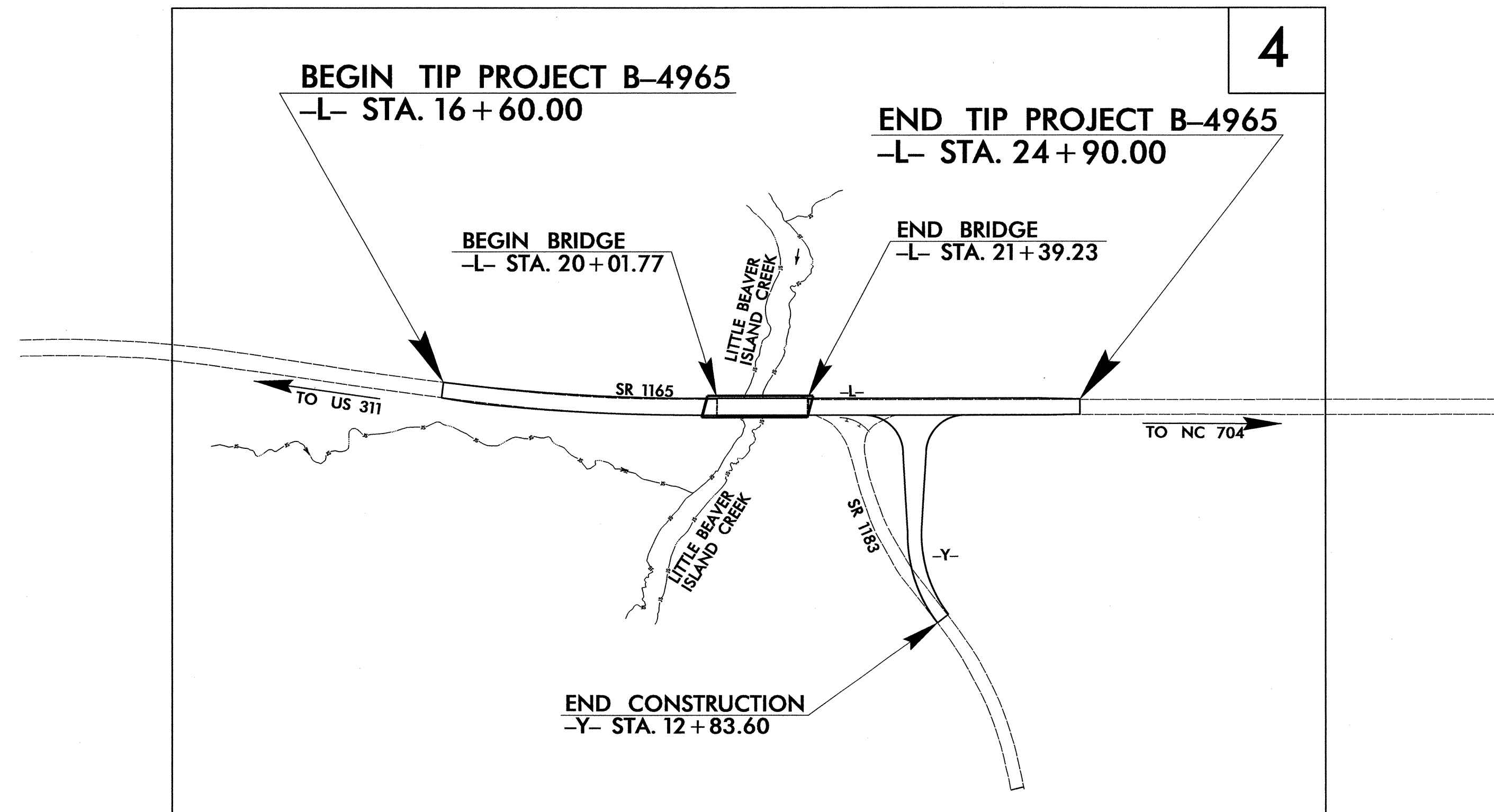
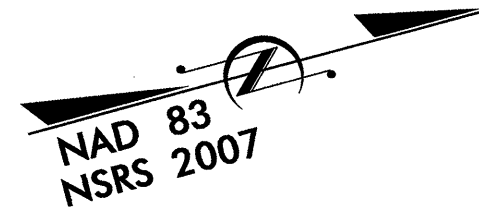


TIP PROJECT: B-4965

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

LOCATION: BRIDGE NO. 249 OVER LITTLE BEAVER ISLAND CREEK
ON SR 1165 (CARDINAL RD.)

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



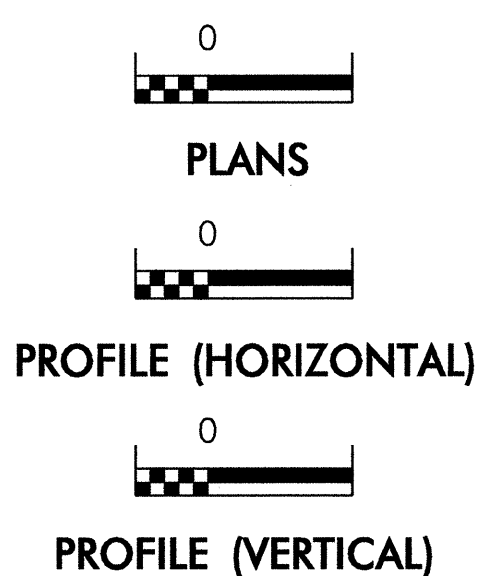
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4965	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	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	TD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	RS
1633.02	Temporary Rock Silt Check Type-B	RS
1634.01	Temporary Rock Sediment Dam Type-A	RD
1634.02	Temporary Rock Sediment Dam Type-B	RD
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPI
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPI
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SB
1632.01	Rock Inlet Sediment Trap Type A	RIS
1632.02	Rock Inlet Sediment Trap Type B	RIS
1632.03	Rock Inlet Sediment Trap Type C	RIS
	Skimmer Basin	SK
	Tiered Skimmer Basin	SK
	Infiltration Basin	IB

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

GRAPHIC SCALE



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

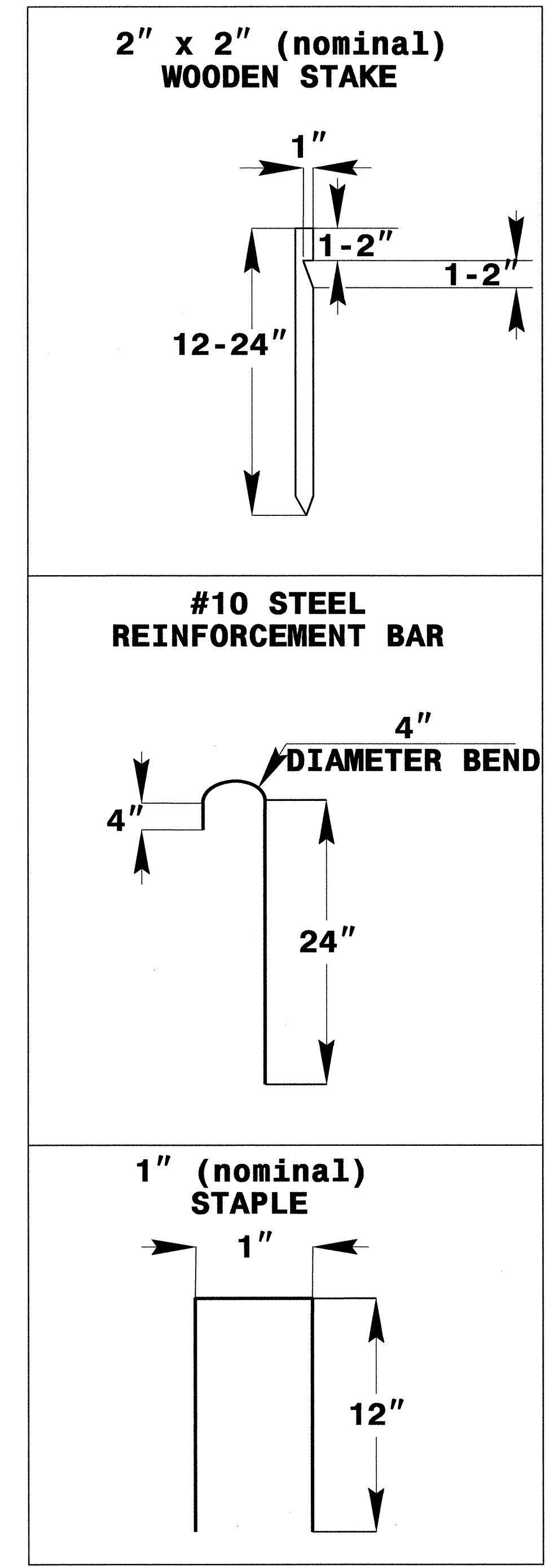
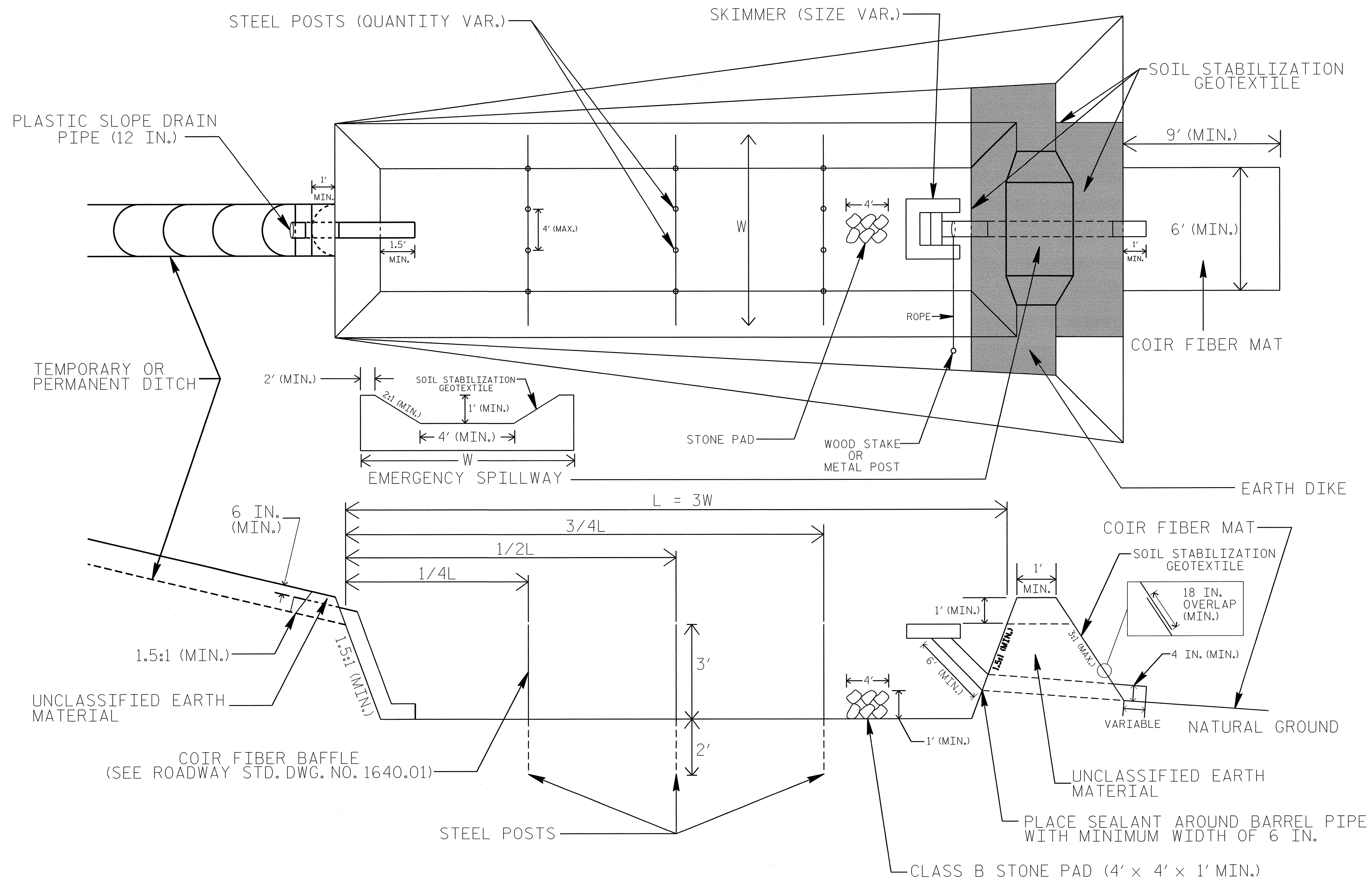
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

28 NOV 2015 15:34
P:\ENR\2015\09\15\B4965_EC_1.dwg
1:15 AT:RENV286448

PROJECT REFERENCE NO. B-4965	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL



COIR FIBER MAT ANCHOR OPTIONS

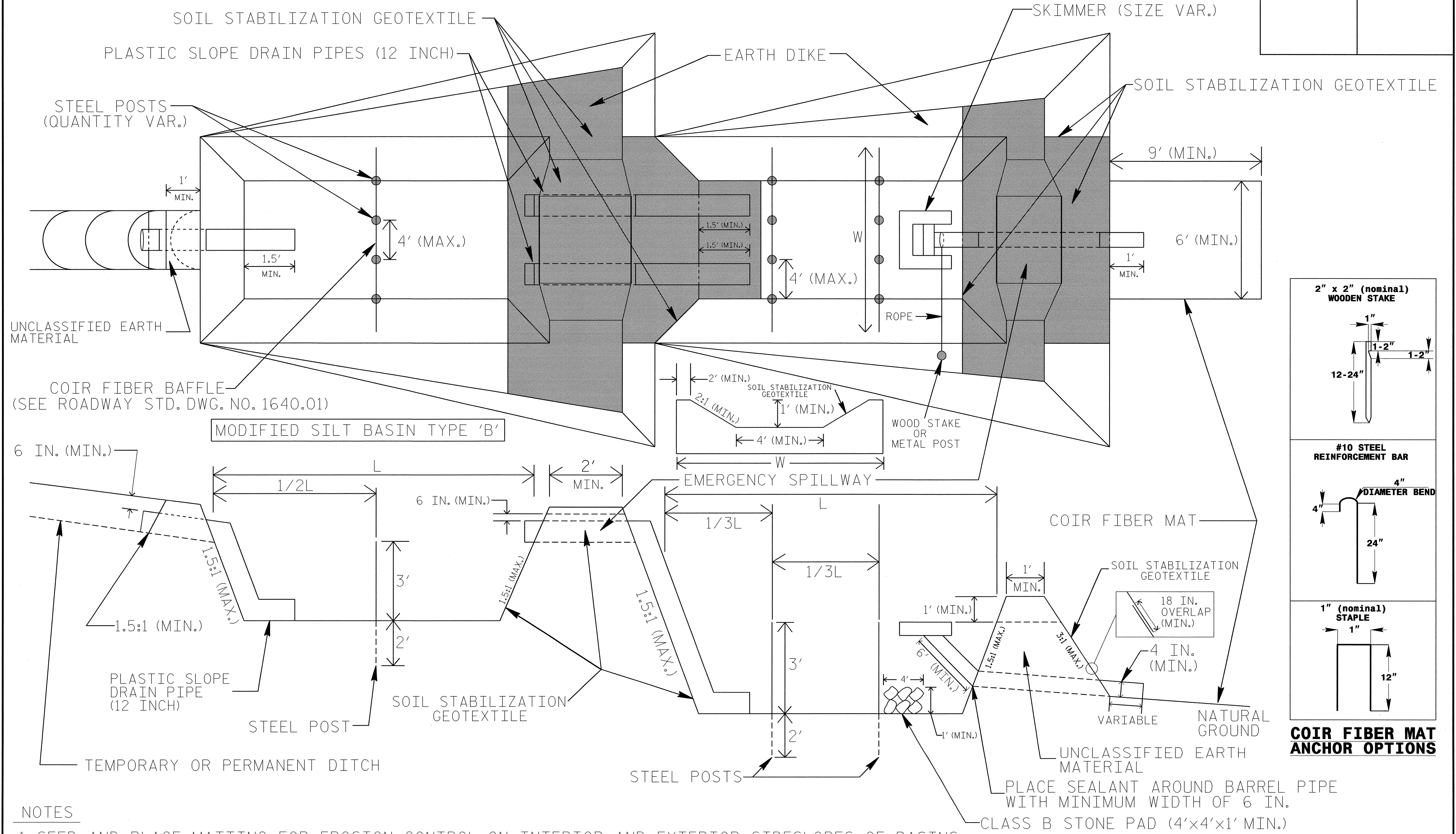
NOTES

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

NOT TO SCALE

TIERED SKIMMER BASIN DETAIL

PROJECT REFERENCE NO. B-4965	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



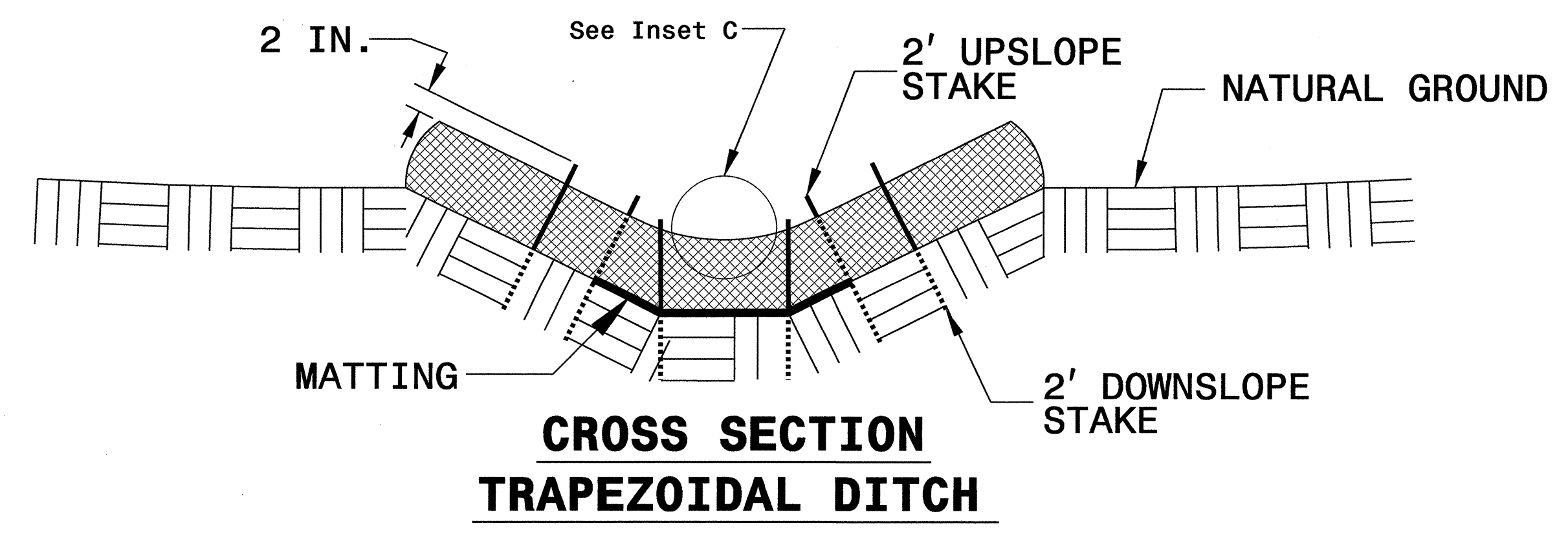
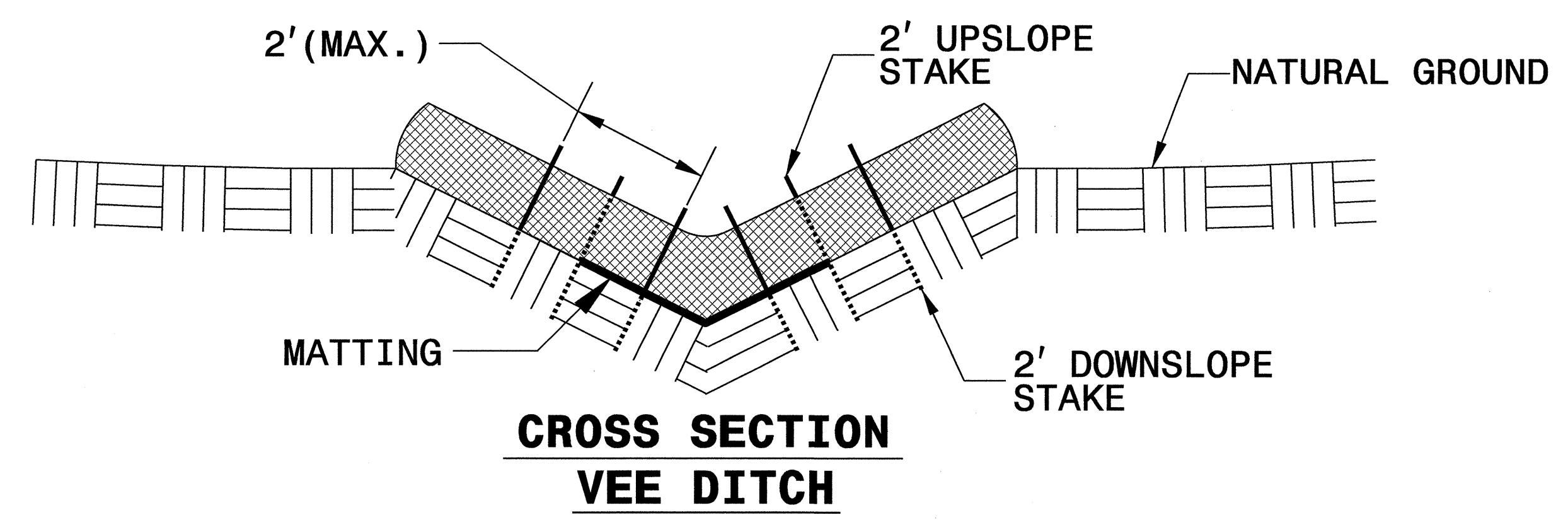
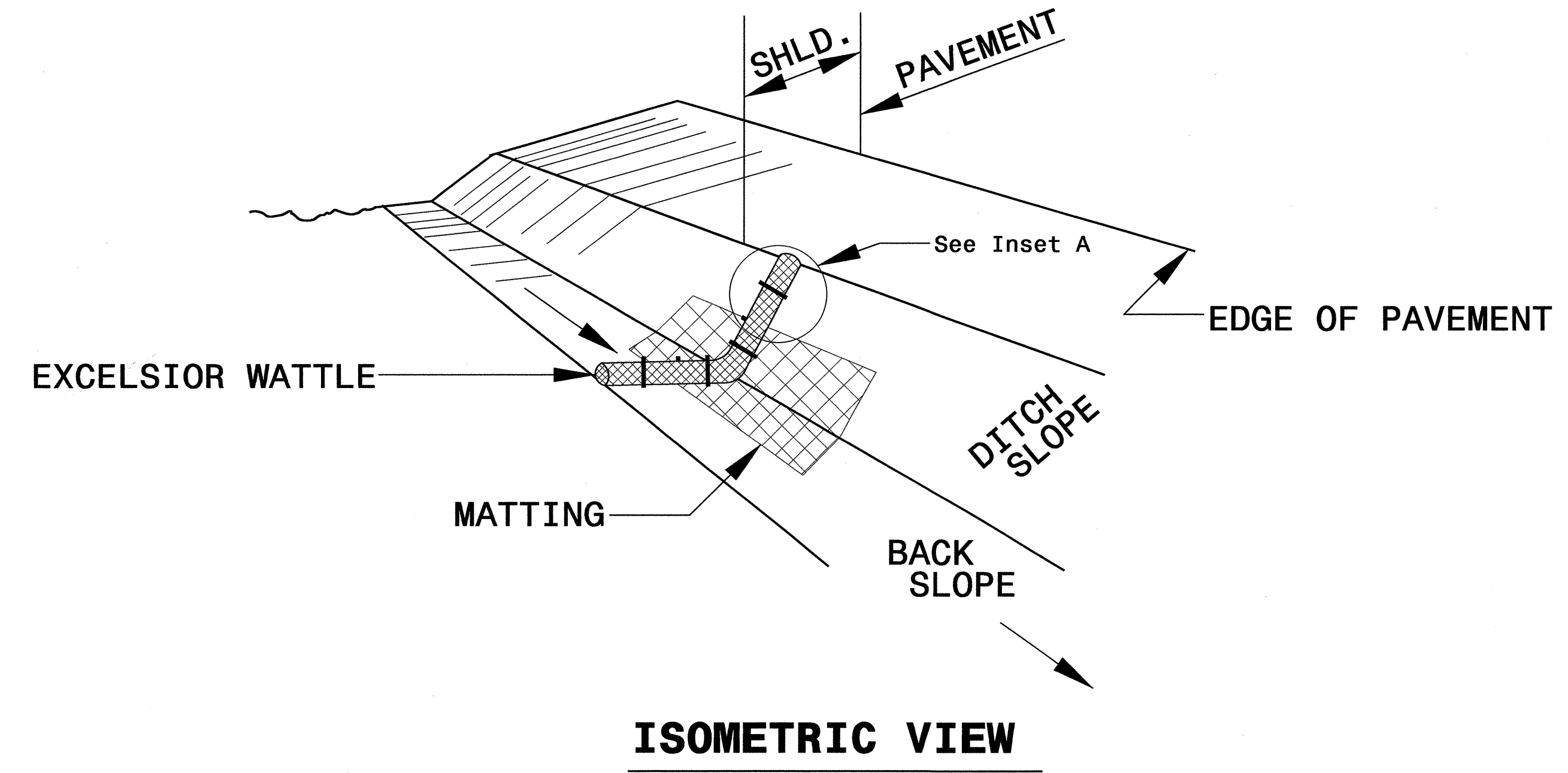
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. FOR BASIN DEPTHS OF 3 FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTHS (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

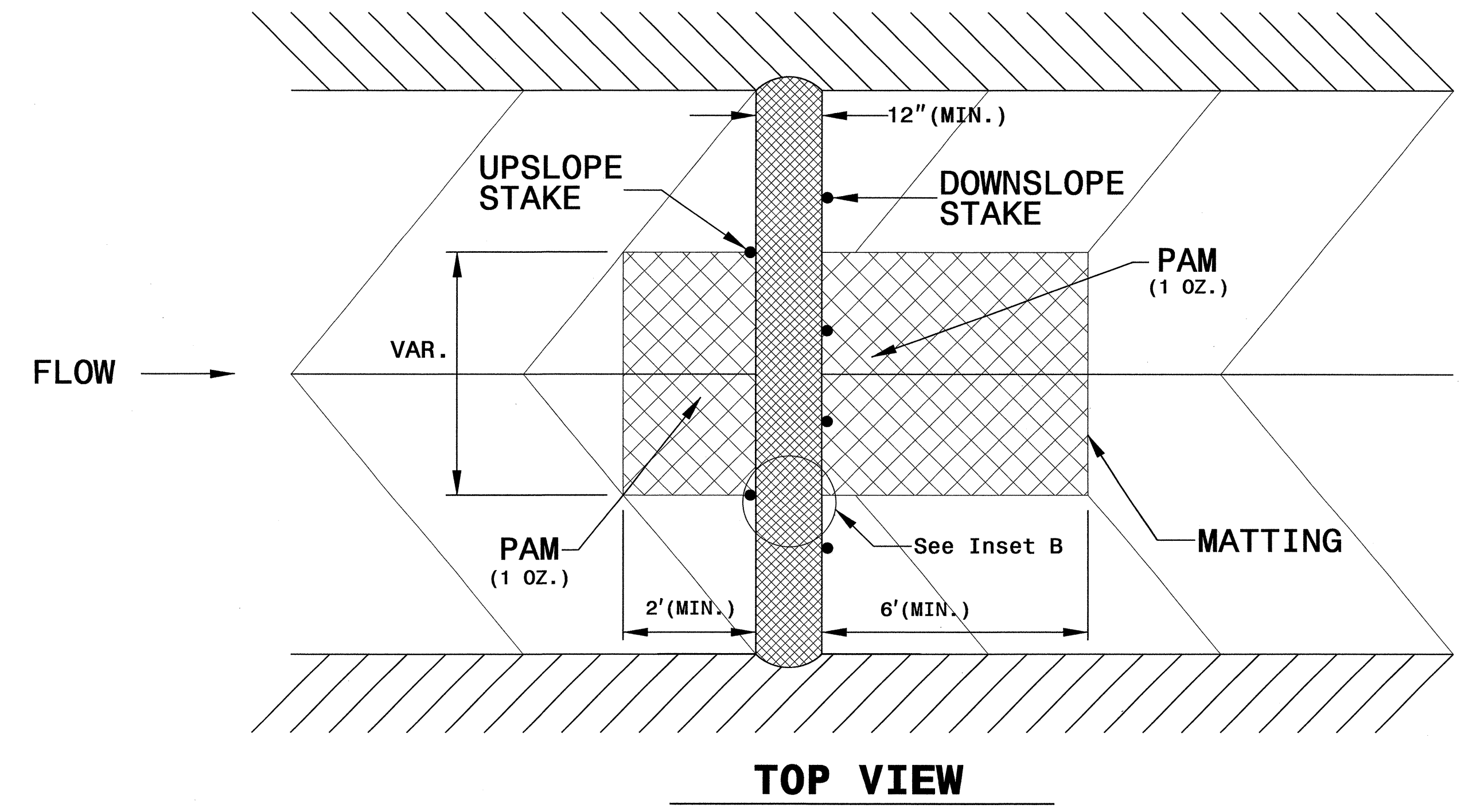
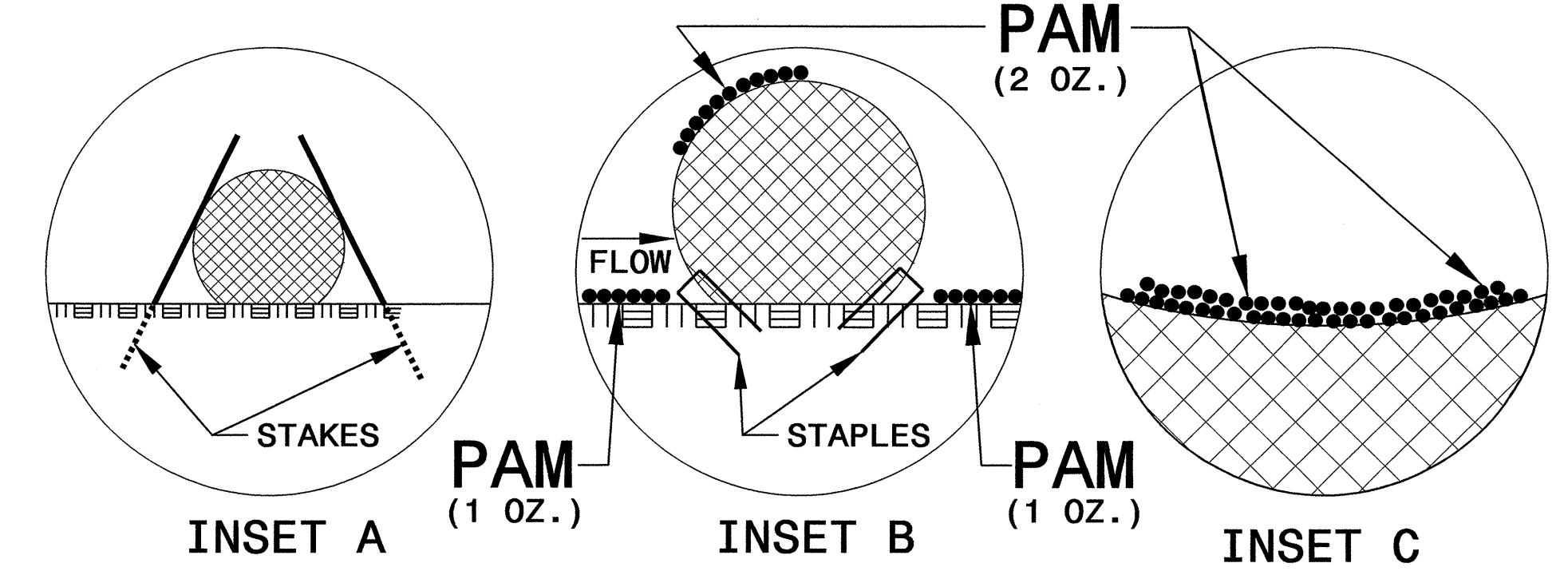
NOT TO SCALE

PROJECT REFERENCE NO. B-4965	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

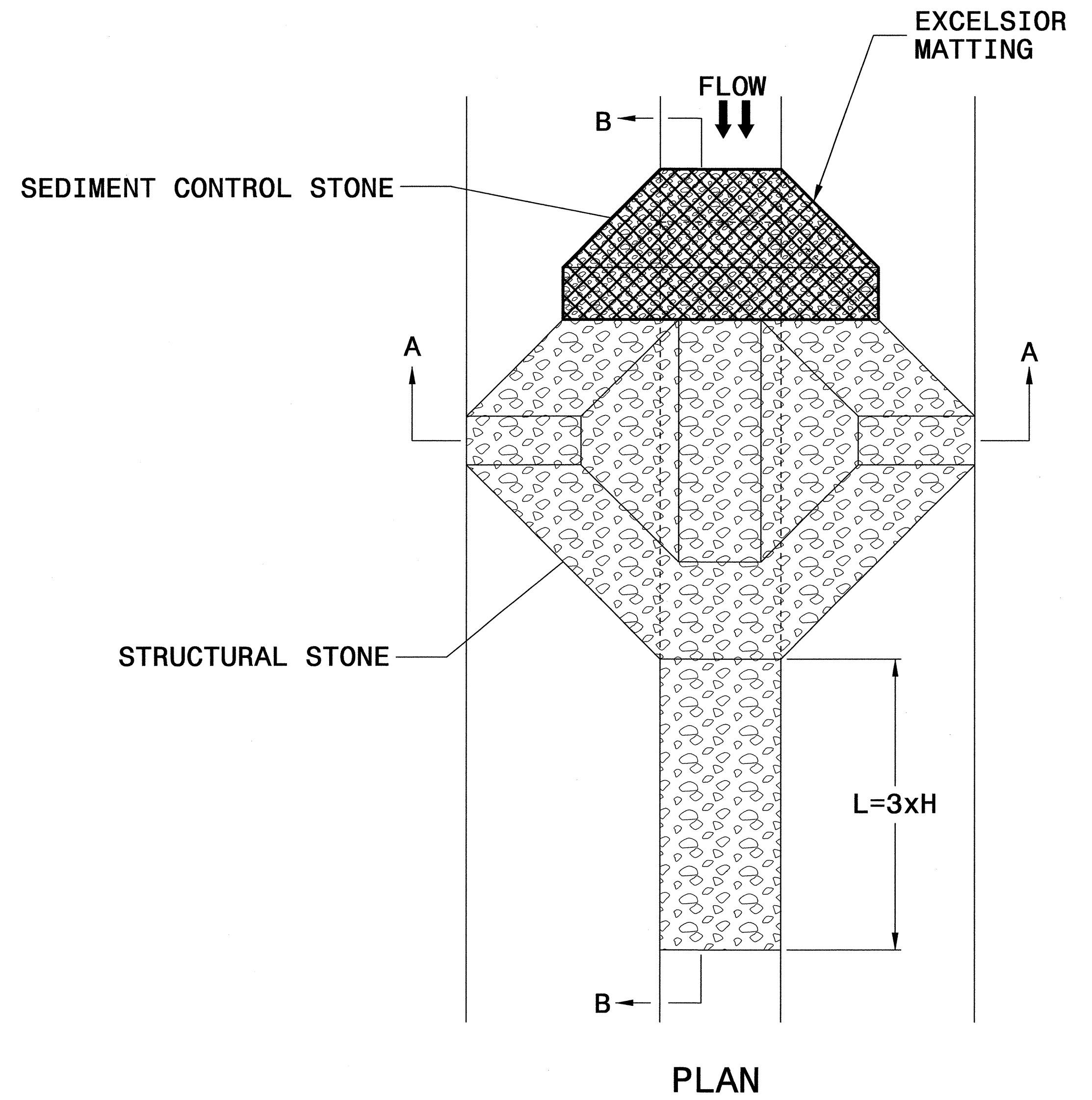


- NOTES:
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
 - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE 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.



PROJECT REFERENCE NO. B-4965	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

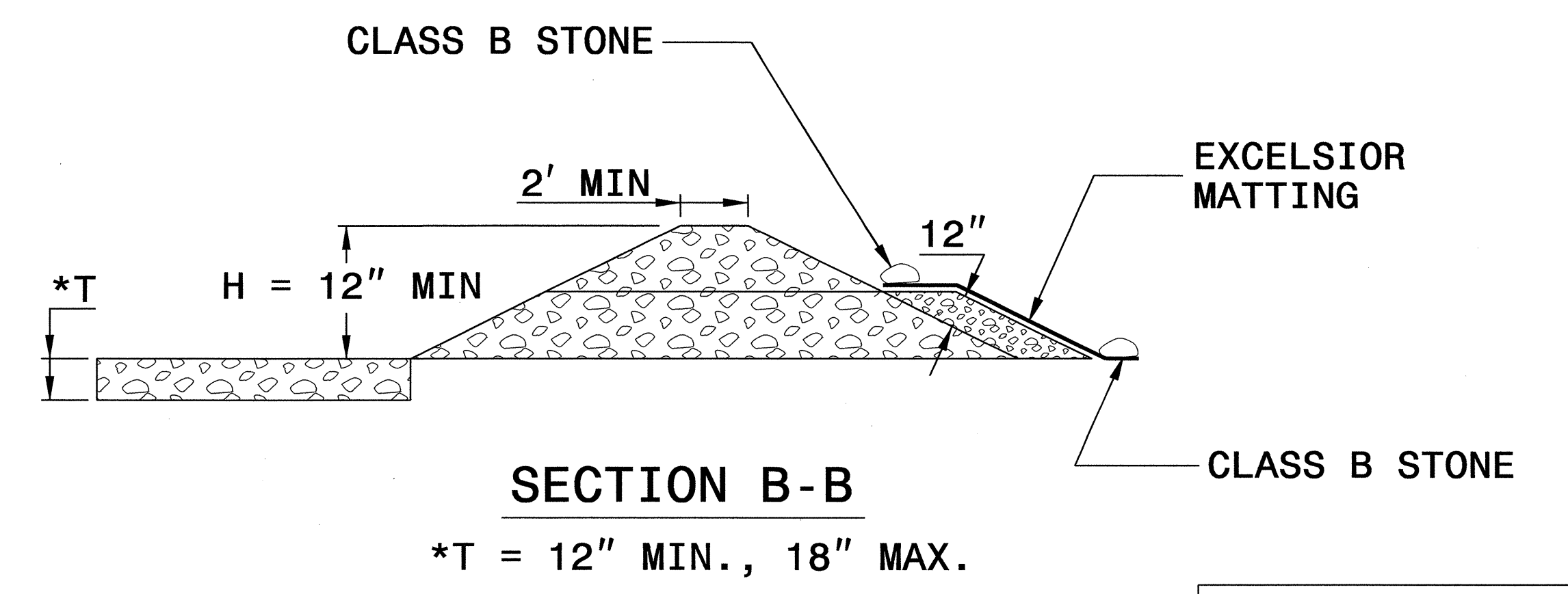
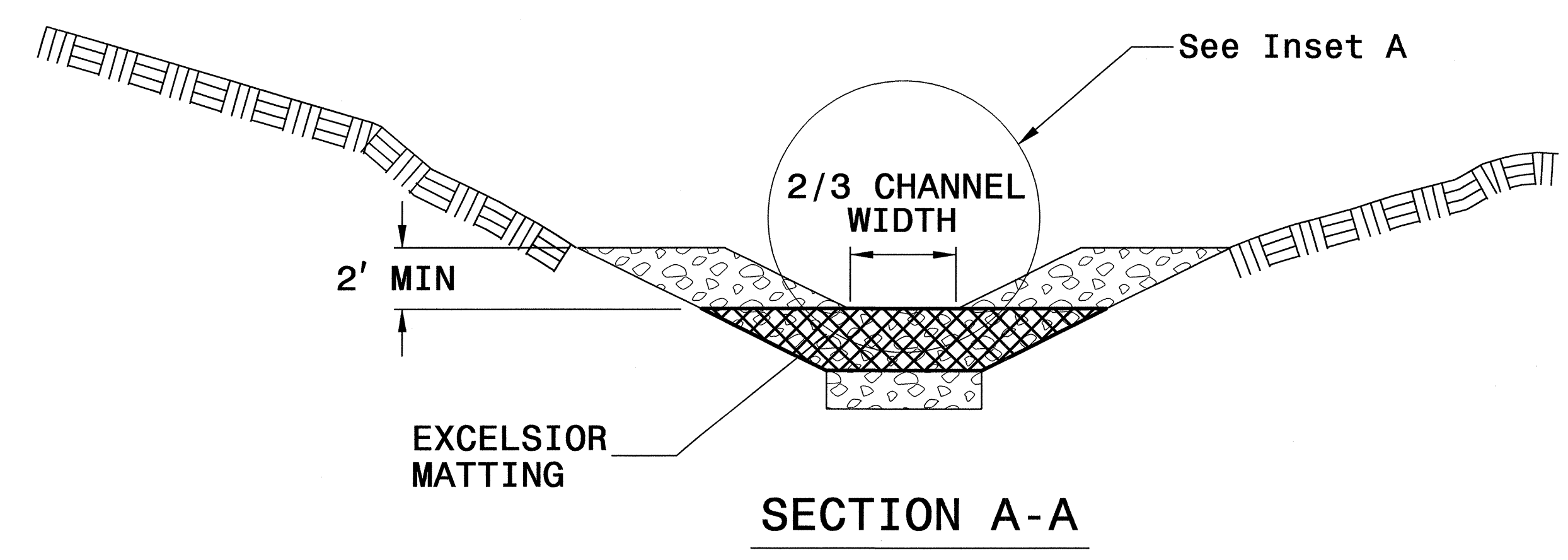
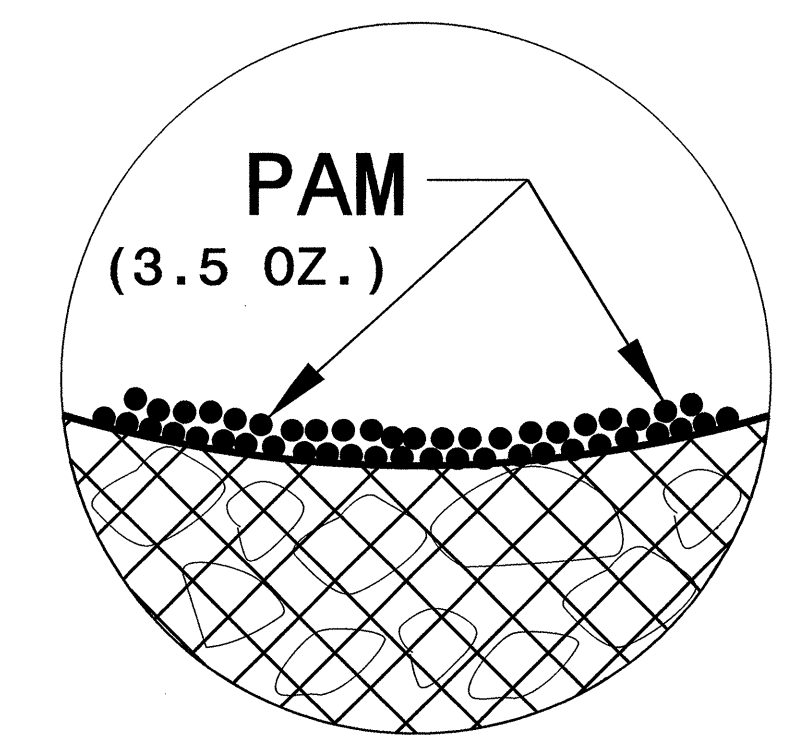


NOTES

USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 ROCK SILT CHECK.

INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>B-4965</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

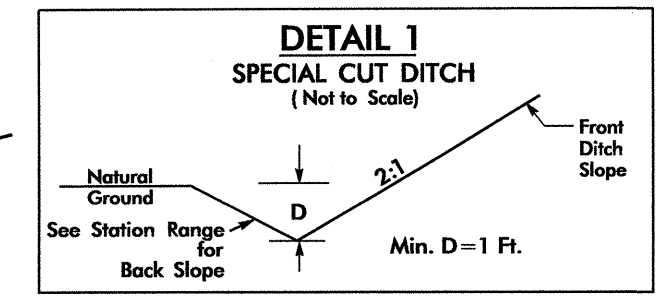
SOIL STABILIZATION TIMEFRAMES

<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.

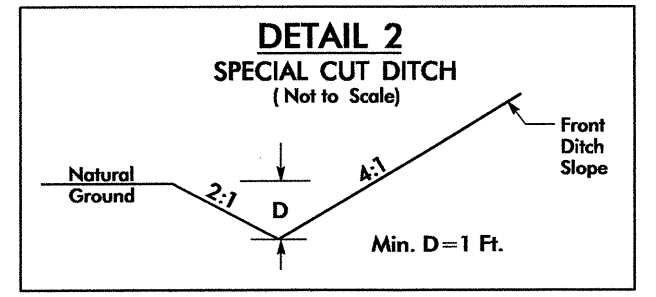
PROJECT REFERENCE NO. B-4965	SHEET NO. EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

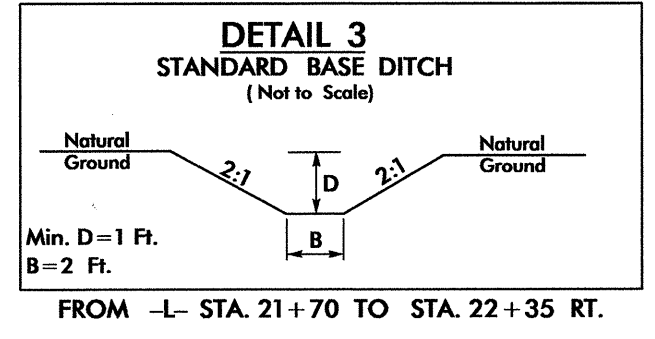
NAD 83/NSRS 2007



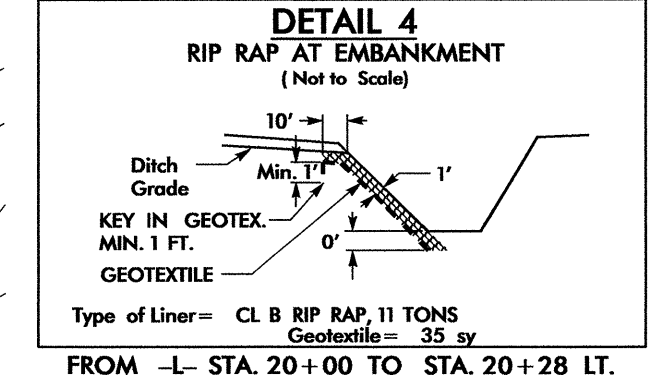
BACK SLOPE
FROM -L- STA. 16+60 TO STA. 20+00 LT. 3:1
FROM -L- STA. 22+50 TO STA. 24+90 LT. 2:1
FROM -L- STA. 23+50 TO STA. 24+90 RT. 2:1



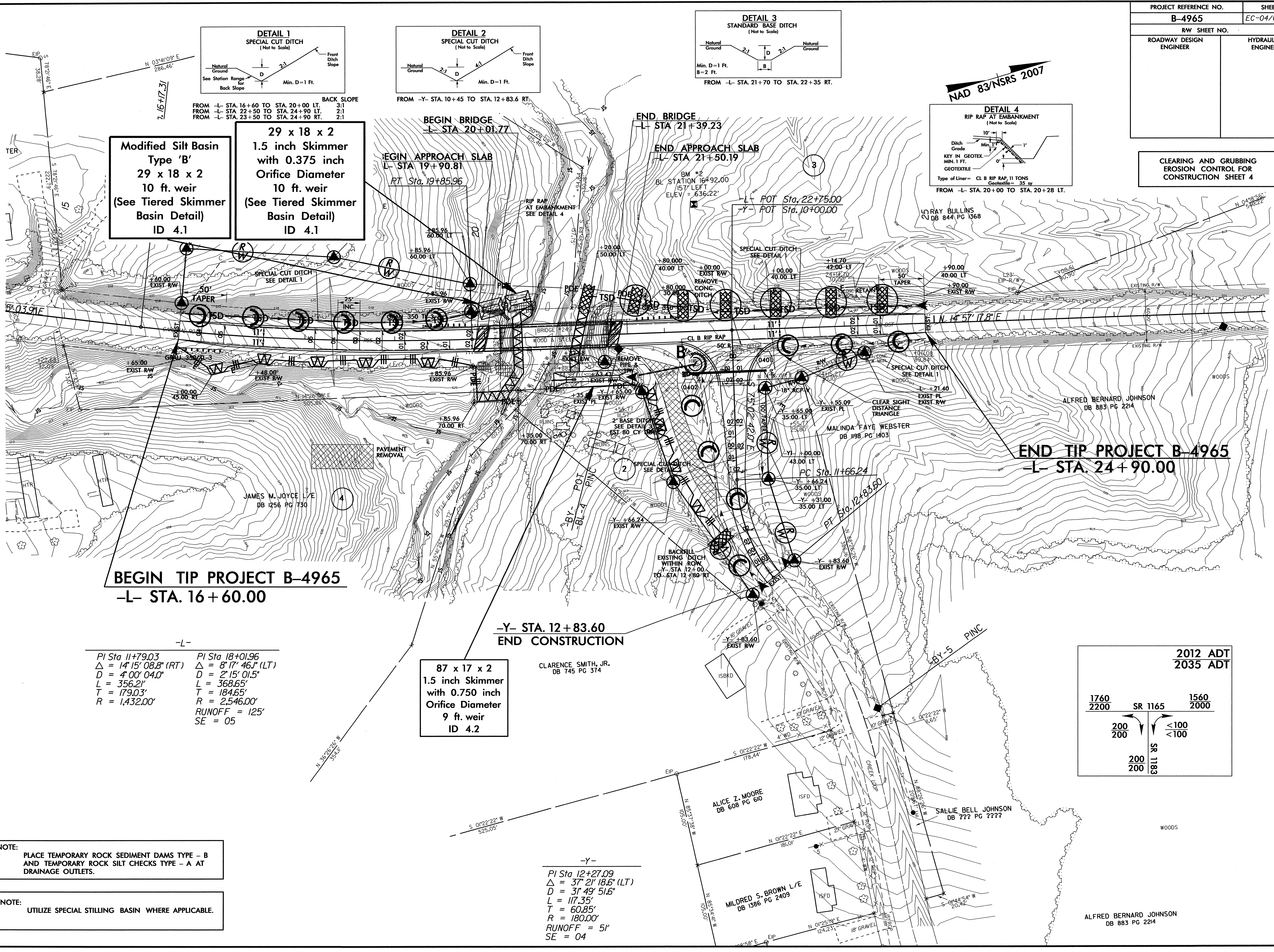
FROM -Y- STA. 10+45 TO STA. 12+83.6 RT.



FROM -L- STA. 21+70 TO STA. 22+35 RT.



FROM -L- STA. 20+00 TO STA. 20+28 LT.



**Modified Silt Basin
Type 'B'**
29 x 18 x 2
10 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.1

**29 x 18 x 2
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
10 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.1**

BEGIN BRIDGE
-L- STA. 20+01.77

END BRIDGE
-L- STA. 21+39.23

BEGIN APPROACH SLAB
-L- STA. 19+90.81

END APPROACH SLAB
-L- STA. 21+50.19

BEGIN TIP PROJECT B-4965
-L- STA. 16+60.00

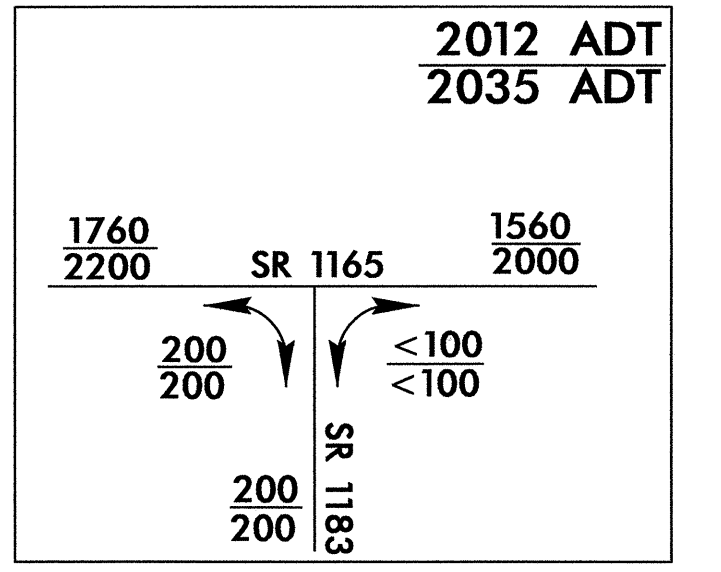
END TIP PROJECT B-4965
-L- STA. 24+90.00

-L-
PI Sta 11+79.03 PI Sta 18+01.96
Δ = 14' 15" 08.8" (RT) Δ = 8' 17" 46.1" (LT)
D = 4' 00" 04.0" D = 2' 15" 01.5"
L = 356.21' L = 368.65'
T = 179.03' T = 184.65'
R = 1,432.00' R = 2,546.00'
RUNOFF = 125'
SE = 05

**87 x 17 x 2
1.5 inch Skimmer
with 0.750 inch
Orifice Diameter
9 ft. weir
ID 4.2**

-Y- STA. 12+83.60
END CONSTRUCTION

CLARENCE SMITH, JR.
DB 745 PG 374



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

NOTE:
UTILIZE SPECIAL STILLING BASIN WHERE APPLICABLE.

-Y-
PI Sta 12+27.09
Δ = 37' 21" 18.6" (LT)
D = 3' 49" 51.6"
L = 117.35'
T = 60.85'
R = 180.00'
RUNOFF = 51'
SE = 04

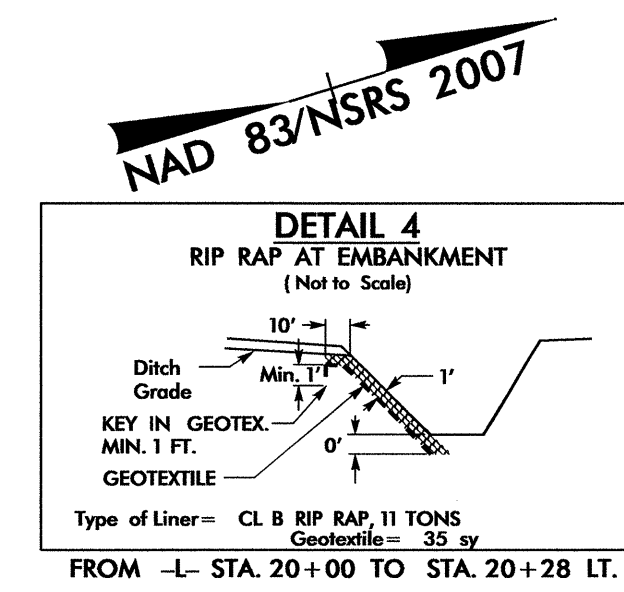
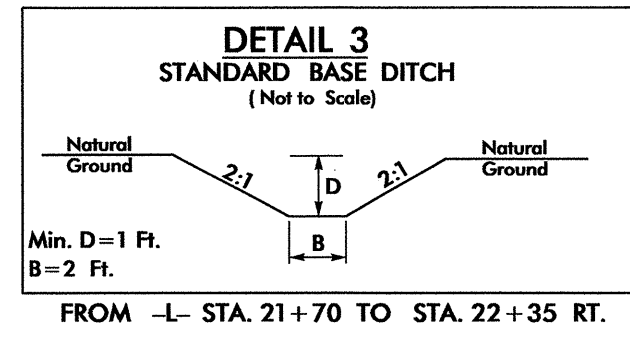
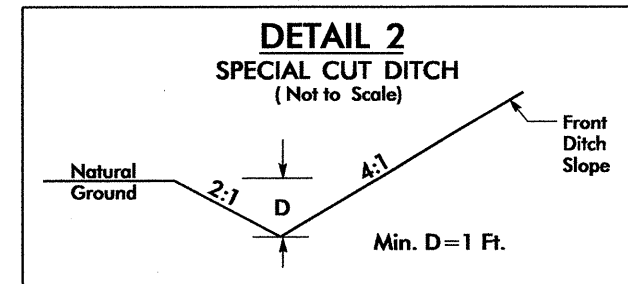
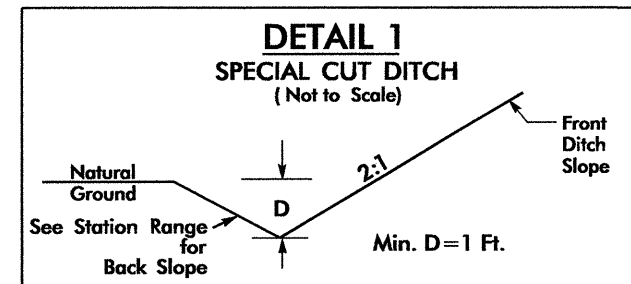
ALFRED BERNARD JOHNSON
DB 883 PG 224

8/17/99

REVISIONS

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PROJECT REFERENCE NO.		SHEET NO.	
B-4965		EC-05/CONST.04	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



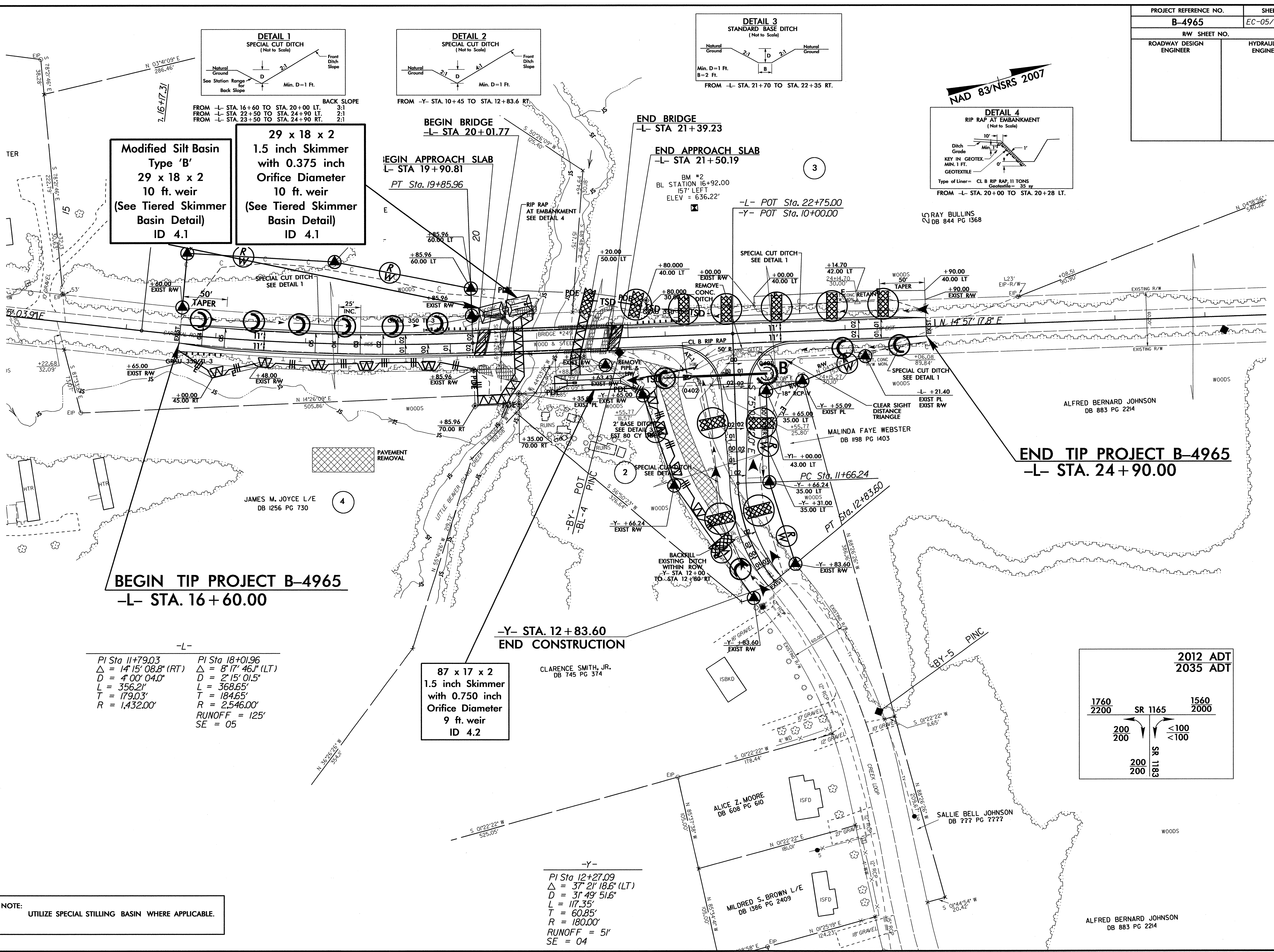
NAD 83/NSRS 2007

RAY BULLINS
DB 844 PG 1368

ALFRED BERNARD JOHNSON
DB 883 PG 2214

2012 ADT		
2035 ADT		
1760 2200	SR 1165	1560 2000
200 200	<100 <100	200 200
	SR 1183	

ALFRED BERNARD JOHNSON
DB 883 PG 2214



BACK SLOPE
FROM -L- STA 16+60 TO STA. 20+00 LT. 3:1
FROM -L- STA 22+50 TO STA. 24+90 LT. 2:1
FROM -L- STA 23+50 TO STA. 24+90 RT. 2:1

FROM -Y- STA. 10+45 TO STA. 12+83.6 RT.

BM #2
BL STATION 16+92.00
157' LEFT
ELEV = 636.22'

-L- POT Sta. 22+75.00
-Y- POT Sta. 10+00.00

BEGIN TIP PROJECT B-4965
-L- STA. 16+60.00

END TIP PROJECT B-4965
-L- STA. 24+90.00

-Y- STA. 12+83.60
END CONSTRUCTION

-L-
PI Sta 11+79.03
Δ = 14' 15" 08.8" (RT)
D = 4' 00" 04.0"
L = 356.21'
T = 179.03'
R = 1,432.00'
PI Sta 18+01.96
Δ = 8' 17" 46.1" (LT)
D = 2' 15" 01.5"
L = 368.65'
T = 184.65'
R = 2,546.00'
RUNOFF = 125'
SE = 05

87 x 17 x 2
1.5 inch Skimmer
with 0.750 inch
Orifice Diameter
9 ft. weir
ID 4.2

CLARENCE SMITH, JR.
DB 745 PG 374

-Y-
PI Sta 12+27.09
Δ = 37' 21" 18.6" (LT)
D = 31' 49" 51.6"
L = 117.35'
T = 60.85'
R = 180.00'
RUNOFF = 51'
SE = 04

NOTE:
UTILIZE SPECIAL STILLING BASIN WHERE APPLICABLE.

8/17/99

REVISIONS

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