TIP PROJECT: B-4542

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4542	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

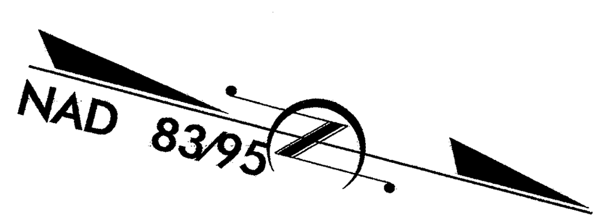
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

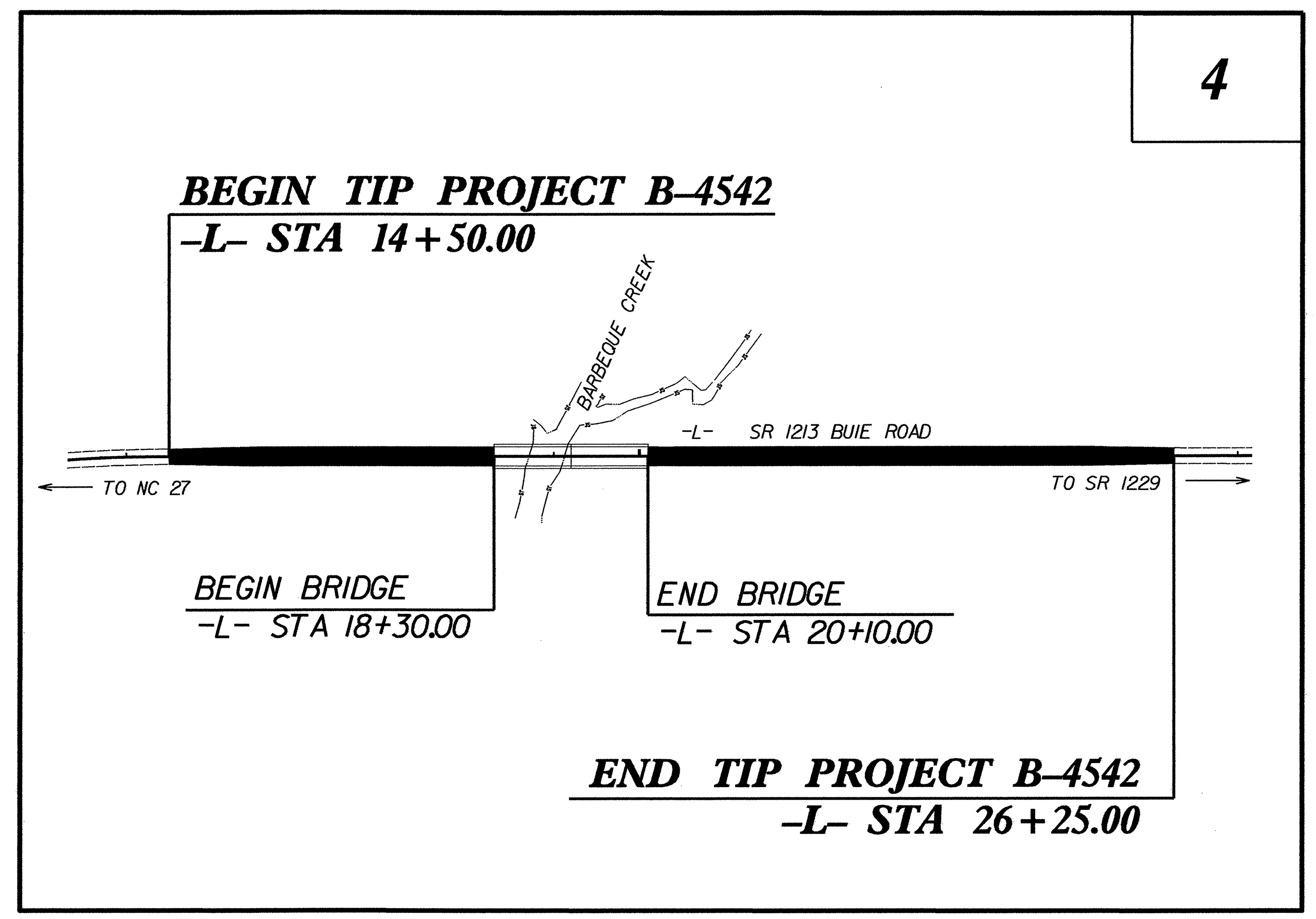
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

HARNETT COUNTY

LOCATION: BRIDGE NO. 40 OVER BARBEQUE CREEK ON SR 1213 (BUIE ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE





EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
	Temporary Rock Silt Check Type-B	
	Coir Fiber Wattle	
	Wattle with Polyacrylamide (PAM)	
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.

GRAPHIC SCALE

0
PLANS
0
PROFILE (HORIZONTAL)
0
PROFILE (VERTICAL)

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 revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence
1607.01 Gravel Construction Entrance
1622.01 Temporary Berms and Slope Drains
1630.03 Temporary Silt Ditch
1632.03 Rock Inlet Sediment Trap Type C
1633.01 Temporary Rock Silt Check Type A

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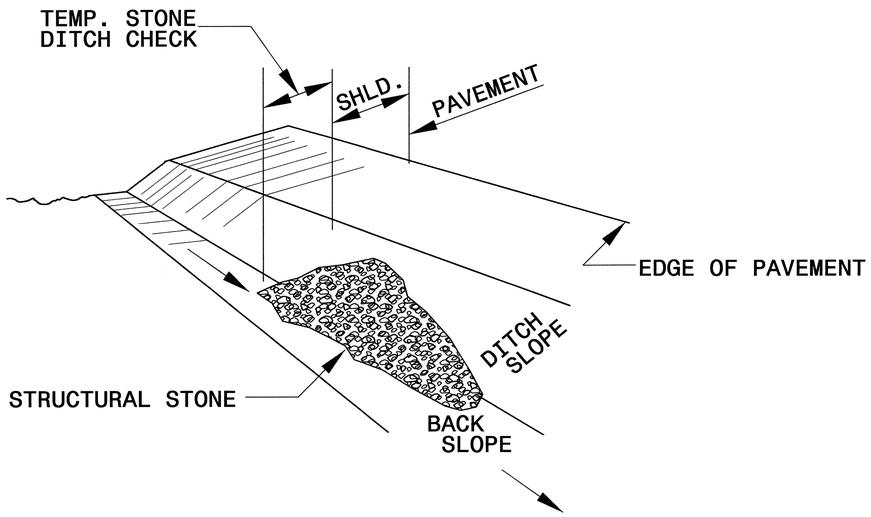
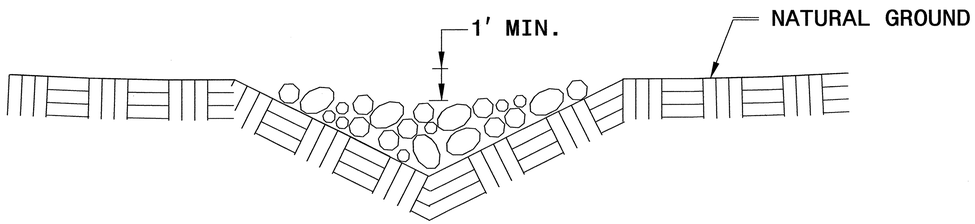
jagoodwin AT RENV247770

PROJECT REFERENCE NO.	SHEET NO.
B-4542	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

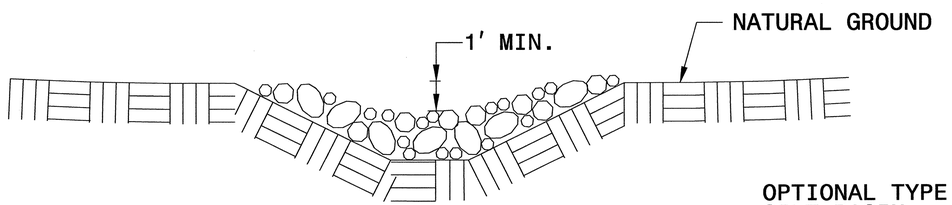
TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH

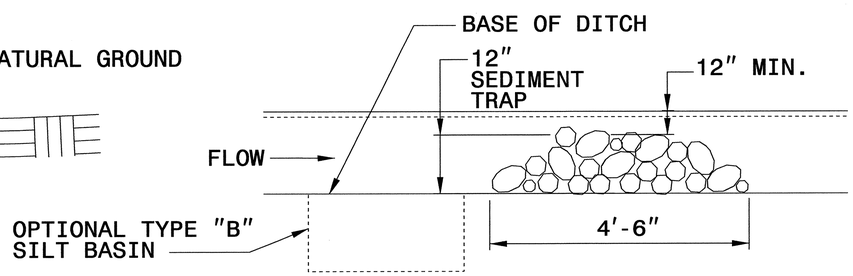


CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

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

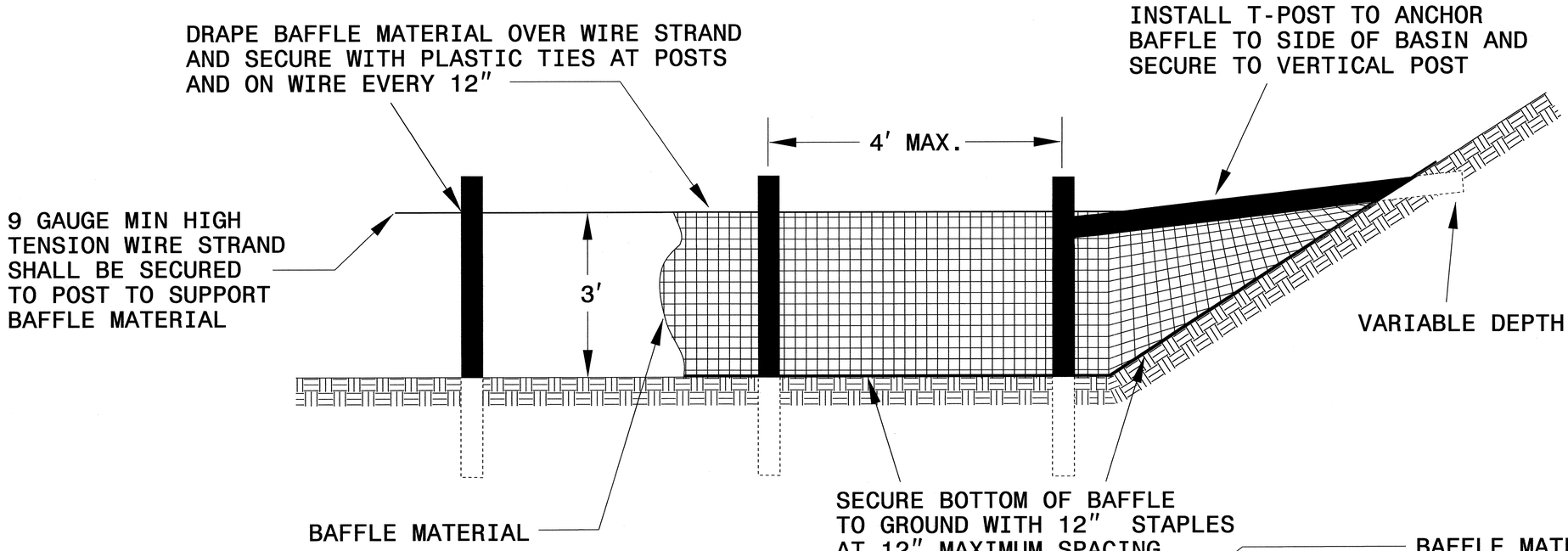
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.

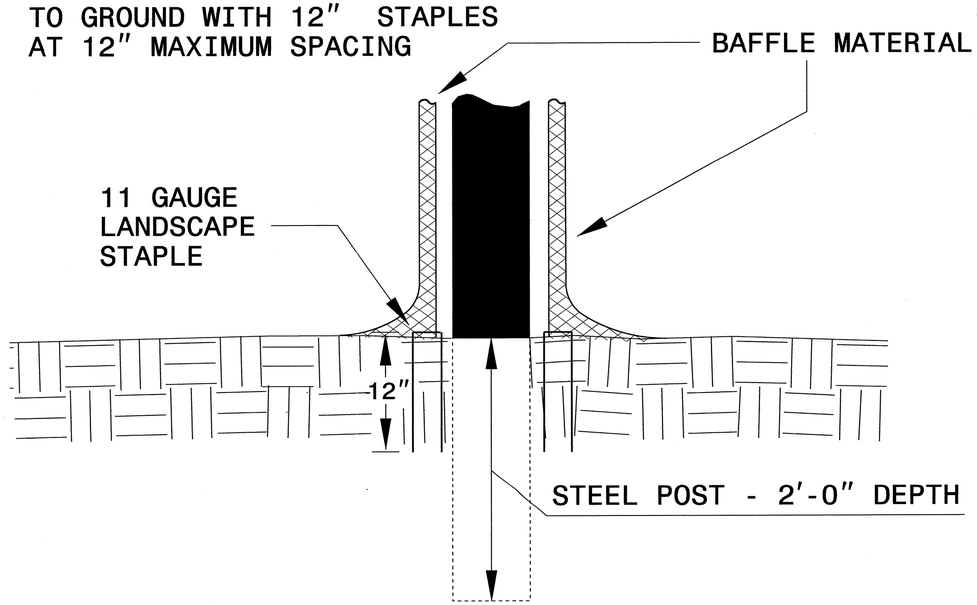


ELEVATION VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4542	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL





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

NOTES:

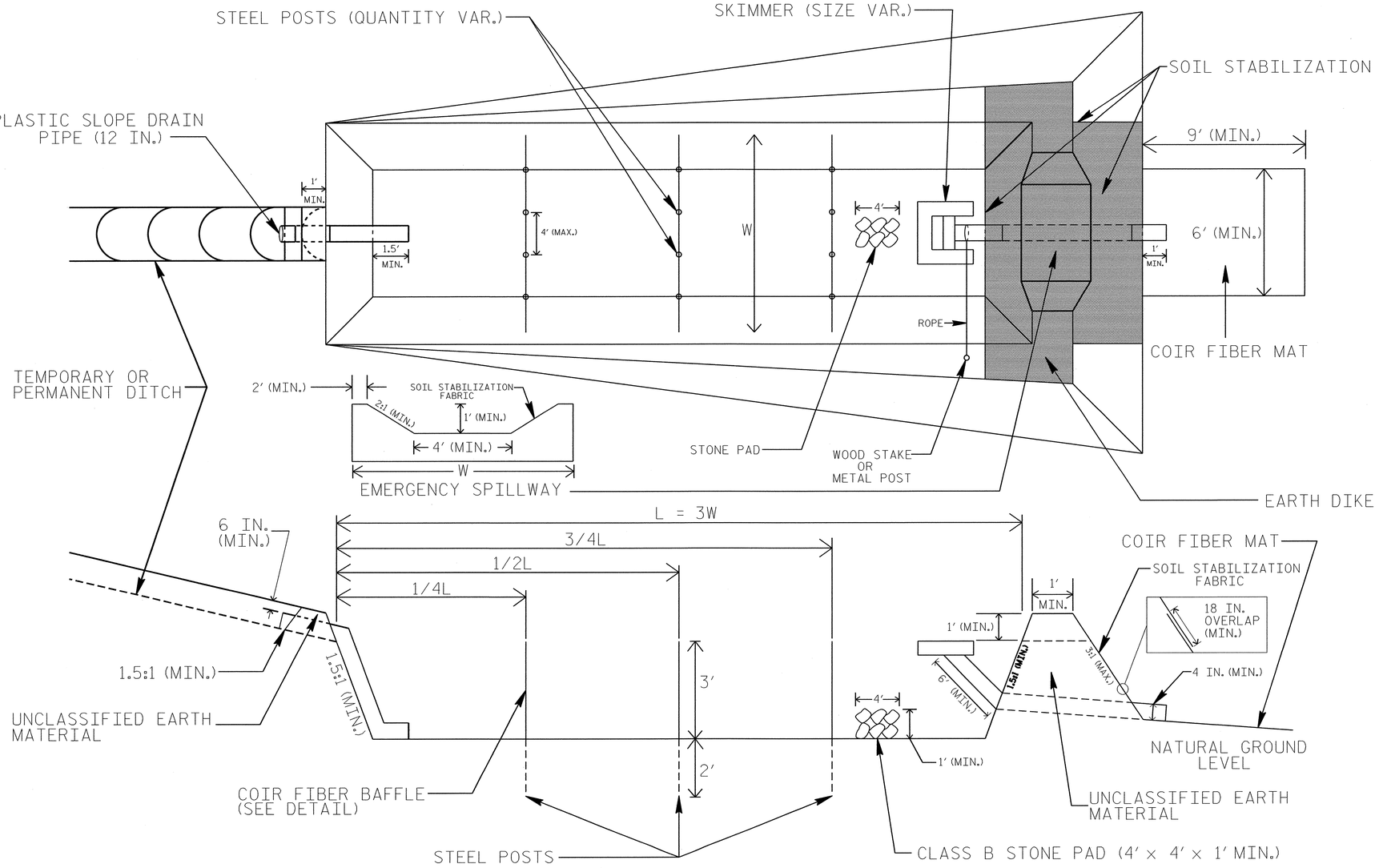
1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH.

2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

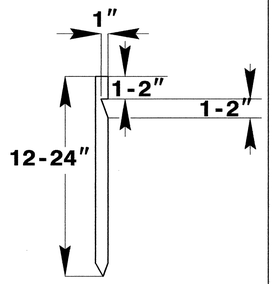
3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.

PROJECT REFERENCE NO.	SHEET NO.
B-4542	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

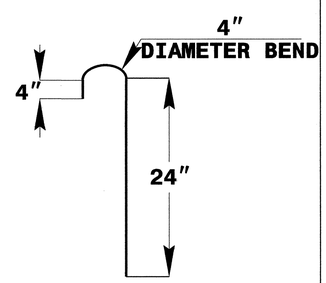
SKIMMER BASIN WITH BAFFLES DETAIL



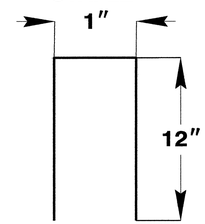
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

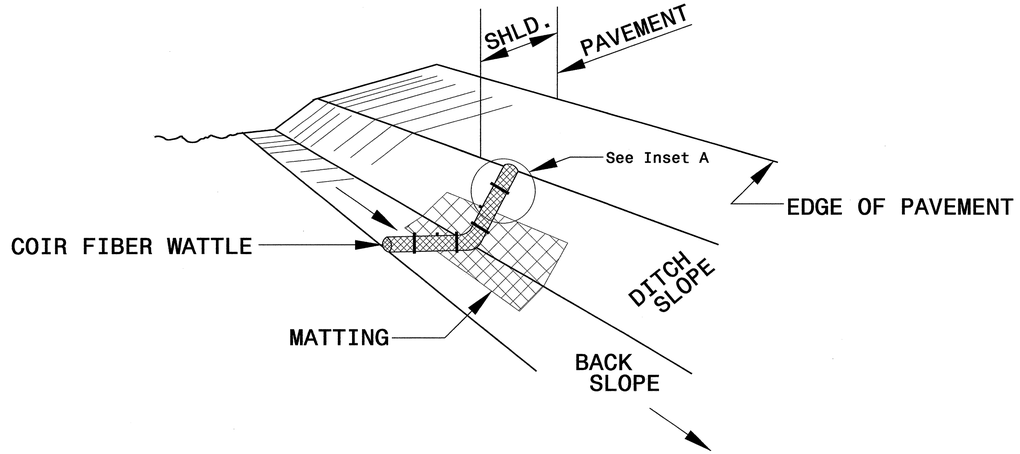
NOTES

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

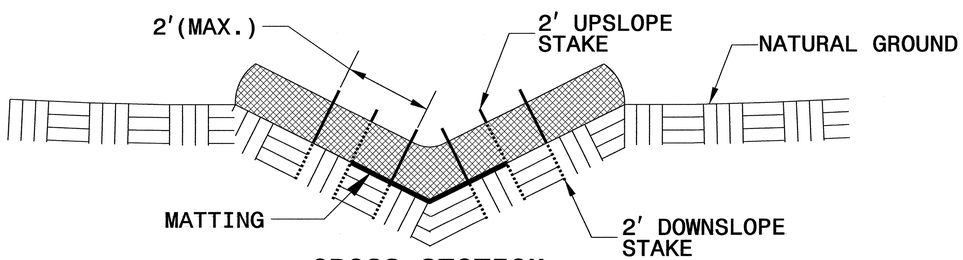
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4542	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

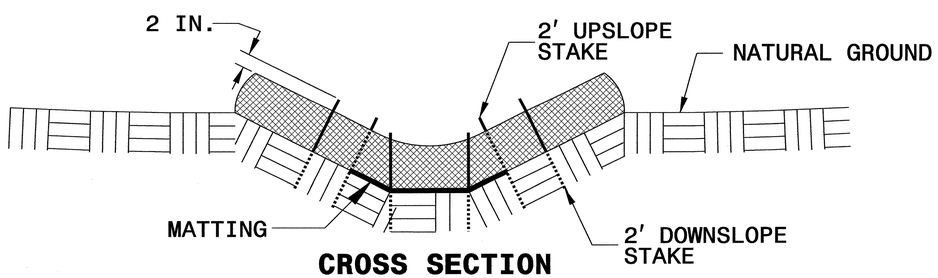
COIR FIBER WATTLE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

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.

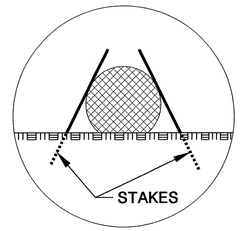
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

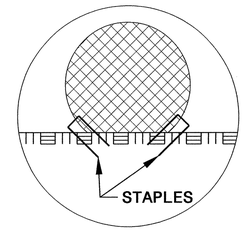
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

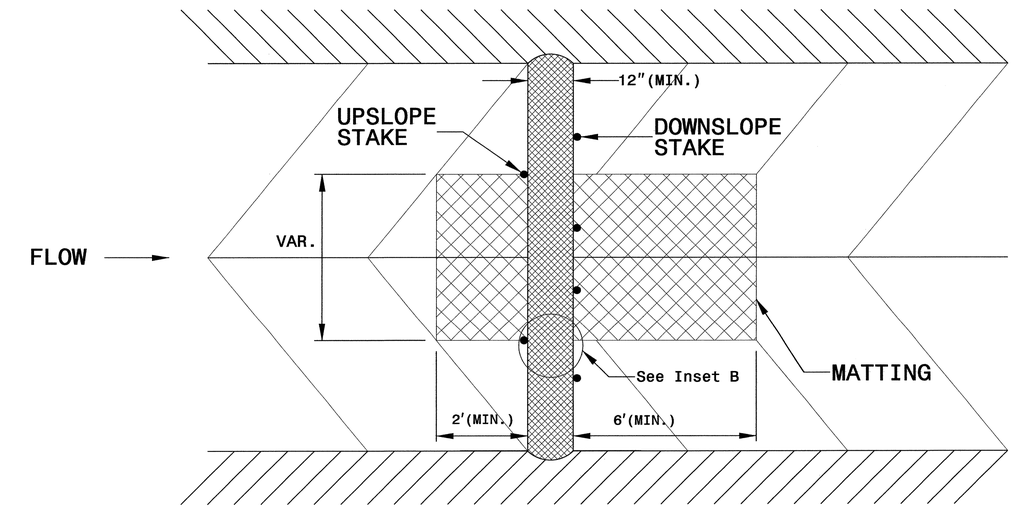
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A



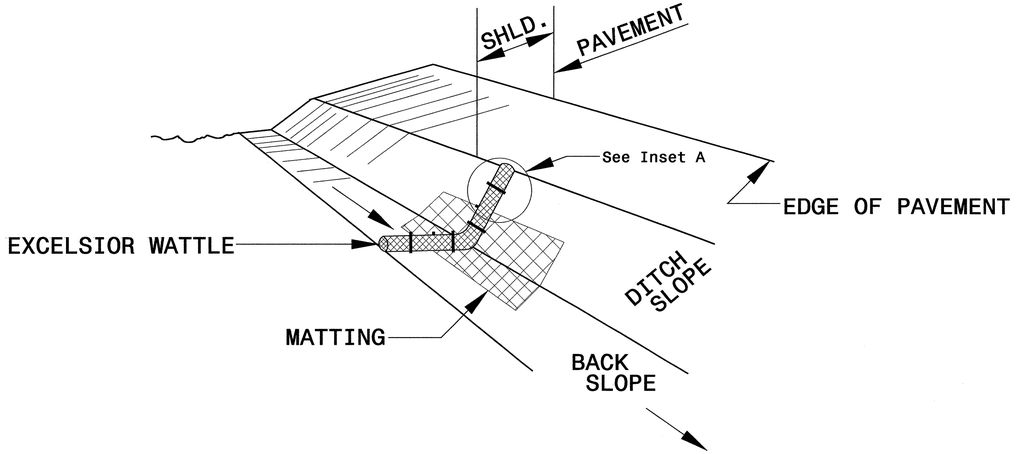
INSET B



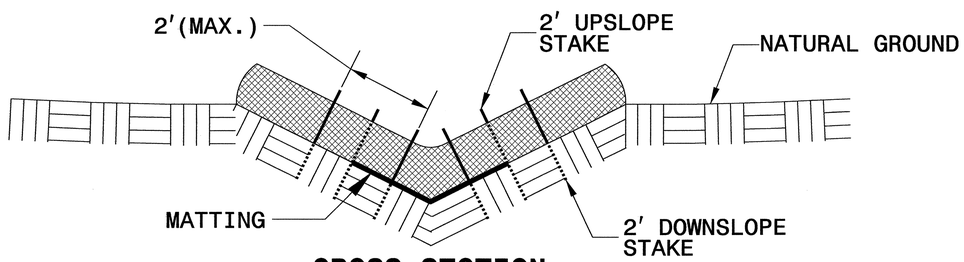
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4542	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

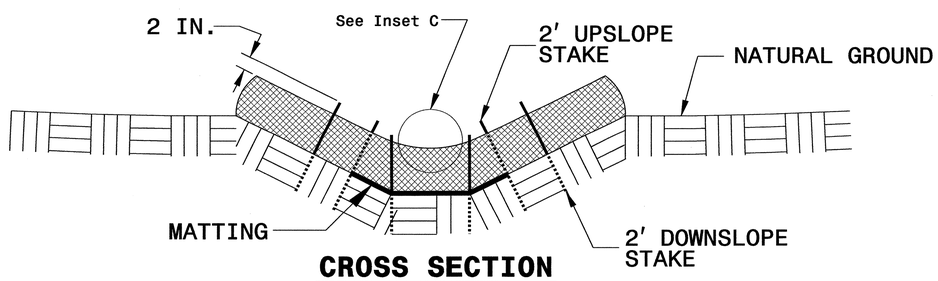
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

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.

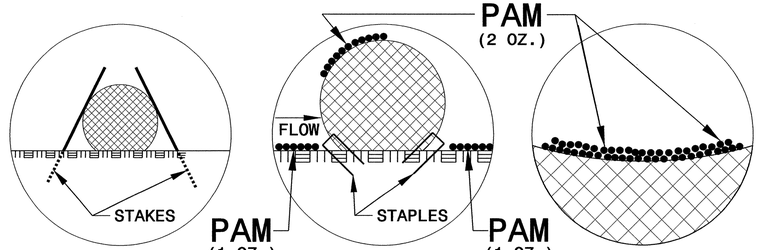
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

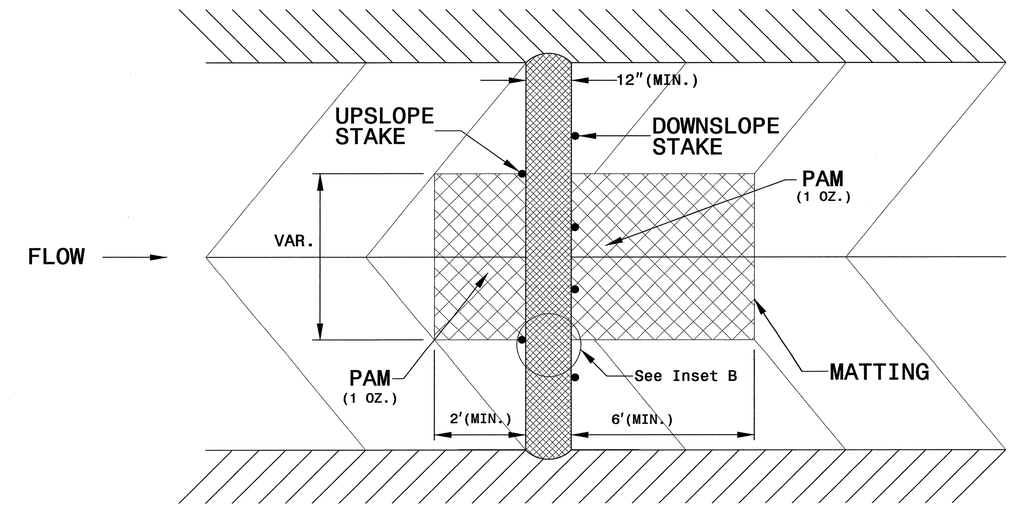
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.

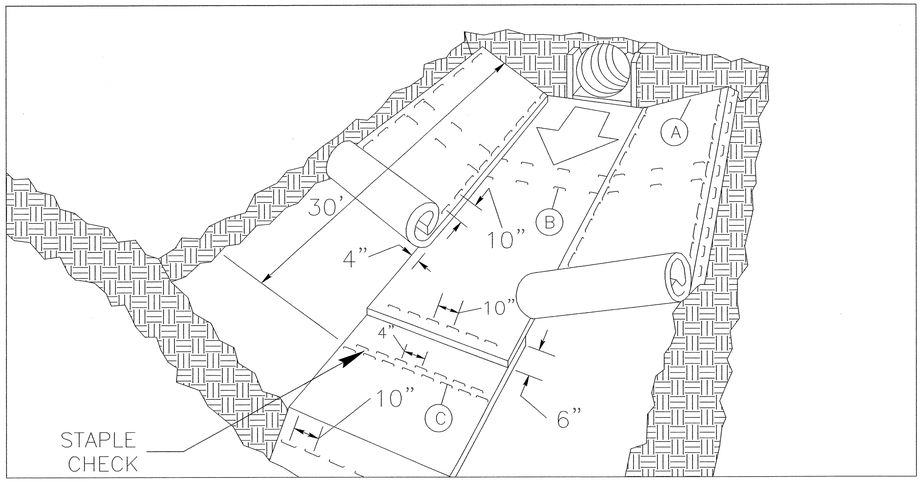




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4542	EC-2E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

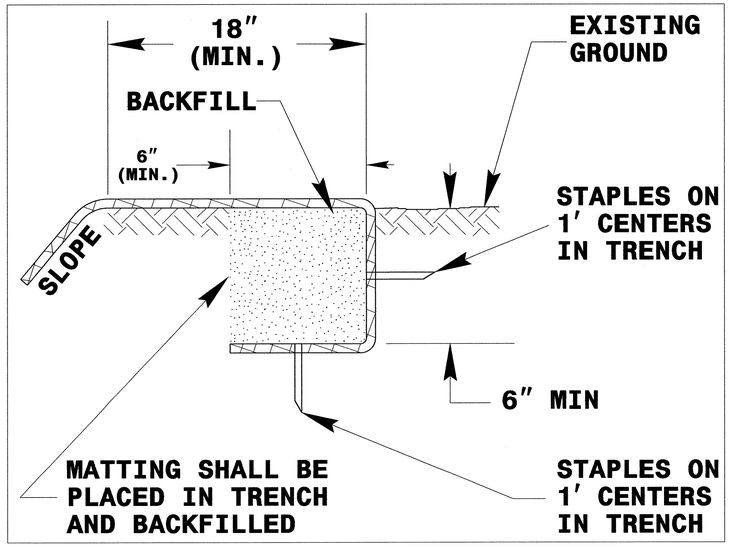
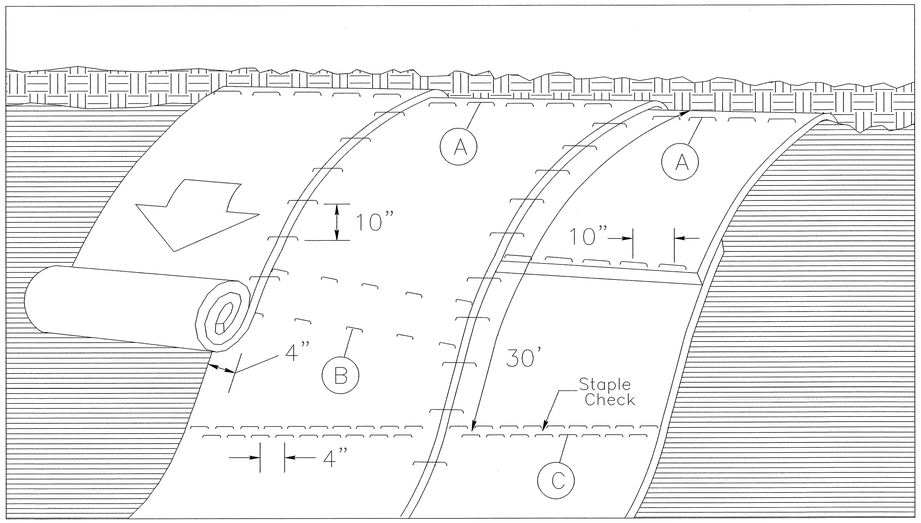


DIAGRAM (A)



MATTING ON SLOPES

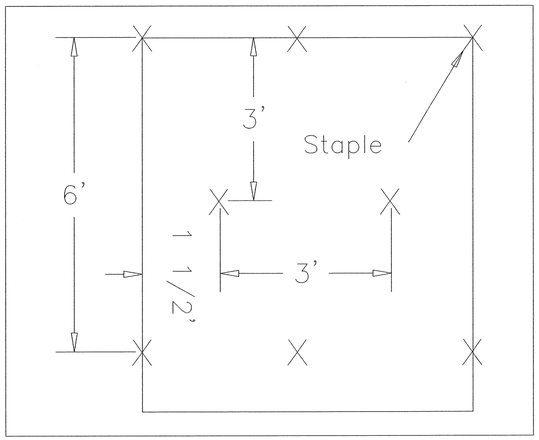


DIAGRAM (B)

Staple Check Pattern

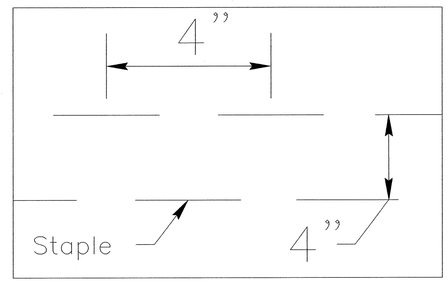


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4542	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	L	22+50	23+00	RT	60
				SUBTOTAL	60
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					2000
				TOTAL	2060
				SAY	2100

MATTING FOR EROSION CONTROL

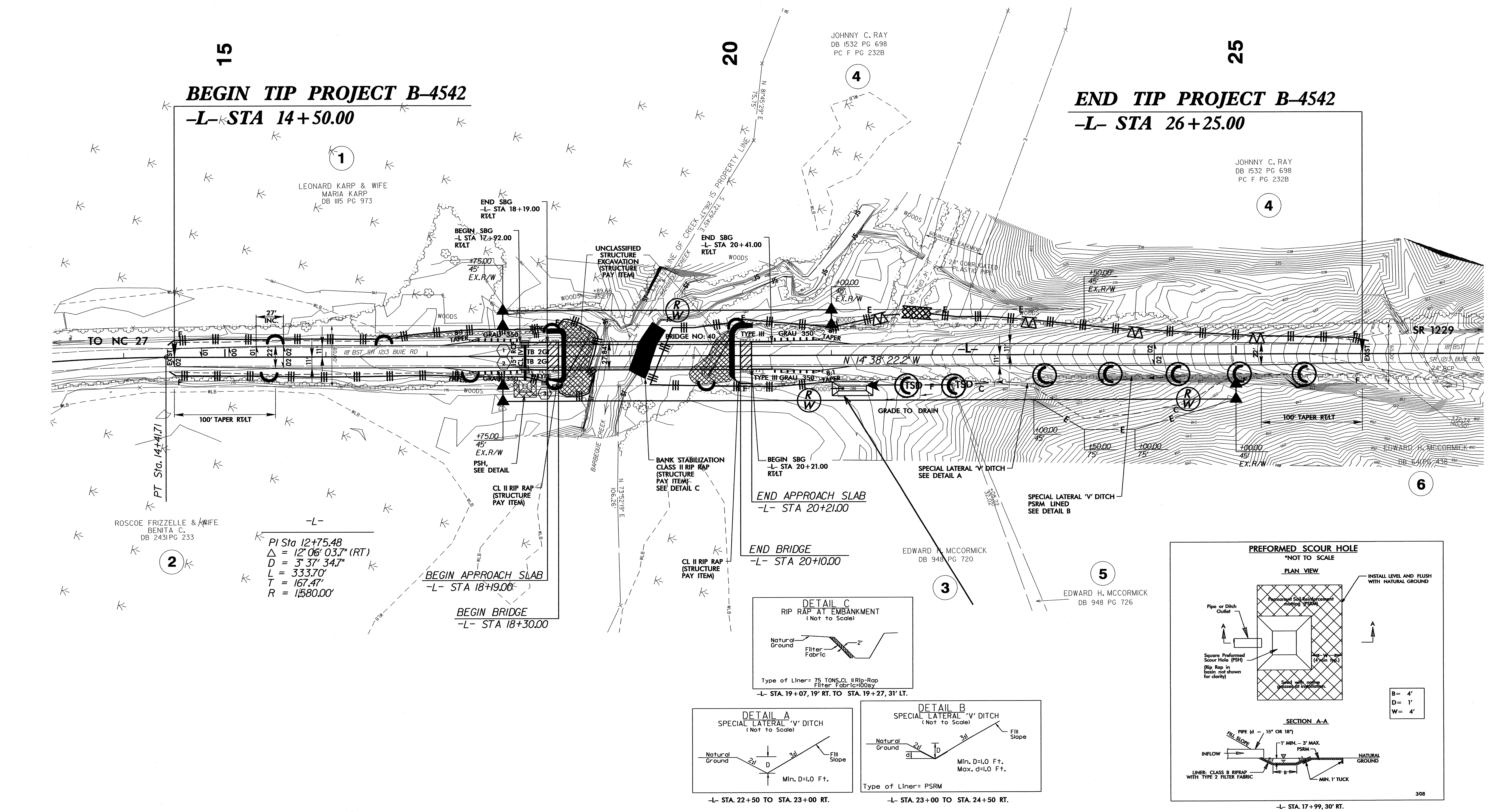
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

PROJECT REFERENCE NO.	SHEET NO.
B-4542	EC-04/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
UTILIZE 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 04



NAD 83/95
15
20
25
BEGIN TIP PROJECT B-4542
-L- STA 14+50.00
END TIP PROJECT B-4542
-L- STA 26+25.00
LEONARD KARP & WIFE
MARIA KARP
DB 1115 PG 973
JOHNNY C. RAY
DB 1532 PG 698
PC F PG 232B
ROSCOE FRIZZELLE & WIFE
BENITA C.
DB 2431 PG 233
EDWARD H. MCCORMICK
DB 948 PG 720
EDWARD H. MCCORMICK
DB 948 PG 726
TO NC 27
SR 1229
18' BST SR 1213 BUIE RD
N 14° 38' 22.2" W
BRIDGE NO. 40
PT Sta. 14+41.71
100' TAPER RT/LT
END SBG
-L- STA 18+19.00
RT/LT
BEGIN SBG
-L STA 17+92.00
RT/LT
END SBG
-L- STA 20+41.00
RT/LT
BEGIN SBG
-L- STA 20+21.00
RT/LT
UNCLASSIFIED STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)
BANK STABILIZATION CLASS II RIP RAP (STRUCTURE PAY ITEM) SEE DETAIL C
CL II RIP RAP (STRUCTURE PAY ITEM)
PSH, SEE DETAIL
GRADE TO DRAIN
SPECIAL LATERAL 'V' DITCH SEE DETAIL A
SPECIAL LATERAL 'V' DITCH PSRM LINED SEE DETAIL B
-L-
PI Sta 12+75.48
Δ = 12° 06' 03.7" (RT)
D = 3° 37' 34.7"
L = 333.70'
T = 167.47'
R = 1,580.00'
BEGIN APPROACH SLAB
-L- STA 18+19.00
BEGIN BRIDGE
-L- STA 18+30.00
END BRIDGE
-L- STA 20+10.00
END APPROACH SLAB
-L- STA 20+21.00
DETAIL C
RIP RAP AT EMBANKMENT
(Not to Scale)
Natural Ground
Filter Fabric
Type of Liner= 75 TONS.CL II Rip-Rap Filter Fabric=100sy
-L- STA. 19+07, 19' RT. TO STA. 19+27, 31' LT.
DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D=1.0 Ft.
-L- STA. 22+50 TO STA. 23+00 RT.
DETAIL B
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D=1.0 Ft.
Max. d=1.0 Ft.
Type of Liner= PSRM
-L- STA. 23+00 TO STA. 24+50 RT.
PREFORMED SCOUR HOLE
*NOT TO SCALE
PLAN VIEW
INSTALL LEVEL AND FLUSH WITH NATURAL GROUND
Pipe or Ditch Outlet
Square Preformed Scour Hole (PSH)
SECTION A-A
INFLOW
NATURAL GROUND
LINER: CLASS B RIPRAP WITH TYPE 2 FILTER FABRIC
MIN. 1' TUCK
B= 4'
D= 1'
W= 4'
-L- STA. 17+99, 30' RT.

5/14/99

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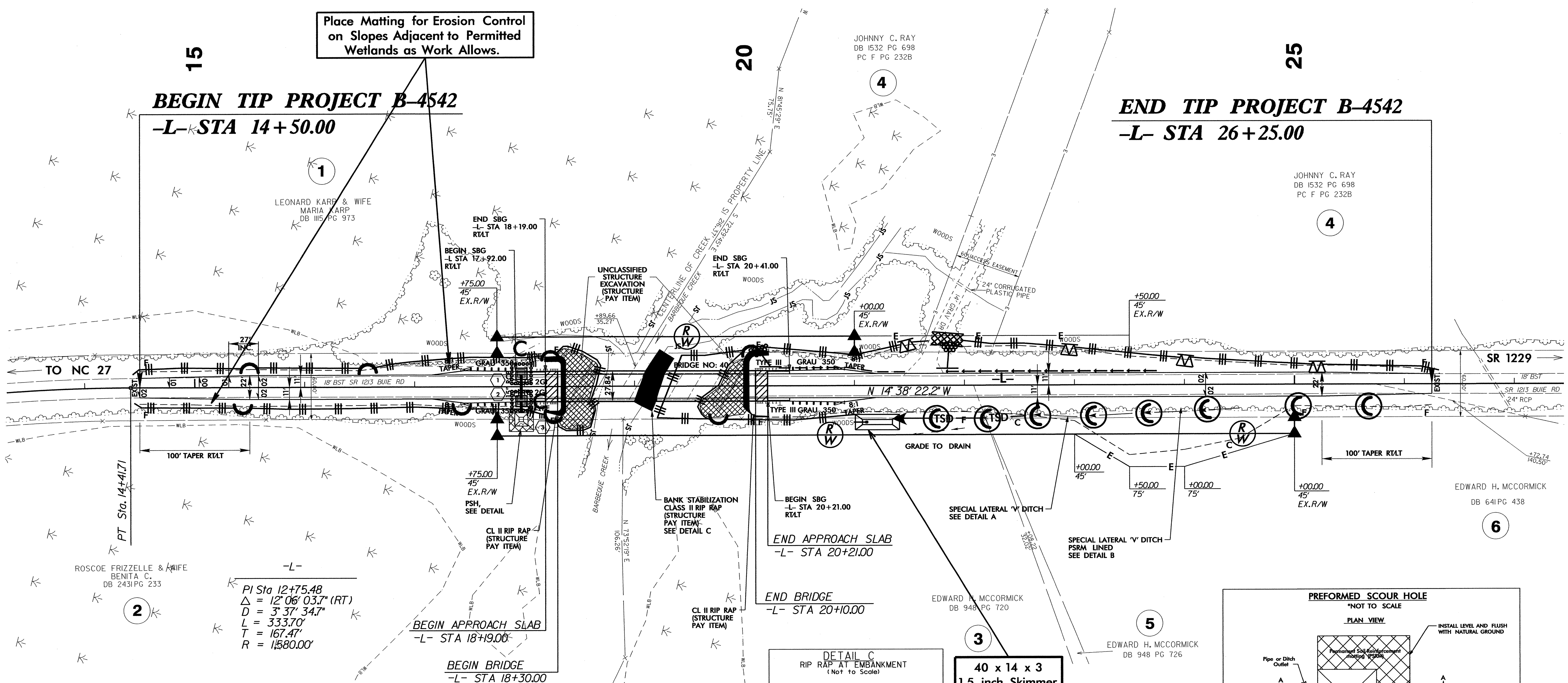
Jagodzin AT REN247720

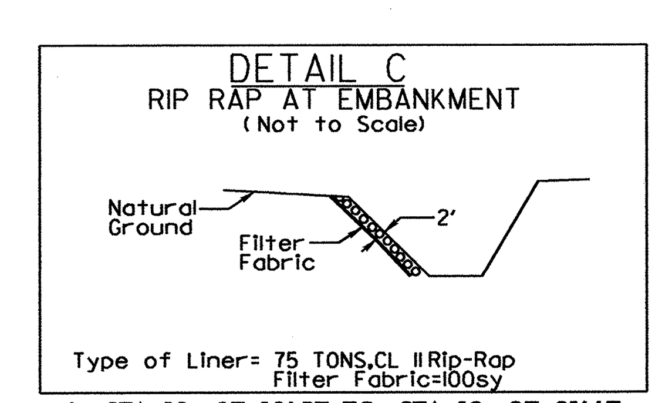
5/14/99

NOTE:
UTILIZE SKIMMER BASIN AS STILLING BASIN WHERE APPLICABLE.

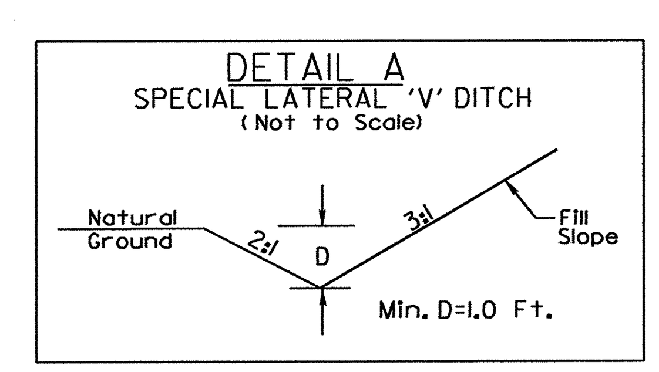
PROJECT REFERENCE NO.	SHEET NO.
B-4542	EC-05/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



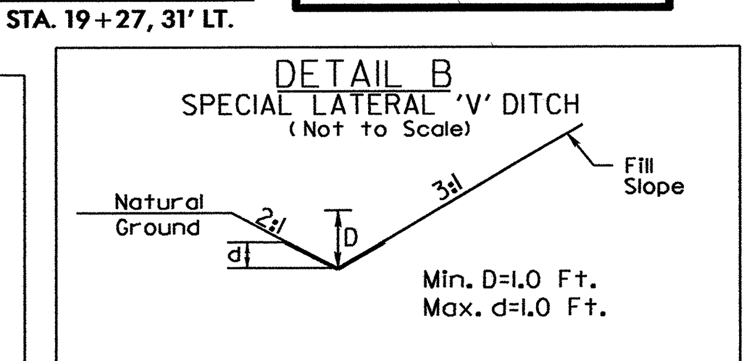
NAD 83/95
Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.
15
20
25
BEGIN TIP PROJECT B-4542
-L- STA 14+50.00
END TIP PROJECT B-4542
-L- STA 26+25.00
LEONARD KARP & WIFE
MARIA KARP
DB 1115 PG 973
JOHNNY C. RAY
DB 1532 PG 698
PC F PG 232B
ROSCOE FRIZZELLE & WIFE
BENITA C.
DB 243 PG 233
EDWARD H. MCCORMICK
DB 948 PG 720
EDWARD H. MCCORMICK
DB 948 PG 726
EDWARD H. MCCORMICK
DB 641 PG 438
TO NC 27
SR 1229
18' BST SR 1213 BUIE RD
N 14° 38' 22.2" W
BRIDGE NO: 40
100' TAPER RT/LT
PT Sta. 14+41.71
-L-
PI Sta 12+75.48
Δ = 12° 06' 03.7" (RT)
D = 3° 37' 34.7"
L = 333.70'
T = 167.47'
R = 1,580.00'
END SBG -L- STA 18+19.00 RT/LT
BEGIN SBG -L STA 17+92.00 RT/LT
END SBG -L- STA 20+41.00 RT/LT
BEGIN SBG -L- STA 20+21.00 RT/LT
UNCLASSIFIED STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)
BANK STABILIZATION CLASS II RIP RAP (STRUCTURE PAY ITEM) SEE DETAIL C
CL II RIP RAP (STRUCTURE PAY ITEM)
PSH, SEE DETAIL
BEGIN APPROACH SLAB -L- STA 18+19.00
BEGIN BRIDGE -L- STA 18+30.00
END APPROACH SLAB -L- STA 20+21.00
END BRIDGE -L- STA 20+10.00
SPECIAL LATERAL 'V' DITCH SEE DETAIL A
SPECIAL LATERAL 'V' DITCH PSRM LINED SEE DETAIL B
GRADE TO DRAIN
CENTERLINE OF CREEK IS PROPERTY LINE
BARBEQUE CREEK
24" CORRUGATED PLASTIC PIPE
WOODS
40 x 14 x 3
1.5 inch Skimmer
with 0.50 inch
Orifice Diameter
6 ft. weir
ID 4.1



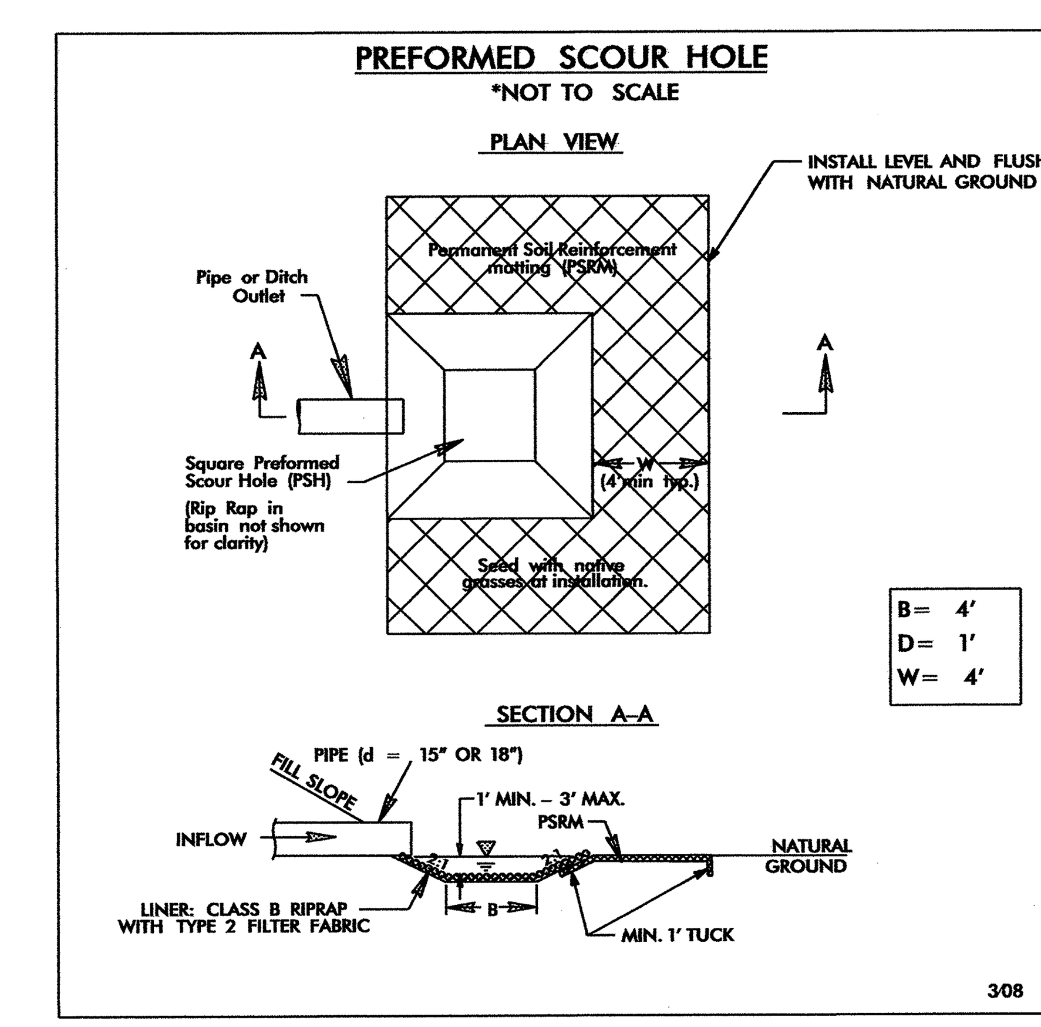
-L- STA. 19+07, 19' RT. TO STA. 19+27, 31' LT.



-L- STA. 22+50 TO STA. 23+00 RT.



-L- STA. 23+00 TO STA. 24+50 RT.



PREFORMED SCOUR HOLE
*NOT TO SCALE
PLAN VIEW
INSTALL LEVEL AND FLUSH WITH NATURAL GROUND
Pipe or Ditch Outlet
Square Preformed Scour Hole (PSH)
B= 4'
D= 1'
W= 4'
SECTION A-A
INFLOW
NATURAL GROUND
LINER: CLASS B RIPRAP WITH TYPE 2 FILTER FABRIC
MIN. 1' TUCK
308

-L- STA. 17+99, 30' RT.

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