

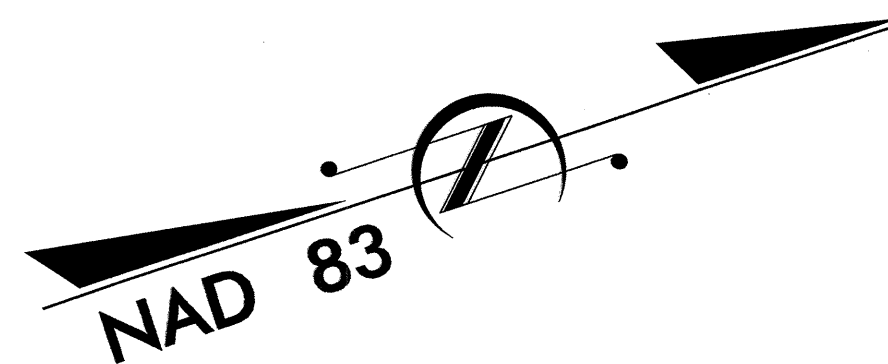
TIP PROJECT: B-4028

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

BLADEN COUNTY

LOCATION: BRIDGE NOS. 12, 18 AND 42 OVER CAPE FEAR RIVER AND OVERFLOW ON NC 11

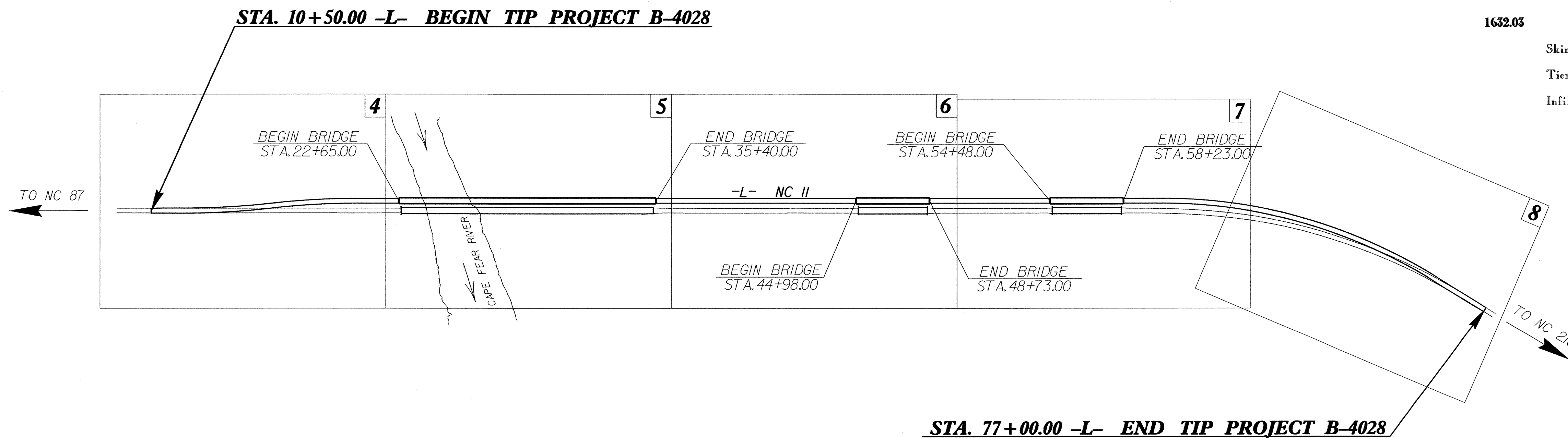
TYPE OF WORK: GRADING, DRAINAGE, PAVING, GUARDRAIL AND STRUCTURES



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4028	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---TSD---
1630.05	Temporary Diversion	---TD---
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	△△△△△
1622.01	Temporary Berms and Slope Drains	---B&SD---
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&CFW---
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	---W&CFW---
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

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

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

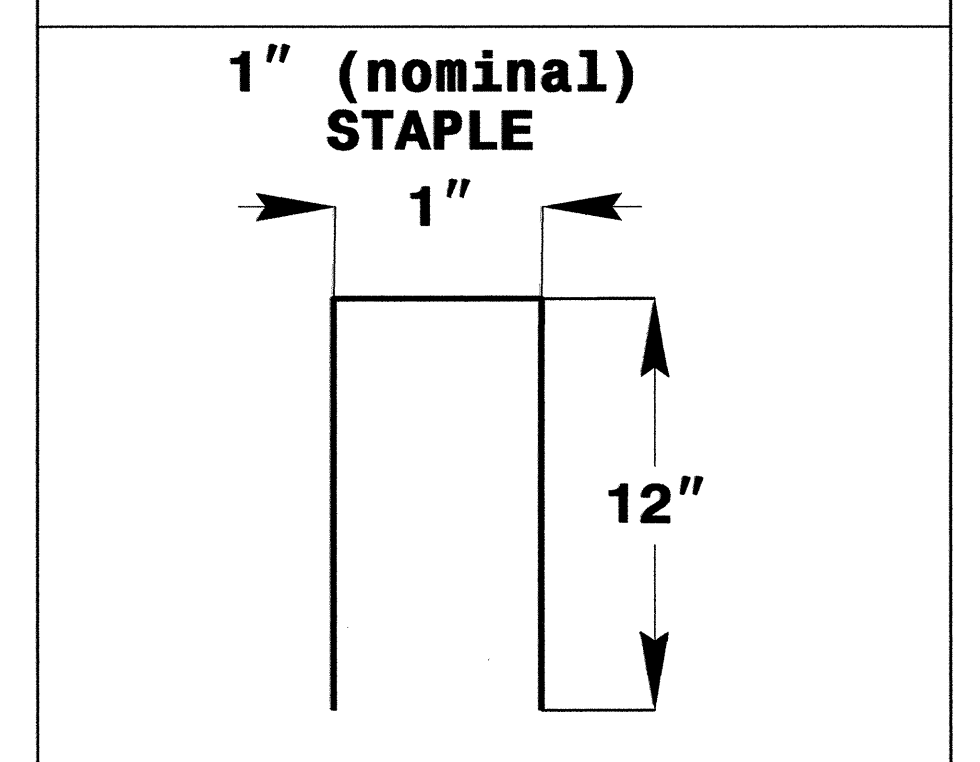
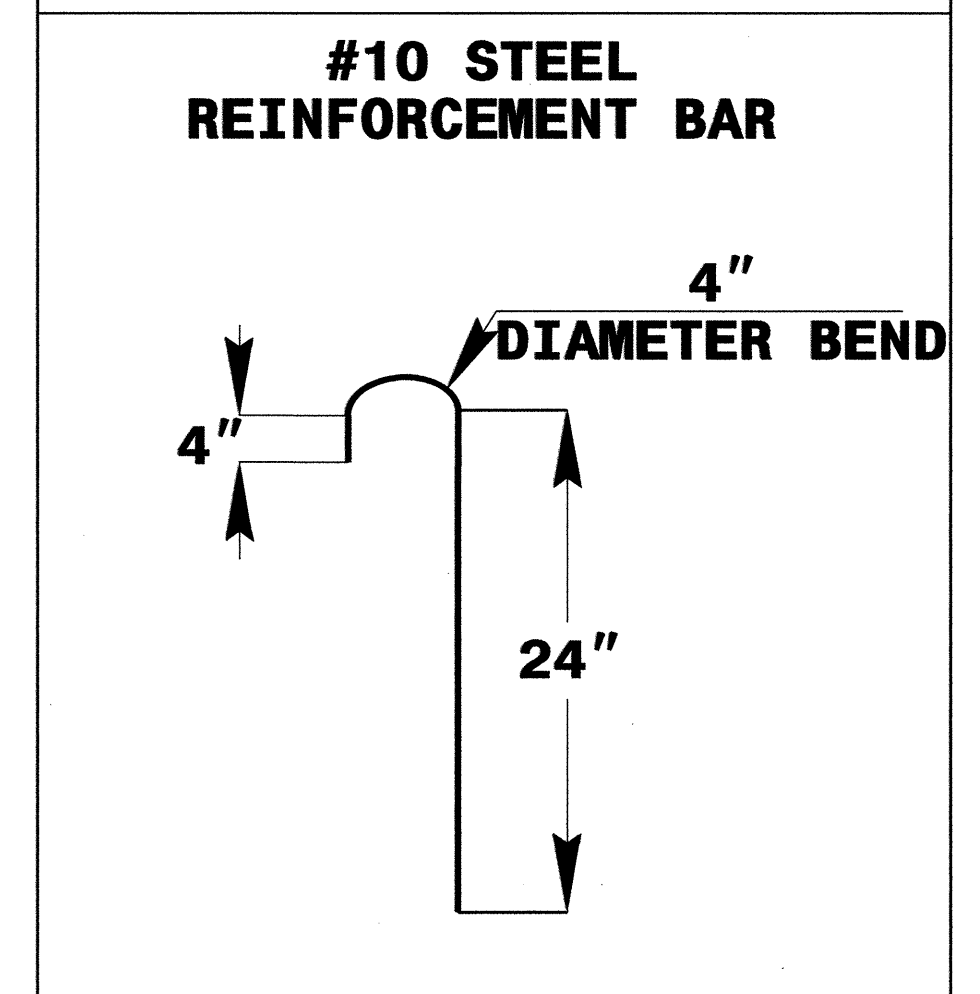
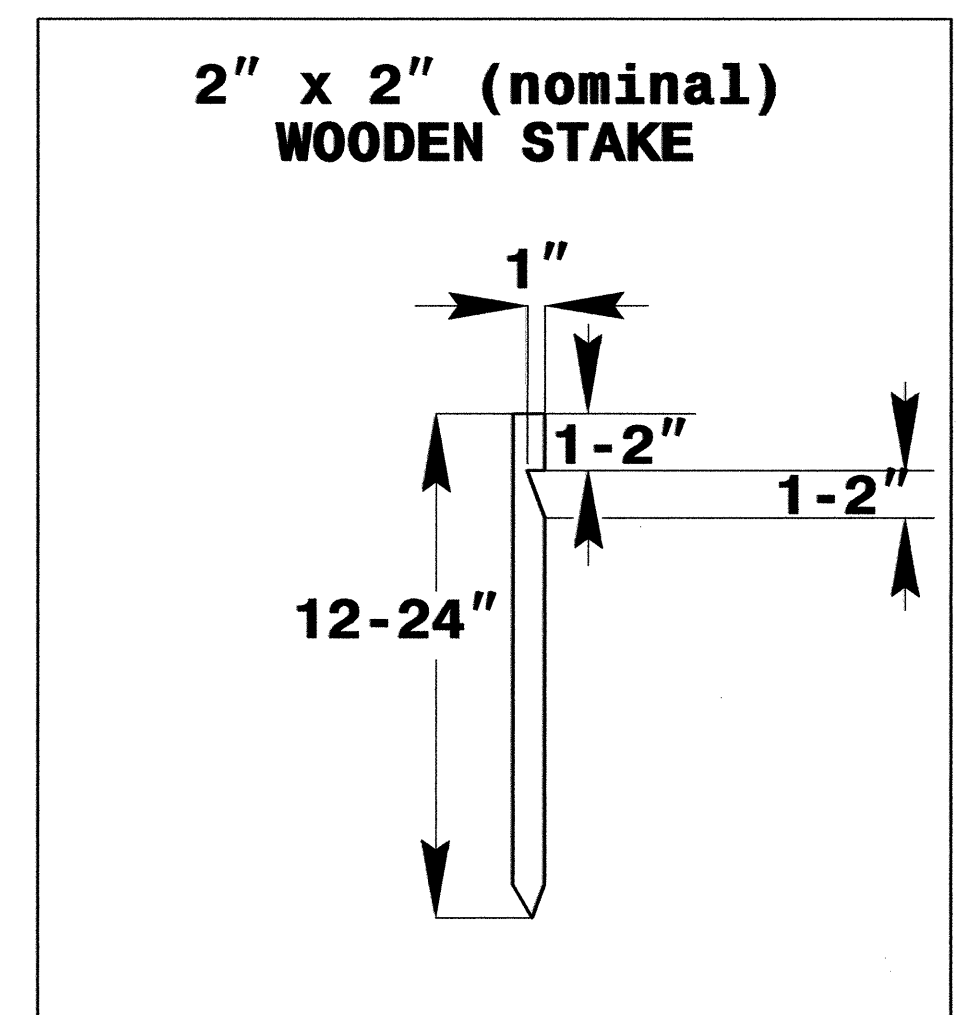
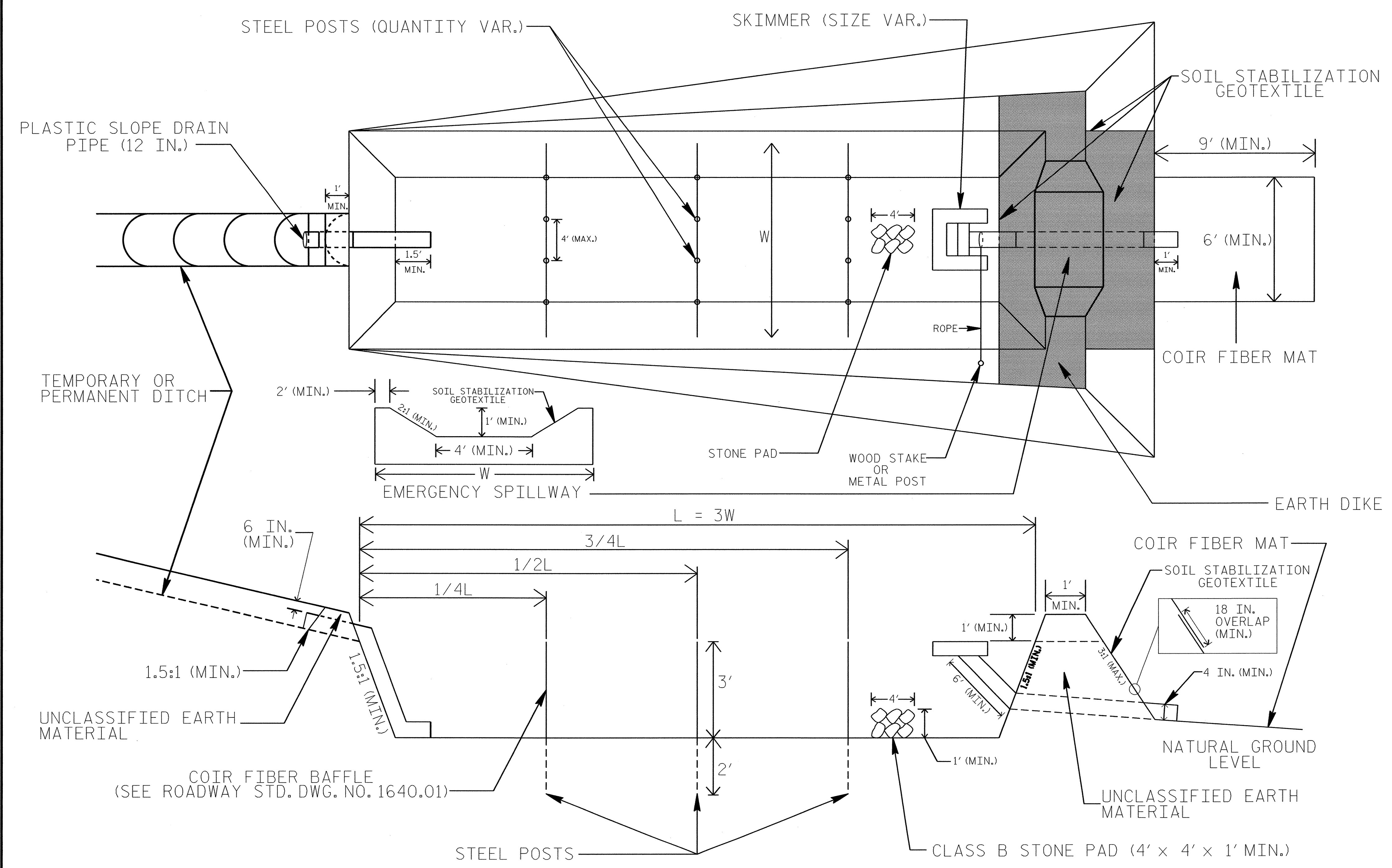
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

03/14/2012 10:38 AM
 R:\ENR\4028\4028_EC.dwg
 AT:REN265416

PROJECT REFERENCE NO. B-4028	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL



COIR FIBER MAT ANCHOR OPTIONS

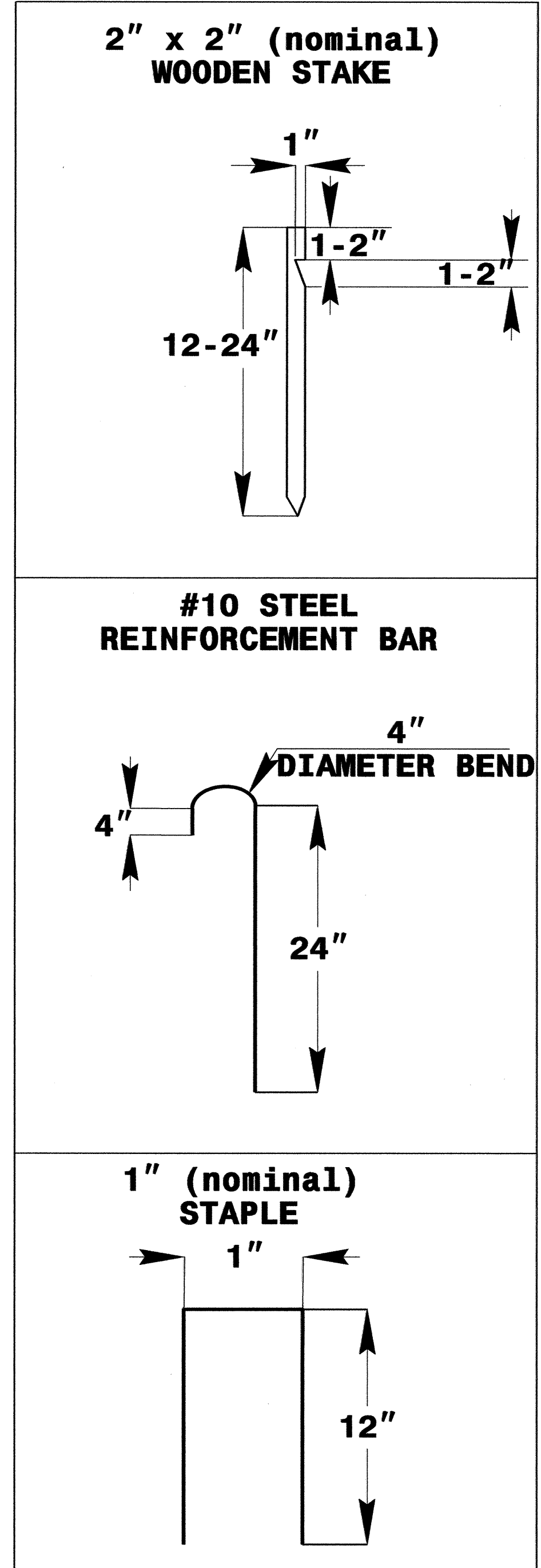
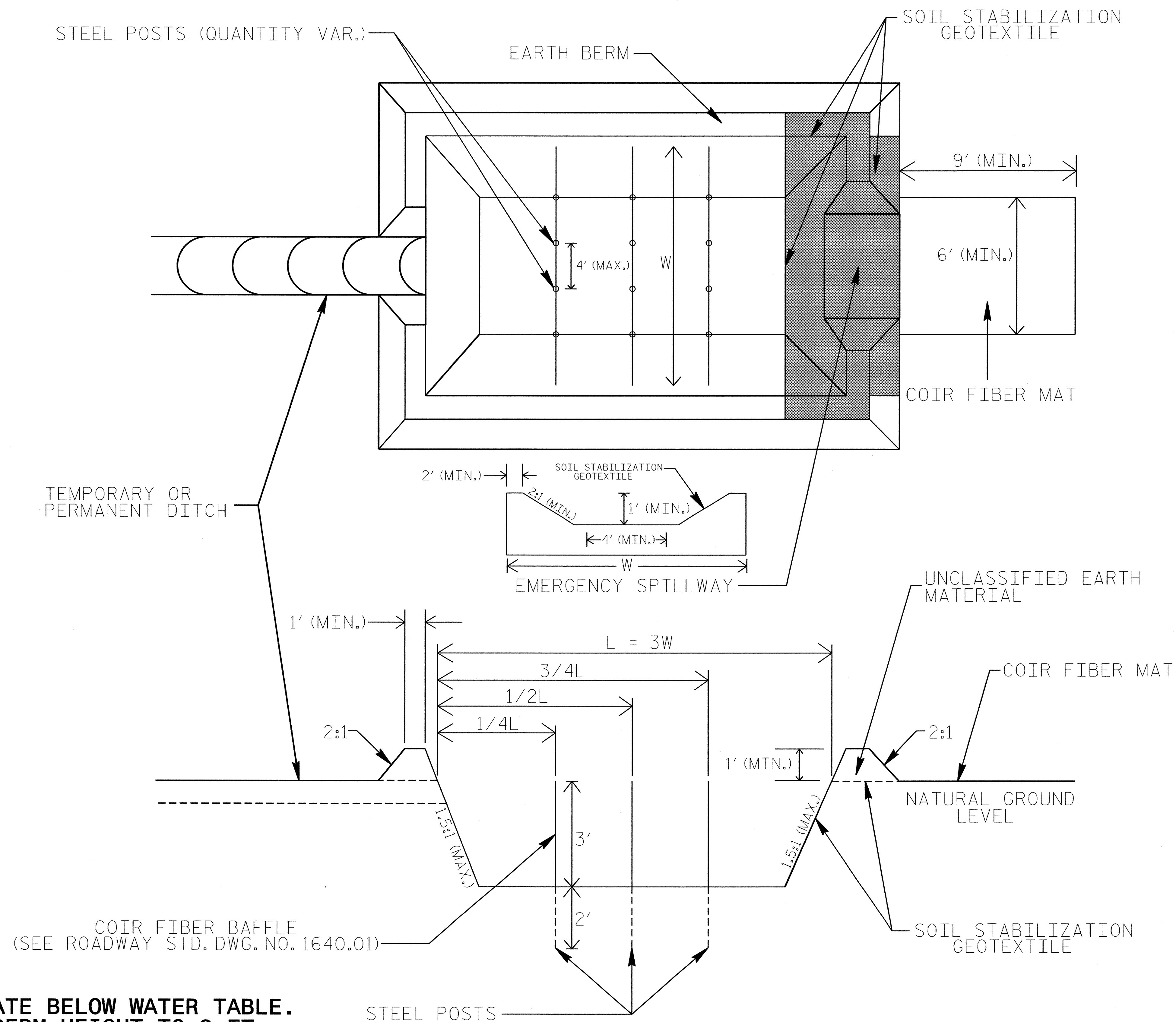
NOTES

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 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 AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

INFILTRATION BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. B-4028	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTES

1. DO NOT EXCAVATE BELOW WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

NOT TO SCALE

BORROW PIT DEWATERING BASIN DETAIL

PROJECT REFERENCE NO. B-4028	SHEET NO. EC-2B
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GENERAL NOTES:

DETERMINE BORROW PIT DEWATERING BASIN SIZE USING $V = 8.0203 * Q * T$, WHERE V IS VOLUME (FT³), Q IS PUMP FLOW RATE (GPM), AND T IS DEWATERING TIME (HR). USE MAXIMUM FLOW RATE OF 1000 GPM AND A MINIMUM DEWATERING TIME OF 2 HOURS.

RISER SHALL BE A NON-PERFORATED, SMOOTH OR CORRUGATED MATERIAL WITH A FLASHBOARD OPTION.

CONSTRUCT THE COIR FIBER BAFFLE IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1640.01 AND WITH MATERIAL THAT MEETS THE SPECIFICATIONS OF ROADWAY STANDARD 1060-14.

PROVIDE 5' STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 3' OF THE POST APPEARING ABOVE THE GROUND.

ATTACH THE COIR FIBER MAT TO THE STEEL POSTS WITH WIRE OR OTHER ACCEPTABLE MEANS AND STAPLED INTO THE BOTTOM AND SIDE SLOPES OF THE BASIN WITH 12" STAPLES.

INSTALL TYPE 2 GEOTEXTILE ON SIDESLOPES AND BOTTOM OF BASIN AT INLET AS SHOWN IN THE DETAIL.

USE THE TYPICAL SECTION SHOWN FOR THE BORROW PIT DEWATERING BASIN AS A GUIDE. THE BASIN MAY HAVE ANY TYPE CONFIGURATION AS LONG AS SUFFICIENT VOLUME IS PROVIDED AND PROVISIONS ARE MADE FOR A NON-PERFORATED RISER.

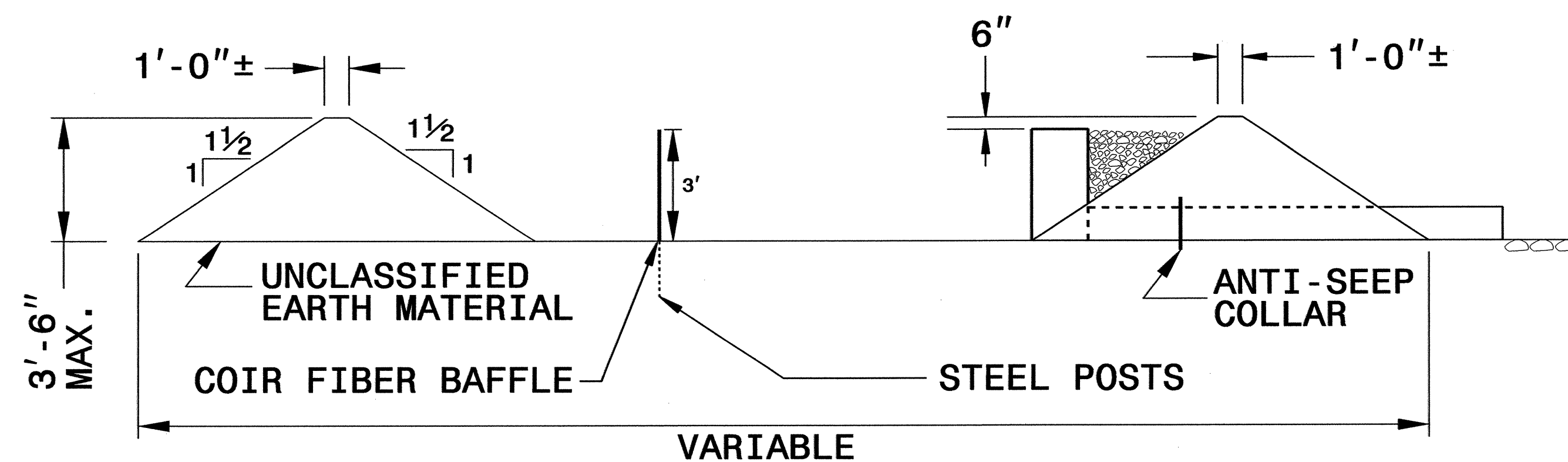
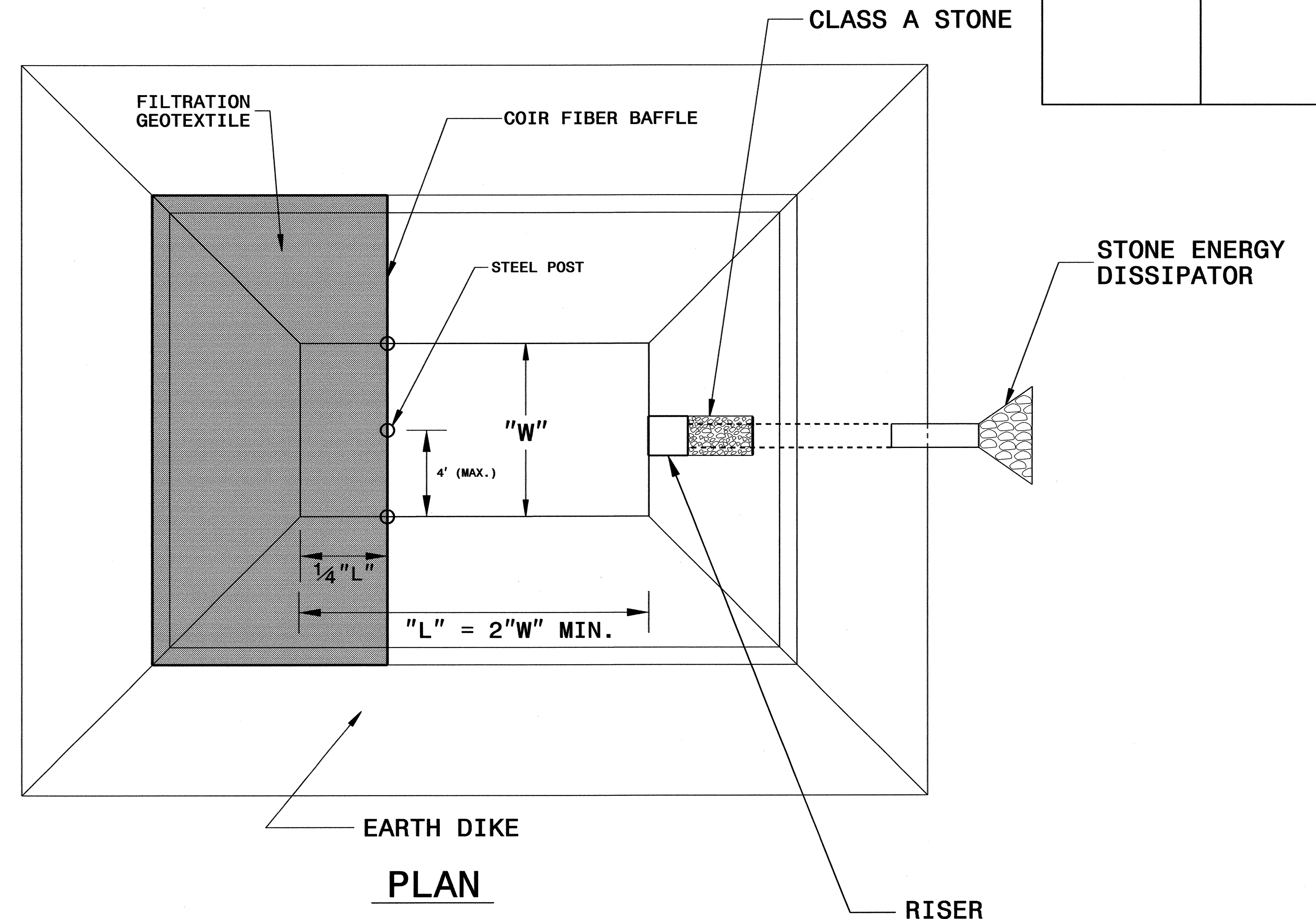
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

THE BORROW PIT DEWATERING BASIN SIZE IS VARIABLE AND DEPENDENT ON SPECIFIC SITE REQUIREMENTS AS WELL AS PROPOSED CONSTRUCTION OPERATIONS.

SUBMIT THE SIZE, LOCATION AND RISER PIPE MATERIAL FOR APPROVAL PRIOR TO CONSTRUCTION.

PUMP THE EFFLUENT INTO THE BORROW PIT DEWATERING BASIN TO A MAXIMUM DEPTH OF 6 IN. BELOW TOP OF EARTH DIKE.

PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.

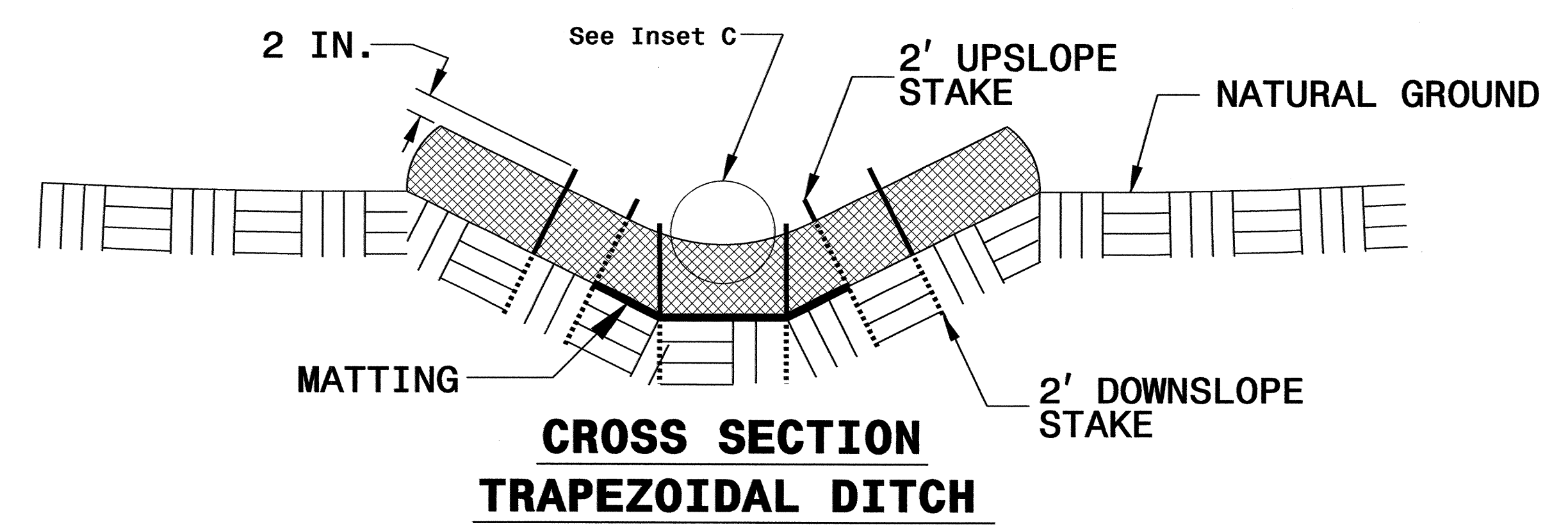
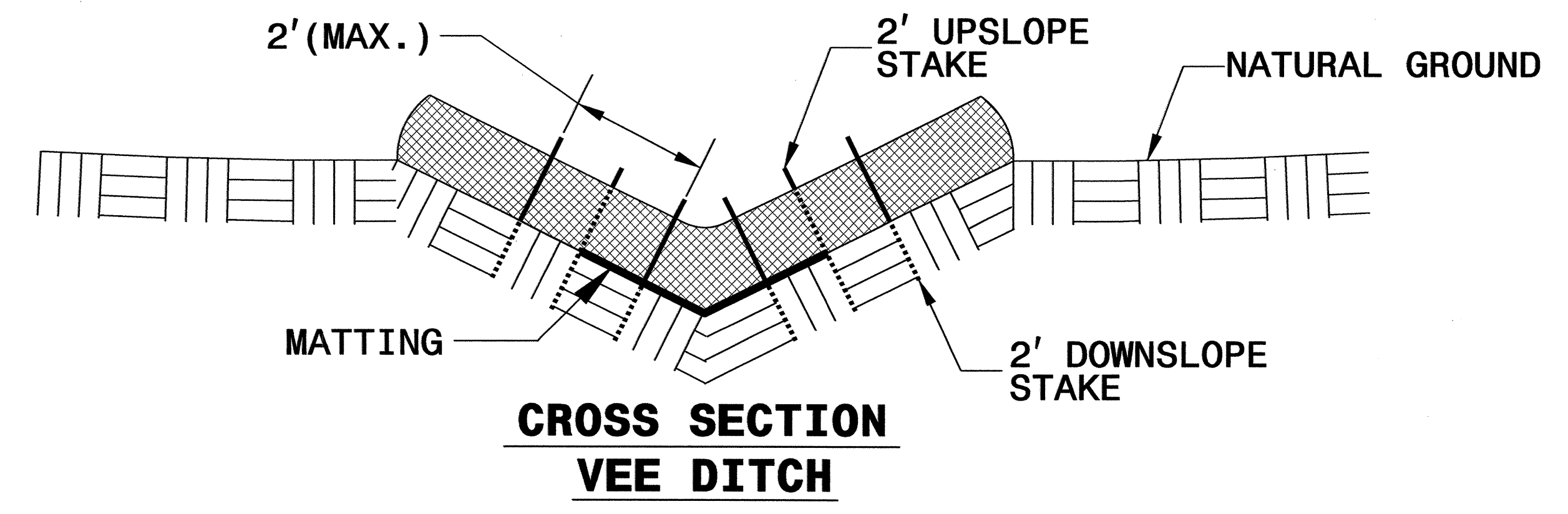
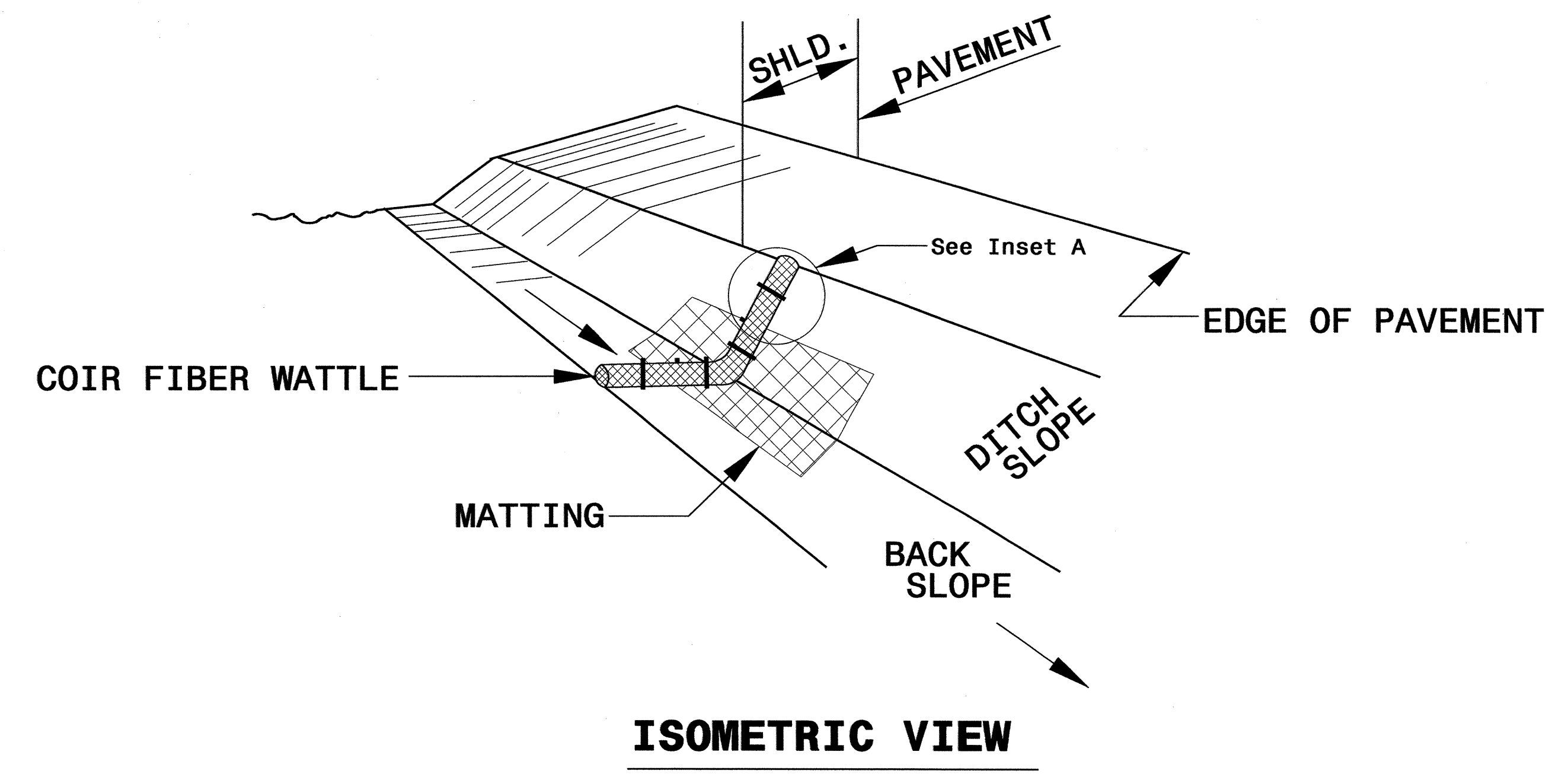


TYPICAL SECTION VIEW

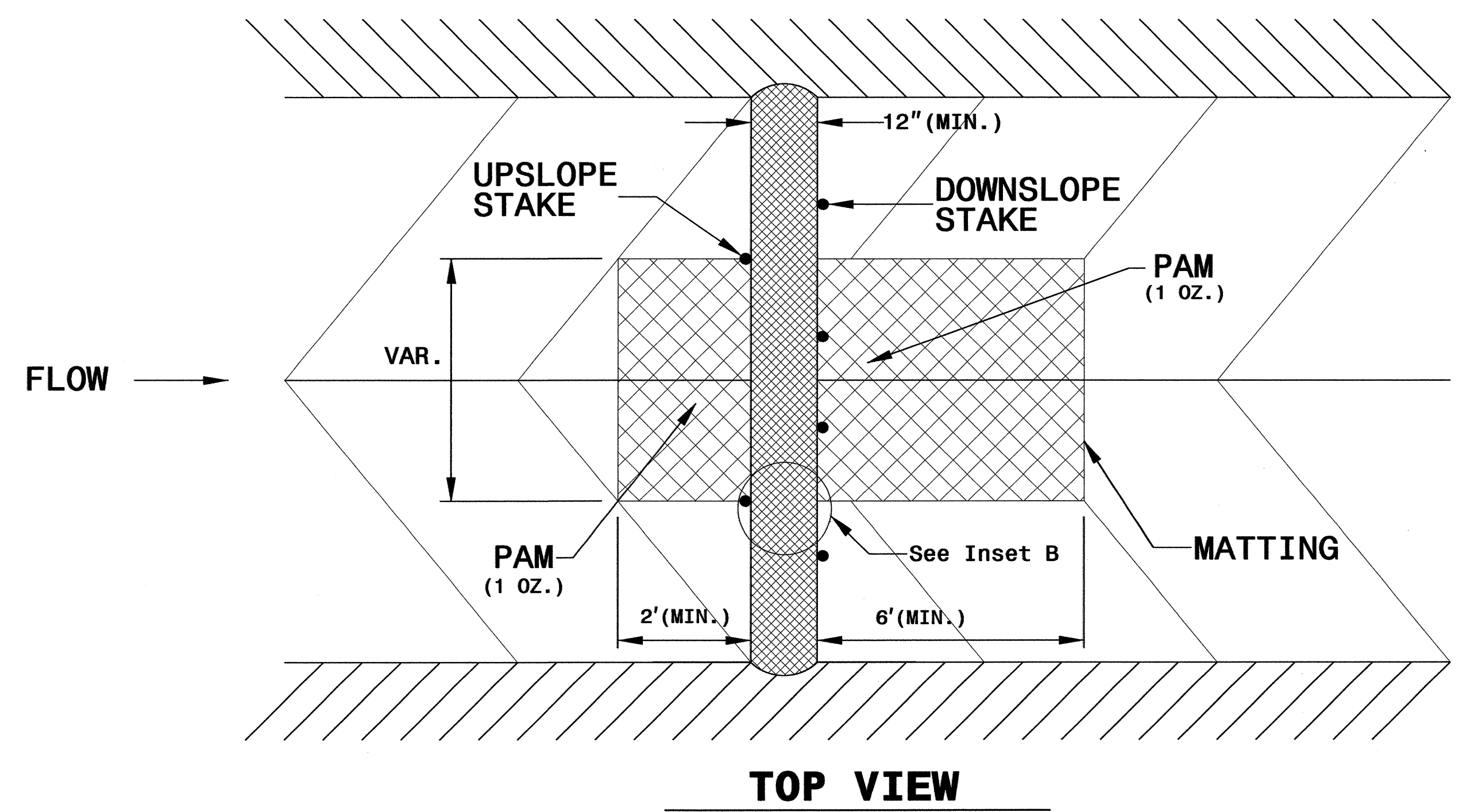
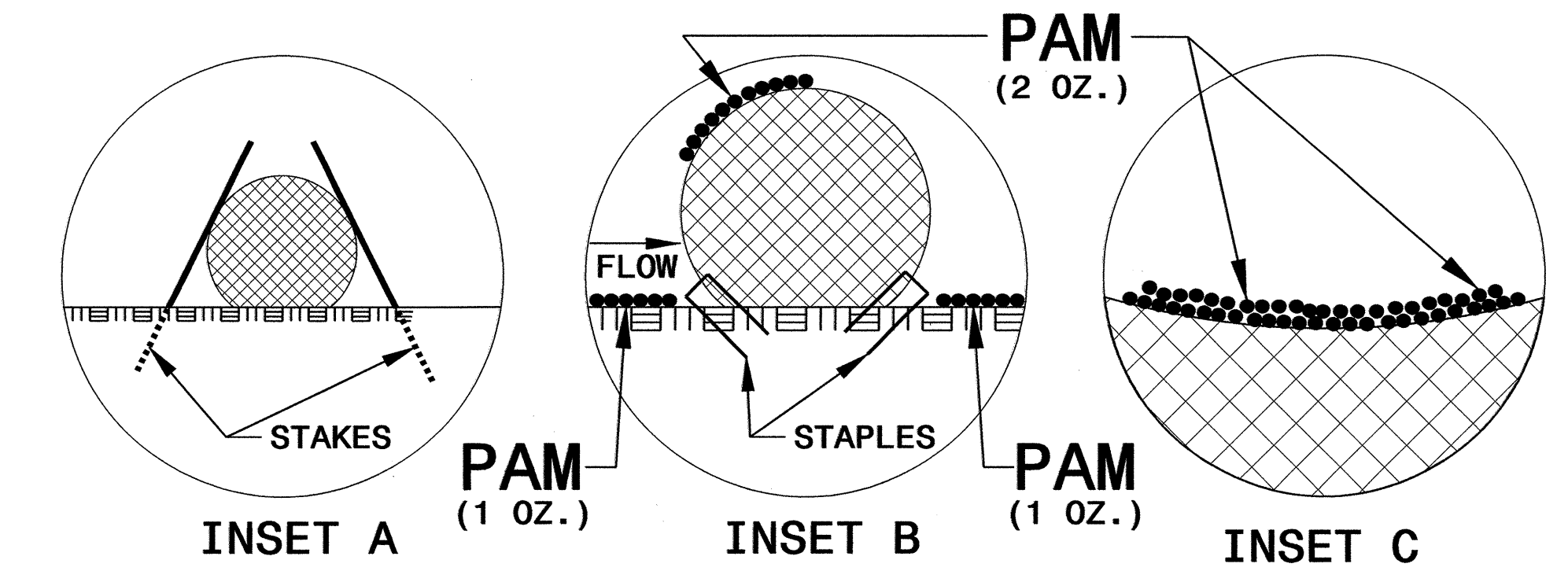
NOT TO SCALE

PROJECT REFERENCE NO. B-4028	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

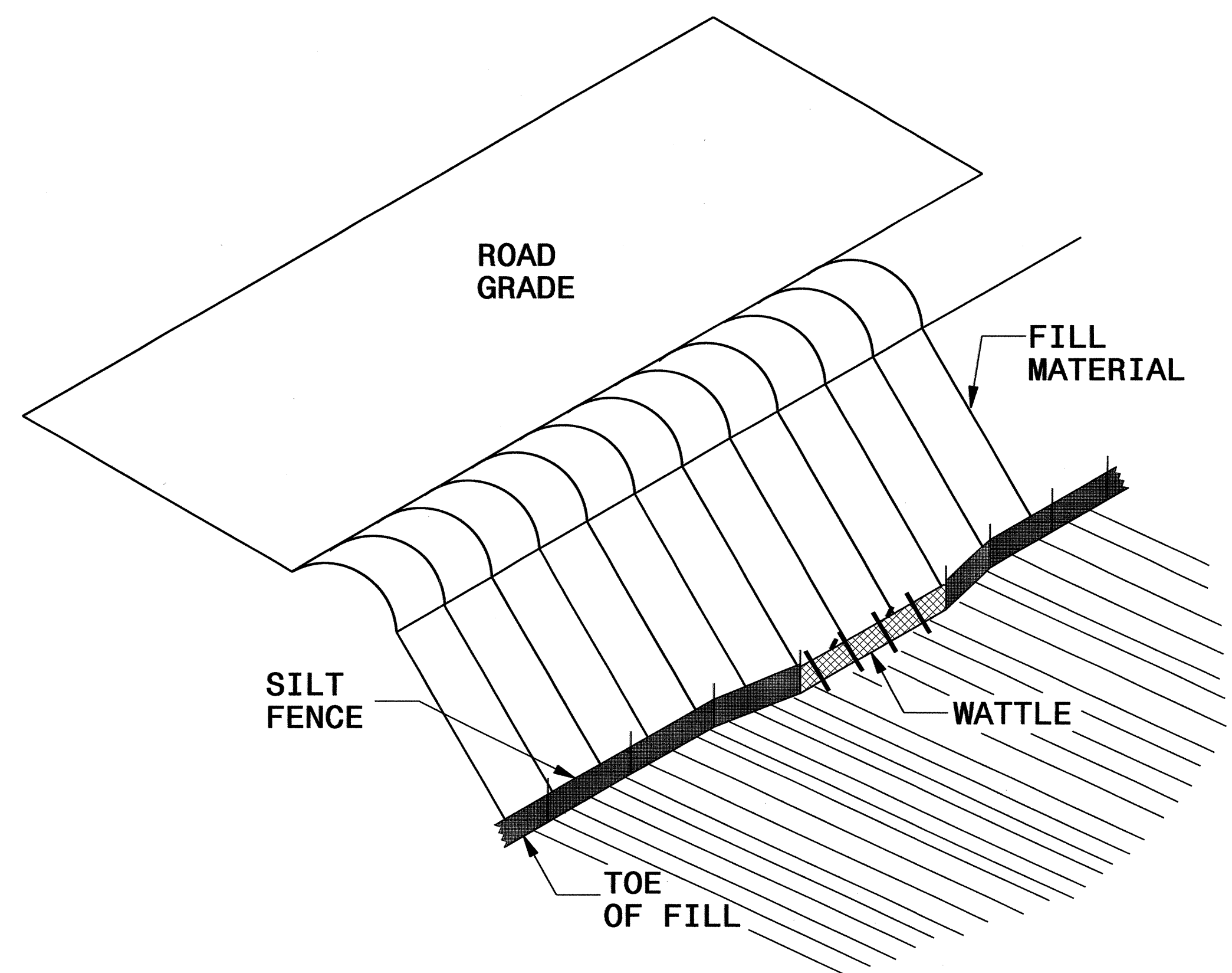


- NOTES:**
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
 - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 - INSTALL A MINIMUM OF 2 UPSLOPE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

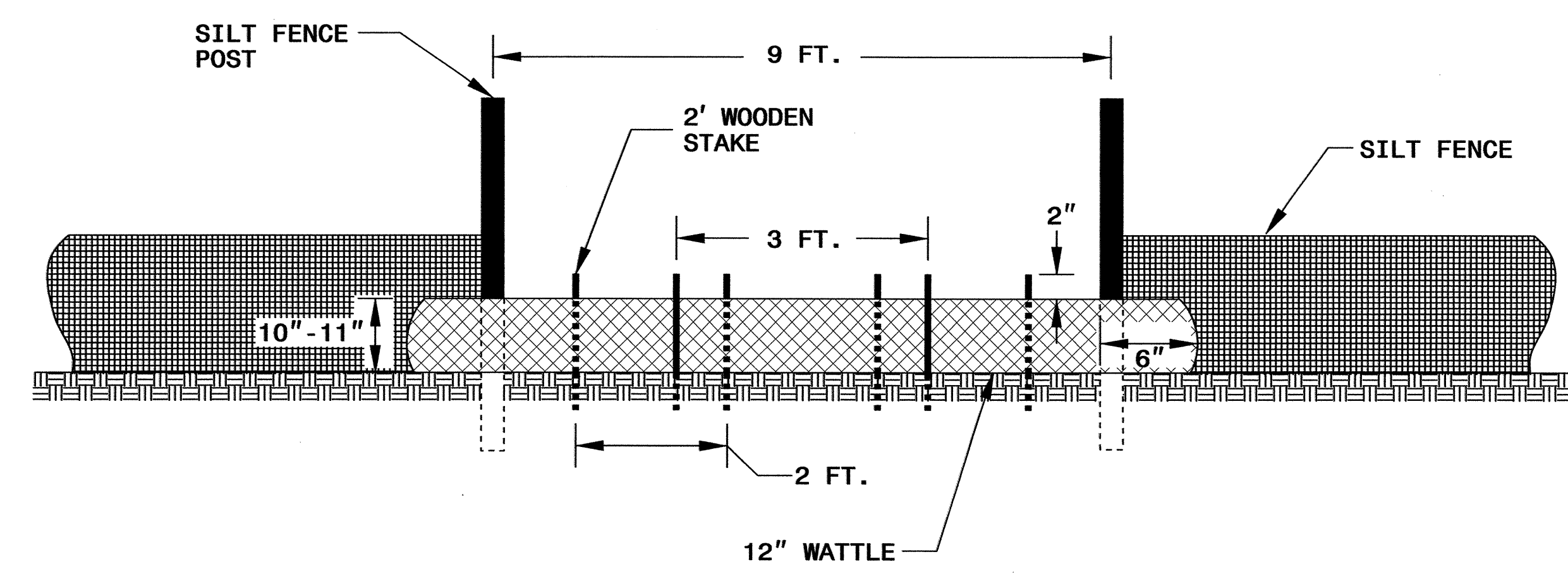


SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO. B-4028	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ISOMETRIC VIEW

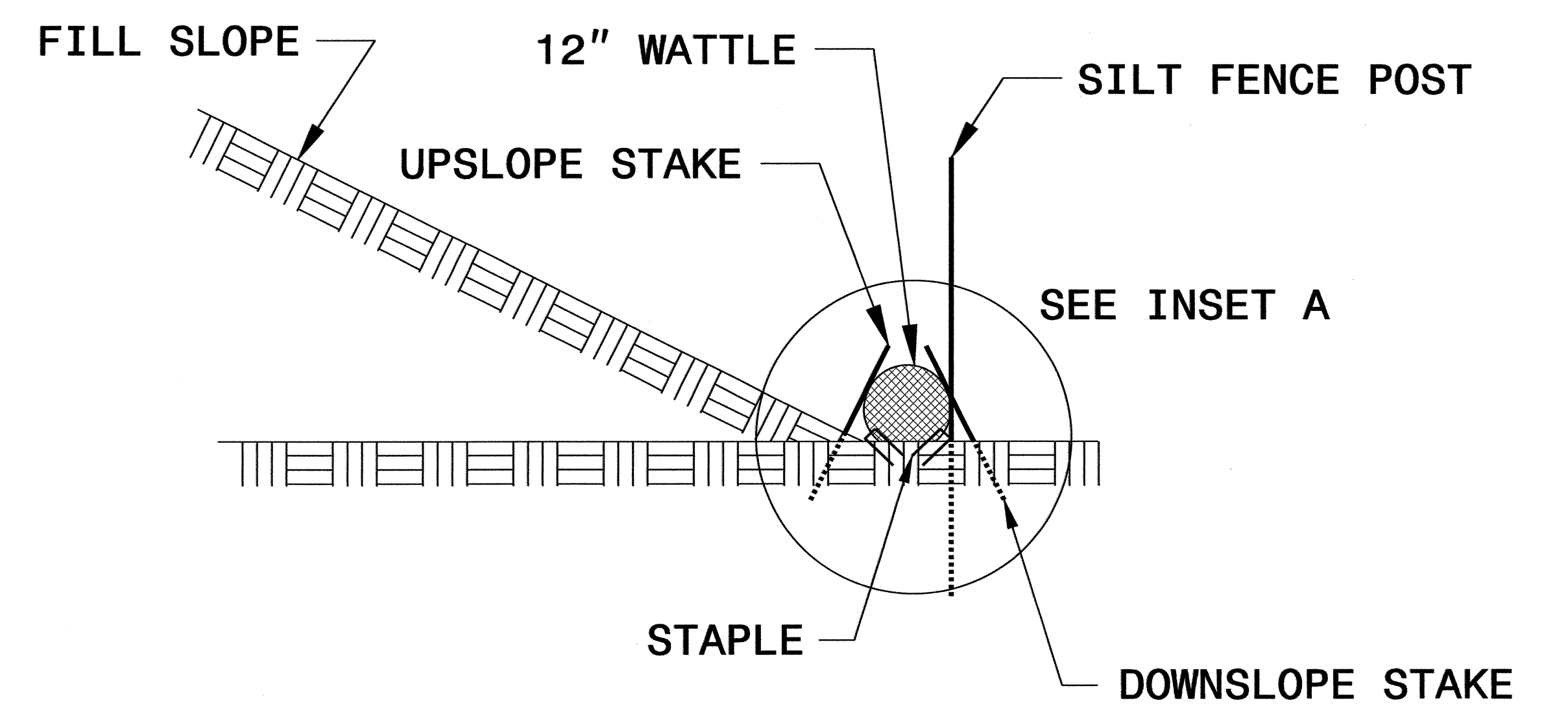
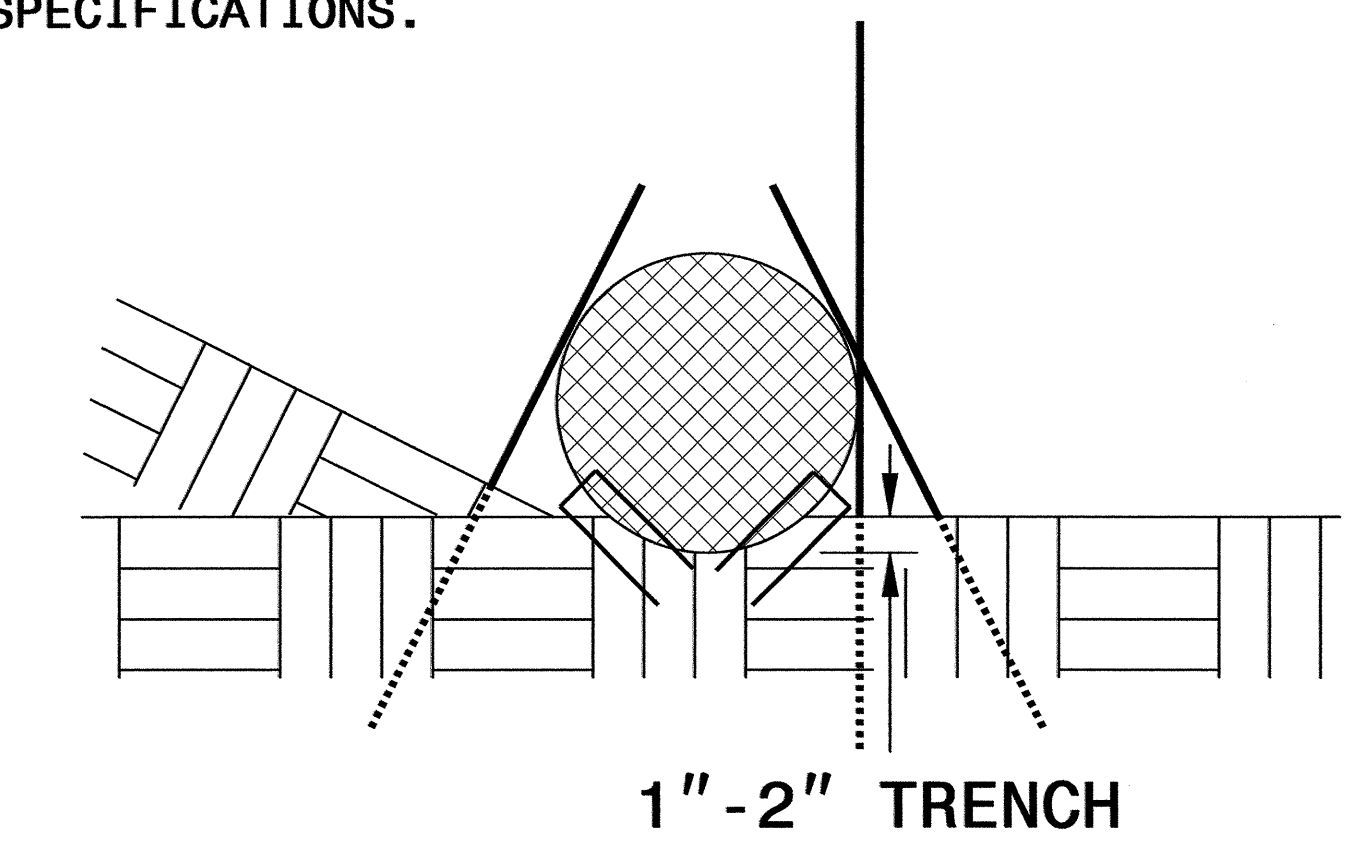


VIEW FROM SLOPE

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.

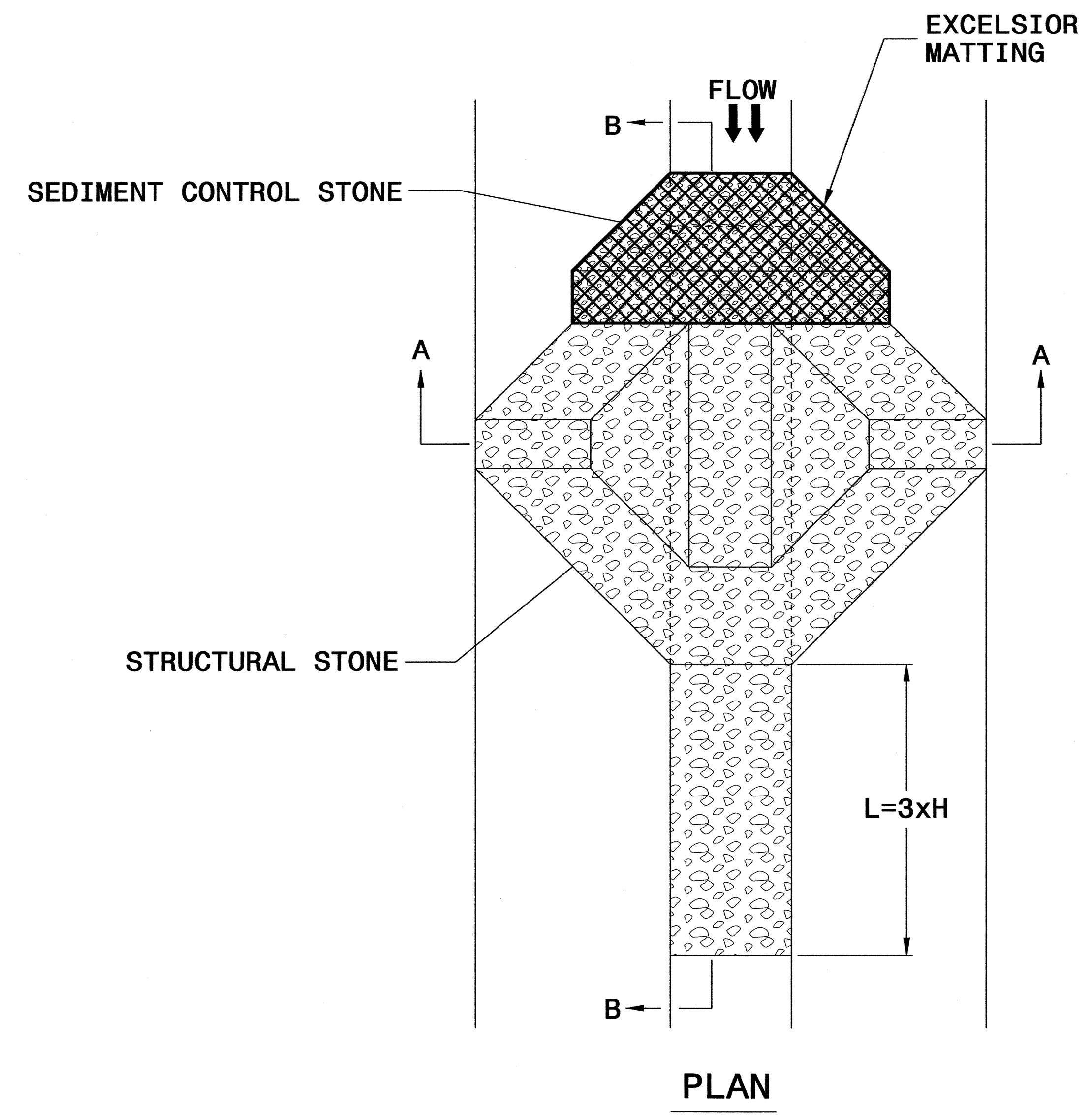
INSET A



SIDE VIEW

PROJECT REFERENCE NO. B-4028	SHEET NO. EC-2E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

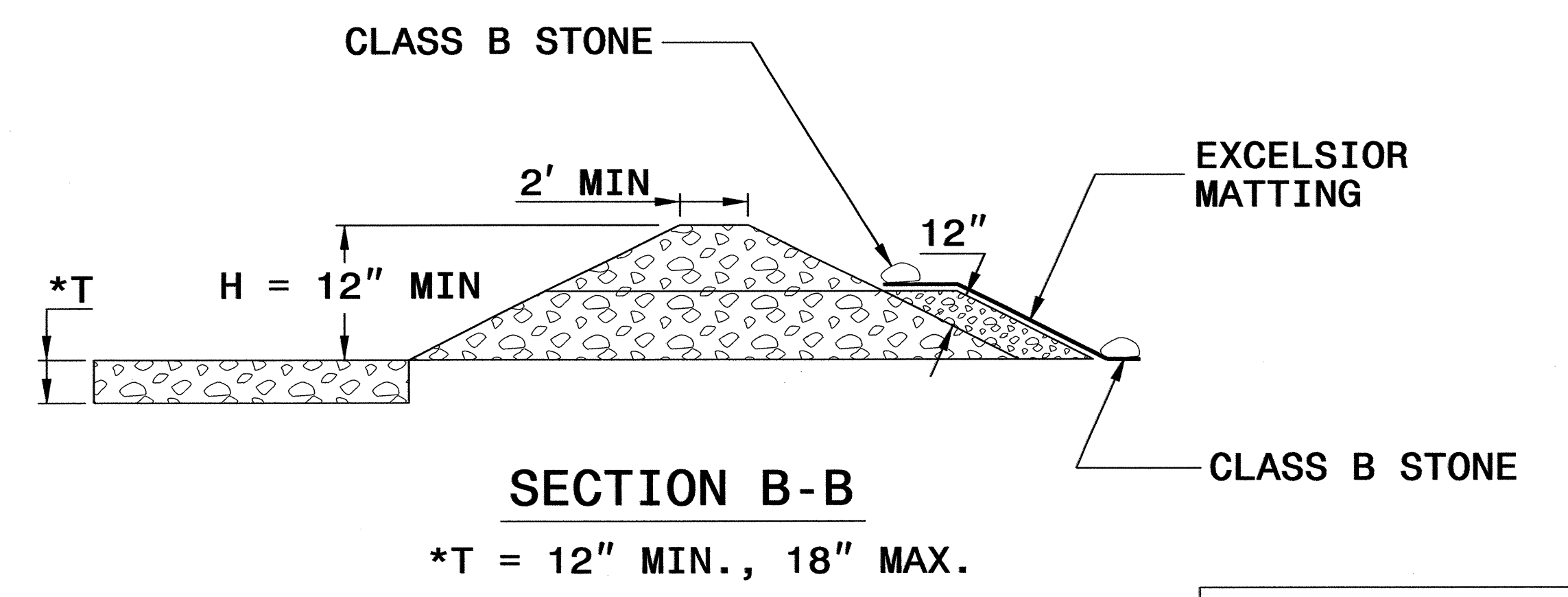
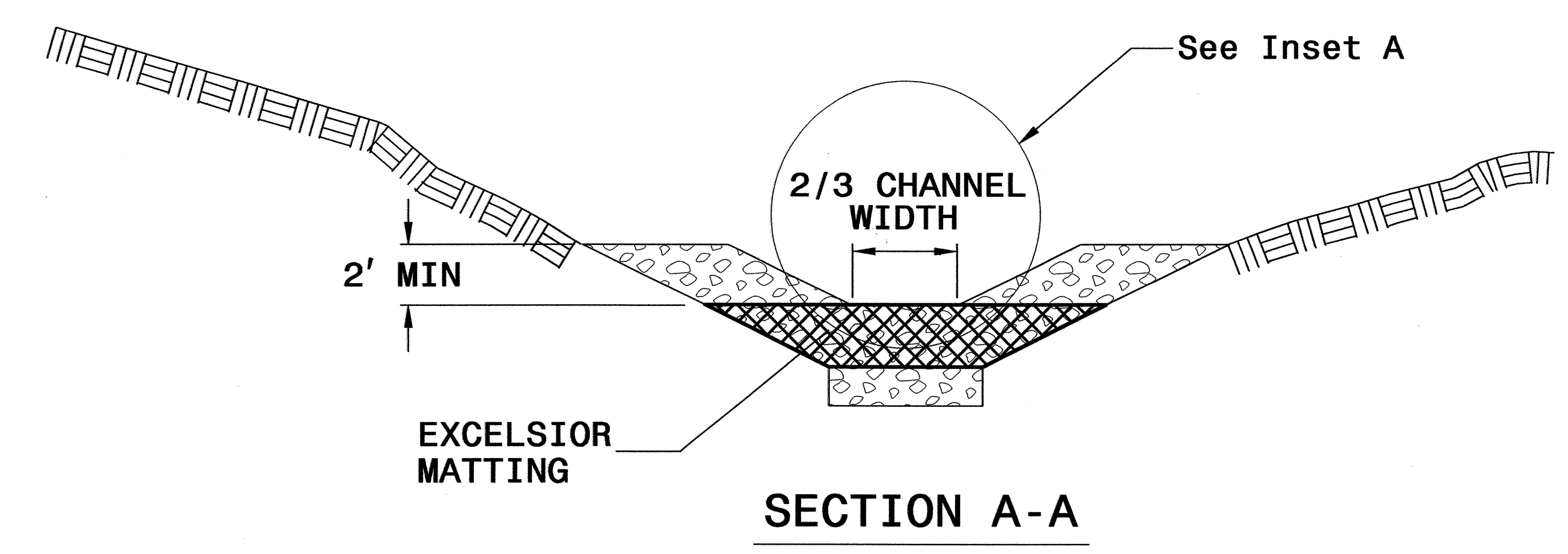
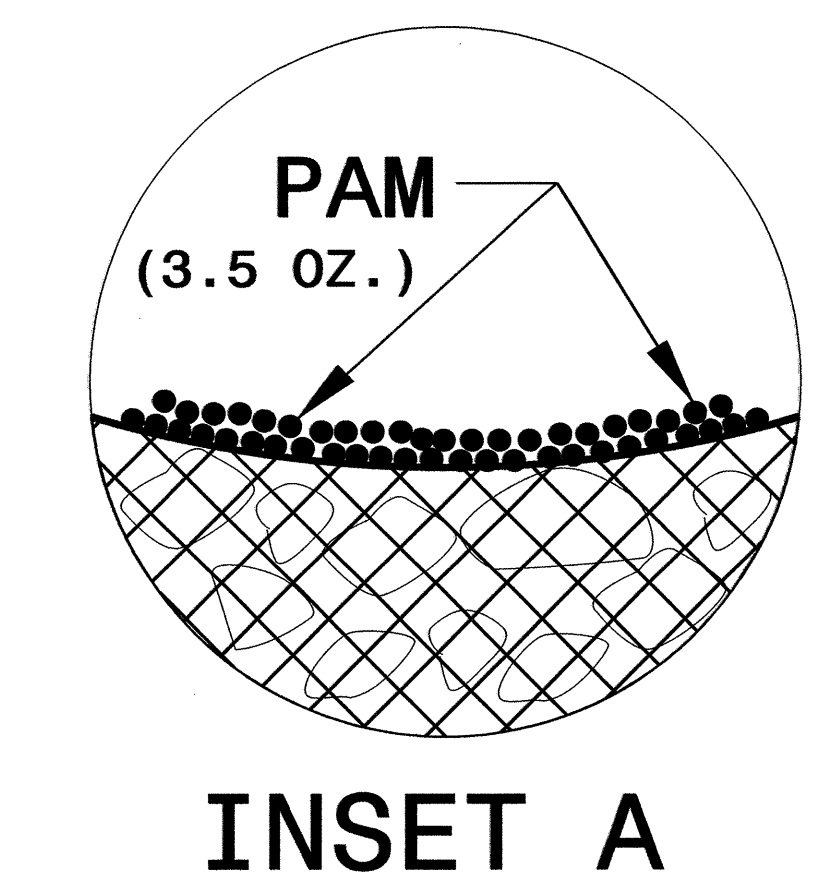


NOTES

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-4028</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

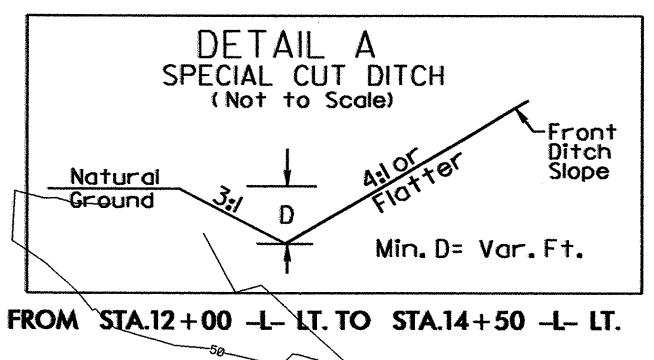
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 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.	SHEET NO.
B-4028	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

PI Sta 14+26.67 Δ = 6° 21' 34.8" (LT) D = 1' 28" 08.8" L = 432.89' T = 216.67' R = 3,900.00' SE = 04	PI Sta 18+59.56 Δ = 6° 21' 34.8" (RT) D = 1' 28" 08.8" L = 432.89' T = 216.67' R = 3,900.00' SE = 04	PI Sta 10+60.17 Δ = 90° 31' 32.2" (RT) D = 163' 42" 08.0" L = 55.30' T = 35.32' R = 35.00'	PI Sta 12+43.01 Δ = 96° 35' 49.4" (LT) D = 163' 42" 08.0" L = 59.01' T = 39.28' R = 35.00'
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75 x 22 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
14 ft. weir
ID 4.1B

STA. 10+50.00 -L- BEGIN TIP PROJECT B-4028

MATCHLINE SHEET 5 -L- STA. 22+00.00

SBG SHOULDER BERM GUTTER
 PAVED SHOULDER
 SEE SHEET 9 FOR -L- PROFILE
 SEE SHEET 11 FOR -DRI- PROFILE

8/17/99
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 Action

8/17/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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

NOTE:
UTILIZE INFILTRATION BASIN
AS STILLING BASIN WHERE APPLICABLE.

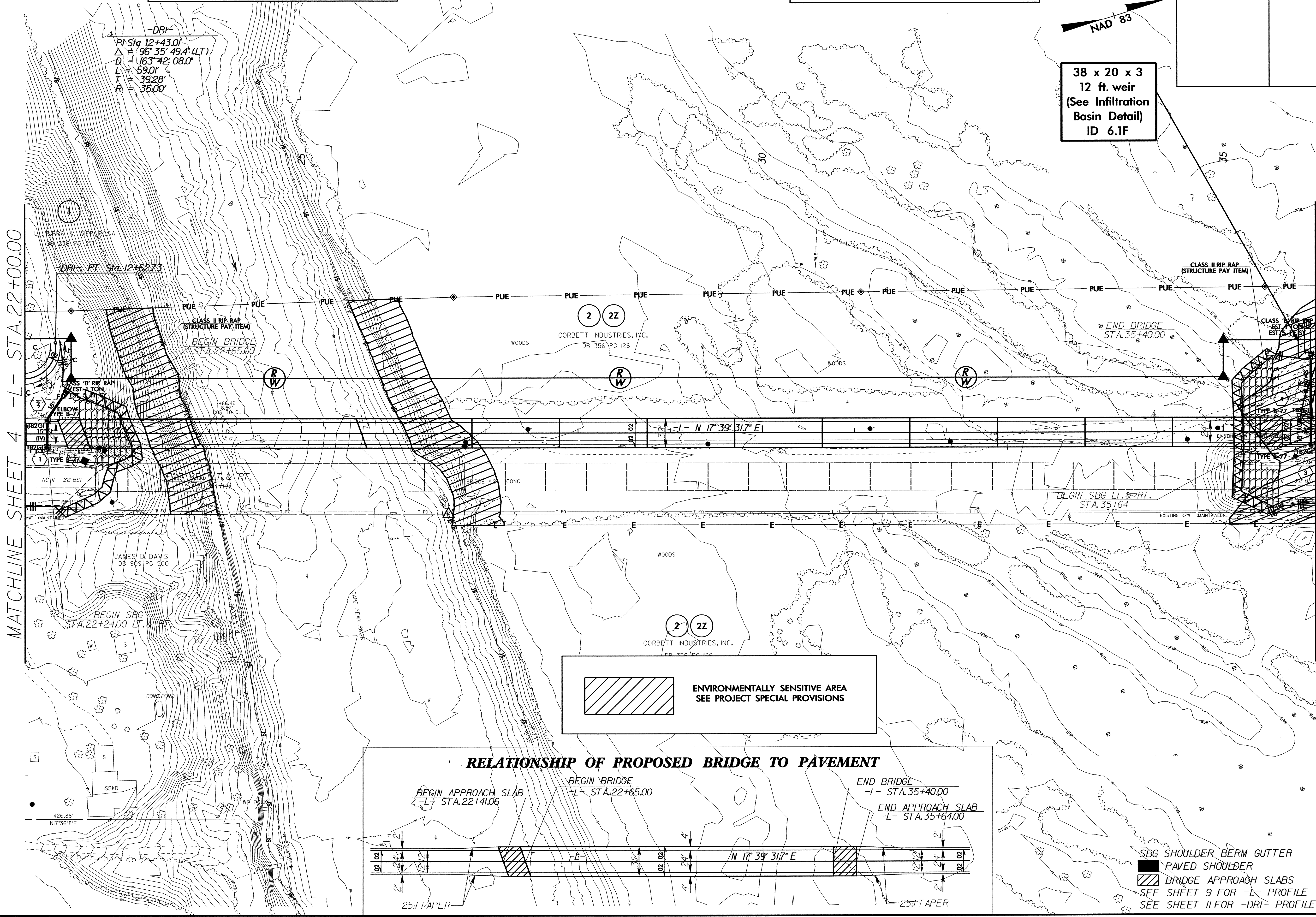
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R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

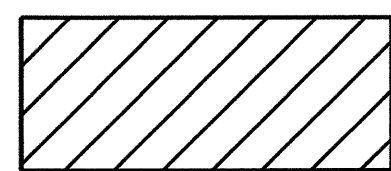
38 x 20 x 3
12 ft. weir
(See Infiltration
Basin Detail)
ID 6.1F

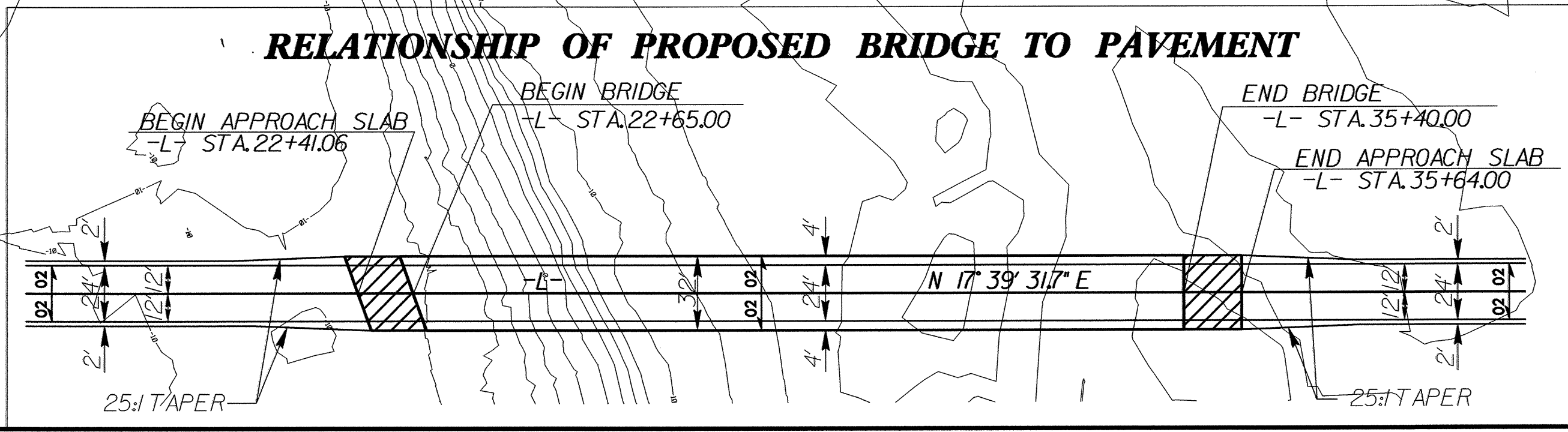




MATCHLINE SHEET 4 -L- STA. 22+00.00

MATCHLINE SHEET 6 -L- STA. 36+00.00



 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS



SBG SHOULDER BERM GUTTER
 PAVED SHOULDER
 BRIDGE APPROACH SLABS
 SEE SHEET 9 FOR -L- PROFILE
 SEE SHEET 11 FOR -DRI- PROFILE

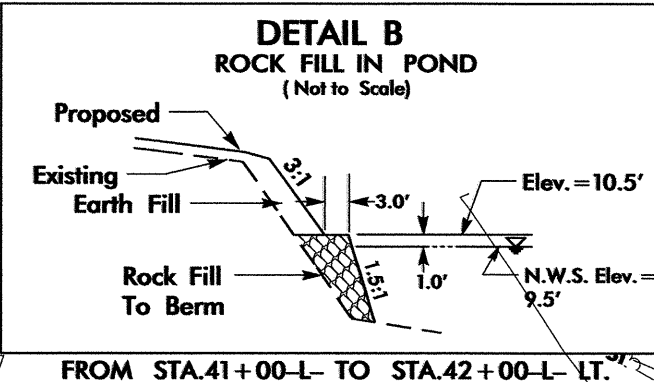
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richan AT BENV25546

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4028	EC-6/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

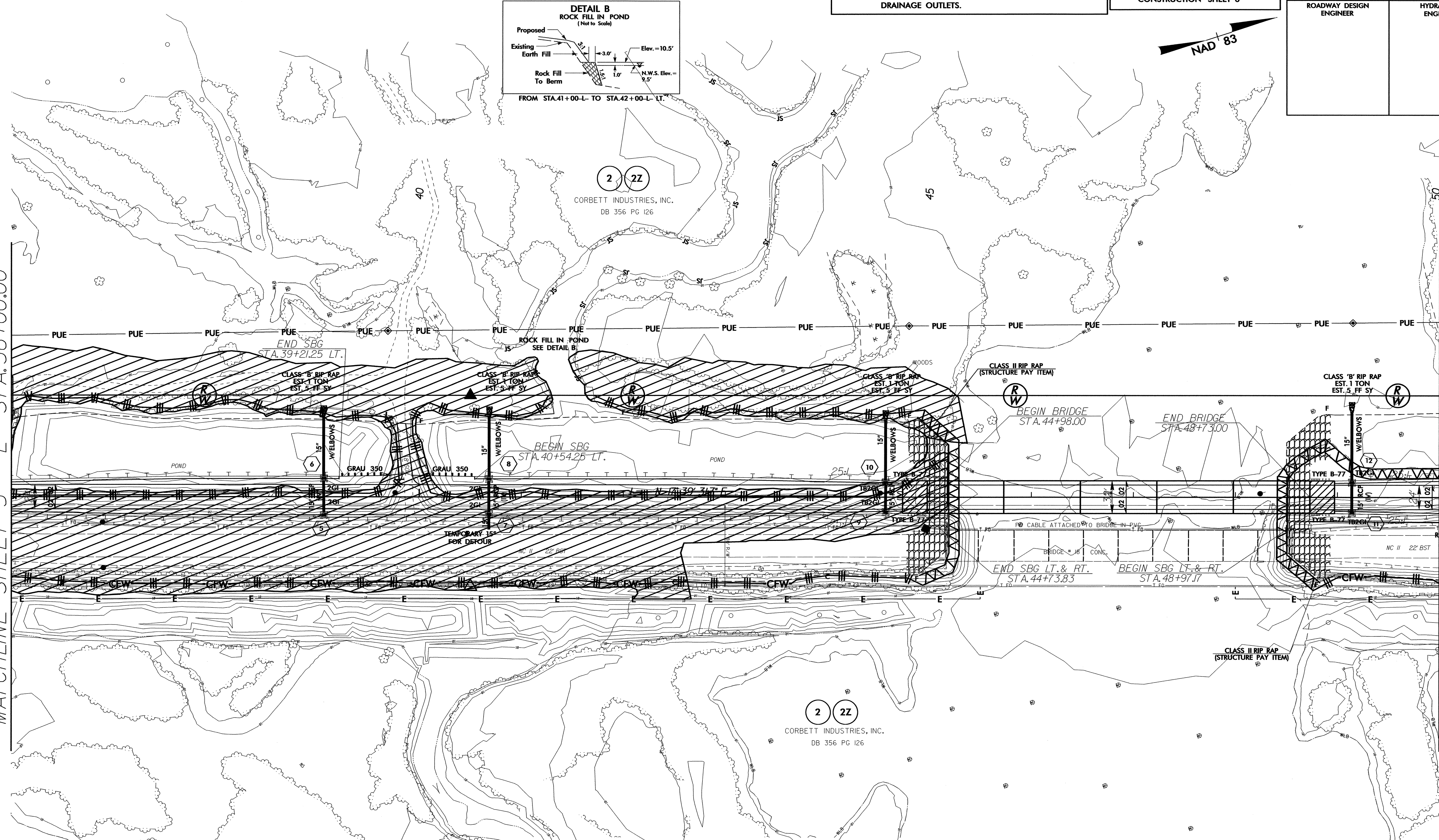
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

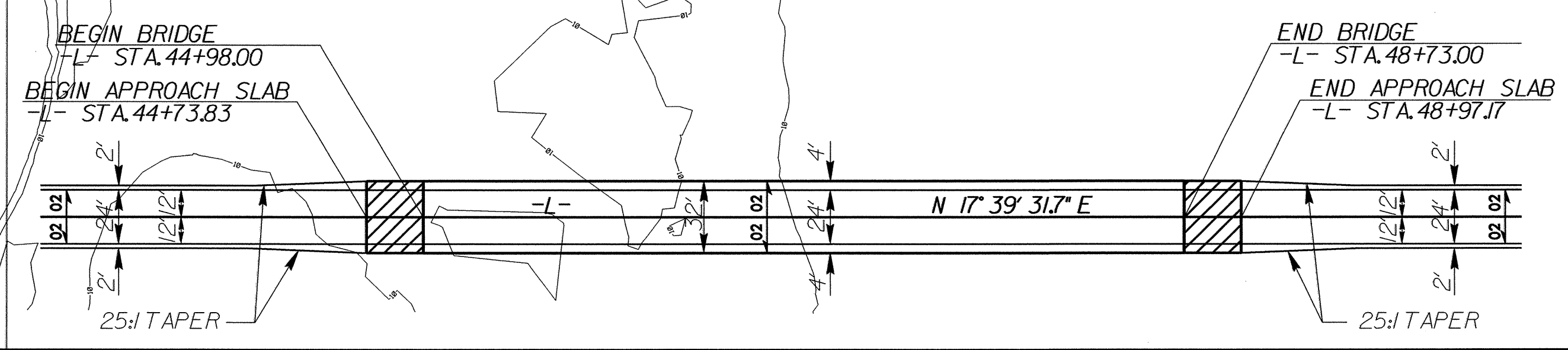


MATCHLINE SHEET 5 -L- STA.36+00.00

MATCHLINE SHEET 7 -L- STA.50+00.00



RELATIONSHIP OF PROPOSED BRIDGE TO PAVEMENT



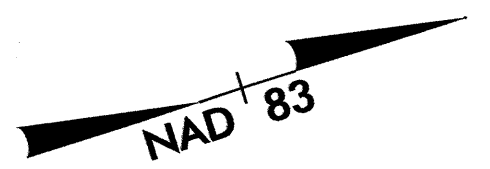
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

SBG SHOULDER BERM GUTTER
 PAVED SHOULDER
 BRIDGE APPROACH SLABS
 SEE SHEET 10 FOR -L- PROFILE

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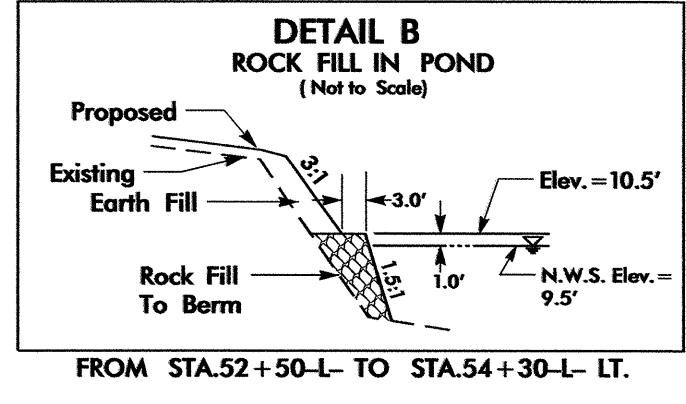
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RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

NOTE:
UTILIZE INFILTRATION 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 7



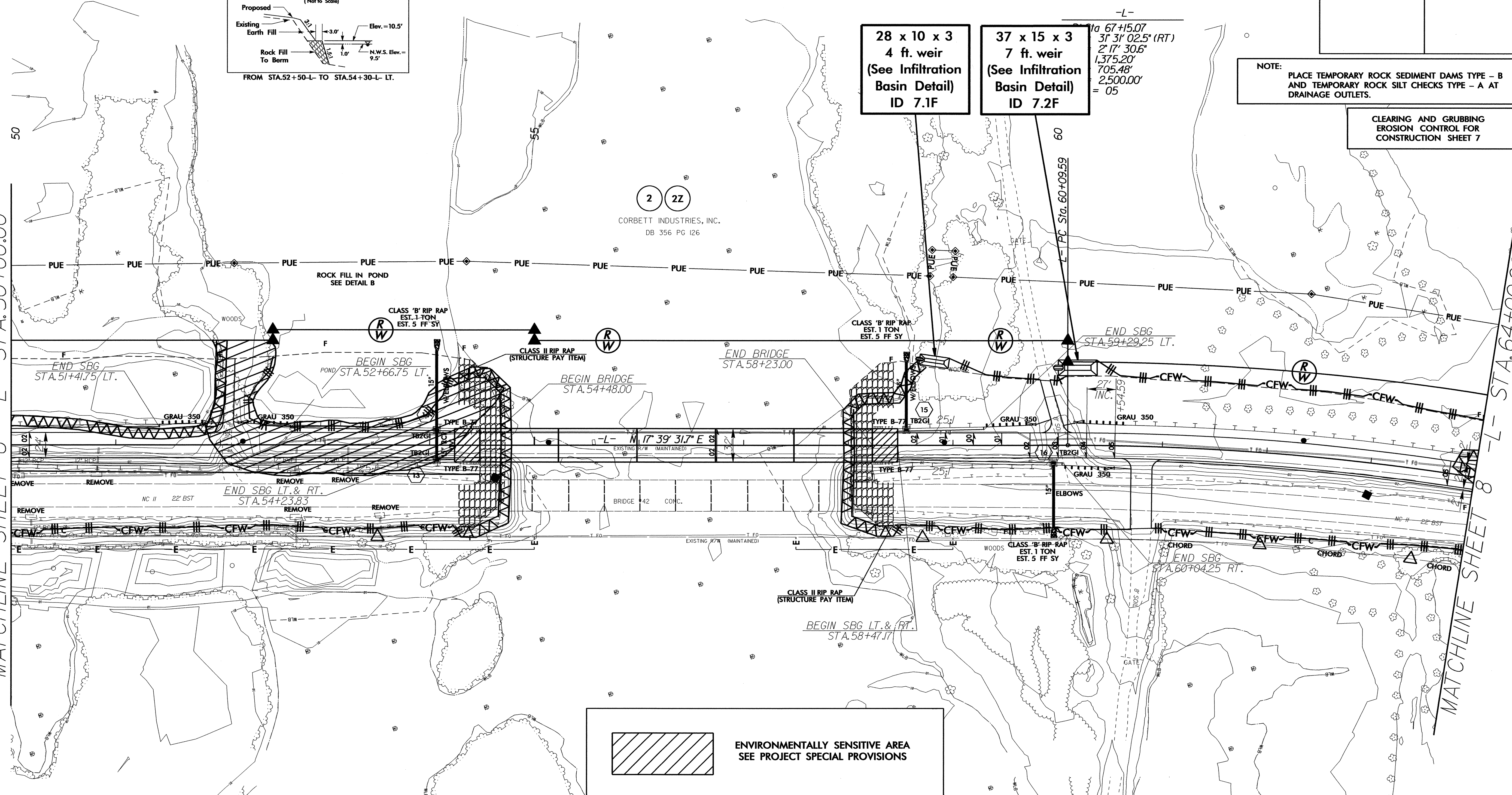
28 x 10 x 3
4 ft. weir
(See Infiltration
Basin Detail)
ID 7.1F

37 x 15 x 3
7 ft. weir
(See Infiltration
Basin Detail)
ID 7.2F

to 67+15.07
3° 31' 02.5" (RT)
2' 17' 30.6"
1,375.20'
705.48'
2,500.00'
= 05

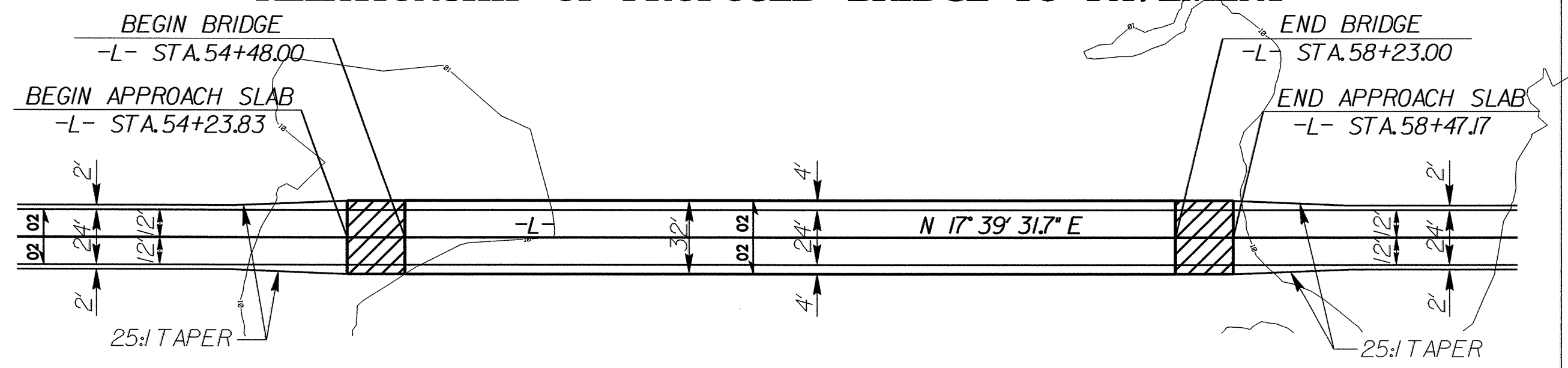
MATCHLINE SHEET 6 -L- STA. 50+00.00

MATCHLINE SHEET 8 -L- STA. 64+00.00



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

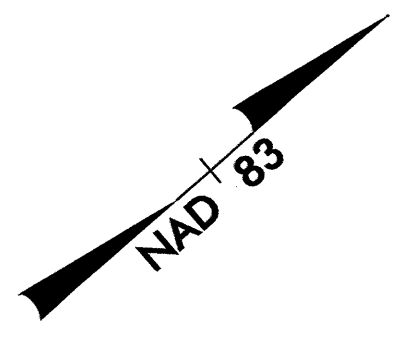
RELATIONSHIP OF PROPOSED BRIDGE TO PAVEMENT



SBG SHOULDER BERM GUTTER
PAVED SHOULDER
BRIDGE APPROACH SLABS
SEE SHEET 10 FOR -L- PROFILE

8/17/99

PROJECT REFERENCE NO. B-4028		SHEET NO. EC-8/CONST.8	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

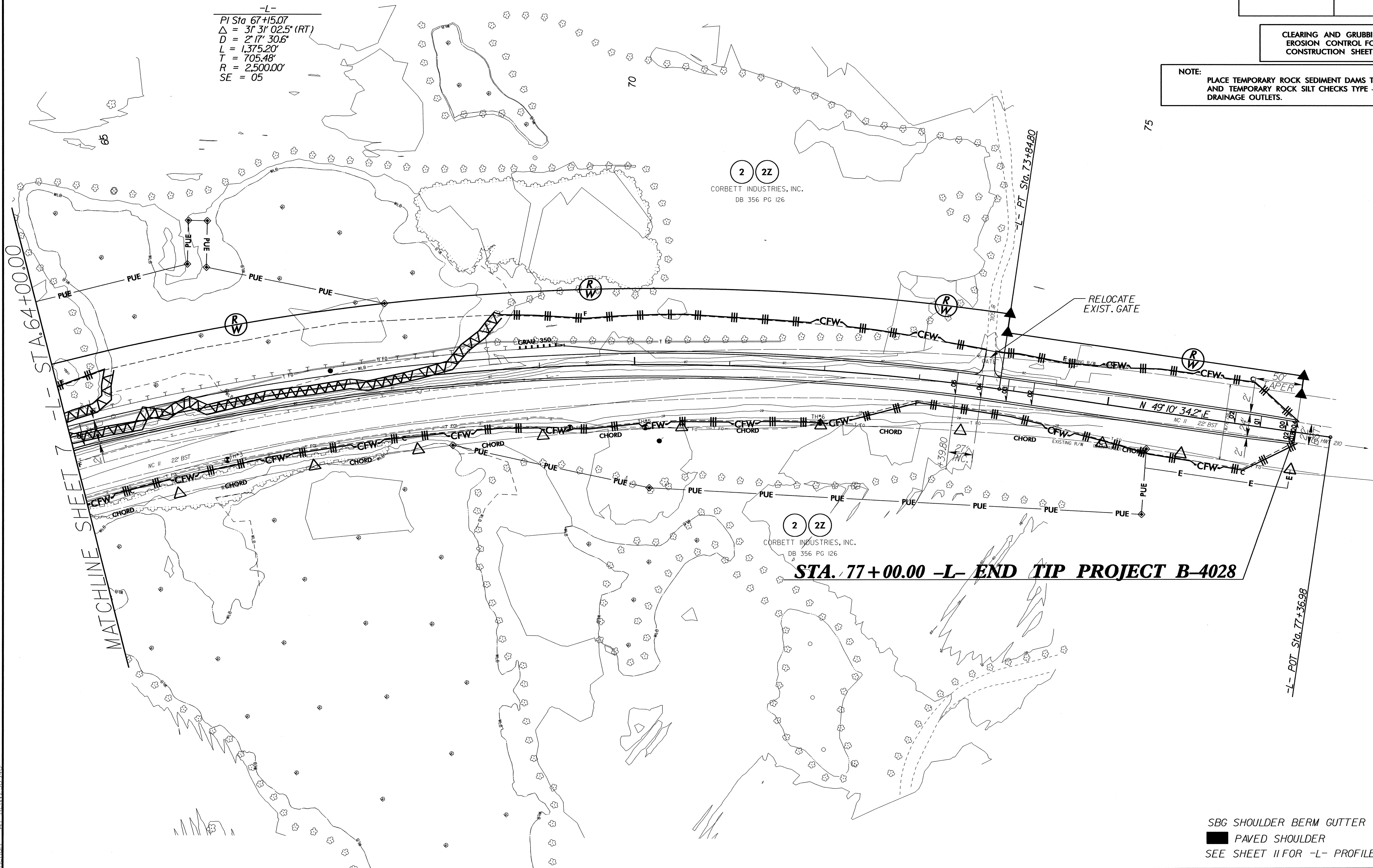
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

-L-
PI Sta 67+15.07
 $\Delta = 31^{\circ} 31' 02.5''$ (RT)
D = 2' 17' 30.6"
L = 1,375.20'
T = 705.48'
R = 2,500.00'
SE = 05

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CORBETT INDUSTRIES, INC.
DB 356 PG 126

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CORBETT INDUSTRIES, INC.
DB 356 PG 126

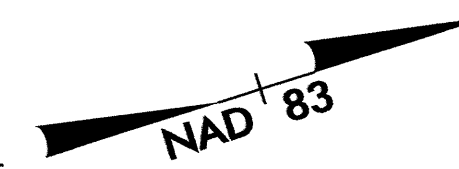
STA. 77+00.00 -L- END TIP PROJECT B-4028



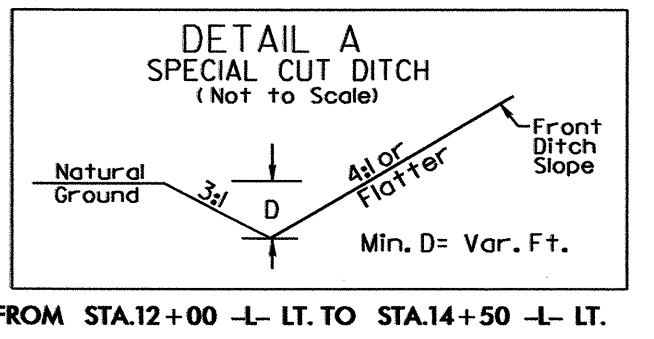
SBG SHOULDER BERM GUTTER
 PAVED SHOULDER
 SEE SHEET 11 FOR -L- PROFILE

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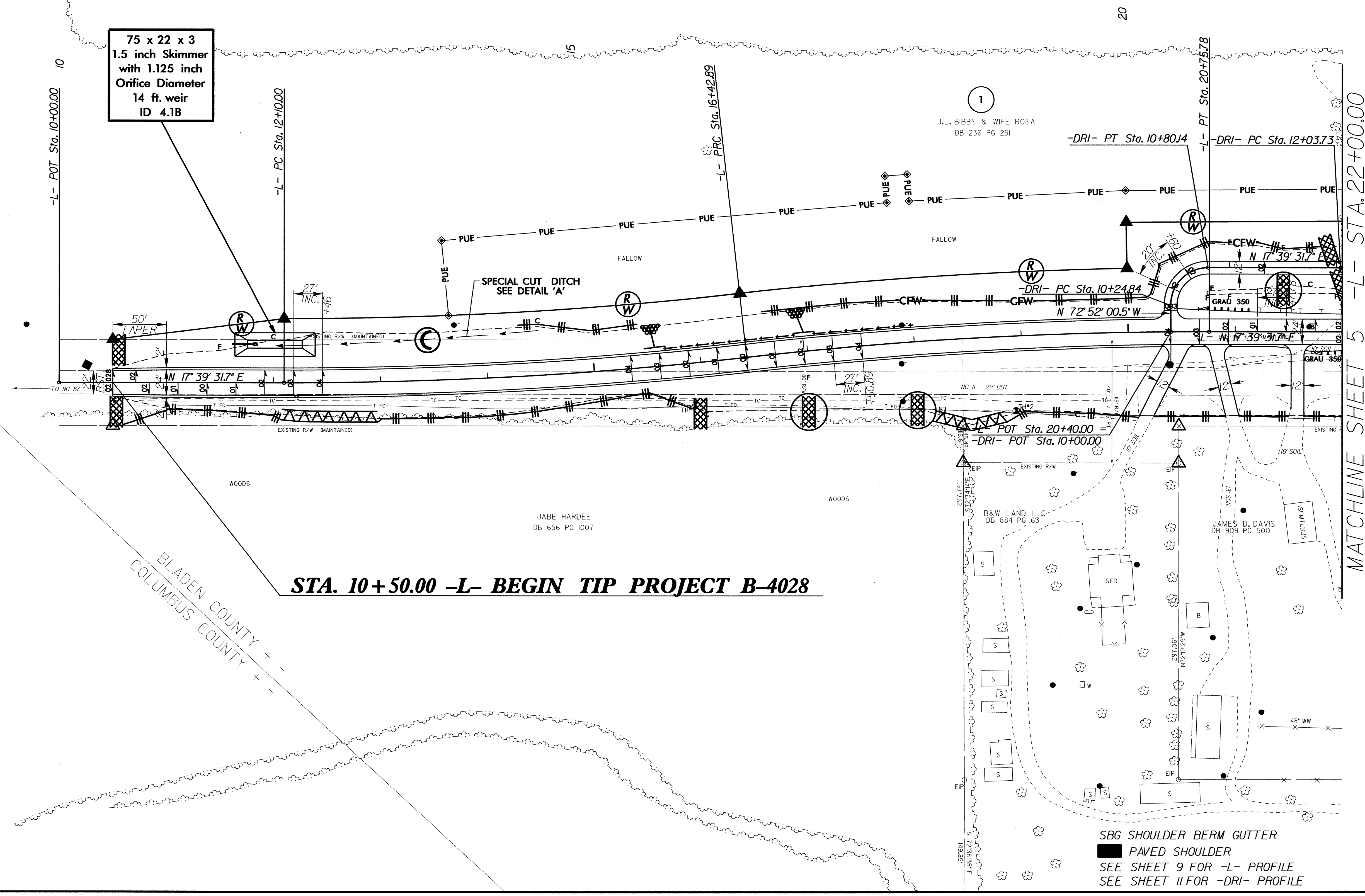
PROJECT REFERENCE NO. B-4028	SHEET NO. EC-9/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-		-DRI-	
PI Sta 14+26.67	PI Sta 18+59.56	PI Sta 10+60.17	PI Sta 12+43.01
$\Delta = 6' 21'' 34.8''$ (LT)	$\Delta = 6' 21'' 34.8''$ (RT)	$\Delta = 90' 31'' 32.2''$ (RT)	$\Delta = 96' 35'' 49.4''$ (LT)
$D = 1' 28'' 08.8''$	$D = 1' 28'' 08.8''$	$D = 163' 42'' 08.0''$	$D = 163' 42'' 08.0''$
$L = 432.89'$	$L = 432.89'$	$L = 55.30'$	$L = 59.01'$
$T = 216.67'$	$T = 216.67'$	$T = 35.32'$	$T = 39.28'$
$R = 3,900.00'$	$R = 3,900.00'$	$R = 35.00'$	$R = 35.00'$
$SE = 04$	$SE = 04$		



**75 x 22 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
14 ft. weir
ID 4.1B**



STA. 10+50.00 -L- BEGIN TIP PROJECT B-4028

SBG SHOULDER BERM GUTTER
 ■ PAVED SHOULDER
 SEE SHEET 9 FOR -L- PROFILE
 SEE SHEET 11 FOR -DRI- PROFILE

8/17/99

20-APR-2012 11:24
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MATCHLINE SHEET 5 -L- STA. 22+00.00

8/17/99

PROJECT REFERENCE NO. B-4028	SHEET NO. EC-10/CONST.5
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

NOTE:
UTILIZE INFILTRATION BASIN
AS STILLING BASIN WHERE APPLICABLE.



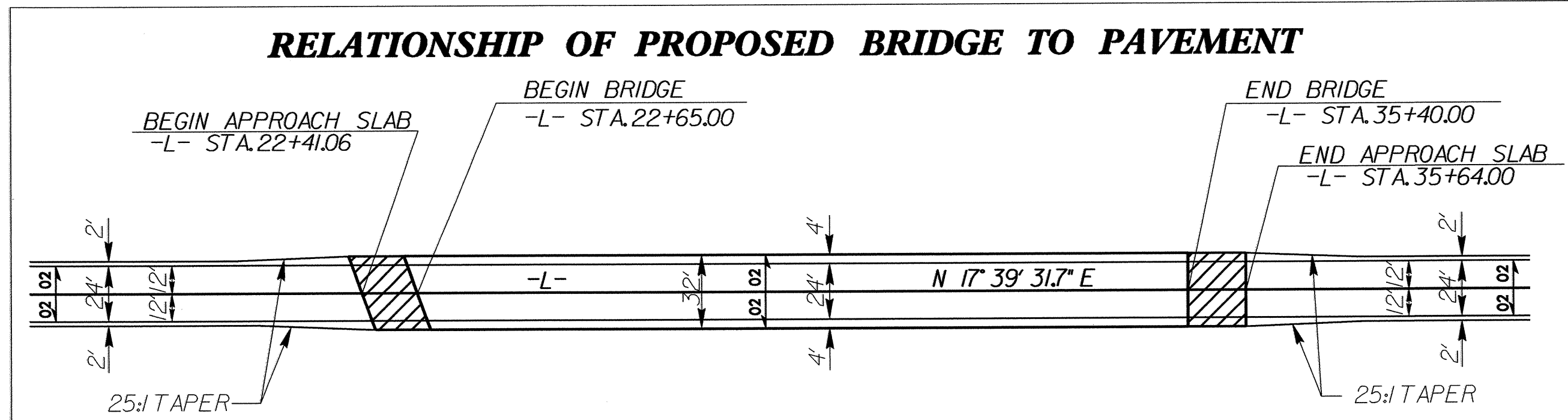
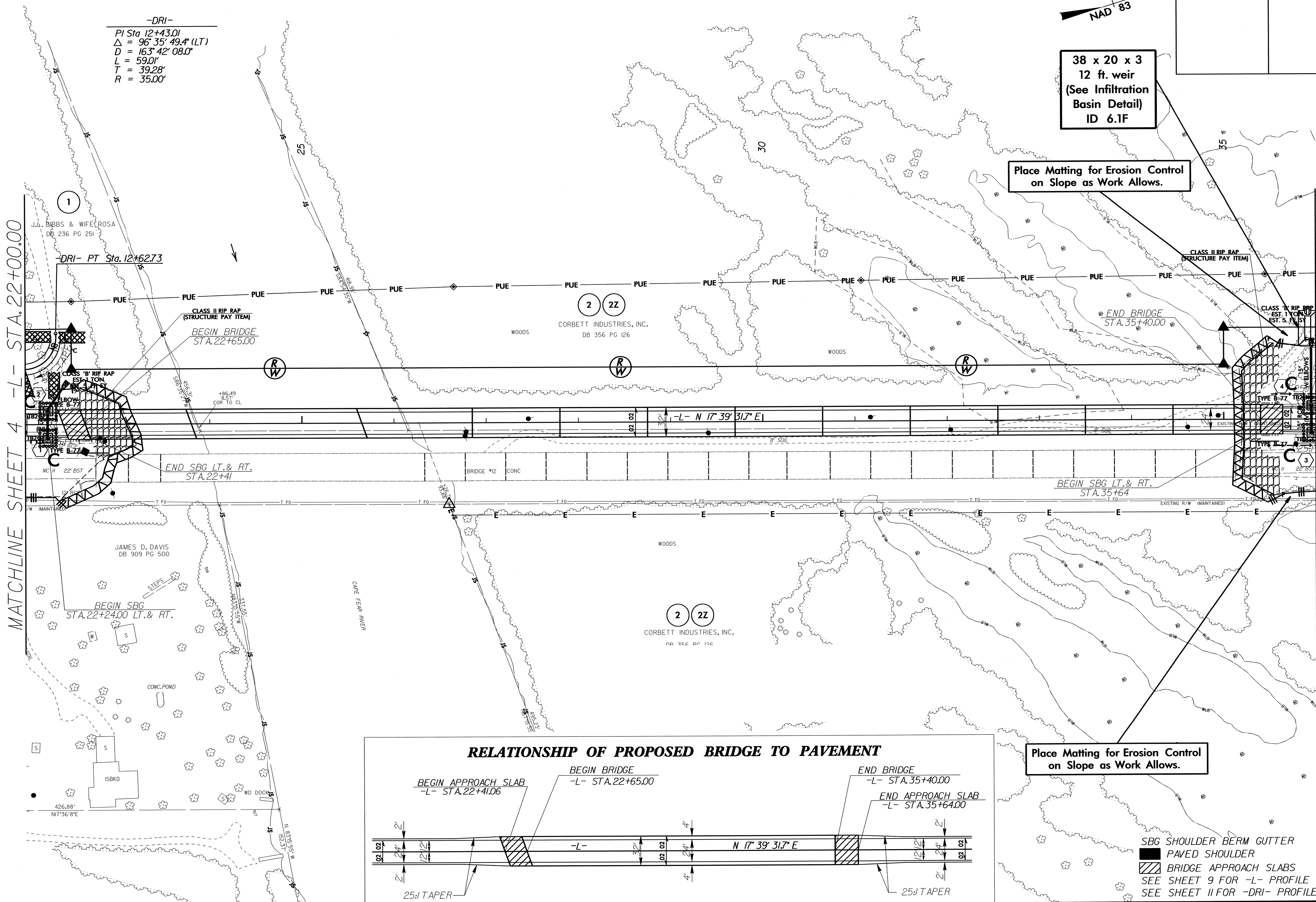
38 x 20 x 3
12 ft. weir
(See Infiltration
Basin Detail)
ID 6.1F

Place Matting for Erosion Control
on Slope as Work Allows.

-DRI-
PI Sta 12+43.01
 $\Delta = 96^{\circ} 35' 49.4" (LT)$
 $D = 163^{\circ} 42' 08.0"$
 $L = 59.0'$
 $T = 39.28'$
 $R = 35.00'$

MATCHLINE SHEET 4 -L- STA. 22+00.00

MATCHLINE SHEET 6 -L- STA. 36+00.00

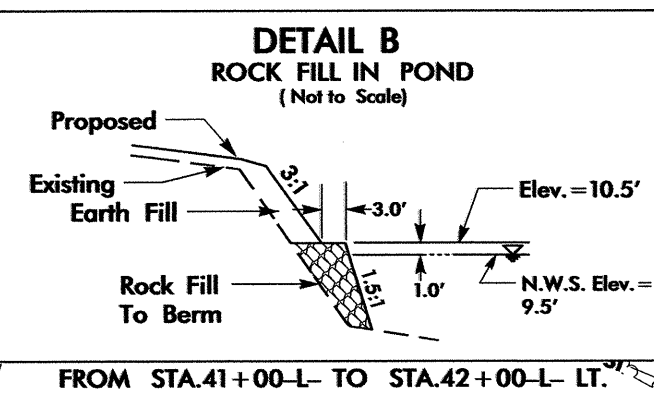


Place Matting for Erosion Control
on Slope as Work Allows.

SBG SHOULDER BERM GUTTER
PAVED SHOULDER
BRIDGE APPROACH SLABS
SEE SHEET 9 FOR -L- PROFILE
SEE SHEET 11 FOR -DRI- PROFILE

20-APR-2012 11:29
R:\Environmental\Design\B-4028-EC.pst\5.dgn
Richard AT 11:29:55 AM

PROJECT REFERENCE NO. B-4028	SHEET NO. EC-II/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



Place Matting for Erosion Control on Slope as Work Allows.

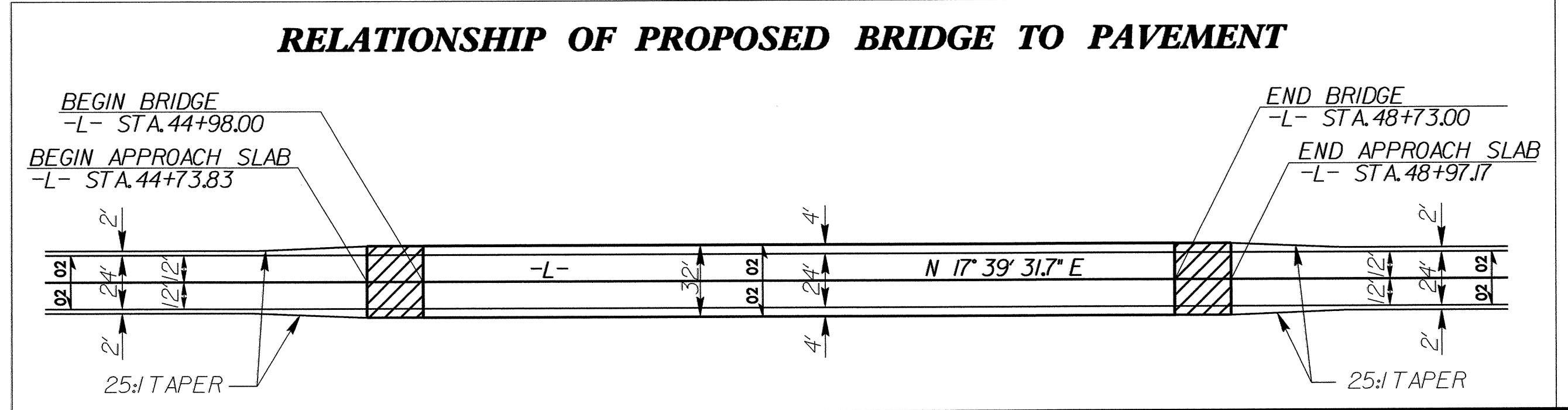
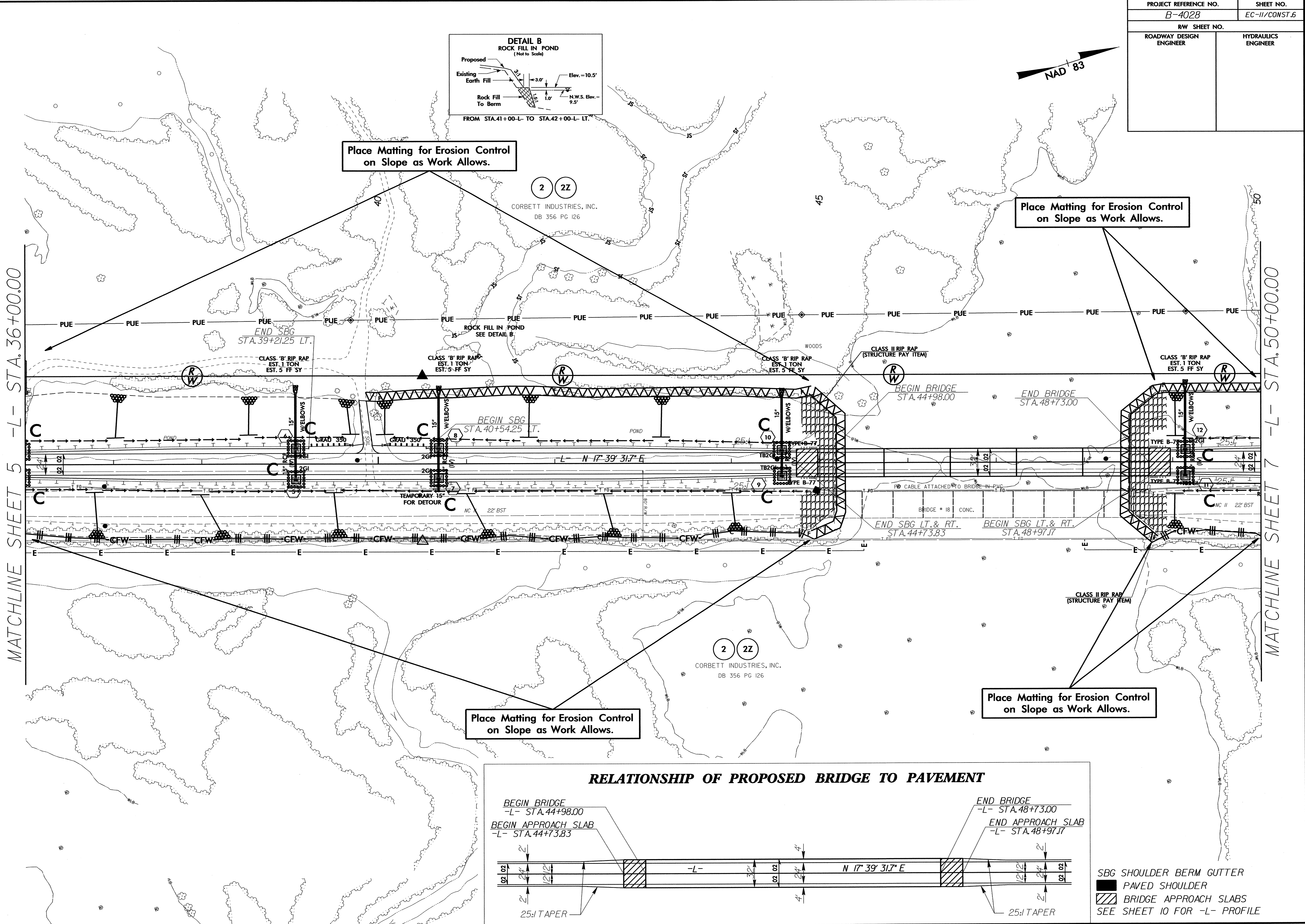
Place Matting for Erosion Control on Slope as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows.

MATCHLINE SHEET 5 -L- STA. 36+00.00

MATCHLINE SHEET 7 -L- STA. 50+00.00

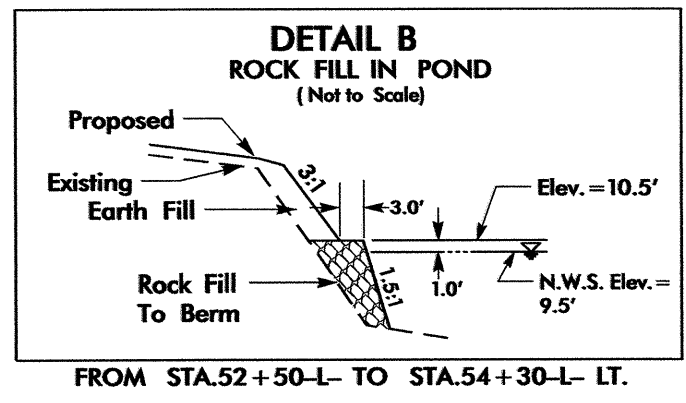


SBG SHOULDER BERM GUTTER
 ■ PAVED SHOULDER
 ▨ BRIDGE APPROACH SLABS
 SEE SHEET 10 FOR -L- PROFILE

8/17/99
 20-APR-2012 11:31
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PROJECT REFERENCE NO.	SHEET NO.
B-4028	EC-12/CONST.7
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

NOTE:
UTILIZE INFILTRATION BASIN
AS STILLING BASIN WHERE APPLICABLE.



Place Matting for Erosion Control
on Slope as Work Allows.

28 x 10 x 3
4 ft. weir
(See Infiltration
Basin Detail)
ID 7.1F

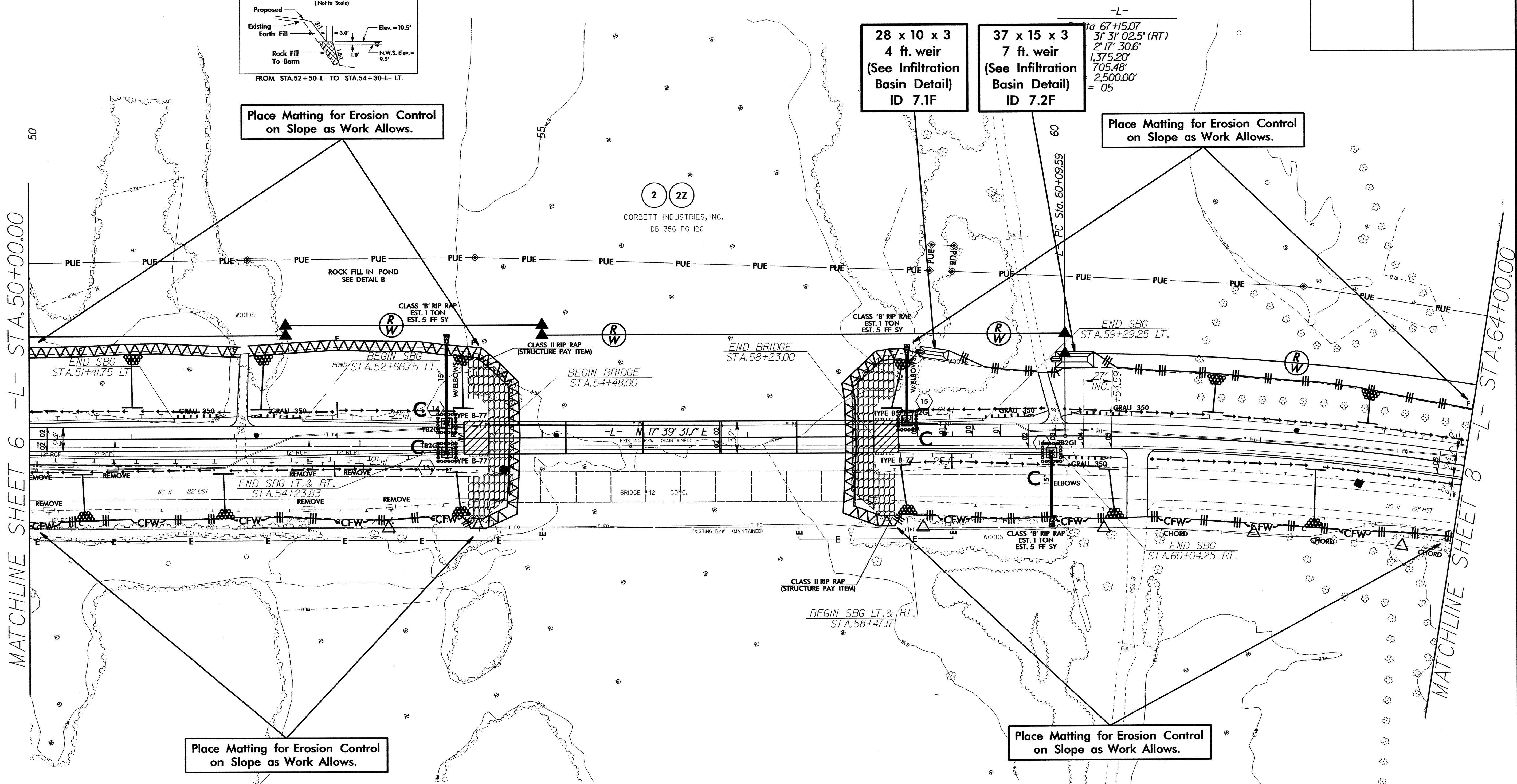
37 x 15 x 3
7 ft. weir
(See Infiltration
Basin Detail)
ID 7.2F

Sta 67+15.07
31' 31" 02.5" (RT)
2' 17" 30.6"
1,375.20'
705.48'
2,500.00'
= 05

Place Matting for Erosion Control
on Slope as Work Allows.

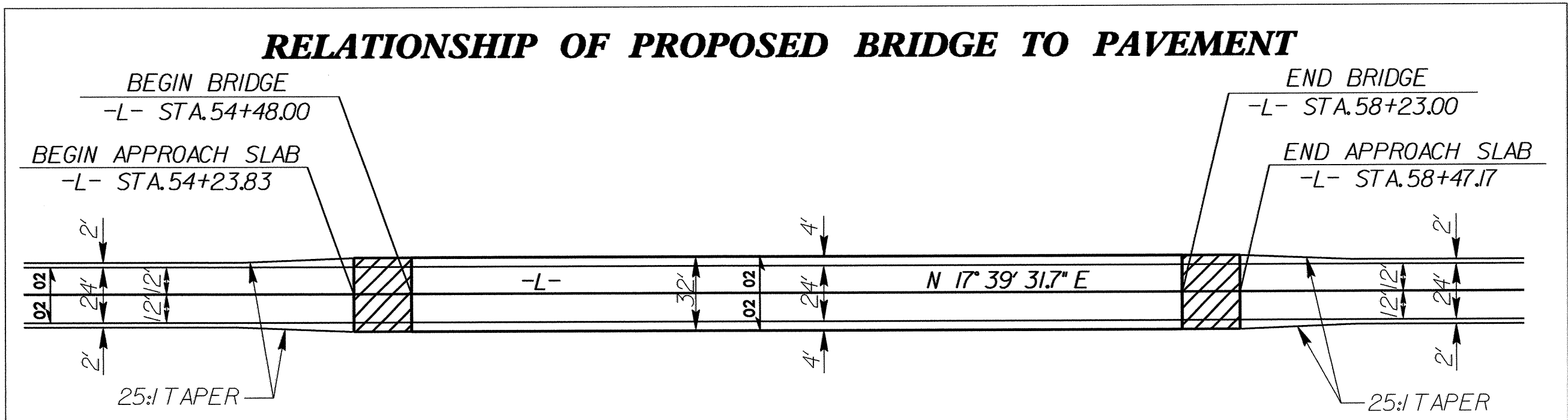
MATCHLINE SHEET 6 -L- STA.50+00.00

MATCHLINE SHEET 8 -L- STA.64+00.00



Place Matting for Erosion Control
on Slope as Work Allows.

Place Matting for Erosion Control
on Slope as Work Allows.

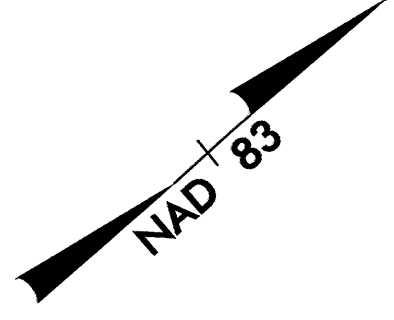


SBG SHOULDER BERM GUTTER
 PAVED SHOULDER
 BRIDGE APPROACH SLABS
 SEE SHEET 10 FOR -L- PROFILE

8/17/99
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chad

8/17/99

PROJECT REFERENCE NO. B-4028		SHEET NO. EC-13/CONST.8	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			



-L-
 PI Sta. 67+15.07
 $\Delta = 31^{\circ} 31' 02.5''$ (RT)
 $D = 217' 30.6''$
 $L = 1,375.20'$
 $T = 705.48'$
 $R = 2,500.00'$
 $SE = 05$

34 x 14 x 3
 6 ft. weir
 (See Infiltration
 Basin Detail)
 ID 8.1F

28 x 12 x 3
 4 ft. weir
 (See Infiltration
 Basin Detail)
 ID 8.2F

29 x 12 x 3
 4 ft. weir
 (See Infiltration
 Basin Detail)
 ID 8.3F

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2 2Z
 CORBETT INDUSTRIES, INC.
 DB 356 PG 126

STA. 77+00.00 -L- END TIP PROJECT B-4028

STA. 64+00.00

MATCHLINE SHEET

-L- PT Sta. 73+84.80

-L- POT Sta. 77+36.98

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 rchen AT REN256348

SBG SHOULDER BERM GUTTER
 PAVED SHOULDER
 SEE SHEET II FOR -L- PROFILE