

TIP PROJECT: B-4304

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

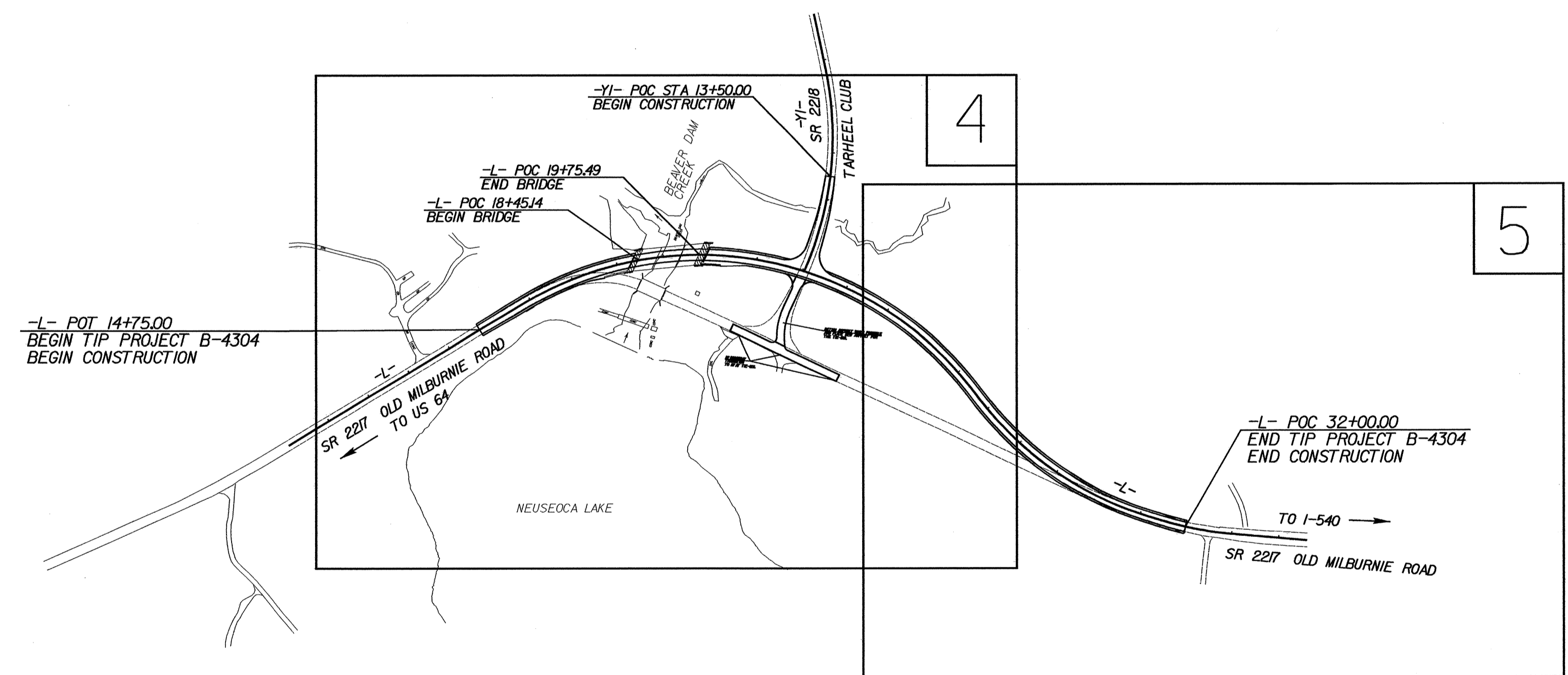
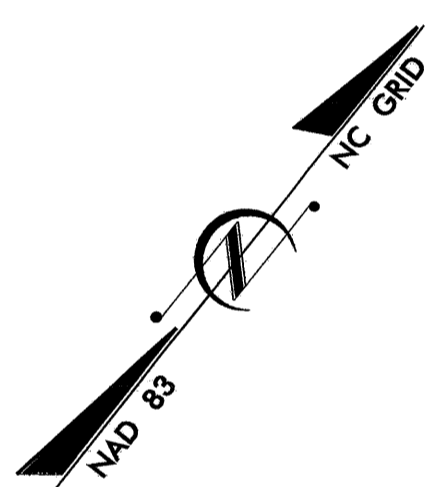
**LOCATION: BRIDGE NO. 143 OVER BEAVER DAM CREEK
 ON SR 2217 (OLD MILBURNIE ROAD)**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4304	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	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	—
1630.01	Riser Basin	⊙
1630.01	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	⊗
1633.01	Temporary Rock Silt Check Type-B	▶
1633.01	Wattle	—
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	▭

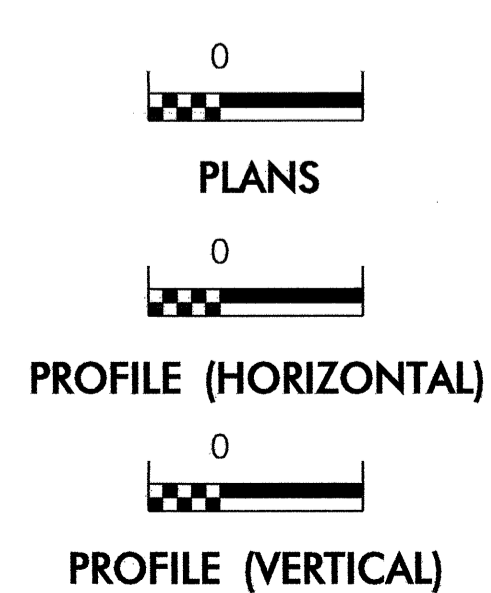


**THIS PROJECT CONTAINS
 EROSION CONTROL PLANS
 FOR CLEARING AND
 GRUBBING PHASE OF
 CONSTRUCTION.**

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

**ENVIRONMENTALLY
 SENSITIVE AREA(S) EXIST
 ON THIS PROJECT**
*Refer To E. C. Special Provisions
 for Special Considerations.*

GRAPHIC SCALE



ROADSIDE ENVIRONMENTAL UNIT
 DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

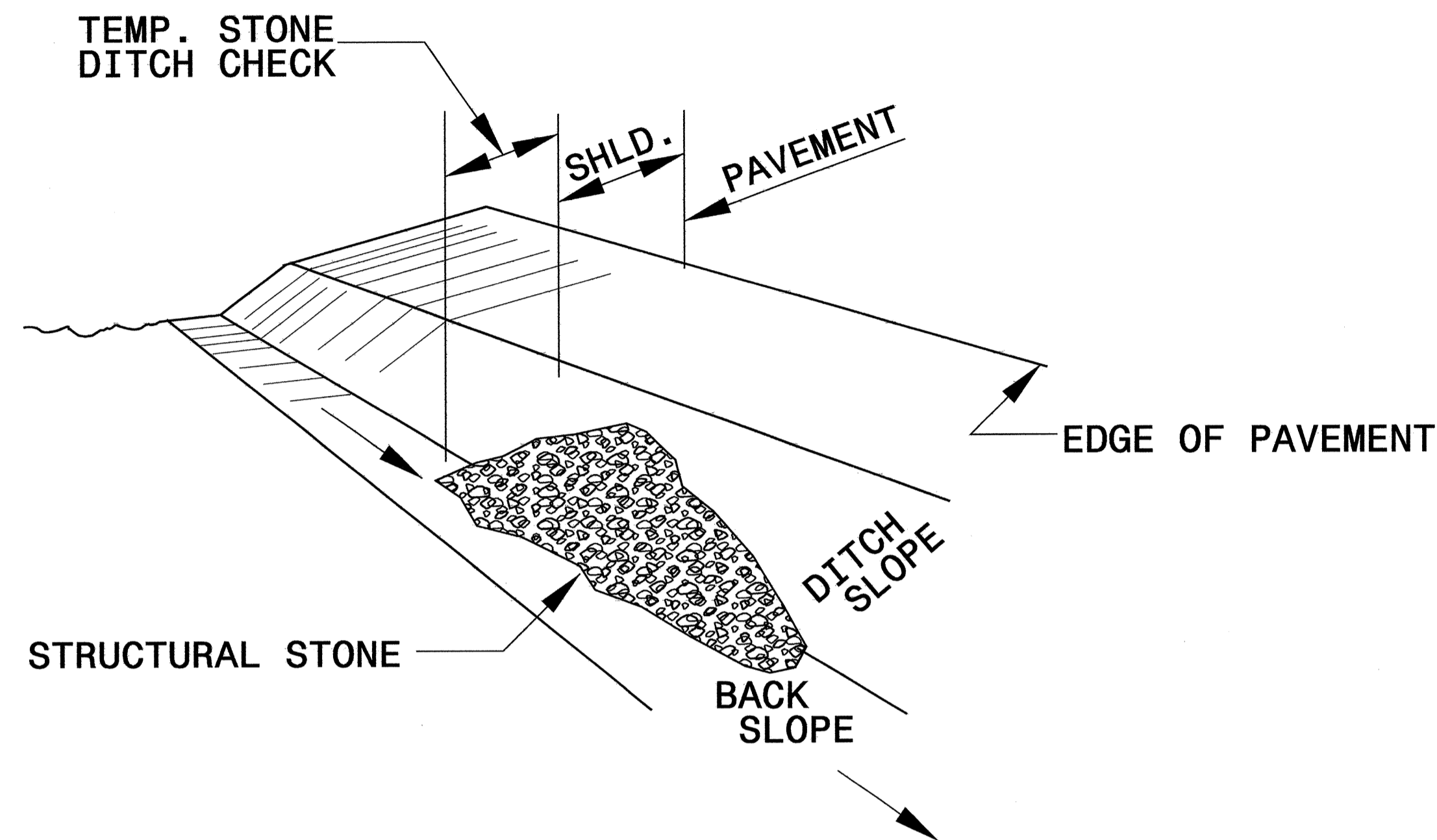
Prepared in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
 1 South Wilmington St.
 Raleigh, NC 27611
2006 STANDARD SPECIFICATIONS

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 July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1632.03 Rock Inlet Sediment Trap Type C
1606.01 Special Sediment Control Fence	1633.01 Temporary Rock Silt Check Type A
1607.01 Gravel Construction Entrance	
1630.05 Temporary Diversion	

PROJECT REFERENCE NO. B-4304	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

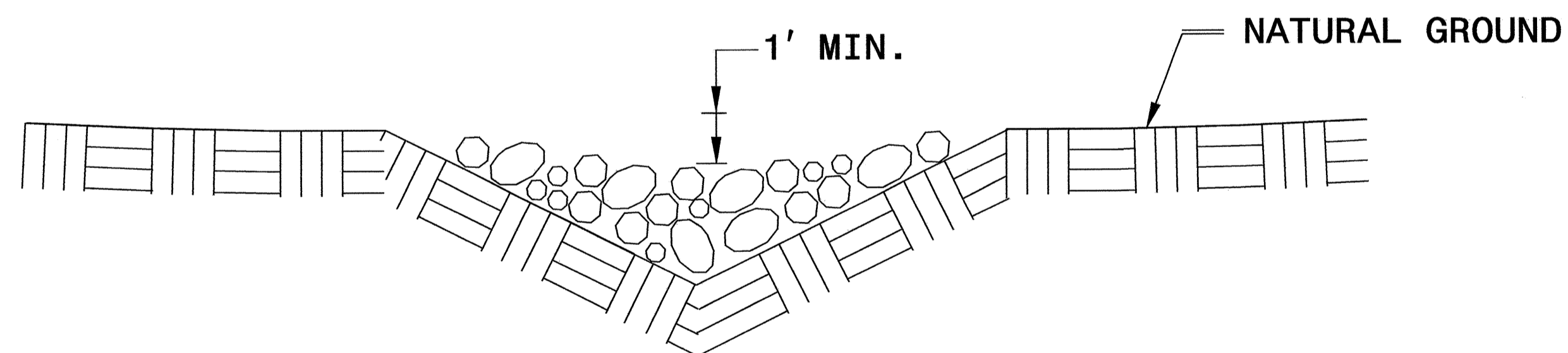


ISOMETRIC VIEW

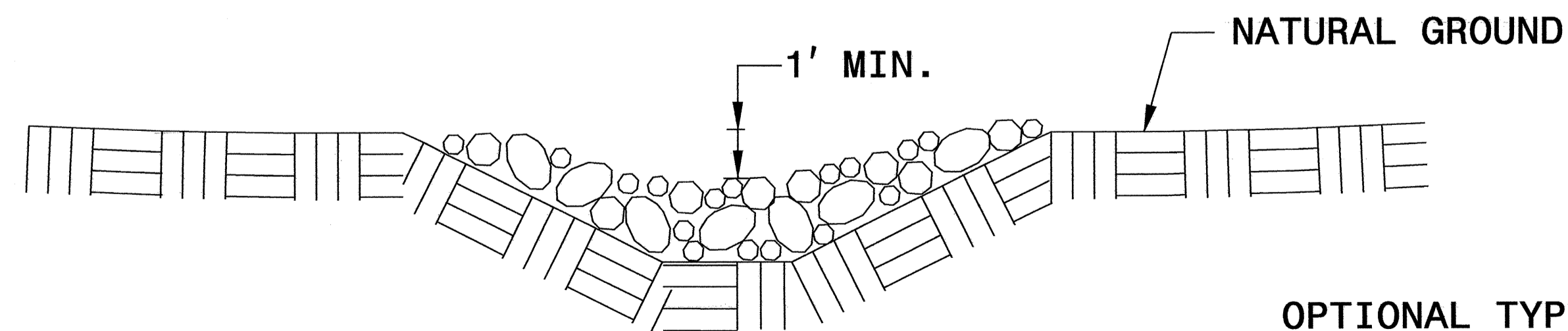
NOTES:

USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

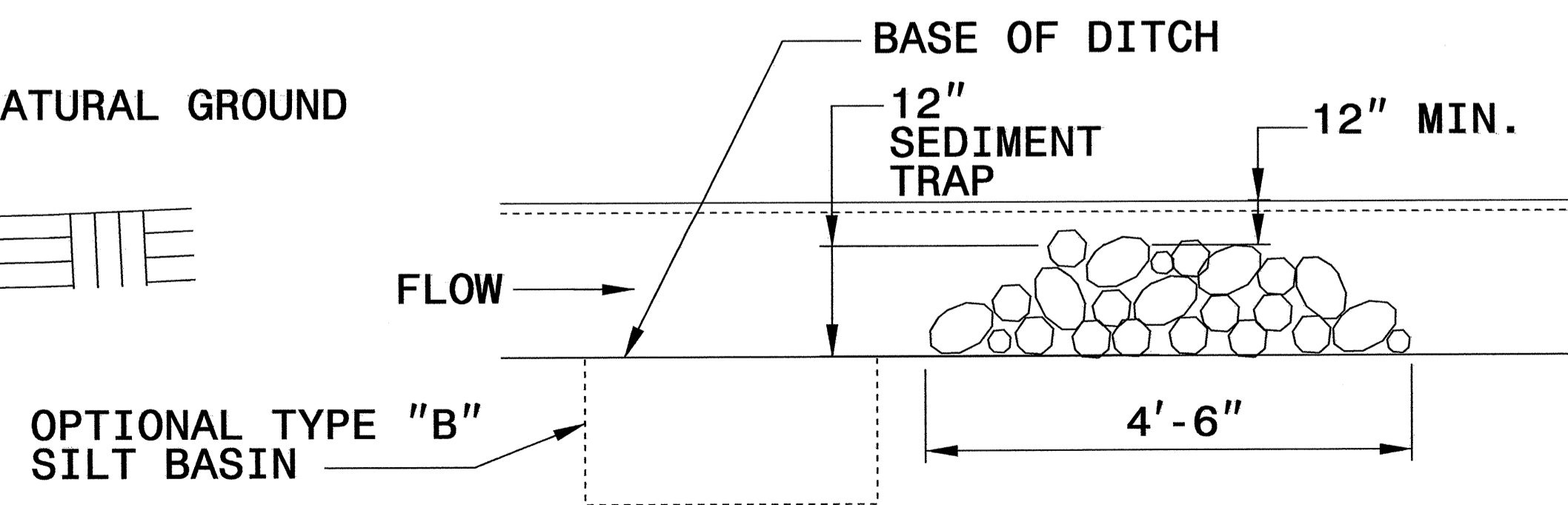
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



**CROSS SECTION
VEE DITCH**



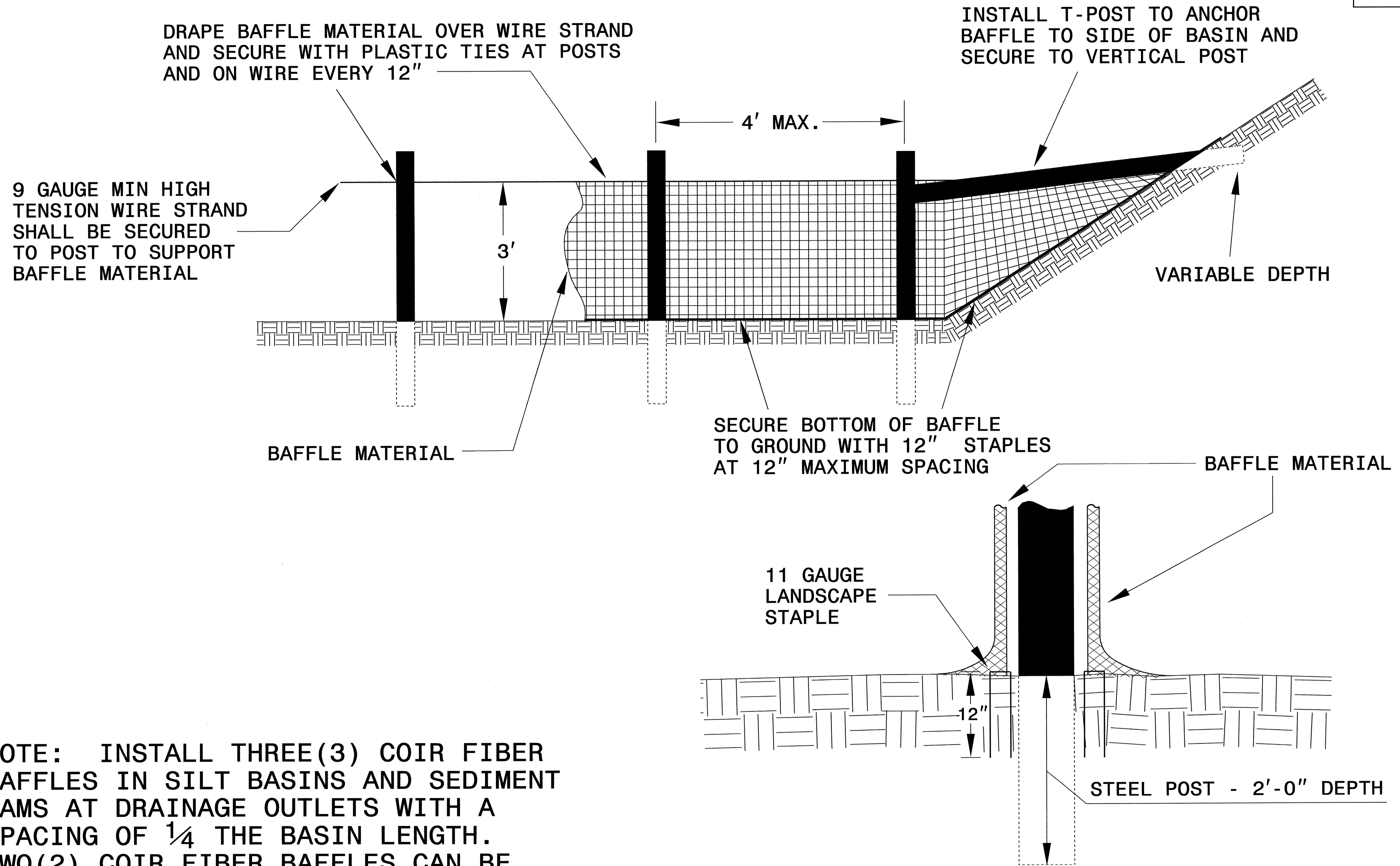
**CROSS SECTION
TRAPEZOIDAL DITCH**



ELEVATION VIEW

PROJECT REFERENCE NO. B-4304	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL

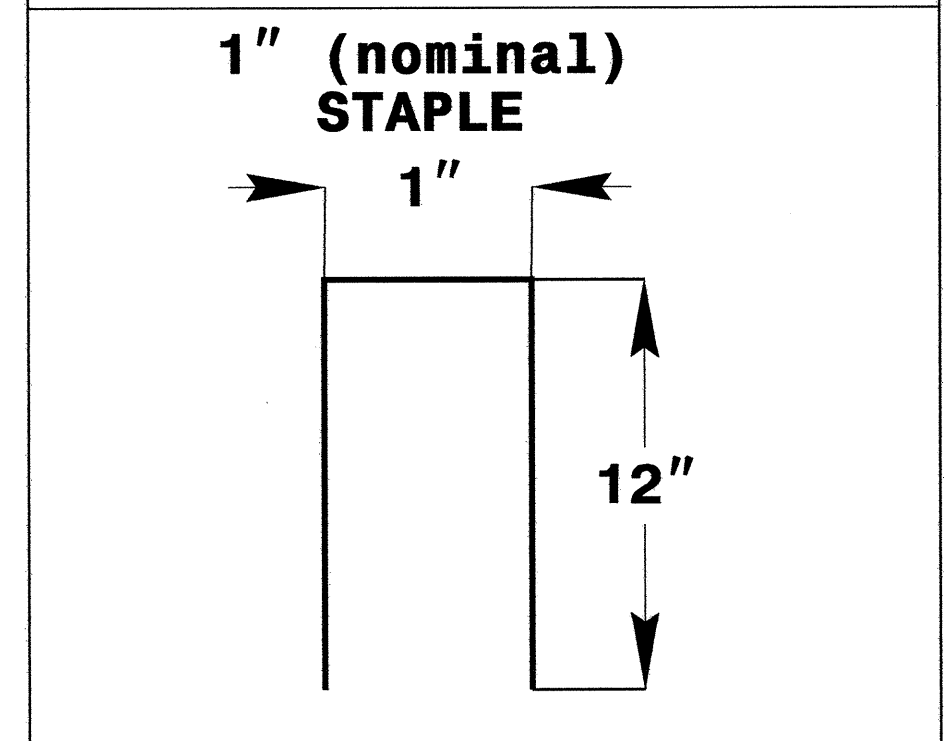
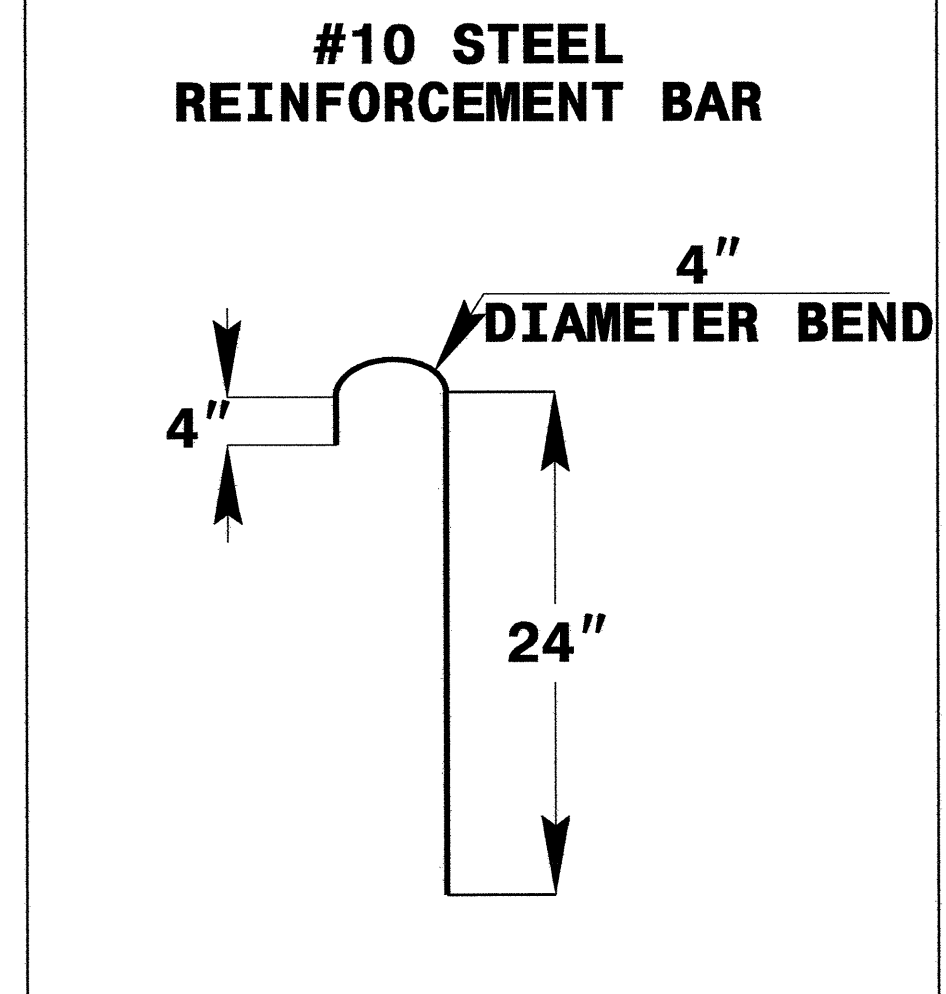
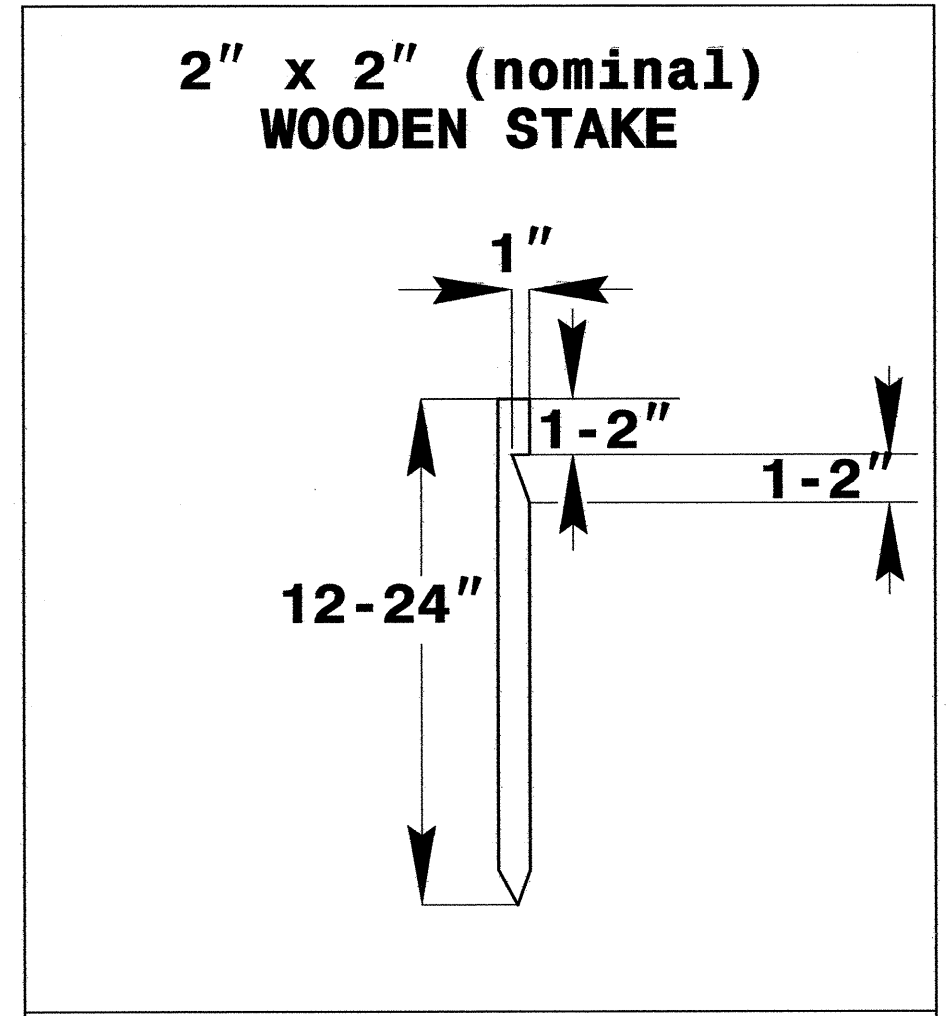
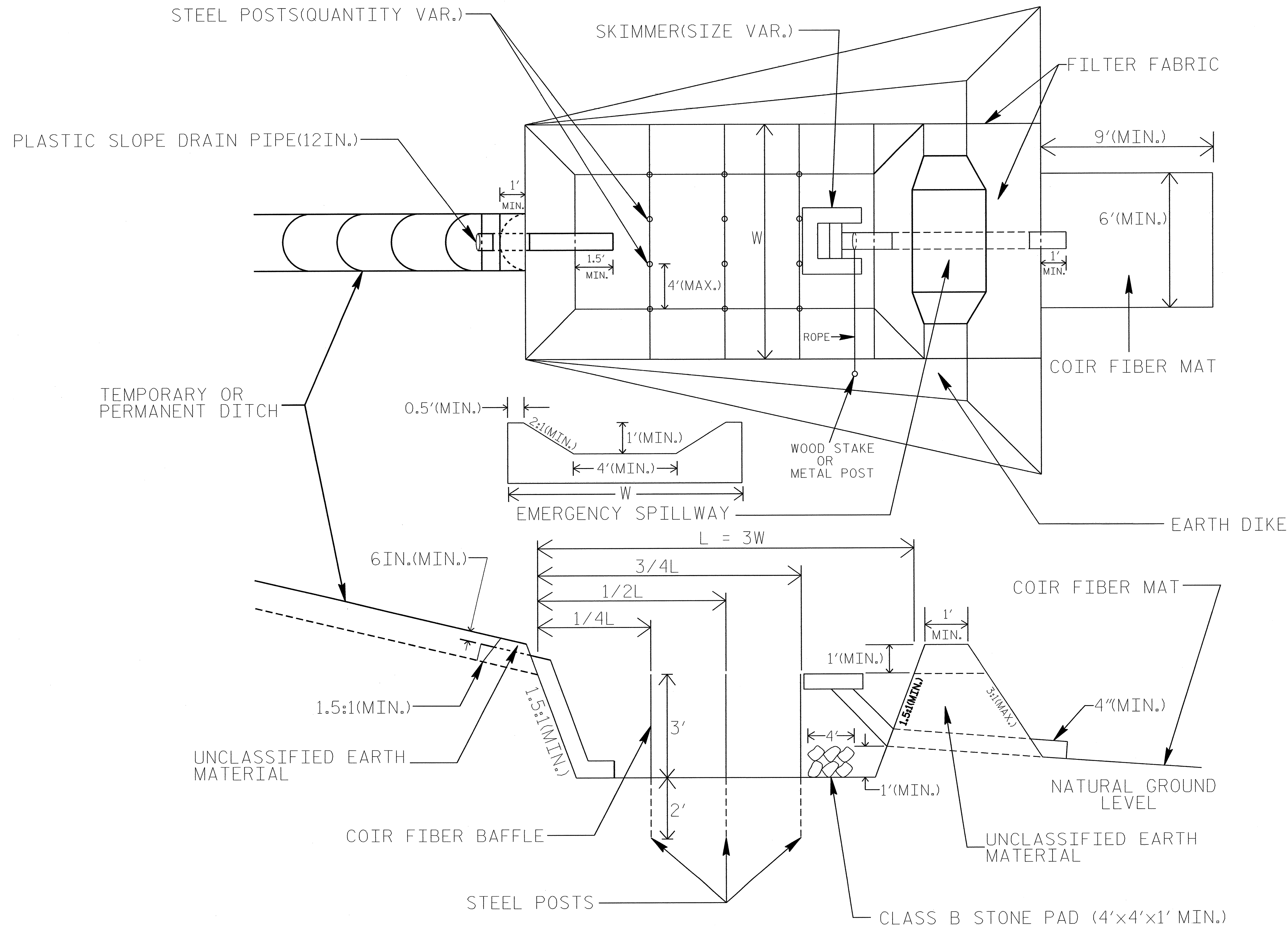


NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF $\frac{1}{4}$ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF $\frac{1}{3}$ THE BASIN LENGTH.

BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES

SKIMMER BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. B-4304	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



COIR FIBER MAT ANCHOR OPTIONS

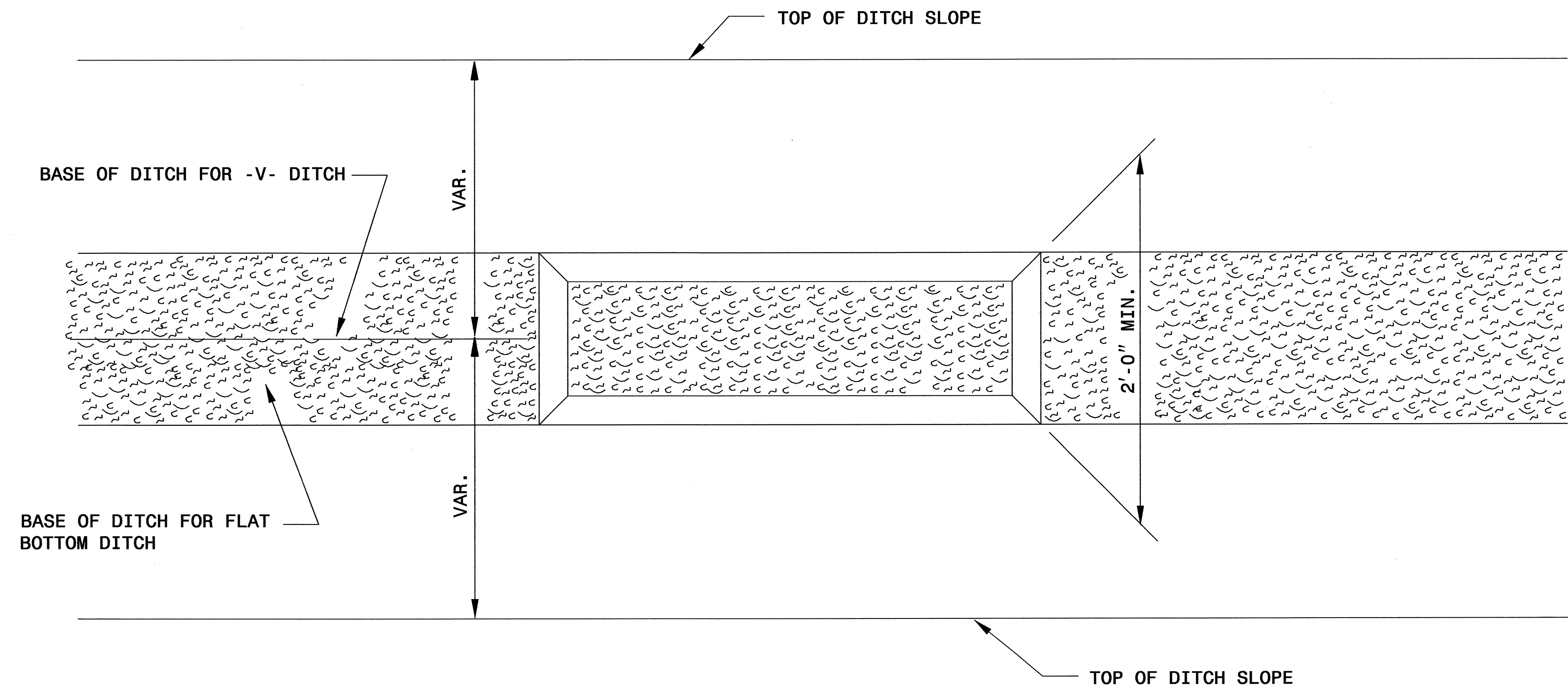
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

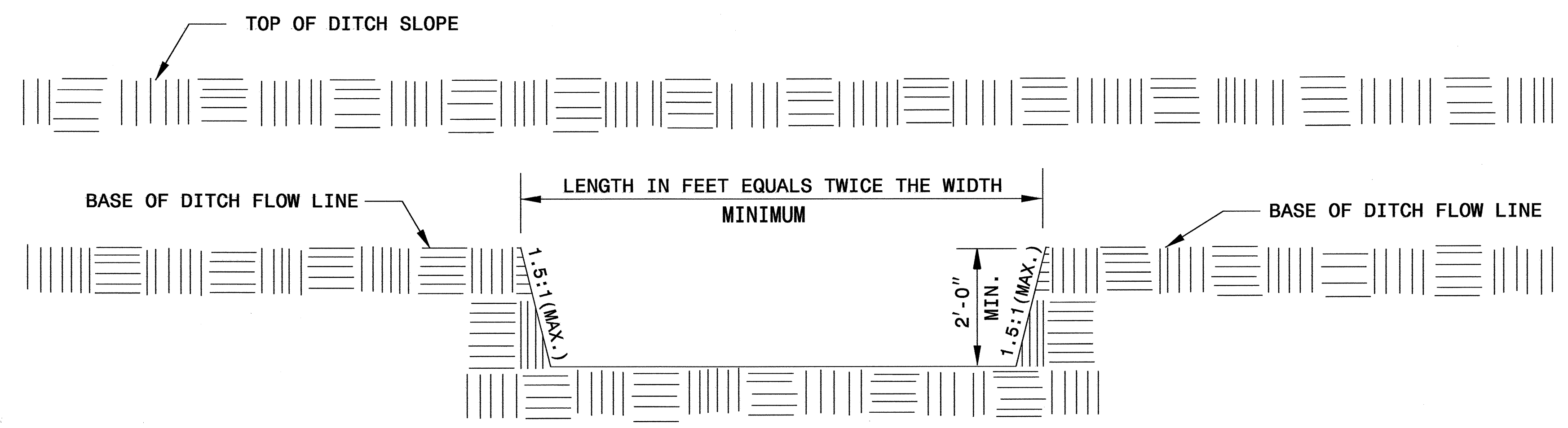
NOT TO SCALE

PROJECT REFERENCE NO. B-4304	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT BASIN 'B' DETAIL



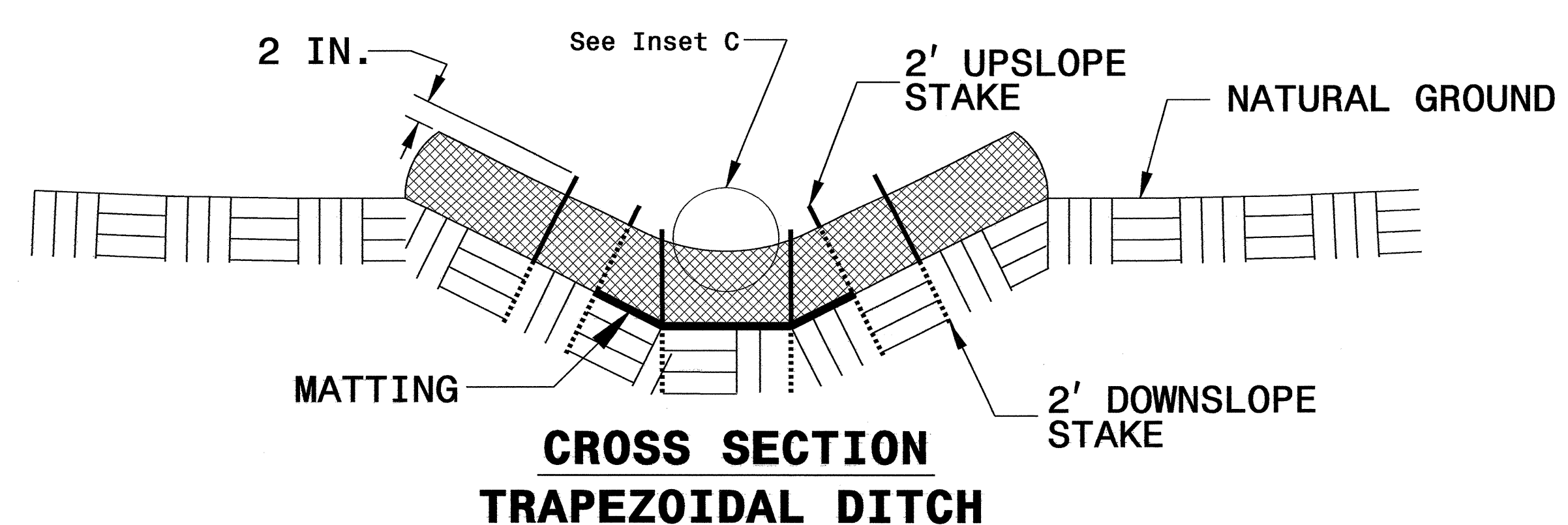
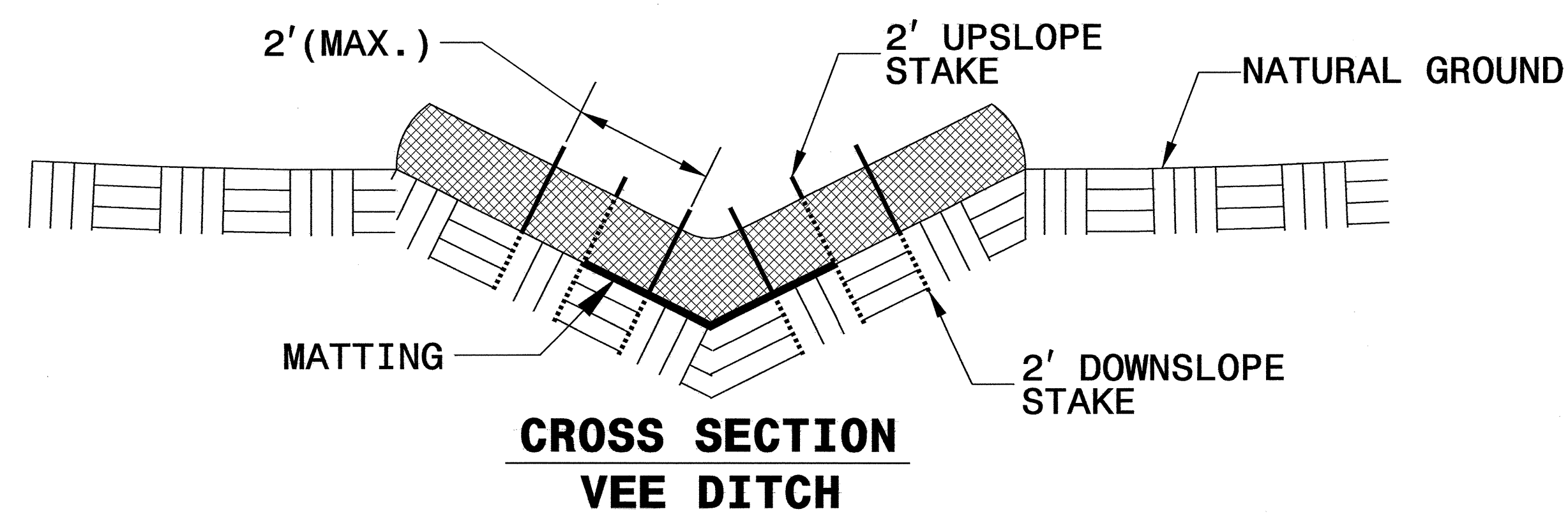
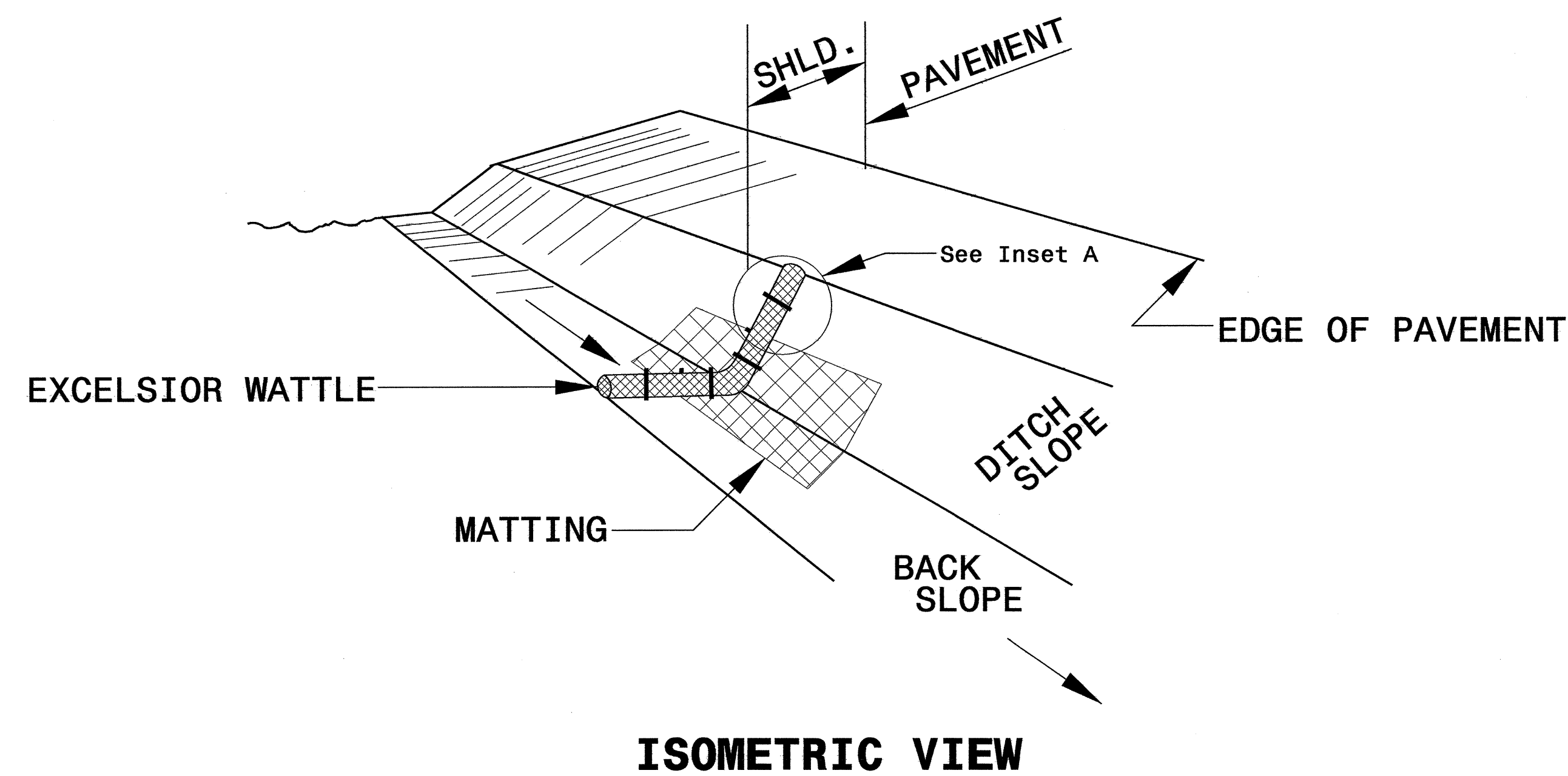
PLAN



ELEVATION

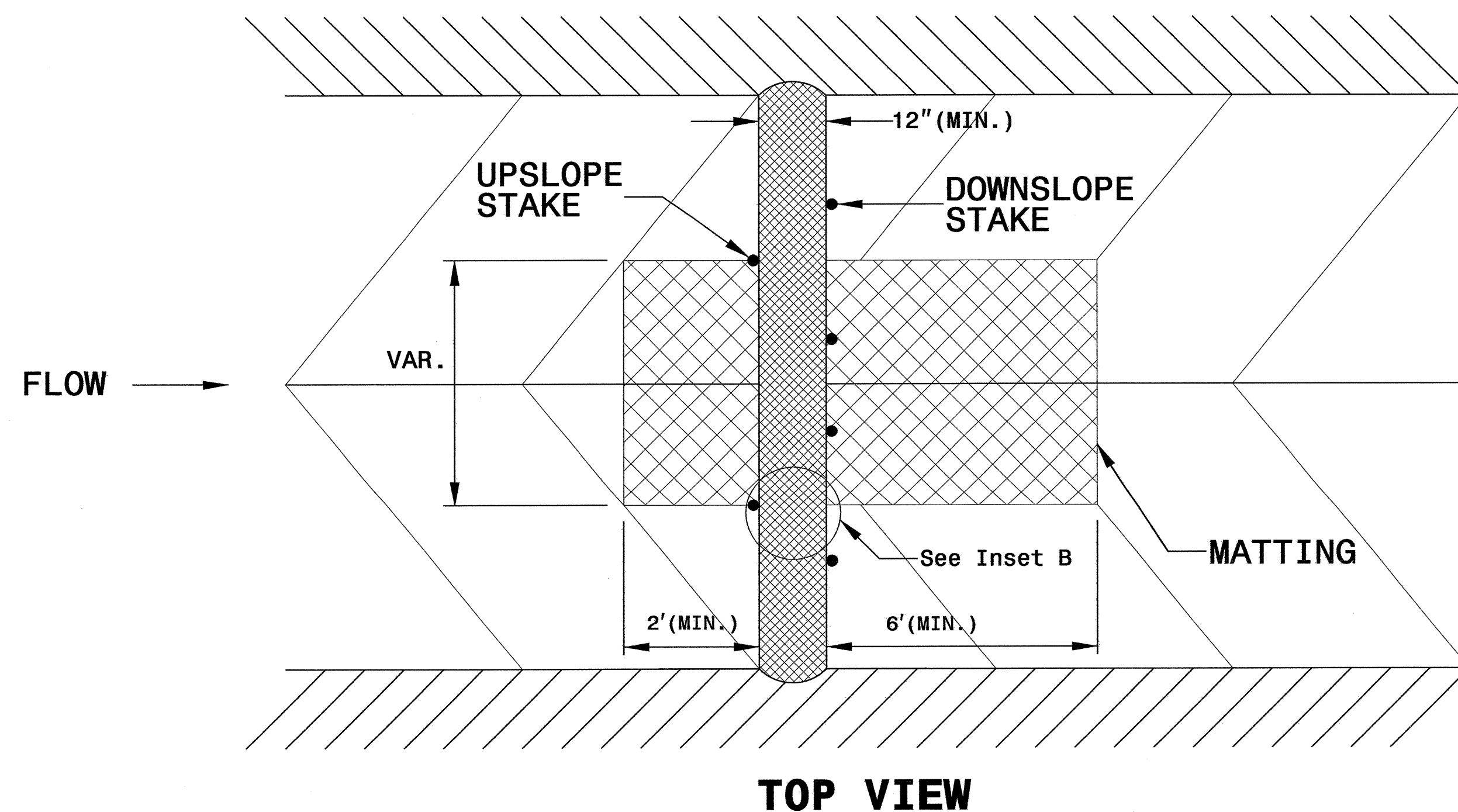
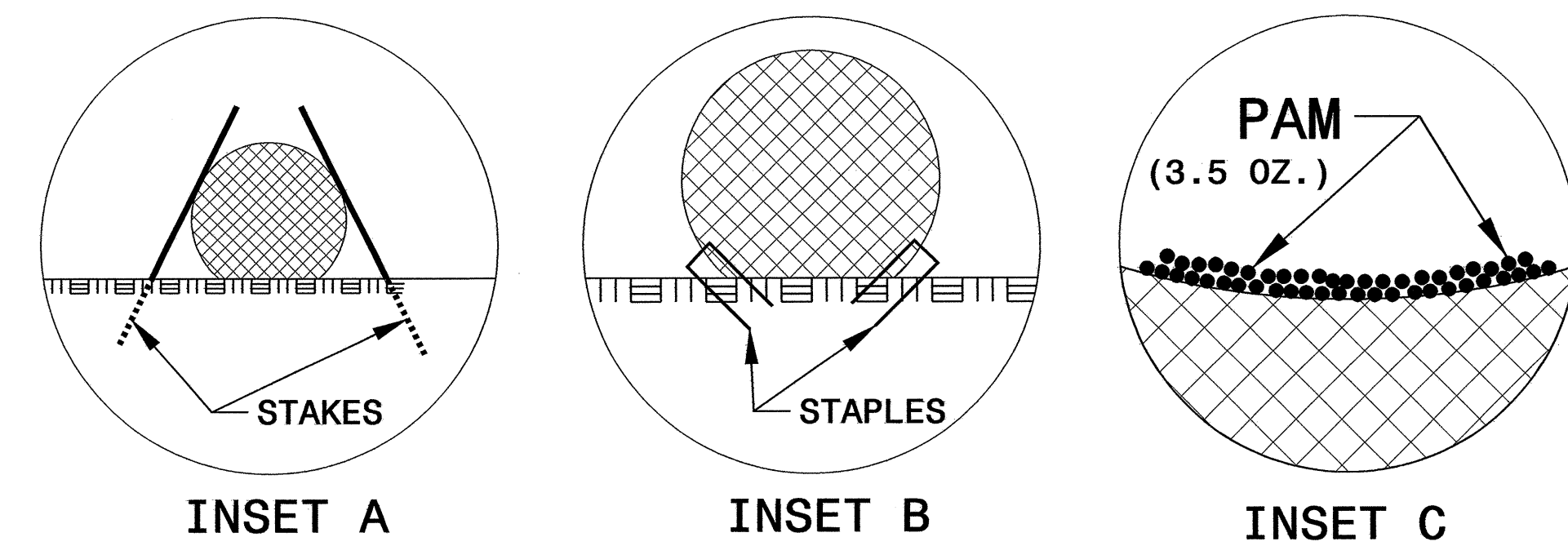
PROJECT REFERENCE NO. B-4304	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE DETAIL



NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.
- 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.
- INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.25 IN.



NOTE: UTILIZE TEMPORARY ROCK SILT CHECK TYPE - A AND/OR SKIMMER BASIN AS STILLING BASIN WHERE APPLICABLE.

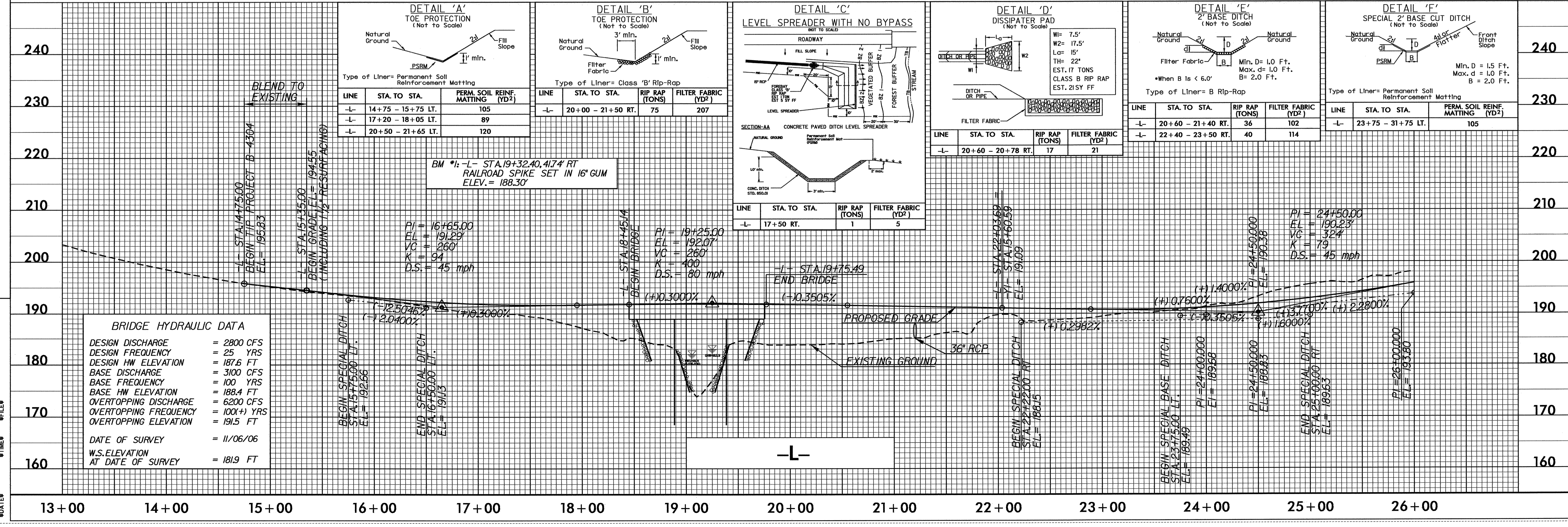
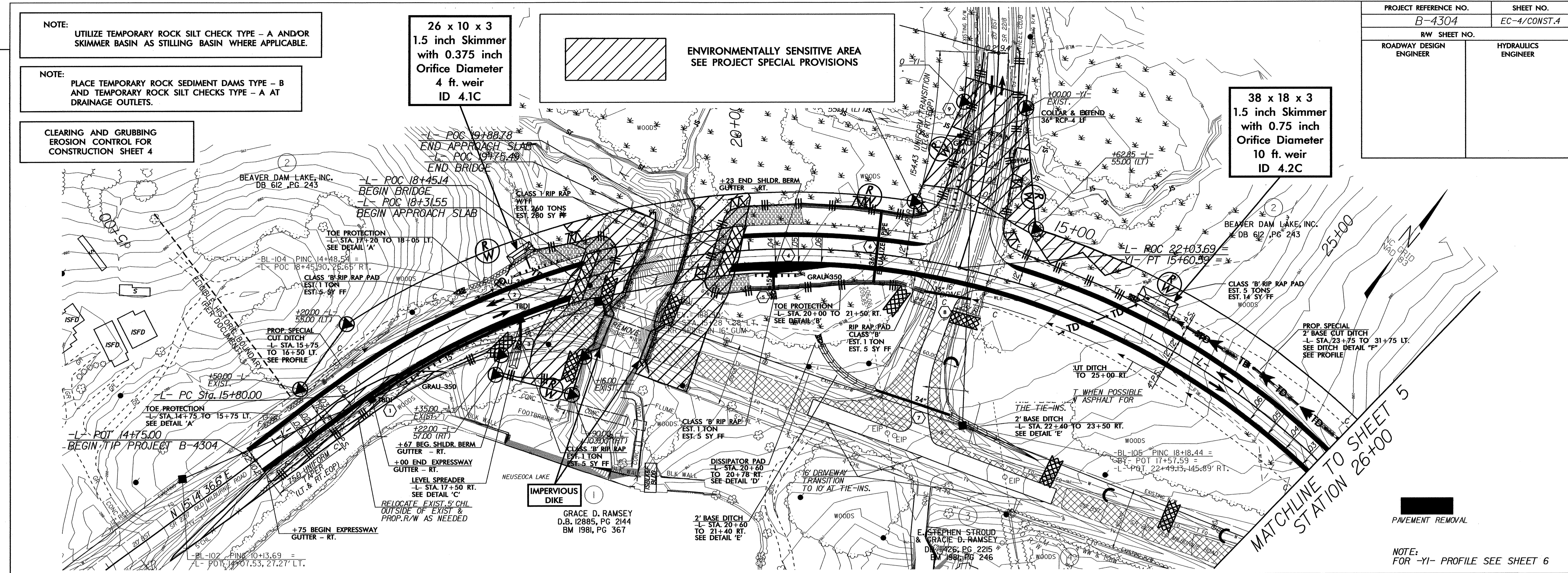
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

26 x 10 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 4.1C

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

38 x 18 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
10 ft. weir
ID 4.2C



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 2800 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 187.6 FT
BASE DISCHARGE	= 3100 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 188.4 FT
OVERTOPPING DISCHARGE	= 6200 CFS
OVERTOPPING FREQUENCY	= 100(+)-YRS
OVERTOPPING ELEVATION	= 191.5 FT
DATE OF SURVEY	= 11/06/06
W.S. ELEVATION AT DATE OF SURVEY	= 181.9 FT

DETAIL 'A' TOE PROTECTION
(Not to Scale)

LINE	STA. TO STA.	PERM. SOIL REINF. MATTING (YD ²)
-L-	14+75 - 15+75 LT.	105
-L-	17+20 - 18+05 LT.	89
-L-	20+50 - 21+65 LT.	120

DETAIL 'B' TOE PROTECTION
(Not to Scale)

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD ²)
-L-	20+00 - 21+50 RT.	75	207

DETAIL 'C' LEVEL SPREADER WITH NO BYPASS
(Not to Scale)

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD ²)
-L-	17+50 RT.	1	5

DETAIL 'D' DISSIPATOR PAD
(Not to Scale)

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD ²)
-L-	20+60 - 20+78 RT.	17	21

DETAIL 'E' 2' BASE DITCH
(Not to Scale)

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD ²)
-L-	20+60 - 21+40 RT.	36	102
-L-	22+40 - 23+50 RT.	40	114

DETAIL 'E' SPECIAL 2' BASE CUT DITCH
(Not to Scale)

LINE	STA. TO STA.	PERM. SOIL REINF. MATTING (YD ²)
-L-	23+75 - 31+75 LT.	105

13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00

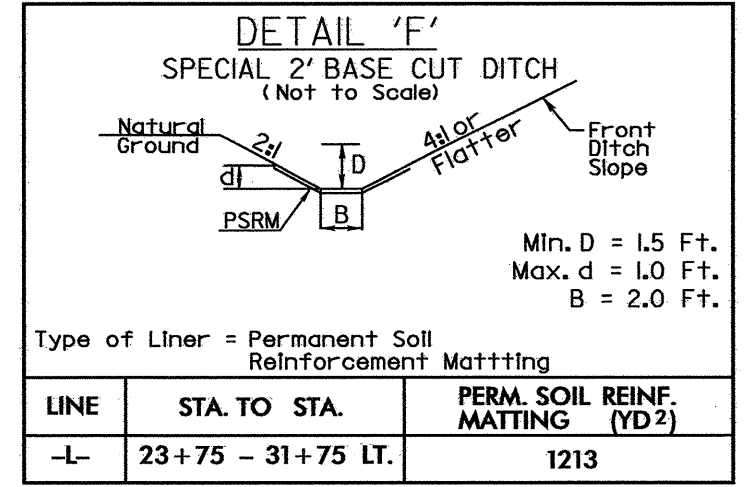
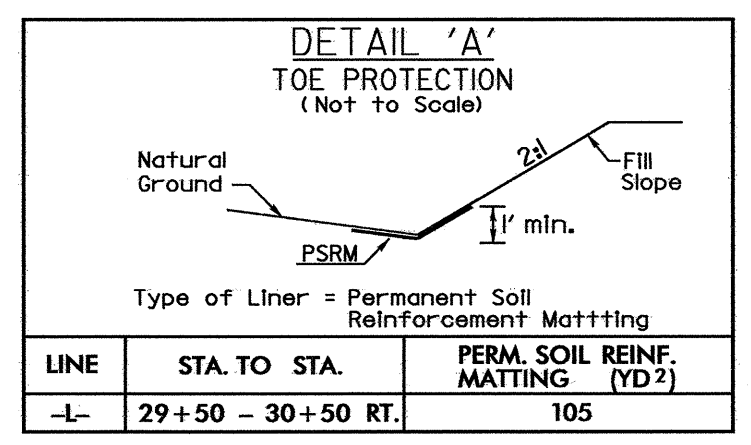
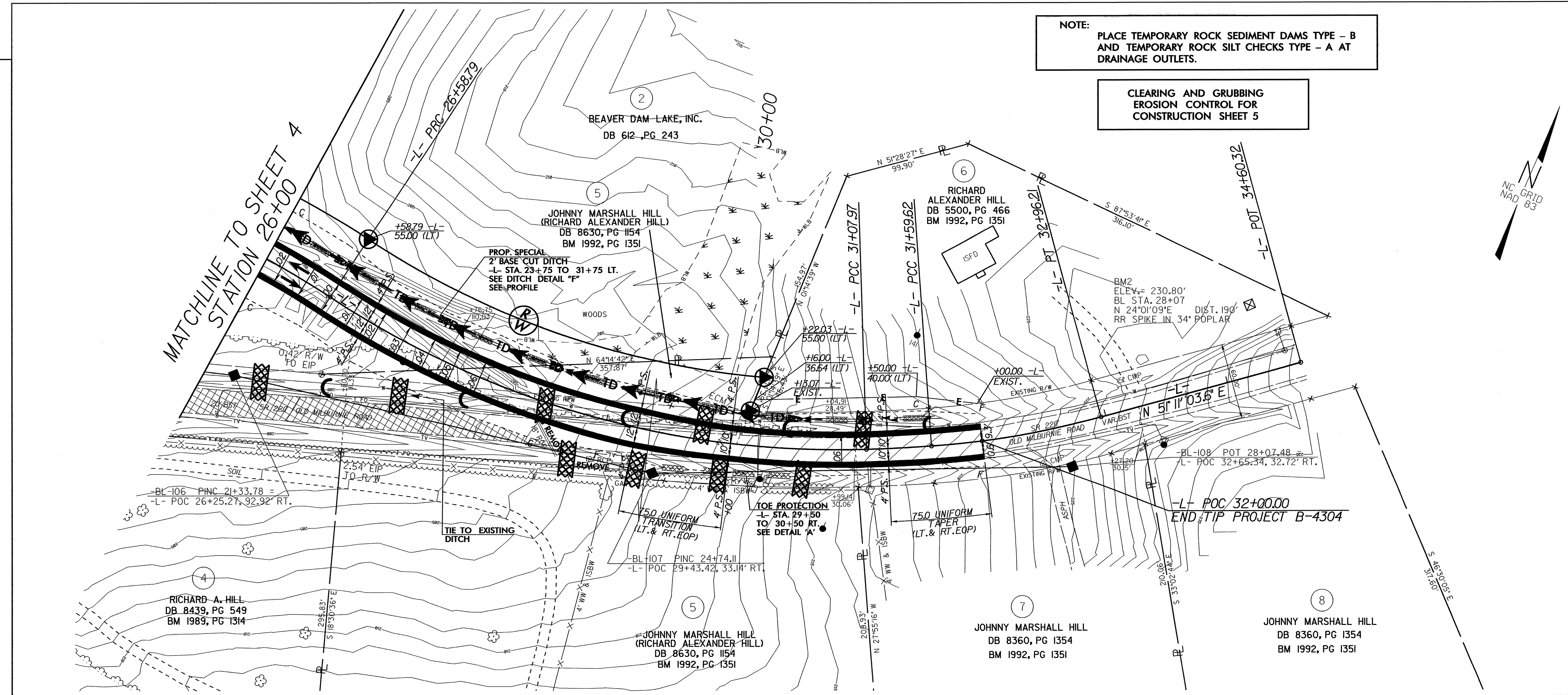
REVISIONS

DATE# TIME# FILE#

PROJECT REFERENCE NO.	SHEET NO.
B-4304	EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

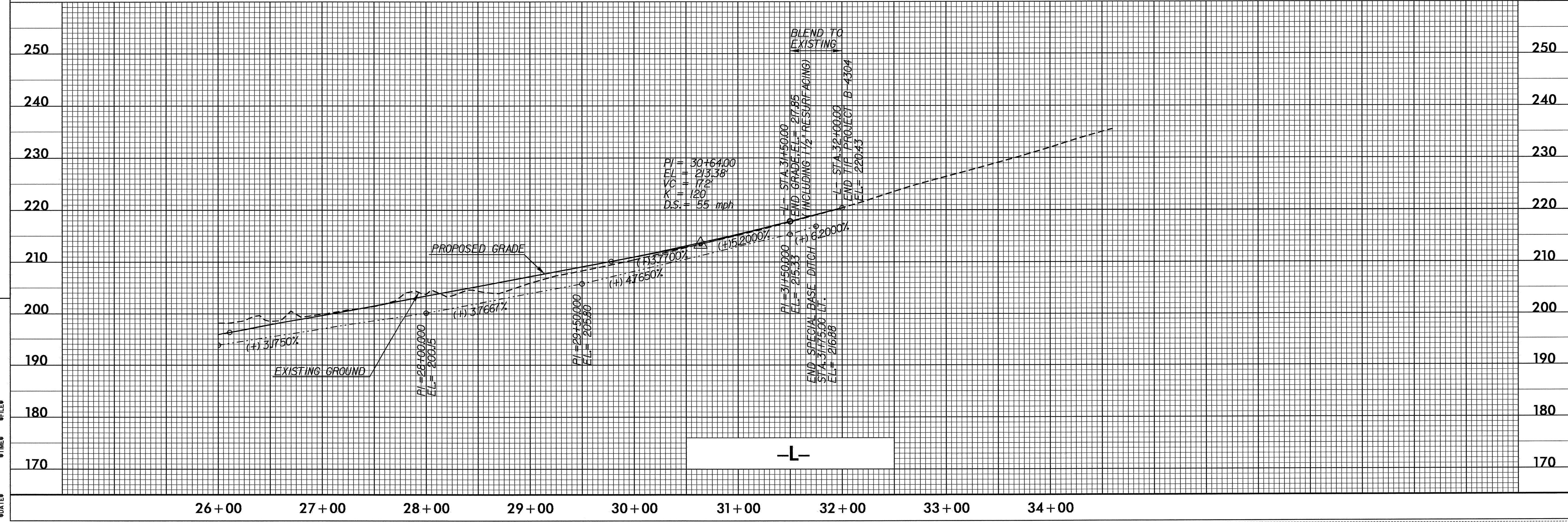
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5



PAVEMENT REMOVAL

REVISIONS



©TIMES #FILES
©DATES

NOTE: UTILIZE TEMPORARY ROCK SILT CHECK TYPE - A AND/OR SKIMMER BASIN AS STILLING BASIN WHERE APPLICABLE.

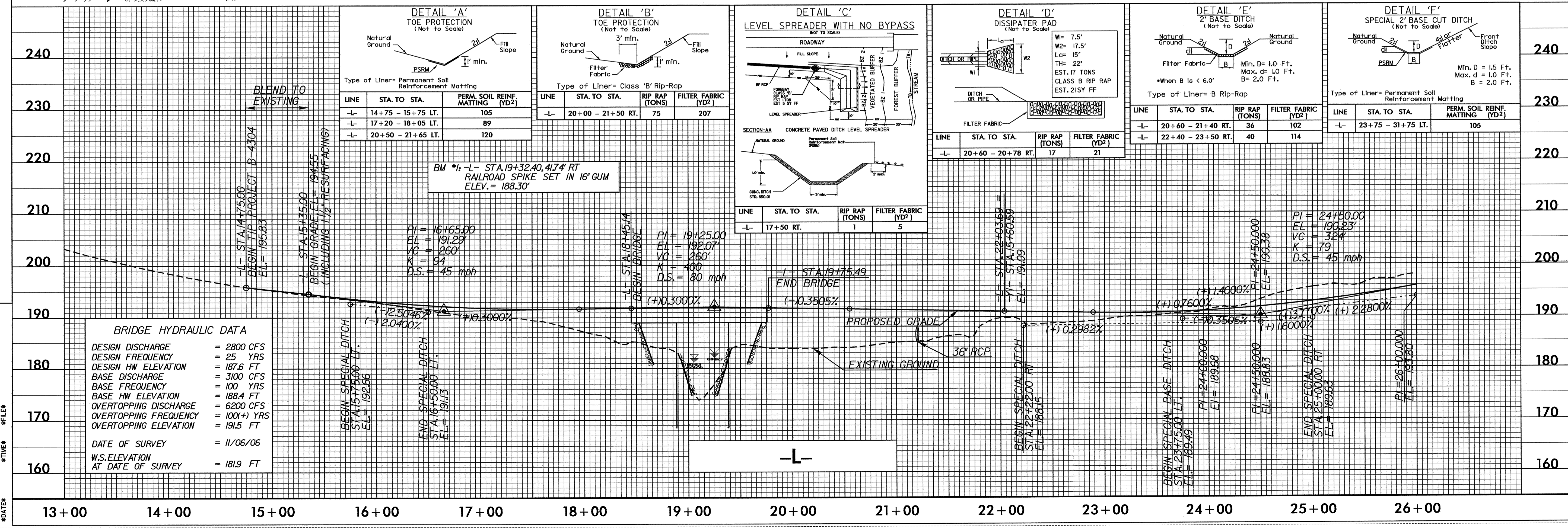
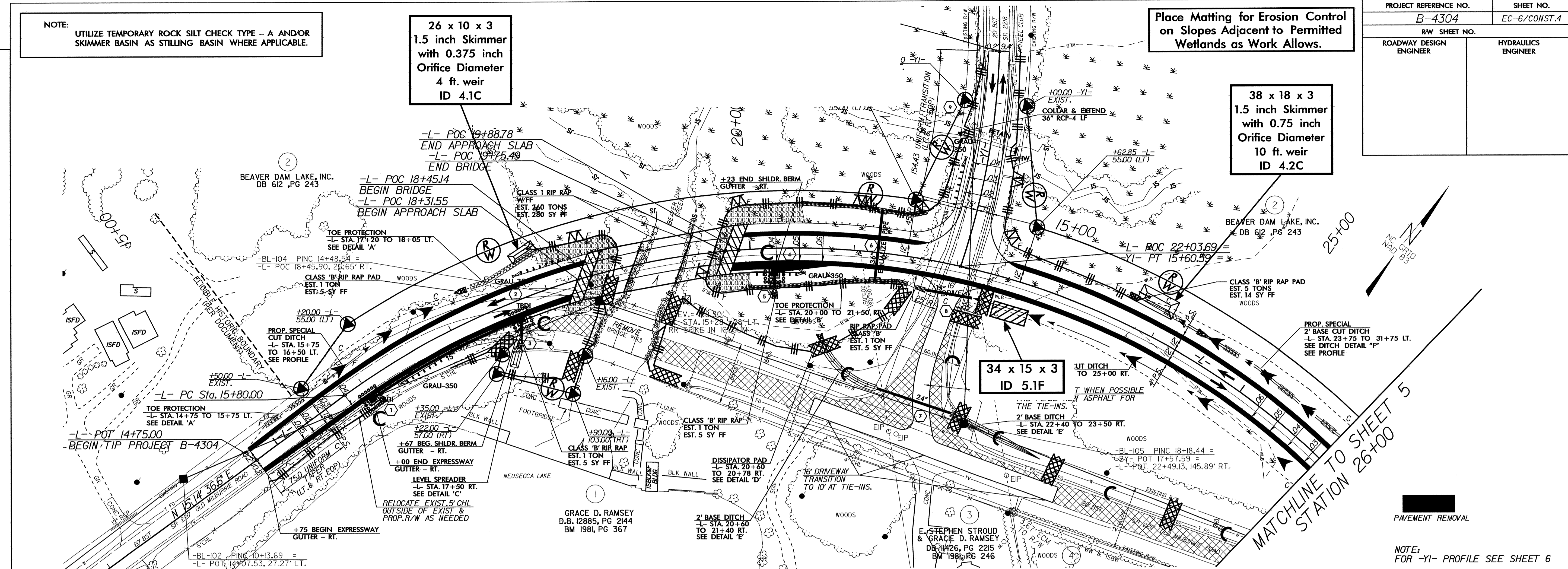
26 x 10 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 4.1C

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

38 x 18 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
10 ft. weir
ID 4.2C

34 x 15 x 3
ID 5.1F

PROJECT REFERENCE NO.	SHEET NO.
B-4304	EC-6/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



REVISIONS

DATE

BY

TIME

NOTE: FOR -YI- PROFILE SEE SHEET 6

PAVEMENT REMOVAL

MATCHLINE TO SHEET 5
STATION 26+00

BEAVER DAM LAKE, INC.
DB 612, PG 243

GRACE D. RAMSEY
D.B. 12885, PG 2144
BM 1981, PG 367

E. STEPHEN STROUD & GRACE D. RAMSEY
DB 1426, PG 2215
BM 1986, PG 246

BEAVER DAM LAKE, INC.
DB 612, PG 243

BL-104 PINC 14+48.54 =
L- POC 18+45.90, 26.65' RT.

BL-104 PINC 15+48.54 =
L- POC 18+45.90, 26.65' RT.

BL-104 PINC 15+48.54 =
L- POC 18+45.90, 26.65' RT.

BL-102 PINC 14+48.54 =
L- POT 17+57.59 =

BL-102 PINC 14+48.54 =
L- POT 17+57.59 =

BL-102 PINC 14+48.54 =
L- POT 17+57.59 =

BL-102 PINC 14+48.54 =
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L- POT 17+57.59 =

BL-102 PINC 14+48.54 =
L- POT 17+57.59 =

BL-102 PINC 14+48.54 =
L- POT 17+57.59 =

BM *1: -L- STA. 19+32.40, 4174 RT
RAILROAD SPIKE SET IN 16" GUM
ELEV. = 188.30'

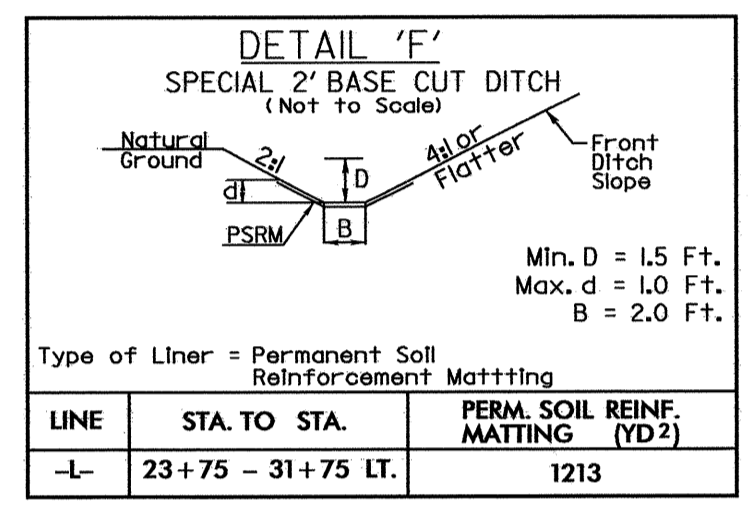
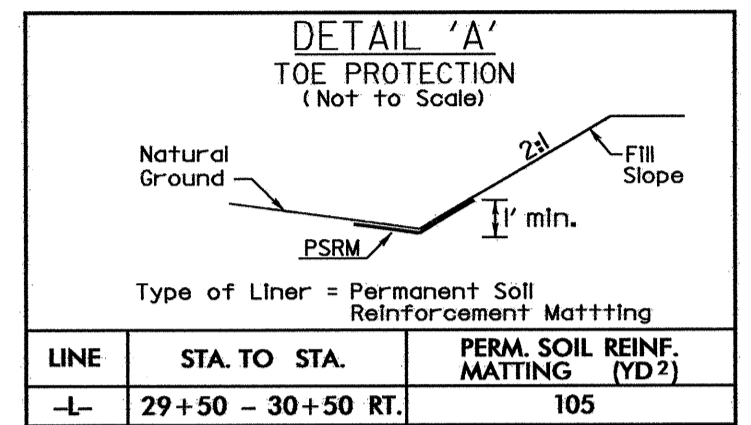
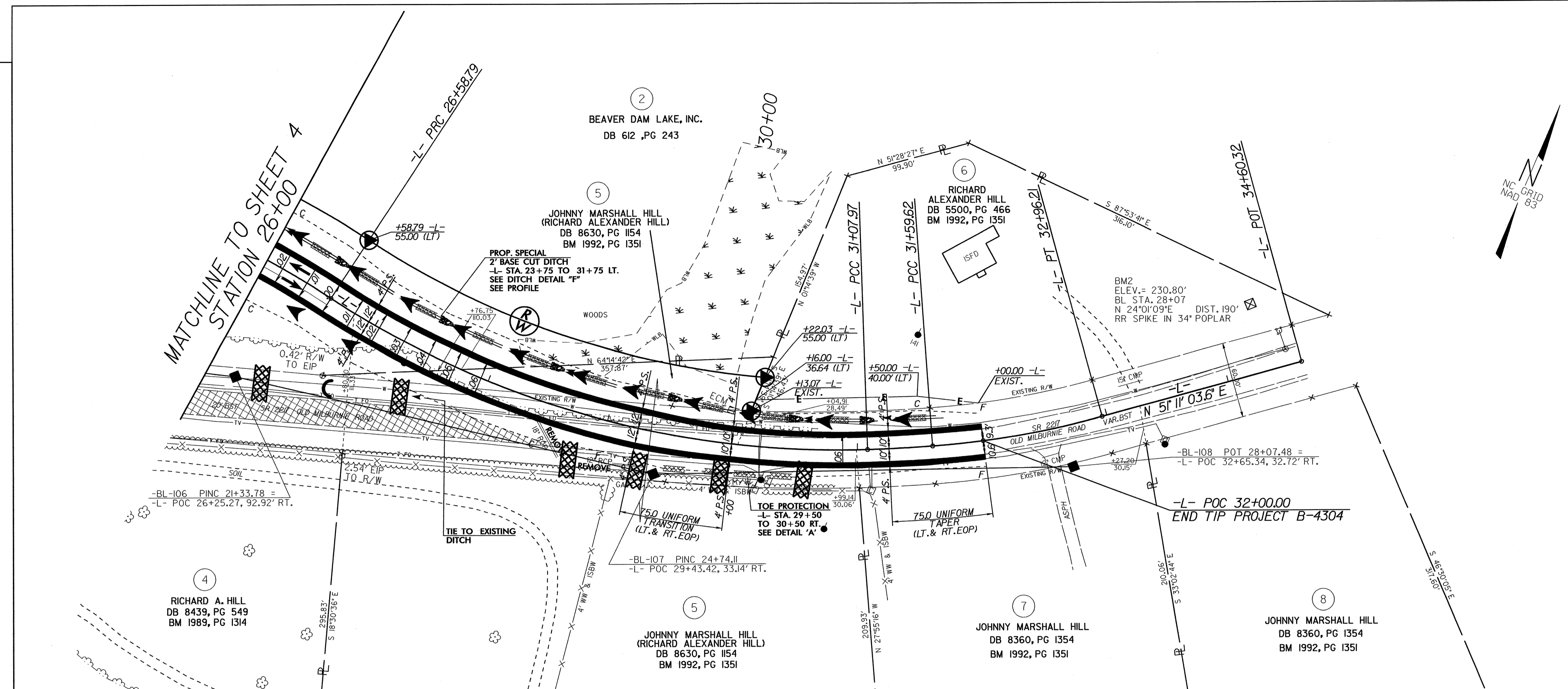
PI = 16+65.00
EL = 191.29
VC = 260'
K = 94
D.S. = 45 mph

PI = 19+25.00
EL = 192.07
VC = 260'
K = 400
D.S. = 80 mph

PI = 24+50.00
EL = 190.23'
VC = 324'
K = 79
D.S. = 45 mph

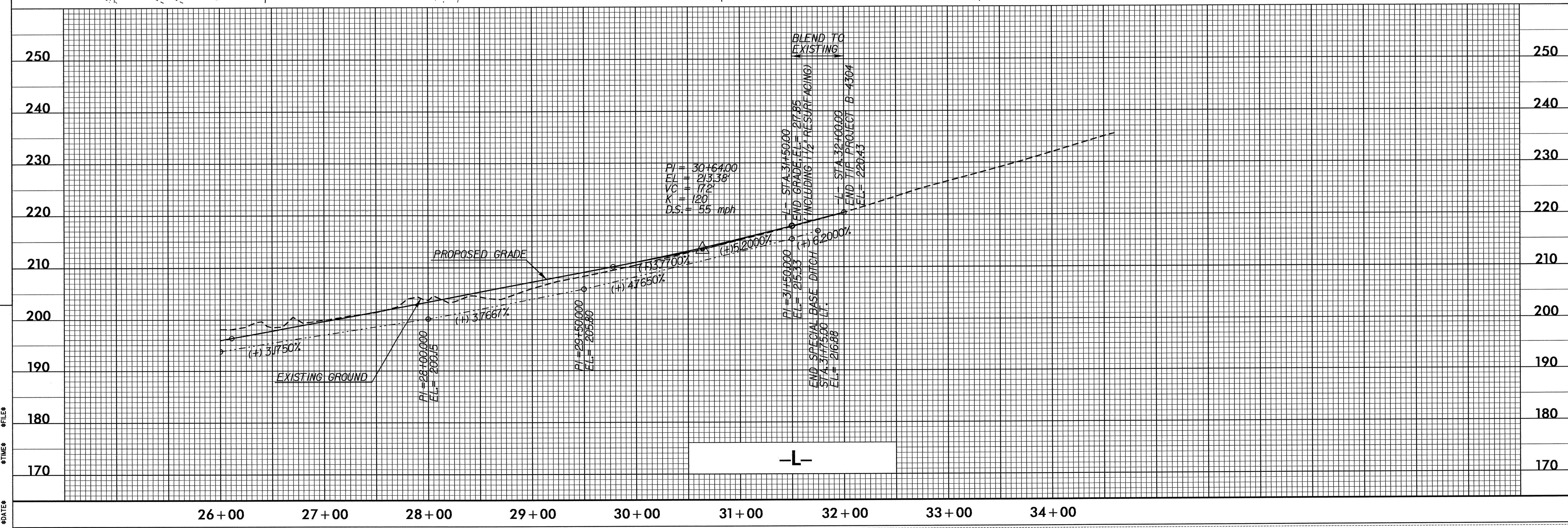
PI = 26+00.00
EL = 181.50

PROJECT REFERENCE NO.	SHEET NO.
B-4304	EC-7/CONST.5
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



PAVEMENT REMOVAL

REVISIONS



DATE * TIME * FILE *