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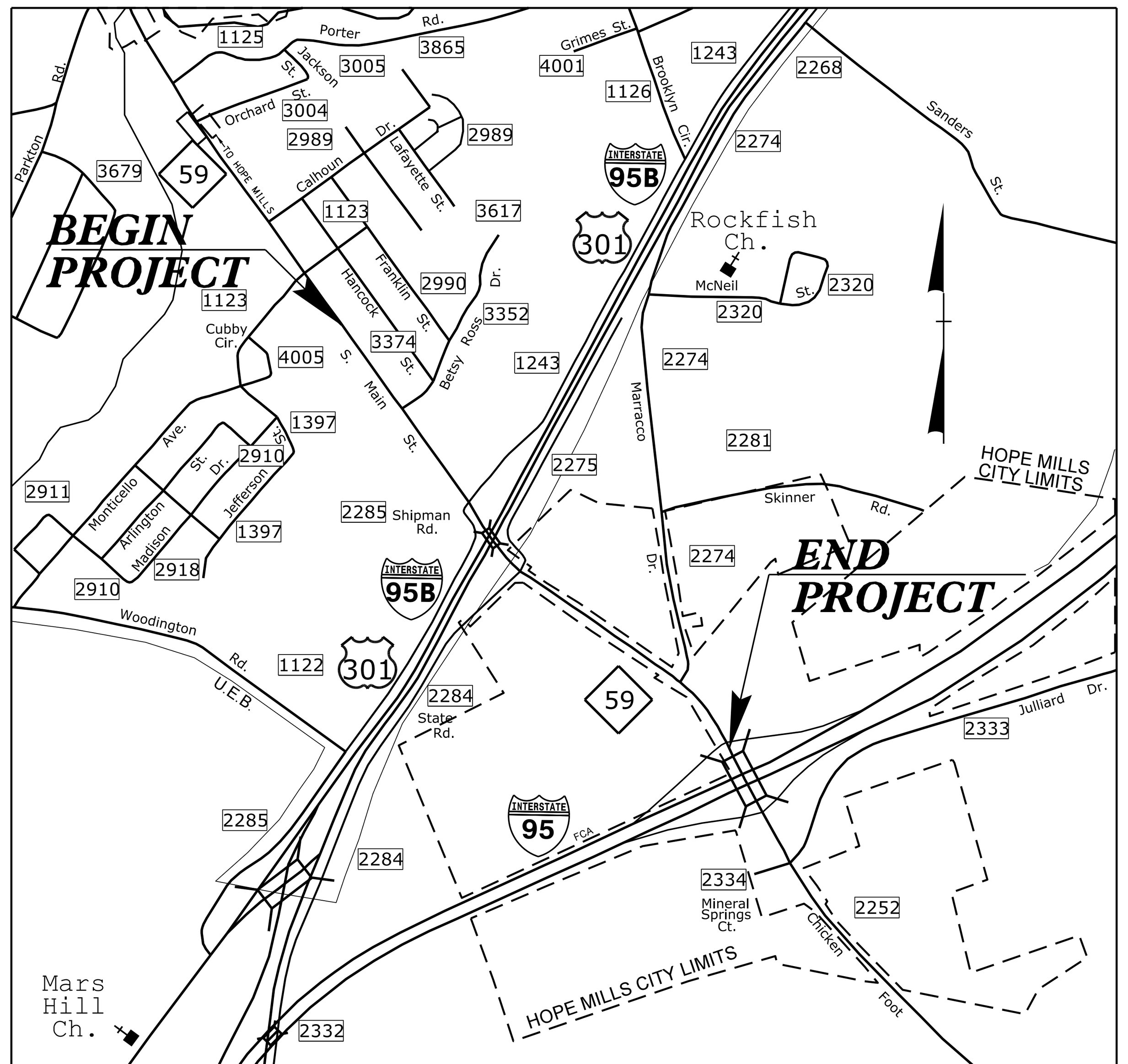
TIP PROJECT: B-4491

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4491	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38389.1.1	BRSTP-59(5)	PE



VICINITY MAP

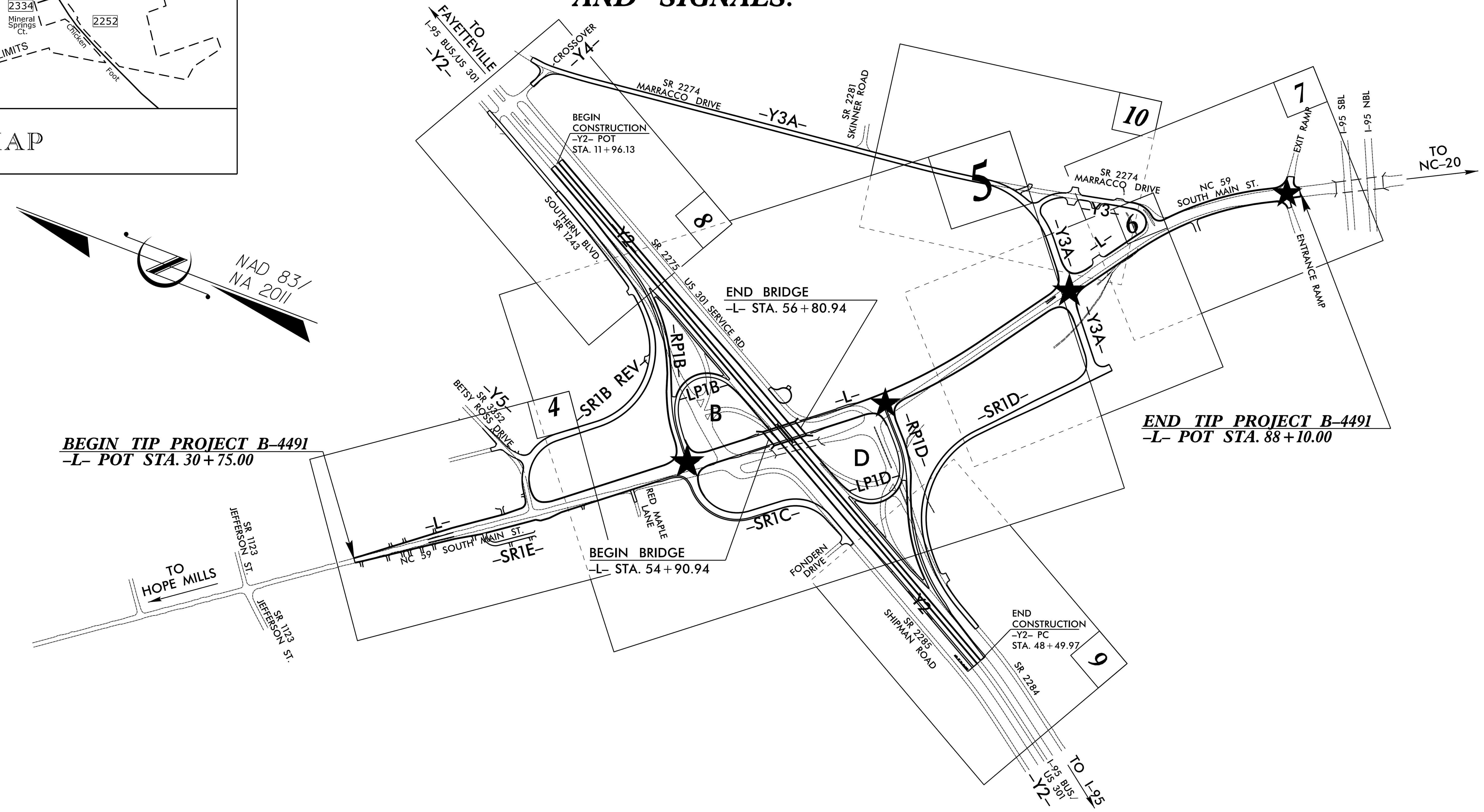
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CUMBERLAND COUNTY

LOCATION: BRIDGE NO. 22 OVER I-95 BUSINESS /US 301 ON NC 59

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE, SIGNING AND SIGNALS.



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	
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	EW / CFW
	Wattle / Coir Fiber 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)

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

Prepared in the Office of:

Wetherill Engineering Inc.
1223 Jones Franklin Rd.
Raleigh, NC 27606

Designed by:

NAME	LEVEL III CERTIFICATION NO.
Jim Davis, PE	3554
Andrew Hollen	3490

Reviewed in the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2018 STANDARD SPECIFICATIONS

Reviewed by:

Mark Staley, CPESC, CPSWQ

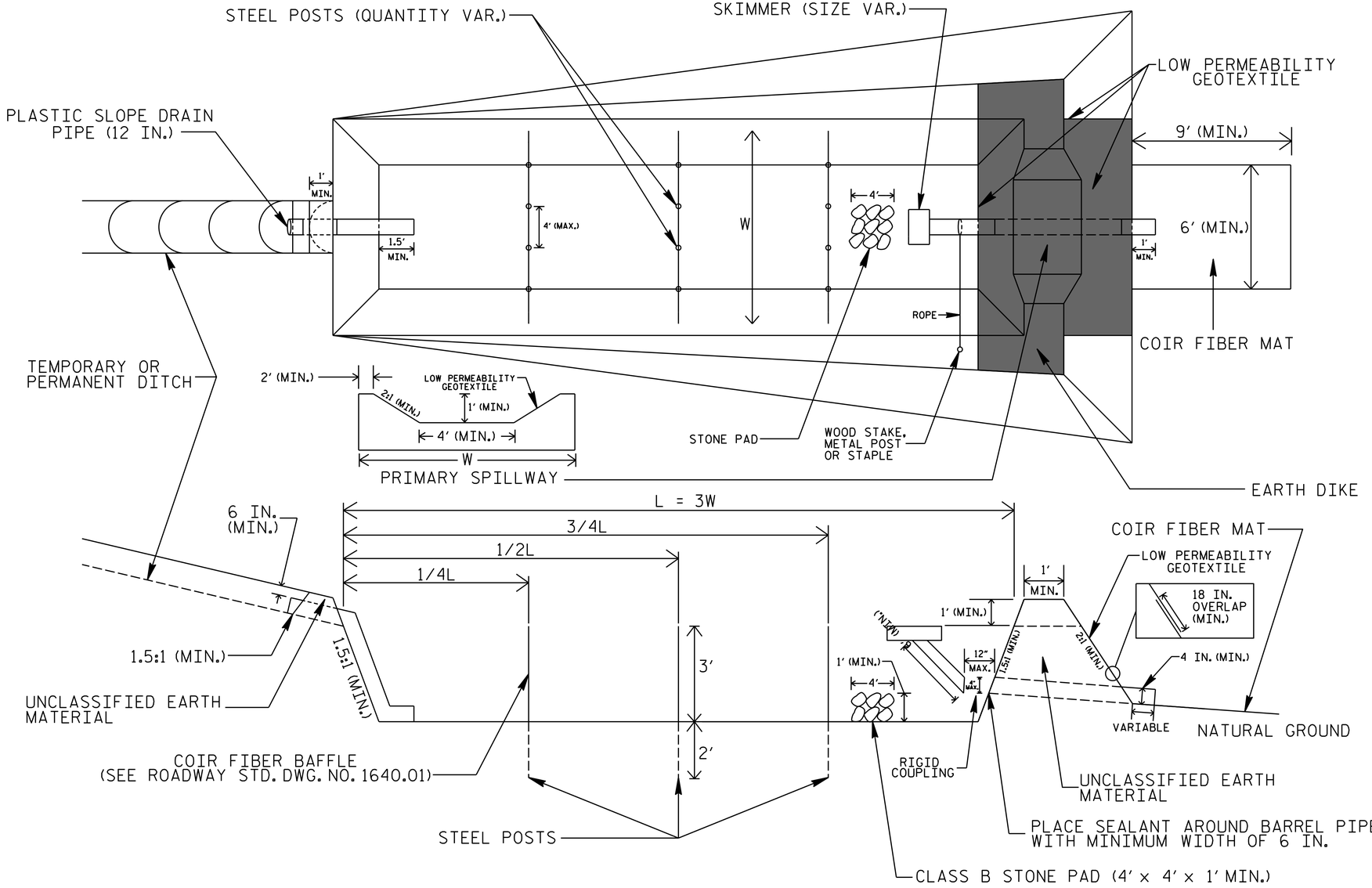
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

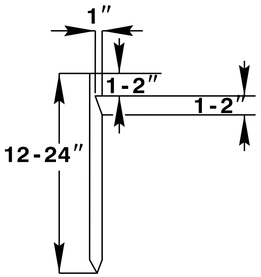
1604.01 Railroad Erosion Control Detail
1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence
1607.01 Gravel Construction Entrance
1622.01 Temporary Berms and Slope Drains
1630.01 Riser Basin
1630.02 Silt Basin Type B
1630.03 Temporary Silt Ditch
1630.04 Stilling Basin
1630.05 Temporary Diversion
1630.06 Special Stilling Basin
1631.01 Matting Installation
1632.01 Rock Inlet Sediment Trap Type A
1632.02 Rock Inlet Sediment Trap Type B
1632.03 Rock Inlet Sediment Trap Type C
1633.01 Temporary Rock Silt Check Type A
1633.02 Temporary Rock Silt Check Type B
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
1640.01 Coir Fiber Baffle
1645.01 Temporary Stream Crossing

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

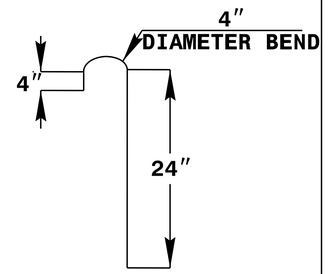
SKIMMER BASIN WITH BAFFLES DETAIL (EAST)



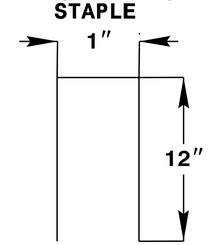
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

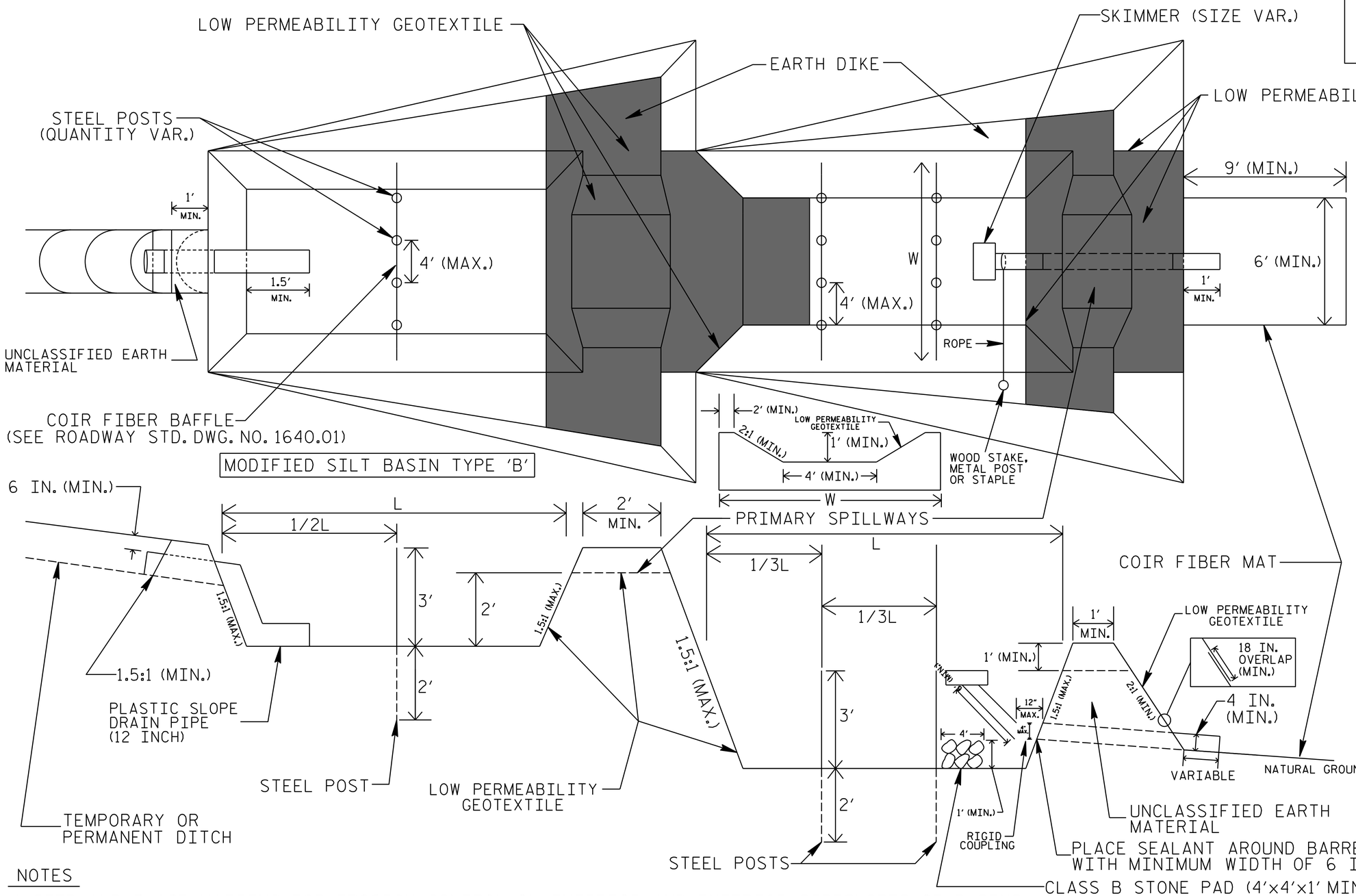
NOTES

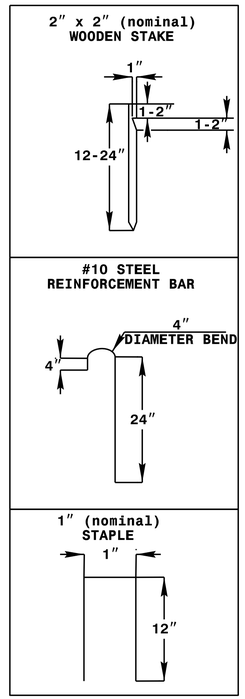
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE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

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TIERED SKIMMER BASIN DETAIL (EAST)





COIR FIBER MAT ANCHOR OPTIONS

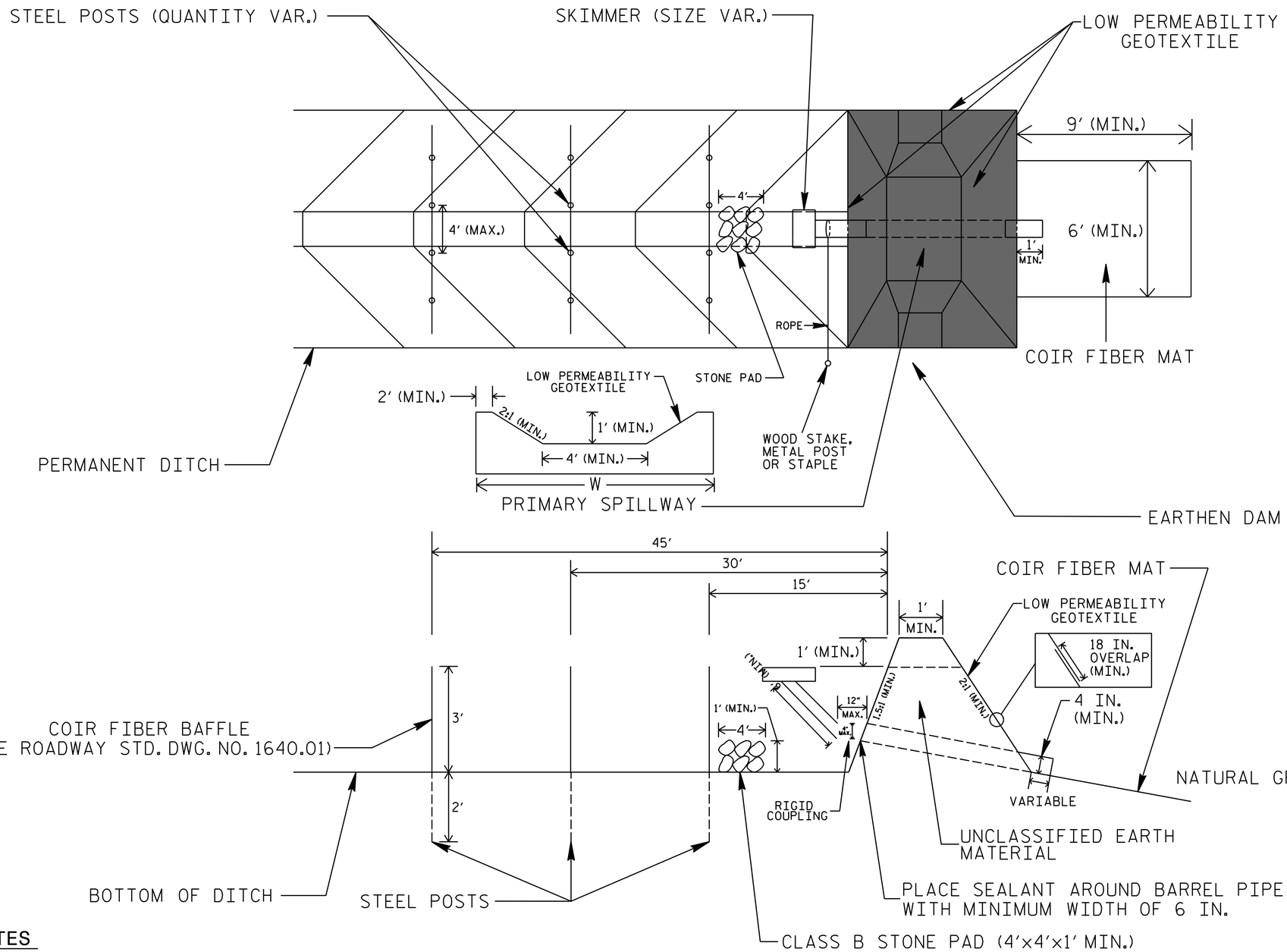
NOTES

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 3FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE PRIMARY SPILLWAY WEIR LENGTHS (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. LOW PERMEABILITY GEOTEXTILE FOR PRIMARY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

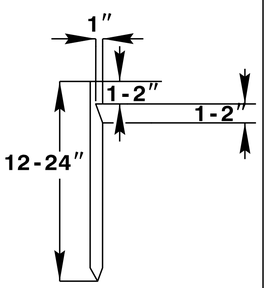
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

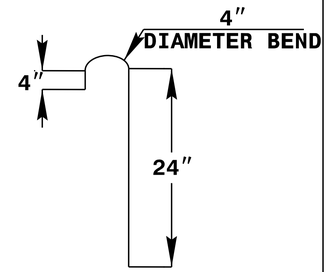
EARTHEN DAM WITH SKIMMER DETAIL (EAST)



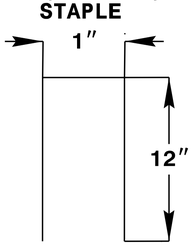
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

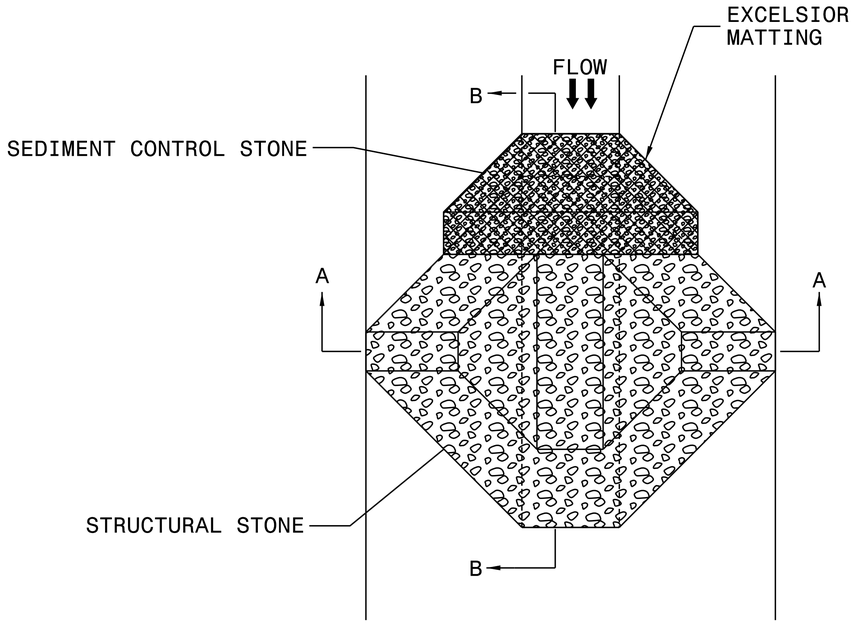
NOTES

1. LIMIT EARTHEN DAM HEIGHT TO 5 FT.
2. DETERMINE PRIMARY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
3. LOW PERMEABILITY GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

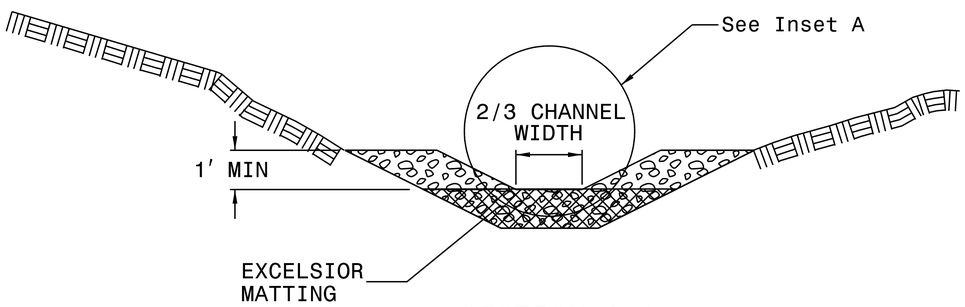
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

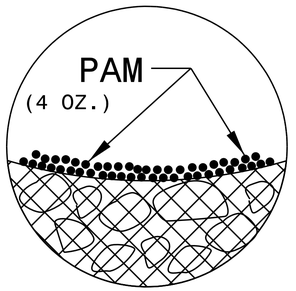
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

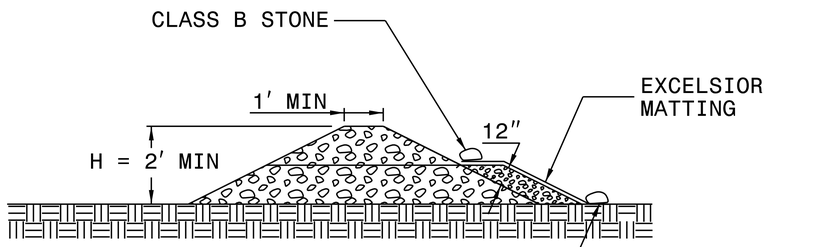
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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



INSET A

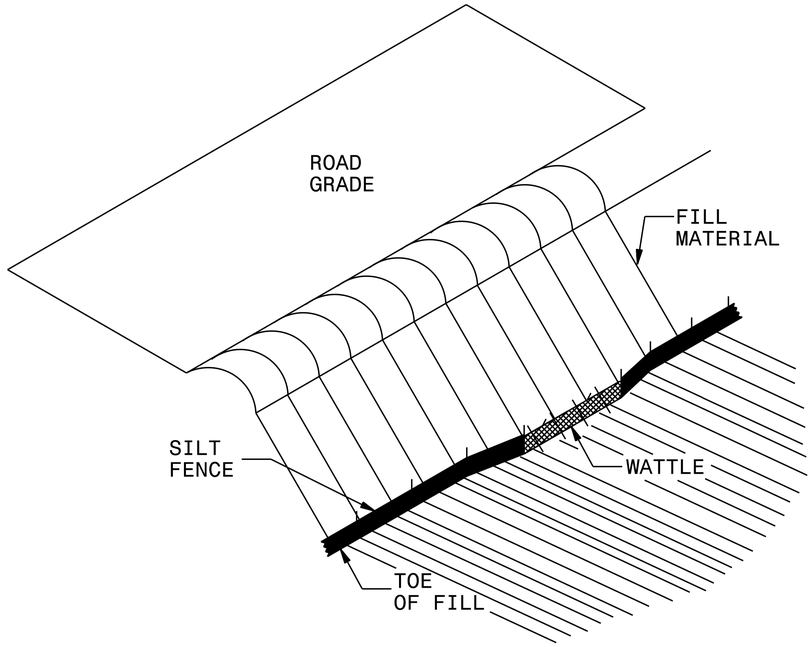


SECTION B-B

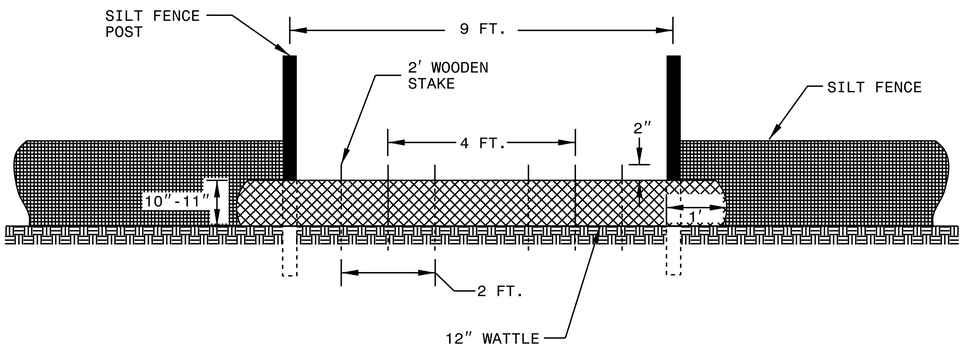
NOT TO SCALE

SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-2D
R/W 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.

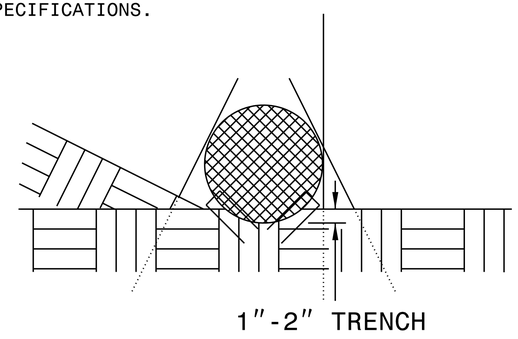
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

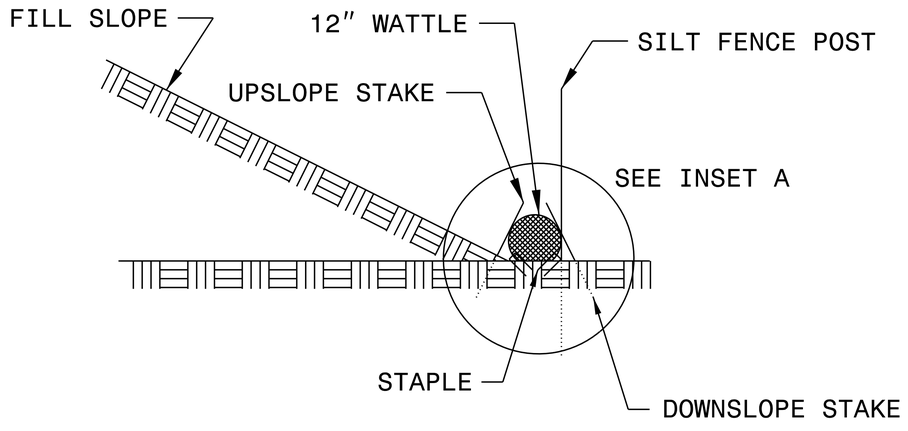
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

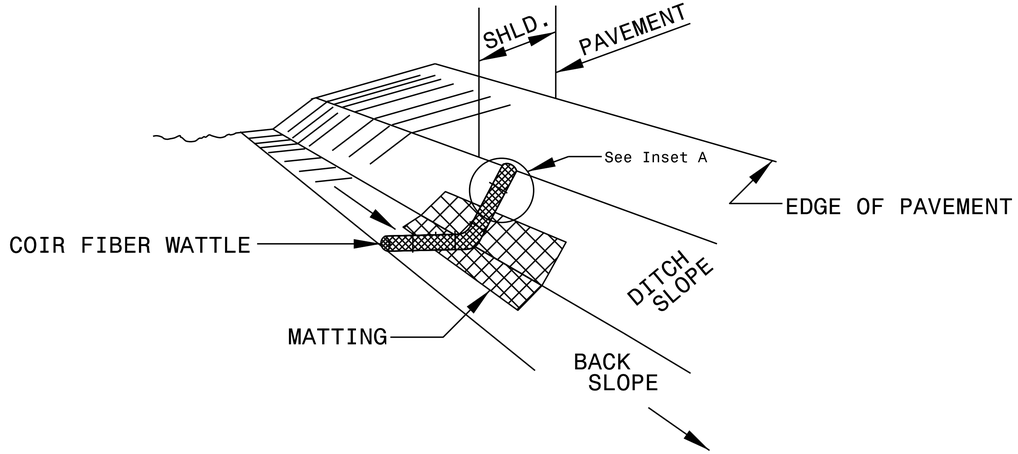




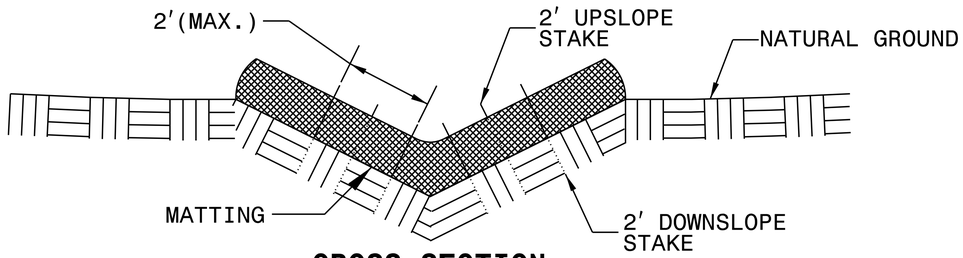
SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-2E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

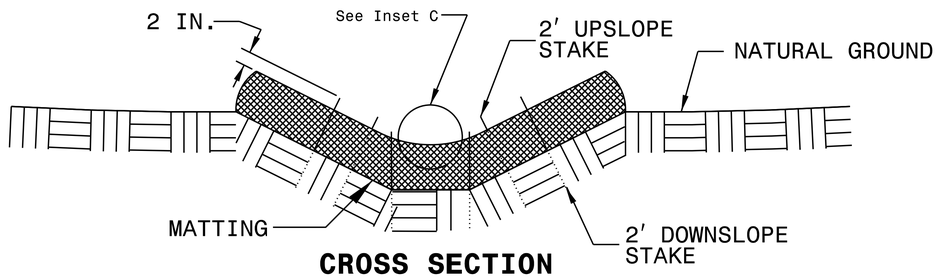
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

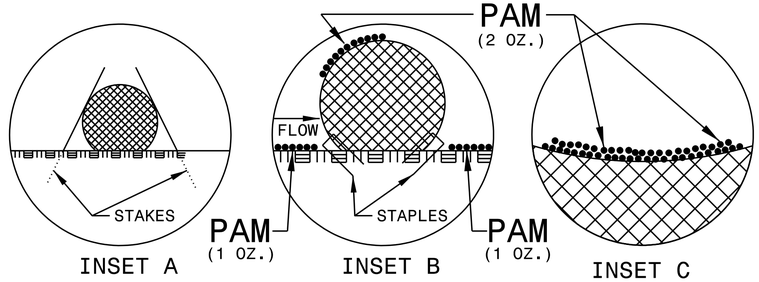
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

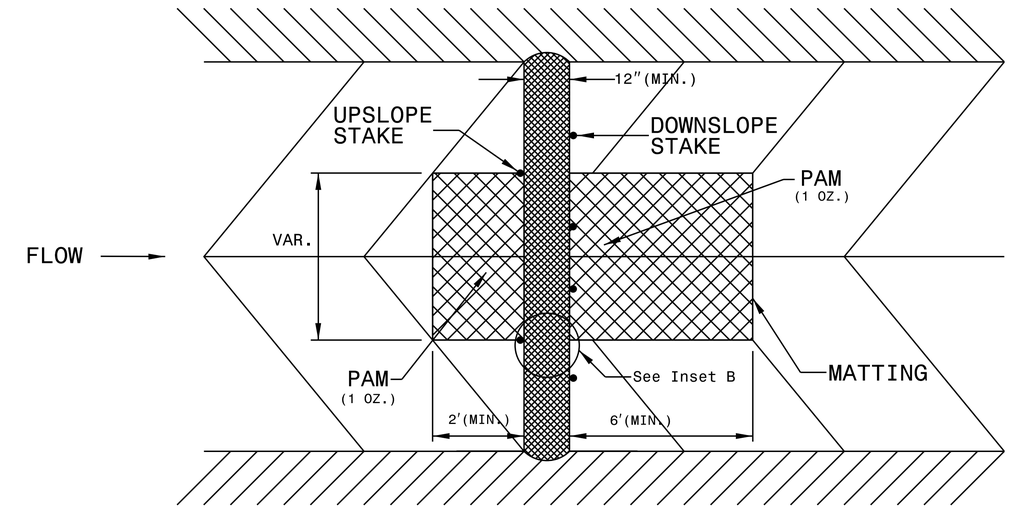
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

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

BORROW PIT DEWATERING BASIN DETAIL

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-2F
R/W 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 (FT^3), 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 1640-14.

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.

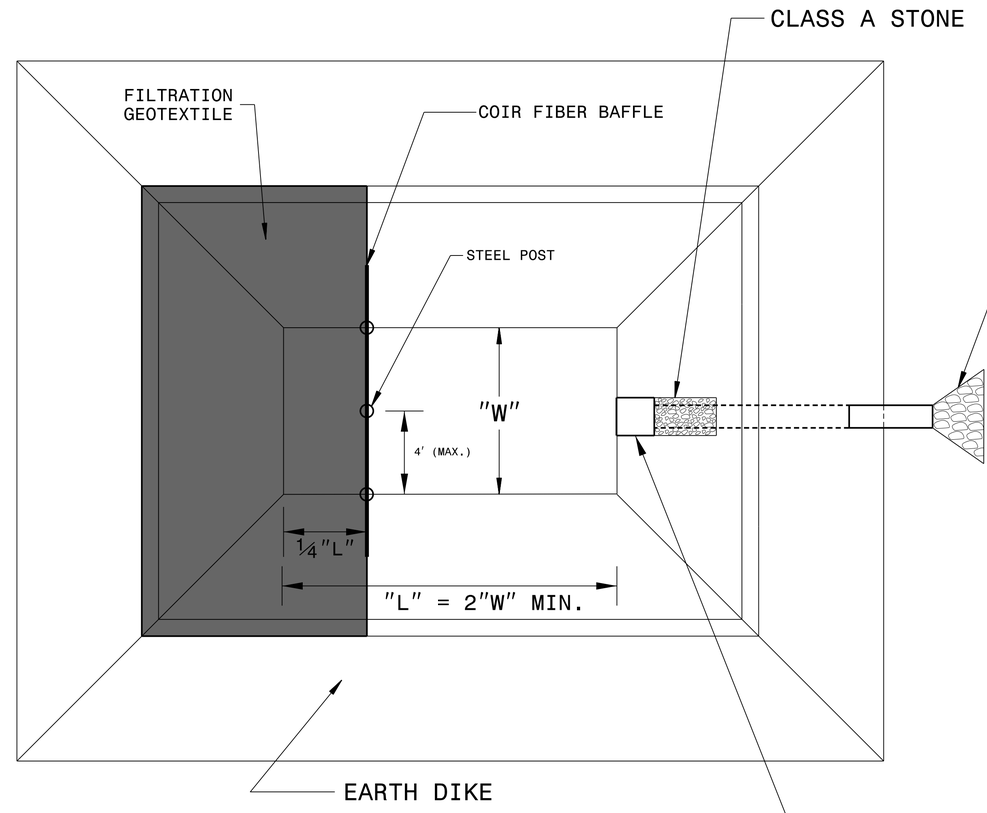
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

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

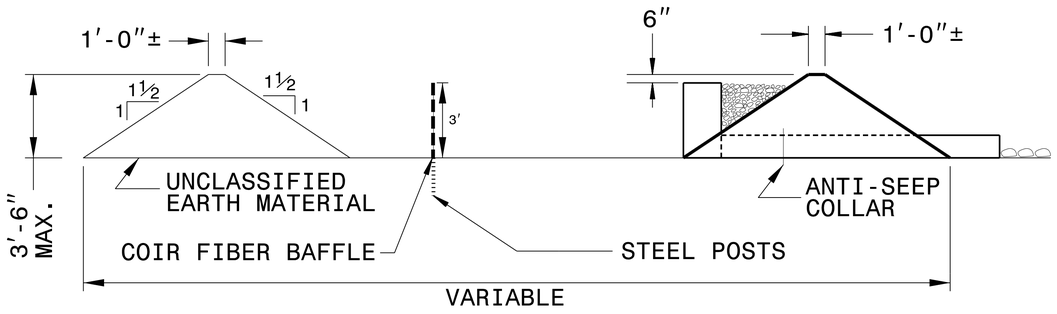
SUBMIT THE SIZE, LOCATION AND RISER PIPE MATERIAL FOR APPROVAL PRIOR TO CONSTRUCTION.

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.



PLAN



TYPICAL SECTION VIEW

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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-4491	EC-3A
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)
5	-L-	57+00	61+00	LT	775
5	-SR1C-	16+00	18+50	RT	175
5	-SR1D-	23+88	25+27	LT	305
5	-SR1D-	21+52	23+42	LT	370
5	-SR1D-	25+49	29+49	LT	485
5	-Y2-	33+50	34+50	LT	105
6	-Y3A-	49+50	50+00	RT	65
6	-Y3A-	50+50	51+50	RT	125
6	-Y3A-	50+00	51+50	LT	125
7	-L-	78+50	81+00	RT	1075
10	-Y3A-	44+50	46+00	LT	125
				SUBTOTAL	3730
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					16000
				TOTAL	19730
				SAY	20000

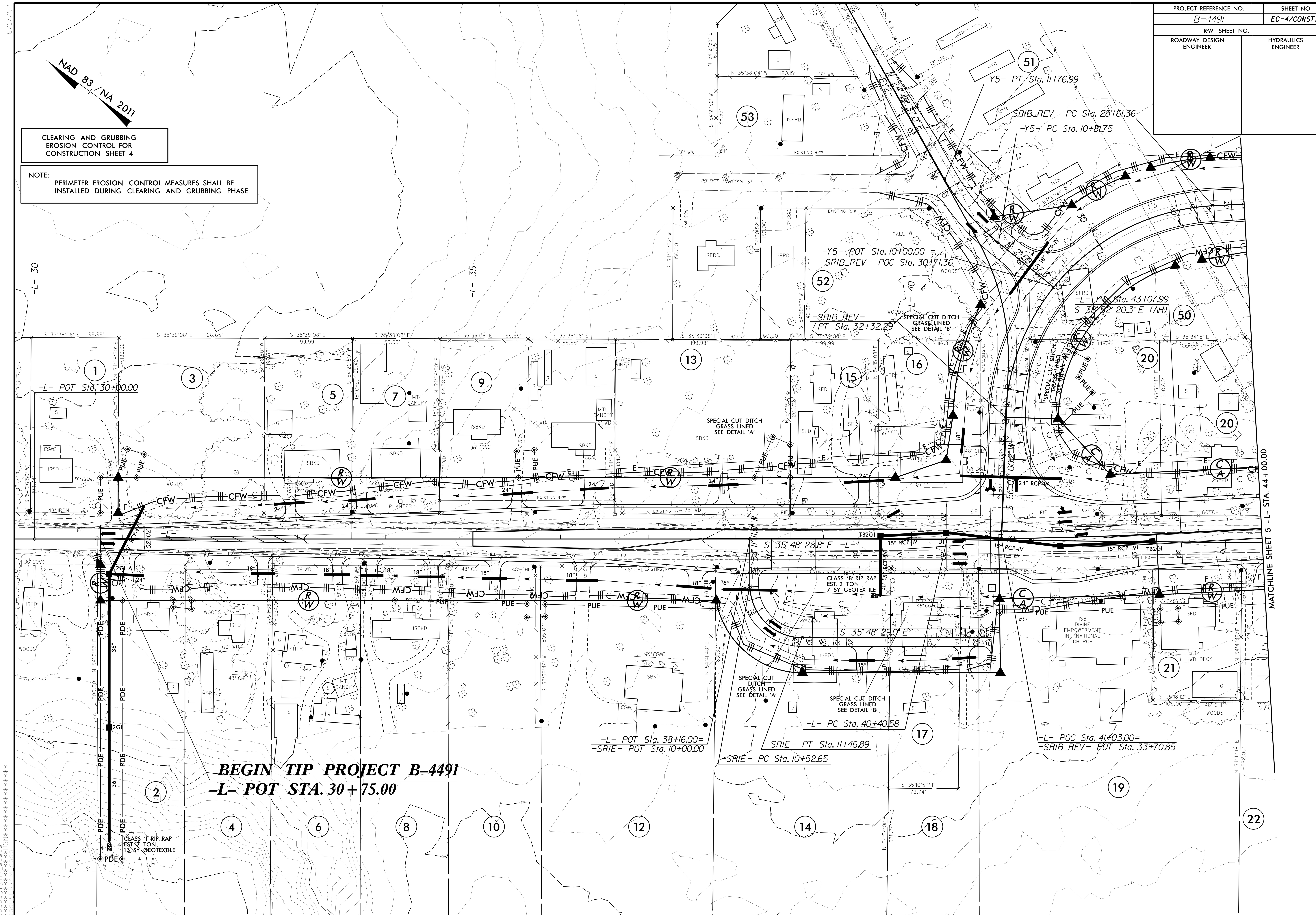
MATTING FOR EROSION CONTROL

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

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

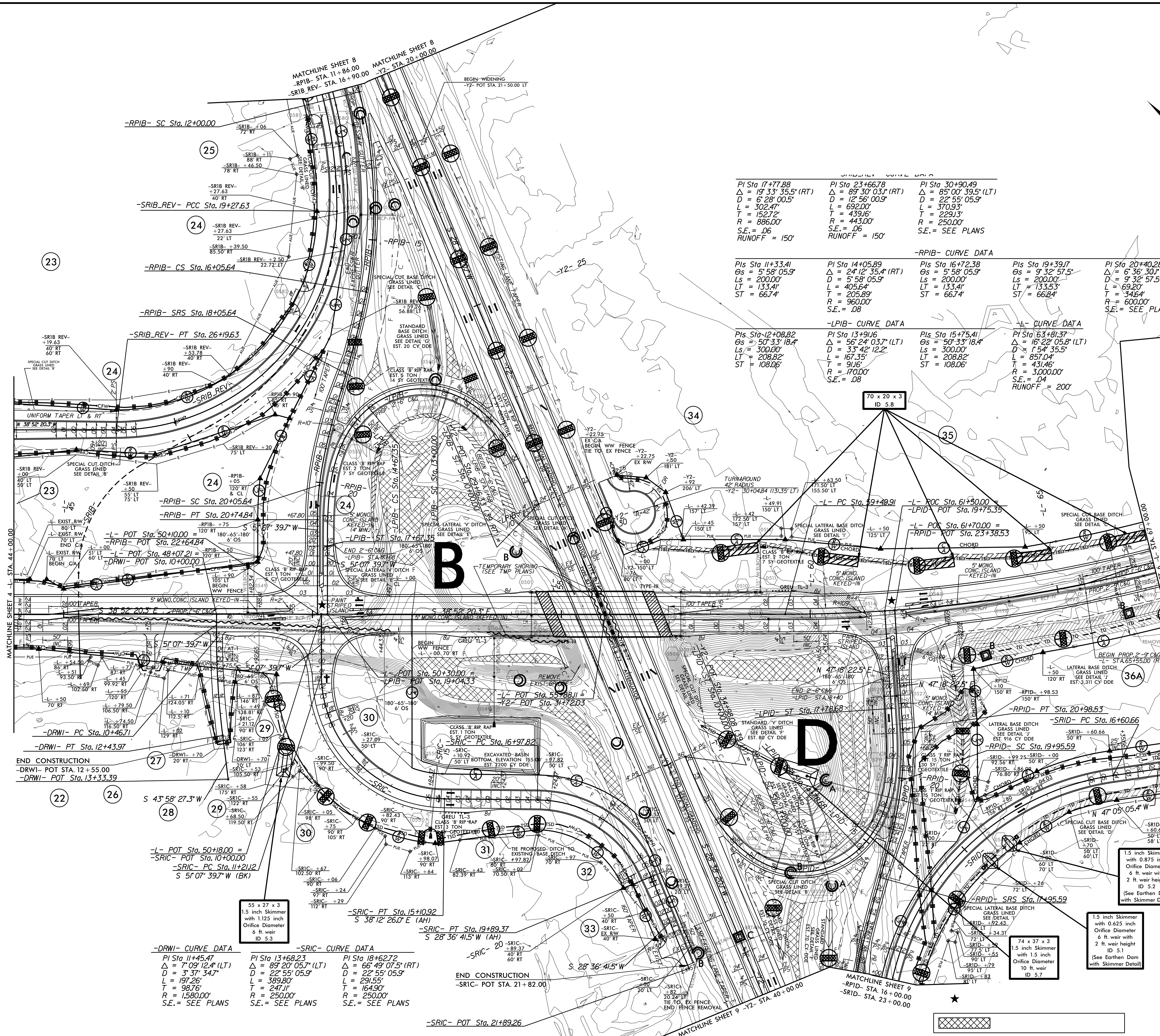
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.



GRAPHIC SCALE	PROJECT REFERENCE NO.	SHEET NO.
50 25 0 50 100 PLANS	B-4491	EC-5/CONST.5
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83 / NA 2011



-SRIB_REV- CURVE DATA

PI Sta 17+77.88	PI Sta 23+66.78	PI Sta 30+90.49
Δ = 19° 33' 35.5" (RT)	Δ = 89° 30' 03.1" (RT)	Δ = 85° 00' 39.5" (LT)
D = 6° 28' 00.5"	D = 12° 56' 00.9"	D = 22° 55' 05.9"
L = 302.47'	L = 692.00'	L = 370.93'
T = 152.72'	T = 439.16'	T = 229.13'
R = 886.00'	R = 443.00'	R = 250.00'
S.E. = .06	S.E. = .06	S.E. = SEE PLANS
RUNOFF = 150'	RUNOFF = 150'	

-RPIB- CURVE DATA

PIs Sta 11+33.41	PI Sta 14+05.89	PIs Sta 16+72.38	PIs Sta 19+39.17	PI Sta 20+40.28
Θs = 5° 58' 05.9"	Δ = 24° 12' 35.4" (RT)	Θs = 5° 58' 05.9"	Θs = 9° 32' 57.5"	Δ = 6° 36' 30.1" (LT)
Ls = 200.00'	D = 5° 58' 05.9"	Ls = 200.00'	Ls = 200.00'	D = 9° 32' 57.5"
LT = 133.41'	L = 405.64'	LT = 133.41'	LT = 133.53'	L = 69.20'
ST = 66.74'	T = 205.89'	ST = 66.74'	ST = 66.84'	T = 34.64'
	R = 960.00'			R = 600.00'
	S.E. = .08			S.E. = SEE PLANS

-LPIB- CURVE DATA

PIs Sta 12+08.82	PI Sta 13+91.16	PIs Sta 15+75.41
Θs = 50° 33' 18.4"	Δ = 56° 24' 03.7" (LT)	Θs = 50° 33' 18.4"
Ls = 300.00'	D = 33° 42' 12.2"	Ls = 300.00'
LT = 208.82'	L = 167.35'	LT = 208.82'
ST = 108.06'	T = 91.16'	ST = 108.06'
	R = 170.00'	
	S.E. = .08	

-L- CURVE DATA

PI Sta 63+81.37
Δ = 16° 22' 05.8" (LT)
D = 1° 54' 35.5"
L = 857.04'
T = 431.46'
R = 3,000.00'
S.E. = .04
RUNOFF = 200'

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

70 x 20 x 3
ID 5.8

55 x 27 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
6 ft. weir
ID 5.3

74 x 37 x 3
1.5 inch Skimmer
with 1.5 inch
Orifice Diameter
10 ft. weir
ID 5.7

1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
6 ft. weir with
2 ft. weir height
ID 5.1
(See Earthen Dam
with Skimmer Detail)

1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
6 ft. weir with
2 ft. weir height
ID 5.2
(See Earthen Dam
with Skimmer Detail)

-DRWI- CURVE DATA

PI Sta 11+45.47
Δ = 7° 09' 12.4" (LT)
D = 3° 37' 34.7"
L = 197.26'
T = 98.76'
R = 1,580.00'
S.E. = SEE PLANS

-SRIC- CURVE DATA

PI Sta 13+68.23	PI Sta 18+62.72
Δ = 89° 20' 05.7" (LT)	Δ = 66° 49' 07.5" (RT)
D = 22° 55' 05.9"	D = 22° 55' 05.9"
L = 389.80'	L = 291.55'
T = 247.11'	T = 164.90'
R = 250.00'	R = 250.00'
S.E. = SEE PLANS	S.E. = SEE PLANS

8/17/99

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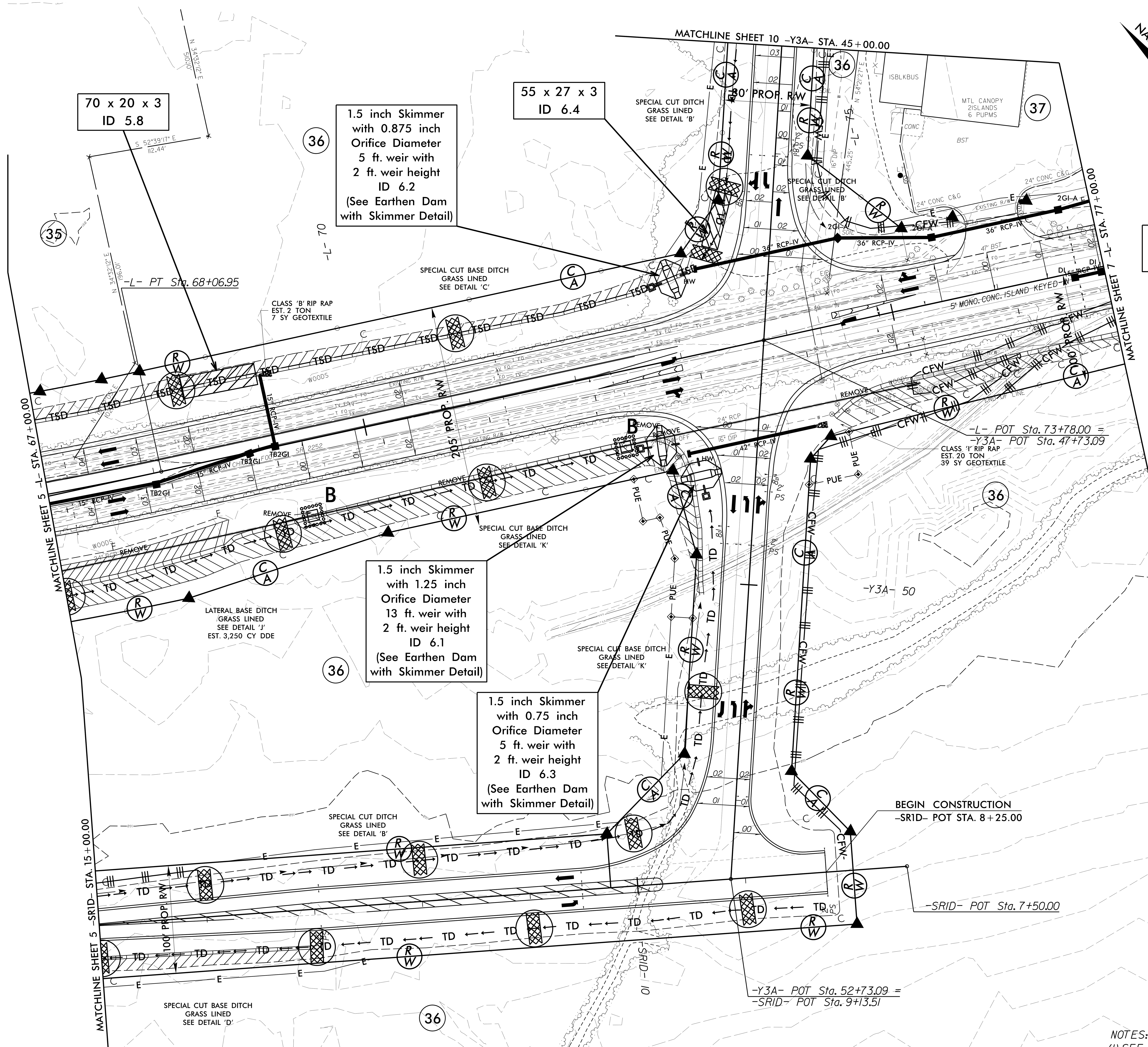
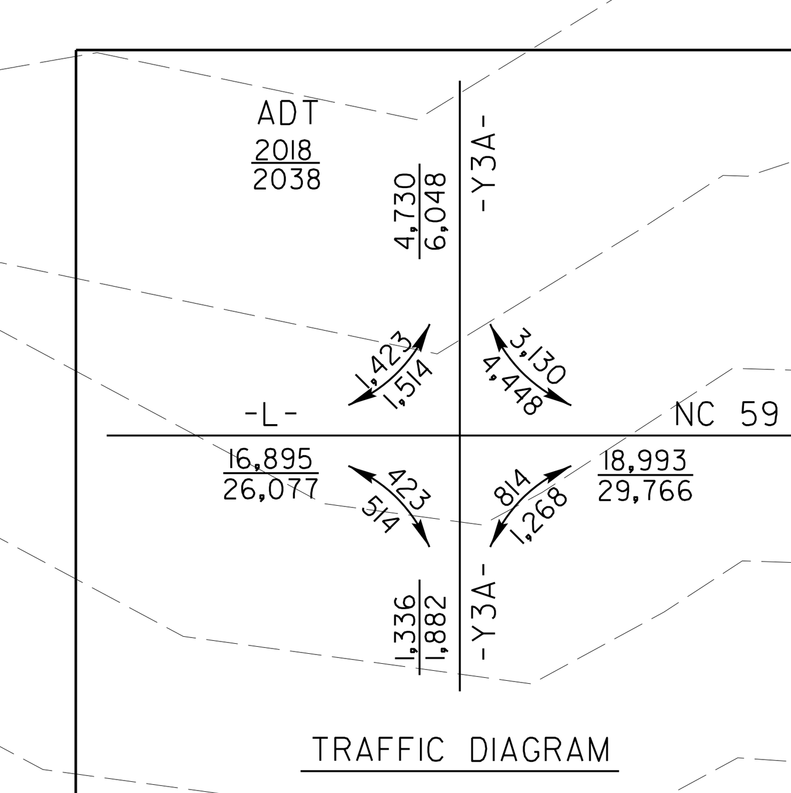
PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-6/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.



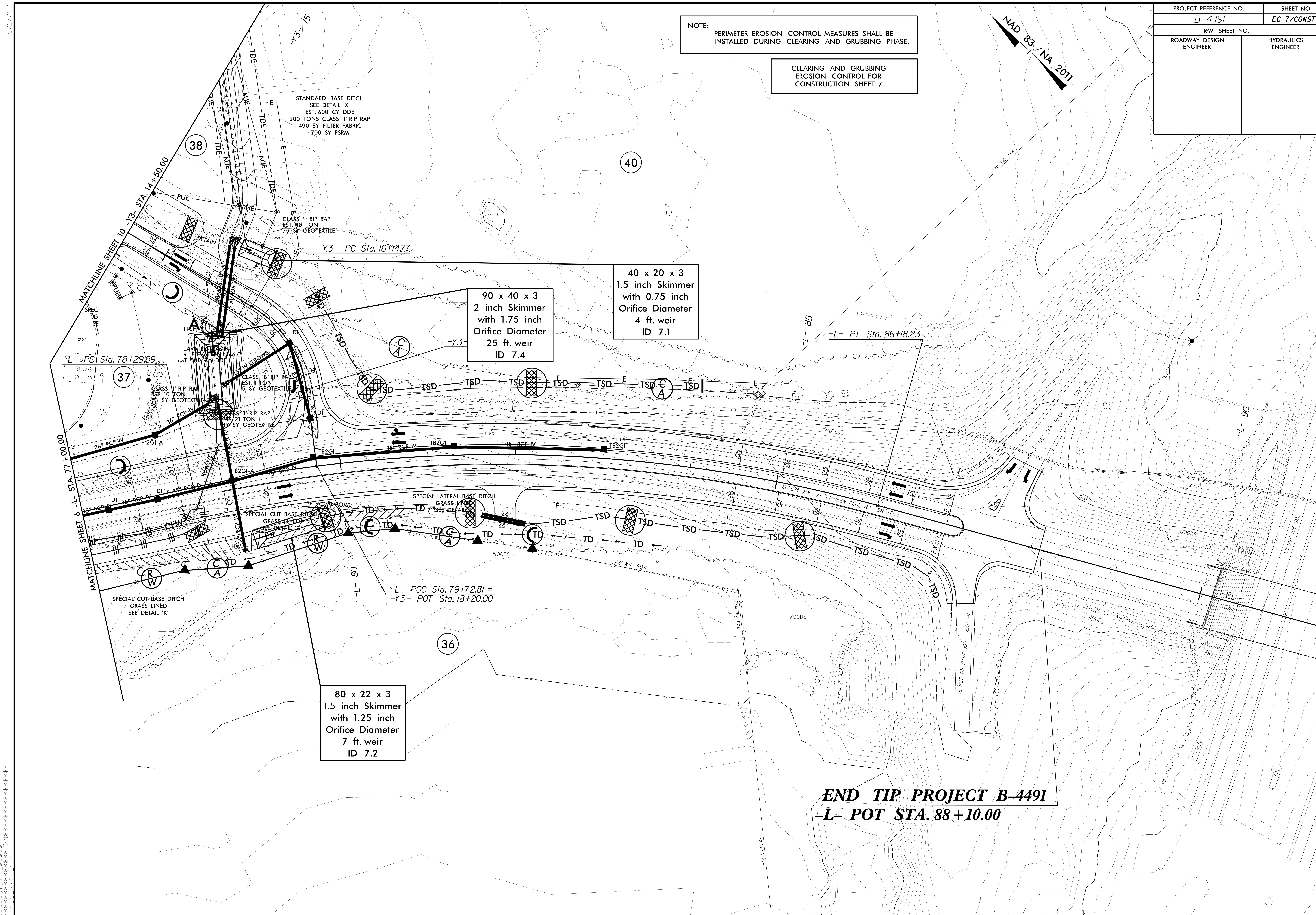


NOTES:
(1) SEE SHEET 12 FOR -L- PROFILE
(2) SEE SHEETS 15 & 16 FOR -Y3A- PROFILE
(3 SEE SHEET 20 FOR -SRID- PROFILE
(4) USE R=10' FOR ALL DRIVEWAYS UNLESS SHOWN OTHERWISE
(5) SEE SHEET 2D-1 FOR DRAINAGE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-7/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

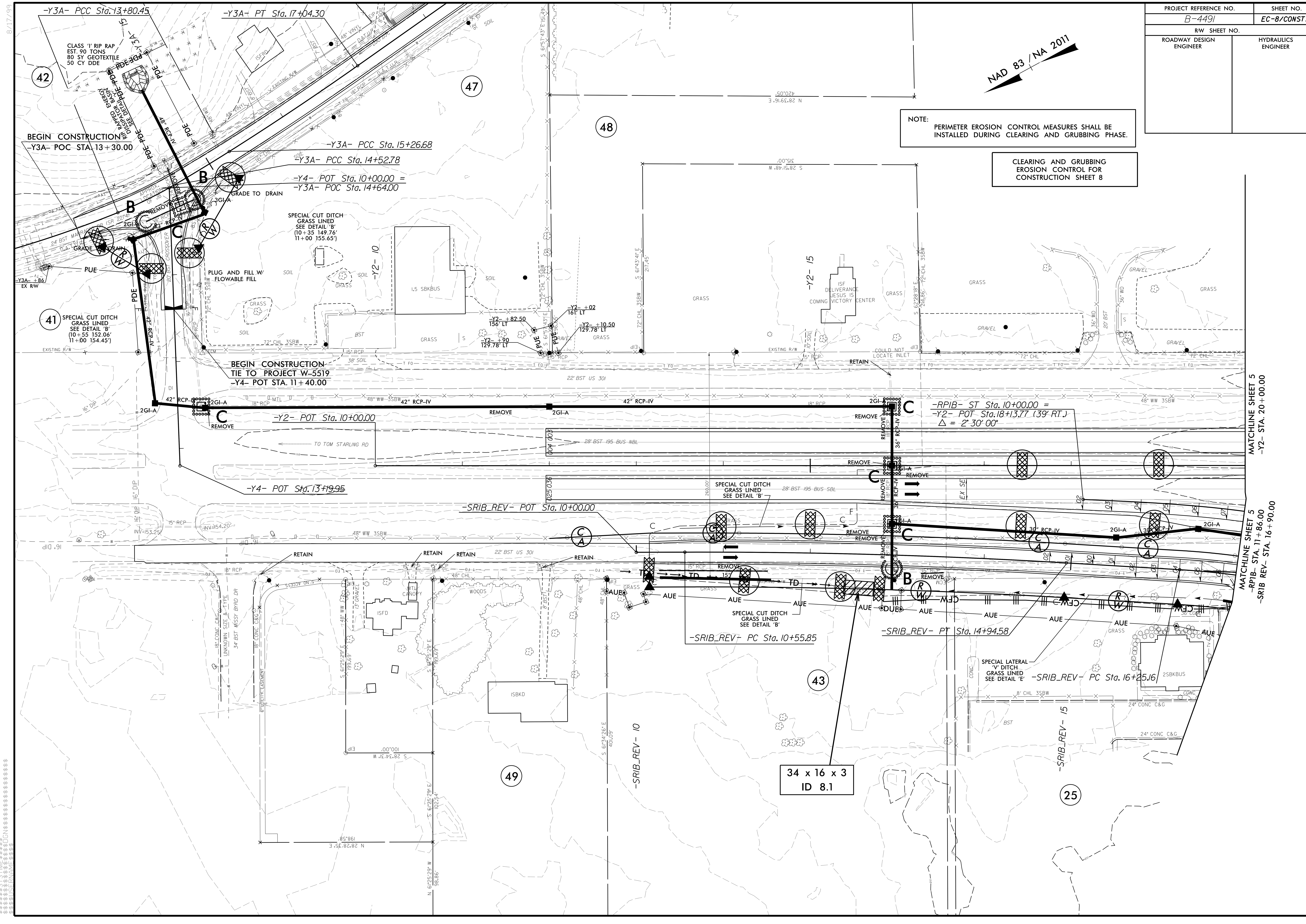
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 7



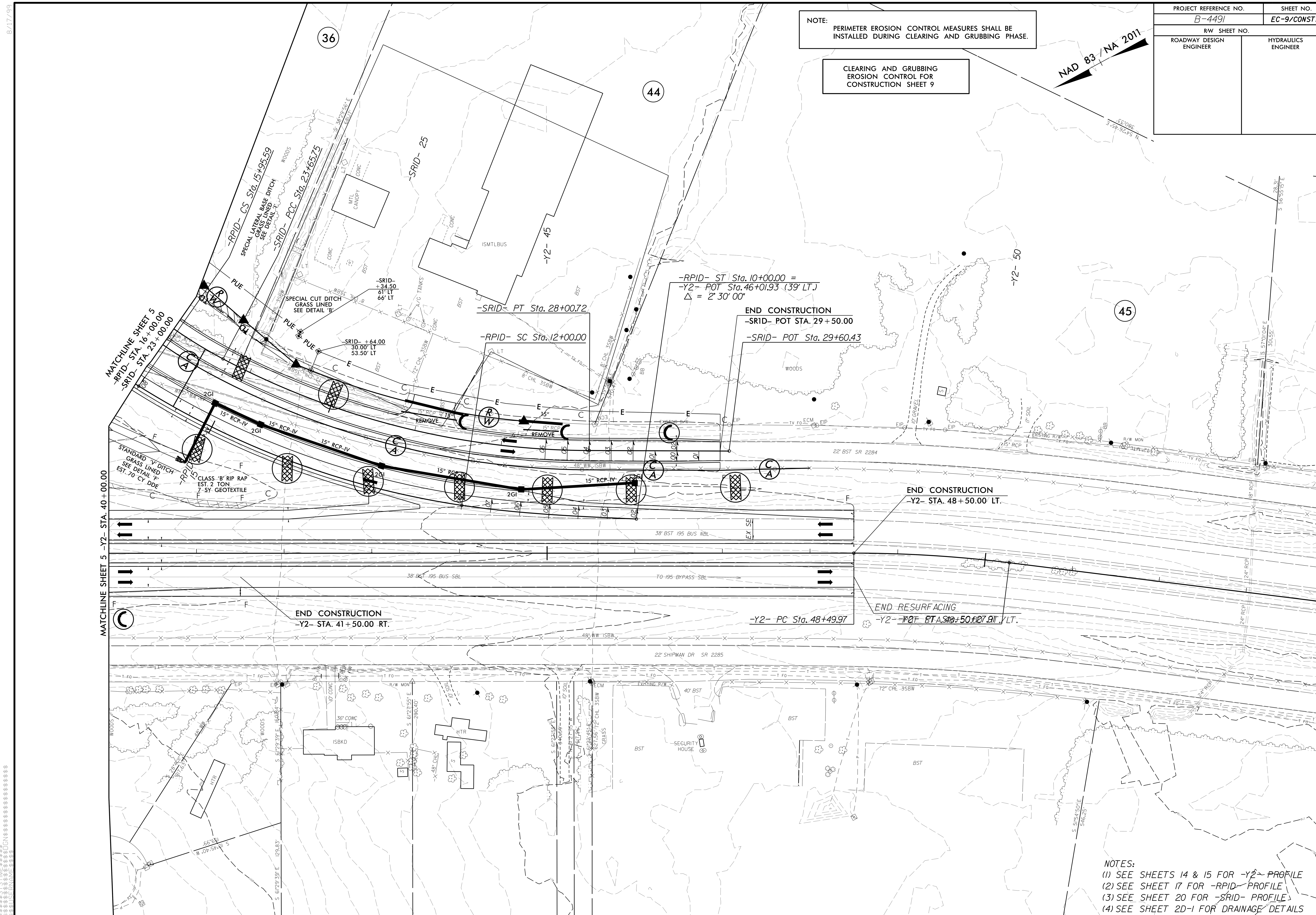
PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-8/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

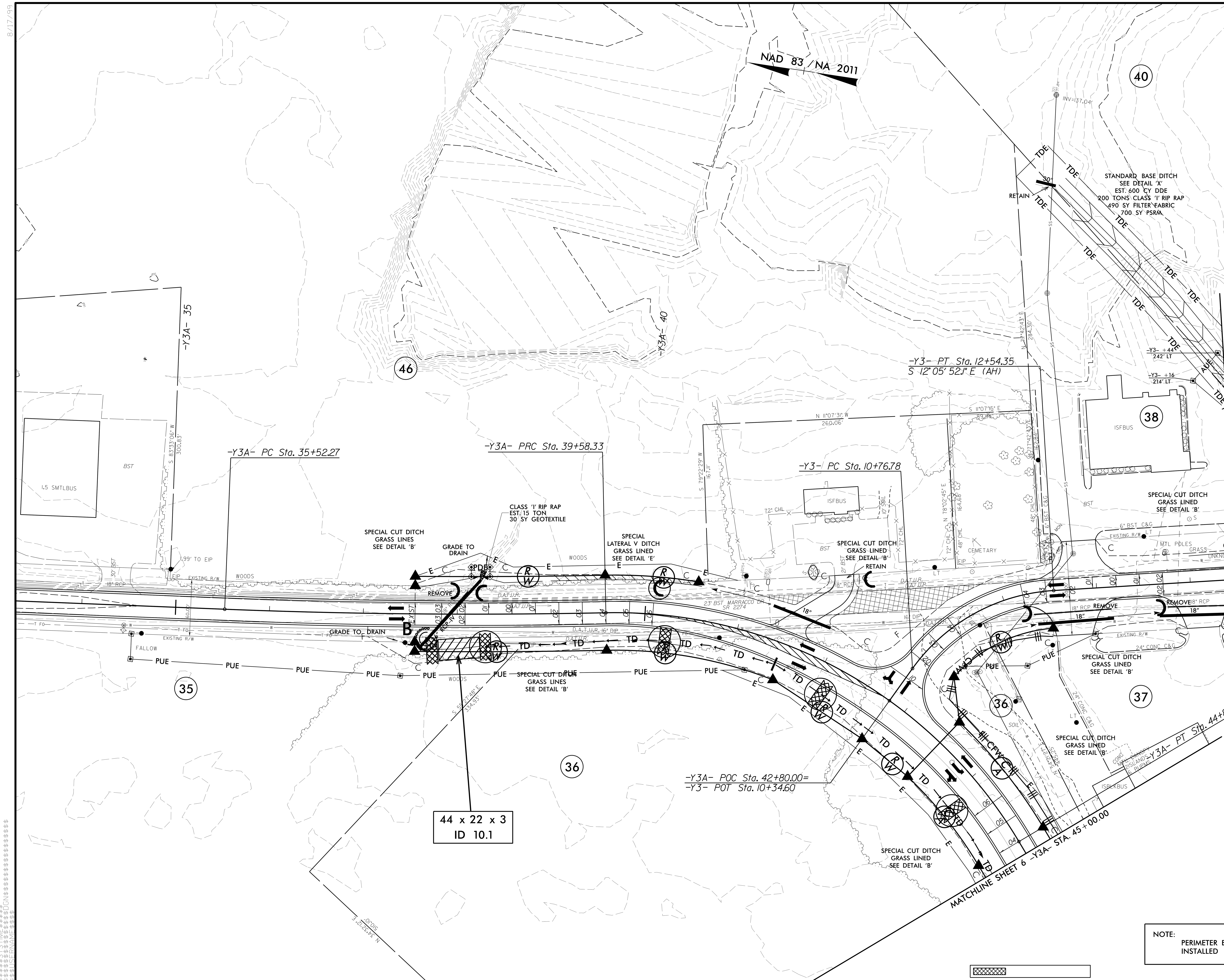
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 8



NAD 83 / NA 2011
-Y3A- PCC Sta. 13+80.45
-Y3A- PT Sta. 17+04.30
CLASS 'I' RIP RAP
EST. 90 TONS
80 SY GEOTEXTILE
50 CY DDE
BEGIN CONSTRUCTION
-Y3A- POC STA. 13+30.00
-Y3A- PCC Sta. 15+26.68
-Y3A- PCC Sta. 14+52.78
-Y4- POT Sta. 10+00.00 =
-Y3A- POC Sta. 14+64.00
GRADE TO DRAIN
SPECIAL CUT DITCH
GRASS LINED
SEE DETAIL 'B'
(10+35 149.76'
11+00 155.65')
PLUG AND FILL W/
FLOWABLE FILL
SPECIAL CUT DITCH
GRASS LINED
SEE DETAIL 'B'
(10+55 152.06'
11+00 154.45')
BEGIN CONSTRUCTION
TIE TO PROJECT W-5519
-Y4- POT STA. 11+40.00
-Y2- POT Sta. 10+00.00
-Y4- POT Sta. 13+19.95
-RPIB- ST Sta. 10+00.00 =
-Y2- POT Sta. 18+13.77 (39' RT.)
Δ = 2° 30' 00"
SPECIAL CUT DITCH
GRASS LINED
SEE DETAIL 'B'
-SRIB_REV- POT Sta. 10+00.00
-SRIB_REV- PC Sta. 10+55.85
-SRIB_REV- PT Sta. 14+94.58
SPECIAL LATERAL 'V' DITCH
GRASS LINED
SEE DETAIL 'E'
-SRIB_REV- PC Sta. 16+25.16
34 x 16 x 3
ID 8.1
MATCHLINE SHEET 5
-Y2- STA. 20+00.00
MATCHLINE SHEET 5
-RPIB- STA. 11+86.00
-SRIB REV- STA. 16+90.00
41
42
43
47
48
49
25


PROJECT REFERENCE NO.
SHEET NO.
B-4491
EC-9/CONST.9
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 9
NAD 83 / NA 2011
36
44
45
-SRID- 25
-Y2- 45
-Y2- 50
MTL CANOPY
ISMTLBUS
WOODS
-RPID- CS Sta. 15+95.59
-SRID- PCC Sta. 23+65.75
SPECIAL LATERAL BASE DITCH GRASS LINED SEE DETAIL 'H'
SPECIAL CUT DITCH GRASS LINED SEE DETAIL 'B'
-SRID- +34.50 61' LT 66' LT
-SRID- +64.00 30.00' LT 53.50' LT
-SRID- PT Sta. 28+00.72
-RPID- SC Sta. 12+00.00
-RPID- ST Sta. 10+00.00 = -Y2- POT Sta. 46+01.93 (39' LT.)
△ = 2° 30' 00"
END CONSTRUCTION -SRID- POT STA. 29+50.00
-SRID- POT Sta. 29+60.43
MATCHLINE SHEET 5 -RPID- STA. 16+00.00 -SRID- STA. 23+00.00
MATCHLINE SHEET 5 -Y2- STA. 40+00.00
15" RCP-IV
2GI
REMOVE
STANDARD 'V' DITCH GRASS LINED SEE DETAIL 'F' EST. 70 CY DDE
CLASS 'B' RIP RAP EST. 2 TON 7 SY GEOTEXTILE
22' BST SR 2284
38' BST I95 BUS NBL
38' BST I95 BUS SBL
TO I95 BYPASS SBL
END CONSTRUCTION -Y2- STA. 48+50.00 LT.
END CONSTRUCTION -Y2- STA. 41+50.00 RT.
END RESURFACING
-Y2- PC Sta. 48+49.97
22' SHIPMAN DR SR 2285
ISBKD
HTR
SECURITY HOUSE
BST
NOTES:
(1) SEE SHEETS 14 & 15 FOR -Y2- PROFILE
(2) SEE SHEET 17 FOR -RPID- PROFILE
(3) SEE SHEET 20 FOR -SRID- PROFILE
(4) SEE SHEET 2D-1 FOR DRAINAGE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-10/CONSTJO
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-11/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83 / NA 2011

-L- 30

-L- 35

-L- 40

-L- POT Sta. 30+00.00

-Y5- PT Sta. 11+76.99

-SRIB_REV- PC Sta. 28+61.36

-Y5- PC Sta. 10+81.75

-Y5- POT Sta. 10+00.00 =
-SRIB_REV- POC Sta. 30+71.36

-SRIB_REV-
PT Sta. 32+32.29

-L- PT Sta. 43+07.99
S 38° 52' 20.3" E (AH)

SPECIAL CUT DITCH GRASS LINED SEE DETAIL 'B'

SPECIAL CUT DITCH GRASS LINED SEE DETAIL 'A'

CLASS 'B' RIP RAP EST. 2 TON 7 SY GEOTEXTILE

CLASS 'I' RIP RAP EST. 7 TON 12 SY GEOTEXTILE

-L- POT Sta. 38+16.00=
-SRIE- POT Sta. 10+00.00

-SRIE- PT Sta. 11+46.89

-SRIE- PC Sta. 10+52.65

-L- PC Sta. 40+40.58

-L- POC Sta. 41+03.00=
-SRIB_REV- POT Sta. 33+70.85

S 35° 48' 28.8" E -L-

S 35° 48' 00.0" E

S 35°16'57" E
79.74'

BEGIN TIP PROJECT B-4491
-L- POT STA. 30+75.00

MATCHLINE SHEET 5 -L- STA. 44+00.00

ISB DIVINE EMPOWERMENT INTRANATIONAL CHURCH

ISFRD

ISBKD

MTL CANOPY

WOODS

FALLOW

GRAPE VINES

POOL

WD DECK

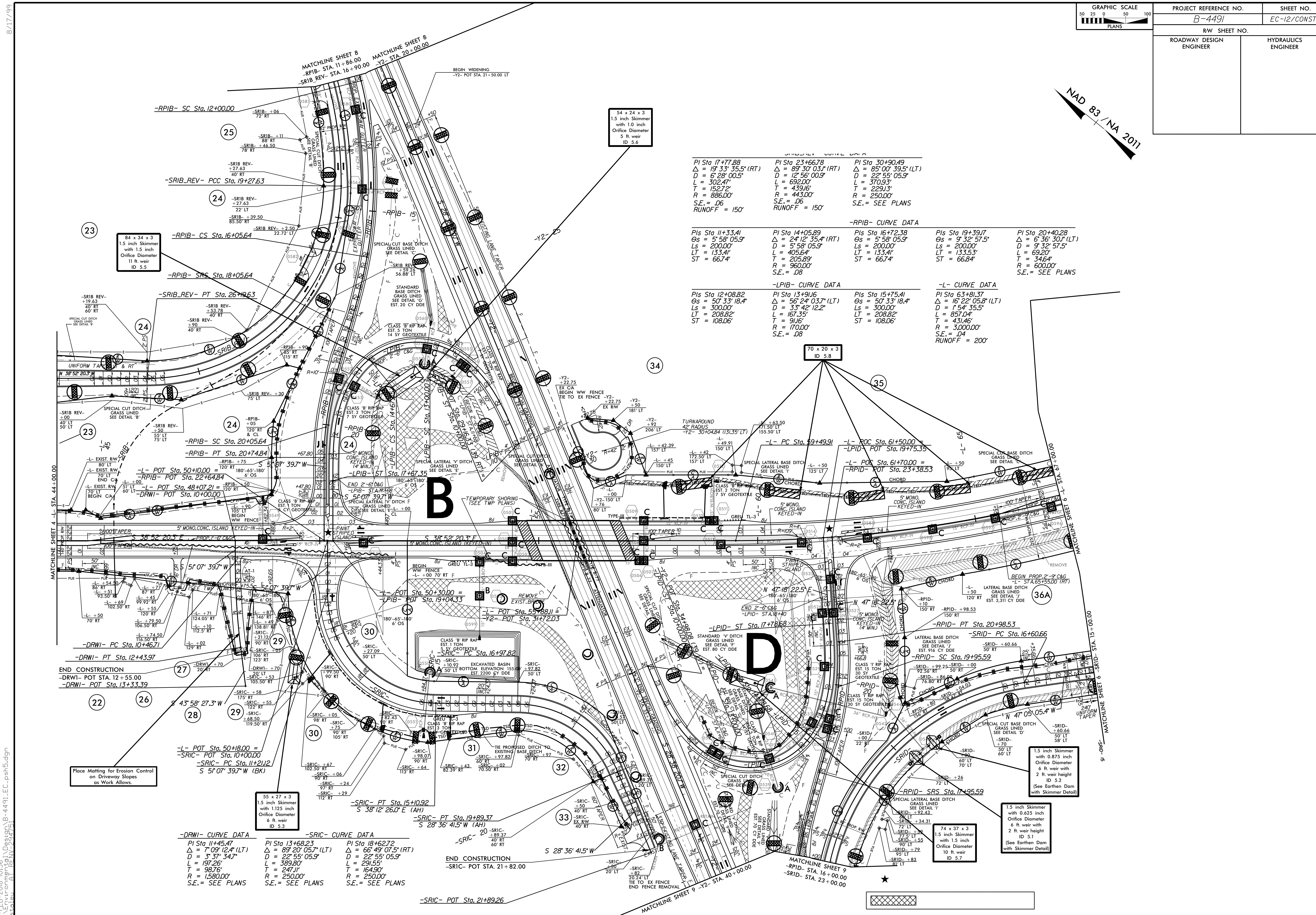
EXISTING R/W

20' BST HANCOCK ST

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

51 52 53

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-12/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-SRIB_REV- CURVE DATA

PI Sta 17+77.88	PI Sta 23+66.78	PI Sta 30+90.49
Δ = 19° 33' 35.5" (RT)	Δ = 89° 30' 03.1" (RT)	Δ = 85° 00' 39.5" (LT)
D = 6° 28' 00.5"	D = 12° 56' 00.9"	D = 22° 55' 05.9"
L = 302.47'	L = 692.00'	L = 370.93'
T = 152.72'	T = 439.16'	T = 229.13'
R = 886.00'	R = 443.00'	R = 250.00'
S.E. = .06	S.E. = .06	S.E. = SEE PLANS
RUNOFF = 150'	RUNOFF = 150'	

-RPIB- CURVE DATA

PIs Sta 11+33.41	PI Sta 14+05.89	PIs Sta 16+72.38	PIs Sta 19+39.17	PI Sta 20+40.28
Θs = 5° 58' 05.9"	Δ = 24° 12' 35.4" (RT)	Θs = 5° 58' 05.9"	Θs = 9° 32' 57.5"	Δ = 6° 36' 30.1" (LT)
Ls = 200.00'	D = 5° 58' 05.9"	Ls = 200.00'	Ls = 200.00'	D = 9° 32' 57.5"
LT = 133.41'	L = 405.64'	LT = 133.41'	LT = 133.53'	L = 69.20'
ST = 66.74'	T = 205.89'	ST = 66.74'	ST = 66.84'	T = 34.64'
	R = 960.00'			R = 600.00'
	S.E. = .08			S.E. = SEE PLANS

-LPIB- CURVE DATA

PIs Sta 12+08.82	PI Sta 13+91.16	PIs Sta 15+75.41
Θs = 50° 33' 18.4"	Δ = 56° 24' 03.7" (LT)	Θs = 50° 33' 18.4"
Ls = 300.00'	D = 33° 42' 12.2"	Ls = 300.00'
LT = 208.82'	L = 167.35'	LT = 208.82'
ST = 108.06'	T = 91.16'	ST = 108.06'
	R = 170.00'	
	S.E. = .08	

-L- CURVE DATA

PI Sta 63+81.37
Δ = 16° 22' 05.8" (LT)
D = 1° 54' 35.5"
L = 857.04'
T = 431.46'
R = 3,000.00'
S.E. = .04
RUNOFF = 200'

-DRWI- CURVE DATA

PI Sta 11+45.47
Δ = 7° 09' 12.4" (LT)
D = 3° 37' 34.7"
L = 197.26'
T = 98.76'
R = 1,580.00'
S.E. = SEE PLANS

-SRIC- CURVE DATA

PI Sta 13+68.23	PI Sta 18+62.72
Δ = 89° 20' 05.7" (LT)	Δ = 66° 49' 07.5" (RT)
D = 22° 55' 05.9"	D = 22° 55' 05.9"
L = 389.80'	L = 291.55'
T = 247.11'	T = 164.90'
R = 250.00'	R = 250.00'
S.E. = SEE PLANS	S.E. = SEE PLANS

8/17/99

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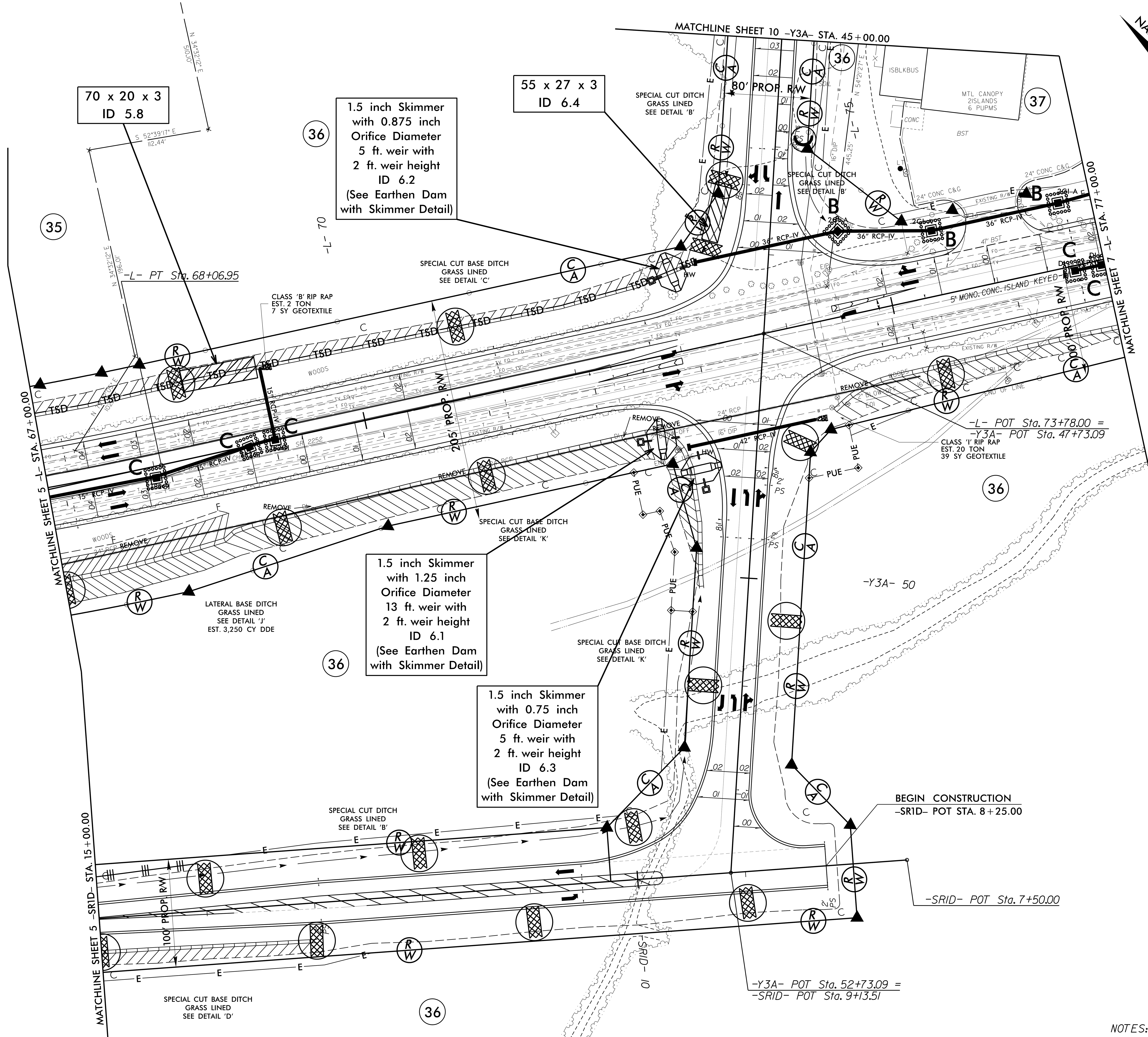
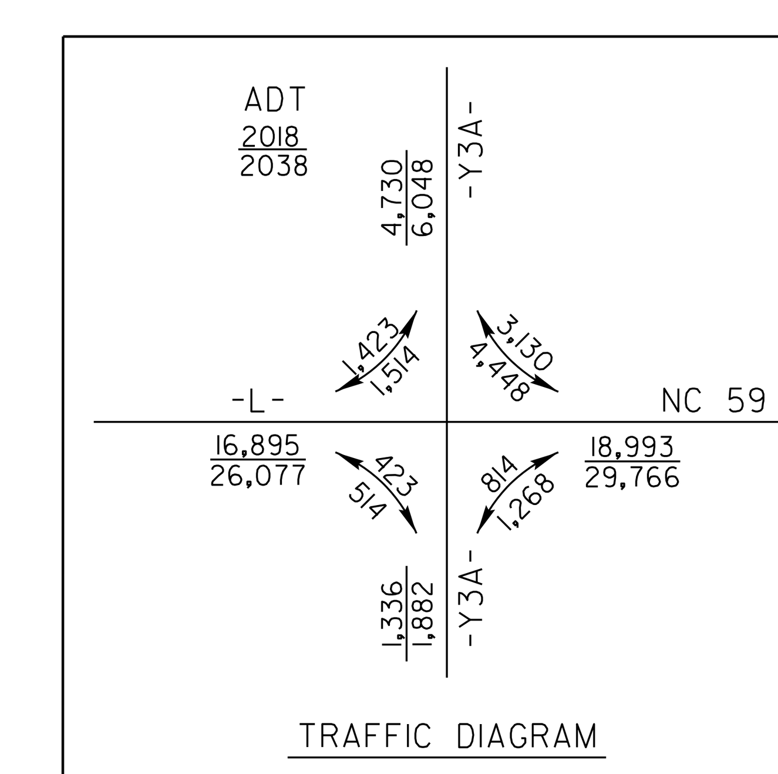
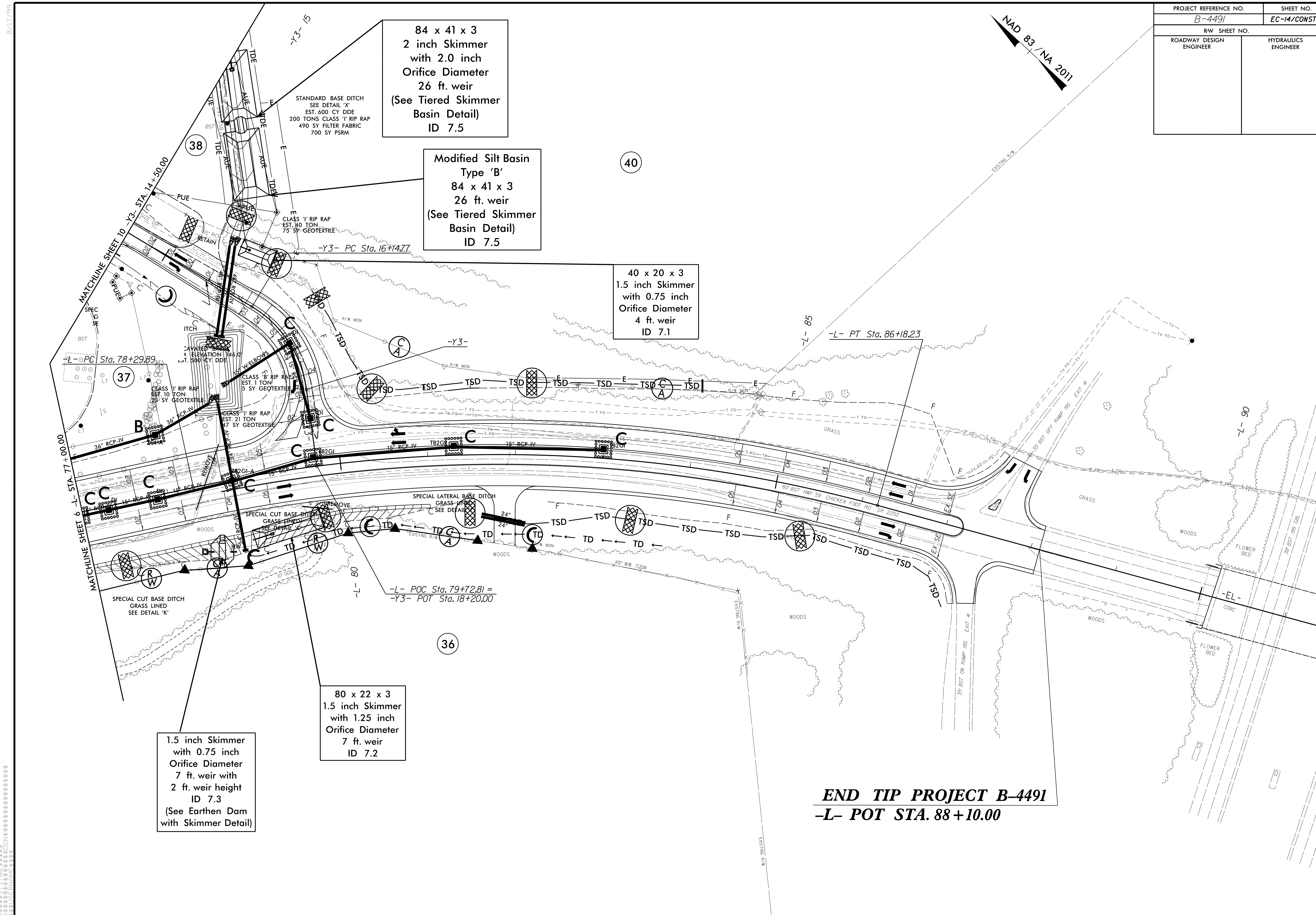
PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-13/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER





NOTES:
(1) SEE SHEET 12 FOR -L- PROFILE
(2) SEE SHEETS 15 & 16 FOR -Y3A- PROFILE
(3 SEE SHEET 20 FOR -SRID- PROFILE
(4) USE R=10' FOR ALL DRIVEWAYS UNLESS SHOWN OTHERWISE
(5) SEE SHEET 2D-1 FOR DRAINAGE DETAILS

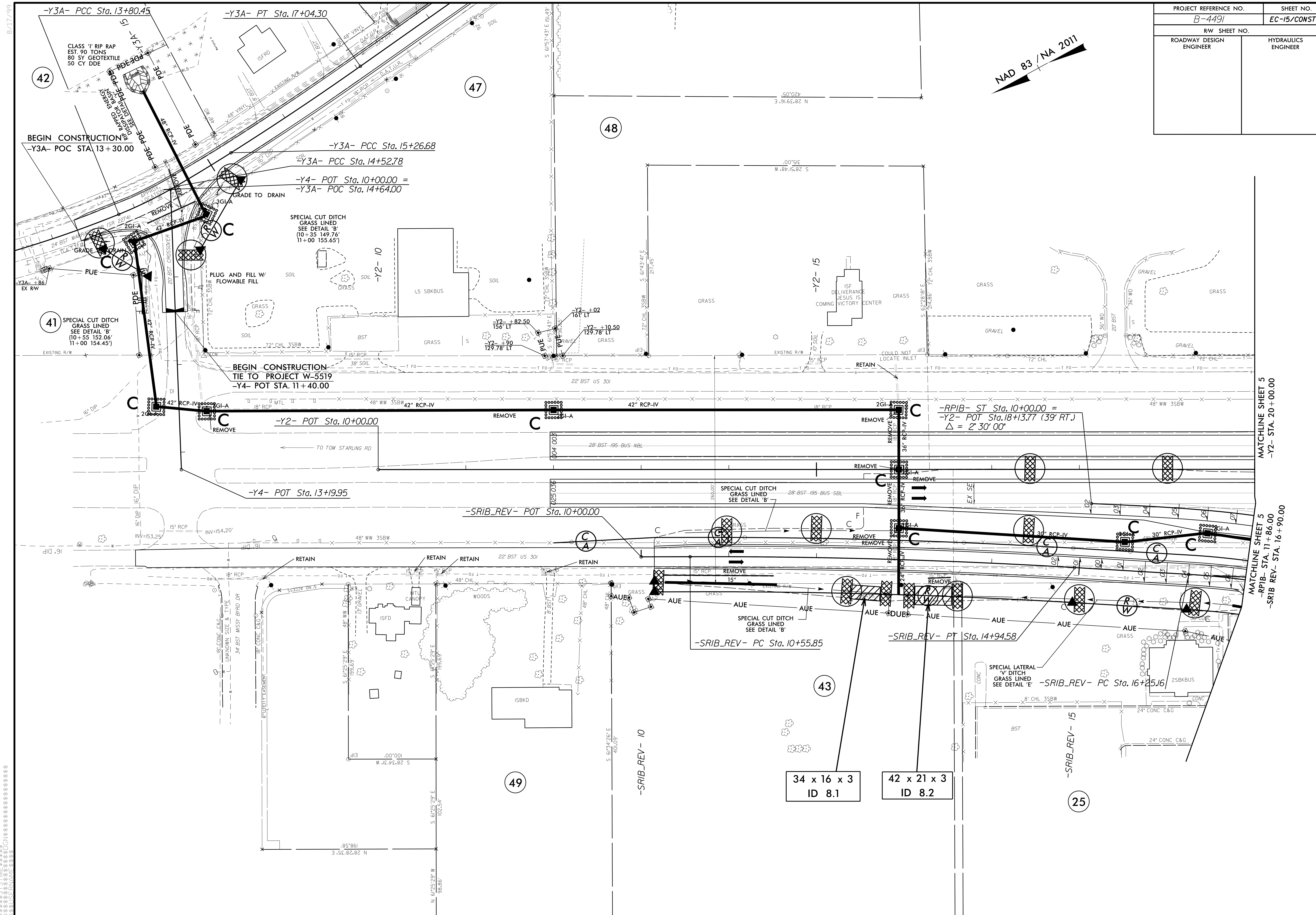
PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-14/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

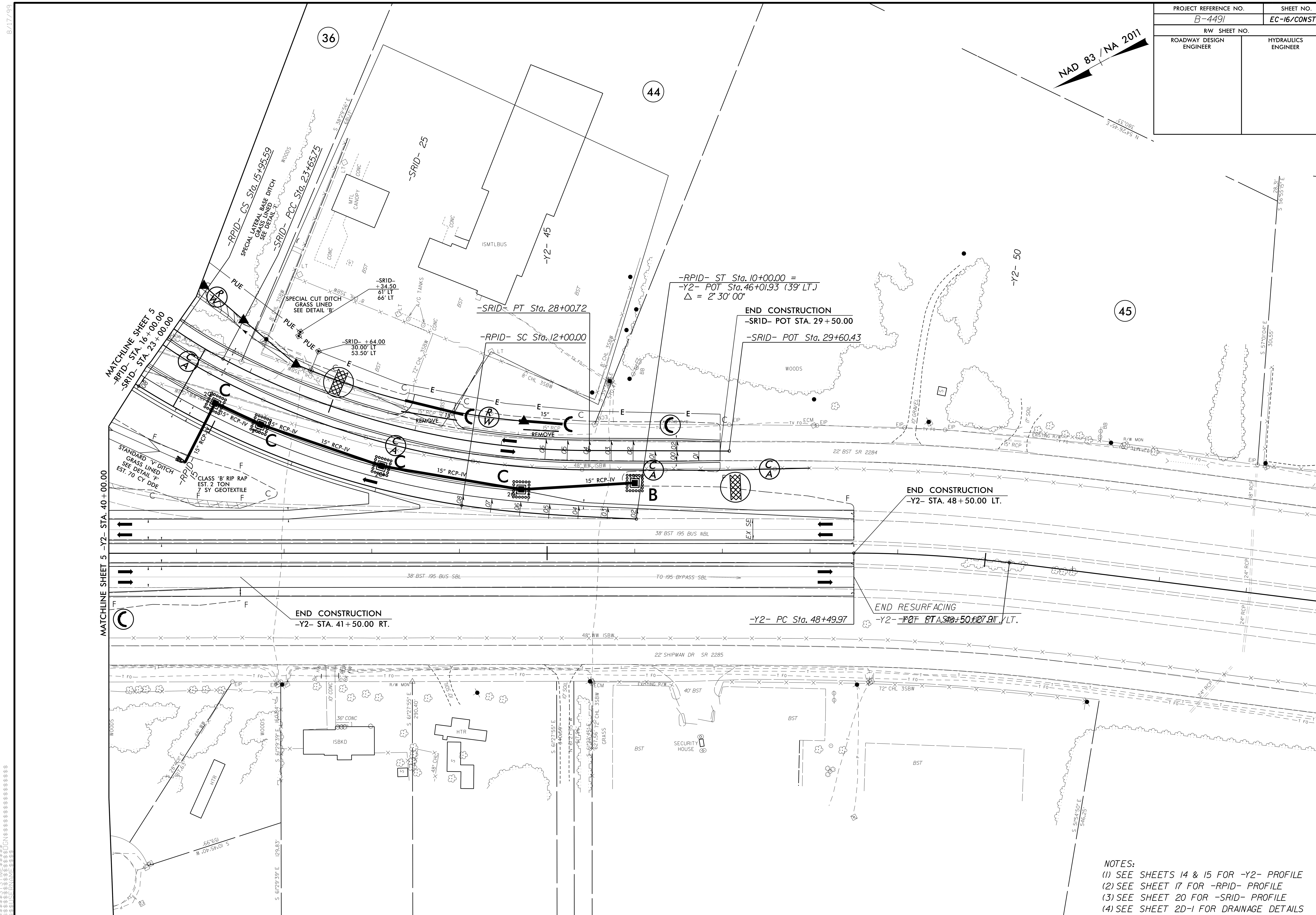


NAD 83 / NA 2011
84 x 41 x 3
2 inch Skimmer
with 2.0 inch
Orifice Diameter
26 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.5
STANDARD BASE DITCH
SEE DETAIL 'X'
EST. 600 CY DDE
200 TONS CLASS 'I' RIP RAP
490 SY FILTER FABRIC
700 SY PSRM
Modified Silt Basin
Type 'B'
84 x 41 x 3
26 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.5
40 x 20 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 7.1
-Y3- PC Sta. 16+14.77
-L- PT Sta. 86+18.23
-L- PC Sta. 78+29.89
MATCHLINE SHEET 10 -Y3- STA. 14+50.00
MATCHLINE SHEET 6 -L- STA. 77+00.00
CLASS 'I' RIP RAP
EST. 40 TON
75 SY GEOTEXTILE
CLASS 'B' RIP RAP
EST. 1 TON
5 SY GEOTEXTILE
CLASS 'I' RIP RAP
EST. 21 TON
47 SY GEOTEXTILE
SPECIAL LATERAL BASE DITCH
GRASS LINED
SEE DETAIL
SPECIAL CUT BASE DITCH
GRASS LINED
SEE DETAIL 'K'
-L- POC Sta. 79+72.81 =
-Y3- POT Sta. 18+20.00
60' BST HWY 59 CHICKEN FOOT RD SR 2252
35' BST OFF RAMP I95 EXIT 41
35' BST ON RAMP I95 EXIT 41
-EL-
WOODS
GRASS
FLOWER BED
80 x 22 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 7.2
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
7 ft. weir with
2 ft. weir height
ID 7.3
(See Earthen Dam
with Skimmer Detail)

END TIP PROJECT B-4491
-L- POT STA. 88+10.00

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-15/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER





PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-16/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTES:
(1) SEE SHEETS 14 & 15 FOR -Y2- PROFILE
(2) SEE SHEET 17 FOR -RPID- PROFILE
(3) SEE SHEET 20 FOR -SRID- PROFILE
(4) SEE SHEET 2D-1 FOR DRAINAGE DETAILS

8/17/99
$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4491	EC-17/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER