

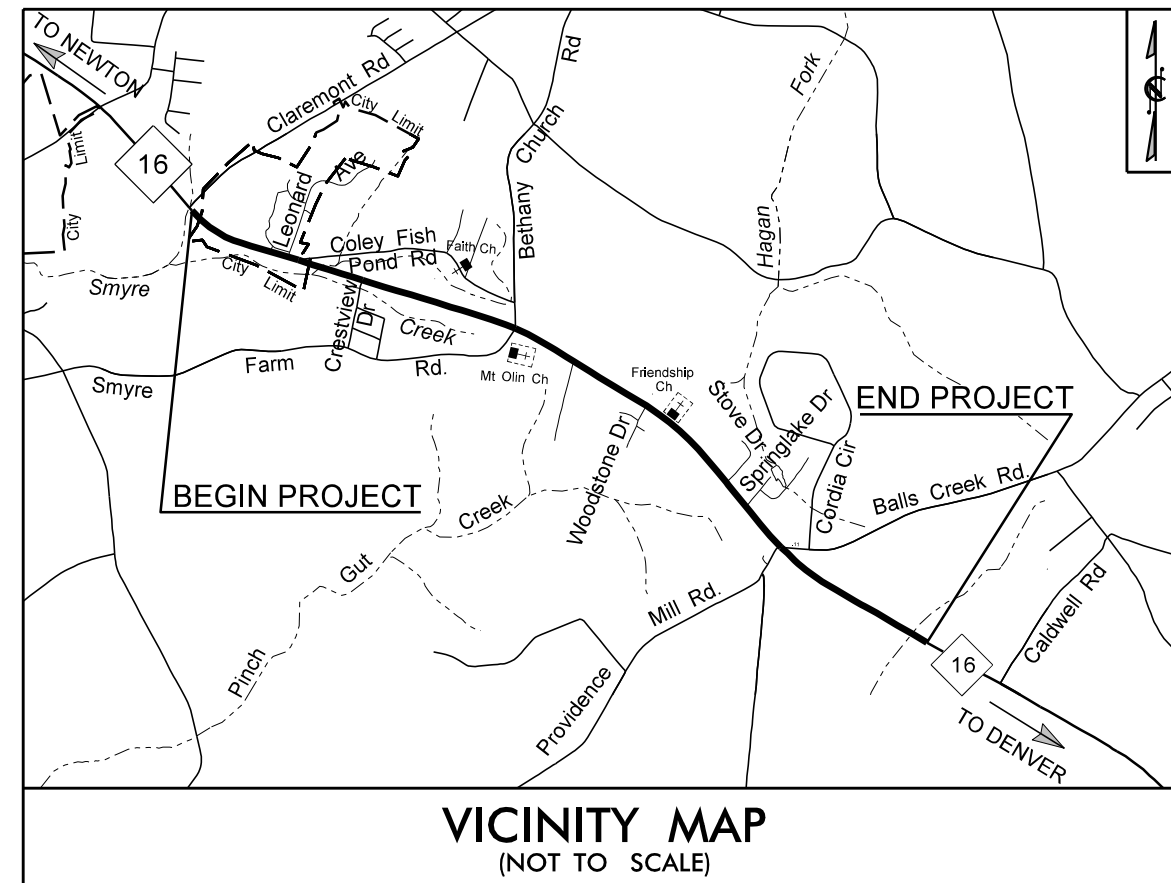
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TIP PROJECT: R-3100B

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



90% PLANS

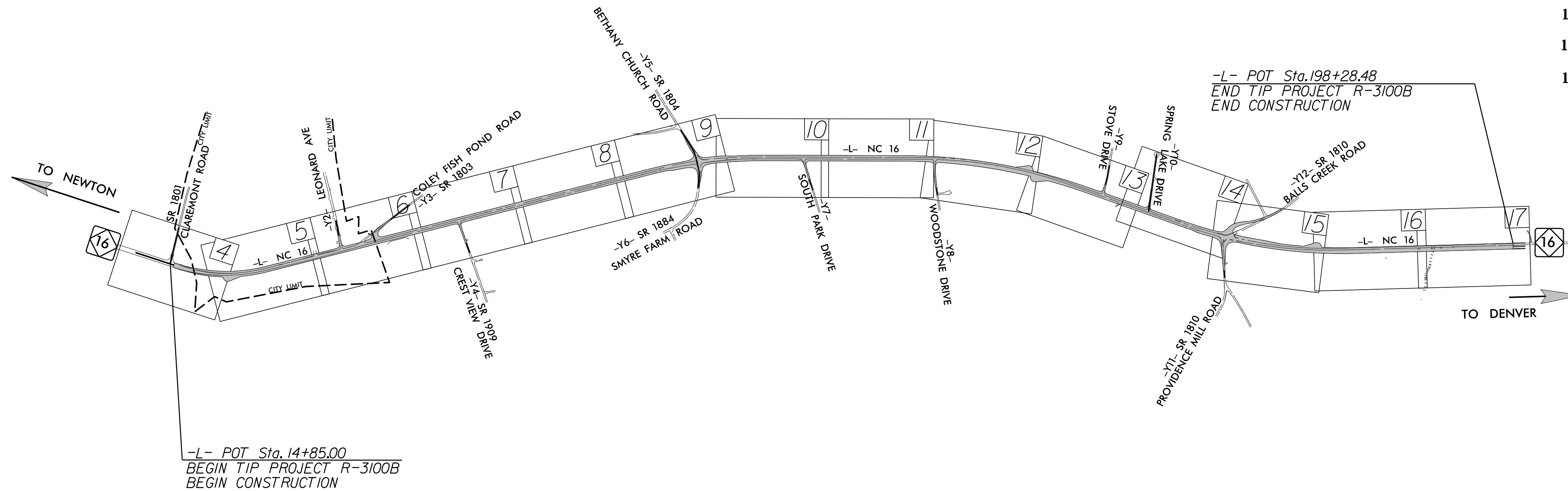
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

CATAWBA COUNTY

**LOCATION: NC 16 NORTH OF SR 1801 (CLAREMONT RD) AND
NORTH OF SR 1814 (CALDWELL RD)**

**TYPE OF WORK: GRADING, DRAINAGE, RETAINING WALL,
CULVERTS, PAVING & SIGNALS**



THIS PROJECT IS PARTIAL CONTROL-ACCESS, WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON PLANS.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3100B	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34522.1.4	STP-16(4)	PE	
34522.2.FR4	STP-0016(53)	ROW	
34522.2.FRU4	STP-0016(53)	UTIL.	

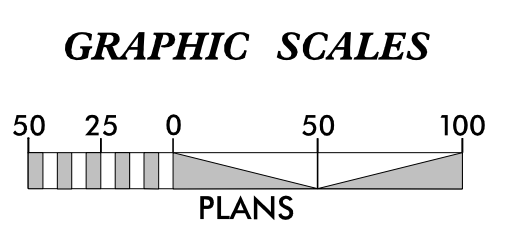
EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	III III III
1630.02	Silt Basin Type B	III III III
1633.01	Temporary Rock Silt Check Type-A	III III III
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	III III III
1633.02	Temporary Rock Silt Check Type-B	III III III
	Wattle/Coir Fiber Wattle	III III III
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	III III III
1634.01	Temporary Rock Sediment Dam Type-A	III III III
1634.02	Temporary Rock Sediment Dam Type-B	III III III
1635.01	Rock Pipe Inlet Sediment Trap Type-A	III III III
1635.02	Rock Pipe Inlet Sediment Trap Type-B	III III III
1630.04	Stilling Basin	III III III
1630.06	Special Stilling Basin	III III III
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	III III III
	Tiered Skimmer Basin	III III III
	Infiltration Basin	III III III

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

**ENVIRONMENTALLY
SENSITIVE AREA(S) EXIST
ON THIS PROJECT**

*Refer To E. C. Special Provisions
for Special Considerations.*



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.

SUNGATE DESIGN GROUP, P.A.

915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6258
ENG FIRM LICENSE NO. C-890

Designed by:

Brian N. Elam, PE 3195
NAME LEVEL III CERTIFICATION NO.

Prepared in the Office of:

ROADSIDE ENVIRONMENTAL UNIT

1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Reviewed by:

Jeremy Goodwin, PE, CPESC, CPSWQ 3446
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

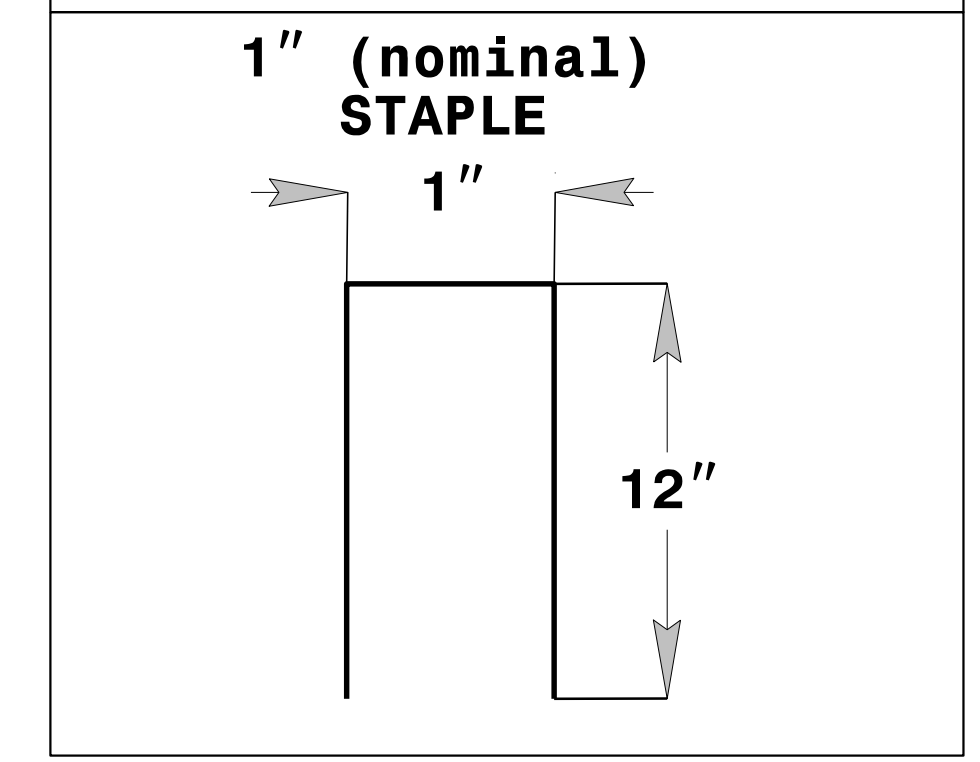
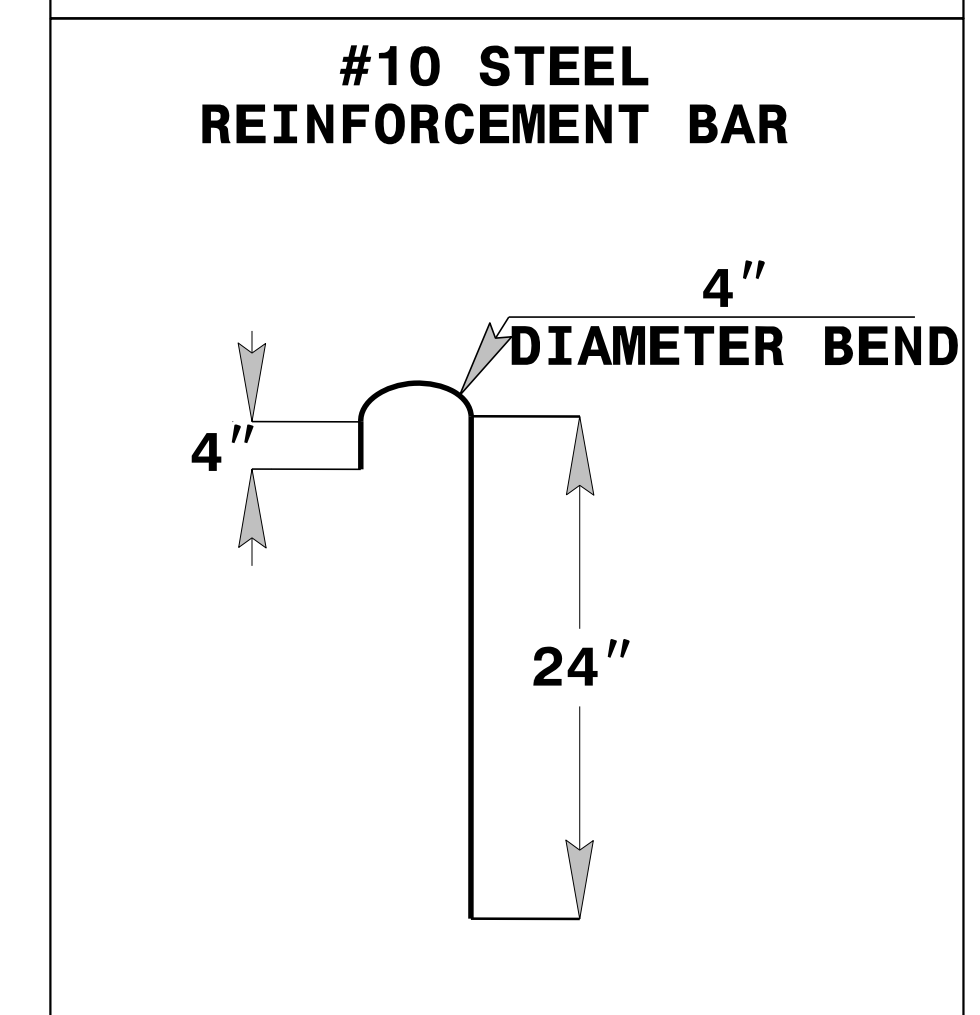
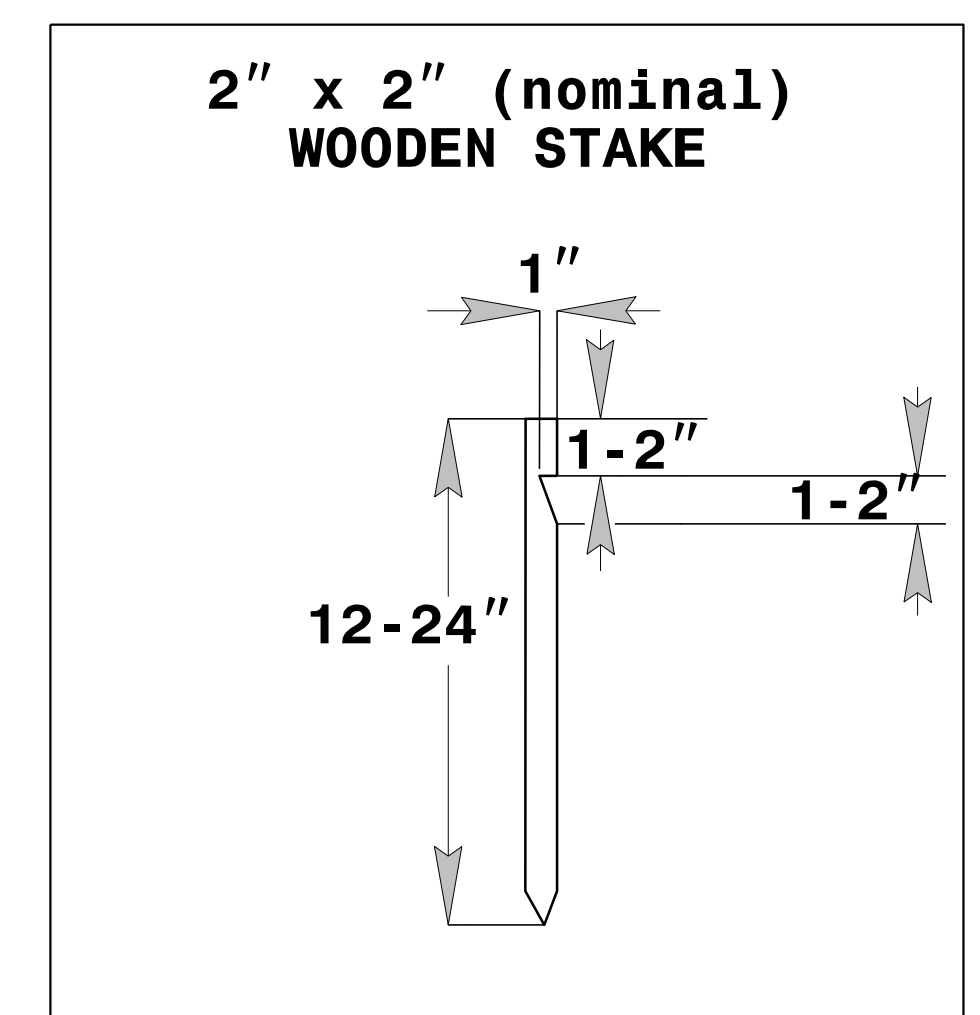
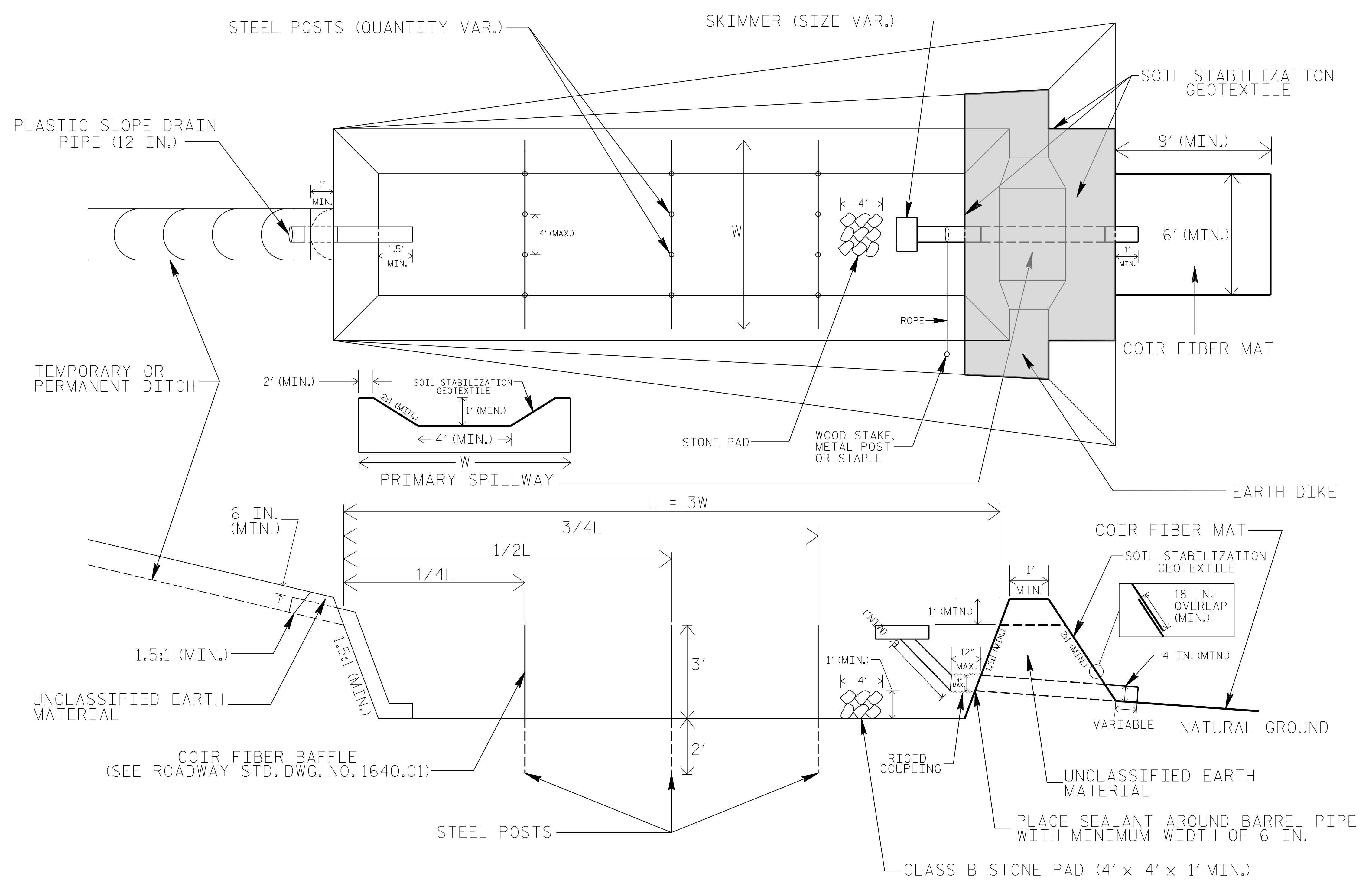
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

9/23/2010 EC-den_esh_01.dgn

PROJECT REFERENCE NO. R-3100B	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 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. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

PROJECT REFERENCE NO. <i>R-3100B</i>	SHEET NO. <i>EC-2A</i>
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.

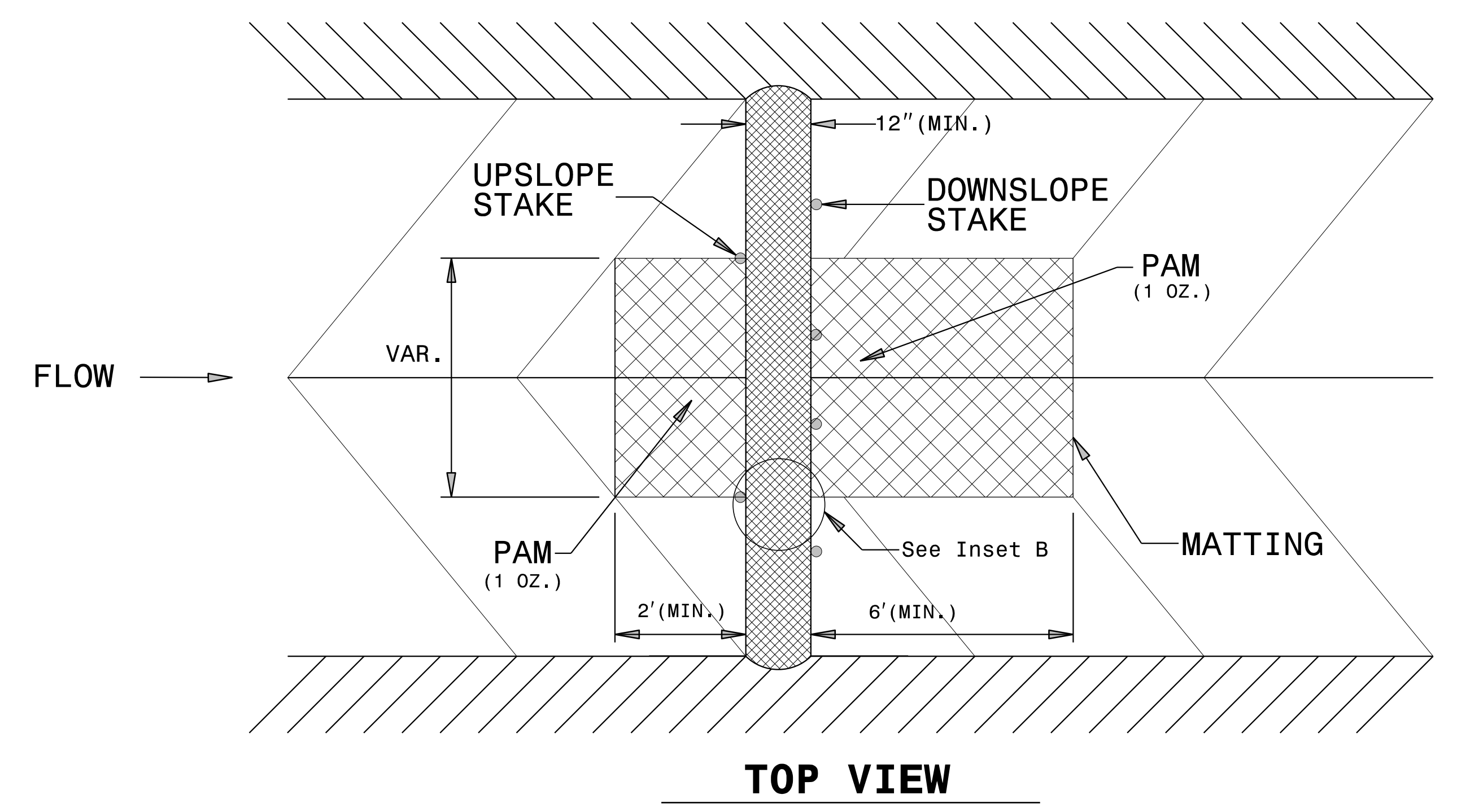
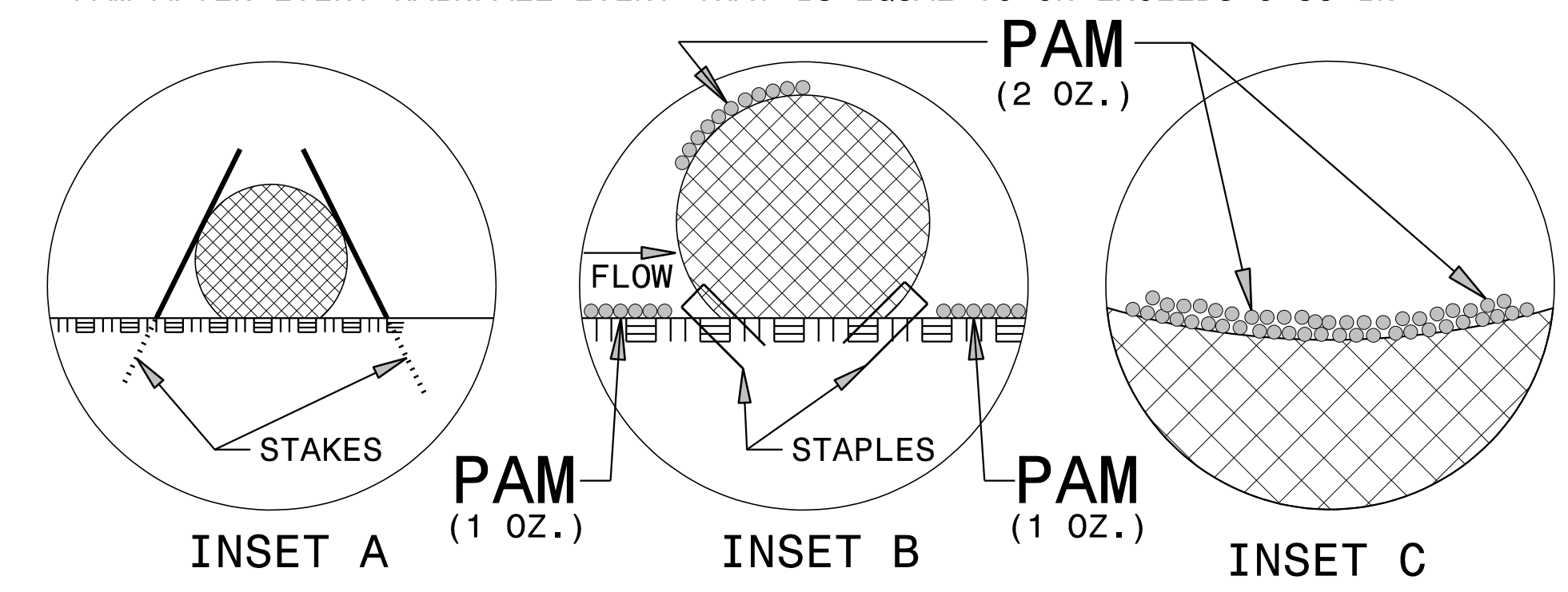
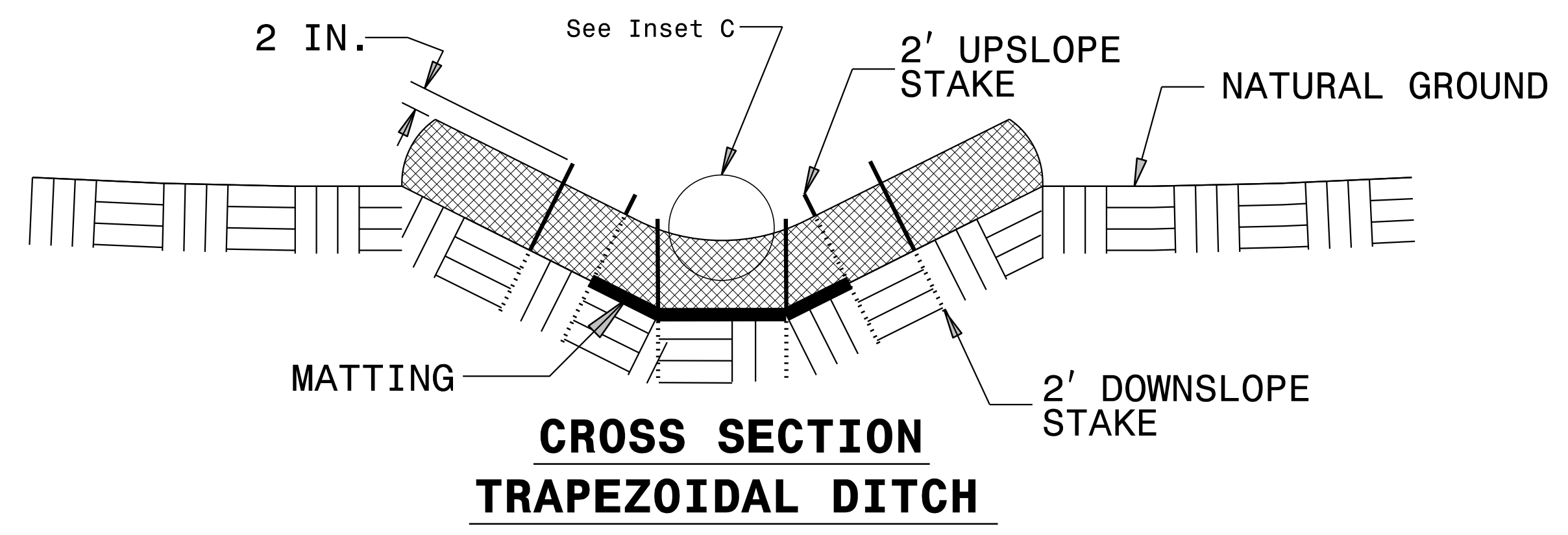
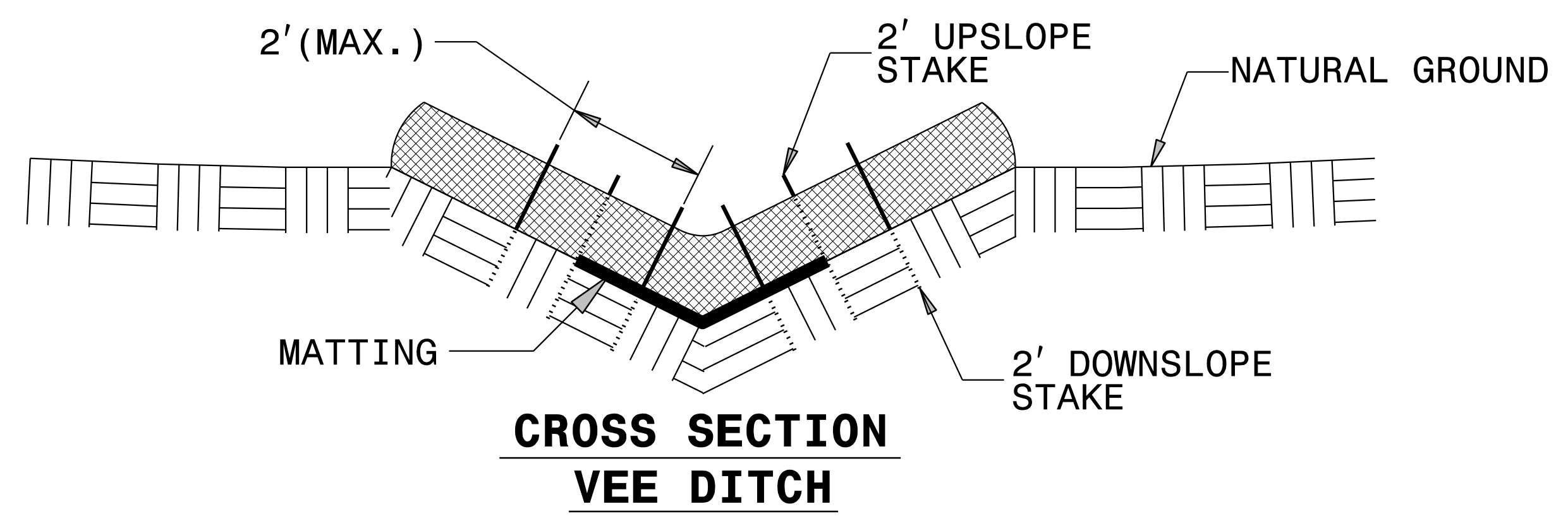
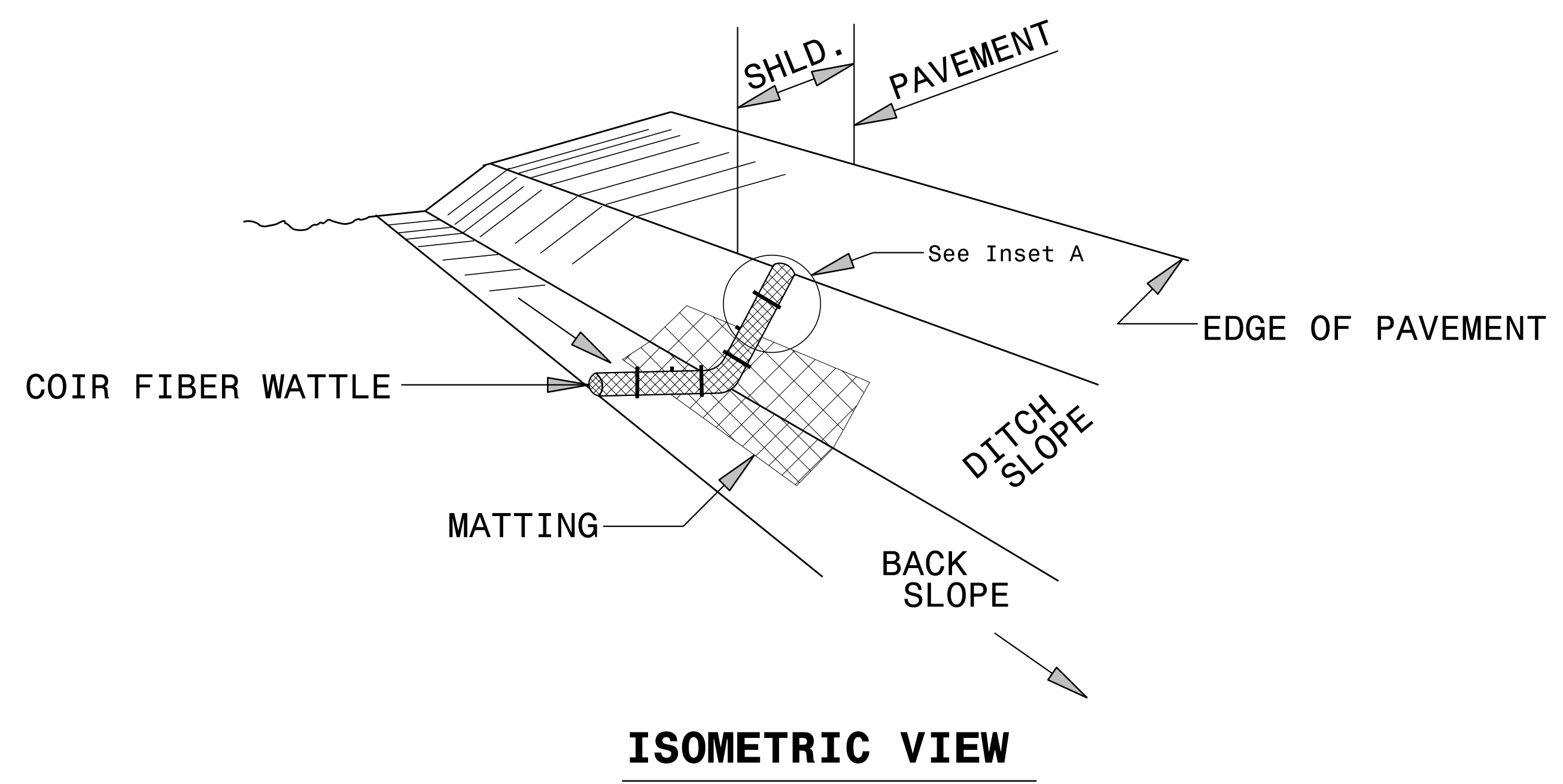
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.

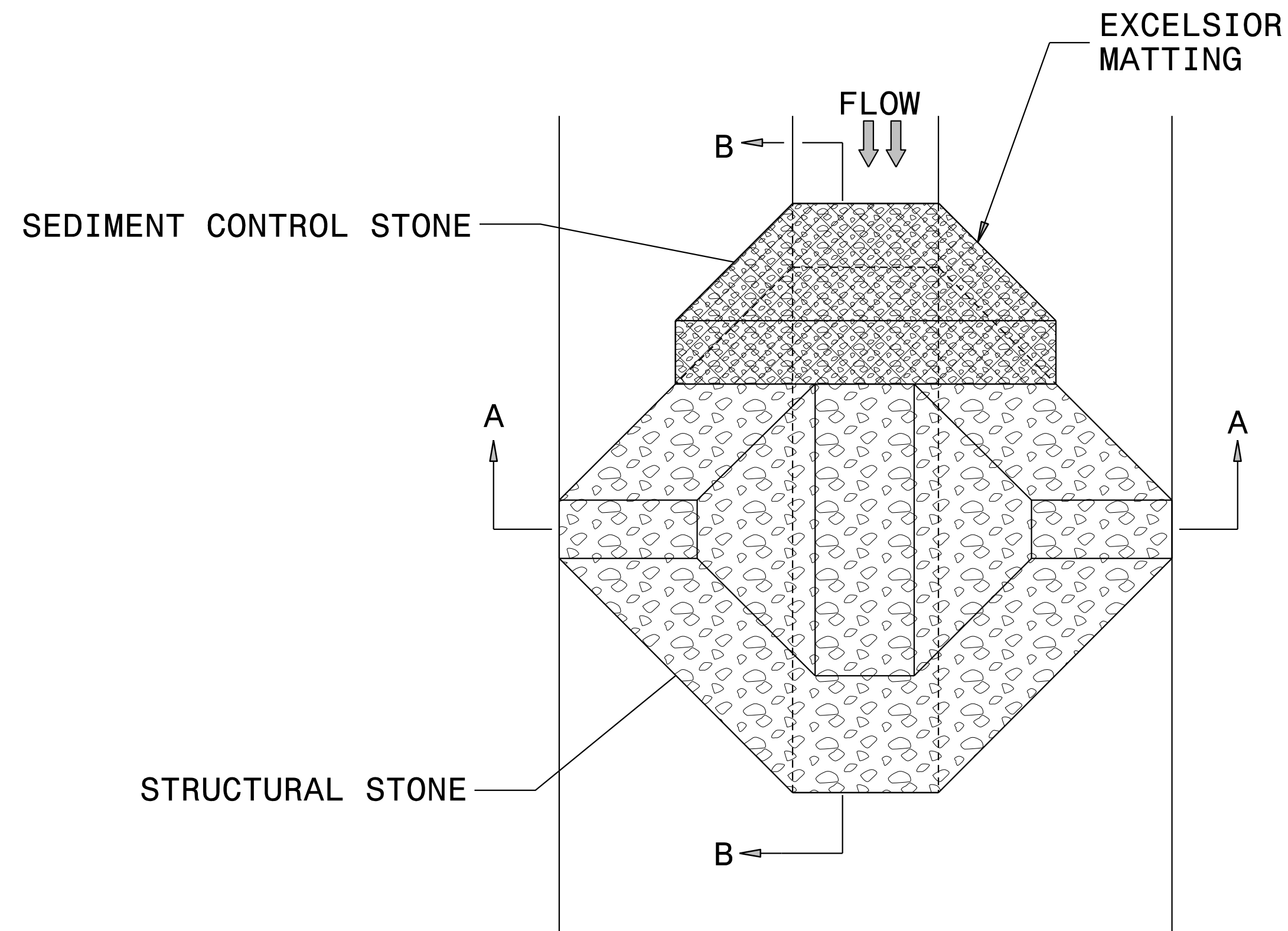
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

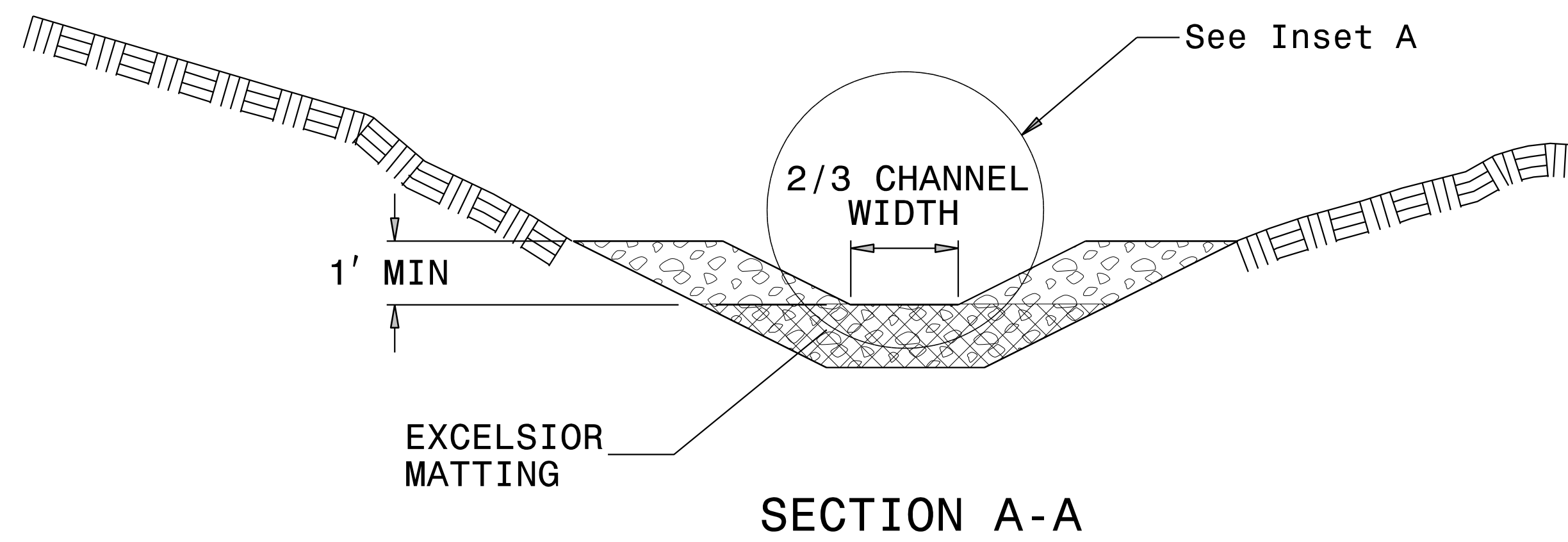


PROJECT REFERENCE NO. <i>R-3100B</i>	SHEET NO. <i>EC-2B</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

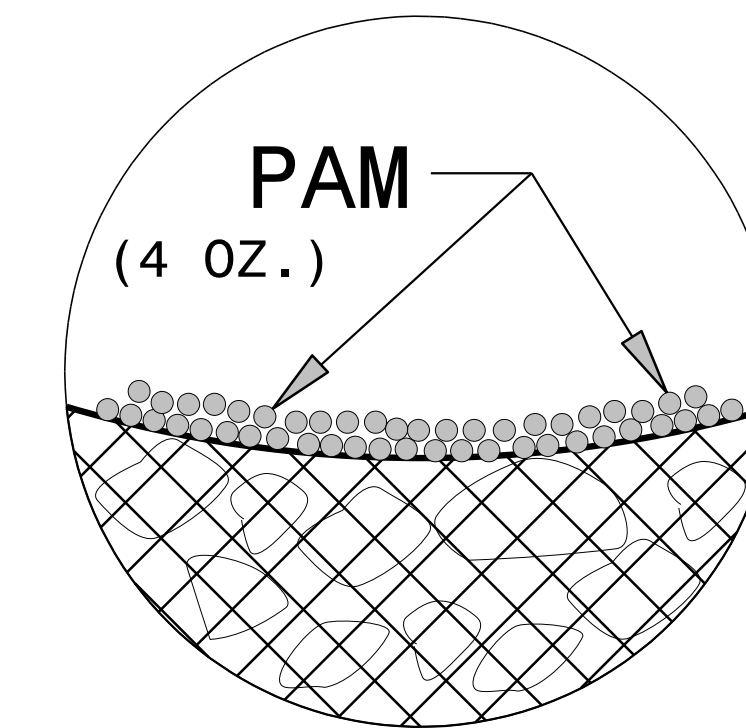
NOTES:

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

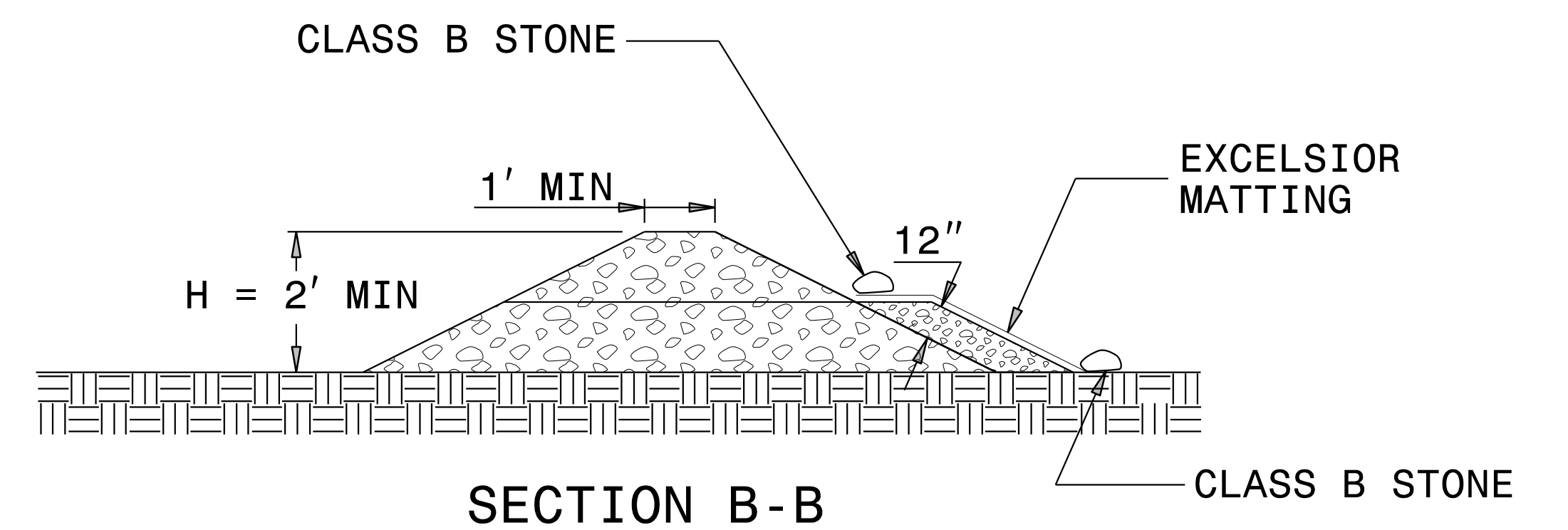
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>R-3100B</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	16+00	16+60	LT	45
5	-L-	22+65	24+63	L ¹	145
5	-L-	24+63	26+87	LT	160
6	-L-	39+00	39+60	L ¹	30
6	-Y3-	14+00	15+50	RT	140
7	-L-	52+80	55+48	LT	135
8	-L-	62+90	65+82	LT	205
9	-Y5-	11+50	12+50	RT	95
10	-L-	102+55	105+68	L ¹	395
10	-Y7-	12+00	12+50	LT	70
11	-L-	107+30	109+45	LT	200
11	-L-	113+88	114+17	L ¹	20
11	-L-	105+70	105+95	RT	150
12	-L-	119+50	122+00	RT	175
12	-L-	122+65	124+30	RT	120
12	-L-	124+35	125+70	RT	70
12	-L-	129+25	130+60	RT	70
12	-L-	130+60	131+88	RT	90
12	-Y8-	11+00	13+50	R ¹	335
12	-Y8-	11+00	13+50	LT	335
13	-L-	135+83	138+50	R ¹	190
13	-L-	144+68	146+05	R ¹	100
14	-L-	150+80	153+20	RT	170
14	-L-	155+63	158+88	RT	235
15	-L-	164+50	169+50	R ¹	670
15	-L-	165+00	167+50	LT	335
15	-Y11-	11+50	12+00	L ¹	70
15	-Y11-	12+00	14+50	RT	285
15	-Y12-	10+50	12+00	LT	205
15	-Y12-	11+00	12+00	R ¹	135

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
16	-L-	177+00	177+50	LT	70
16	-L-	178+00	183+50	RT	740
16	-L-	178+50	188+50	LT	1125
16	-L-	185+50	188+00	R ¹	335
17	-L-	190+00	190+50	LT	70
17	-L-	195+00	198+28.48	RT	370
				SUBTOTAL	8,090
				MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER	45,920
				TOTAL	54,010
				GAY	54,100

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>R-3100B</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.
R-3100B	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

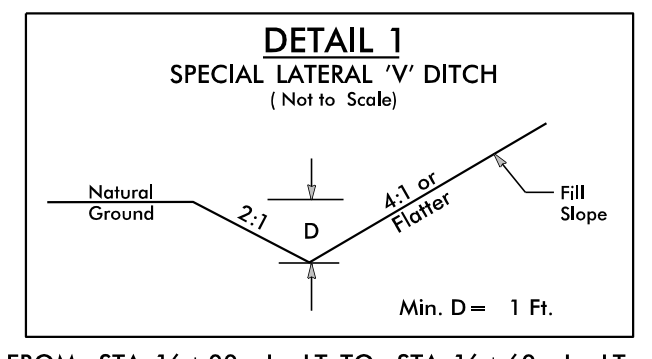
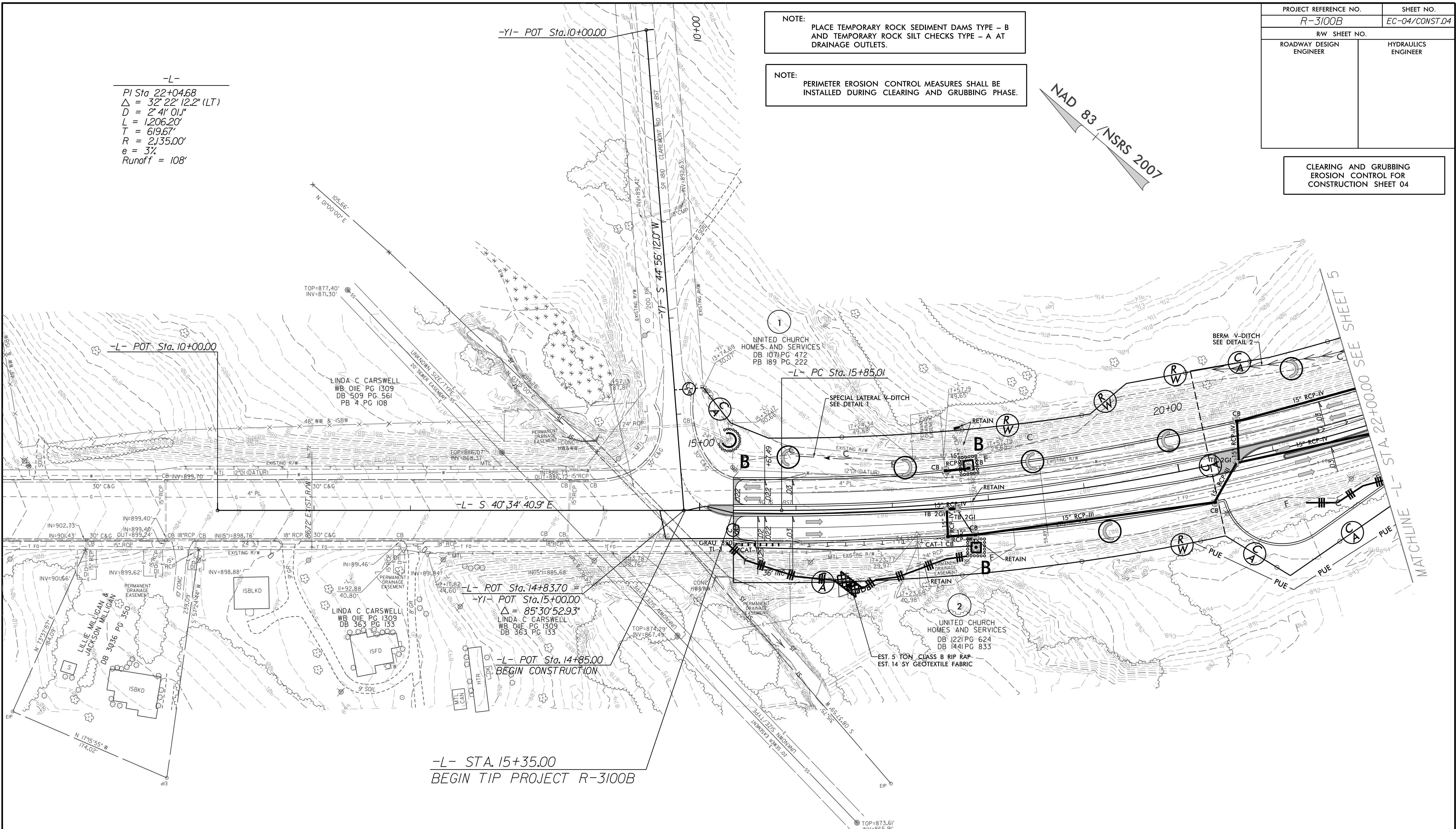
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 04

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

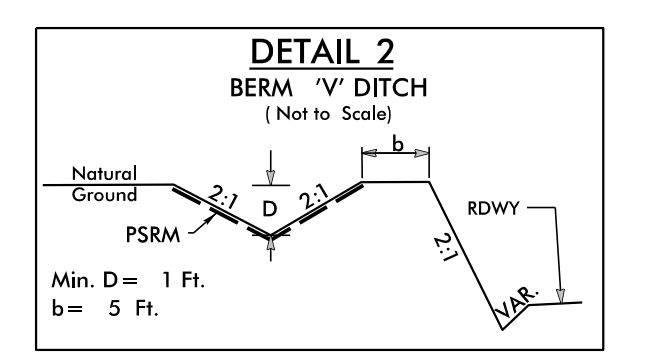
NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NAD 83 / NSRS 2007

-L-
 PI Sta. 22+04.68
 $\Delta = 32^{\circ} 22' 12.2''$ (LT)
 $D = 2' 41.01''$
 $L = 1,206.20'$
 $T = 619.67'$
 $R = 2,135.00'$
 $e = 3\%$
 Runoff = 108'



FROM STA. 16+00 -L- LT TO STA. 16+60 -L- LT



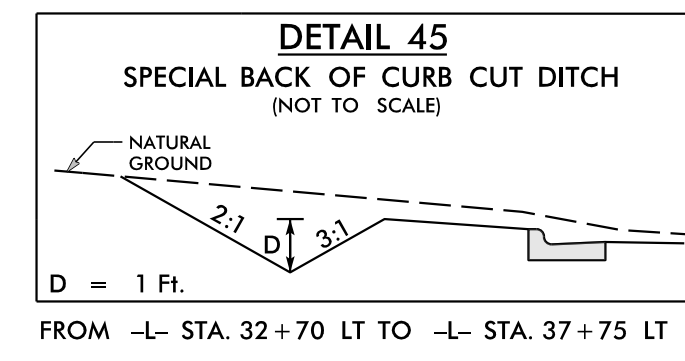
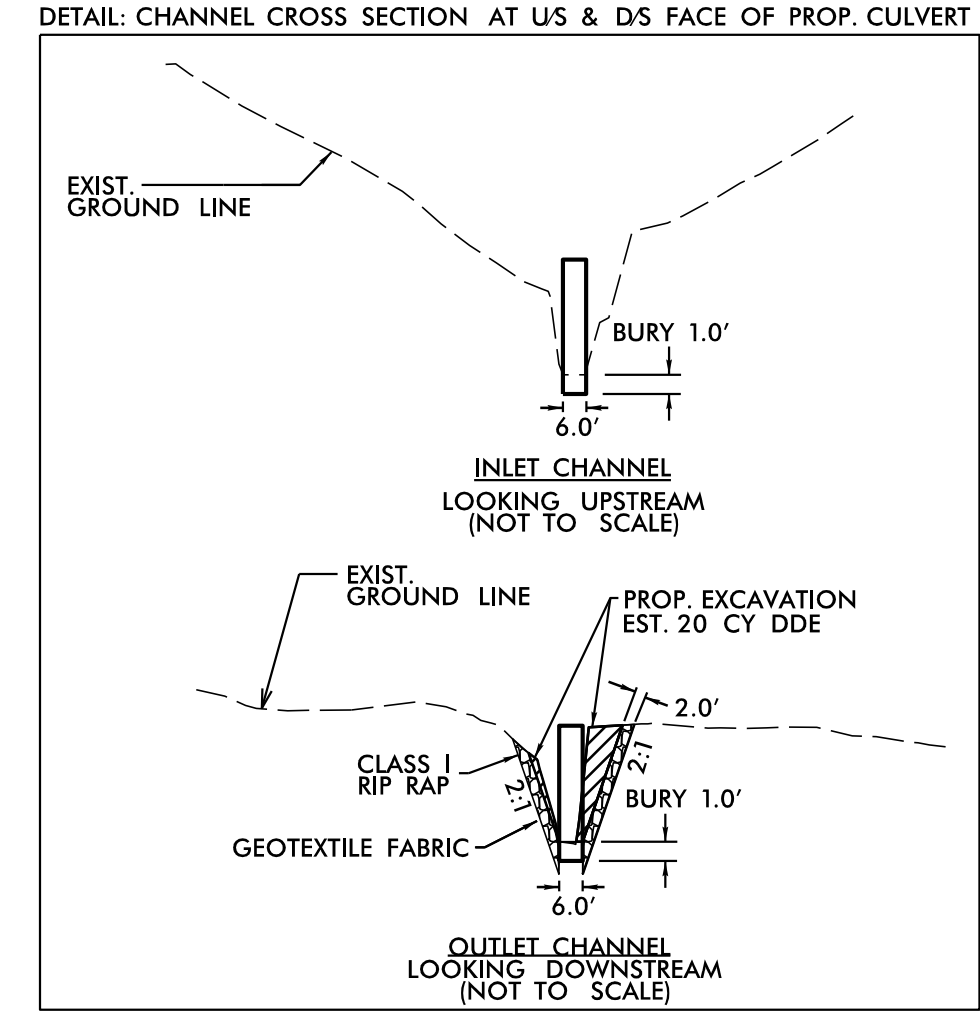
FROM STA. 20+53 -L- LT TO STA. 22+65 -L- LT

FOR -L- PROFILE SEE SHEET 18

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-05/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

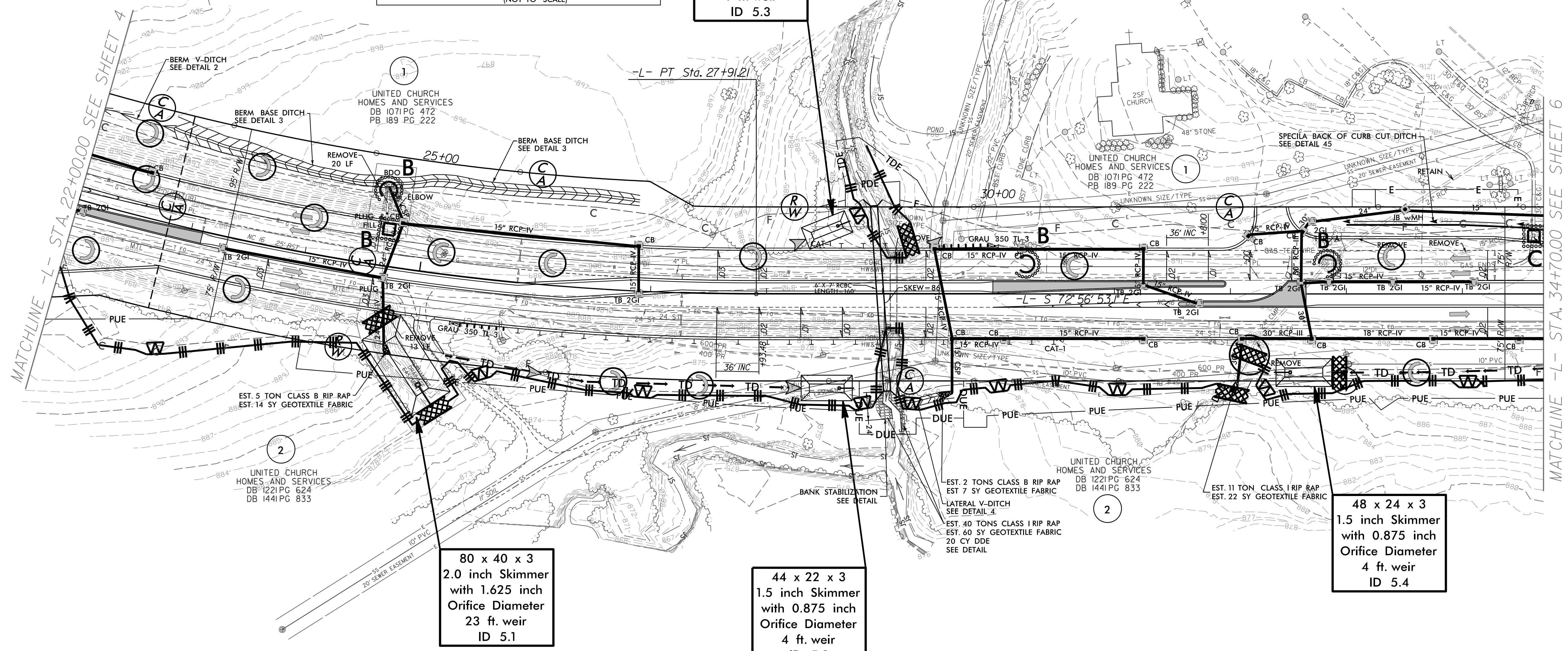
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 05

-L-
 PI Sta 22+04.68
 $\Delta = 32' 22" 12.2" (LT)$
 $D = 2' 4" 0.1"$
 $L = 1,206.20'$
 $T = 619.67'$
 $R = 2,135.00'$
 $e = 3\%$
 Runoff = 108'



MAD 83 / NSRS 2007

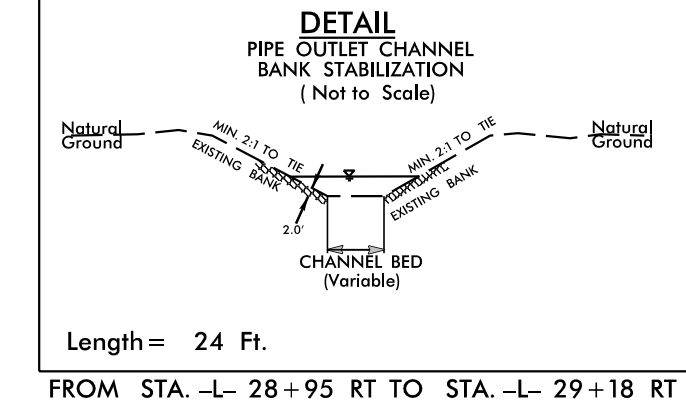
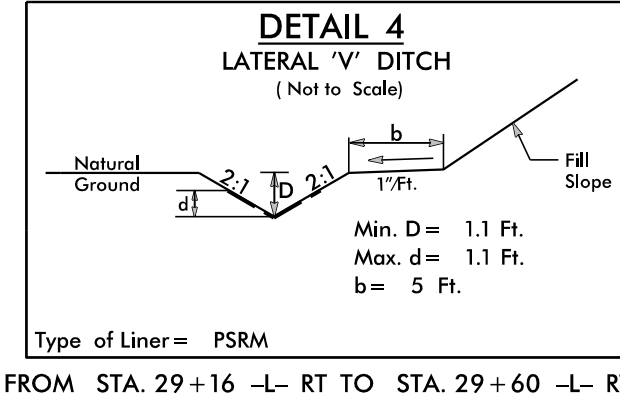
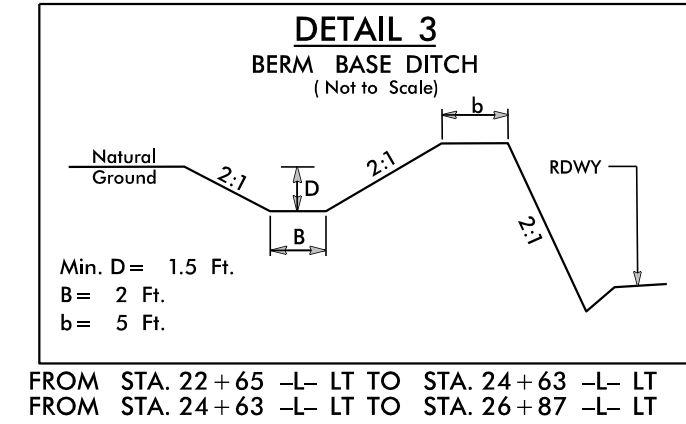
40 x 20 x 3
 1.5 inch Skimmer
 with 0.75 inch
 Orifice Diameter
 4 ft. weir
 ID 5.3



80 x 40 x 3
 2.0 inch Skimmer
 with 1.625 inch
 Orifice Diameter
 23 ft. weir
 ID 5.1

44 x 22 x 3
 1.5 inch Skimmer
 with 0.875 inch
 Orifice Diameter
 4 ft. weir
 ID 5.2

48 x 24 x 3
 1.5 inch Skimmer
 with 0.875 inch
 Orifice Diameter
 4 ft. weir
 ID 5.4



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

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

FOR -L- PROFILE SEE SHEET 18

DATE: 06/09/2016 ADDED TCE ONTO PACEL FOR SLOPE CONSTRUCTION STA 33+25 TO STA 34+48

MATCHLINE -L- STA. 22+00.00 SEE SHEET 4

MATCHLINE -L- STA. 34+70.00 SEE SHEET 6

UNNAMED TRIBUTARY TO SMYRE CREEK 6'X7' RCBC CONSTRUCTION SEQUENCE STA. 28+98 -L-

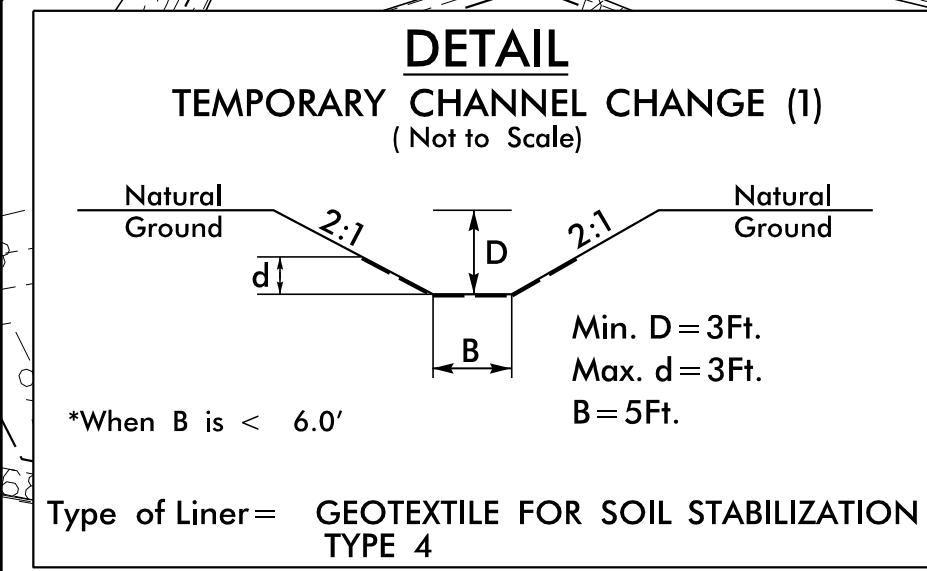
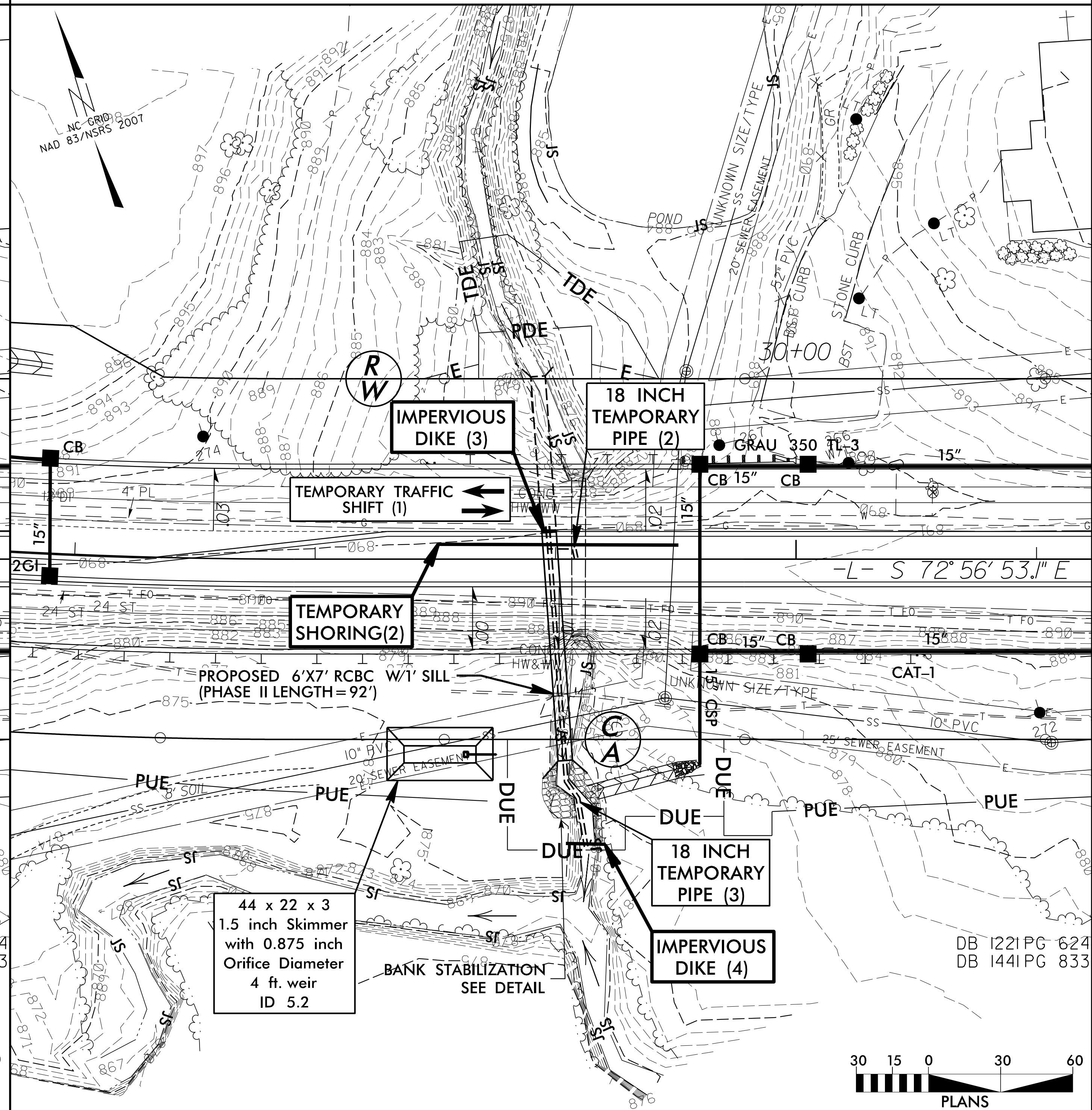
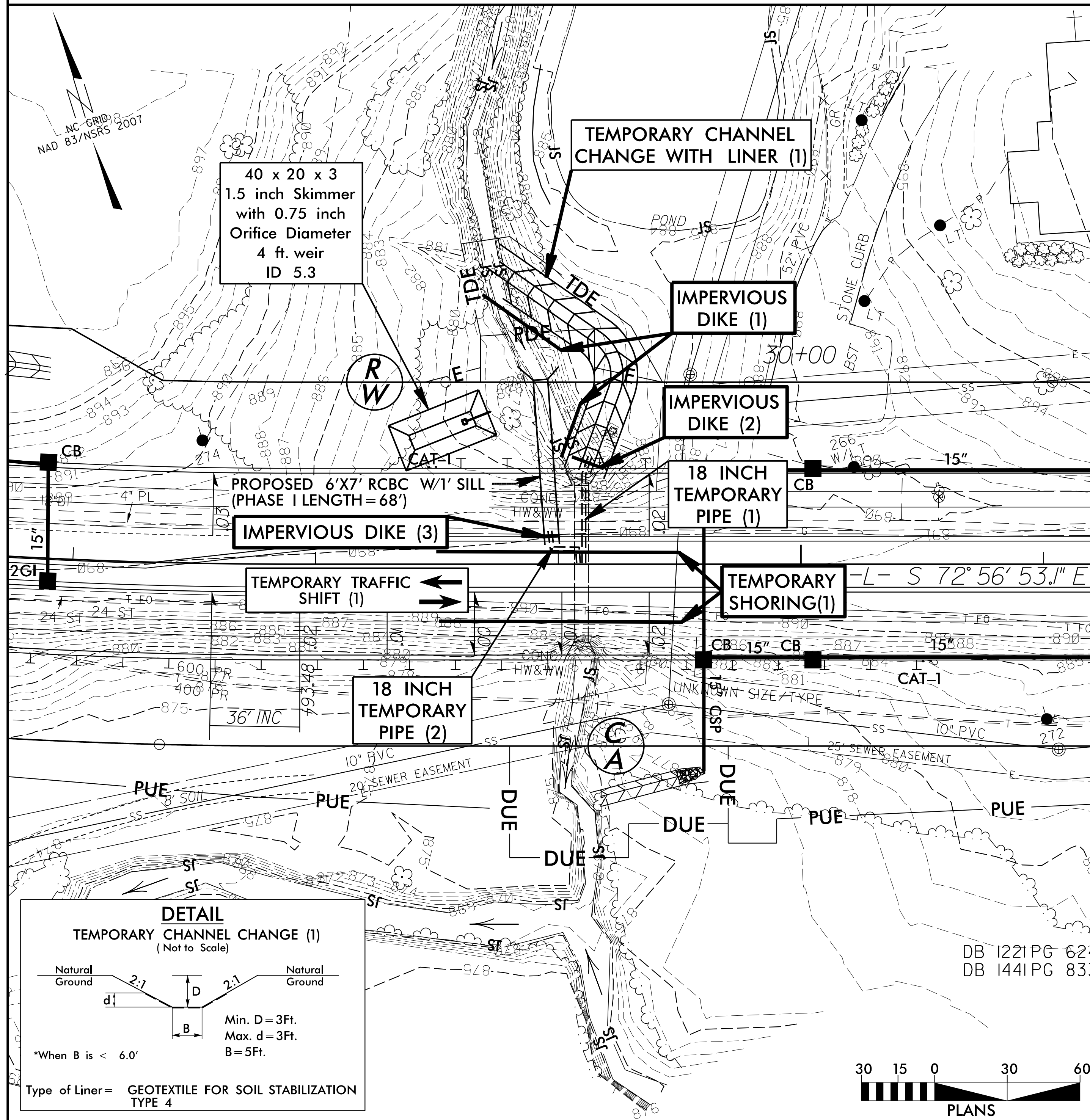
PROJECT REFERENCE NO. R-3100B	SHEET NO. EC-05A/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE I

PHASE II

- 1.) RELOCATE UTILITIES AND INSTALL SKIMMER BASIN 5.3, TO BE UTILIZED AS STILLING BASIN FOR DEWATERING.
- 2.) CONSTRUCT TEMPORARY CHANNEL CHANGE (1) W/GEOTEXTILE LINER FOR SOIL STABILIZATION-TYPE 4 AND INSTALL IMPERVIOUS DIKE (1)
- 3.) INSTALL TEMPORARY SHORING (1) AND CONSTRUCT TEMPORARY TRAFFIC SHIFT (1) TO THE SOUTH.
- 4.) INSTALL TEMPORARY PIPE (1) (FLEXIBLE 18"), IMPERVIOUS DIKE (2) AND REMOVE WINGWALLS OF EXISTING BOX CULVERT AT INLET END.
- 5.) CONSTRUCT APPROXIMATELY 68' OF PROPOSED BOX CULVERT AT INLET END.
- 6.) REMOVE APPROXIMATELY 28' OF EXISTING BOX CULVERT, FROM INLET END TO TEMPORARY SHORING.
- 7.) INSTALL TEMPORARY PIPE (2) (FLEXIBLE 18"), IMPERVIOUS DIKE (3), AND DIVERT FLOW THROUGH NEW CULVERT AND TEMPORARY PIPE (2).
- 8.) REMOVE TEMPORARY CHANNEL CHANGE (1), IMPERVIOUS DIKE (1) AND (2), TEMPORARY PIPE (1) AND TEMPORARY SHORING (1).
- 9.) CONSTRUCT ROADWAY PHASE 1 SECTION (WESTBOUND LANES).

- 1.) INSTALL SKIMMER BASIN 5.2, TO BE UTILIZED AS STILLING BASIN FOR DEWATERING.
- 2.) INSTALL TEMPORARY SHORING (2) AND CONSTRUCT TEMPORARY TRAFFIC SHIFT (2) TO THE NORTH.
- 3.) REMOVE TEMPORARY PIPE (2), INSTALL TEMPORARY PIPE (3) (FLEXIBLE 18"), INSTALL IMPERVIOUS DIKE (4) AND DIVERT FLOW THROUGH PIPE (3).
- 4.) REMOVE REMAINDER OF EXISTING BOX CULVERT.
- 5.) CONSTRUCT REMAINDER OF PROPOSED BOX CULVERT (APPROXIMATELY 92'), WING WALLS AND BANK STABILIZATION.
- 6.) REMOVE TEMPORARY PIPE (3) AND IMPERVIOUS DIKES (3) AND (4).
- 7.) REMOVE TEMPORARY SHORING (2) AND CONSTRUCT PROPOSED ROADWAY PHASE 2 SECTION (EASTBOUND LANES).

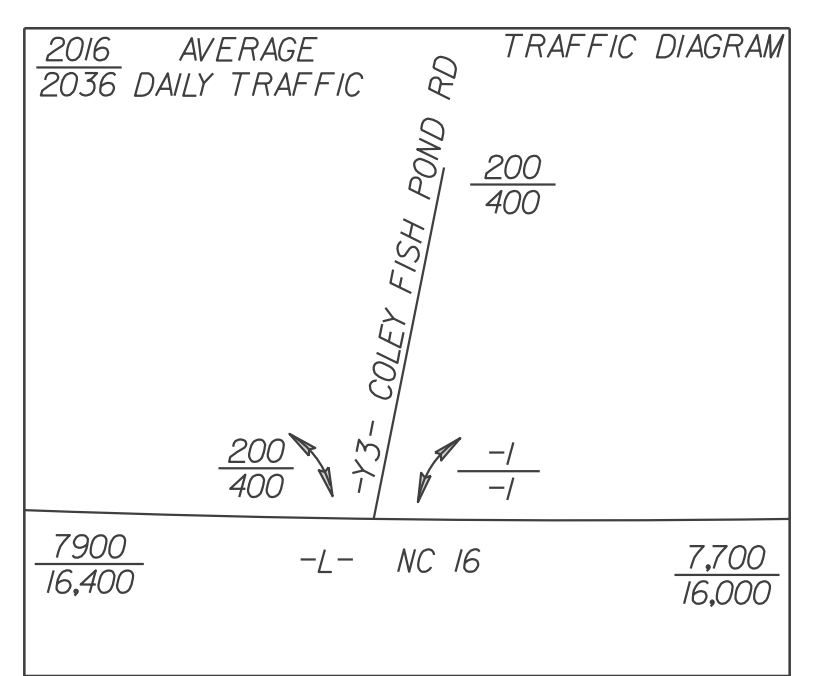


PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-06/CONST.06
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

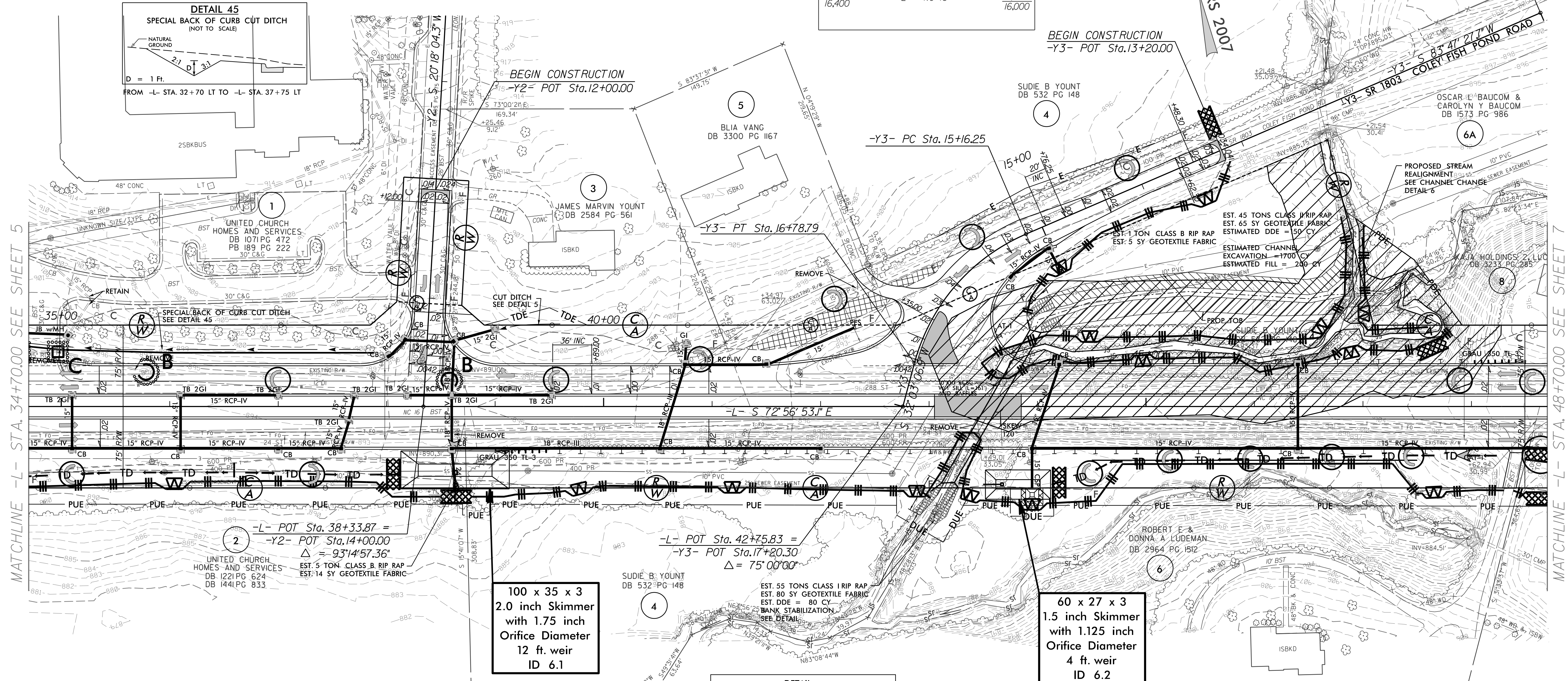
NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

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

-Y3-
 $PI\ Sta\ 16+03.53$
 $\Delta = 5' 44" 20.8" (LT)$
 $D = 3' 49" 51.6"$
 $L = 162.54'$
 $T = 87.29'$
 $R = 180.00'$
 $e = 4\%$
 $Runoff = 80'$

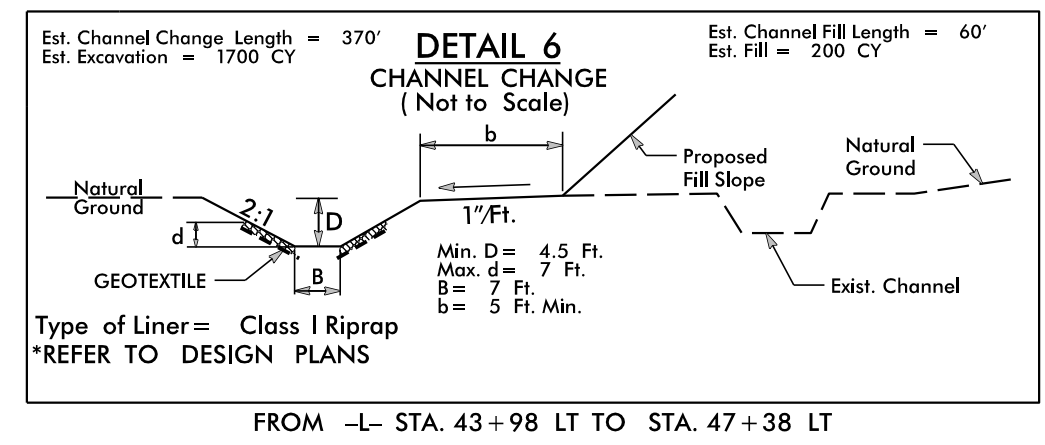
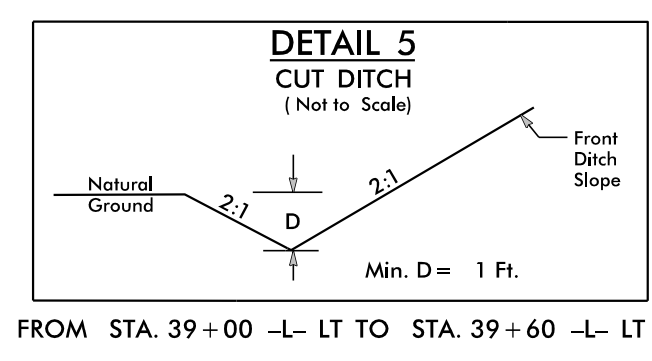
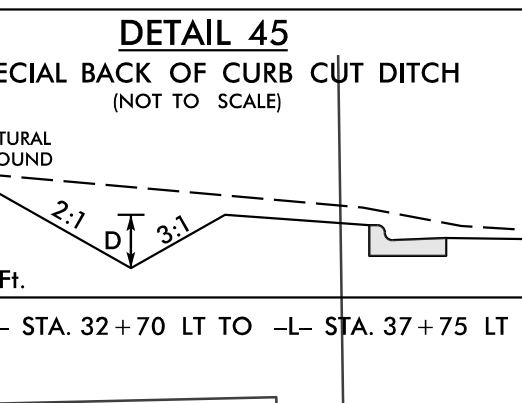


CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 06



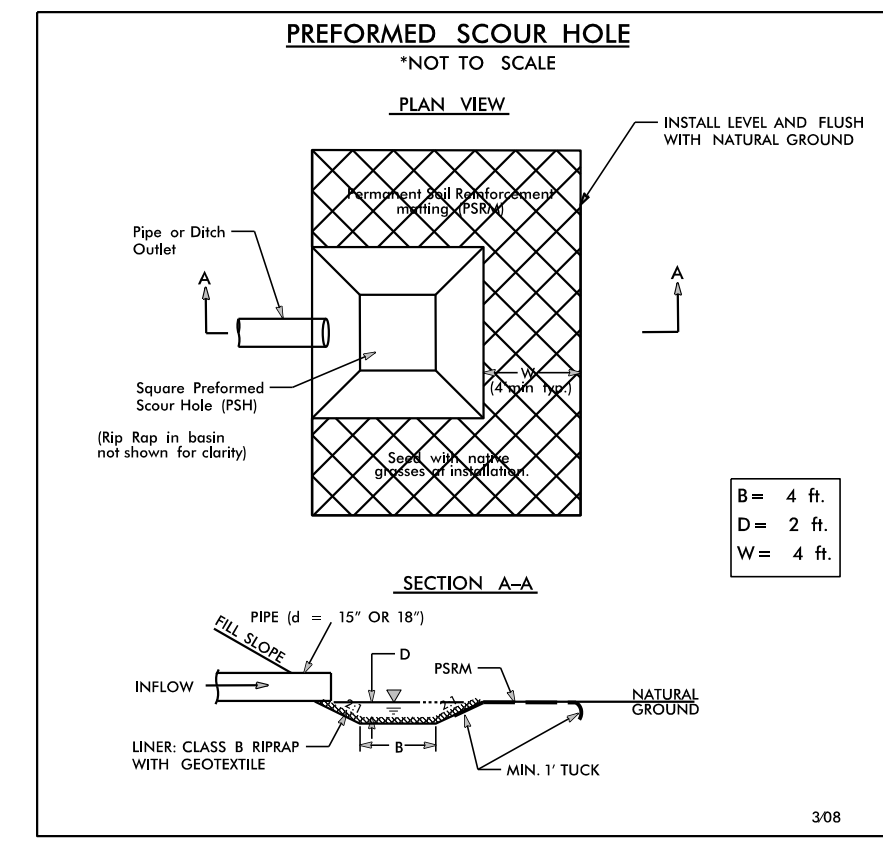
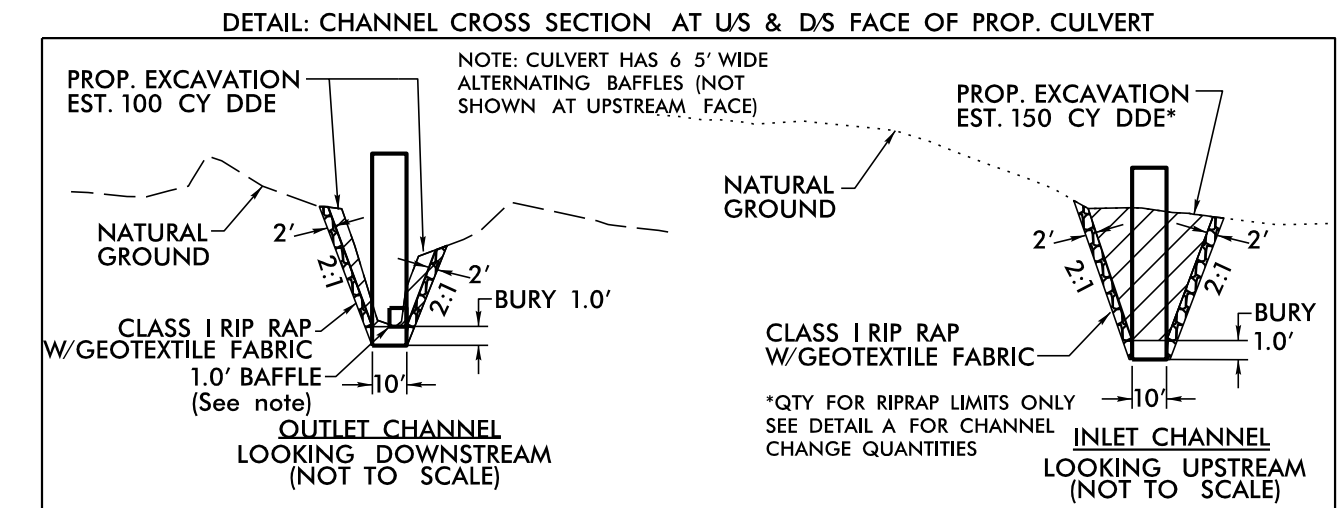
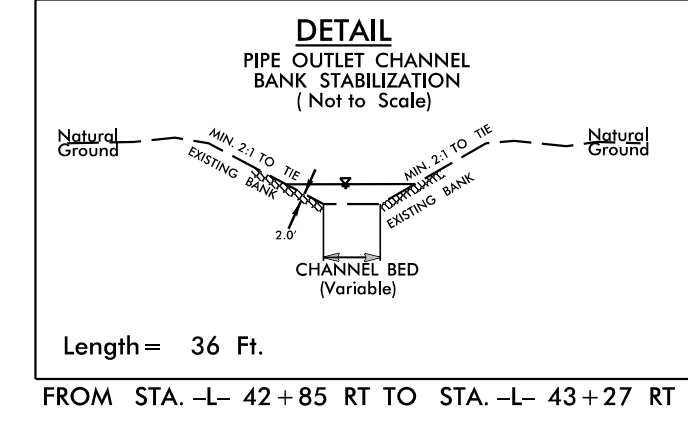
MATCHLINE -L- STA. 34+70.00 SEE SHEET 5

MATCHLINE -L- STA. 48+70.00 SEE SHEET 7



100 x 35 x 3
 2.0 inch Skimmer
 with 1.75 inch
 Orifice Diameter
 12 ft. weir
 ID 6.1

60 x 27 x 3
 1.5 inch Skimmer
 with 1.125 inch
 Orifice Diameter
 4 ft. weir
 ID 6.2



ENVIRONMENTALLY SENSITIVE AREA
 SEE PROJECT SPECIAL PROVISIONS

PAVEMENT REMOVAL

FOR -L- PROFILE SEE SHEETS 18&19
 FOR -Y2- PROFILE SEE SHEET 25
 FOR -Y3- PROFILE SEE SHEET 25

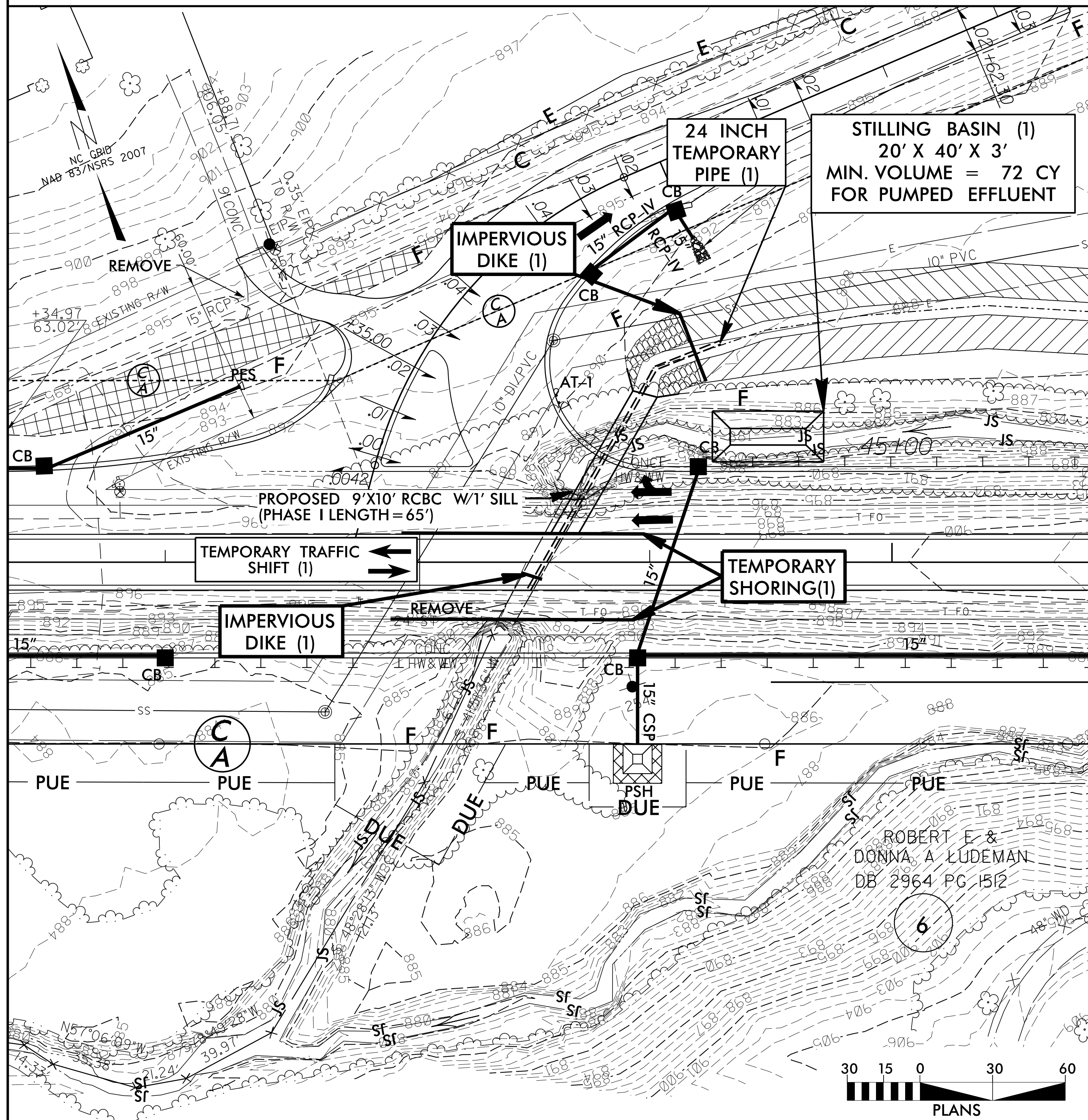
DATE: 06/09/2016 - REMOVED EXTRACT ON PARCEL 1 STA 35+50 TO STA 36+40

UNNAMED TRIBUTARY TO SMYRE CREEK 9'X10' RCBC CONSTRUCTION SEQUENCE STA. 43+58 -L-

PROJECT REFERENCE NO. R-3100B	SHEET NO. EC-06A/CONST.06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

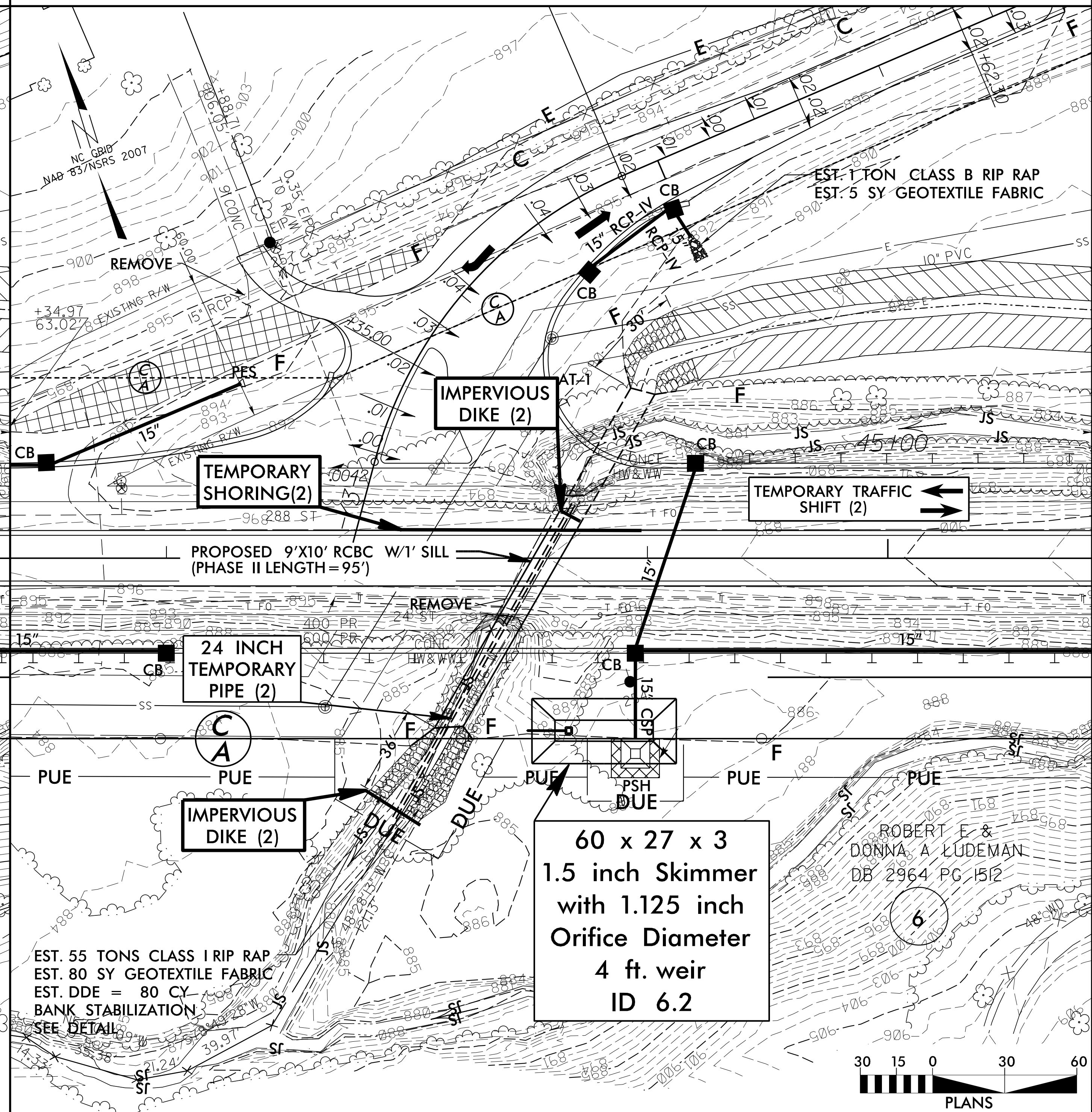
PHASE I

- 1.) RELOCATE SANITARY SEWER, THEN CONSTRUCT CHANNEL CHANGE ON INLET END.
- 2.) INSTALL TEMPORARY IMPERVIOUS DIKE (1) AND TEMPORARY PIPE (1) (FLEXIBLE 24").
- 3.) FILL IN EXISTING CHANNEL AND INSTALL STILLING BASIN (1).
- 4.) INSTALL TEMPORARY SHORING (1) AND TEMPORARY TRAFFIC SHIFT (1) TO THE SOUTH.
- 5.) REMOVE APPROXIMATELY 15' OF INLET END OF EXISTING BOX CULVERT.
- 6.) CONSTRUCT APPROXIMATELY 65' OF PROPOSED BOX CULVERT AT INLET END AND INLET CHANNEL IMPROVEMENTS.
- 7.) REMOVE TEMPORARY PIPE (1), IMPERVIOUS DIKE (1), AND STILLING BASIN (1).



PHASE II

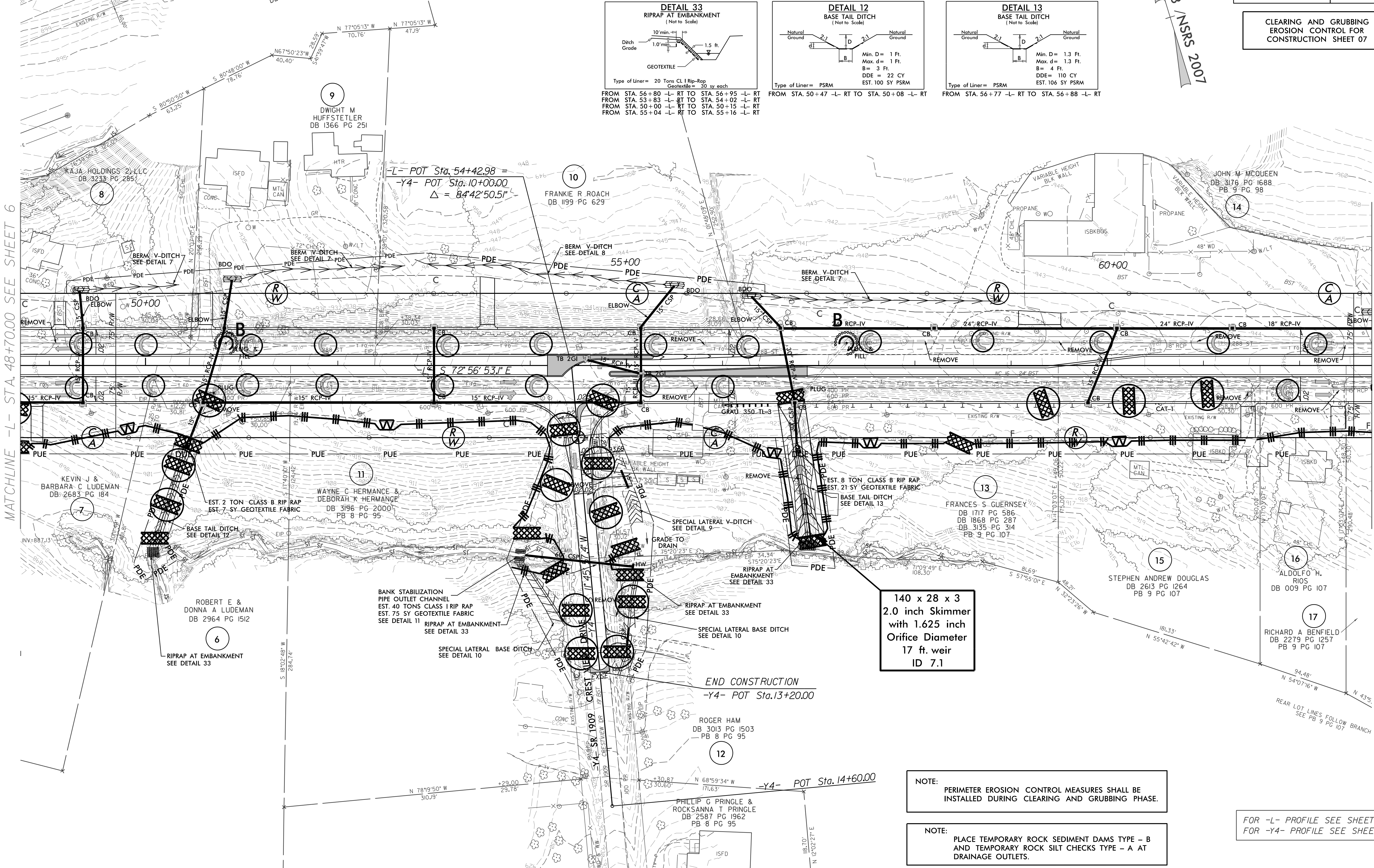
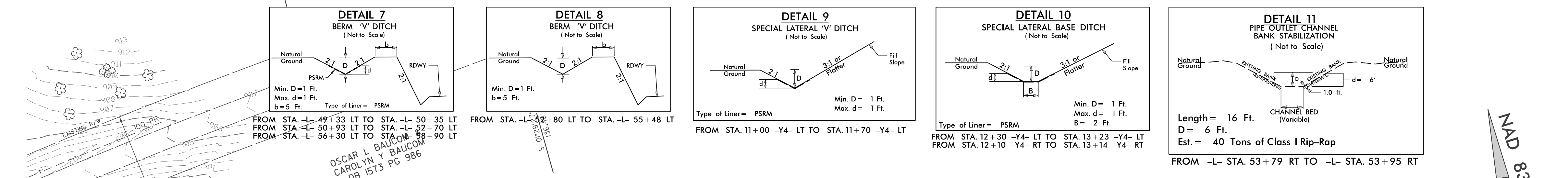
- 1.) INSTALL SKIMMER BASIN 6.2, TO BE UTILIZED AS STILLING BASIN FOR DEWATERING.
- 2.) REMOVE TEMPORARY SHORING (1), INSTALL TEMPORARY SHORING (2) AND CONSTRUCT TEMPORARY TRAFFIC SHIFT (2) TO THE NORTH.
- 3.) REMOVE REMAINDER OF EXISTING BOX CULVERT AND WINGWALLS AT OUTLET END.
- 4.) INSTALL TEMPORARY IMPERVIOUS DIKE (2), INSTALL TEMPORARY PIPE (2)(FLEXIBLE 24"), AND DIVERT FLOW THROUGH TEMPORARY PIPE (2).
- 5.) CONSTRUCT REMAINDER (APPROX. 95') OF PROPOSED BOX CULVERT AT OUTLET END AND DOWNSTREAM CHANNEL IMPROVEMENTS.
- 6.) REMOVE IMPERVIOUS DIKE (2) AND TEMPORARY PIPE (2).
- 7.) REMOVE TEMPORARY SHORING (2), COMPLETE PROPOSED ROADWAY PHASE 2 CONSTRUCTION (WESTBOUND LANES), AND REMOVE TEMPORARY TRAFFIC SHIFT (2).



PROJECT REFERENCE NO. R-3100B	SHEET NO. EC-07/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 07**

NAD 83 / NRS 2007



DATE: 01/26/2016 - REVISED ACCESS LOCATION ON PARCEL 14.

MATCHLINE -L- STA. 48+70.00 SEE SHEET 6

MATCHLINE -L- STA. 62+75.00 SEE SHEET 8

**140 x 28 x 3
2.0 inch Skimmer
with 1.625 inch
Orifice Diameter
17 ft. weir
ID 7.1**

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

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

FOR -L- PROFILE SEE SHEET 19
FOR -Y4- PROFILE SEE SHEET 25

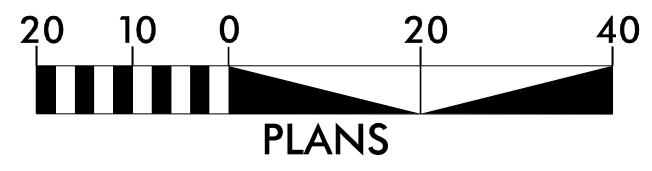
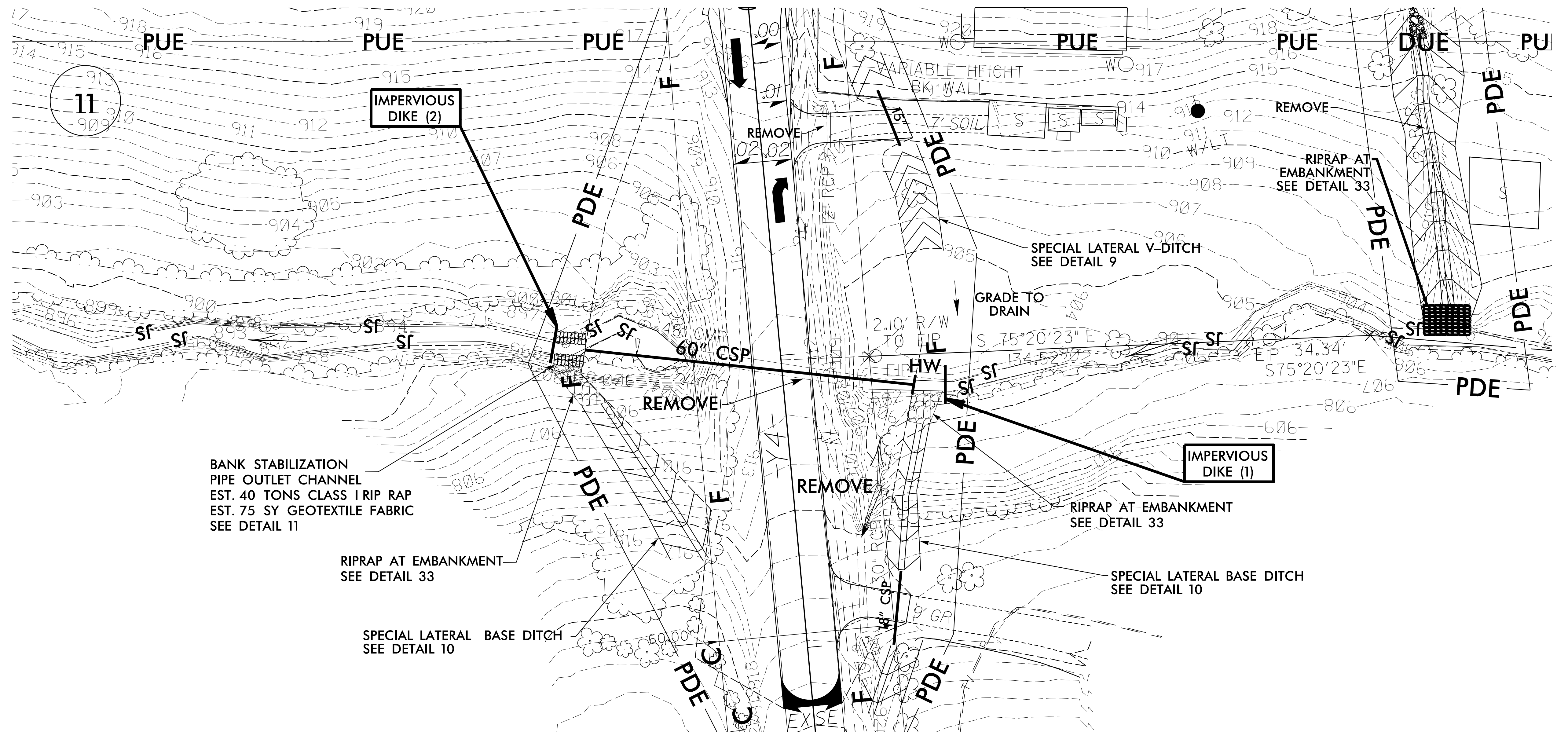
UNNAMED TRIBUTARY TO SMYRE CREEK

60" CSP CONSTRUCTION SEQUENCE STA. 12+05 -Y4-

PROJECT REFERENCE NO. <i>R-3100B</i>	SHEET NO. <i>EC-07A/CONST.07</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE I

- 1.) INSTALL SPECIAL STILLING BASIN(S).
- 2.) INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
- 3.) PLACE IMPERVIOUS DIKE (1) AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) PLACE IMPERVIOUS DIKE (2) AND PUMPING APPARATUS. DEWATER CONSTRUCTION AREA UTILIZING SPECIAL STILLING BASIN(S).
- 5.) REMOVE EXISTING 48" CMP.
- 6.) INSTALL 60" CSP AND BANK STABILIZATION IN ACCORDANCE WITH THE PLANS.
- 7.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 8.) REMOVE SPECIAL STILLING BASIN(S), IMPERVIOUS DIKES, PUMPS AND TEMPORARY FLEXIBLE HOSE.

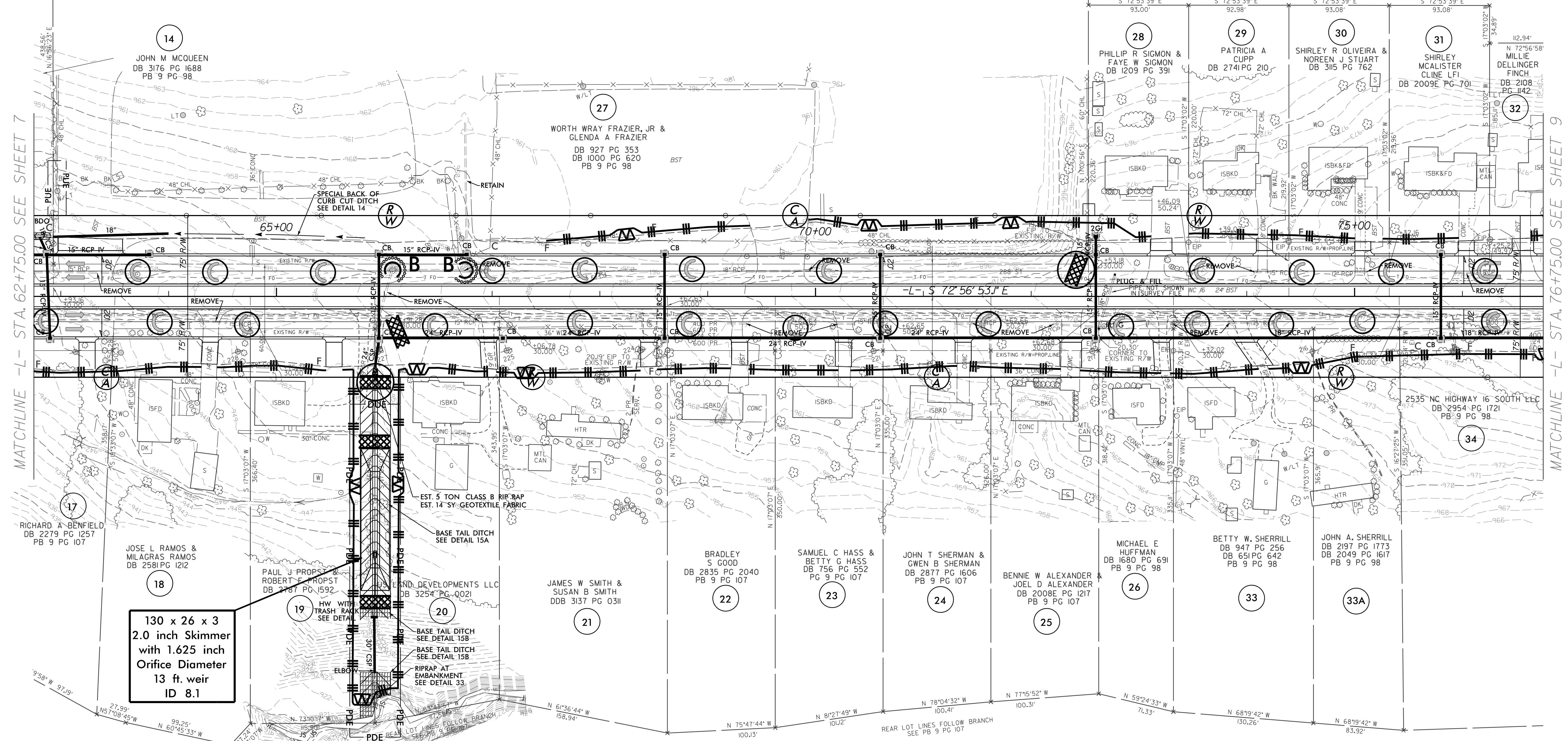
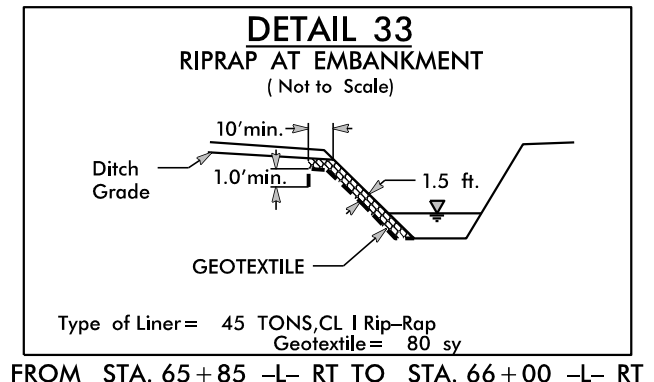


PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-08/CONST.08
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

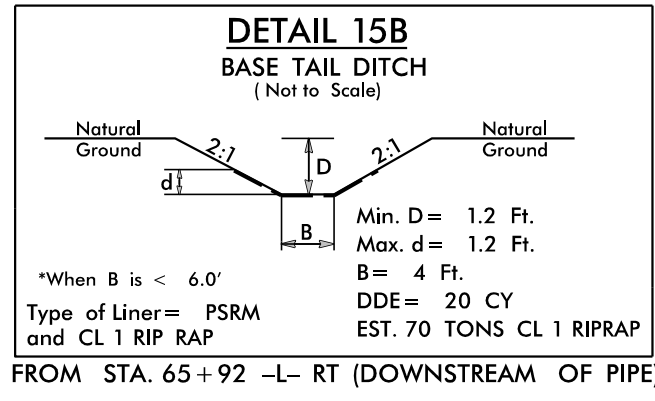
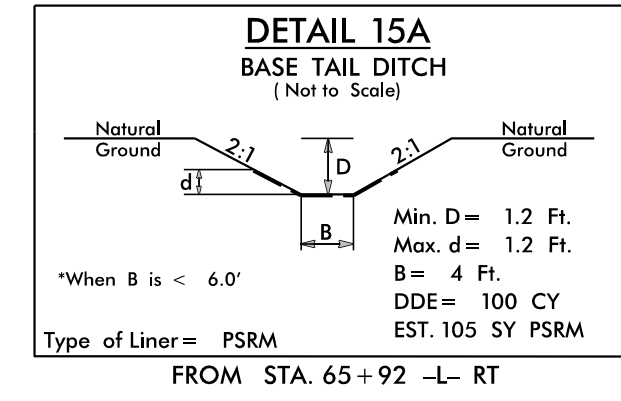
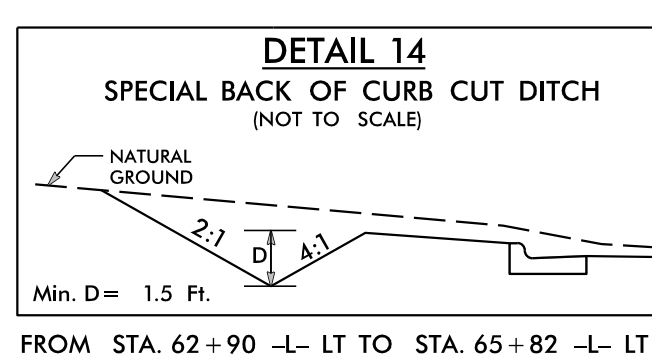
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 08

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

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



130 x 26 x 3
2.0 inch Skimmer
with 1.625 inch
Orifice Diameter
13 ft. weir
ID 8.1



FOR -L- PROFILE SEE SHEET 20

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 09

-L-
PI Sta 88+49.20
Δ = 14° 24' 28.5" (RT)
D = 0' 55' 53.9"
L = 1,546.51'
T = 777.36'
R = 6,150.00'
e = RC
Runoff = 72'

-Y5-
PI Sta 13+57.74
Δ = 18° 38' 40.7" (RT)
D = 9' 32' 57.5"
L = 195.25'
T = 98.49'
R = 600.00'
e = RC
Runoff = 80'

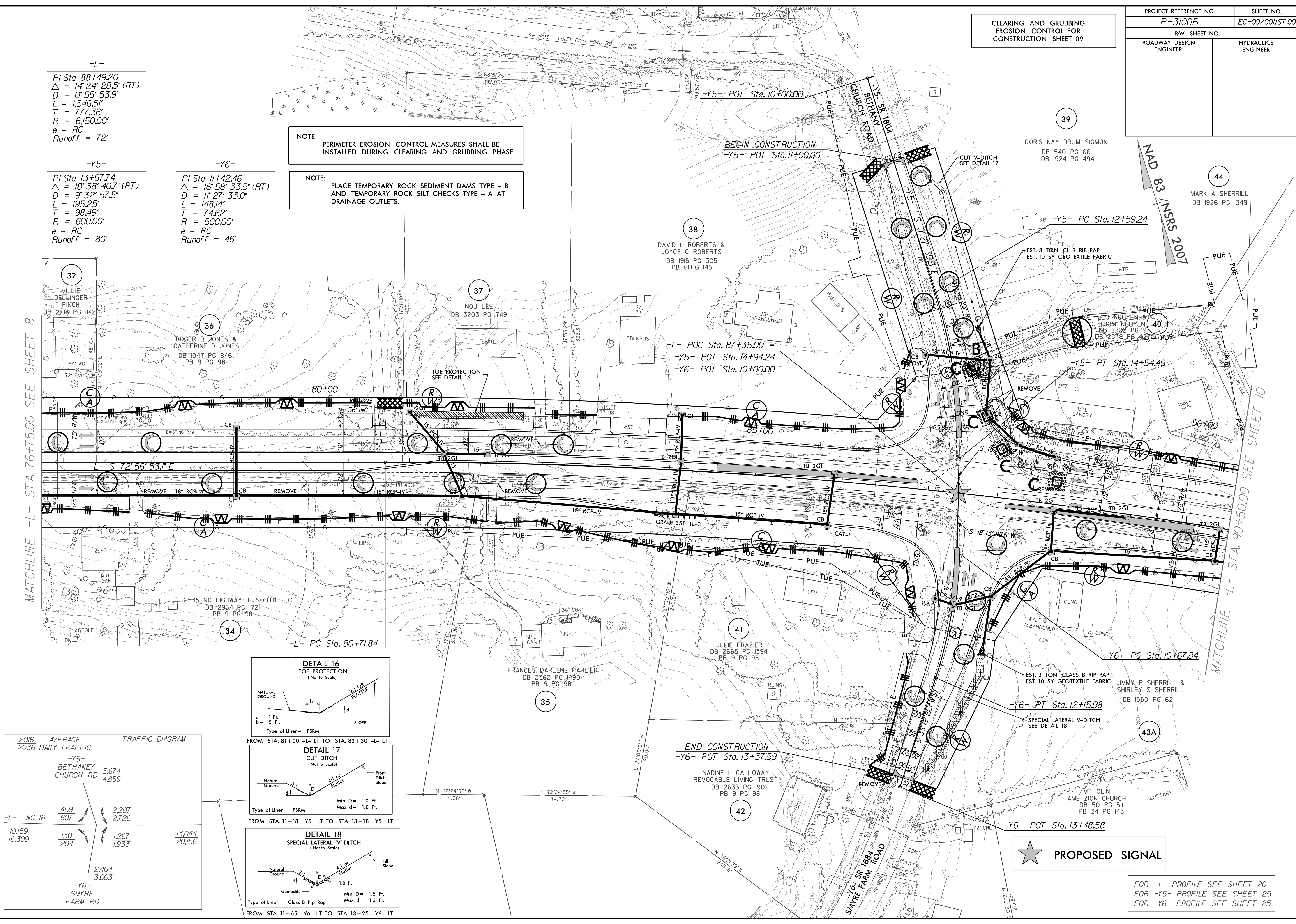
-Y6-
PI Sta 11+42.46
Δ = 16° 58' 33.5" (RT)
D = 11' 27' 33.0"
L = 148.14'
T = 74.62'
R = 500.00'
e = RC
Runoff = 46'

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

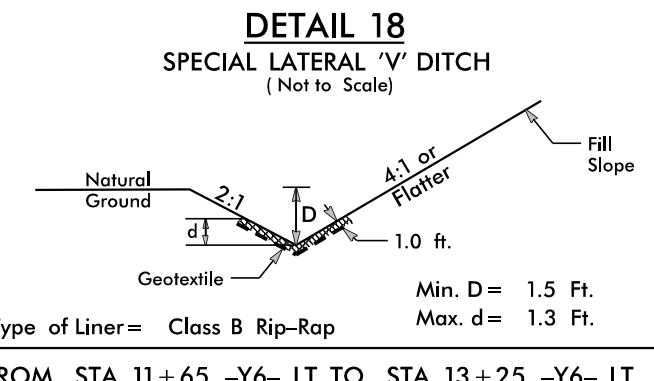
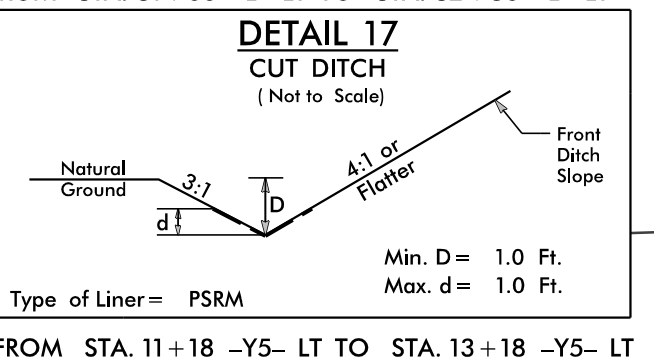
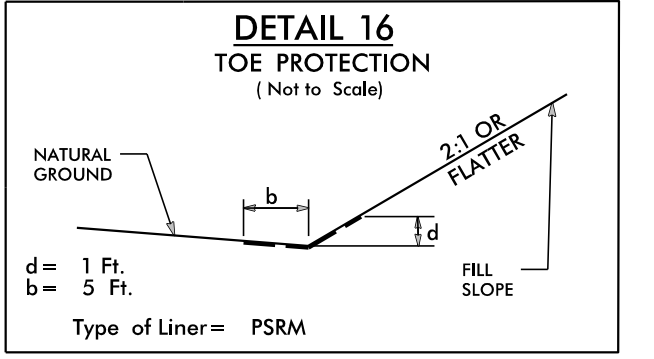
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

MATCHLINE -L- STA. 76+75.00 SEE SHEET 8

MATCHLINE -L- STA. 90+50.00 SEE SHEET 10



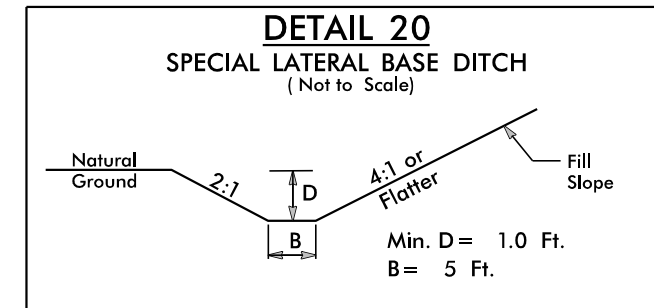
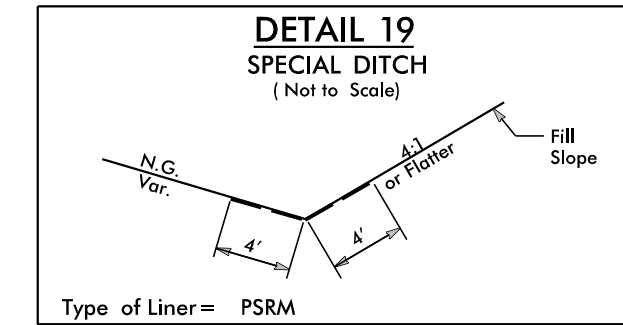
2016 AVERAGE TRAFFIC DIAGRAM			
2036 DAILY TRAFFIC			
-Y5- BETHANEY CHURCH RD			
459	2,207		
607	2,726		
-L- NC 16			
10,159	1,304	1,267	13,044
16,309	204	1,933	20,156
-Y6- SMYRE FARM RD			
2,404			
3,663			



★ PROPOSED SIGNAL

FOR -L- PROFILE SEE SHEET 20
FOR -Y5- PROFILE SEE SHEET 25
FOR -Y6- PROFILE SEE SHEET 25

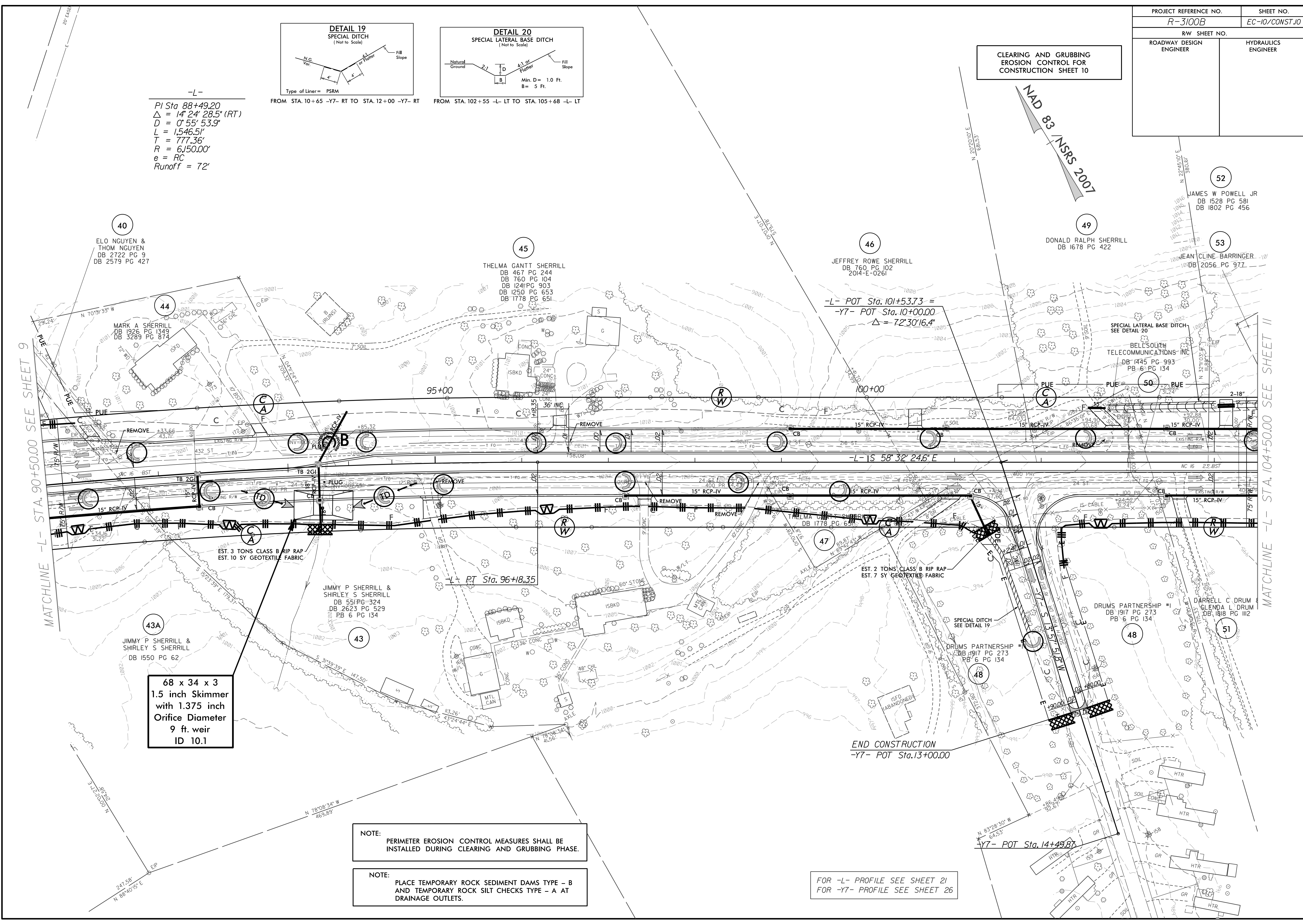
PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-10/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-
 PI Sta 88+49.20
 $\Delta = 14' 24' 28.5" (RT)$
 $D = 0' 55' 53.9"$
 $L = 1,546.51'$
 $T = 777.36'$
 $R = 6,150.00'$
 $e = RC$
 $Runoff = 72'$

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 10

NAD 83 / NSRS 2007



MATCHLINE -L- STA. 90+50.00 SEE SHEET 9

MATCHLINE -L- STA. 104+50.00 SEE SHEET 11

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

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

FOR -L- PROFILE SEE SHEET 21
 FOR -Y7- PROFILE SEE SHEET 26

68 x 34 x 3
 1.5 inch Skimmer
 with 1.375 inch
 Orifice Diameter
 9 ft. weir
 ID 10.1

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-II/CONST.II
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

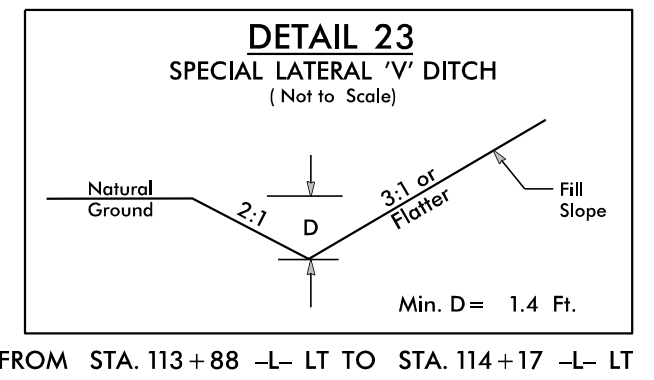
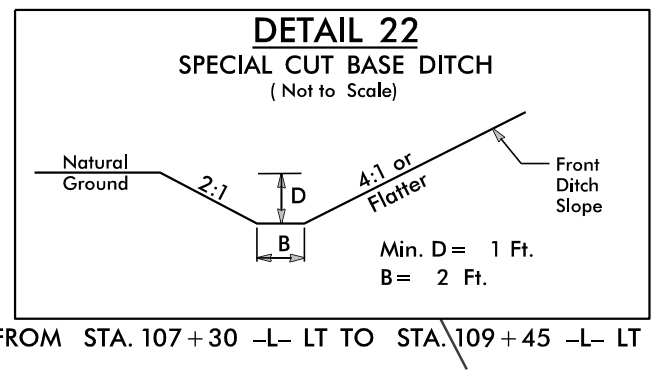
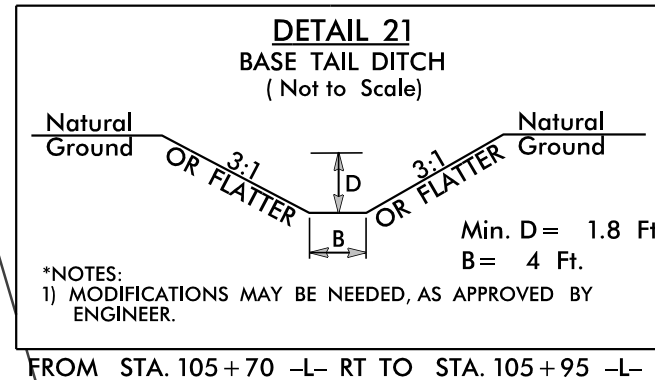
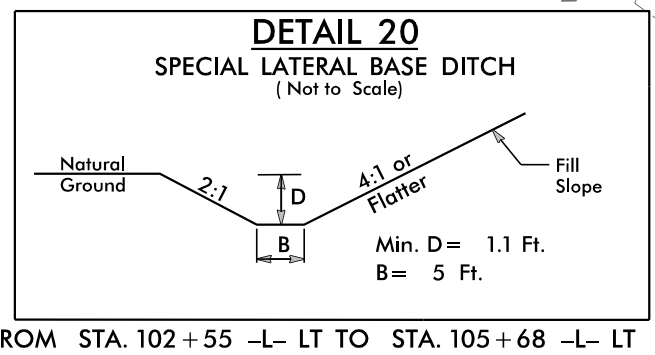
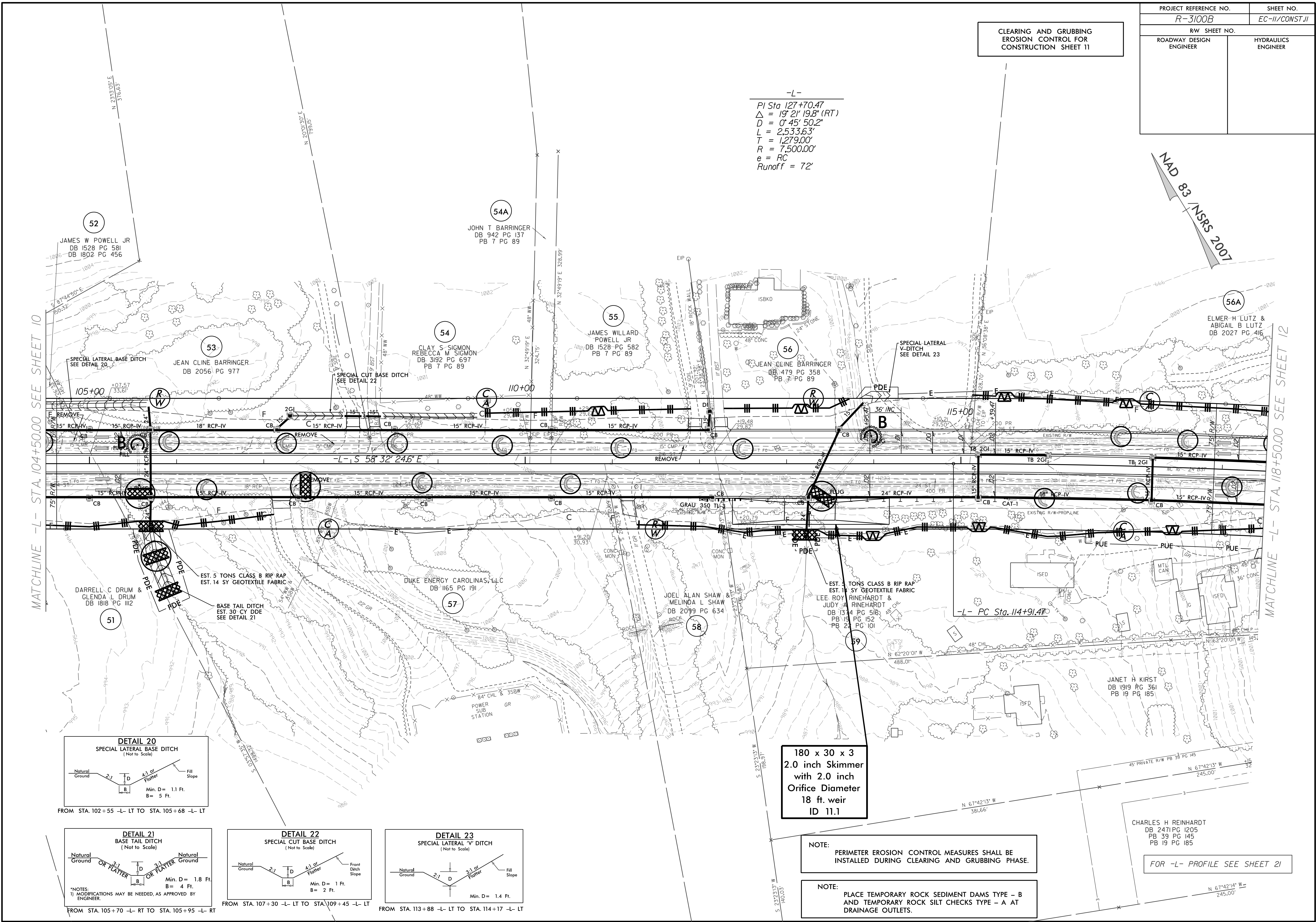
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11

-L-
PI Sta 127+70.47
 $\Delta = 19' 21" 19.8" (RT)$
 $D = 0' 45' 50.2"$
 $L = 2,533.63'$
 $T = 1,279.00'$
 $R = 7,500.00'$
 $e = RC$
Runoff = 72'

NAD 83 / NSRS 2007

MATCHLINE -L- STA. 104+50.00 SEE SHEET 10

MATCHLINE -L- STA. 118+50.00 SEE SHEET 12



180 x 30 x 3
2.0 inch Skimmer
with 2.0 inch
Orifice Diameter
18 ft. weir
ID 11.1

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

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

CHARLES H REINHARDT
DB 2471 PG 1205
PB 39 PG 145
PB 19 PG 185

FOR -L- PROFILE SEE SHEET 21

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-12/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

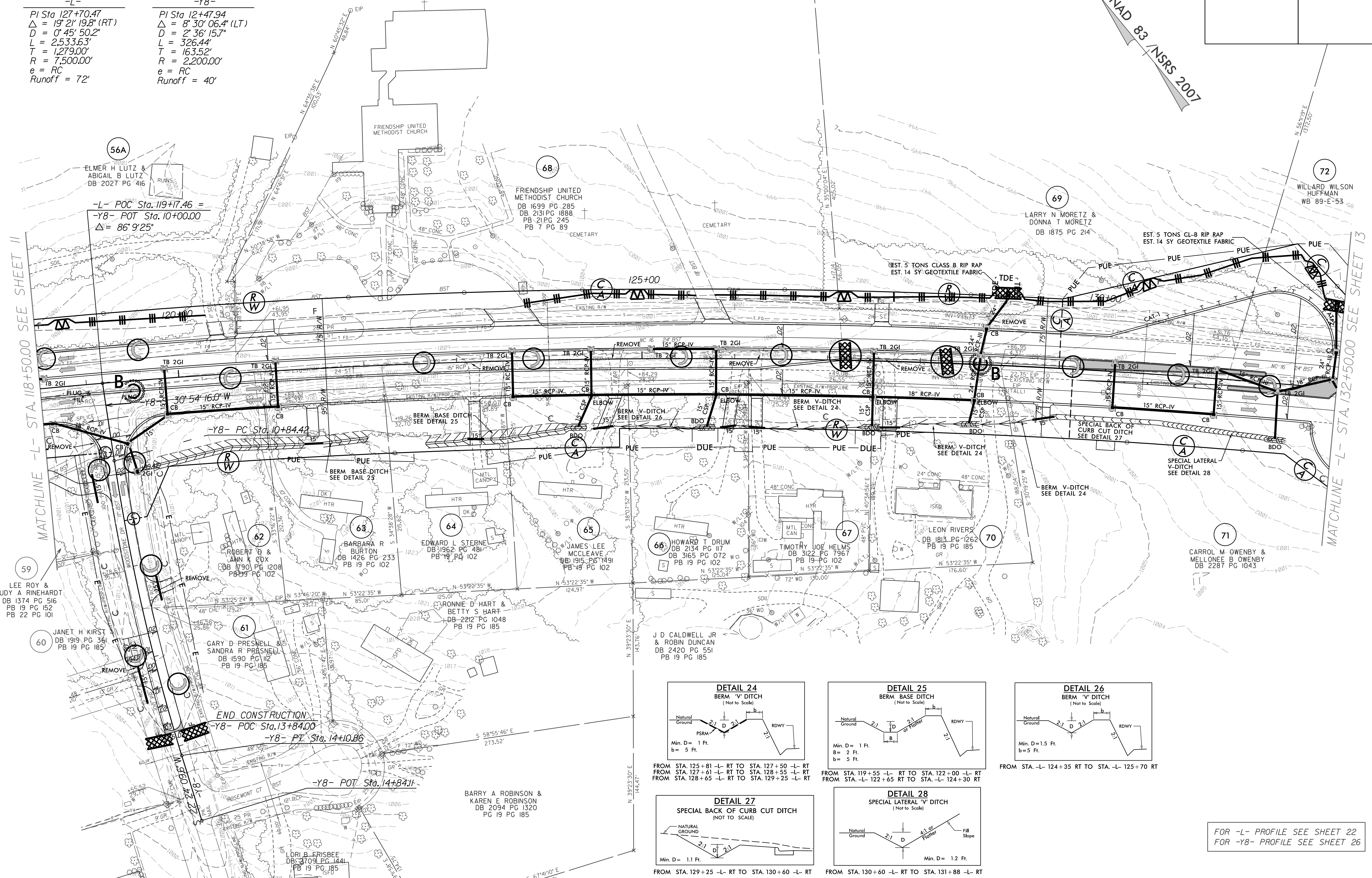
NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

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 12

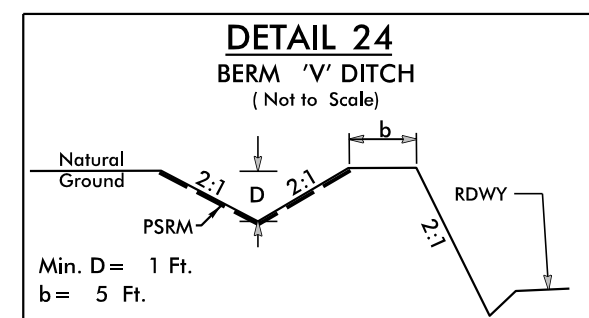
-L-
 PI Sta 127+70.47
 $\Delta = 19^{\circ} 21' 19.8" (RT)$
 $D = 0' 45' 50.2"$
 $L = 2,533.63'$
 $T = 1,279.00'$
 $R = 7,500.00'$
 $e = RC$
 $Runoff = 72'$

-Y8-
 PI Sta 12+47.94
 $\Delta = 8^{\circ} 30' 06.4" (LT)$
 $D = 2' 36' 15.7"$
 $L = 326.44'$
 $T = 163.52'$
 $R = 2,200.00'$
 $e = RC$
 $Runoff = 40'$

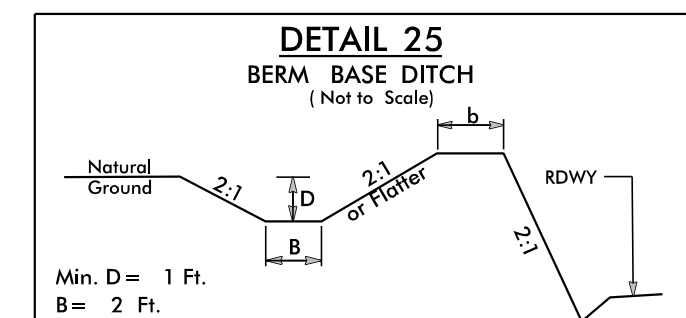


MATCHLINE -L- STA. 118+50.00 SEE SHEET 11

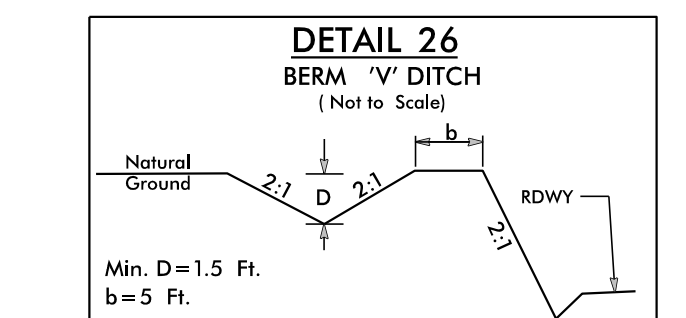
MATCHLINE -L- STA. 132+50.00 SEE SHEET 13



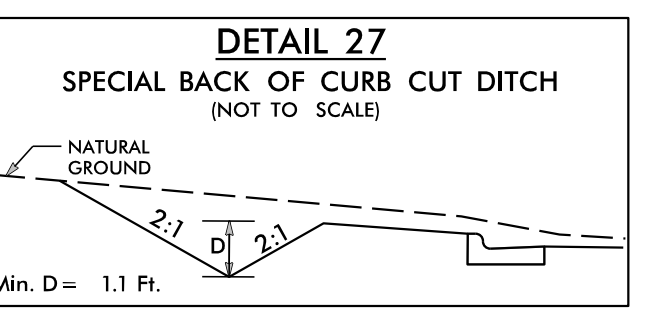
FROM STA. 125+81 -L- RT TO STA. 127+50 -L- RT
 FROM STA. 127+61 -L- RT TO STA. 128+55 -L- RT
 FROM STA. 128+65 -L- RT TO STA. 129+25 -L- RT



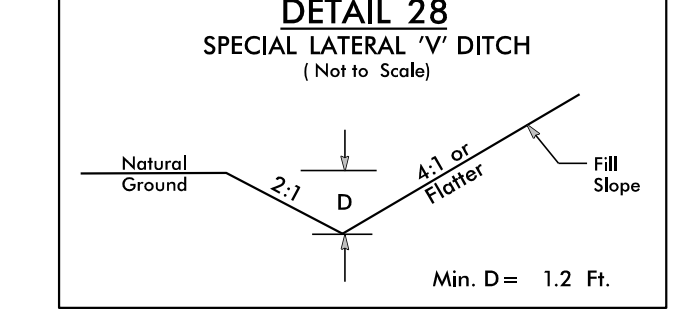
FROM STA. 119+55 -L- RT TO STA. 122+00 -L- RT
 FROM STA. -L- 122+65 RT TO STA. -L- 124+30 RT



FROM STA. -L- 124+35 RT TO STA. -L- 125+70 RT



FROM STA. 129+25 -L- RT TO STA. 130+60 -L- RT

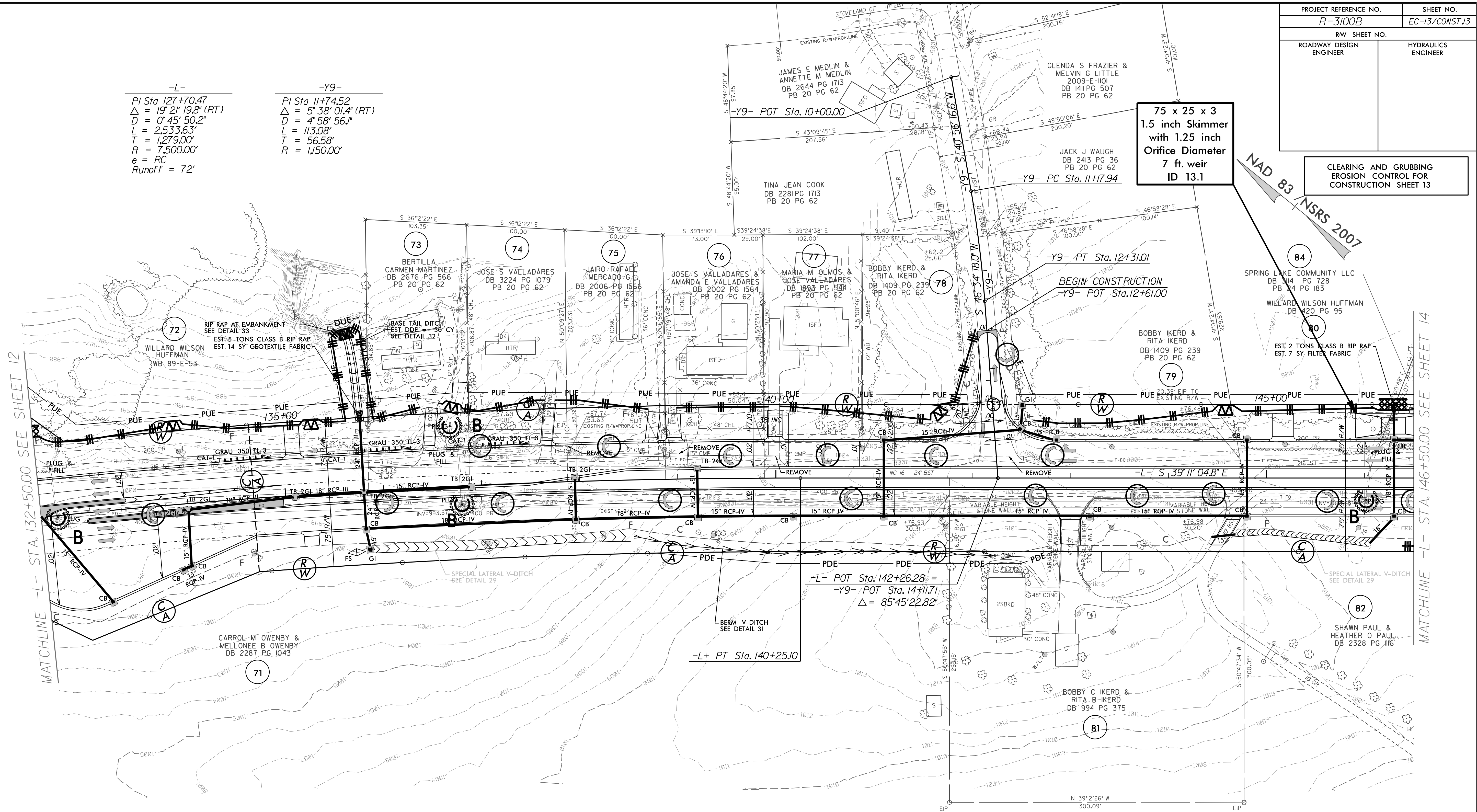


FROM STA. 130+60 -L- RT TO STA. 131+88 -L- RT

FOR -L- PROFILE SEE SHEET 22
 FOR -Y8- PROFILE SEE SHEET 26

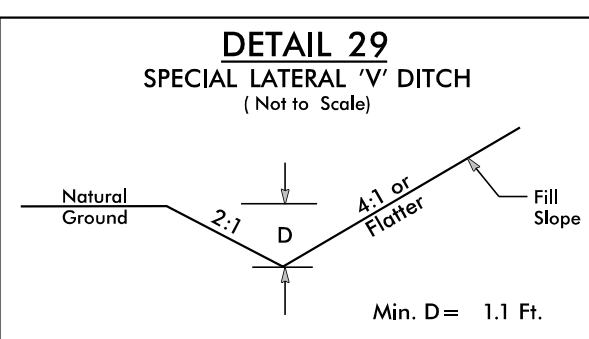
PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-13/CONSTJ3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-	-Y9-
PI Sta 127+70.47	PI Sta 11+74.52
$\Delta = 19' 21" 19.8" (RT)$	$\Delta = 5' 38" 01.4" (RT)$
$D = 0' 45" 50.2"$	$D = 4' 58" 56.1"$
$L = 2,533.63'$	$L = 113.08'$
$T = 1,279.00'$	$T = 56.58'$
$R = 7,500.00'$	$R = 1,150.00'$
$e = RC$	
Runoff = 72'	

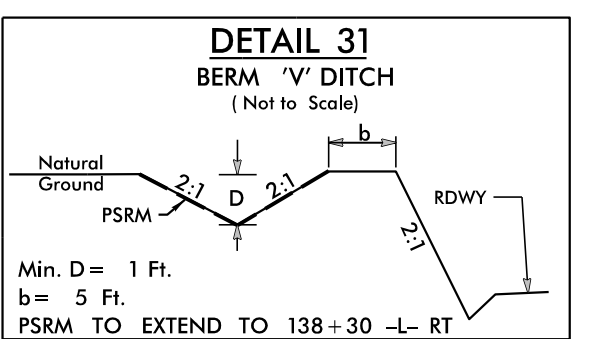


MATCHLINE -L- STA. 132+50.00 SEE SHEET 12

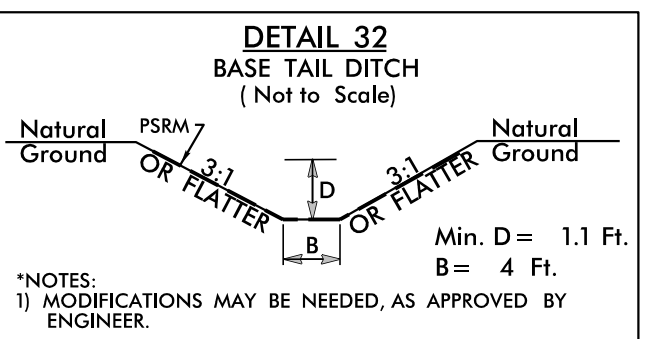
MATCHLINE -L- STA. 146+50.00 SEE SHEET 14



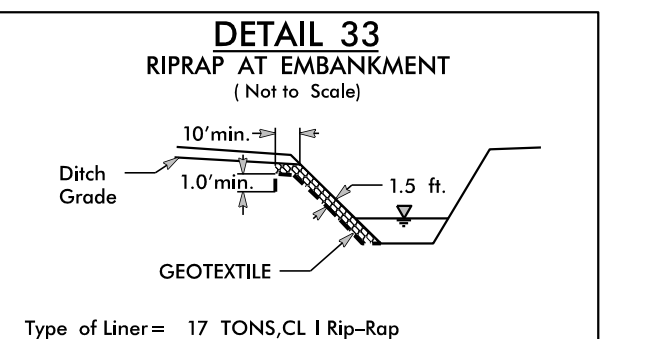
FROM STA. 135+83 -L- RT TO STA. 138+50 -L- RT
FROM STA. 144+68 -L- RT TO STA. 146+05 -L- RT



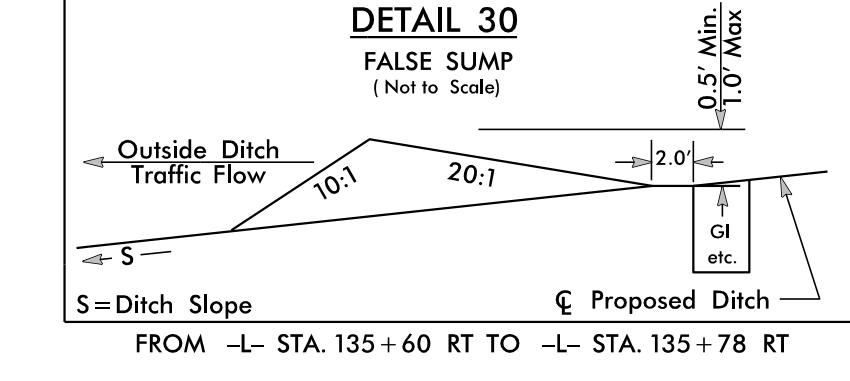
FROM STA. 138+50 -L- RT TO STA. 142+53 -L- RT



FROM STA. 135+70 -L- RT TO STA. 135+80 -L- RT



FROM STA. 135+70 -L- RT TO STA. 135+80 -L- RT



FROM -L- STA. 135+60 RT TO -L- STA. 135+78 RT

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

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

FOR -L- PROFILE SEE SHEET 22
FOR -Y9- PROFILE SEE SHEET 26

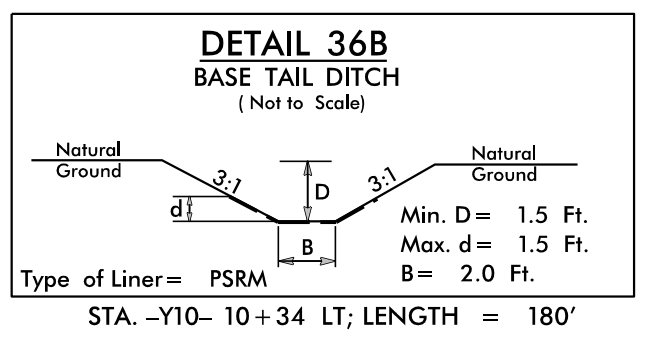
PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-14/CONST J4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83 / NSRS 2007

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 14

MATCHLINE -Y10- STA. 11+70.00 SEE INSET
-BY11-91

-L-
PI Sta 165+32.27
 $\Delta = 21'06".082'$ (LT)
 $D = 0'52".533'$
 $L = 2,393.98'$
 $T = 1,210.71'$
 $R = 6,500.00'$
 $e = RC$
Runoff = 72'



140 x 28 x 3
2.0 inch Skimmer
with 1.625 inch
Orifice Diameter
16 ft. weir
ID 14.1

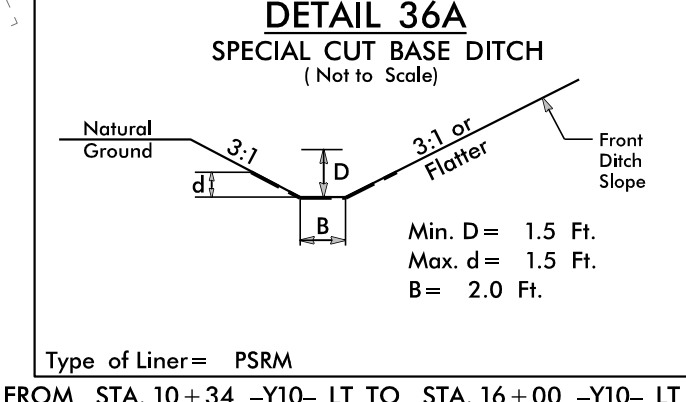
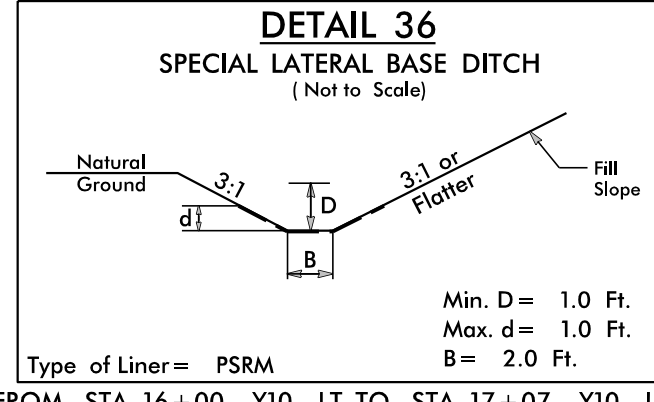
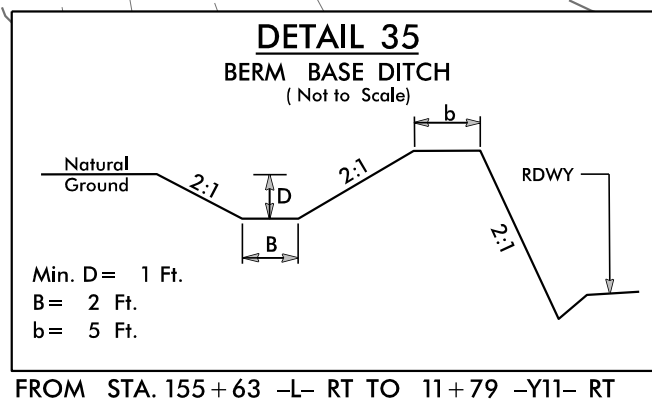
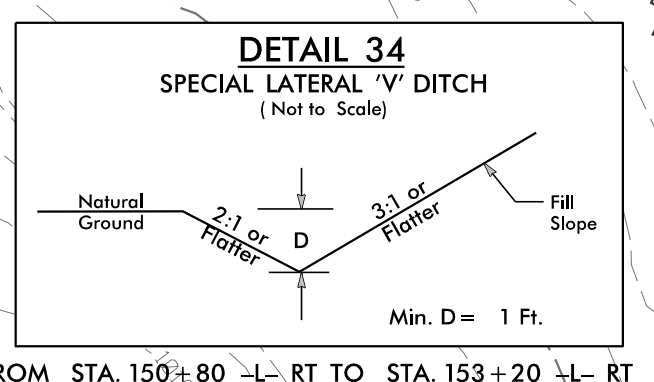
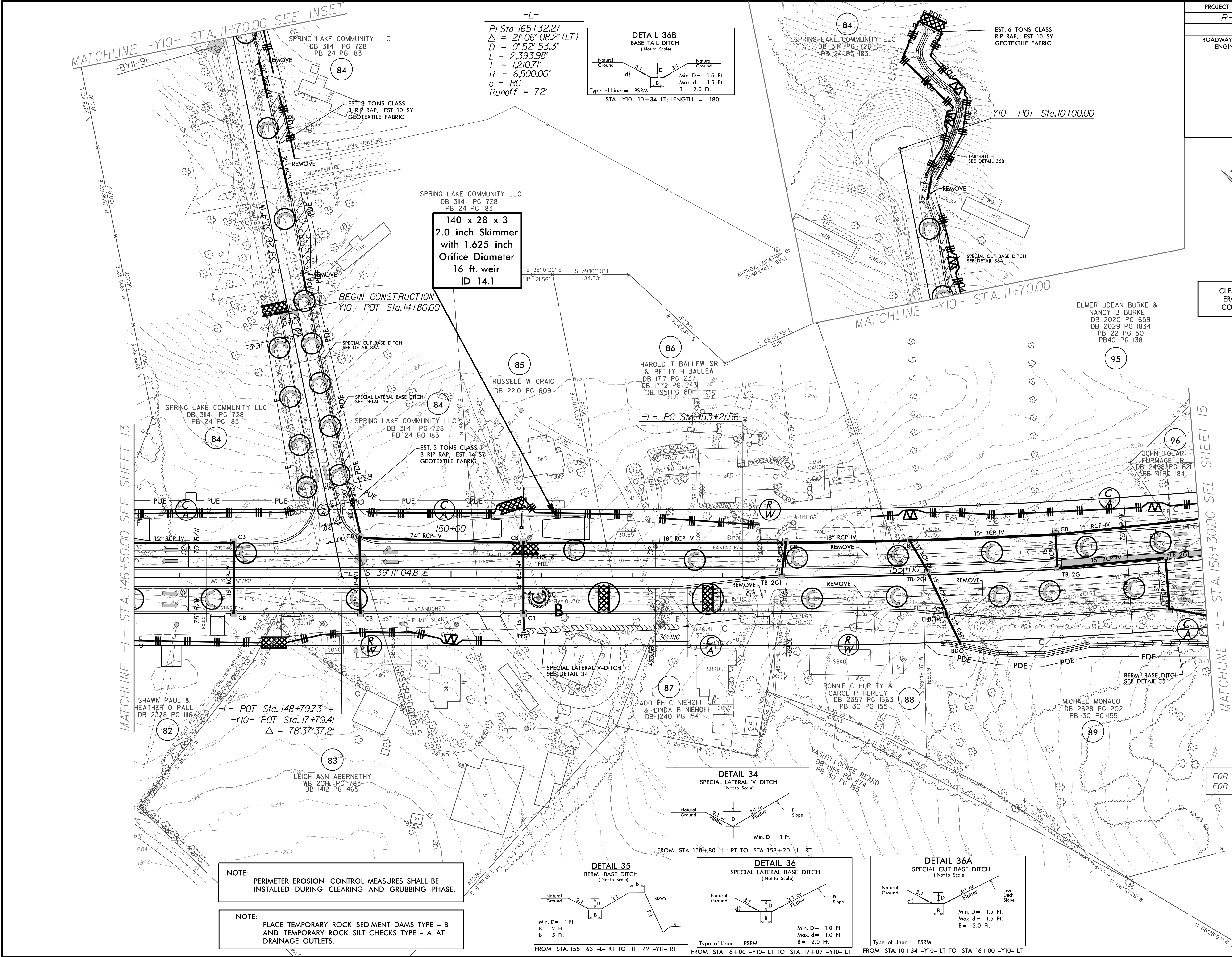
BEGIN CONSTRUCTION
-Y10- POT Sta. 14+80.00

MATCHLINE -Y10- STA. 11+70.00

ELMER UDEAN BURKE &
NANCY B BURKE
DB 2020 PG 659
DB 2029 PG 1834
PB 22 PG 50
PB40 PG 138

MATCHLINE -L- STA. 146+50.00 SEE SHEET 13

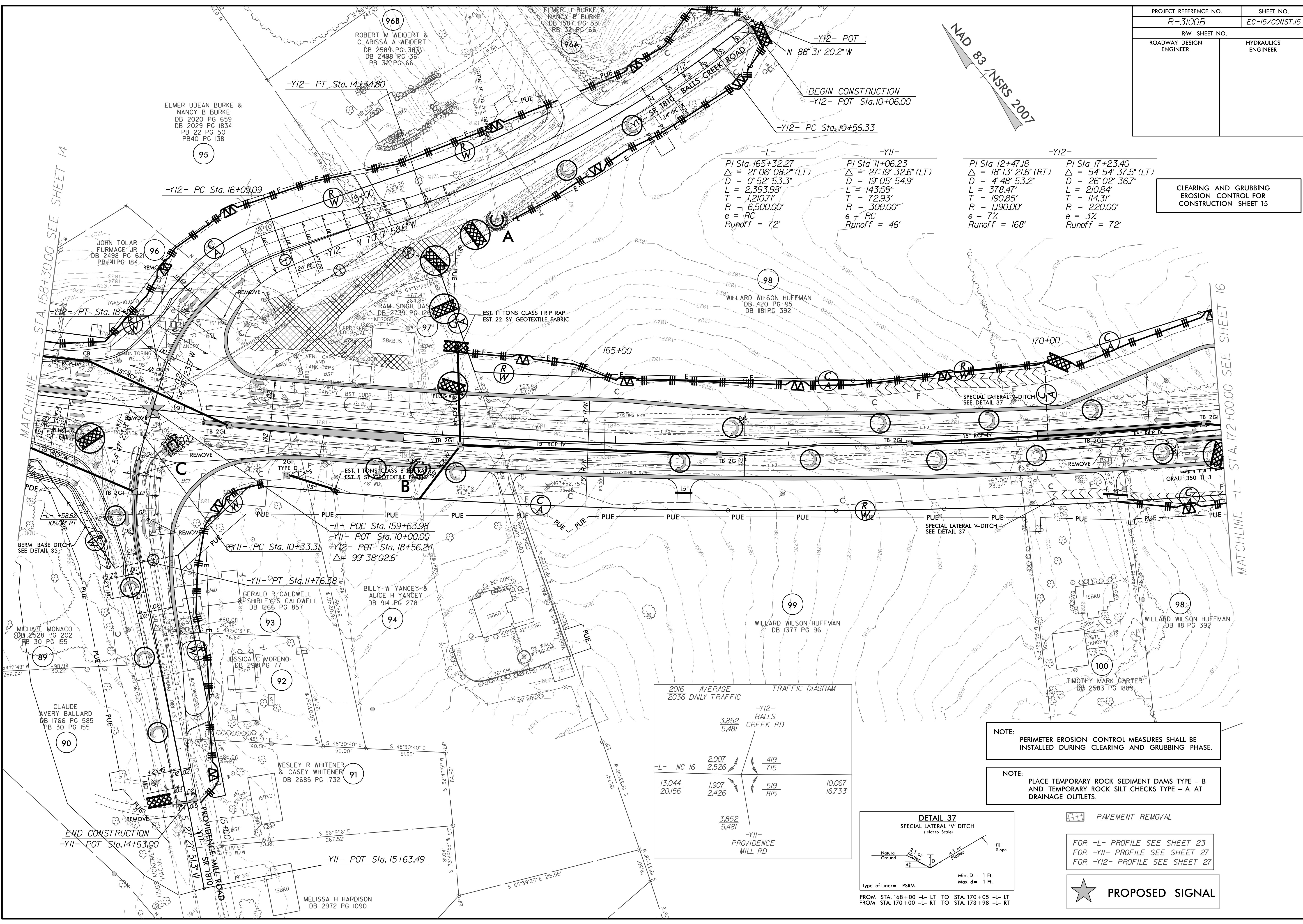
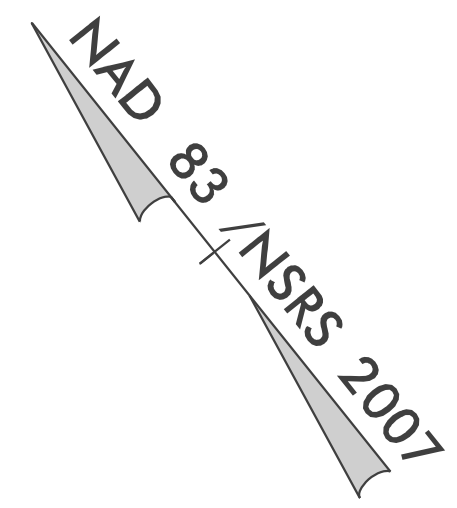
MATCHLINE -L- STA. 158+30.00 SEE SHEET 15



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

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

FOR -L- PROFILE SEE SHEET 23
FOR -Y10- PROFILE SEE SHEET 26



-L-	-Y11-	-Y12-	-Y12-
PI Sta 165+32.27	PI Sta 11+06.23	PI Sta 12+47.18	PI Sta 17+23.40
$\Delta = 21' 06'' 08.2''$ (LT)	$\Delta = 27' 19'' 32.6''$ (LT)	$\Delta = 18' 13'' 21.6''$ (RT)	$\Delta = 54' 54'' 37.5''$ (LT)
$D = 0' 52'' 53.3''$	$D = 19' 05'' 54.9''$	$D = 4' 48'' 53.2''$	$D = 26' 02'' 36.7''$
$L = 2,393.98'$	$L = 143.09'$	$L = 378.47'$	$L = 210.84'$
$T = 1,210.71'$	$T = 72.93'$	$T = 190.85'$	$T = 114.31'$
$R = 6,500.00'$	$R = 300.00'$	$R = 1,190.00'$	$R = 220.00'$
$e = RC$	$e = RC$	$e = 7\%$	$e = 3\%$
Runoff = 72'	Runoff = 46'	Runoff = 168'	Runoff = 72'

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 15

MATCHLINE -L- STA. 158+30.00 SEE SHEET 14

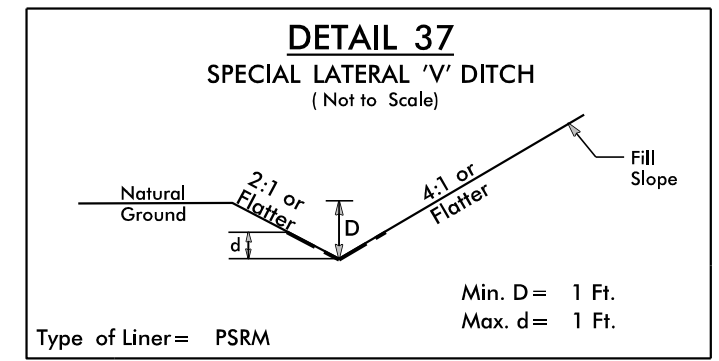
MATCHLINE -L- STA. 172+00.00 SEE SHEET 16

2016 AVERAGE TRAFFIC DIAGRAM
2036 DAILY TRAFFIC

		-Y12- BALLS CREEK RD			
		3,852	5,481		
-L- NC 16	2,007	419	715		
	2,526				
13,044	1,907	519	10,067		
20,156	2,426	815	16,733		
		-Y11- PROVIDENCE MILL RD			
		3,852	5,481		

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

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



PAVEMENT REMOVAL

FOR -L- PROFILE SEE SHEET 23
FOR -Y11- PROFILE SEE SHEET 27
FOR -Y12- PROFILE SEE SHEET 27



FROM STA. 168+00 -L- LT TO STA. 170+05 -L- LT
FROM STA. 170+00 -L- RT TO STA. 173+98 -L- RT

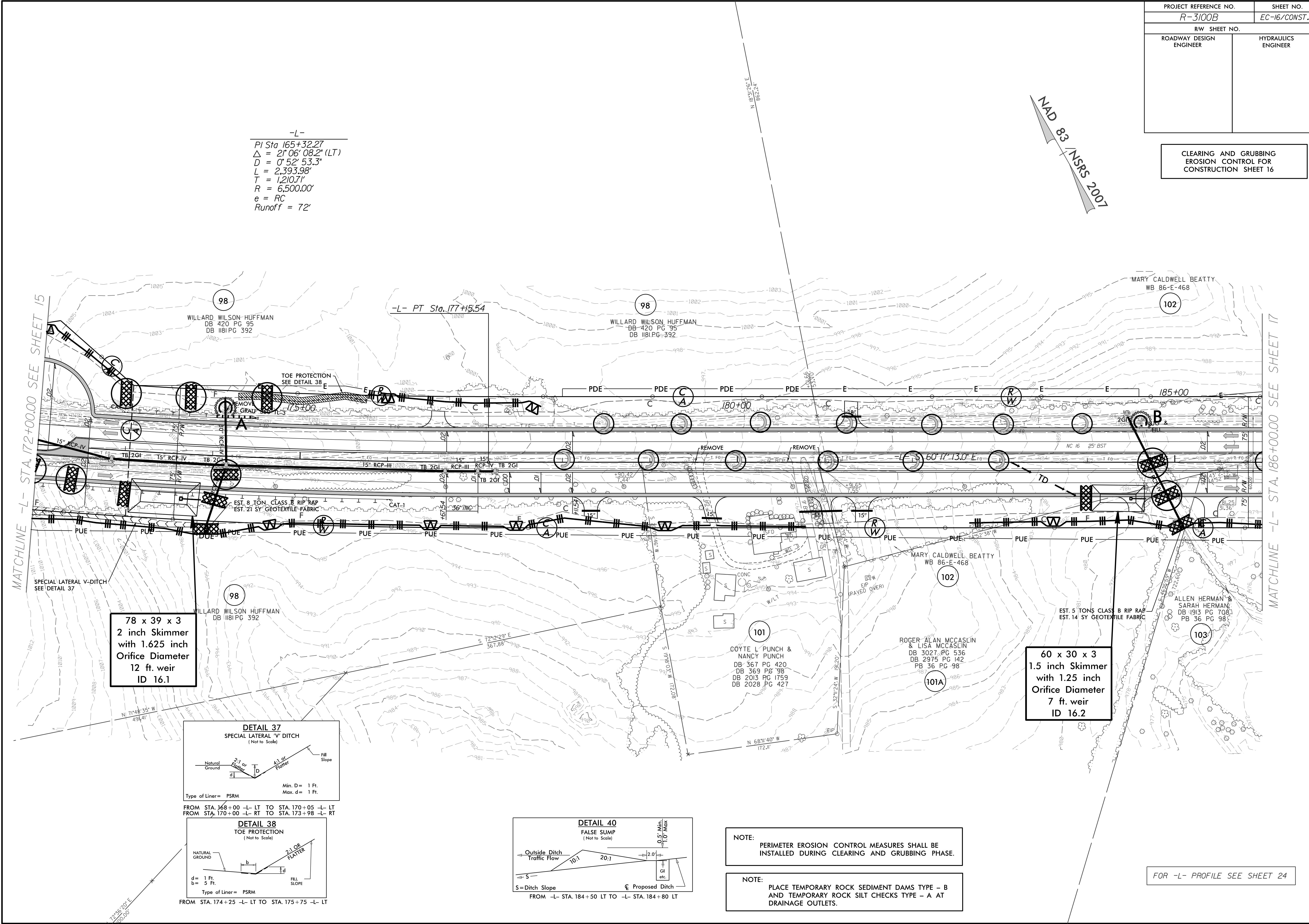
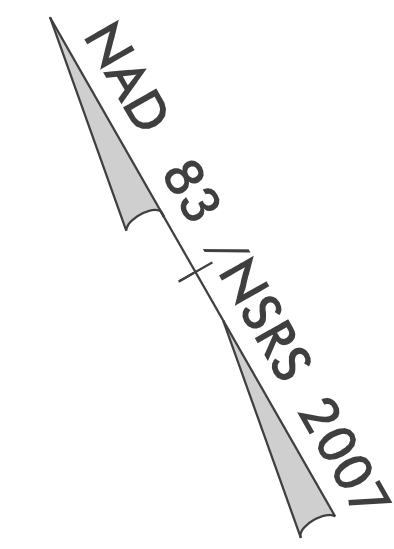
END CONSTRUCTION
-Y11- POT Sta. 14+63.00

-Y11- POT Sta. 15+63.49

PROJECT REFERENCE NO. R-3100B	SHEET NO. EC-16/CONST J6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

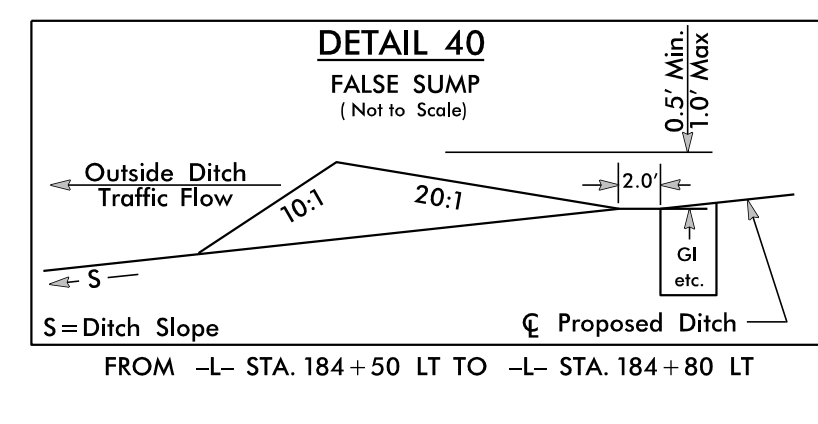
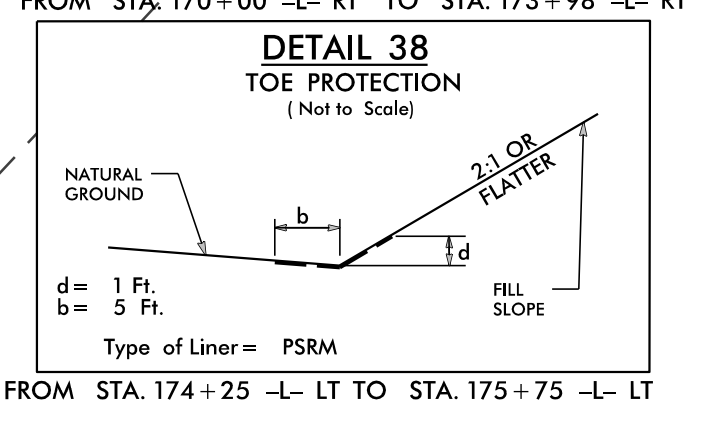
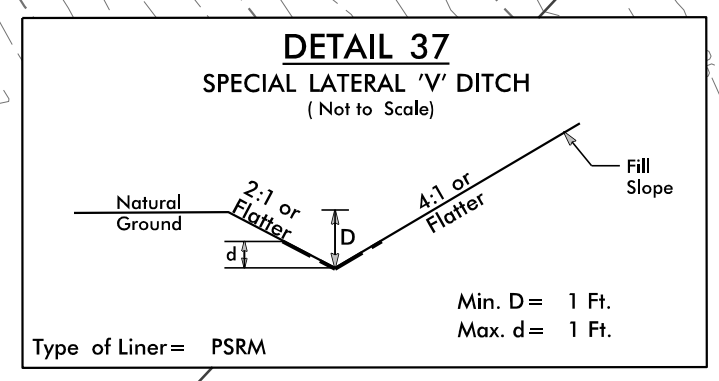
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 16

-L-
PI Sta 165+32.27
 $\Delta = 21'06''08.2''$ (LT)
 $D = 0'52''53.3''$
 $L = 2,393.98'$
 $T = 1,210.71'$
 $R = 6,500.00'$
 $e = RC$
Runoff = 72'



78 x 39 x 3
2 inch Skimmer
with 1.625 inch
Orifice Diameter
12 ft. weir
ID 16.1

60 x 30 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 16.2



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

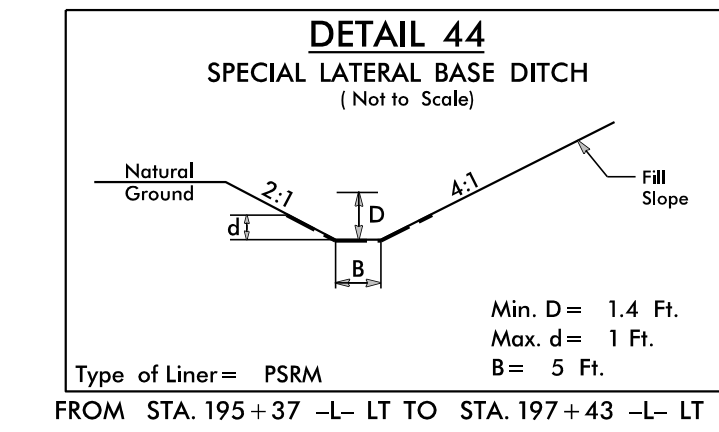
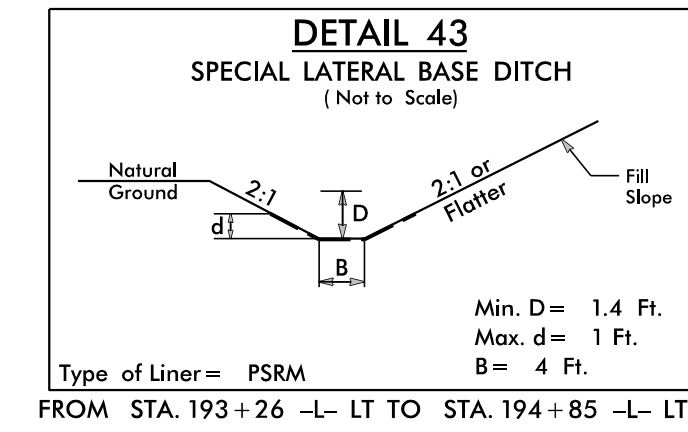
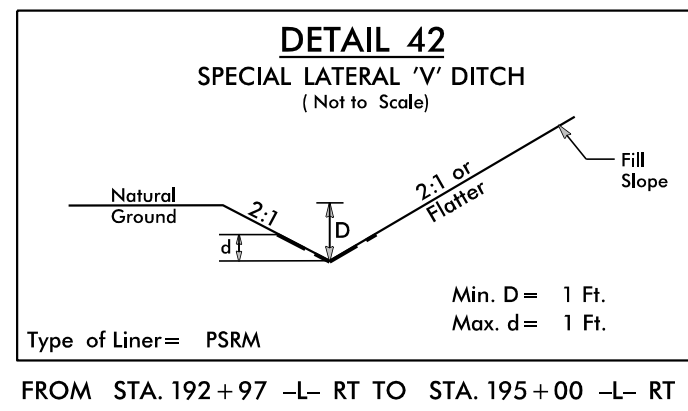
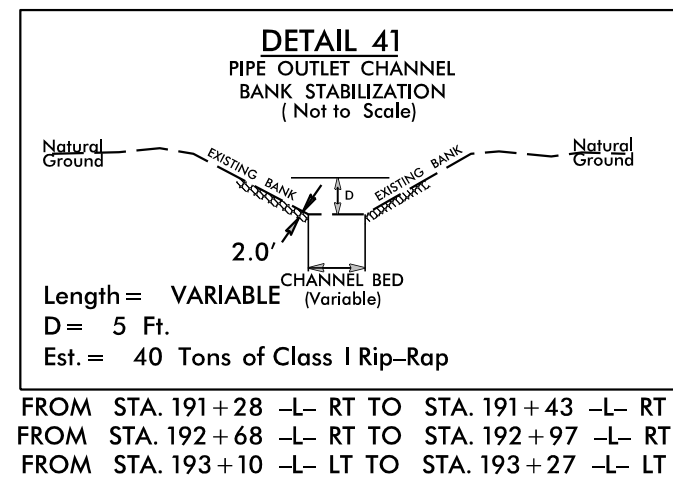
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

FOR -L- PROFILE SEE SHEET 24

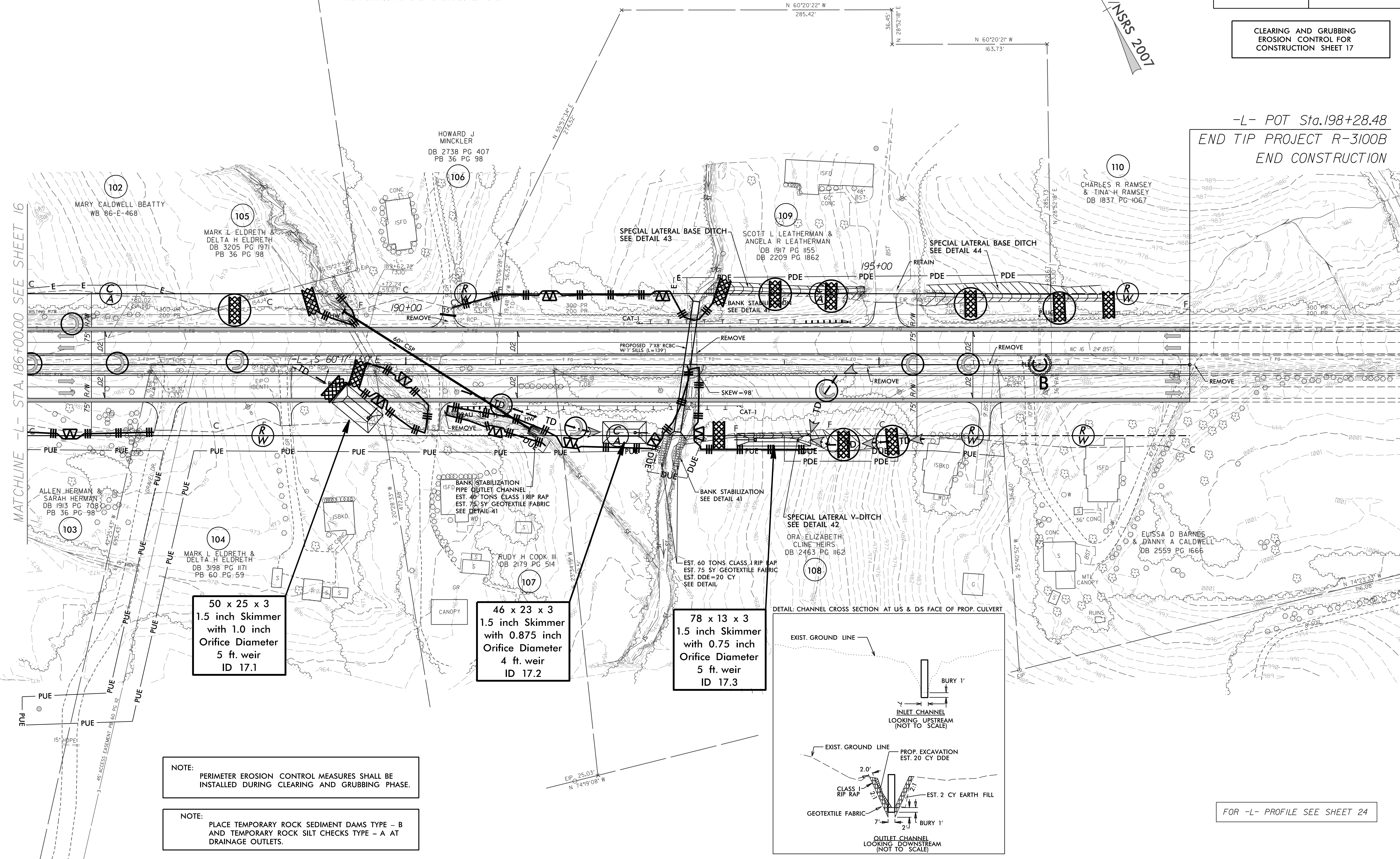
PROJECT REFERENCE NO. R-3100B	SHEET NO. EC-17/CONST.17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 17

NAD 83 / NSRS 2007



-L- POT Sta. 198+28.48
END TIP PROJECT R-3100B
END CONSTRUCTION



FOR -L- PROFILE SEE SHEET 24

UNNAMED TRIBUTARY TO MAIDEN CREEK 60" CSP CONSTRUCTION SEQUENCE STA. 190+23 -L-

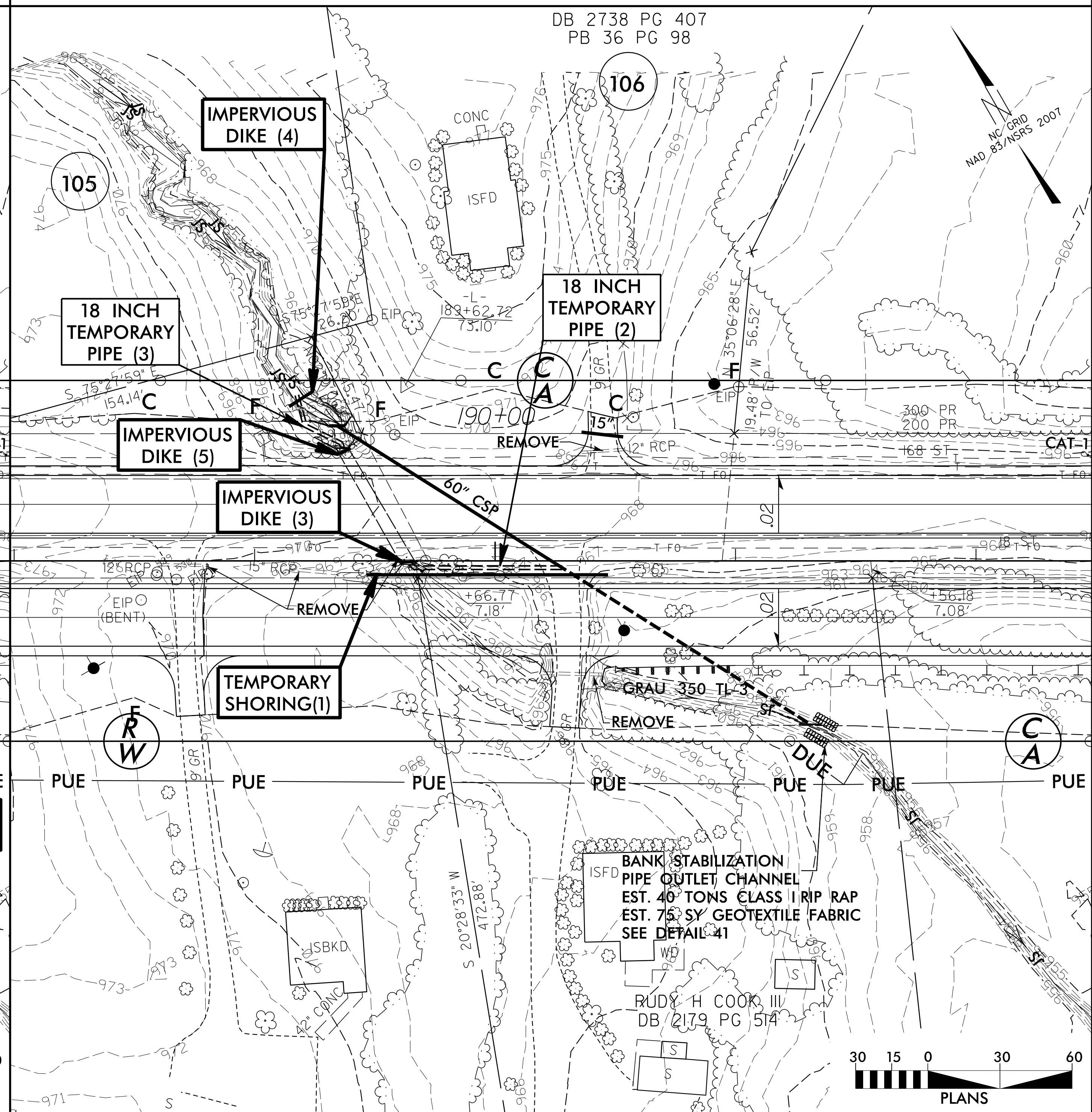
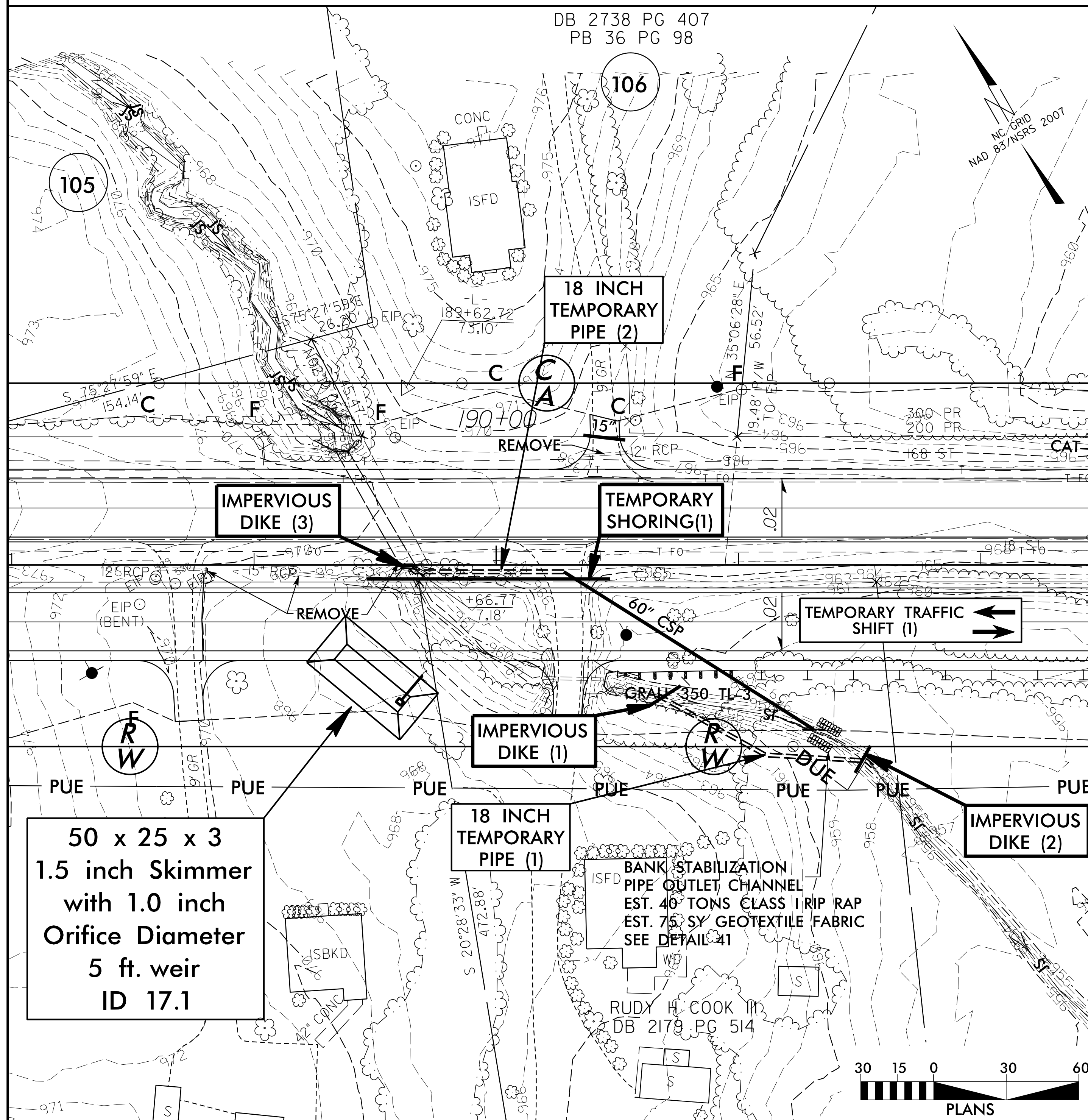
PROJECT REFERENCE NO. <i>R-3100B</i>	SHEET NO. <i>EC-17A/CONST.17</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE I

- 1.) INSTALL IMPERVIOUS DIKE (1), TEMPORARY 18" FLEXIBLE PIPE (1) AND IMPERVIOUS DIKE (2). UTILIZE SKIMMER BASIN 17.1 FOR DEWATERING.
- 2.) CONSTRUCT APPROXIMATELY 122' OF PROPOSED 60" CSP, ENDWALL and BANK STABILIZATION IN ACCORDANCE WITH PLANS.
- 3.) INSTALL IMPERVIOUS DIKE (3) AND TEMPORARY 18" FLEXIBLE PIPE (2), DIVERTING FLOW INTO NEWLY INSTALLED SECTION OF 60" CSP. REMOVE IMPERVIOUS DIKE (2), TEMPORARY 18" PIPE (1) AND IMPERVIOUS DIKE (1).
- 4.) INSTALL TEMPORARY SHORING (1), CONSTRUCT EAST BOUND LANES AND SHIFT TRAFFIC.

PHASE II

- 1.) INSTALL IMPERVIOUS DIKE (4), TEMPORARY 18" FLEXIBLE PIPE (3) AND IMPERVIOUS DIKE (5). UTILIZE SPECIAL STILLING BASIN FOR DEWATERING.
- 2.) INSTALL REMAINING SECTION OF 60" CSP AND HEADWALL.
- 3.) REMOVE IMPERVIOUS DIKE (3,4,5), TEMPORARY 18" PIPE (2,3) AND DIRECT FLOW INTO PROPOSED 60" CSP.
- 4.) REMOVE EXISTING 5'X5' RCBC.
- 5.) CONSTRUCT WEST BOUND LANES AND REMOVE TEMPORARY SHORING (1).



UNNAMED TRIBUTARY TO MAIDEN CREEK 7'X8' RCBC CONSTRUCTION SEQUENCE STA. 192+97 -L-

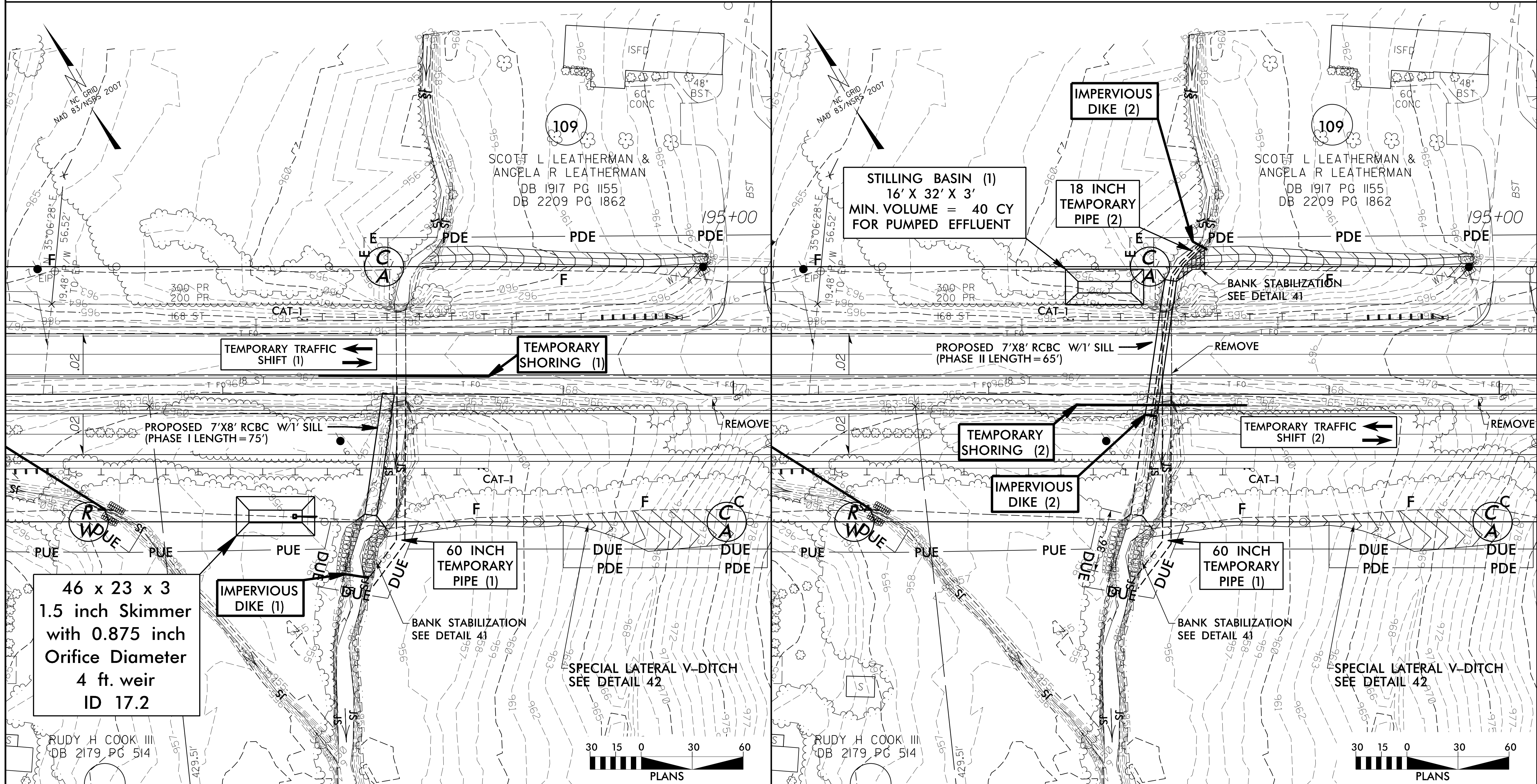
PROJECT REFERENCE NO. <i>R-3100B</i>	SHEET NO. <i>EC-17B/CONST.17</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE I

PHASE II

- 1.) INSTALL SKIMMER BASIN 17.2 TO BE UTILIZED AS STILLING BASIN FOR DEWATERING.
- 2.) REMOVE APPROXIMATELY 10' OF EXISTING BOX CULVERT AND WINGWALLS FROM OUTLET END. INSTALL TEMPORARY PIPE (1) (FLEXIBLE 60") FROM OUTLET OF EXISTING BOX CULVERT AND PLUG SOUTH END OF BOX CULVERT AROUND TEMPORARY PIPE. INSTALL IMPERVIOUS DIKE (1).
- 3.) INSTALL TEMPORARY SHORING (1) AND CONSTRUCT TEMPORARY TRAFFIC SHIFT (1) TO THE NORTH.
- 4.) CONSTRUCT APPROXIMATELY 75' OF PROPOSED BOX CULVERT FROM OUTLET END AND OUTLET CHANNEL IMPROVEMENTS.
- 5.) CONSTRUCT PROPOSED ROADWAY PHASE 1 SECTION (EASTBOUND LANES) OVER NEW CULVERT.

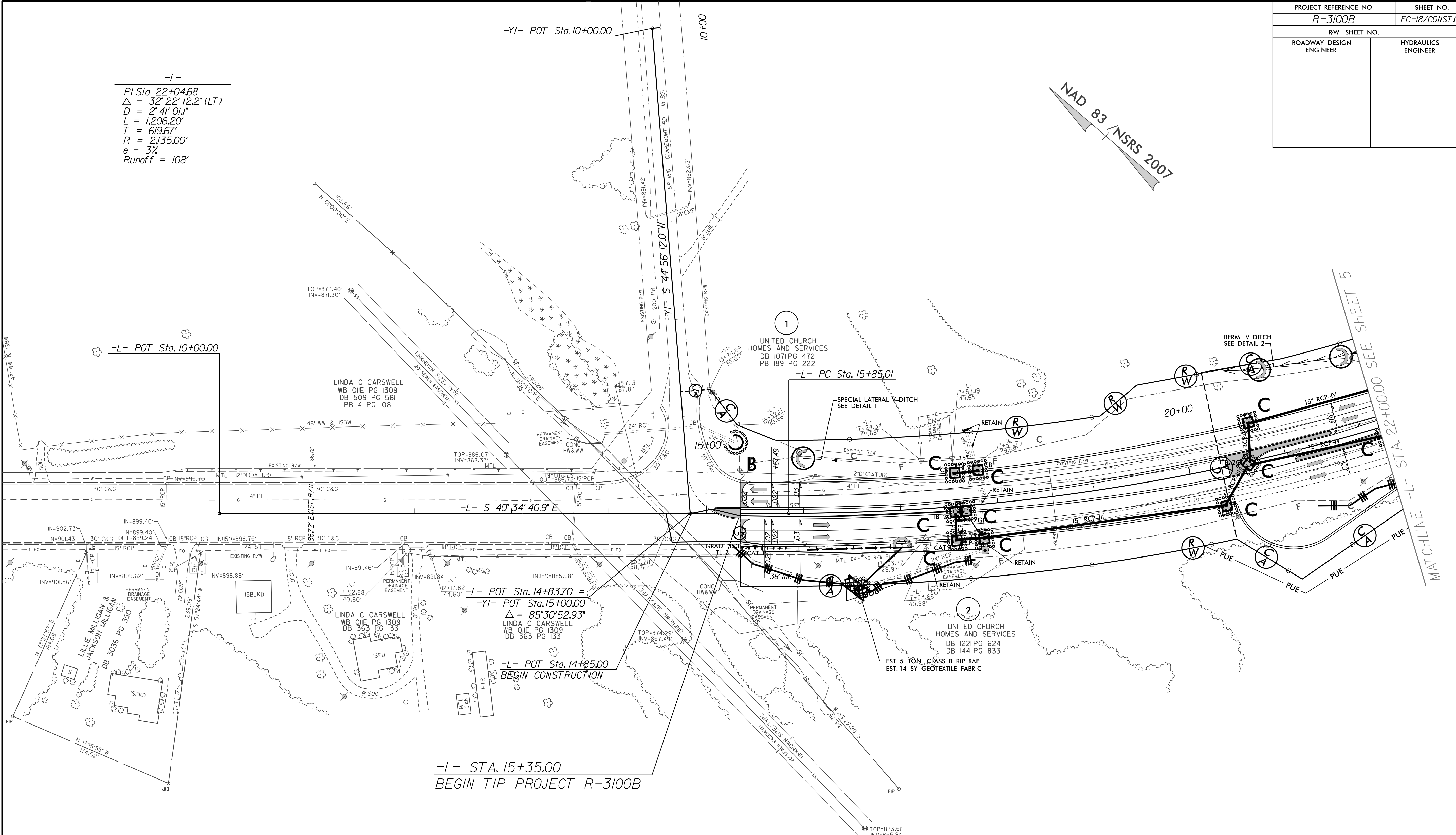
- 1.) REMOVE TEMPORARY SHORING (1). INSTALL TEMPORARY SHORING (2).
- 2.) CONSTRUCT TEMPORARY TRAFFIC SHIFT (2) AND SHIFT TRAFFIC SOUTH.
- 3.) INSTALL STILLING BASIN (1).
- 4.) REMOVE REMAINDER OF THE EXISTING BOX CULVERT.
- 5.) INSTALL TEMPORARY PIPE (2) (18" FLEXIBLE). INSTALL TEMPORARY IMPERVIOUS DIKE (2), AND DIVERT FLOW THROUGH TEMPORARY PIPE (2).
- 6.) PLUG INLET END (NORTH END) OF TEMPORARY PIPE (1).
- 7.) CONSTRUCT REMAINDER (APPROX. 65') OF PROPOSED BOX CULVERT.
- 8.) REMOVE TEMPORARY PIPE (2), IMPERVIOUS DIKE (2), AND STILLING BASIN (1).
- 9.) REMOVE TEMPORARY SHORING, COMPLETE PROPOSED ROADWAY PHASE 2 (WESTBOUND LANES) AND REMOVE TEMPORARY TRAFFIC SHIFT.
- 10.) REMOVE APPROXIMATELY 60' OF THE SOUTH END OF TEMPORARY PIPE (1), THEN PLUG AND FILL PIPE WITH FLOWABLE FILL.



PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-18/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

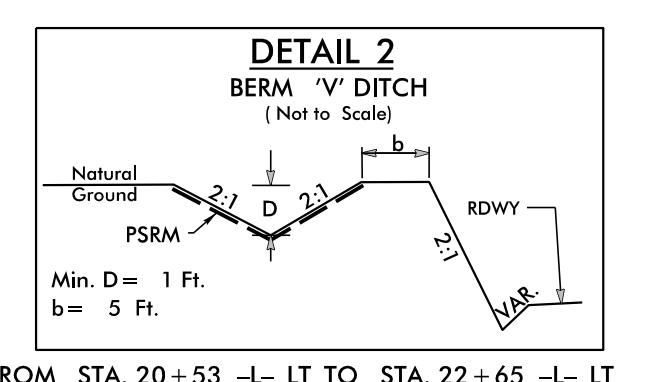
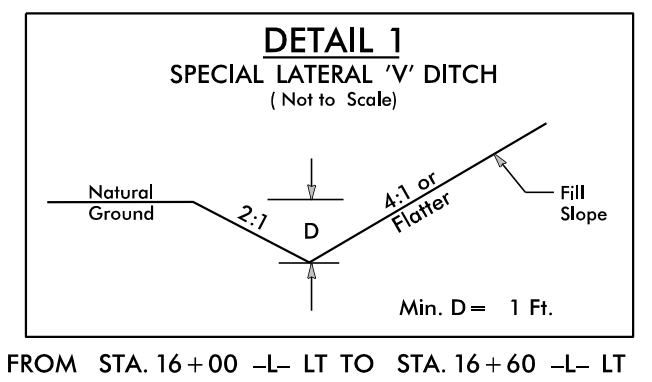
-L-
 PI Sta. 22+04.68
 $\Delta = 32^{\circ} 22' 12.2" (LT)$
 $D = 2^{\circ} 41' 01.1"$
 $L = 1,206.20'$
 $T = 619.67'$
 $R = 2,135.00'$
 $e = 3\%$
 Runoff = 108'

NAD 83 / NSRS 2007



INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

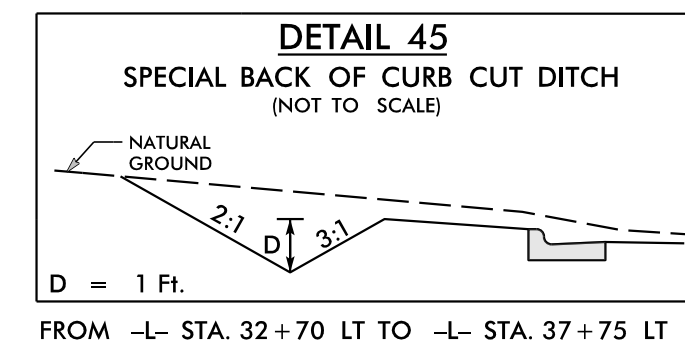
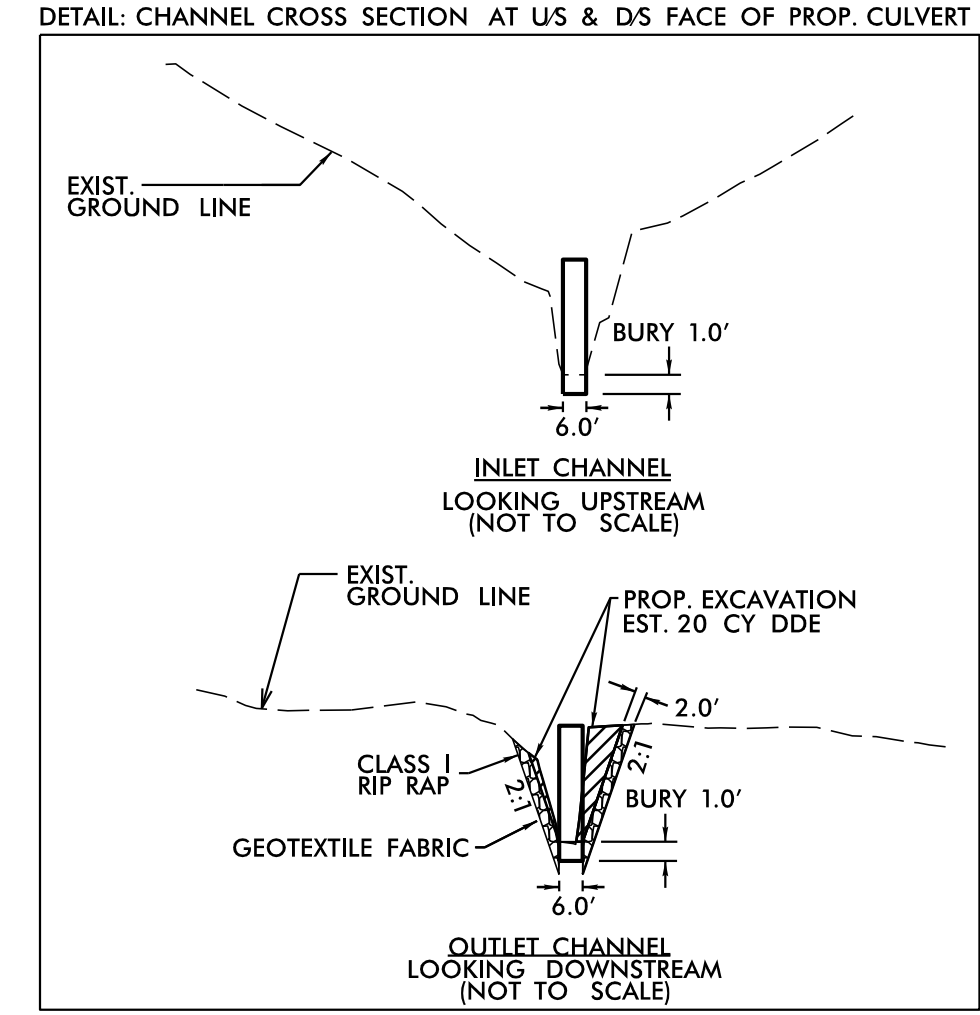
Place Matting for Erosion Control on Slope as Work Allows.
 Sta. 16+00 to Sta. 17+00 -L- RT
 Sta. 19+50 to Sta. 23+00 -L- LT



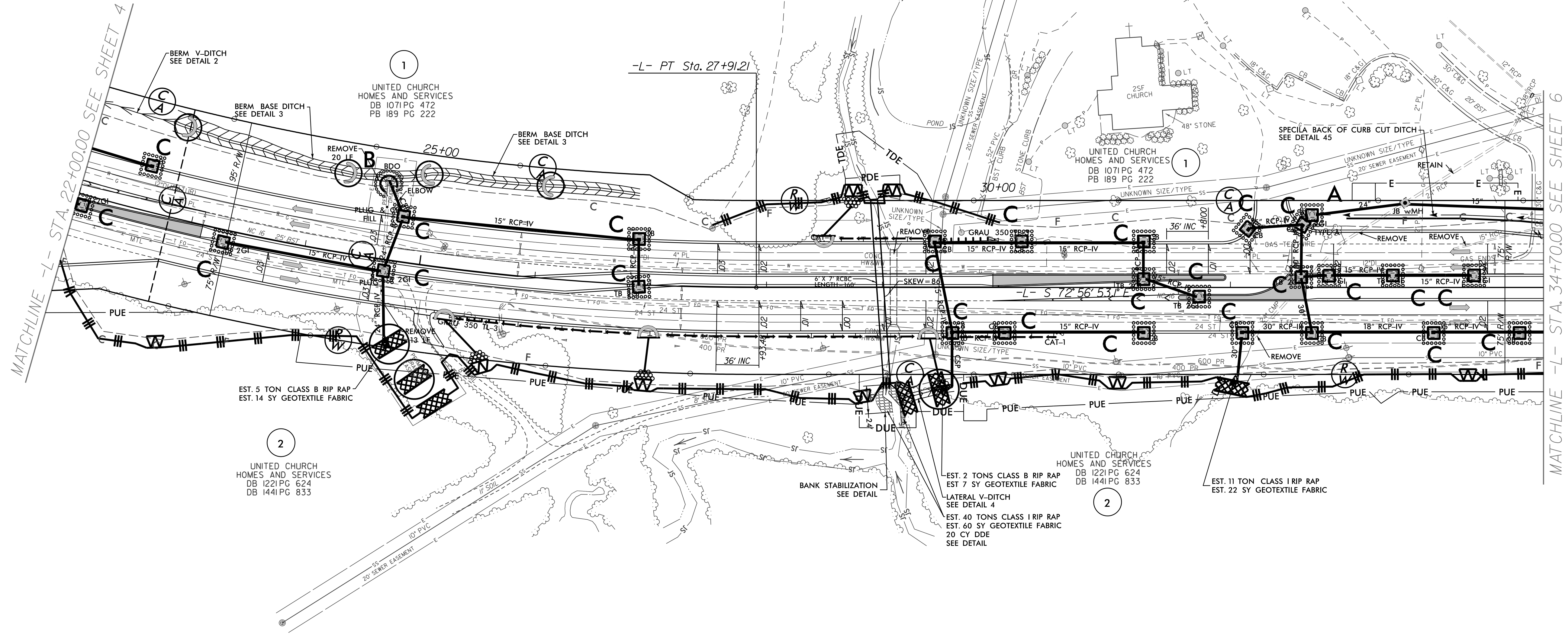
FOR -L- PROFILE SEE SHEET 18

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-19/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-
 PI Sta 22+04.68
 $\Delta = 32' 22" 12.2" (LT)$
 $D = 2' 4" 0.1"$
 $L = 1,206.20'$
 $T = 619.67'$
 $R = 2,135.00'$
 $e = 3\%$
 Runoff = 108'

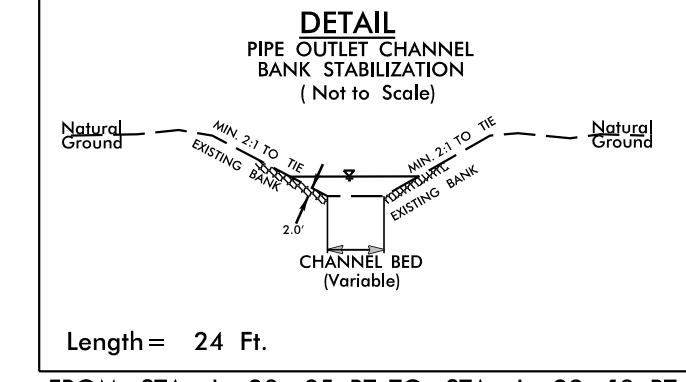
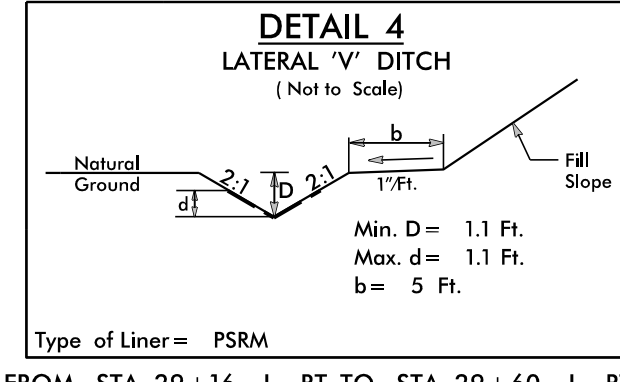
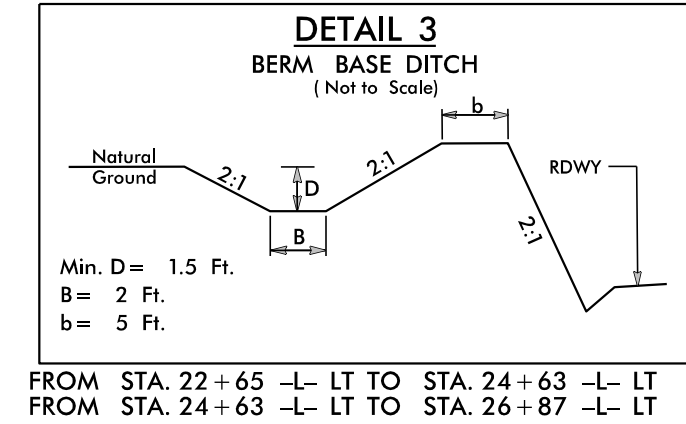


MAD 83 / NSRS 2007



INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

Place Matting for Erosion Control on Slope as Work Allows.
 Sta. 25+00 to Sta. 30+50 -L- RT
 Sta. 28+50 to Sta. 29+50 -L- LT



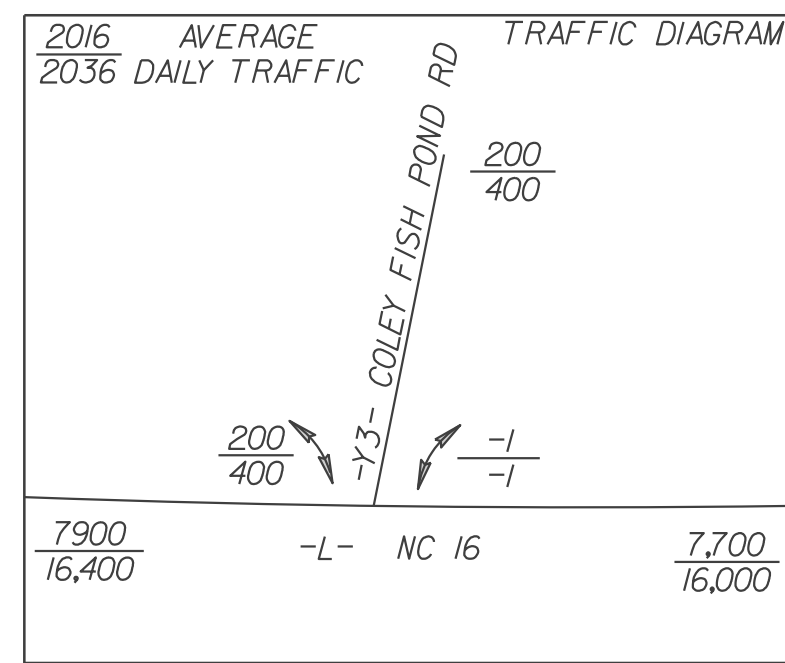
FOR -L- PROFILE SEE SHEET 18

DATE: 06/09/2016 ADDED TCE ONTO PACEL FOR SLOPE CONSTRUCTION STA 33+25 TO STA 34+48

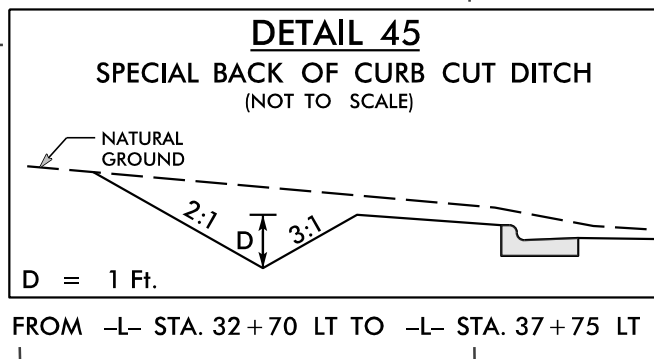
MATCHLINE -L- STA. 22+00.00 SEE SHEET 4

MATCHLINE -L- STA. 34+70.00 SEE SHEET 6

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-20/CONST.06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

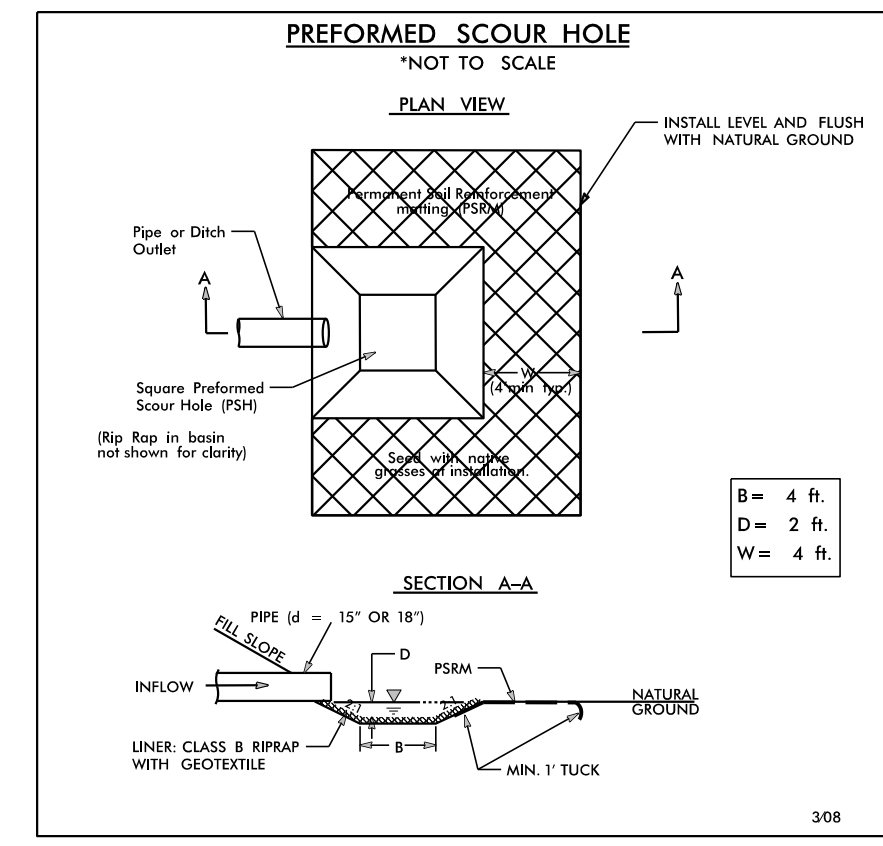
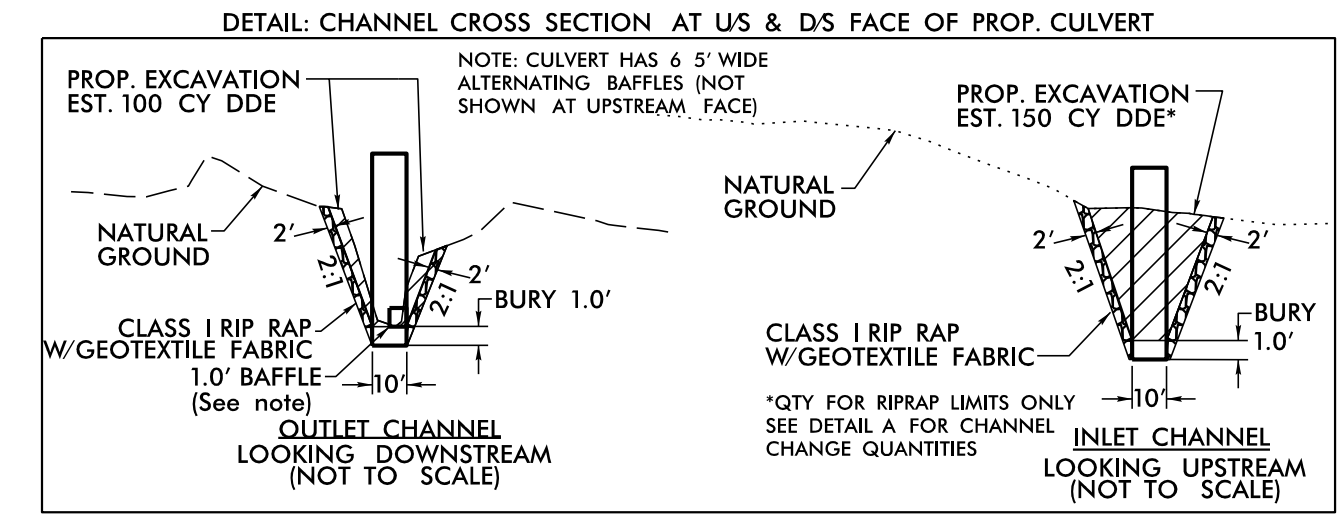
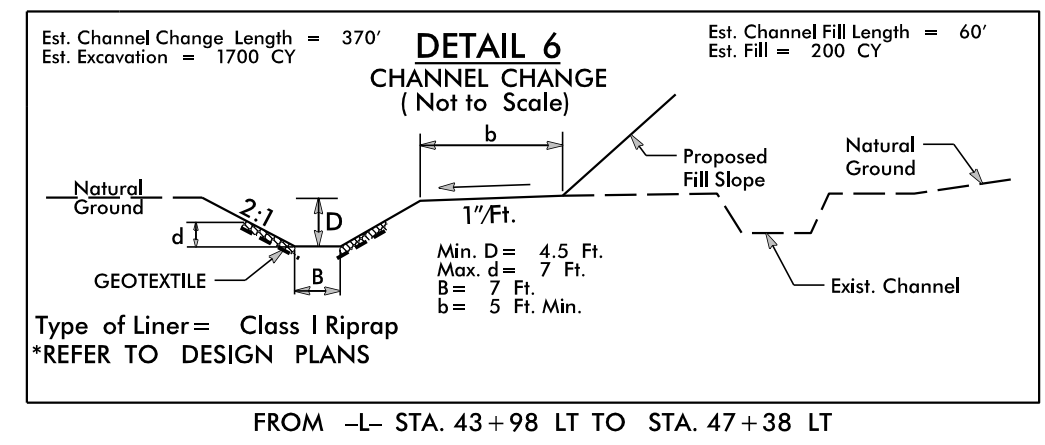
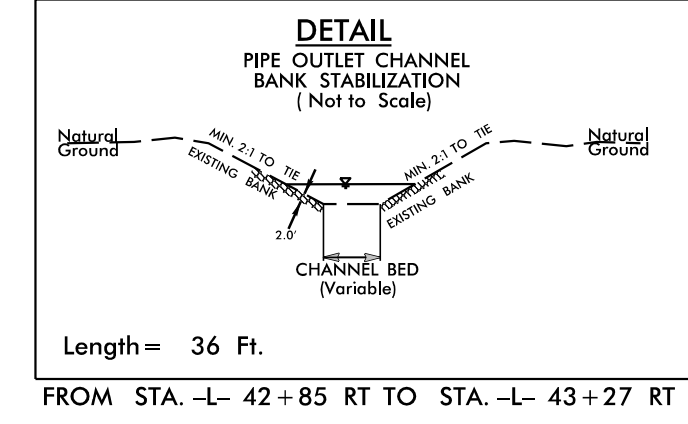
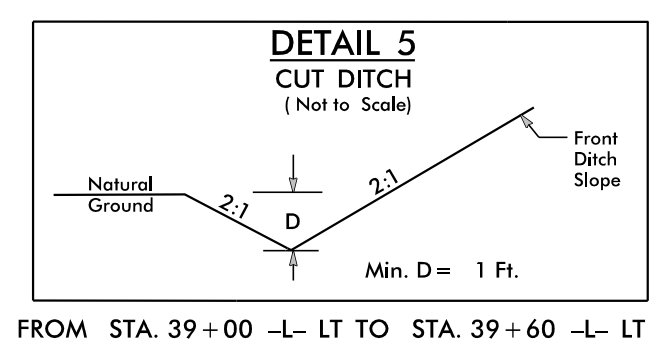
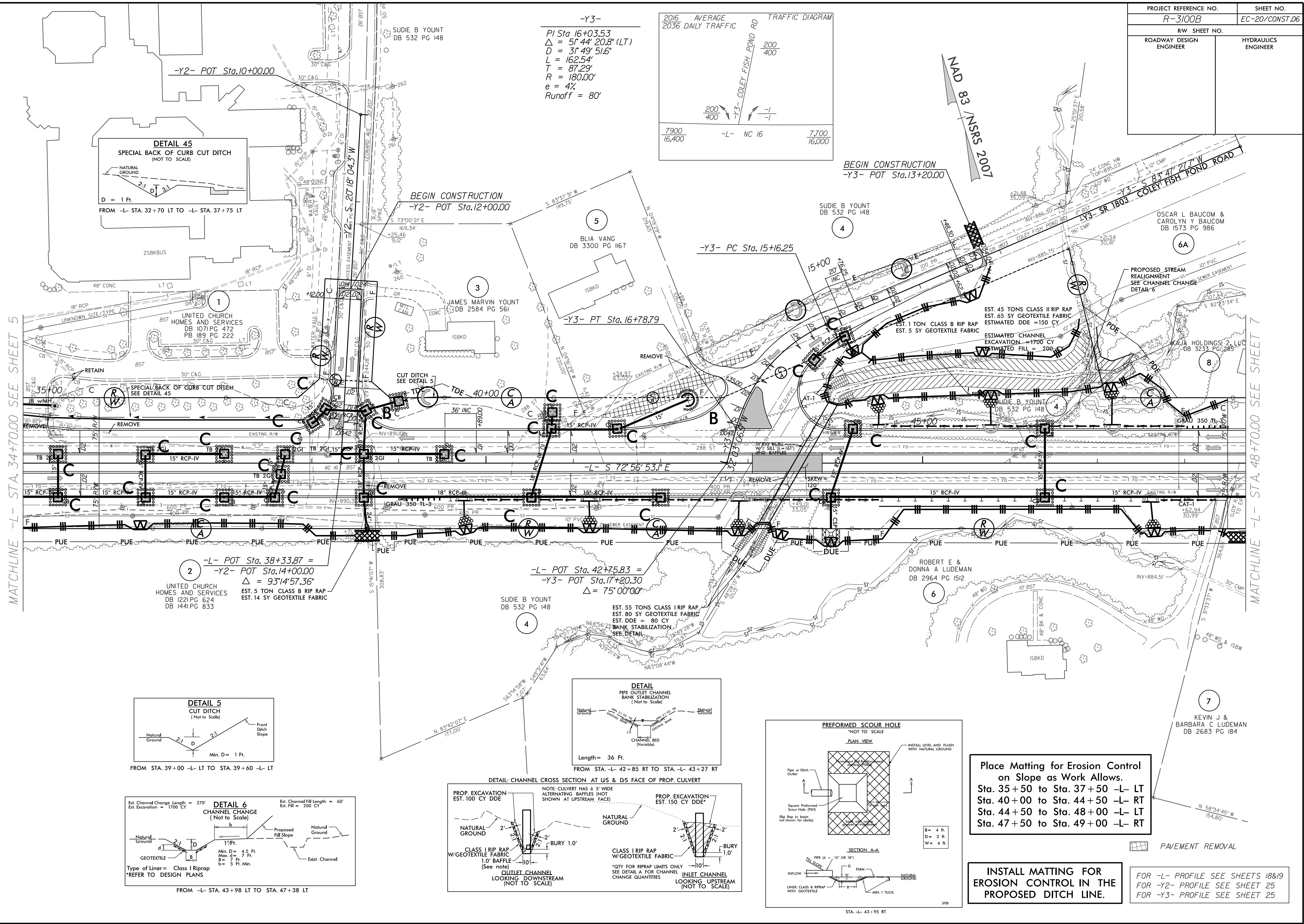


-Y3-
 PI Sta 16+03.53
 $\Delta = 5' 44" 20.8" (LT)$
 $D = 3' 49" 51.6"$
 $L = 162.54'$
 $T = 87.29'$
 $R = 180.00'$
 $e = 4\%$
 Runoff = 80'



MATCHLINE -L- STA. 34+70.00 SEE SHEET 5

MATCHLINE -L- STA. 48+70.00 SEE SHEET 7



Place Matting for Erosion Control on Slope as Work Allows.
 Sta. 35+50 to Sta. 37+50 -L- LT
 Sta. 40+00 to Sta. 44+50 -L- RT
 Sta. 44+50 to Sta. 48+00 -L- LT
 Sta. 47+50 to Sta. 49+00 -L- RT

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

FOR -L- PROFILE SEE SHEETS 18&19
 FOR -Y2- PROFILE SEE SHEET 25
 FOR -Y3- PROFILE SEE SHEET 25

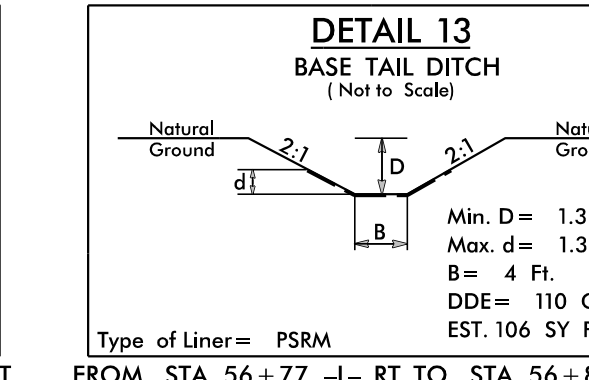
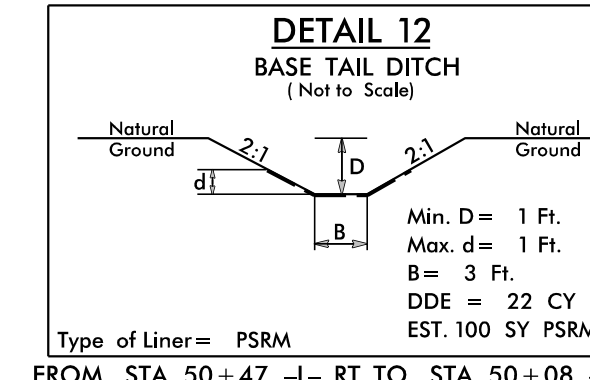
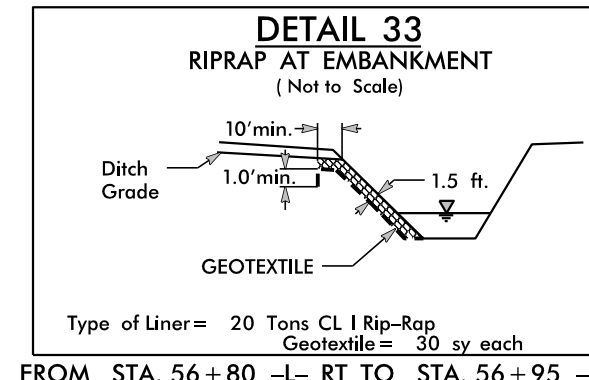
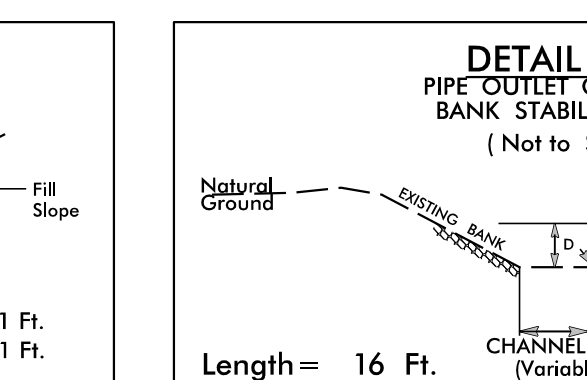
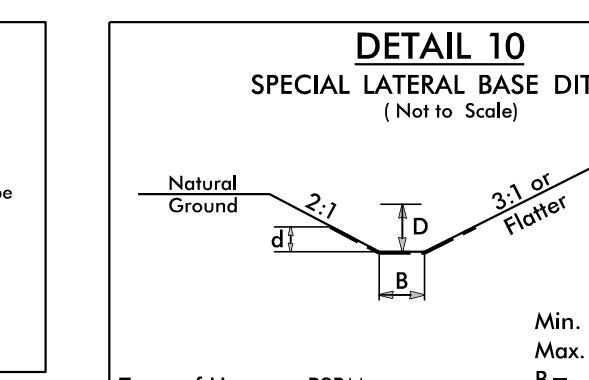
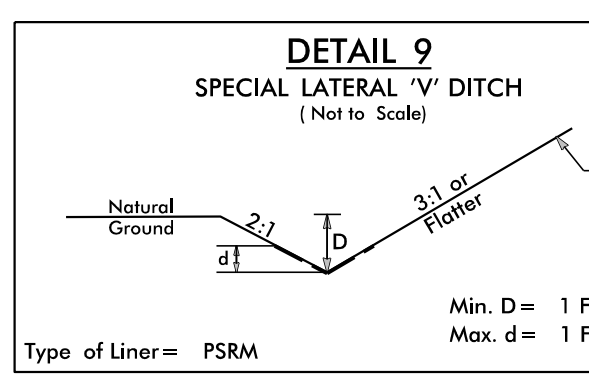
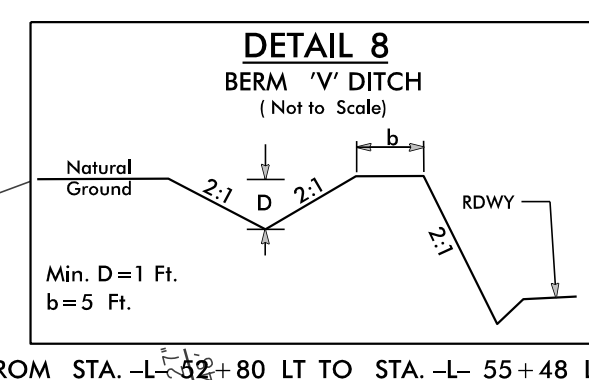
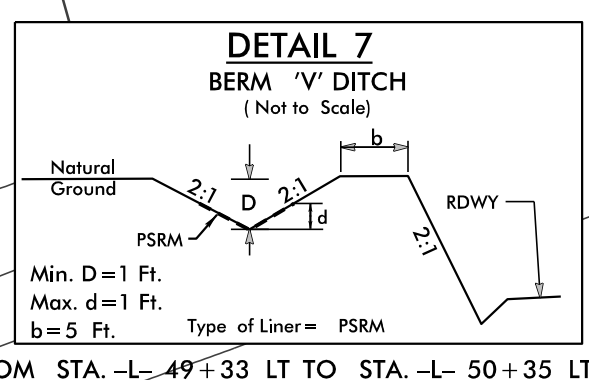
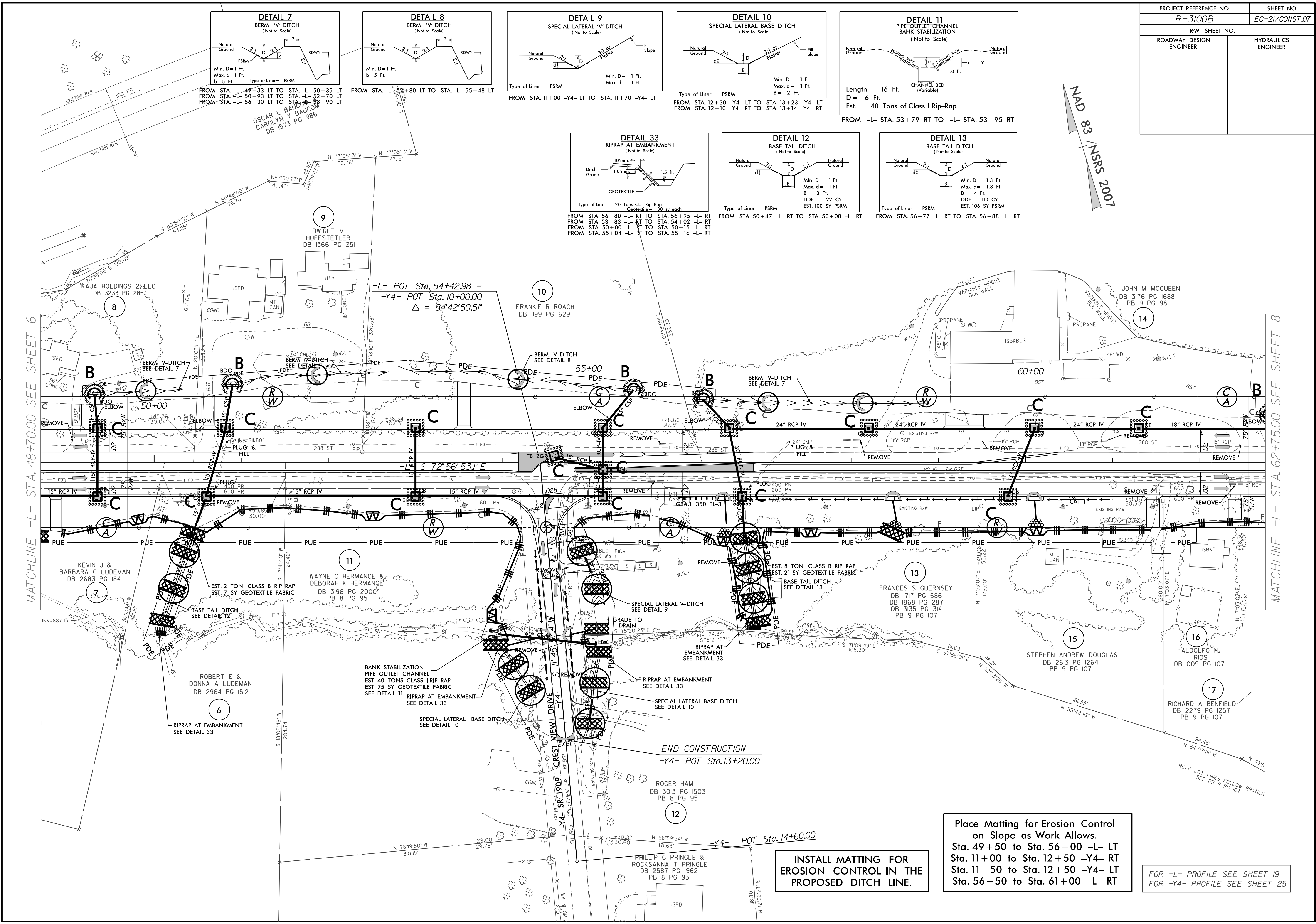
DATE: 06/09/2016 - REMOVED EXTRACT ON PARCEL 1 STA. 35+50 TO STA. 36+40

PROJECT REFERENCE NO. R-3100B	SHEET NO. EC-21/CONST.07
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DATE: 01/26/2016 - REVISED ACCESS LOCATION ON PARCEL 14.

MATCHLINE -L- STA. 48+70.00 SEE SHEET 6

MATCHLINE -L- STA. 62+75.00 SEE SHEET 8



NAD 83 / NRS 2007

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 49+50 to Sta. 56+00 -L- LT
Sta. 11+00 to Sta. 12+50 -Y4- RT
Sta. 11+50 to Sta. 12+50 -Y4- LT
Sta. 56+50 to Sta. 61+00 -L- RT

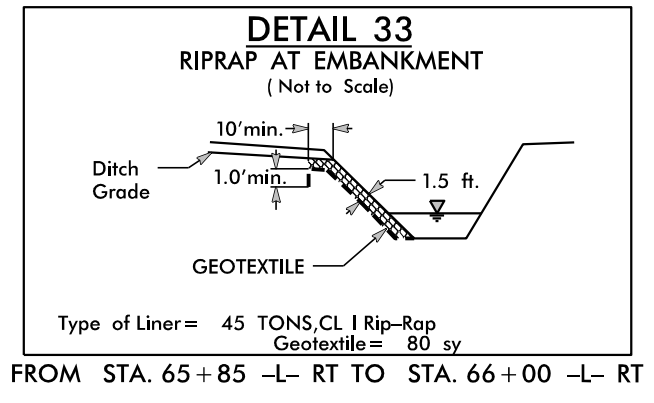
INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

FOR -L- PROFILE SEE SHEET 19
FOR -Y4- PROFILE SEE SHEET 25

END CONSTRUCTION
-Y4- POT Sta. 13+20.00

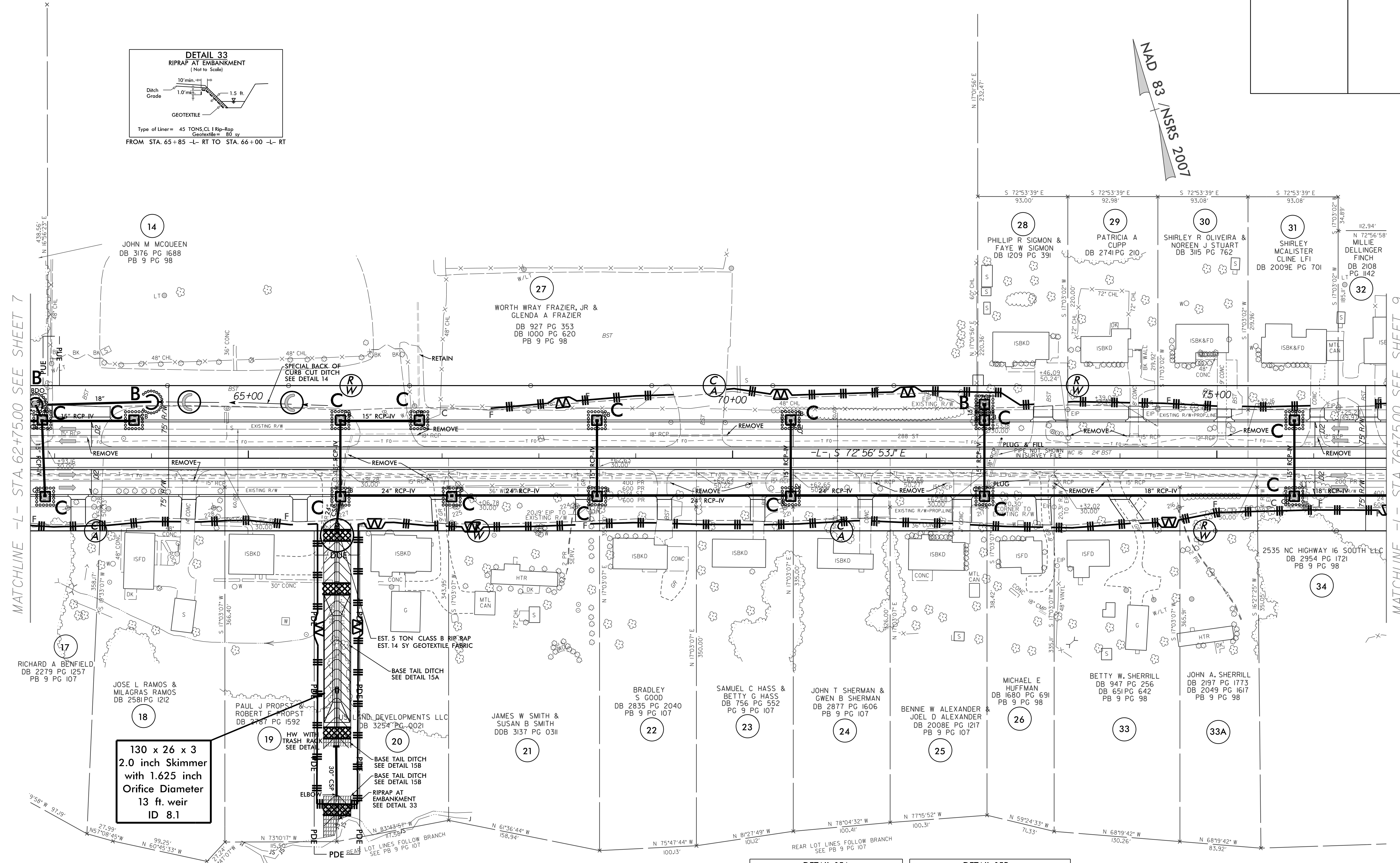
-Y4- POT Sta. 14+60.00

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-22/CONST.08
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



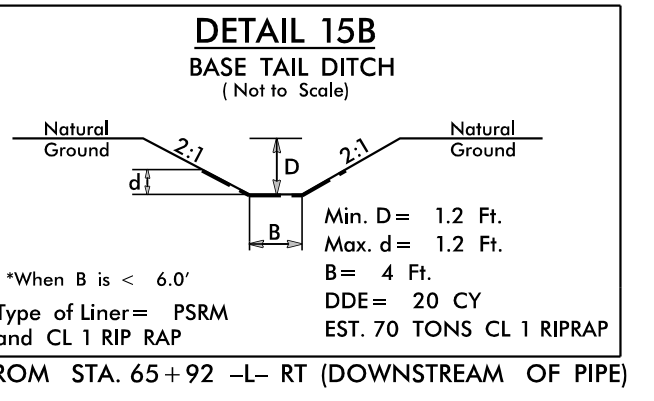
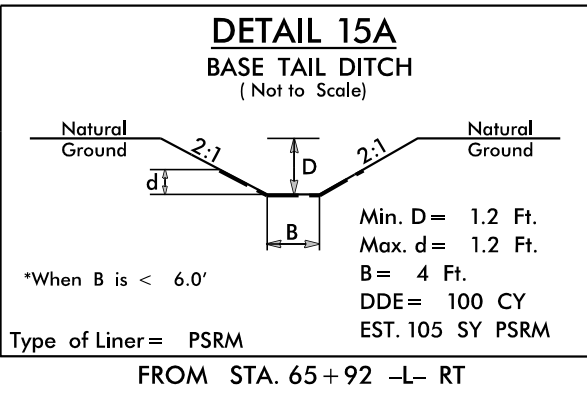
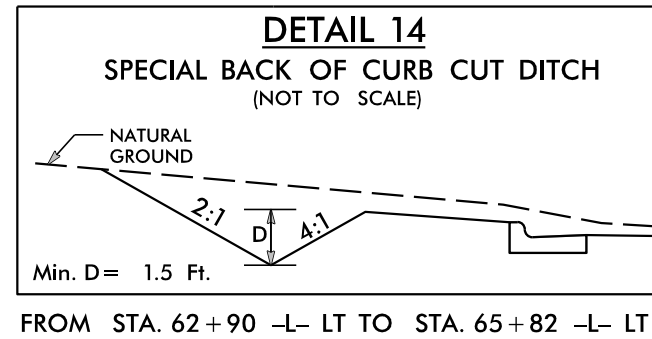
MATCHLINE -L- STA. 62+75.00 SEE SHEET 7

MATCHLINE -L- STA. 76+75.00 SEE SHEET 9



INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

**130 x 26 x 3
2.0 inch Skimmer
with 1.625 inch
Orifice Diameter
13 ft. weir
ID 8.1**



FOR -L- PROFILE SEE SHEET 20

PROJECT REFERENCE NO. R-3100B	SHEET NO. EC-23/CONST.09
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

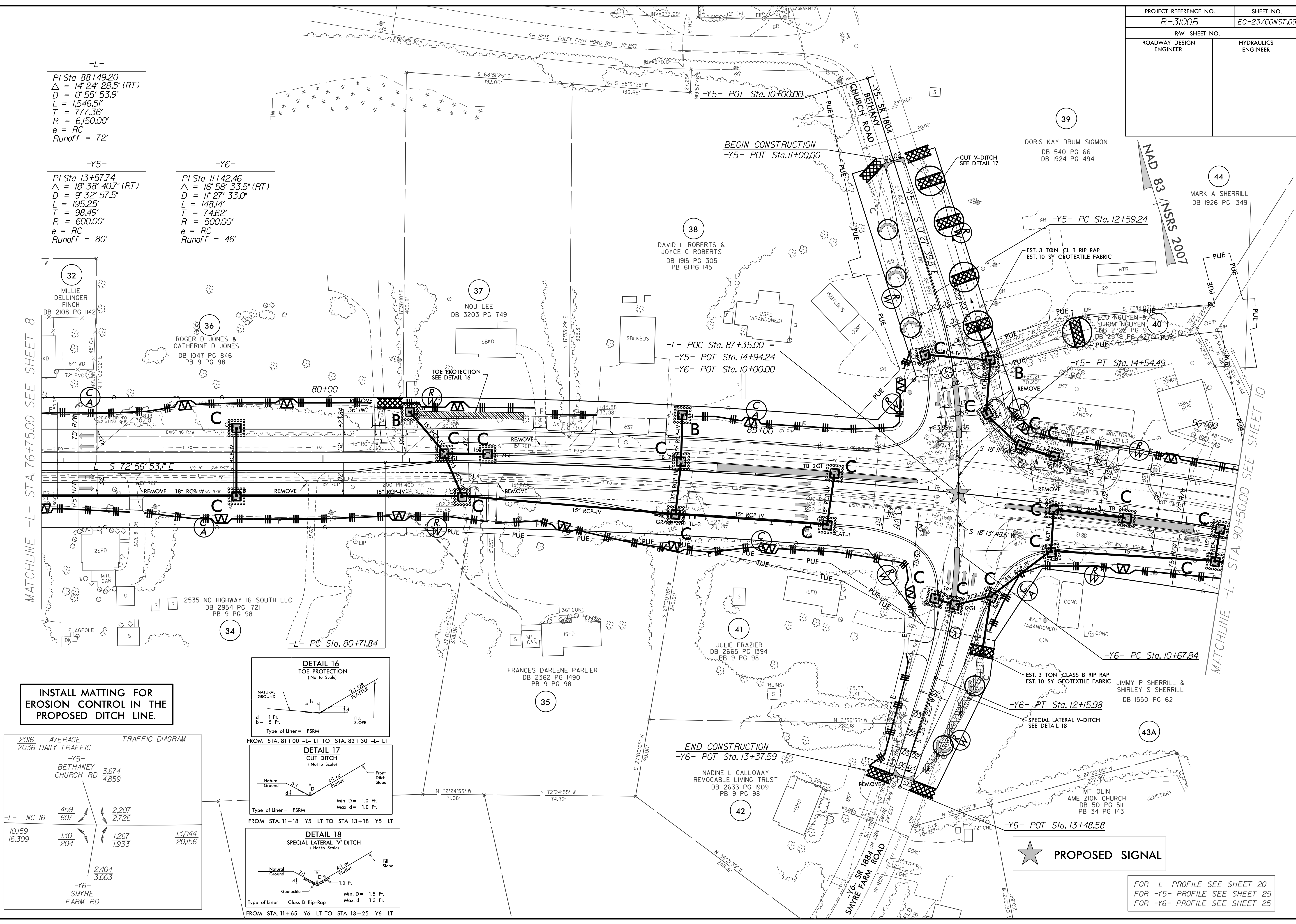
-L-
 PI Sta 88+49.20
 $\Delta = 14^{\circ} 24' 28.5"$ (RT)
 $D = 0^{\circ} 55' 53.9"$
 $L = 1,546.51'$
 $T = 777.36'$
 $R = 6,150.00'$
 $e = RC$
 Runoff = 72'

-Y5-
 PI Sta 13+57.74
 $\Delta = 18^{\circ} 38' 40.7"$ (RT)
 $D = 9^{\circ} 32' 57.5"$
 $L = 195.25'$
 $T = 98.49'$
 $R = 600.00'$
 $e = RC$
 Runoff = 80'

-Y6-
 PI Sta 11+42.46
 $\Delta = 16^{\circ} 58' 33.5"$ (RT)
 $D = 11^{\circ} 27' 33.0"$
 $L = 148.14'$
 $T = 74.62'$
 $R = 500.00'$
 $e = RC$
 Runoff = 46'

MATCHLINE -L- STA. 76+75.00 SEE SHEET 8

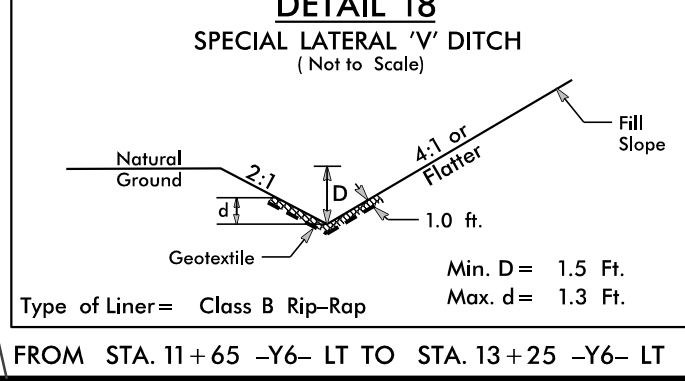
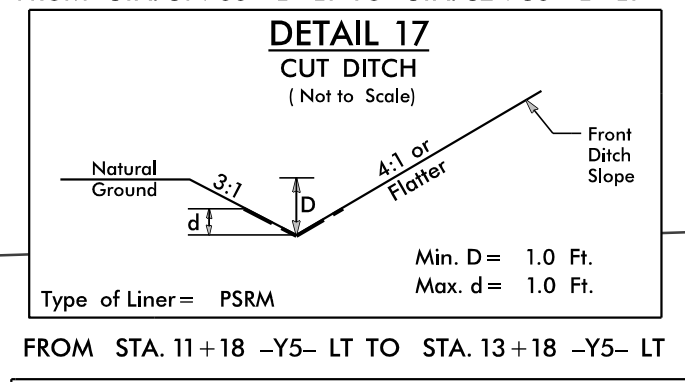
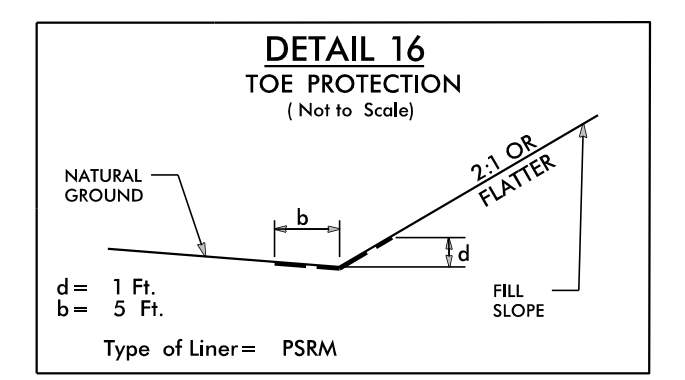
MATCHLINE -L- STA. 90+50.00 SEE SHEET 10



INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

2016 AVERAGE TRAFFIC DIAGRAM
 2036 DAILY TRAFFIC

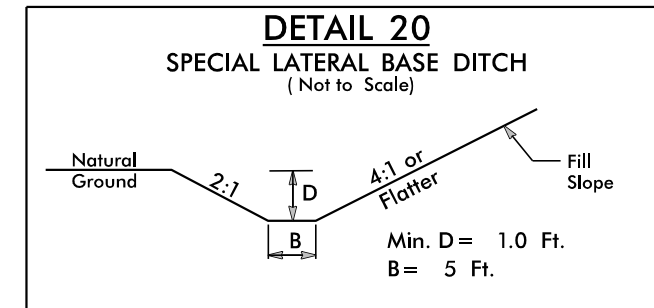
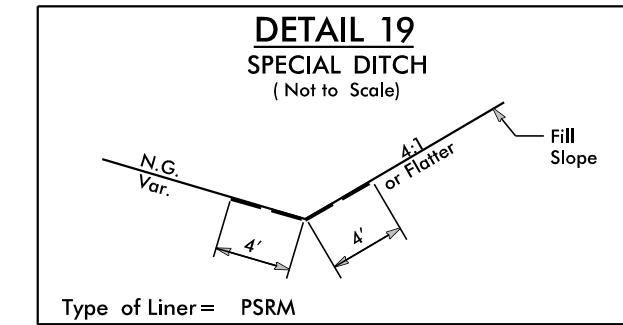
-Y5- BETHANEY CHURCH RD		3,674 4,859	
-L- NC 16	459 607	2,207 2,726	
10,159 16,309	130 204	1,267 1,933	13,044 20,156
-Y6- SMYRE FARM RD		2,404 3,663	



★ PROPOSED SIGNAL

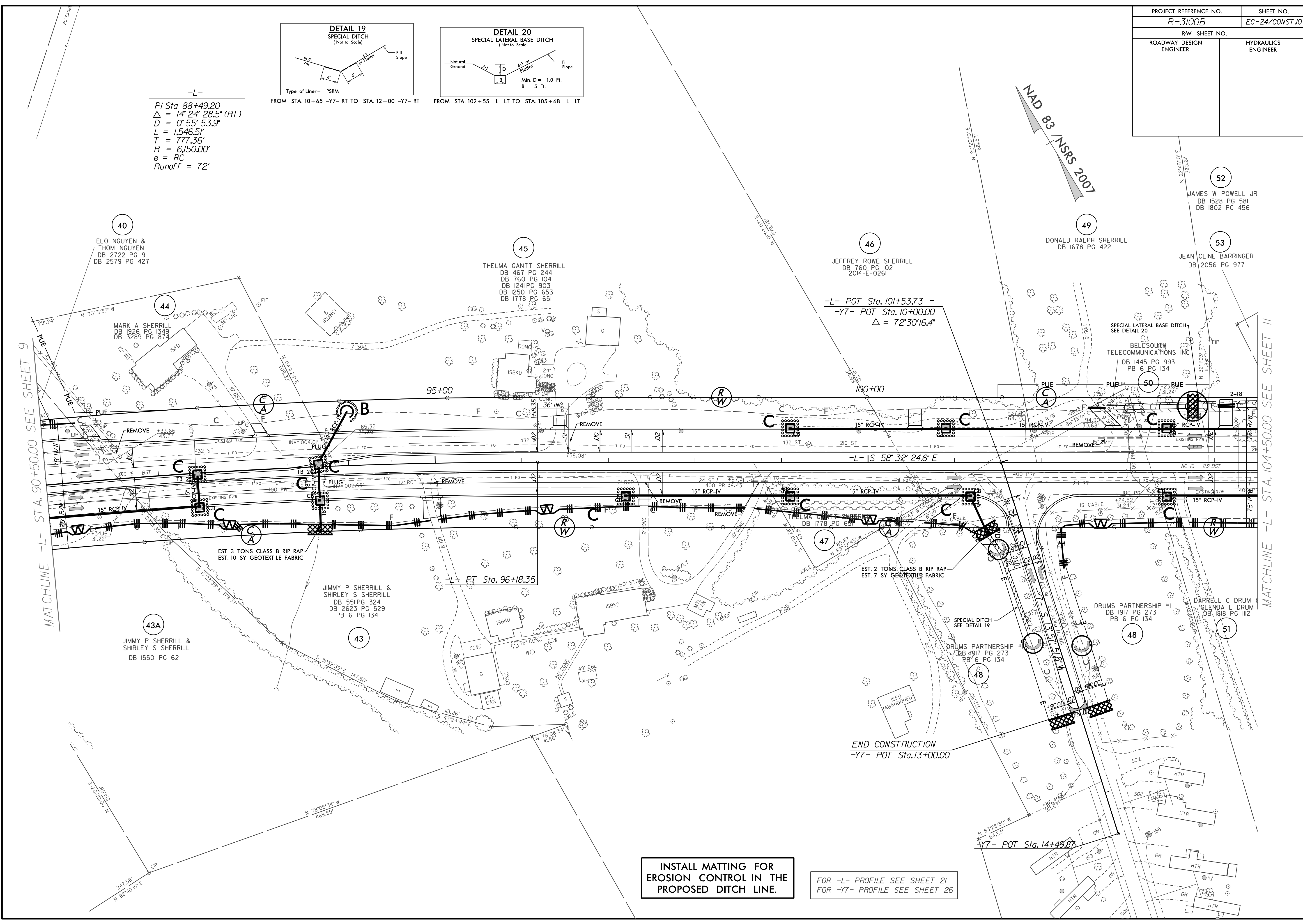
FOR -L- PROFILE SEE SHEET 20
 FOR -Y5- PROFILE SEE SHEET 25
 FOR -Y6- PROFILE SEE SHEET 25

PROJECT REFERENCE NO.		SHEET NO.	
R-3100B		EC-24/CONST-10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



-L-
 PI Sta 88+49.20
 $\Delta = 14' 24" 28.5" (RT)$
 $D = 0' 55" 53.9"$
 $L = 1,546.51'$
 $T = 777.36'$
 $R = 6,150.00'$
 $e = RC$
 Runoff = 72'

FROM STA. 10+65 -Y7- RT TO STA. 12+00 -Y7- RT
 FROM STA. 102+55 -L- LT TO STA. 105+68 -L- LT



MATCHLINE -L- STA. 90+50.00 SEE SHEET 9

MATCHLINE -L- STA. 104+50.00 SEE SHEET 11

-L- POT Sta. 101+53.73 =
 -Y7- POT Sta. 10+00.00
 $\Delta = 72' 30" 16.4"$

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

FOR -L- PROFILE SEE SHEET 21
 FOR -Y7- PROFILE SEE SHEET 26

40
 ELO NGUYEN &
 THOM NGUYEN
 DB 2722 PG 9
 DB 2579 PG 427

44
 MARK A SHERRILL
 DB 1926 PG 1349
 DB 3289 PG 874

45
 THELMA GANTT SHERRILL
 DB 467 PG 244
 DB 760 PG 104
 DB 1241 PG 903
 DB 1250 PG 653
 DB 1778 PG 651

46
 JEFFREY ROWE SHERRILL
 DB 760 PG 102
 2014-E-0261

49
 DONALD RALPH SHERRILL
 DB 1678 PG 422

52
 JAMES W POWELL JR
 DB 1528 PG 581
 DB 1802 PG 456

53
 JEAN CLINE BARRINGER
 DB 2056 PG 977

BELLSOUTH TELECOMMUNICATIONS INC
 DB 1445 PG 993
 PB 6 PG 134

EST. 3 TONS CLASS B RIP RAP
 EST. 10 SY GEOTEXTILE FABRIC

JIMMY P SHERRILL &
 SHIRLEY S SHERRILL
 DB 551 PG 324
 DB 2623 PG 529
 PB 6 PG 134

EST. 2 TONS CLASS B RIP RAP
 EST. 7 SY GEOTEXTILE FABRIC

DRUMS PARTNERSHIP #1
 DB 1917 PG 273
 PB 6 PG 134

DRUMS PARTNERSHIP #1
 DB 1917 PG 273
 PB 6 PG 134

DARRELL C DRUM
 GLENDA L DRUM
 DB 1818 PG 112

43A
 JIMMY P SHERRILL &
 SHIRLEY S SHERRILL
 DB 1550 PG 62

43
 JIMMY P SHERRILL &
 SHIRLEY S SHERRILL
 DB 551 PG 324
 DB 2623 PG 529
 PB 6 PG 134

47
 THELMA GANTT SHERRILL
 DB 467 PG 244
 DB 760 PG 104
 DB 1241 PG 903
 DB 1250 PG 653
 DB 1778 PG 651

48
 DRUMS PARTNERSHIP #1
 DB 1917 PG 273
 PB 6 PG 134

48
 DRUMS PARTNERSHIP #1
 DB 1917 PG 273
 PB 6 PG 134

51
 DARRELL C DRUM
 GLENDA L DRUM
 DB 1818 PG 112

END CONSTRUCTION
 -Y7- POT Sta. 13+00.00

-Y7- POT Sta. 14+49.87

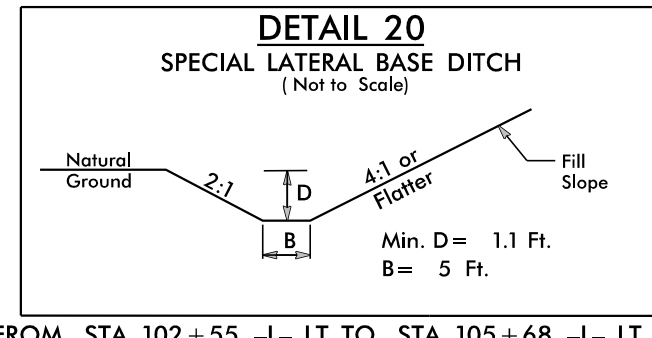
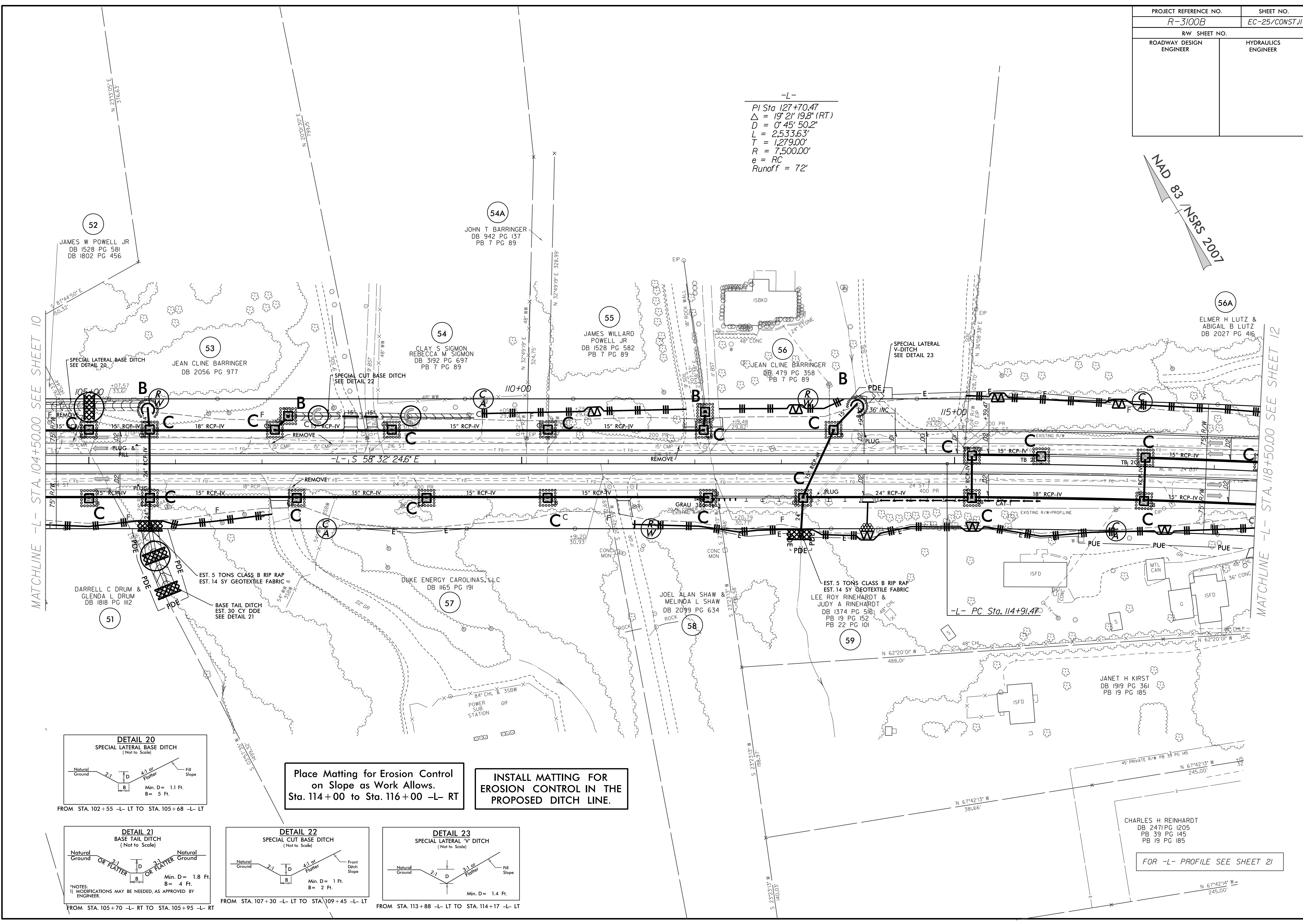
PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-25/CONST.II
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83 / NSRS 2007

-L-
 PI Sta 127+70.47
 $\Delta = 19^{\circ} 21' 19.8" (RT)$
 $D = 0^{\circ} 45' 50.2"$
 $L = 2,533.63'$
 $T = 1,279.00'$
 $R = 7,500.00'$
 $e = RC$
 $Runoff = 72'$

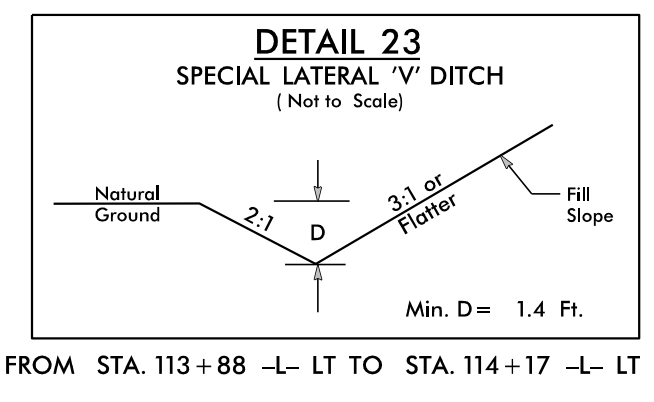
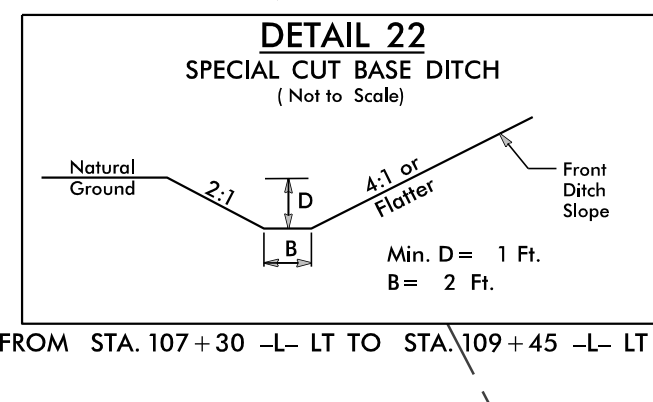
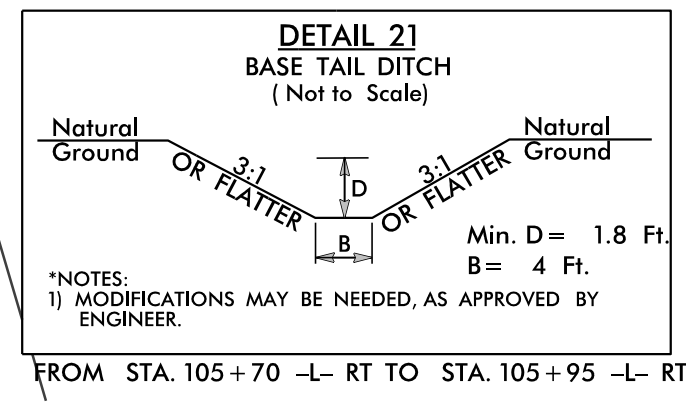
MATCHLINE -L- STA. 104+50.00 SEE SHEET 10

MATCHLINE -L- STA. 118+50.00 SEE SHEET 12



Place Matting for Erosion Control on Slope as Work Allows.
Sta. 114+00 to Sta. 116+00 -L- RT

INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

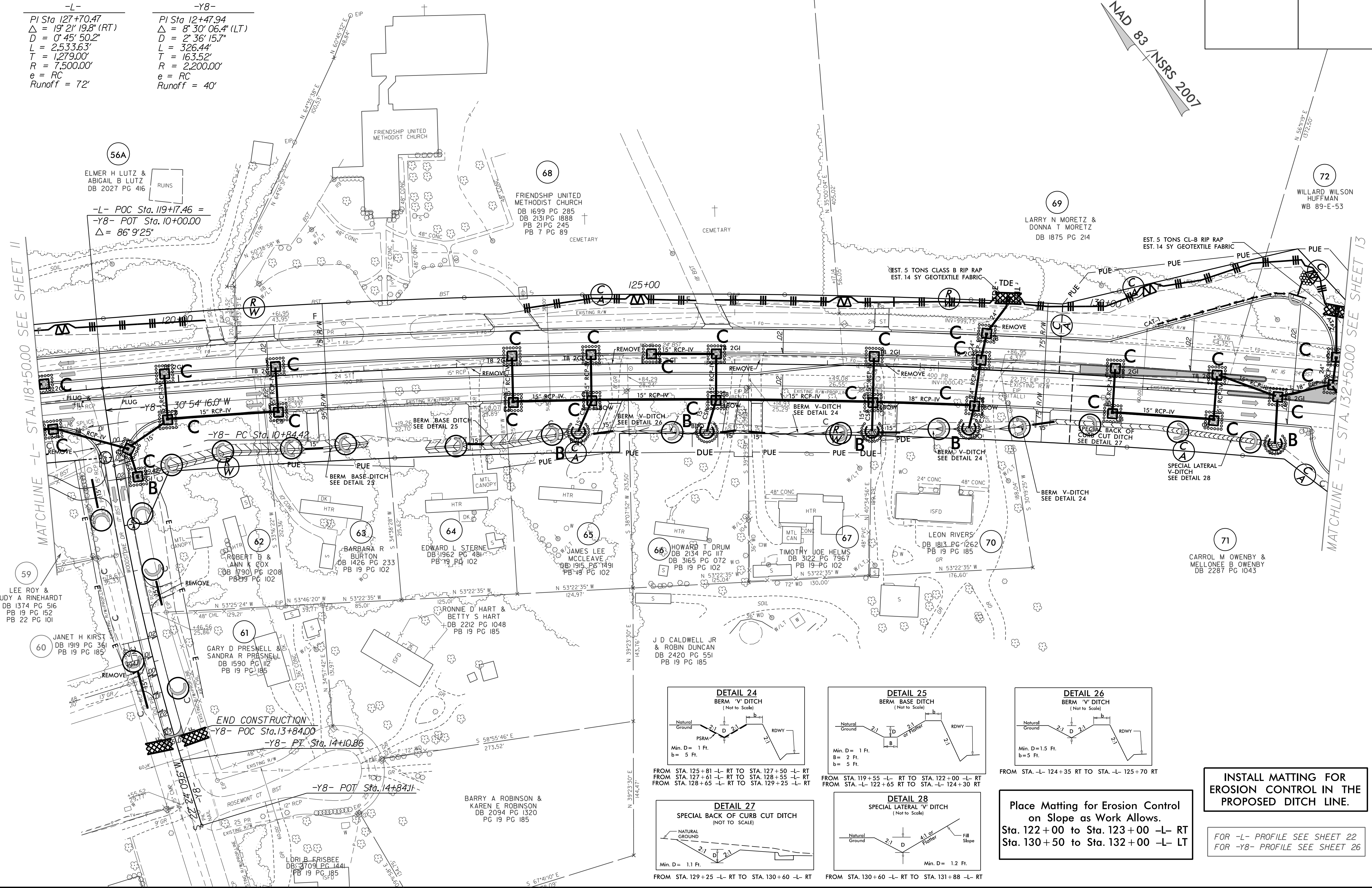


FOR -L- PROFILE SEE SHEET 21

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-26/CONST.2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-
 PI Sta 127+70.47
 $\Delta = 19^{\circ} 21' 19.8" (RT)$
 $D = 0' 45' 50.2"$
 $L = 2,533.63'$
 $T = 1,279.00'$
 $R = 7,500.00'$
 $e = RC$
 Runoff = 72'

-Y8-
 PI Sta 12+47.94
 $\Delta = 8^{\circ} 30' 06.4" (LT)$
 $D = 2' 36' 15.7"$
 $L = 326.44'$
 $T = 163.52'$
 $R = 2,200.00'$
 $e = RC$
 Runoff = 40'



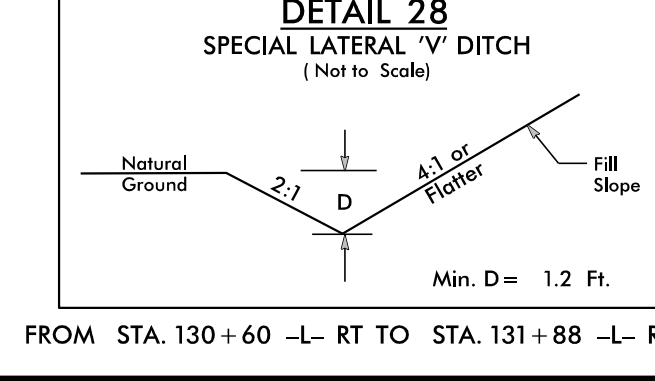
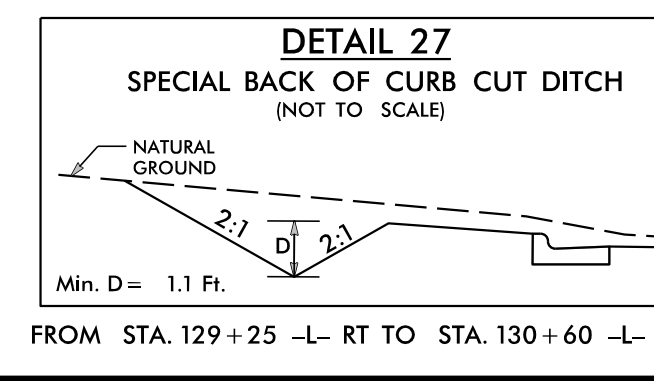
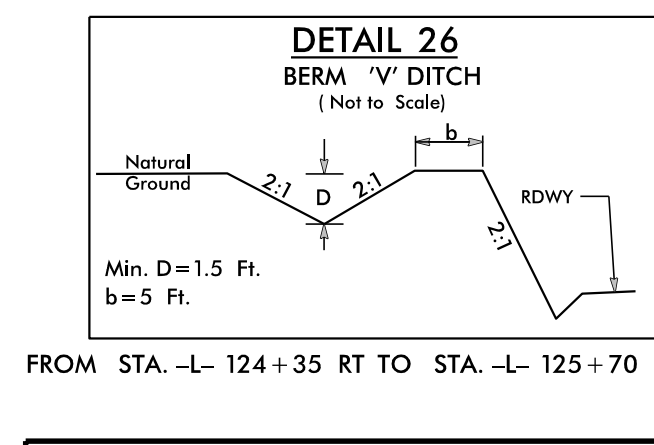
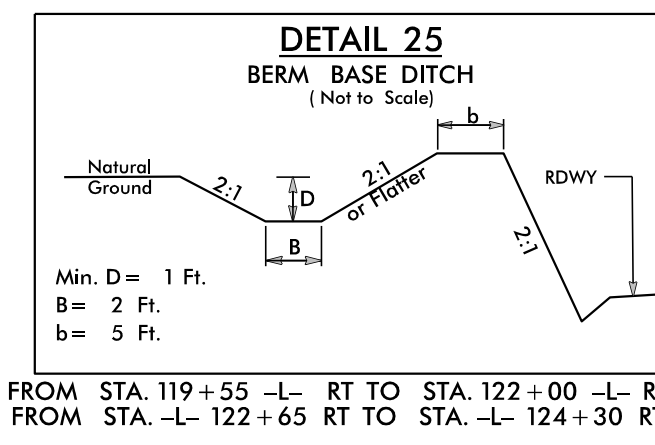
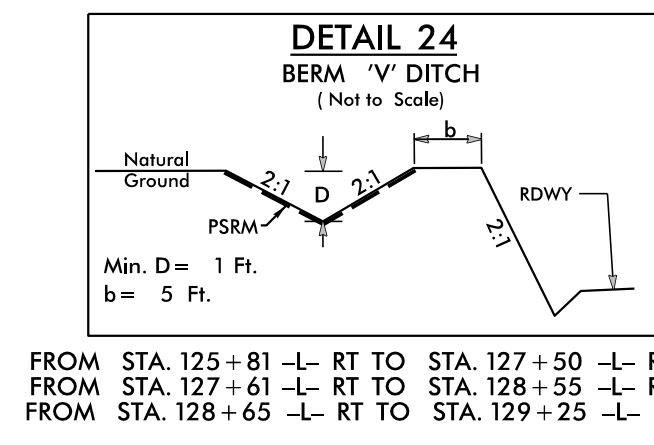
MATCHLINE -L- STA. 118+50.00 SEE SHEET 11

MATCHLINE -L- STA. 132+50.00 SEE SHEET 13

NAD 83 / NSRS 2007

-L- POC Sta. 119+17.46 =
 -Y8- POT Sta. 10+00.00
 $\Delta = 86^{\circ} 9' 25"$

END CONSTRUCTION
 -Y8- POC Sta. 13+84.00
 -Y8- PT Sta. 14+10.86



Place Matting for Erosion Control on Slope as Work Allows.
 Sta. 122+00 to Sta. 123+00 -L- RT
 Sta. 130+50 to Sta. 132+00 -L- LT

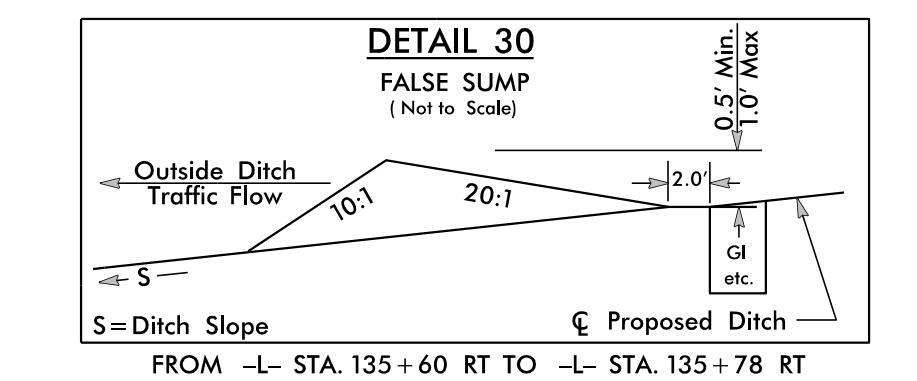
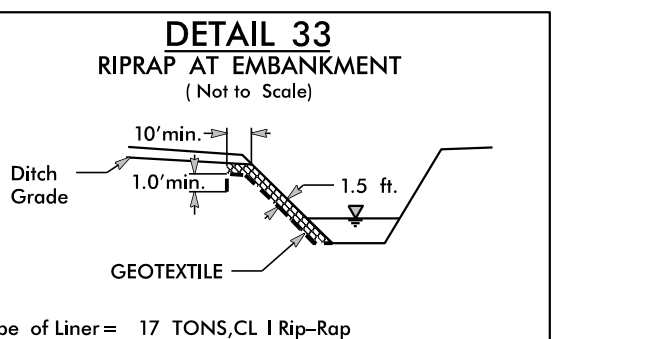
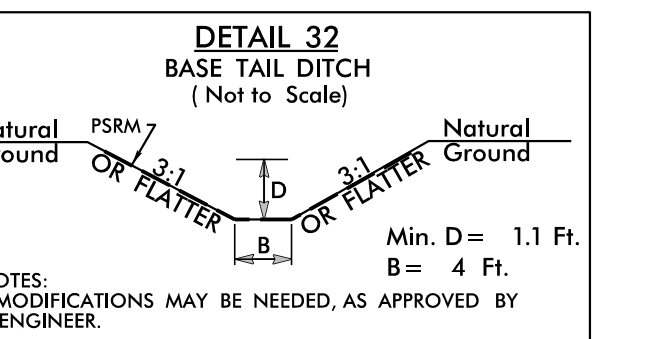
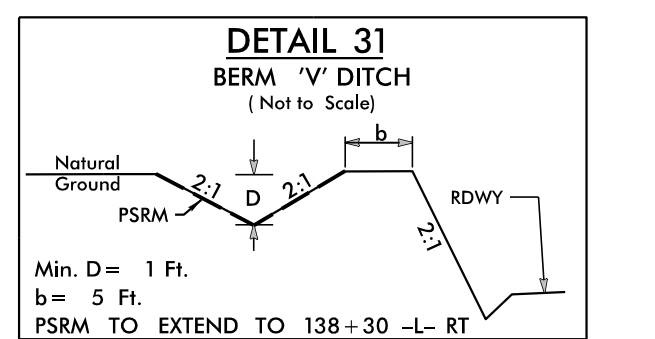
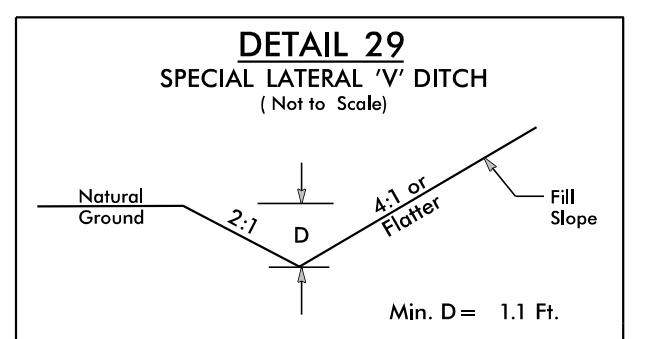
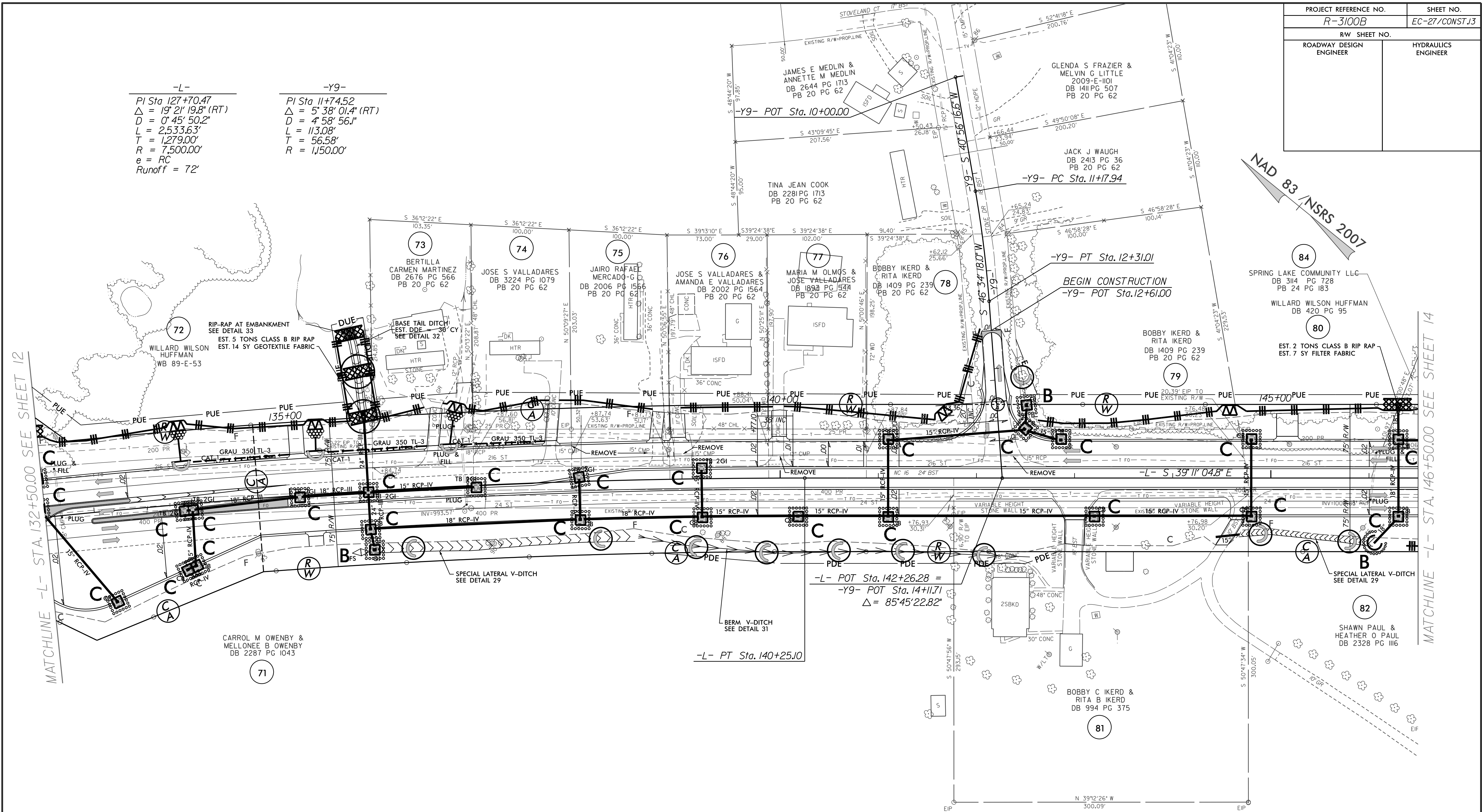
INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

FOR -L- PROFILE SEE SHEET 22
 FOR -Y8- PROFILE SEE SHEET 26

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-27/CONST J3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-
 PI Sta 127+70.47
 $\Delta = 19^{\circ} 21' 19.8''$ (RT)
 $D = 0' 45' 50.2''$
 $L = 2,533.63'$
 $T = 1,279.00'$
 $R = 7,500.00'$
 $e = RC$
 Runoff = 72'

-Y9-
 PI Sta 11+74.52
 $\Delta = 5^{\circ} 38' 01.4''$ (RT)
 $D = 4' 58' 56.1''$
 $L = 113.08'$
 $T = 56.58'$
 $R = 1,150.00'$



INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

Place Matting for Erosion Control on Slope as Work Allows. Sta. 134+00 to Sta. 138+00 -L- LT

FOR -L- PROFILE SEE SHEET 22
 FOR -Y9- PROFILE SEE SHEET 26

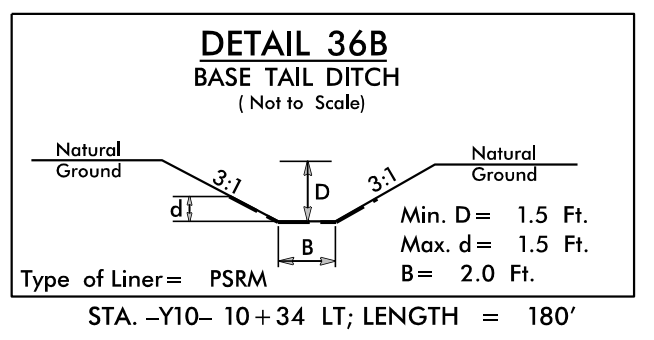
MATCHLINE -L- STA. 146+50.00 SEE SHEET 14

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-28/CONSTJ4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83 / NSRS 2007

MATCHLINE -Y10- STA. 11+70.00 SEE INSET
-BY11-91

-L-
PI Sta 165+32.27
 $\Delta = 21'06''08.2''$ (LT)
 $D = 0'52''53.3''$
 $L = 2,393.98'$
 $T = 1,210.71'$
 $R = 6,500.00'$
 $e = RC$
Runoff = 72'

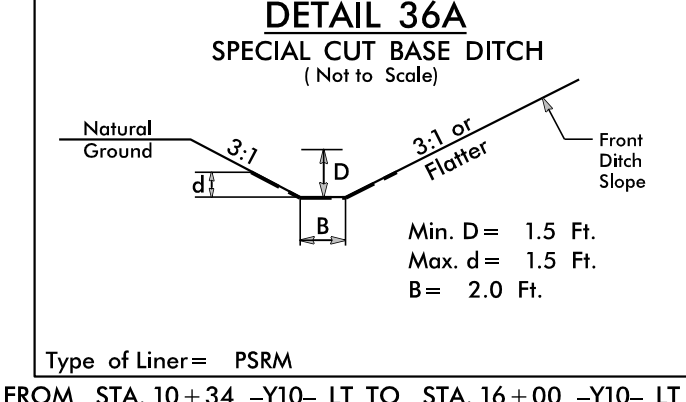
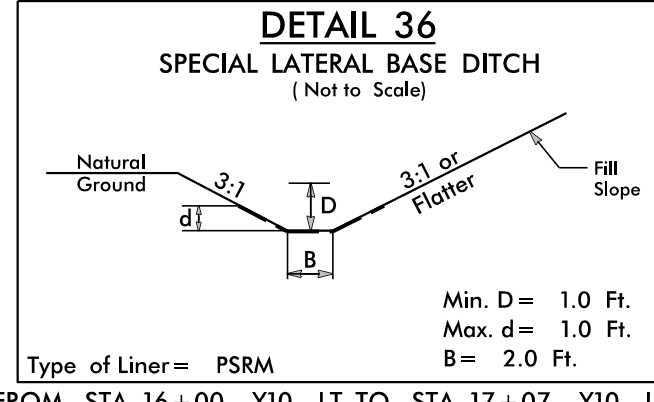
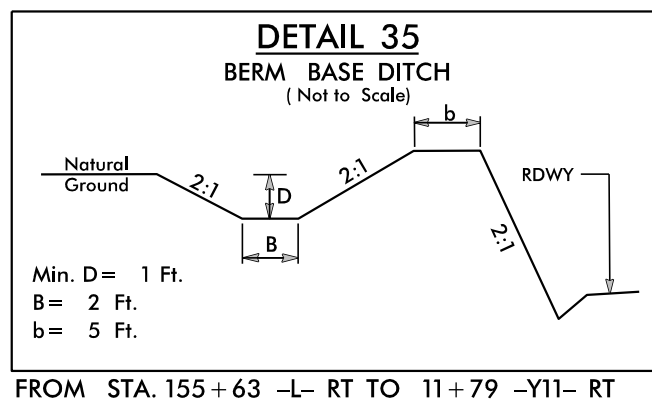
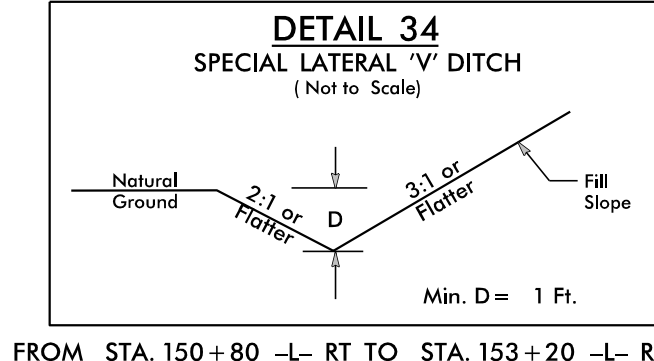


EST. 6 TONS CLASS I RIP RAP, EST. 10 SY GEOTEXTILE FABRIC
-Y10- POT Sta. 10+00.00

MATCHLINE -L- STA. 146+50.00 SEE SHEET 13

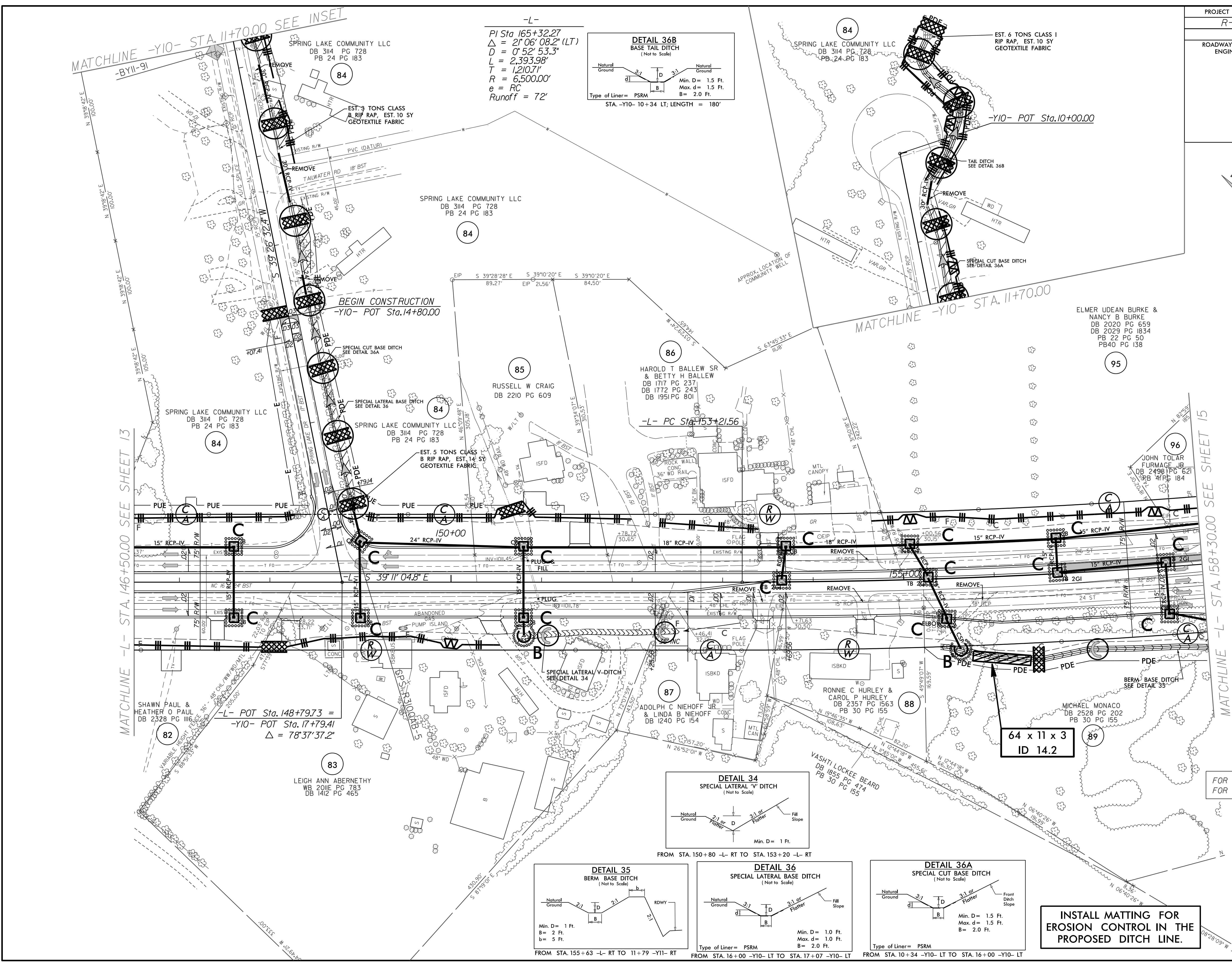
MATCHLINE -L- STA. 158+30.00 SEE SHEET 15

-L- POT Sta. 148+79.73 =
-Y10- POT Sta. 17+79.41
 $\Delta = 78'37''37.2''$



INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

FOR -L- PROFILE SEE SHEET 23
FOR -Y10- PROFILE SEE SHEET 26



64 x 11 x 3
ID 14.2

ELMER UDEAN BURKE &
NANCY B BURKE
DB 2020 PG 659
DB 2029 PG 1834
PB 22 PG 50
PB40 PG 138

JOHN TOLAR
FURMAGE JR
DB 2498 PG 621
PB 41 PG 184

RONNIE C HURLEY &
CAROL P HURLEY
DB 2357 PG 1563
PB 30 PG 155

ADOLPH C NIEHOFF JR
& LINDA B NIEHOFF
DB 1240 PG 154

LEIGH ANN ABERNETHY
WB 2011 PG 783
DB 1412 PG 465

RUSSELL W CRAIG
DB 2210 PG 609

HAROLD T BALLEW SR
& BETTY H BALLEW
DB 1717 PG 237
DB 1772 PG 243
DB 1951 PG 801

SPRING LAKE COMMUNITY LLC
DB 3114 PG 728
PB 24 PG 183

SPRING LAKE COMMUNITY LLC
DB 3114 PG 728
PB 24 PG 183

SPRING LAKE COMMUNITY LLC
DB 3114 PG 728
PB 24 PG 183

SHAWN PAUL &
HEATHER O PAUL
DB 2328 PG 116

SPRING LAKE COMMUNITY LLC
DB 3114 PG 728
PB 24 PG 183

SPRING LAKE COMMUNITY LLC
DB 3114 PG 728
PB 24 PG 183

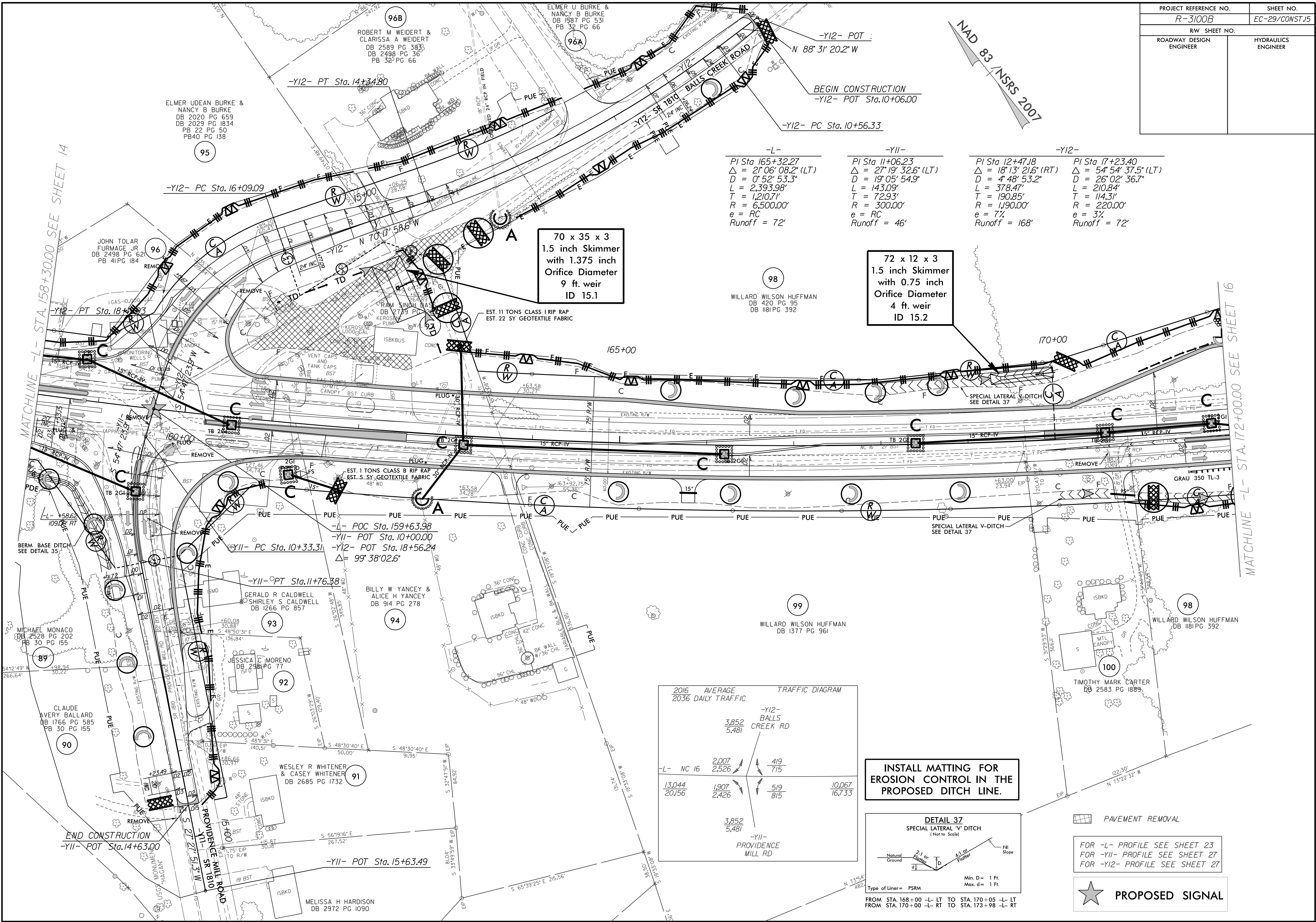
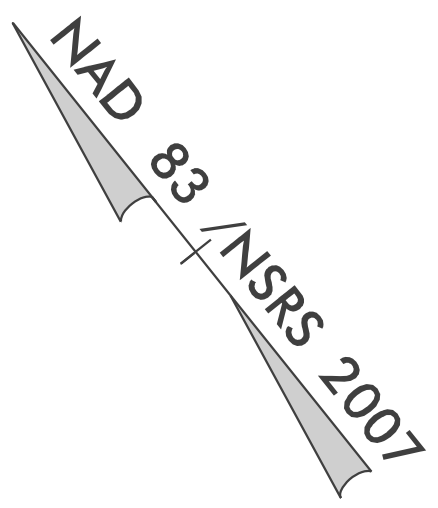
EST. 3 TONS CLASS
B RIP RAP, EST. 10 SY
GEOTEXTILE FABRIC

BEGIN CONSTRUCTION
-Y10- POT Sta. 14+80.00

MATCHLINE -Y10- STA. 11+70.00

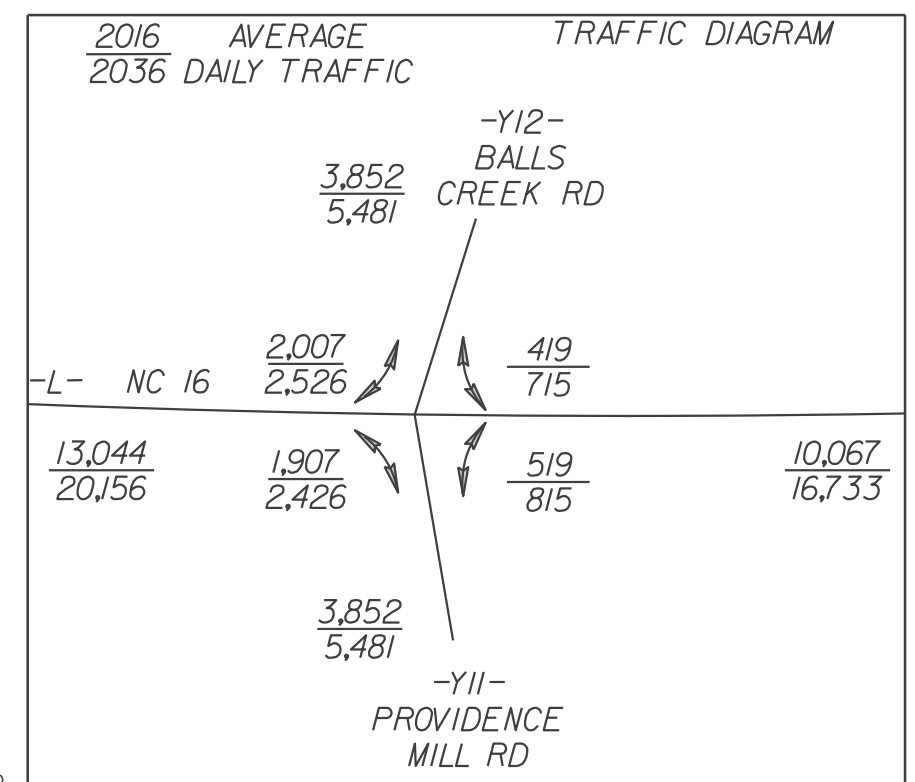
-L- PC Sta. 153+21.56

64 x 11 x 3
ID 14.2

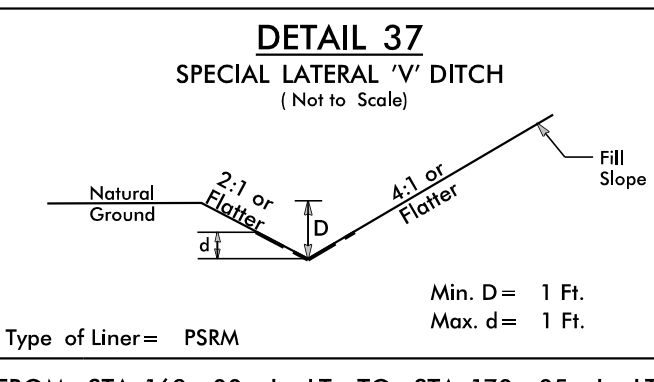


70 x 35 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
9 ft. weir
ID 15.1

72 x 12 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 15.2



INSTALL MATTING FOR
EROSION CONTROL IN THE
PROPOSED DITCH LINE.



PAVEMENT REMOVAL

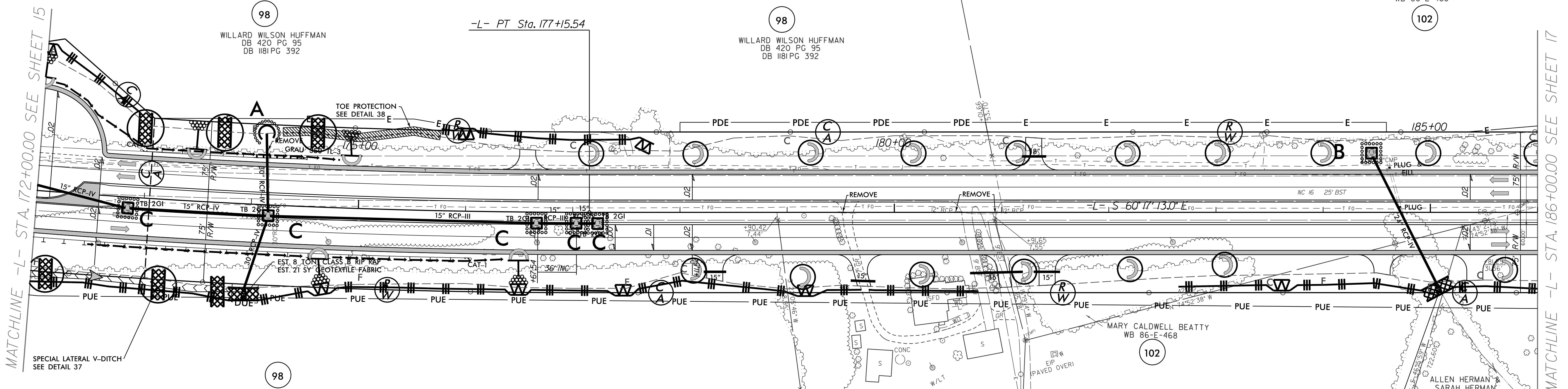
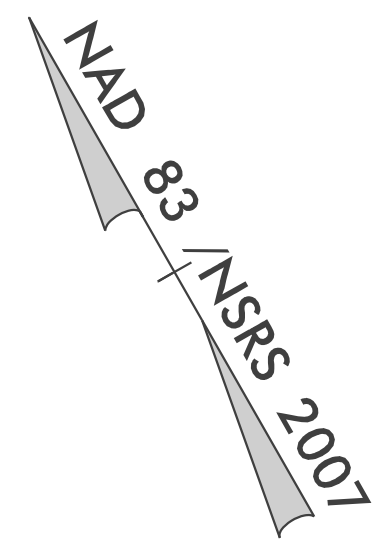
FOR -L- PROFILE SEE SHEET 23
FOR -Y11- PROFILE SEE SHEET 27
FOR -Y12- PROFILE SEE SHEET 27



FROM STA. 168+00 -L- LT TO STA. 170+05 -L- LT
FROM STA. 170+00 -L- RT TO STA. 173+98 -L- RT

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-30/CONSTJ6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-
 PI Sta 165+32.27
 $\Delta = 21'06''08.2''$ (LT)
 $D = 0'52''53.3''$
 $L = 2,393.98'$
 $T = 1,210.71'$
 $R = 6,500.00'$
 $e = RC$
 Runoff = 72'



MATCHLINE -L- STA. 172+00.00 SEE SHEET 15

MATCHLINE -L- STA. 186+00.00 SEE SHEET 17

98
 WILLARD WILSON HUFFMAN
 DB 420 PG 95
 DB 1181 PG 392

98
 WILLARD WILSON HUFFMAN
 DB 420 PG 95
 DB 1181 PG 392

MARY CALDWELL BEATTY
 WB 86-E-468

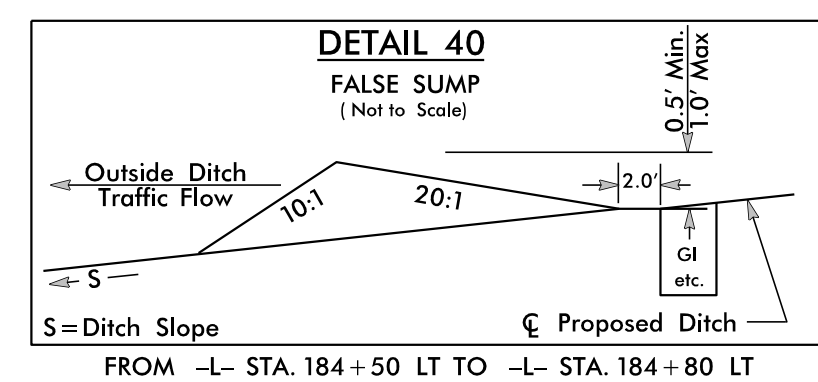
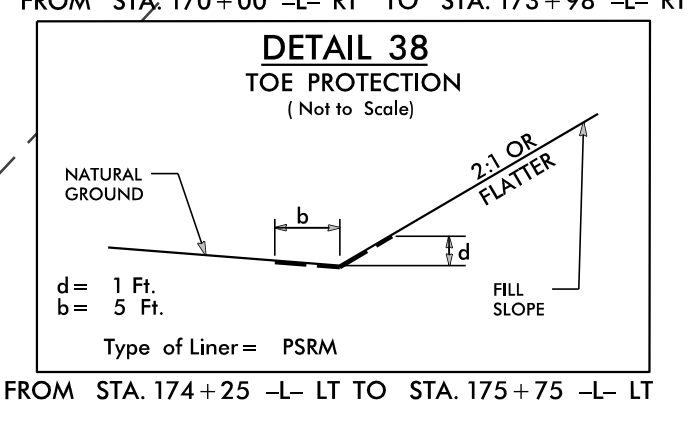
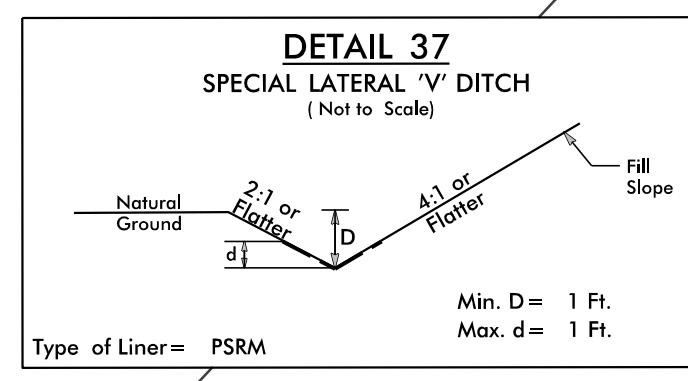
102

98
 WILLARD WILSON HUFFMAN
 DB 1181 PG 392

101
 COYTE L PUNCH &
 NANCY PUNCH
 DB 367 PG 420
 DB 369 PG 98
 DB 2013 PG 1759
 DB 2028 PG 427

101A
 ROGER ALAN MCCASLIN
 & LISA MCCASLIN
 DB 3027 PG 536
 DB 2975 PG 142
 PB 36 PG 98

ALLEN HERMAN &
 SARAH HERMAN
 DB 1913 PG 708
 PB 36 PG 98

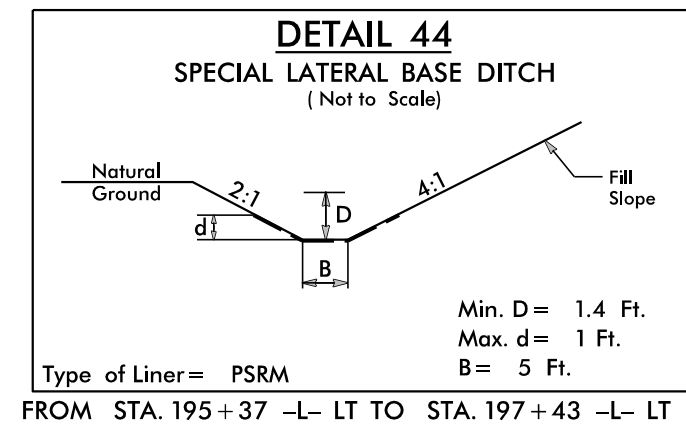
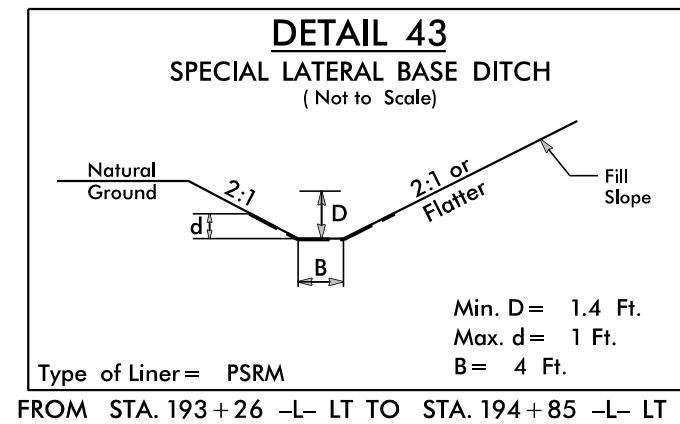
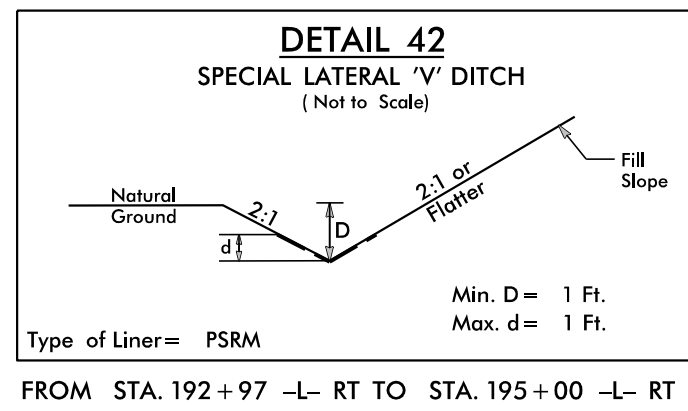
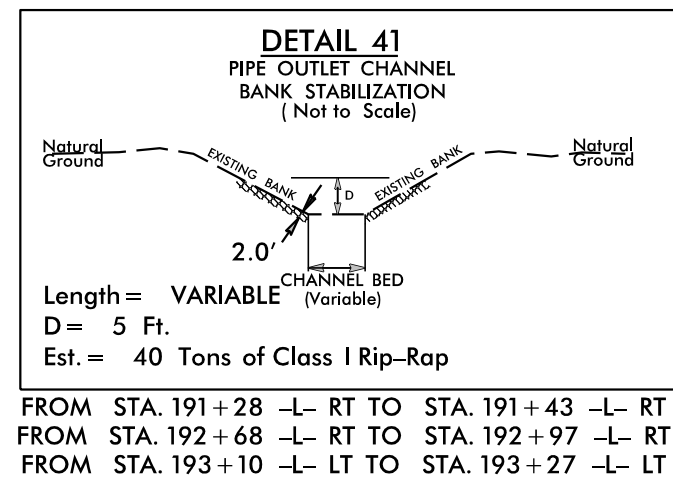


**INSTALL MATTING FOR
 EROSION CONTROL IN THE
 PROPOSED DITCH LINE.**

**Place Matting for Erosion Control
 on Slope as Work Allows.
 Sta. 172+50 to Sta. 174+00 -L- LT
 Sta. 172+50 to Sta. 176+50 -L- RT**

FOR -L- PROFILE SEE SHEET 24

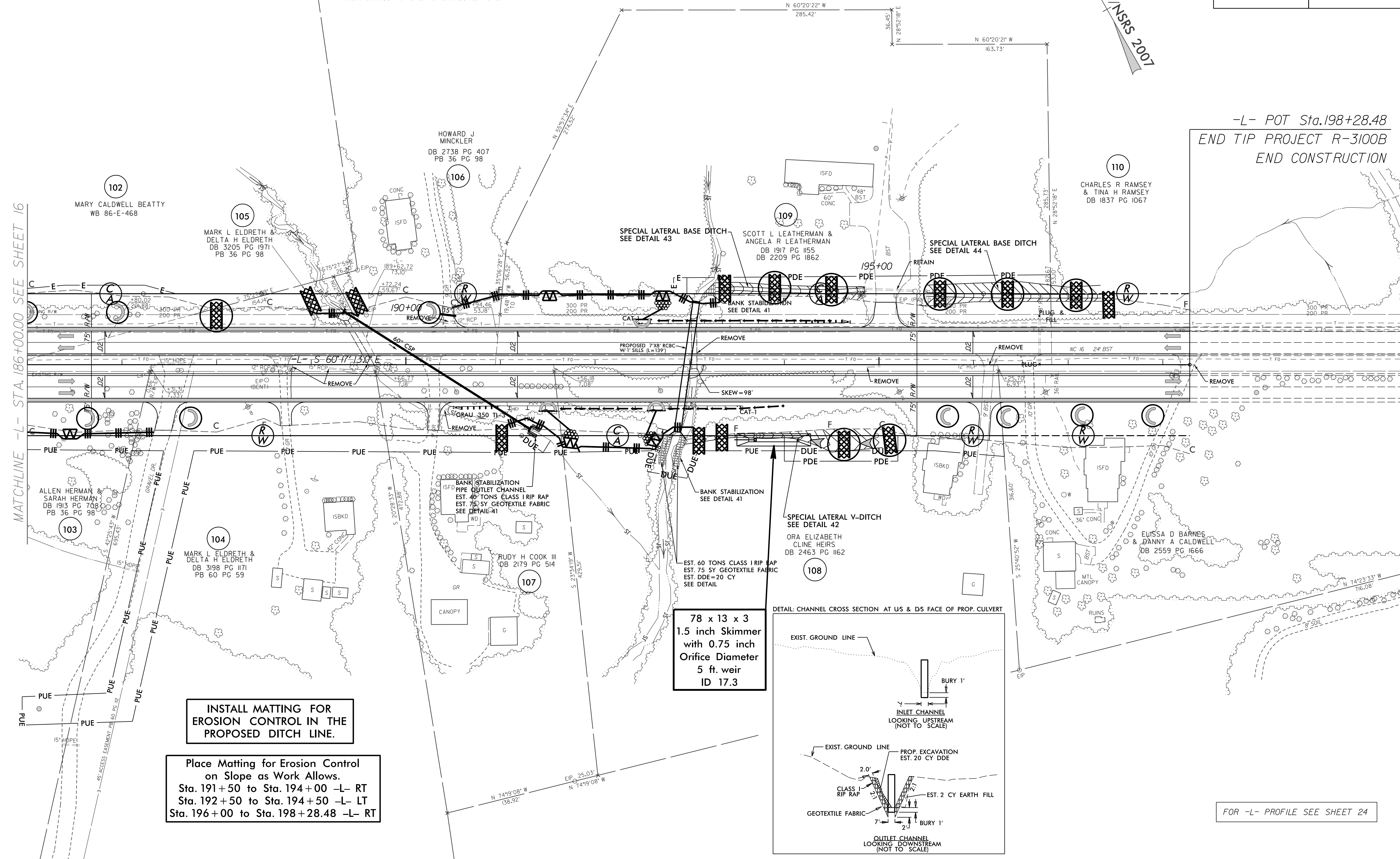
PROJECT REFERENCE NO. R-3100B	SHEET NO. EC-31/CONST.17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NAD 83 / NSRS 2007

MATCHLINE -L- STA. 186+00.00 SEE SHEET 16

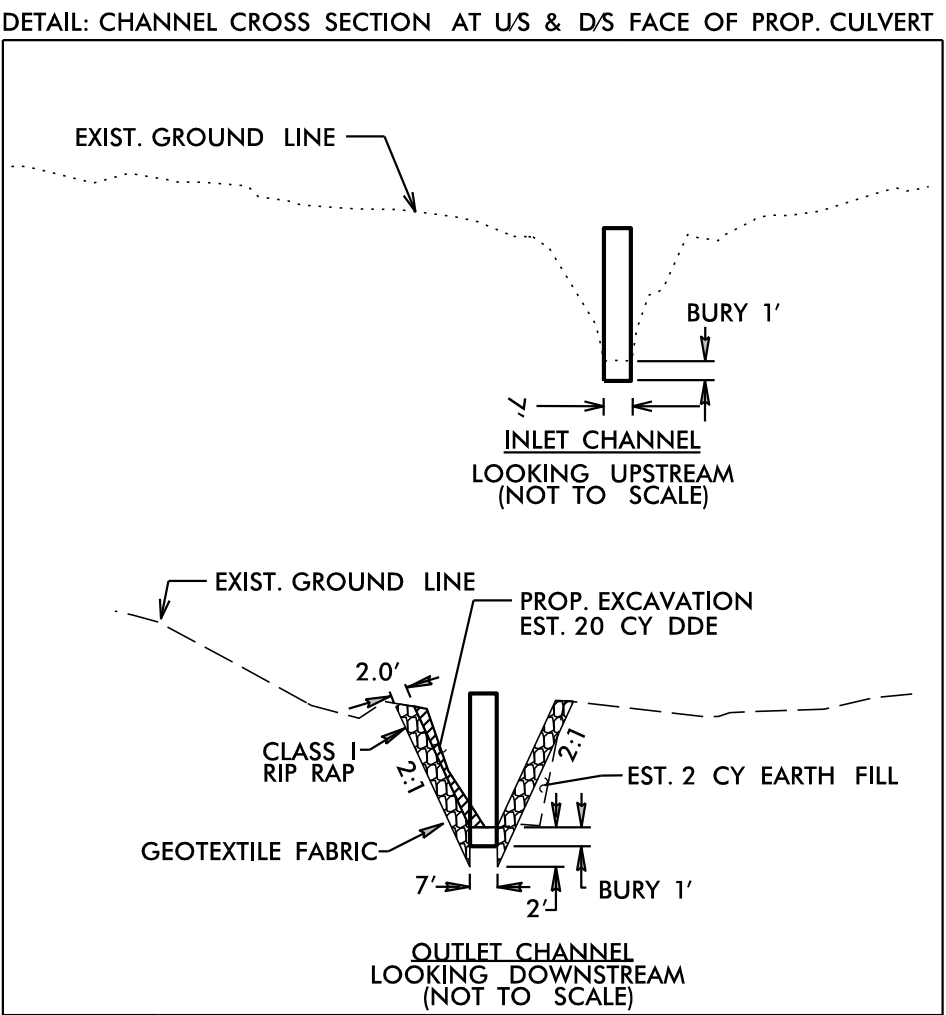
-L- POT Sta. 198+28.48
END TIP PROJECT R-3100B
END CONSTRUCTION



INSTALL MATTING FOR EROSION CONTROL IN THE PROPOSED DITCH LINE.

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 191+50 to Sta. 194+00 -L- RT
Sta. 192+50 to Sta. 194+50 -L- LT
Sta. 196+00 to Sta. 198+28.48 -L- RT

78 x 13 x 3
1.5 inch Skimmer
with 0.75 inch Orifice Diameter
5 ft. weir
ID 17.3



FOR -L- PROFILE SEE SHEET 24