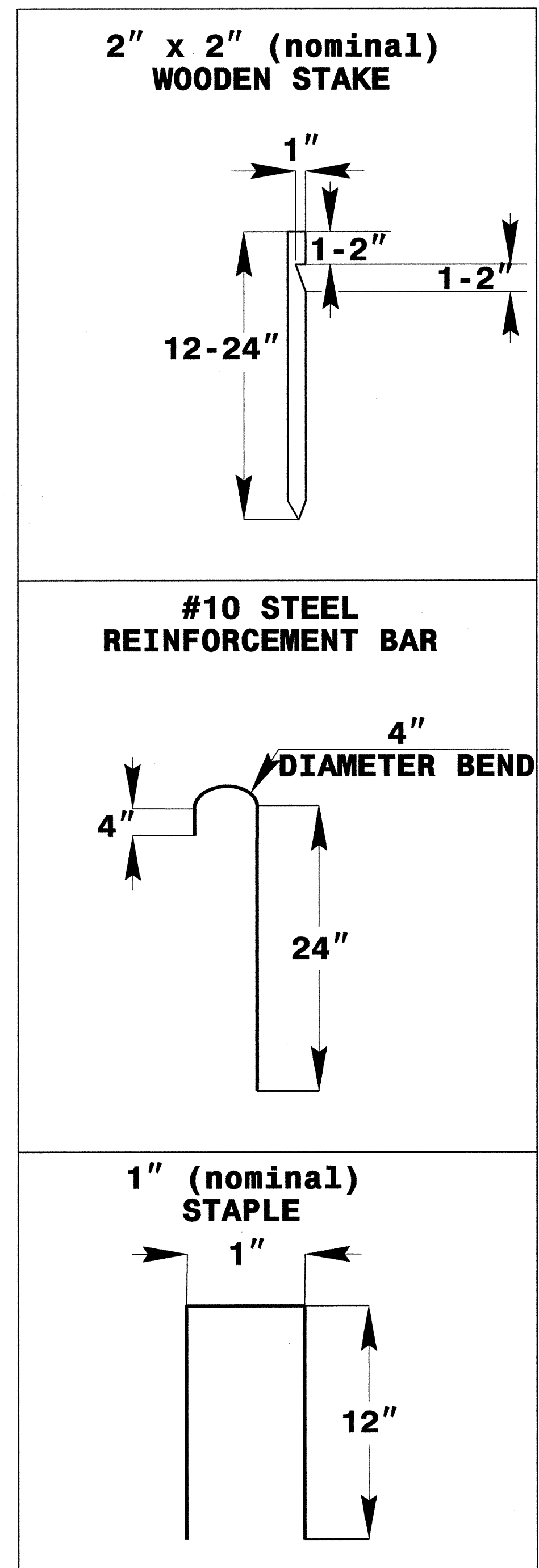
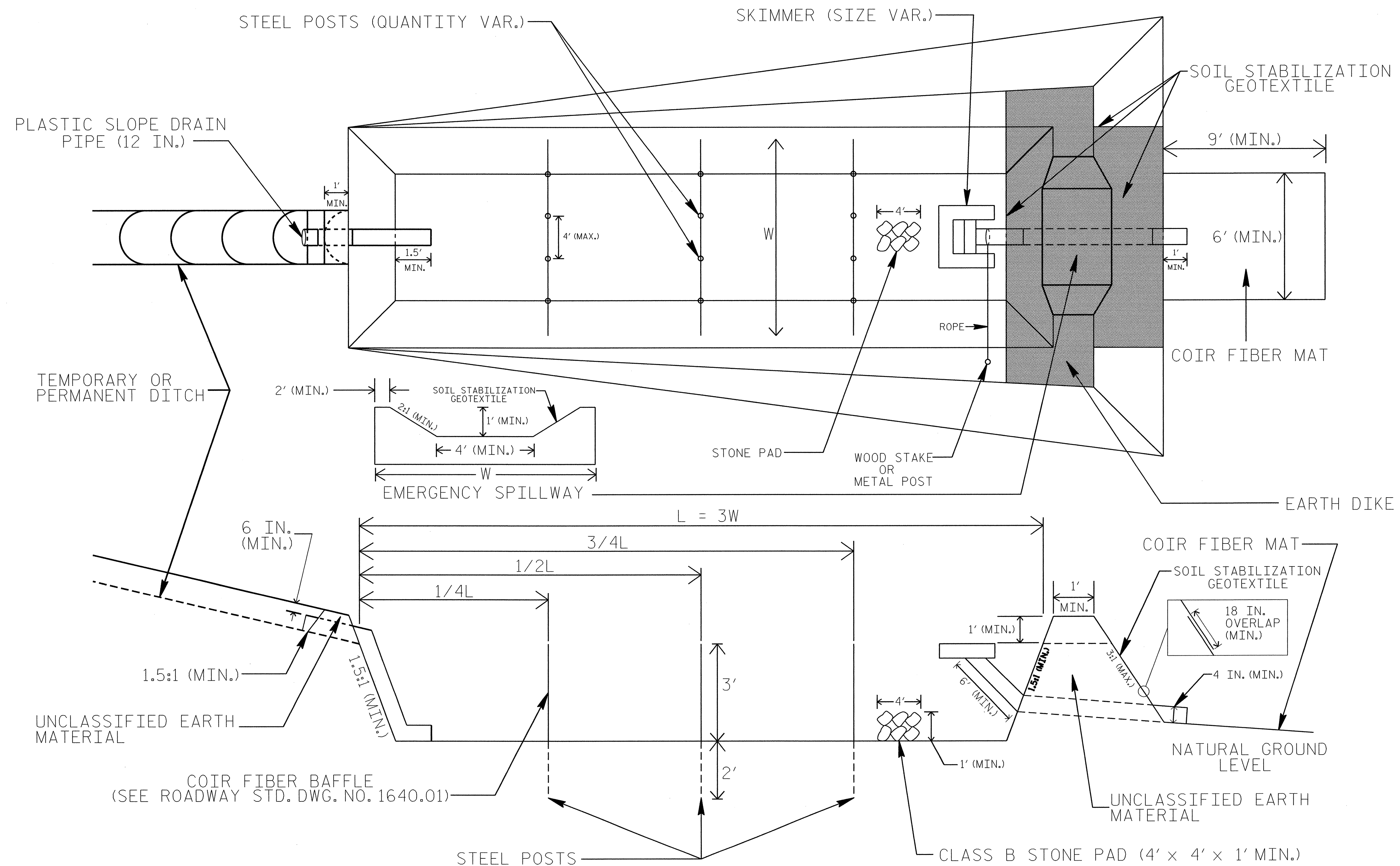
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 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	

PROJECT REFERENCE NO. B-4555	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL



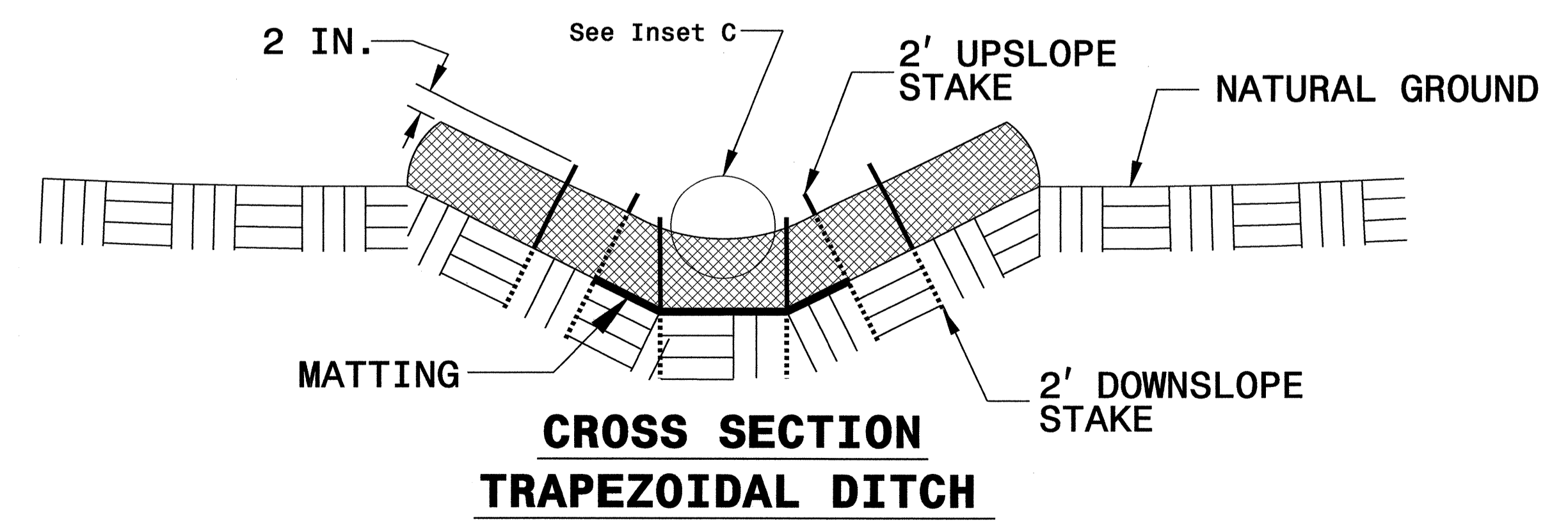
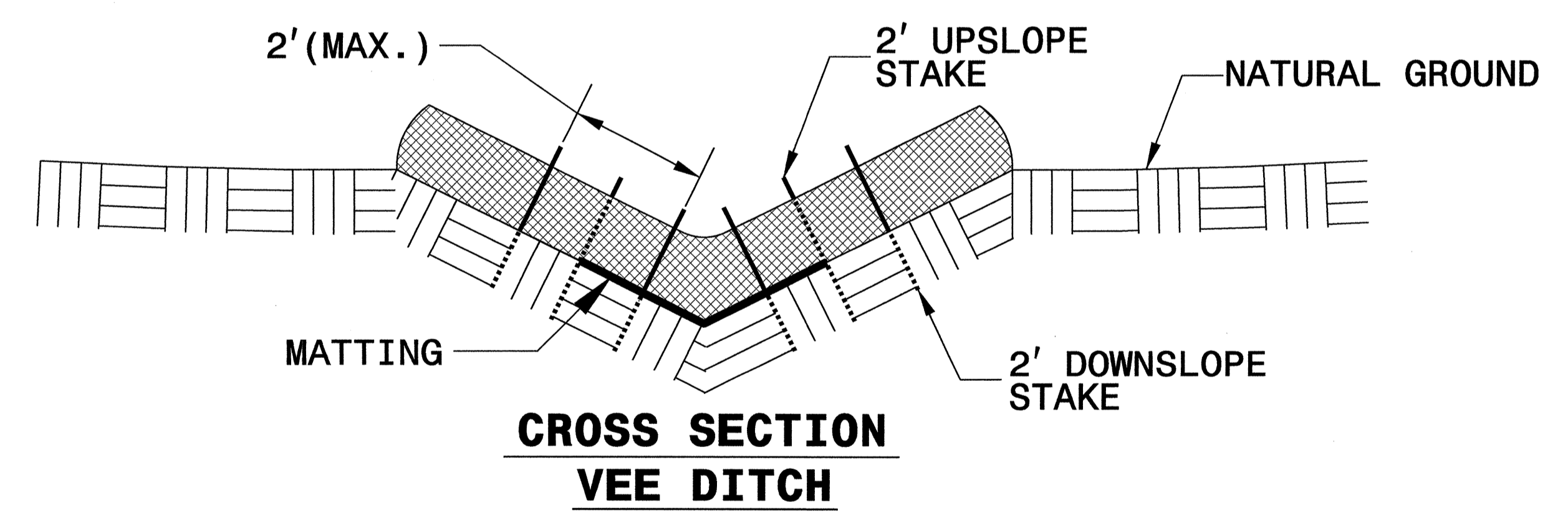
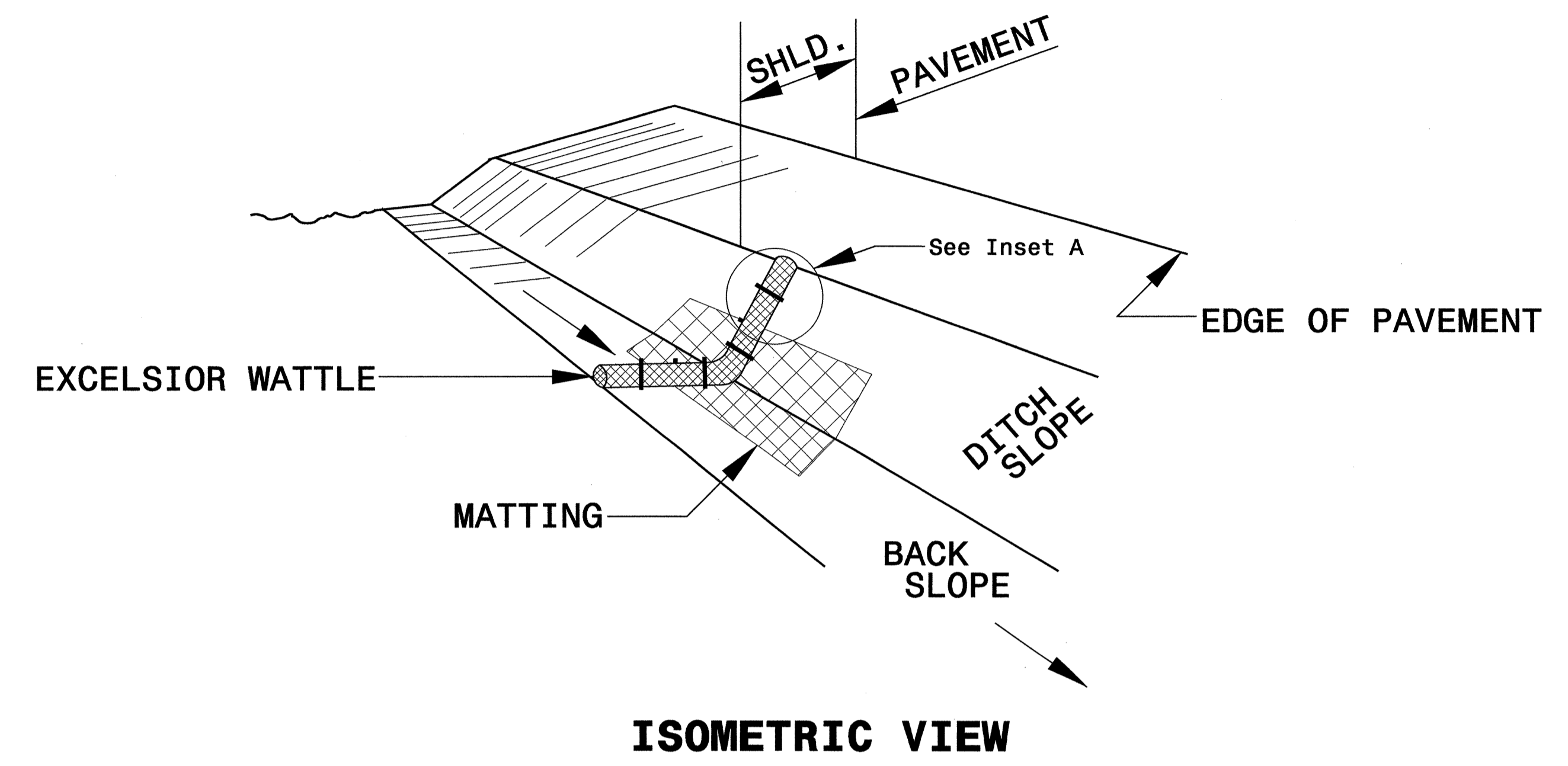
NOTES

- SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
- LIMIT EARTH DIKE HEIGHT TO 5 FT.
- FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
- DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
- PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
- SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

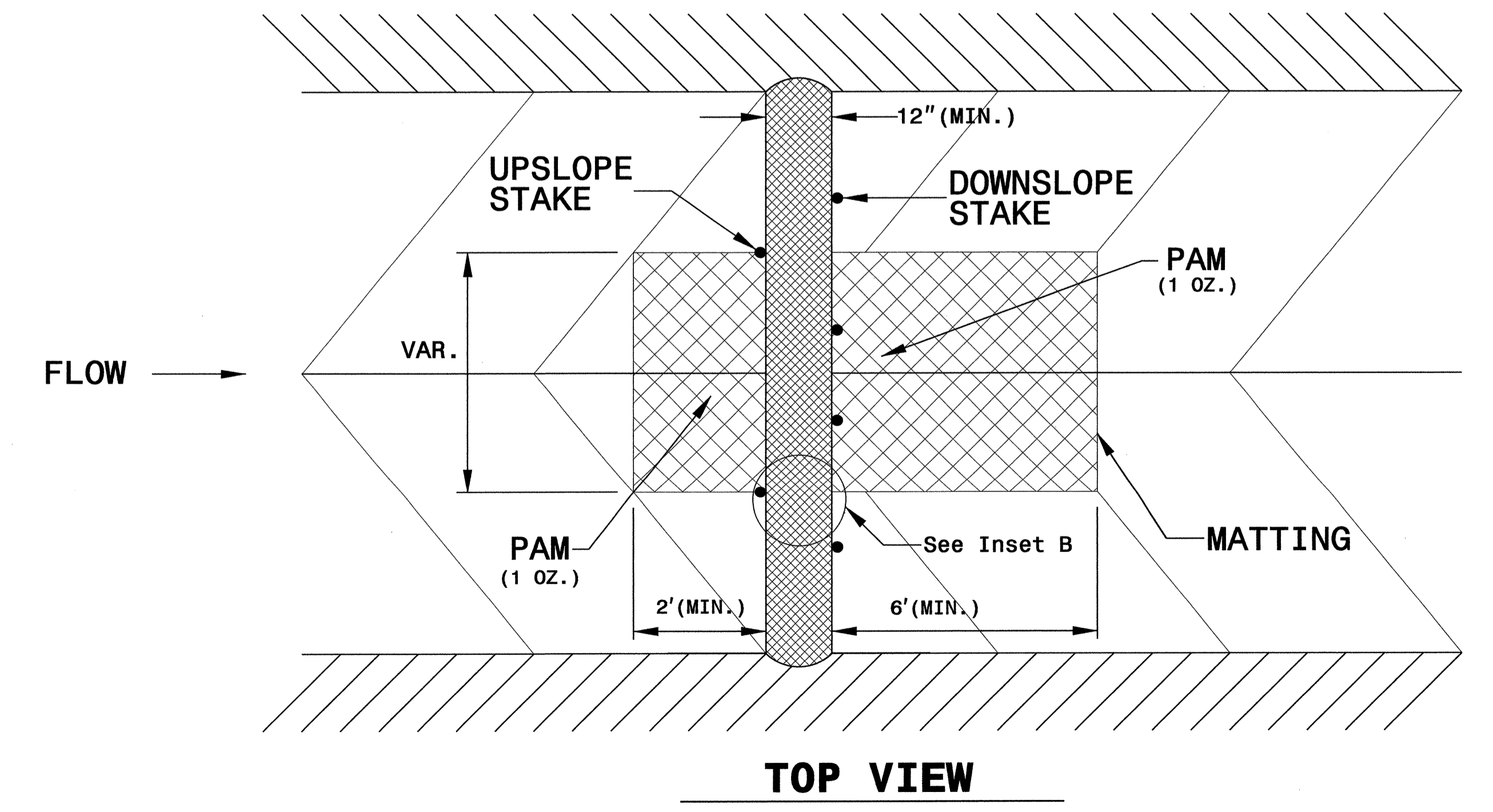
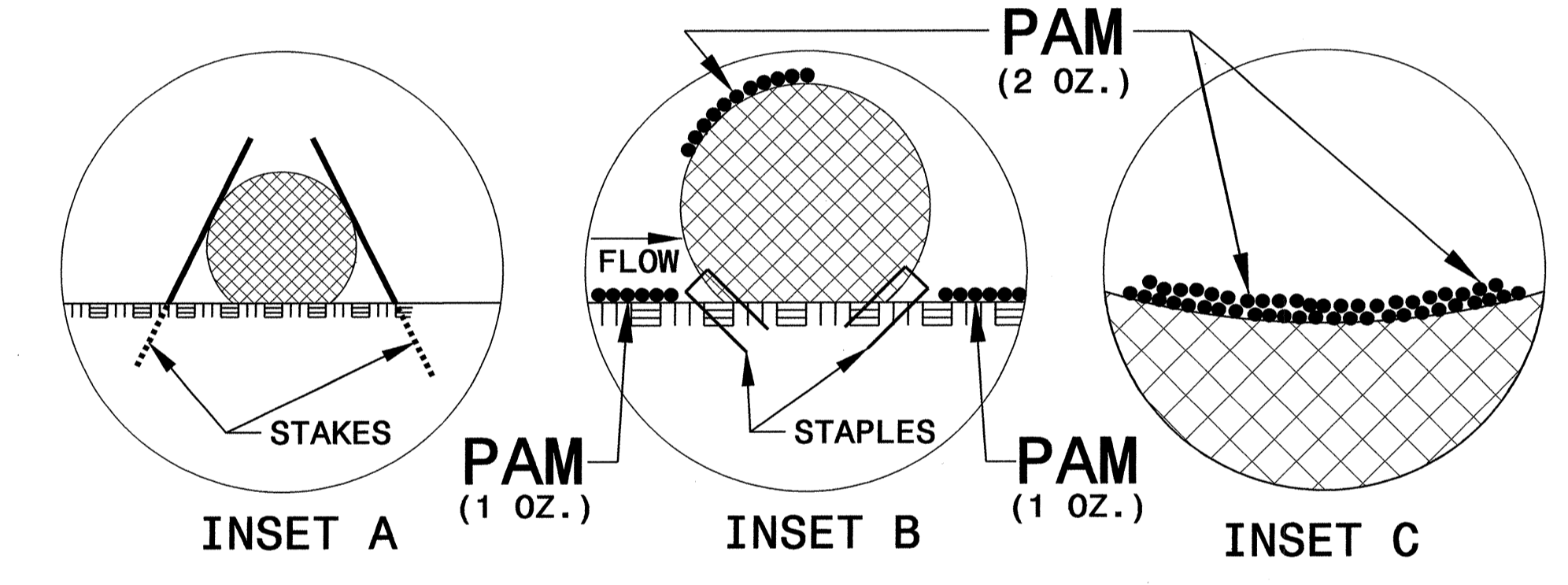
PROJECT REFERENCE NO. B-4555	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- 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.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

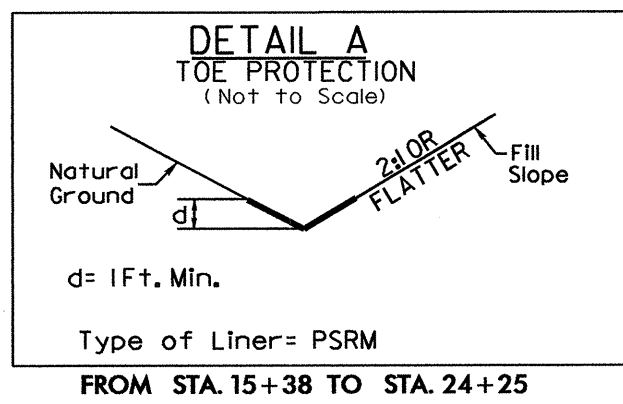
PROJECT REFERENCE NO. <i>B-4555</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

8/17/99

PROJECT REFERENCE NO.		SHEET NO.	
B-4555		EC-4/CONST.4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

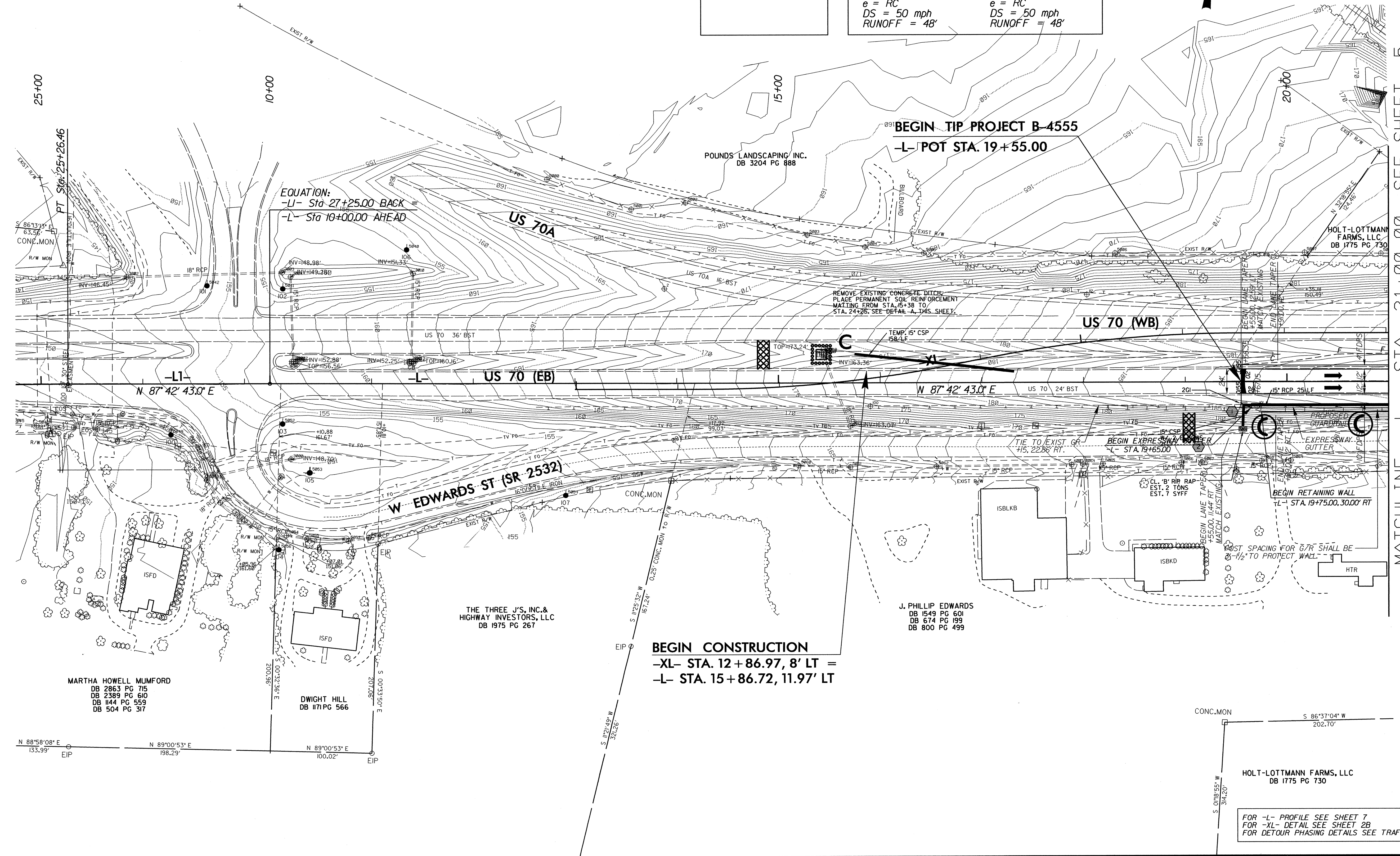
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

NOTE: FOR PROP. MEDIAN DITCH SEE CROSS-SECTIONS FOR VARYING SIDE SLOPES.

CURVE DATA -LI-
 CURVE LI-1
 PI Sta 18+74.92
 $\Delta = 24^\circ 40' 05.4''$ (RT)
 D = 1' 51' 47.8"
 L = 1,323.91'
 T = 672.37'
 R = 3,075.00'

CURVE DATA -XL-
 CURVE XL-1
 PI Sta 12+59.04
 $\Delta = 11^\circ 50' 22.90''$ (LT)
 D = 4' 30' 00.00"
 L = 263.10'
 T = 132.02'
 R = 1,273.24'
 e = RC
 DS = 50 mph
 RUNOFF = 48'

CURVE XL-2
 PI Sta 15+21.81
 $\Delta = 11^\circ 48' 35.90''$ (RT)
 D = 4' 30' 00.00"
 L = 262.44'
 T = 131.69'
 R = 1,273.24'
 e = RC
 DS = 50 mph
 RUNOFF = 48'



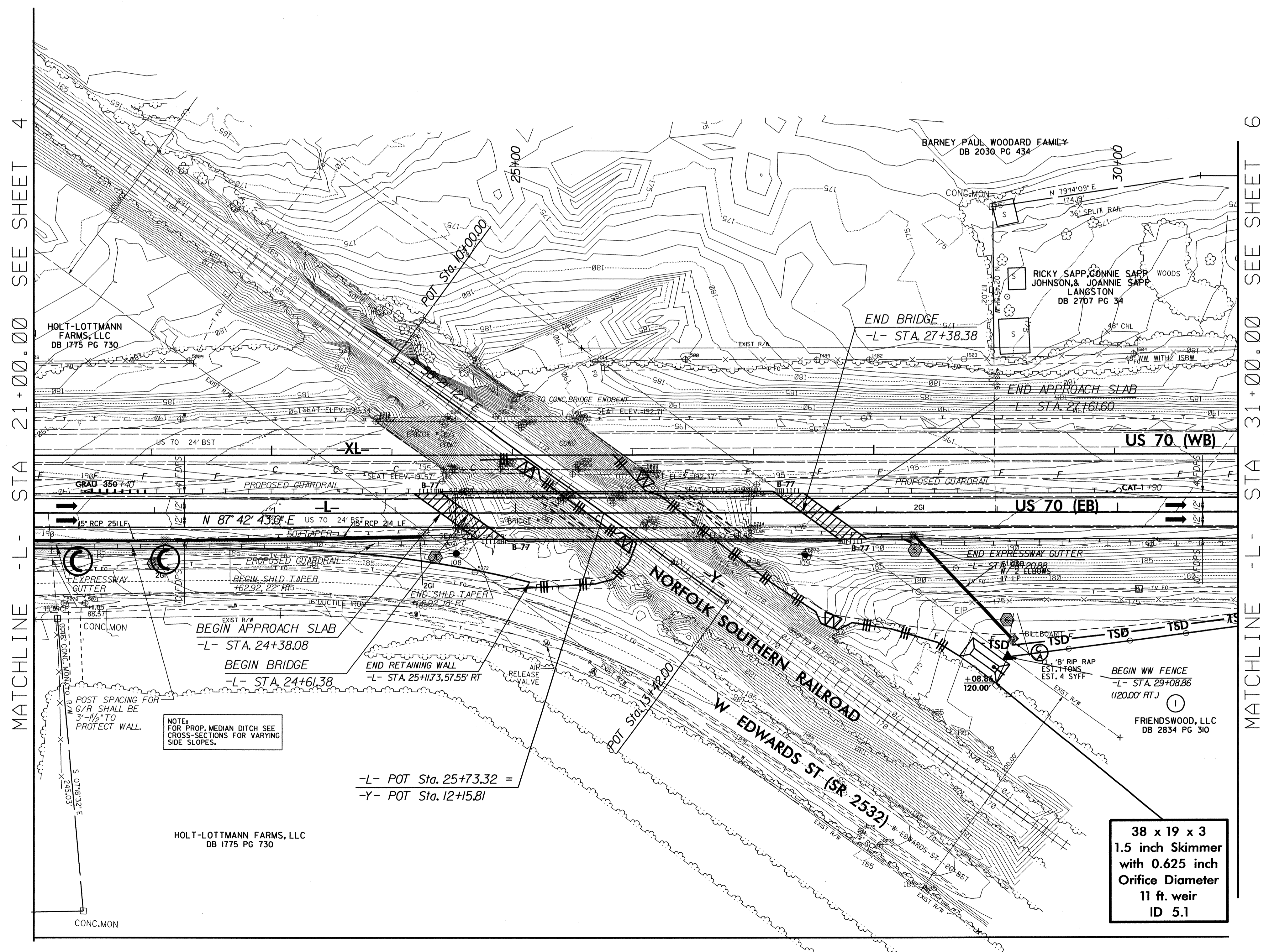
MATCHLINE -L- STA 21+00.00 SEE SHEET 5

FOR -L- PROFILE SEE SHEET 7
 FOR -XL- DETAIL SEE SHEET 2B
 FOR DETOUR PHASING DETAILS SEE TRAFFIC CONTROL PLANS

NOTE:
 PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
 AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
 DRAINAGE OUTLETS.

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 5

PROJECT REFERENCE NO.	SHEET NO.
B-4555	EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE:
 FOR PROP. MEDIAN DITCH SEE
 CROSS-SECTIONS FOR VARYING
 SIDE SLOPES.

38 x 19 x 3
 1.5 inch Skimmer
 with 0.625 inch
 Orifice Diameter
 11 ft. weir
 ID 5.1

PROJECT REFERENCE NO.		SHEET NO.	
B-4555		EC-6/CONST.6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

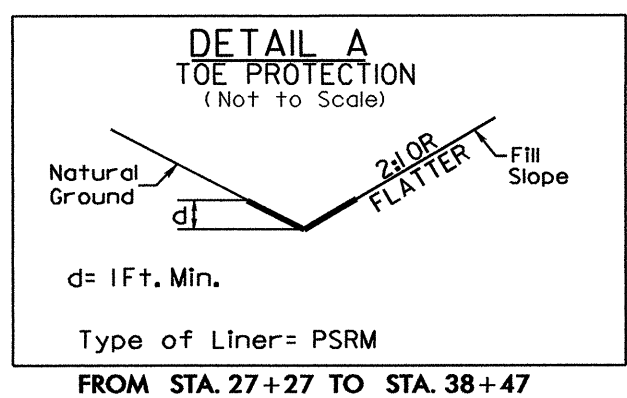
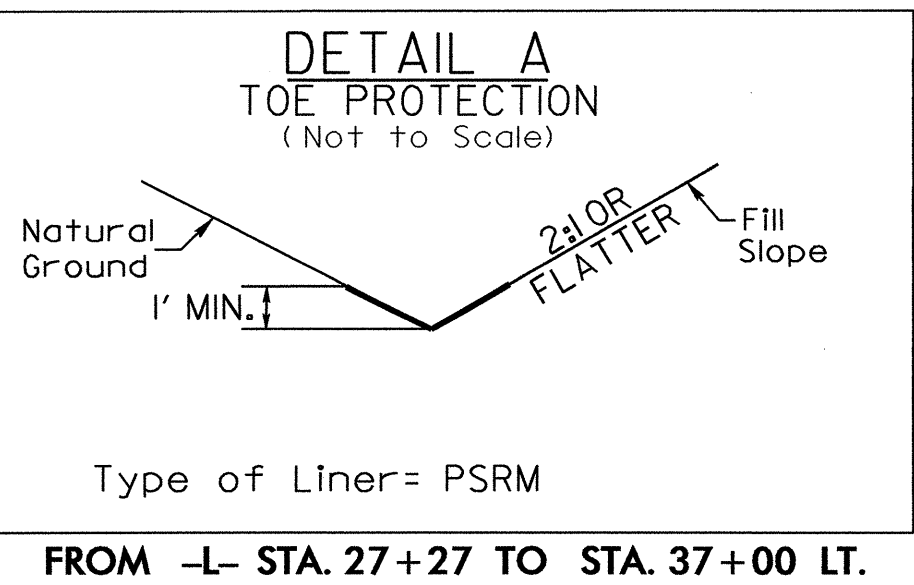
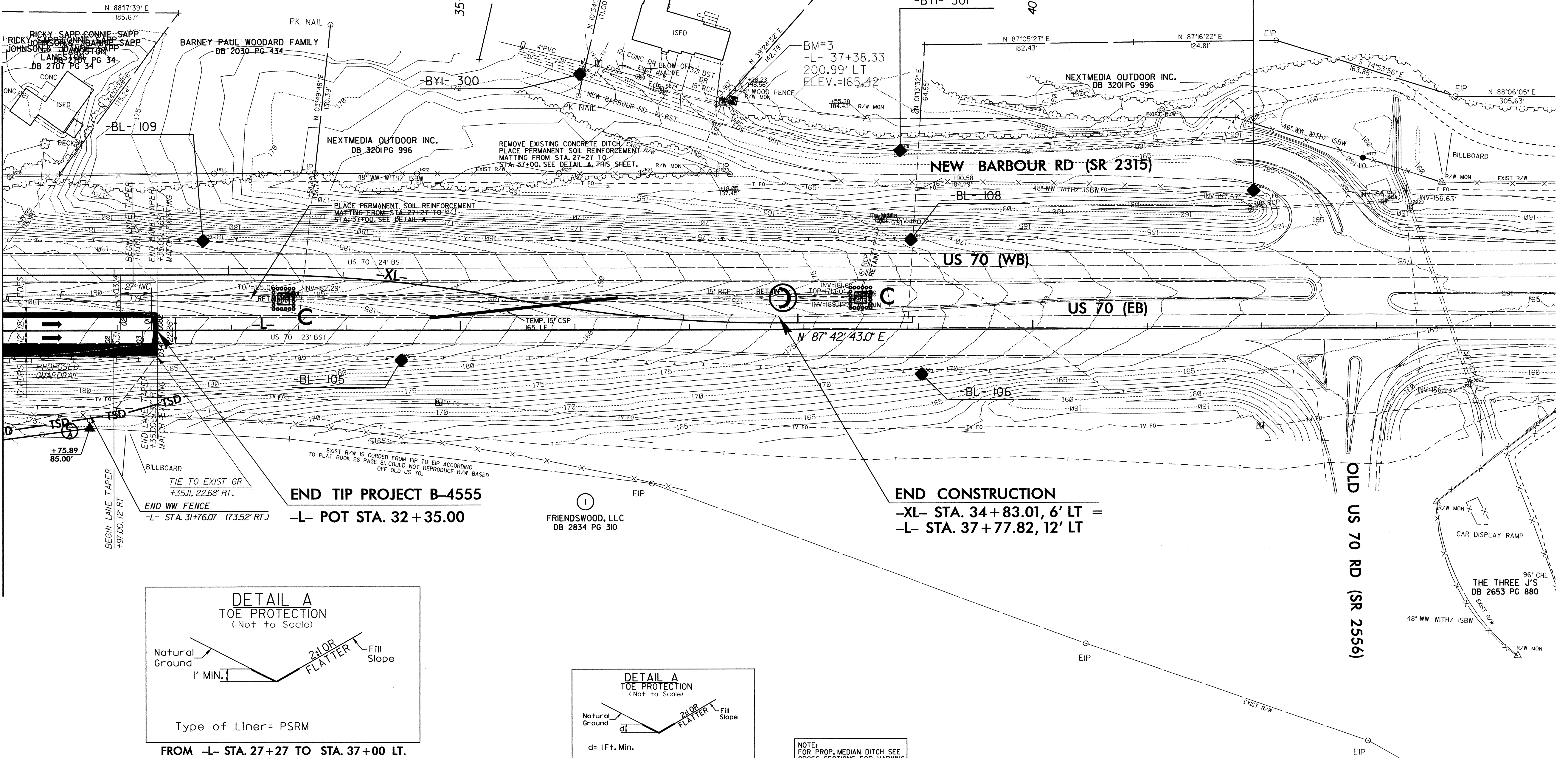
CURVE DATA -L-
CURVE L-1
PI Sta 52+35.54
$\Delta = 7^{\circ} 07' 31.8" (RT)$
$D = 0' 48' 25.1"$
$L = 882.98'$
$T = 442.06'$
$R = 7,100.00'$

CURVE DATA -XL-	
CURVE XL-3	CURVE XL-4
PI Sta 31+32.03	PI Sta 33+66.35
$\Delta = 10^{\circ} 33' 33.78" (RT)$	$\Delta = 10^{\circ} 31' 46.78" (LT)$
$D = 4' 30' 00.00"$	$D = 4' 30' 00.00"$
$L = 234.65'$	$L = 233.99'$
$T = 117.66'$	$T = 117.33'$
$R = 1,273.24'$	$R = 1,273.24'$
$e = RC$	$e = RC$
$DS = 50 \text{ mph}$	$DS = 50 \text{ mph}$
$RUNOFF = 48'$	$RUNOFF = 48'$

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

MATCHLINE -L- STA 31+00.00 SEE SHEET 5



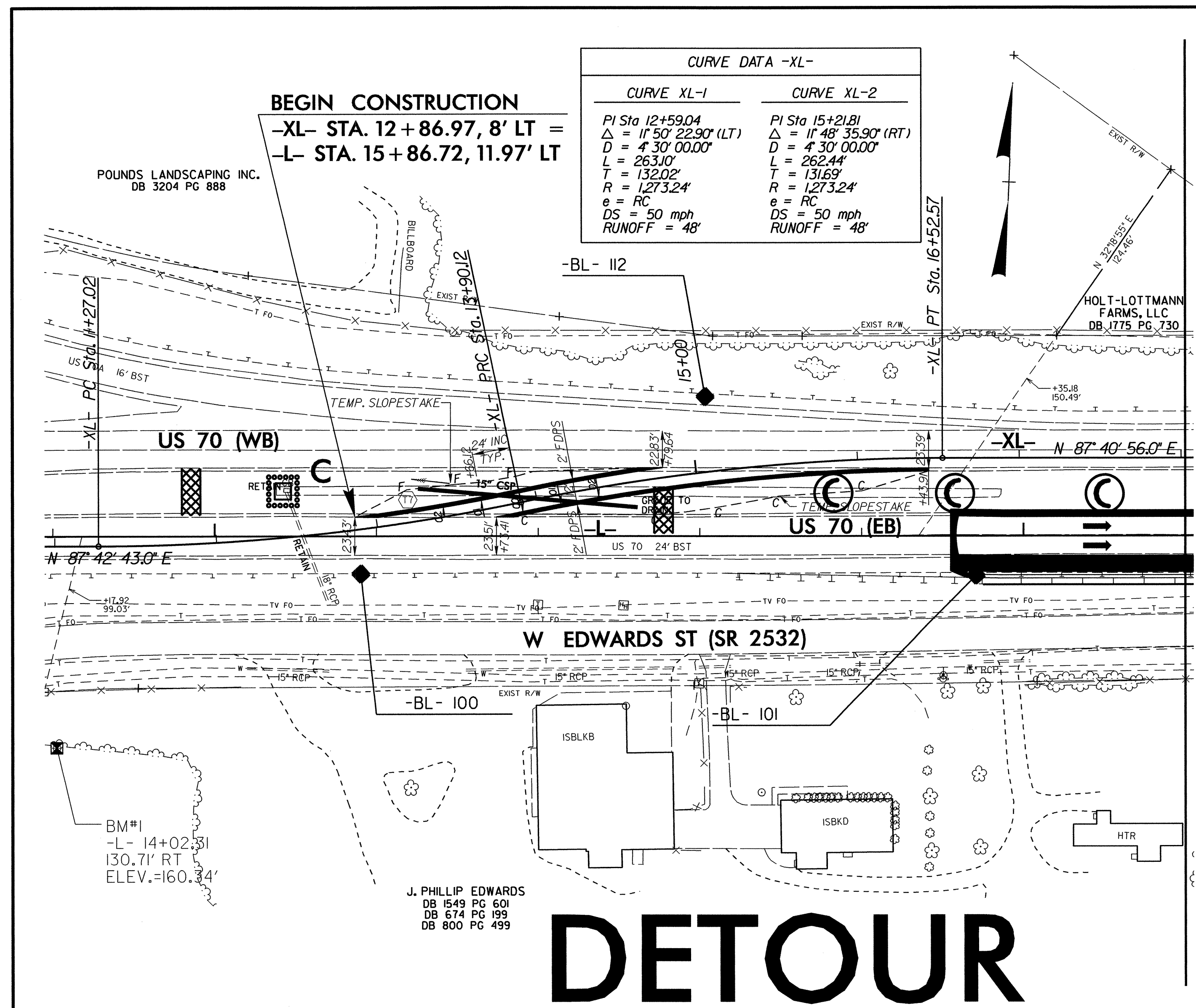
NOTE: FOR PROP. MEDIAN DITCH SEE CROSS-SECTIONS FOR VARYING SIDE SLOPES.

FOR -L- PROFILE SEE SHEET 7
 FOR -XL- DETAIL SEE SHEET 2B
 FOR DETOUR PHASING DETAILS SEE TRAFFIC CONTROL PLANS

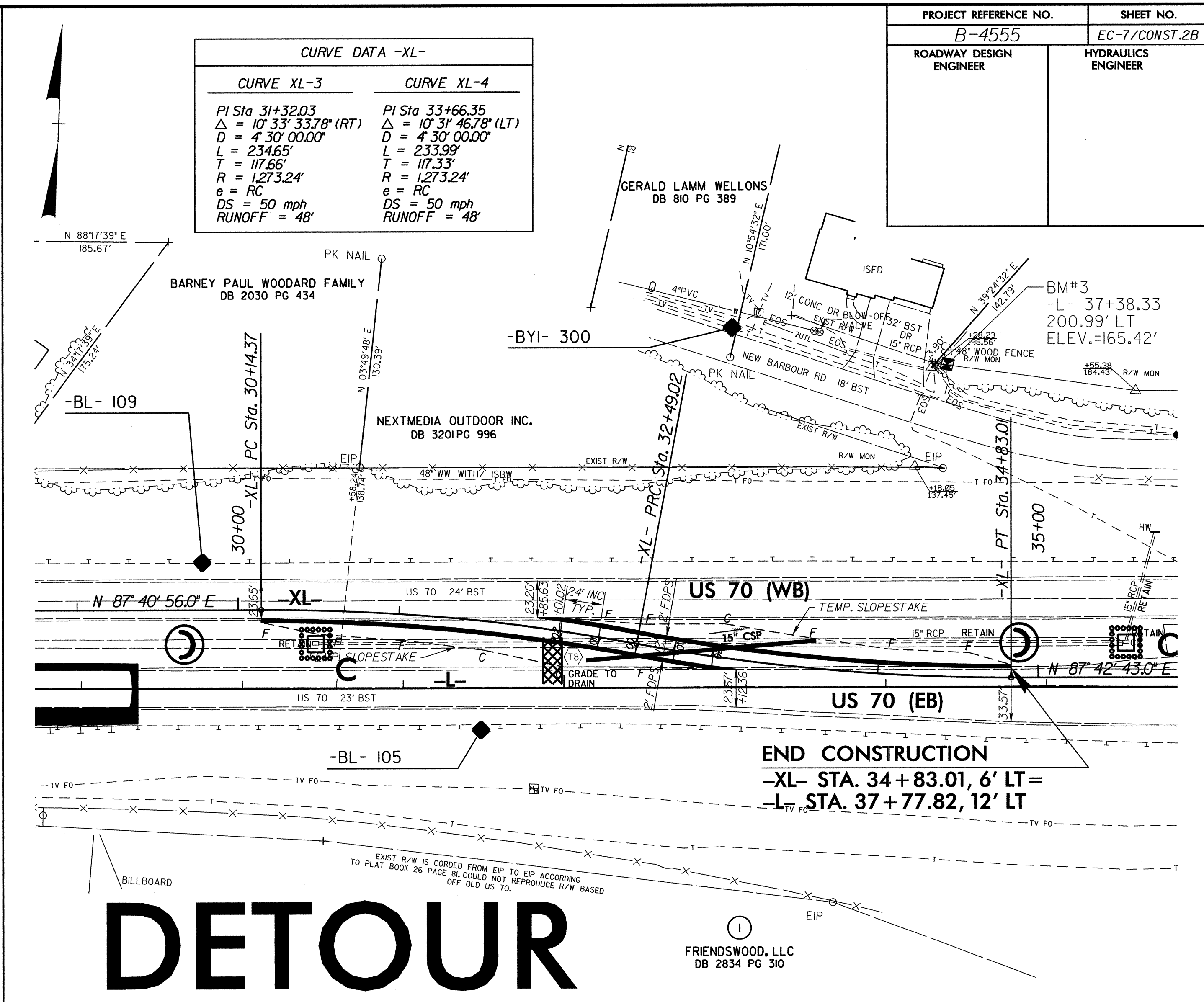
END TIP PROJECT B-4555
 -L- POT STA. 32 + 35.00

END CONSTRUCTION
 -XL- STA. 34 + 83.01, 6' LT =
 -L- STA. 37 + 77.82, 12' LT

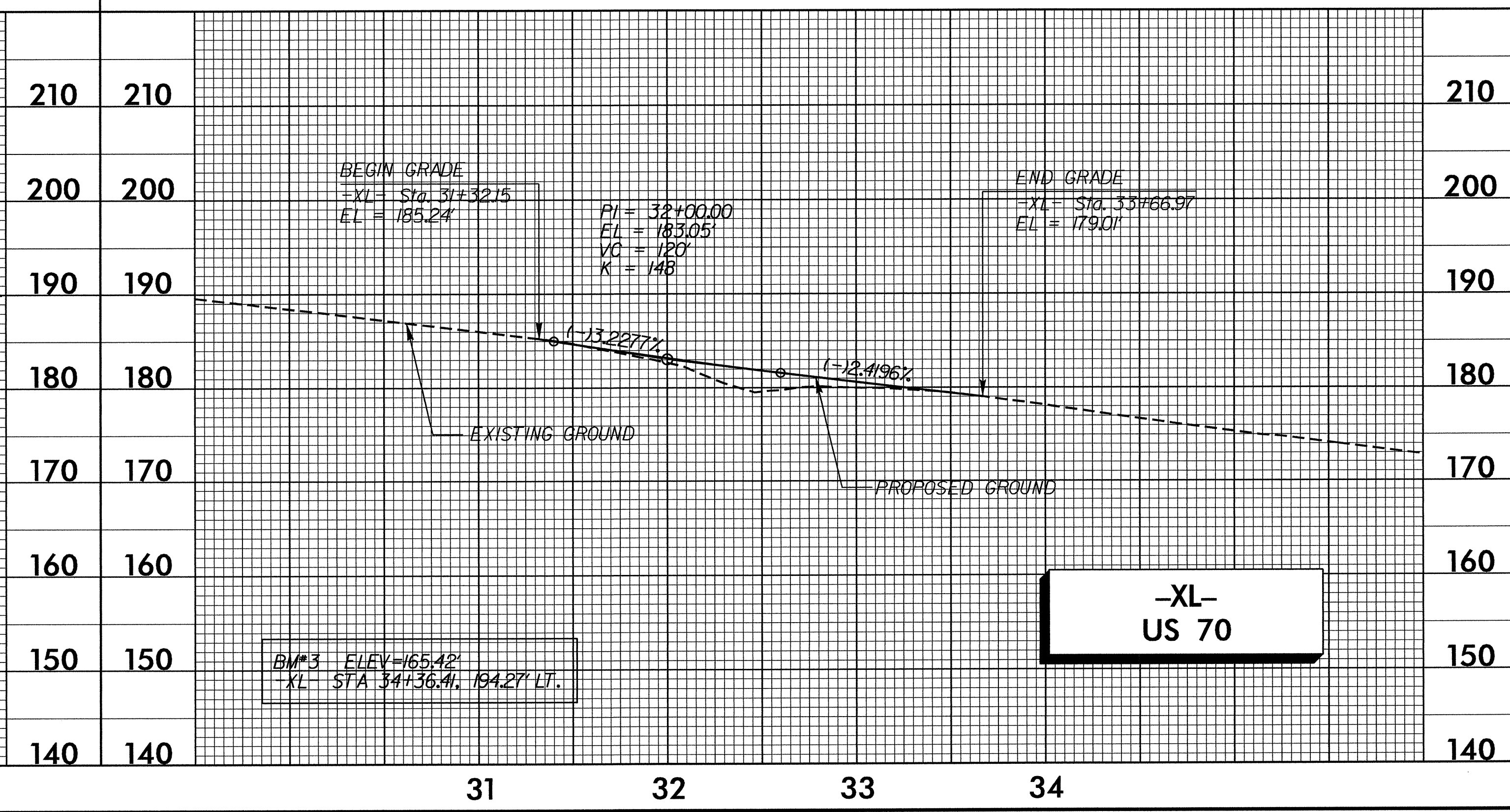
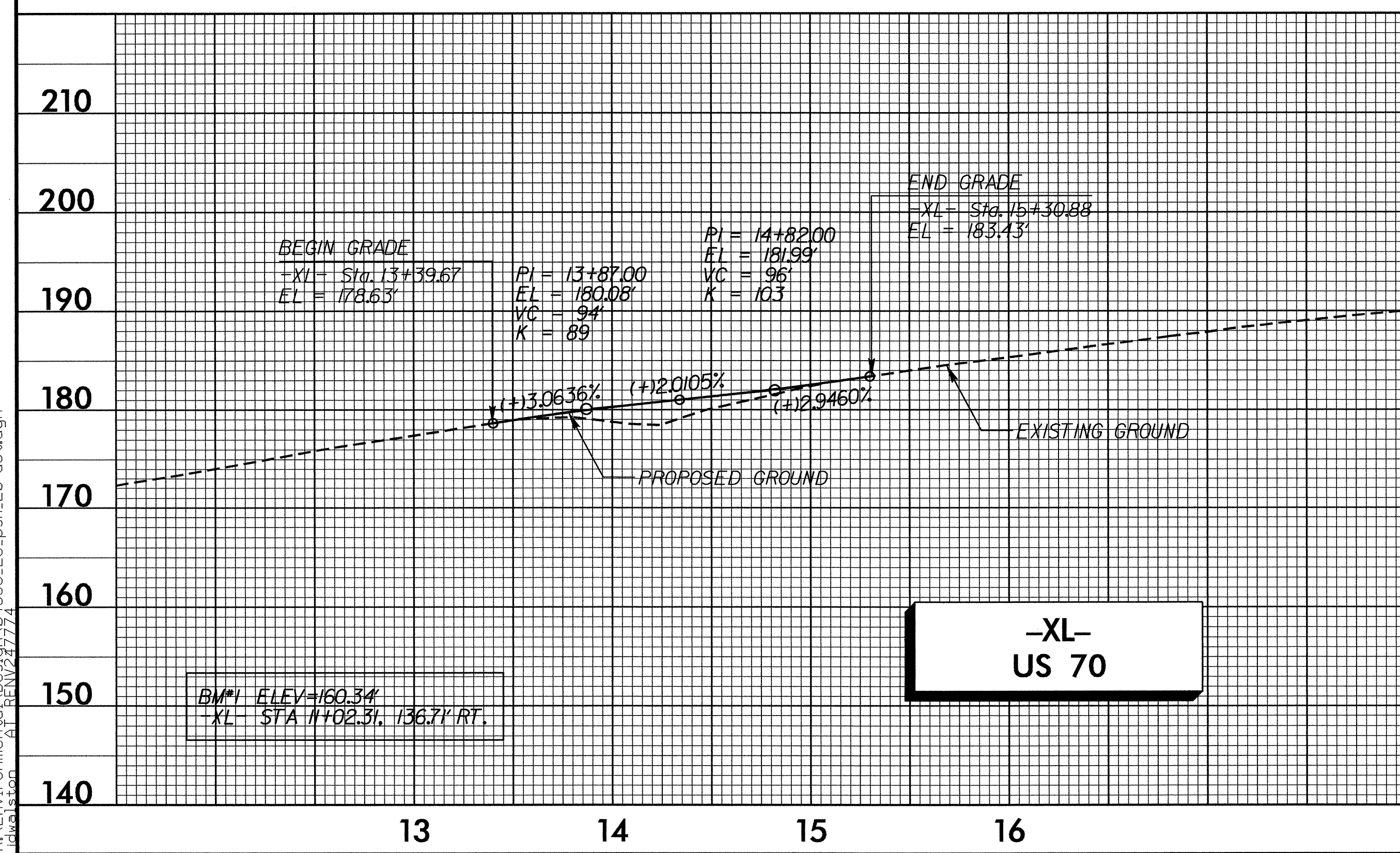
PROJECT REFERENCE NO.	SHEET NO.
B-4555	EC-7/CONST.2B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DETOUR

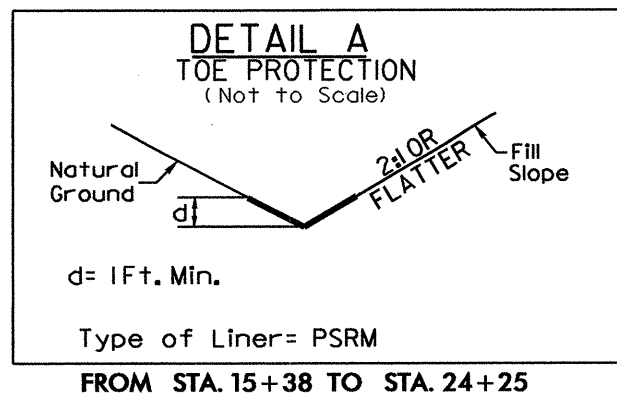


DETOUR



08-FEB-2012 09:30
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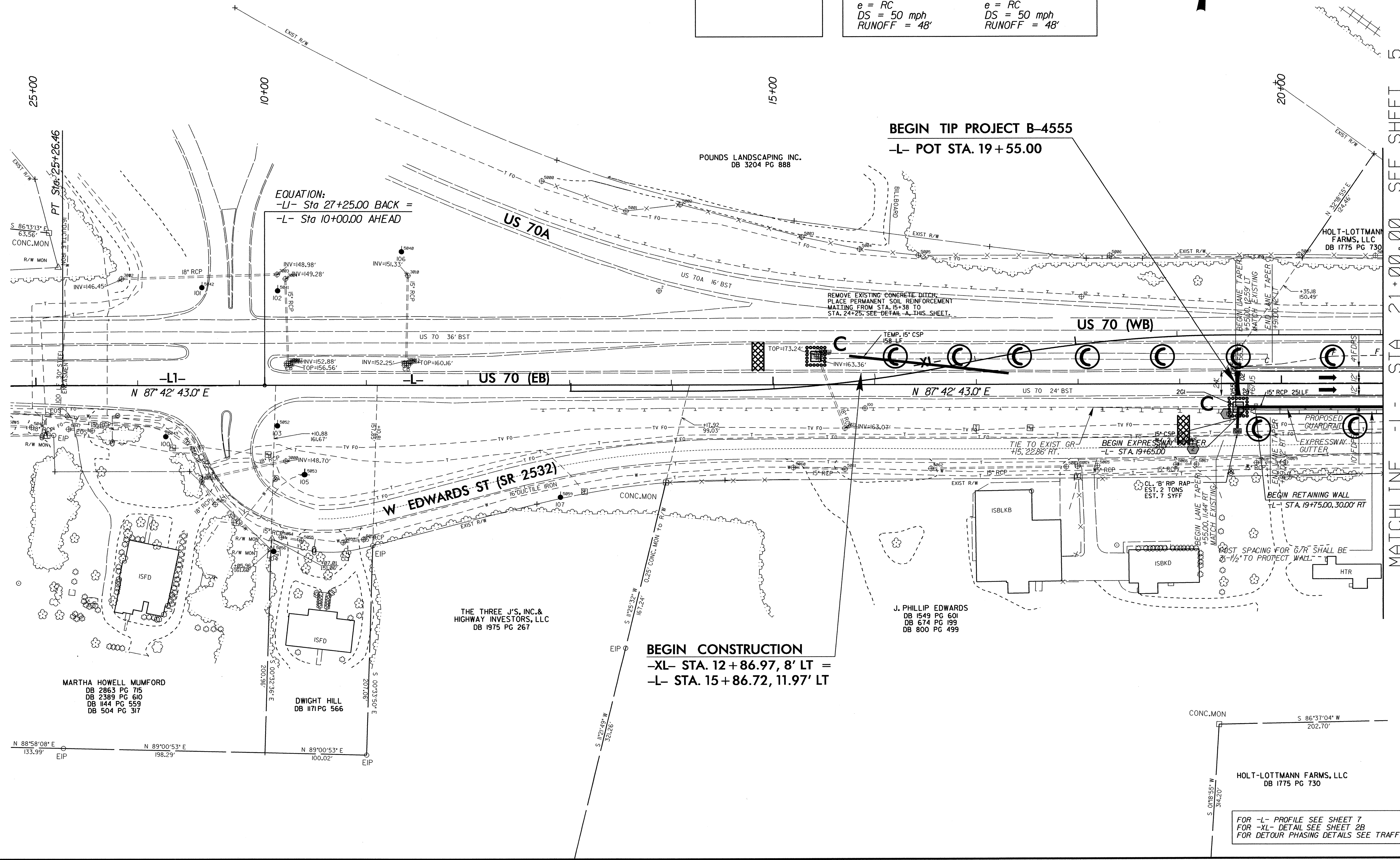
PROJECT REFERENCE NO.		SHEET NO.	
B-4555		EC-8/CONST.4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



NOTE:
FOR PROP. MEDIAN DITCH SEE
CROSS-SECTIONS FOR VARYING
SIDE SLOPES.

CURVE DATA -LI-
CURVE LI-1
PI Sta 18+74.92
$\Delta = 24^\circ 40' 05.4''$ (RT)
D = 1' 51' 47.8"
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R = 3,075.00'

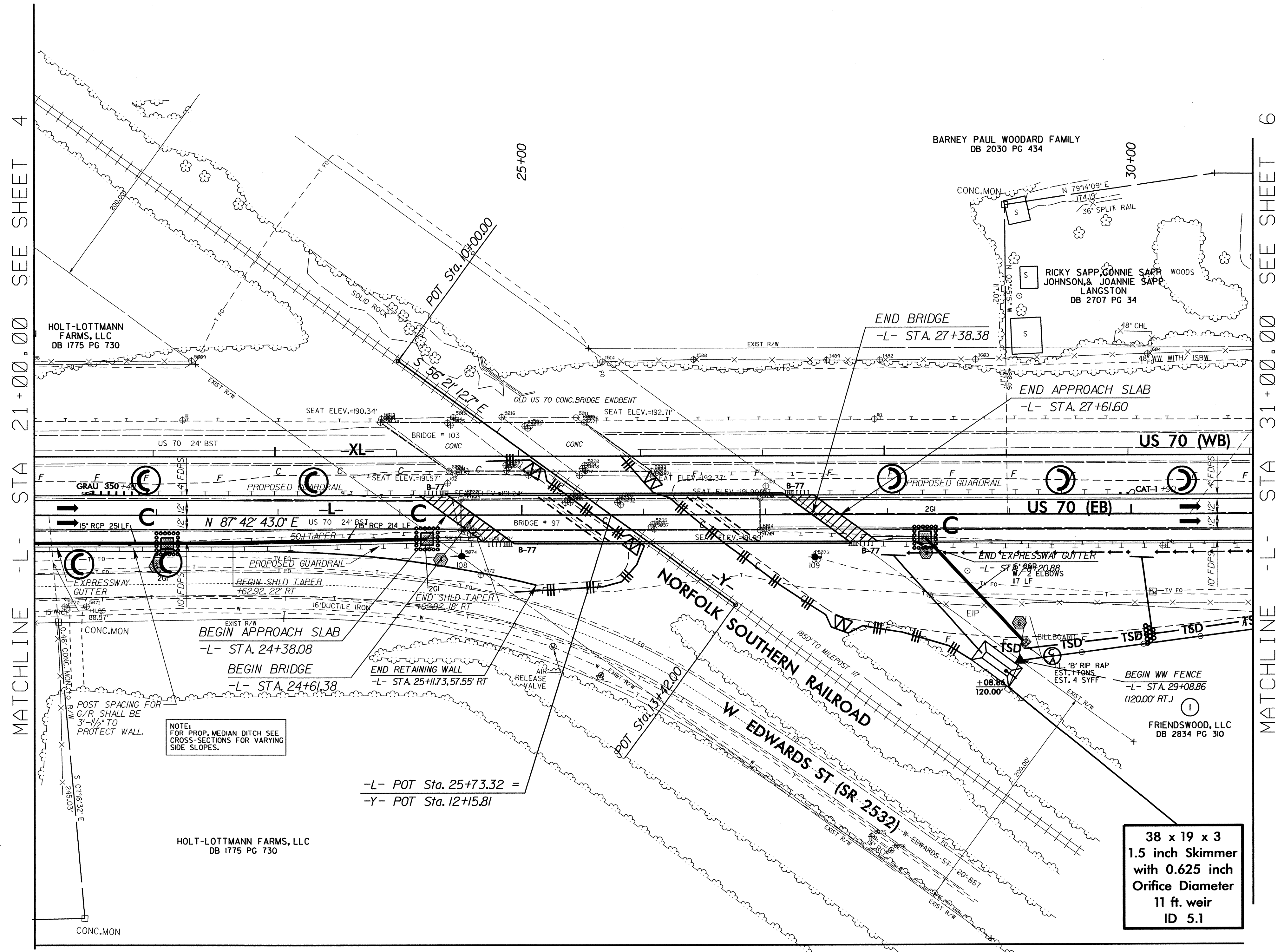
CURVE DATA -XL-	
CURVE XL-1	CURVE XL-2
PI Sta 12+59.04	PI Sta 15+21.81
$\Delta = 11^\circ 50' 22.90''$ (LT)	$\Delta = 11^\circ 48' 35.90''$ (RT)
D = 4' 30' 00.00"	D = 4' 30' 00.00"
L = 263.10'	L = 262.44'
T = 132.02'	T = 131.69'
R = 1,273.24'	R = 1,273.24'
e = RC	e = RC
DS = 50 mph	DS = 50 mph
RUNOFF = 48'	RUNOFF = 48'



MATCHLINE -L- STA 21+00.00 SEE SHEET 5

FOR -L- PROFILE SEE SHEET 7
FOR -XL- DETAIL SEE SHEET 2B
FOR DETOUR PHASING DETAILS SEE TRAFFIC CONTROL PLANS

PROJECT REFERENCE NO.	SHEET NO.
B-4555	EC-9/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE -L- STA 21+00.00 SEE SHEET 4

MATCHLINE -L- STA 31+00.00 SEE SHEET 6

NOTE:
FOR PROP. MEDIAN DITCH SEE
CROSS-SECTIONS FOR VARYING
SIDE SLOPES.

-L- POT Sta. 25+73.32 =
-Y- POT Sta. 12+15.81

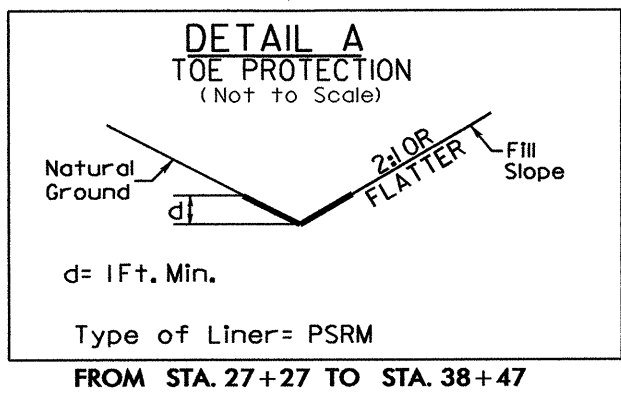
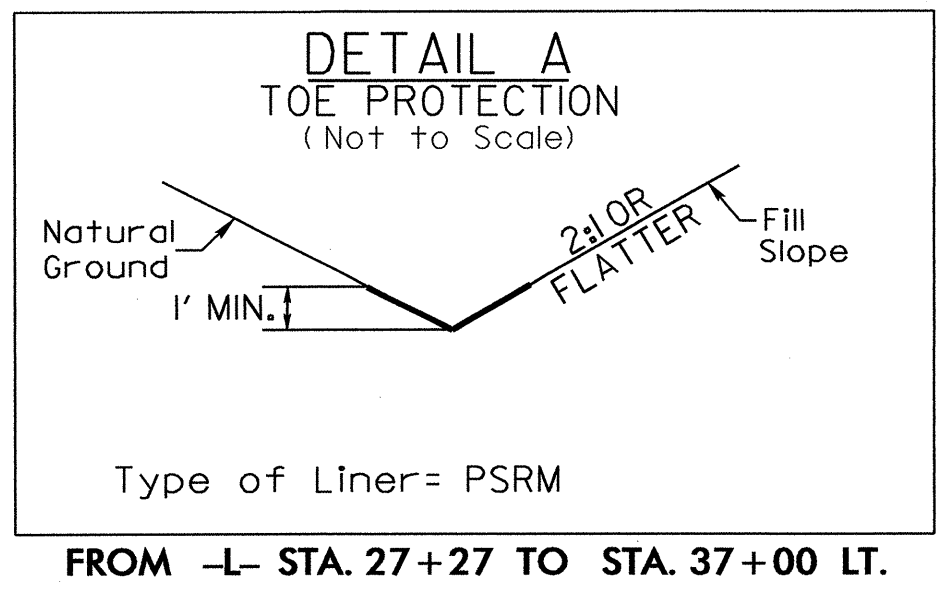
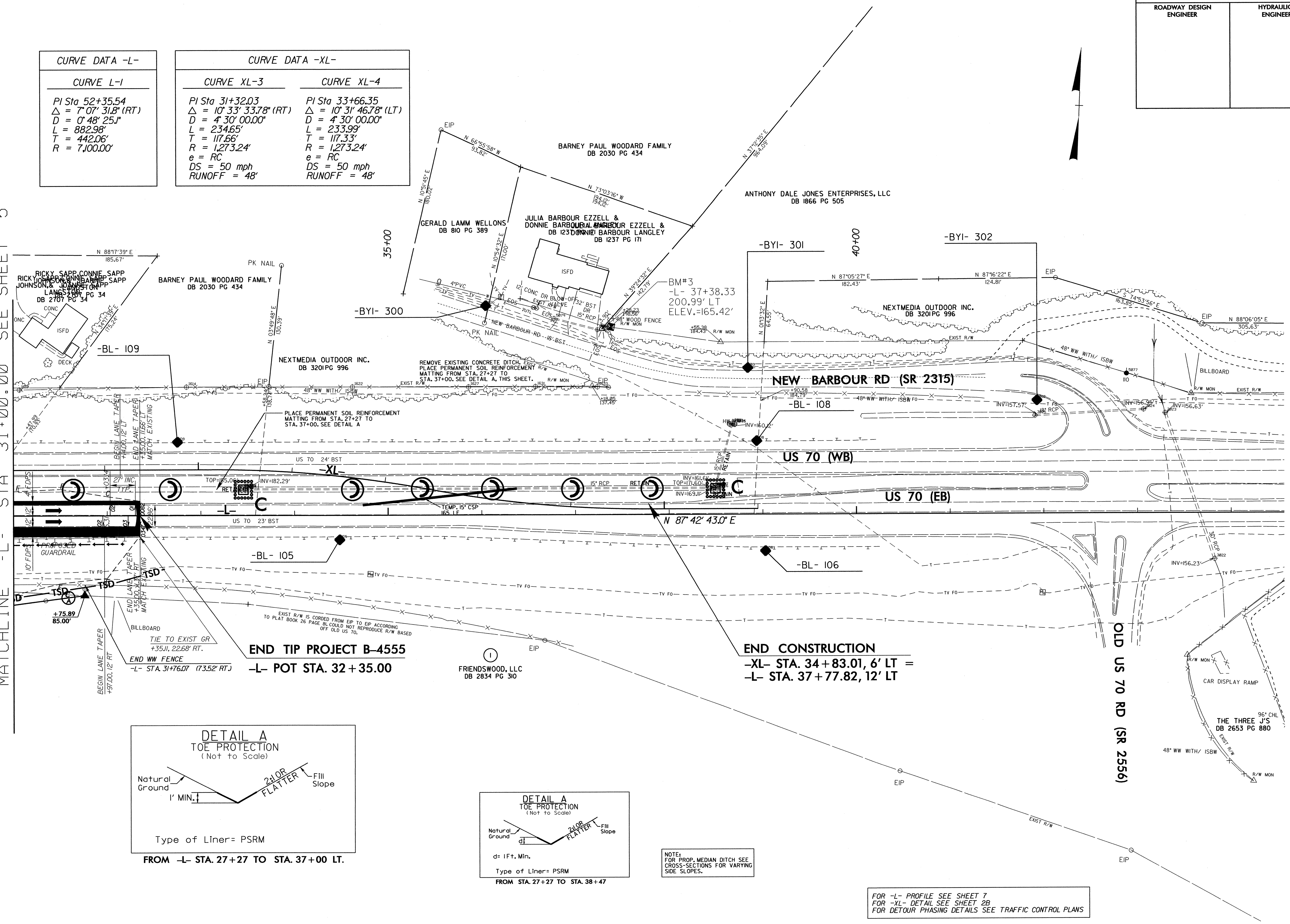
38 x 19 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
11 ft. weir
ID 5.1

8/17/99

PROJECT REFERENCE NO.		SHEET NO.	
B-4555		EC-10/CONST.6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

CURVE DATA -L-		CURVE DATA -XL-	
CURVE L-1		CURVE XL-3	CURVE XL-4
PI Sta 52+35.54		PI Sta 31+32.03	PI Sta 33+66.35
$\Delta = 7^{\circ}07'31.8''$ (RT)		$\Delta = 10^{\circ}33'33.78''$ (RT)	$\Delta = 10^{\circ}31'46.78''$ (LT)
D = 0'48'25.1"		D = 4'30'00.00"	D = 4'30'00.00"
L = 882.98'		L = 234.65'	L = 233.99'
T = 442.06'		T = 117.66'	T = 117.33'
R = 7,100.00'		R = 1,273.24'	R = 1,273.24'
		e = RC	e = RC
		DS = 50 mph	DS = 50 mph
		RUNOFF = 48'	RUNOFF = 48'

MATCHLINE -L- STA 31+00.00 SEE SHEET 5



NOTE:
FOR PROP. MEDIAN DITCH SEE CROSS-SECTIONS FOR VARYING SIDE SLOPES.

FOR -L- PROFILE SEE SHEET 7
FOR -XL- DETAIL SEE SHEET 2B
FOR DETOUR PHASING DETAILS SEE TRAFFIC CONTROL PLANS