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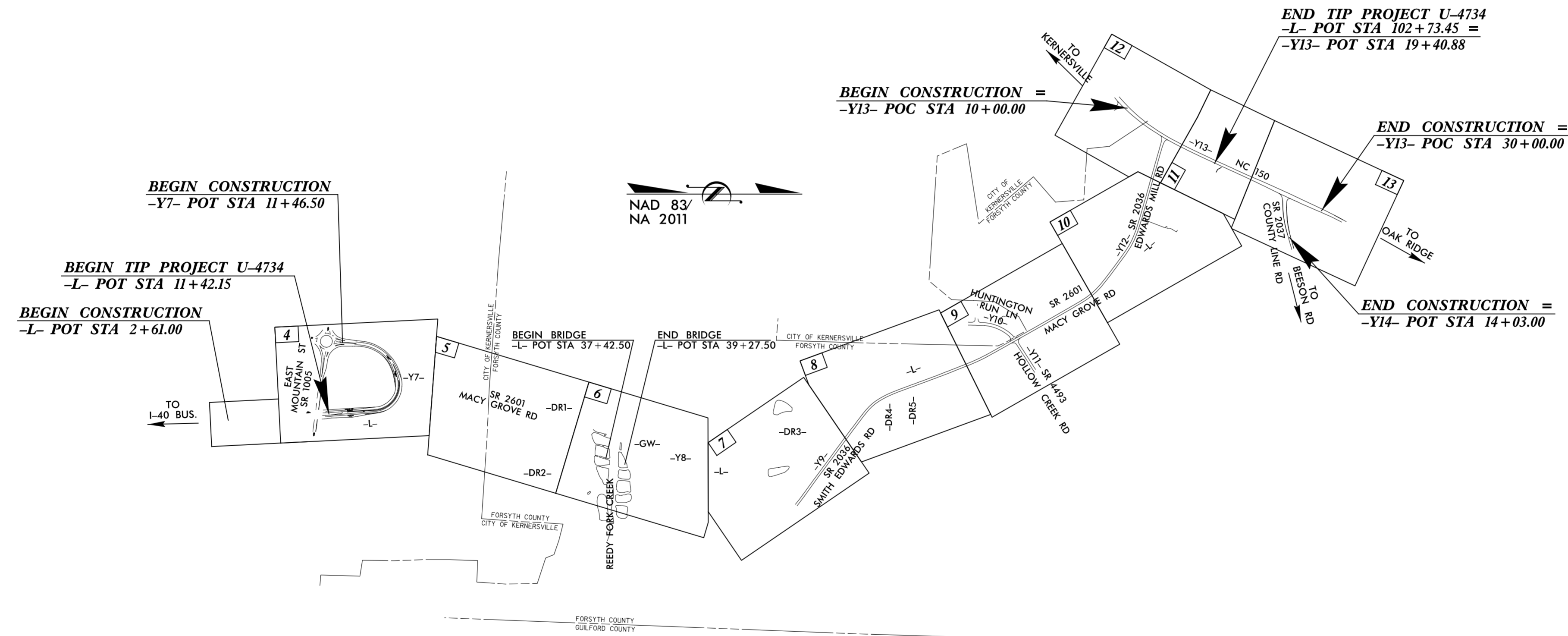
TIP PROJECT: U-4734

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

FORSYTH COUNTY

**LOCATION: KERNERSVILLE - SR 2601 (MACY GROVE RD)
EXTENSION FROM NORTH OF SR 1005
(EAST MOUNTAIN ST) TO NC 150 (NORTH MAIN ST)
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURES**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4734	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	△△△△△
1622.01	Temporary Berms and Slope Drains	→
1630.02	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	→
	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.**

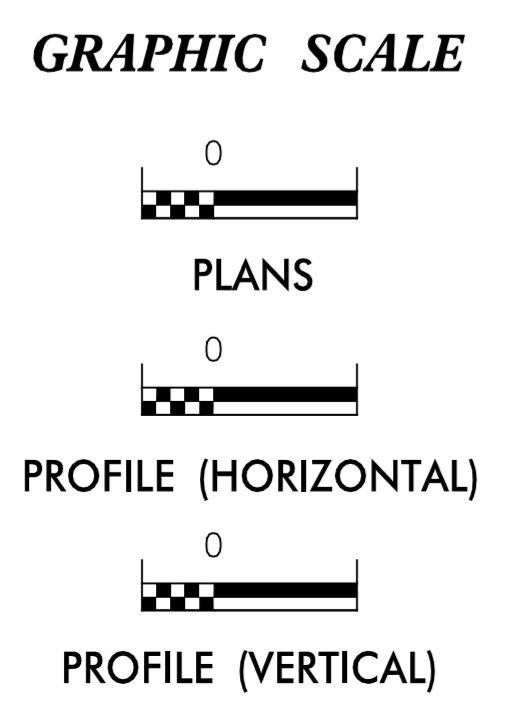
**THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.**

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

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

**303(d) IMPAIRED WATER(S) EXIST
ON THIS PROJECT**

303(d) Impaired Water Zone(s) Exist
From Sta. _____
to Sta. _____
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 1, 2016 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared In the Office of:
ICA
555 FAYETTEVILLE ST, SUITE 900
RALEIGH NC 27601
NC License No. F-0258

Designed by:
ALEXANDER D. SNIDER, P.E. 3064
NAME LEVEL III CERTIFICATION NO.

Reviewed In the Office of:
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2018 STANDARD SPECIFICATIONS

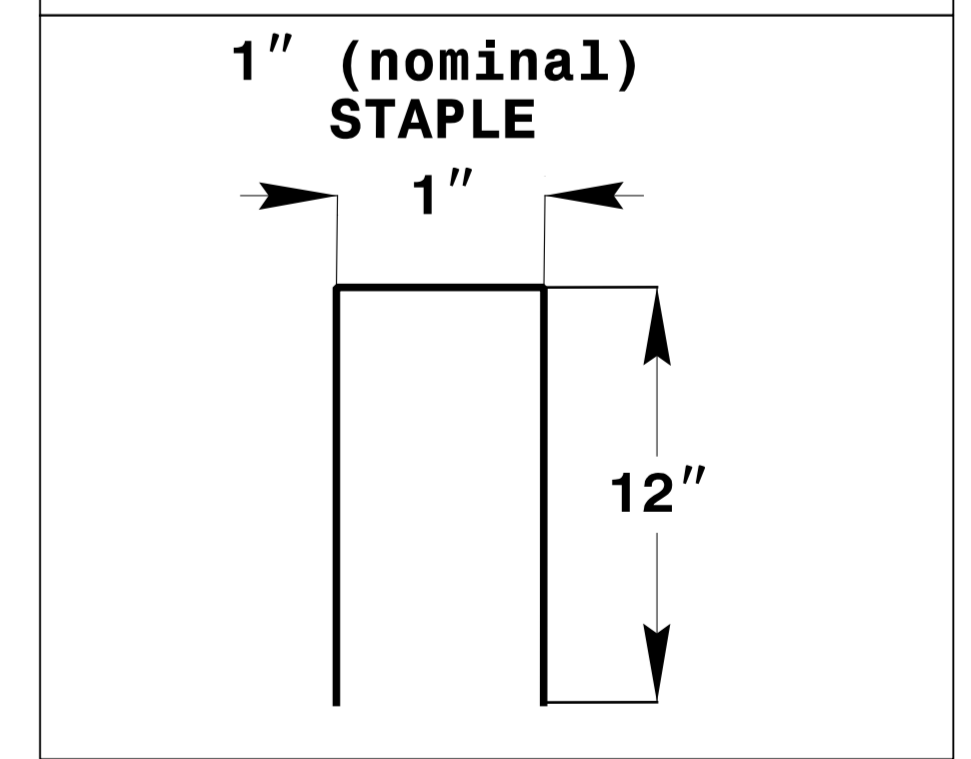
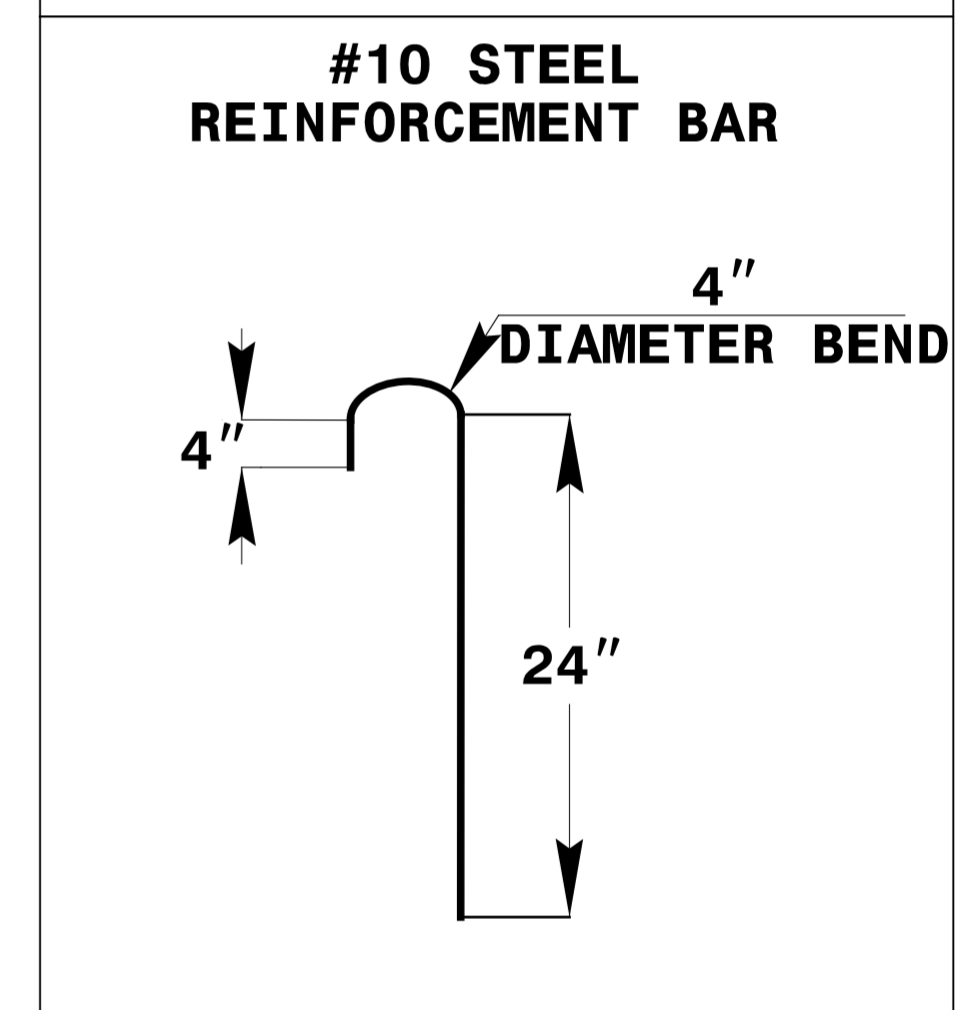
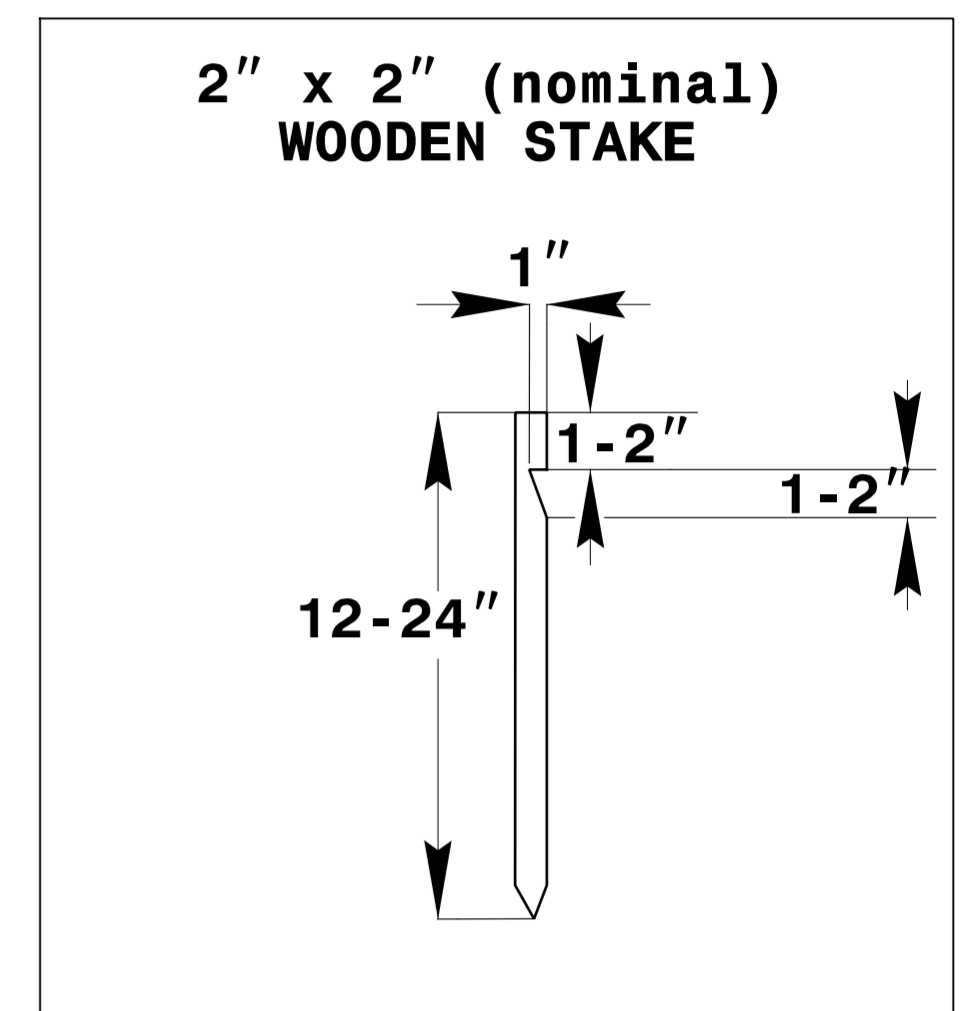
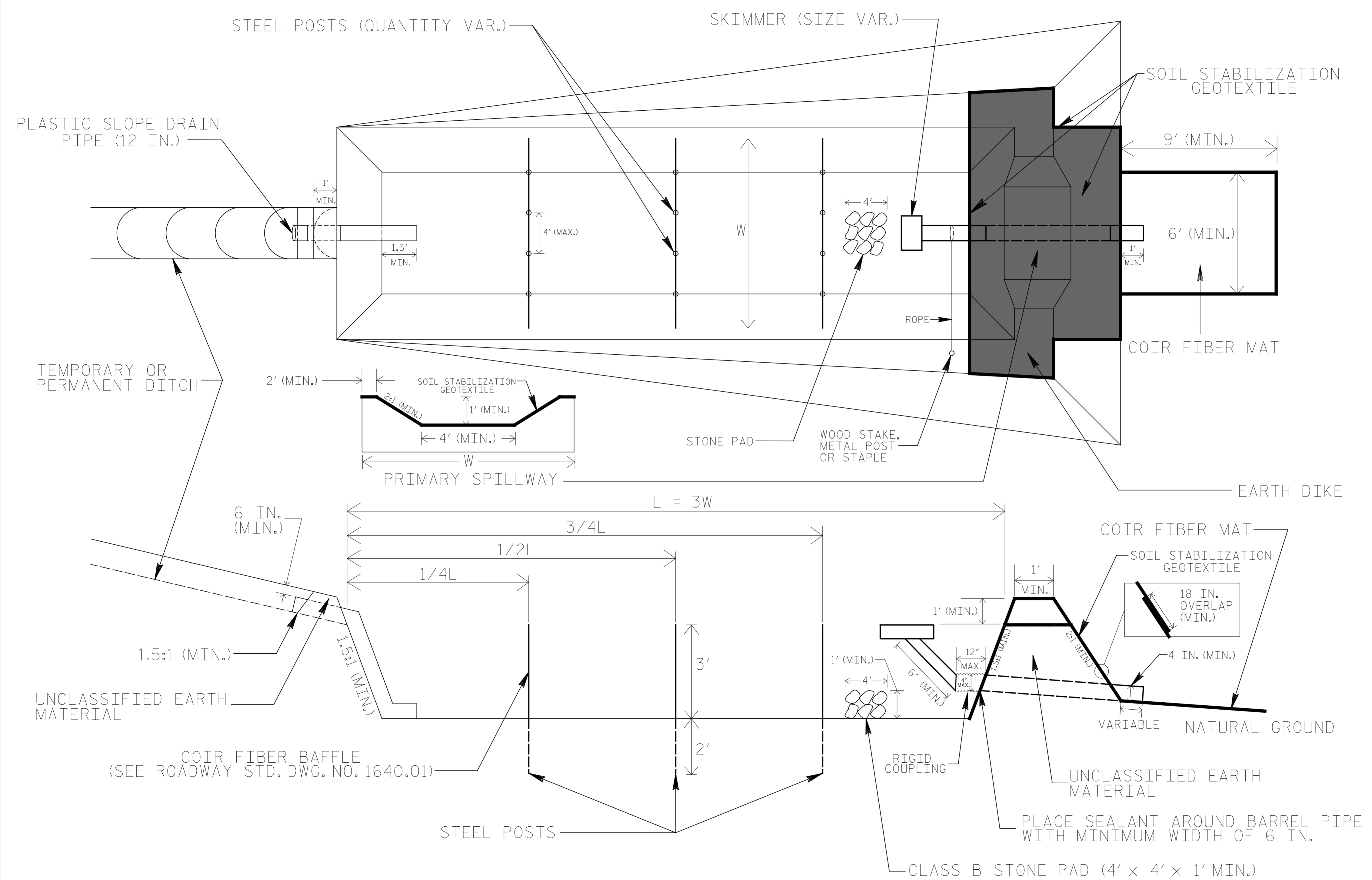
Reviewed by:
JEREMY GOODWIN, PE

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 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	

SKIMMER BASIN WITH BAFFLES DETAIL



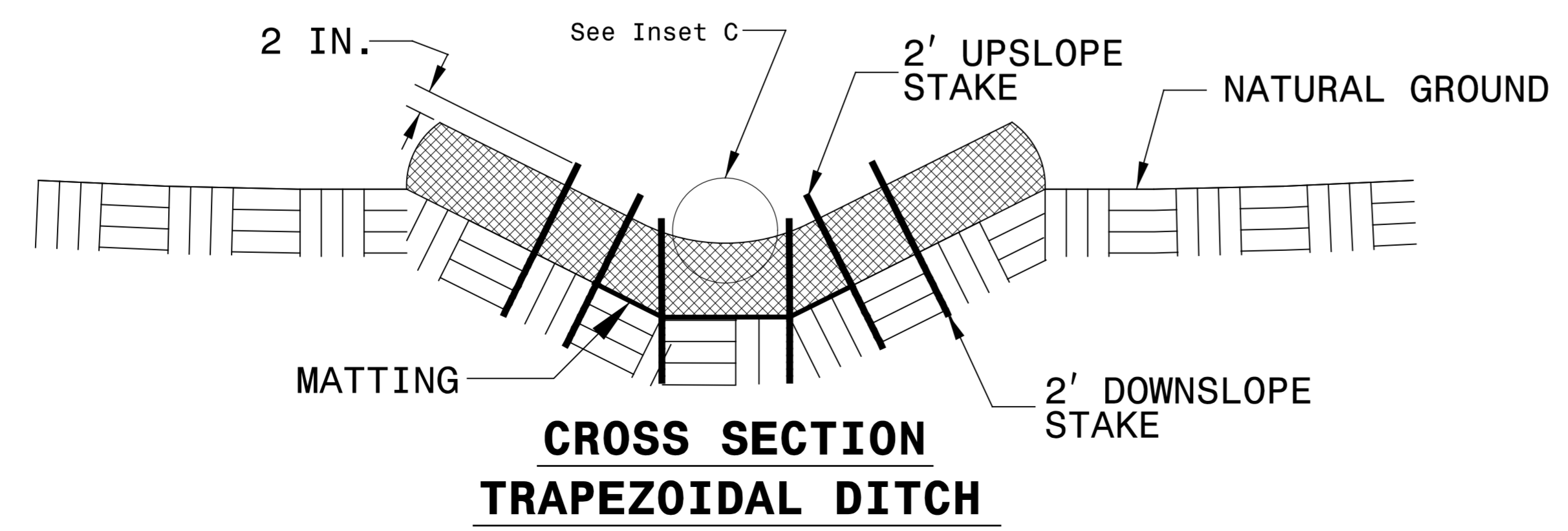
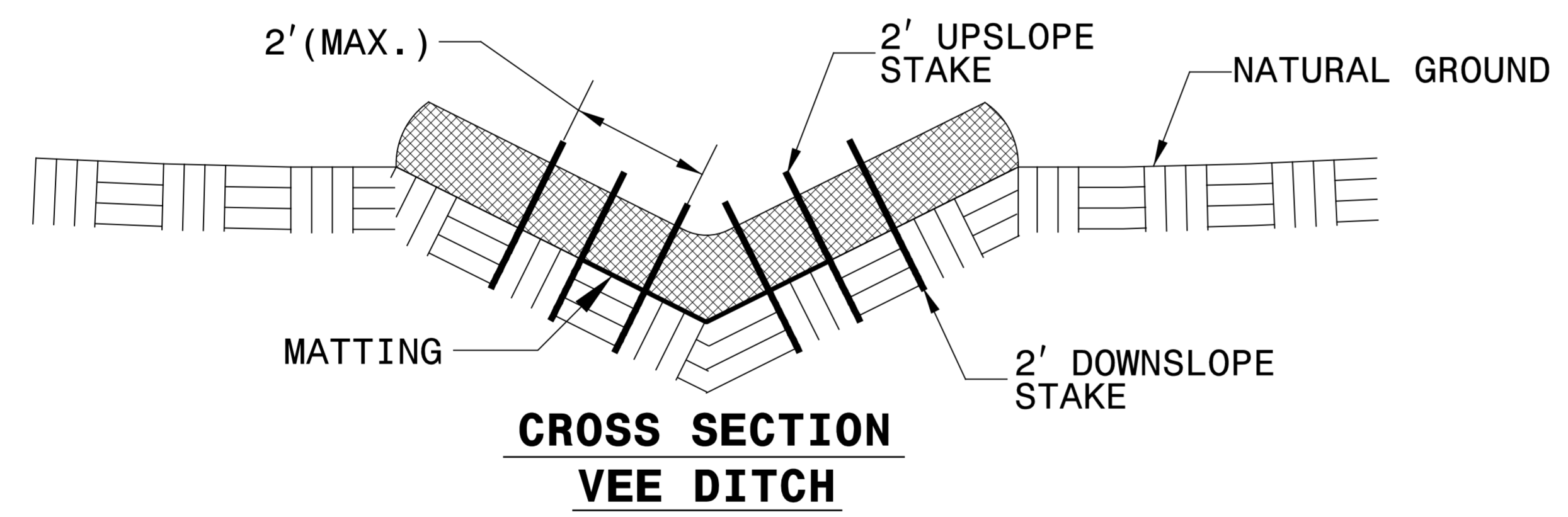
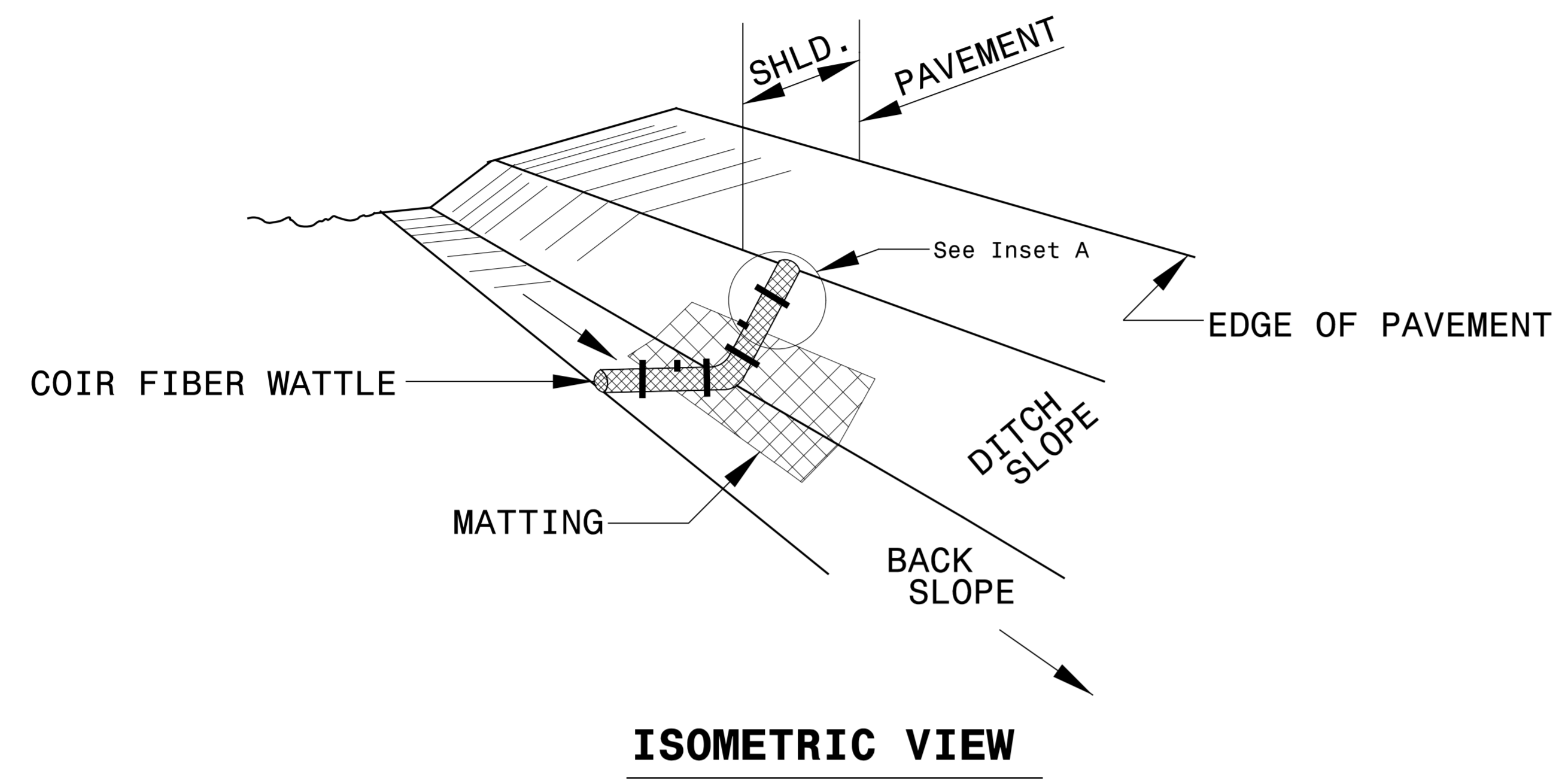
COIR FIBER MAT ANCHOR OPTIONS

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.).

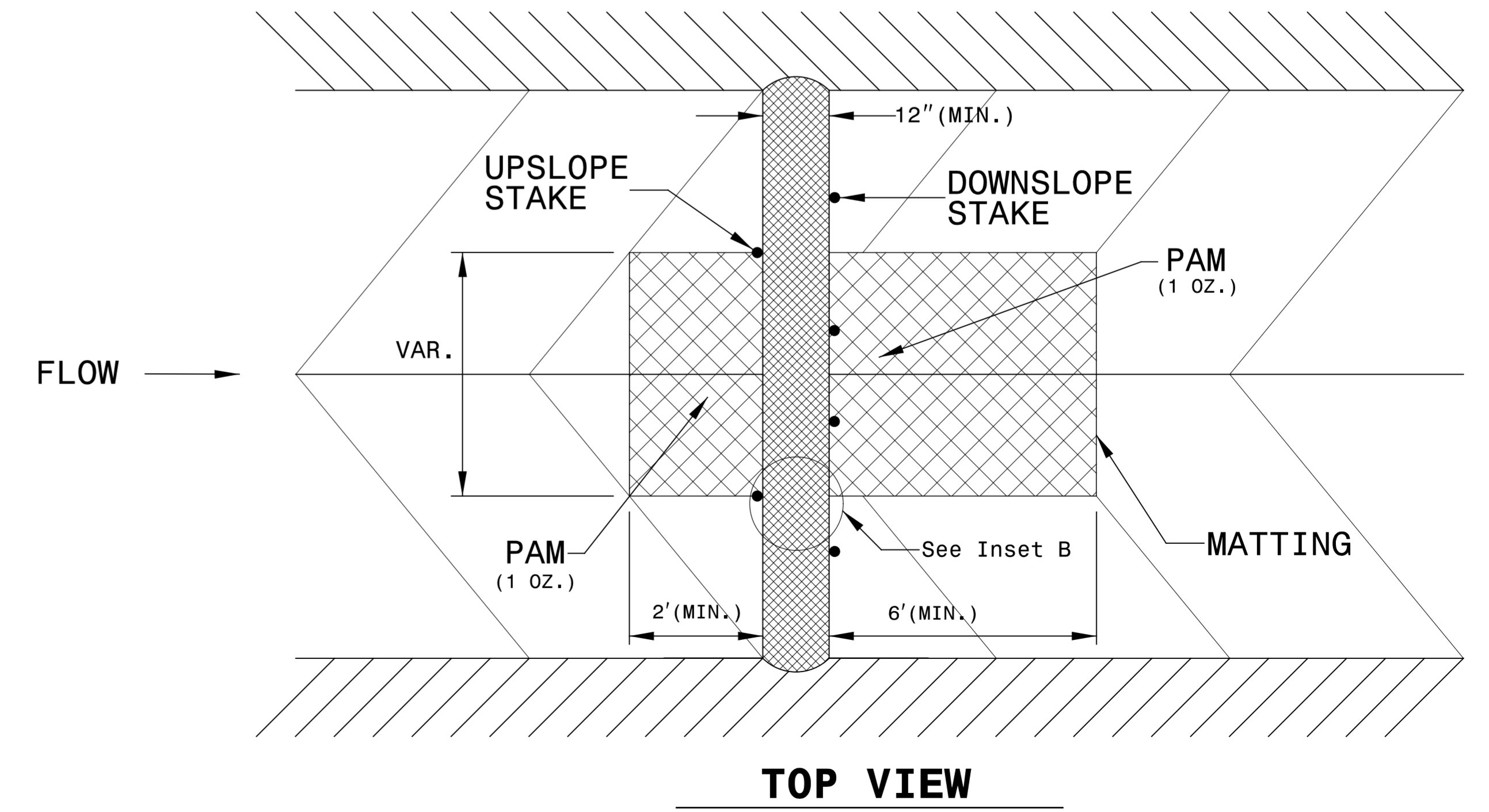
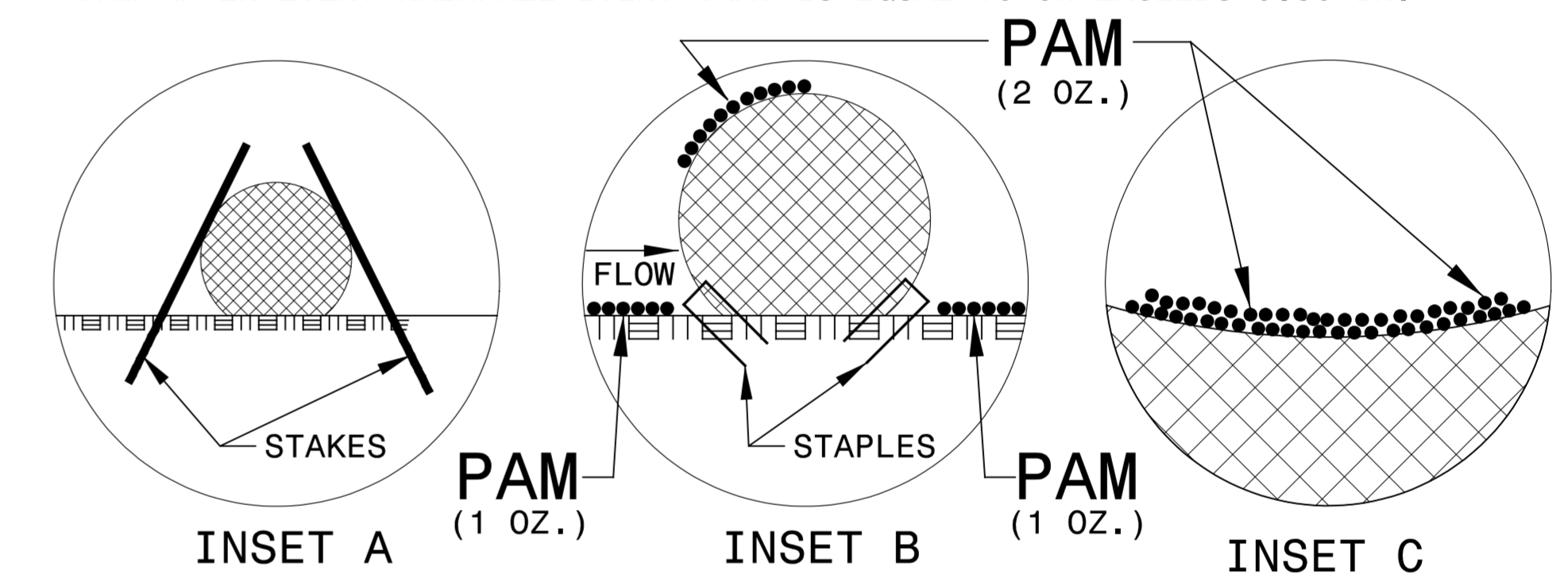
NOT TO SCALE

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

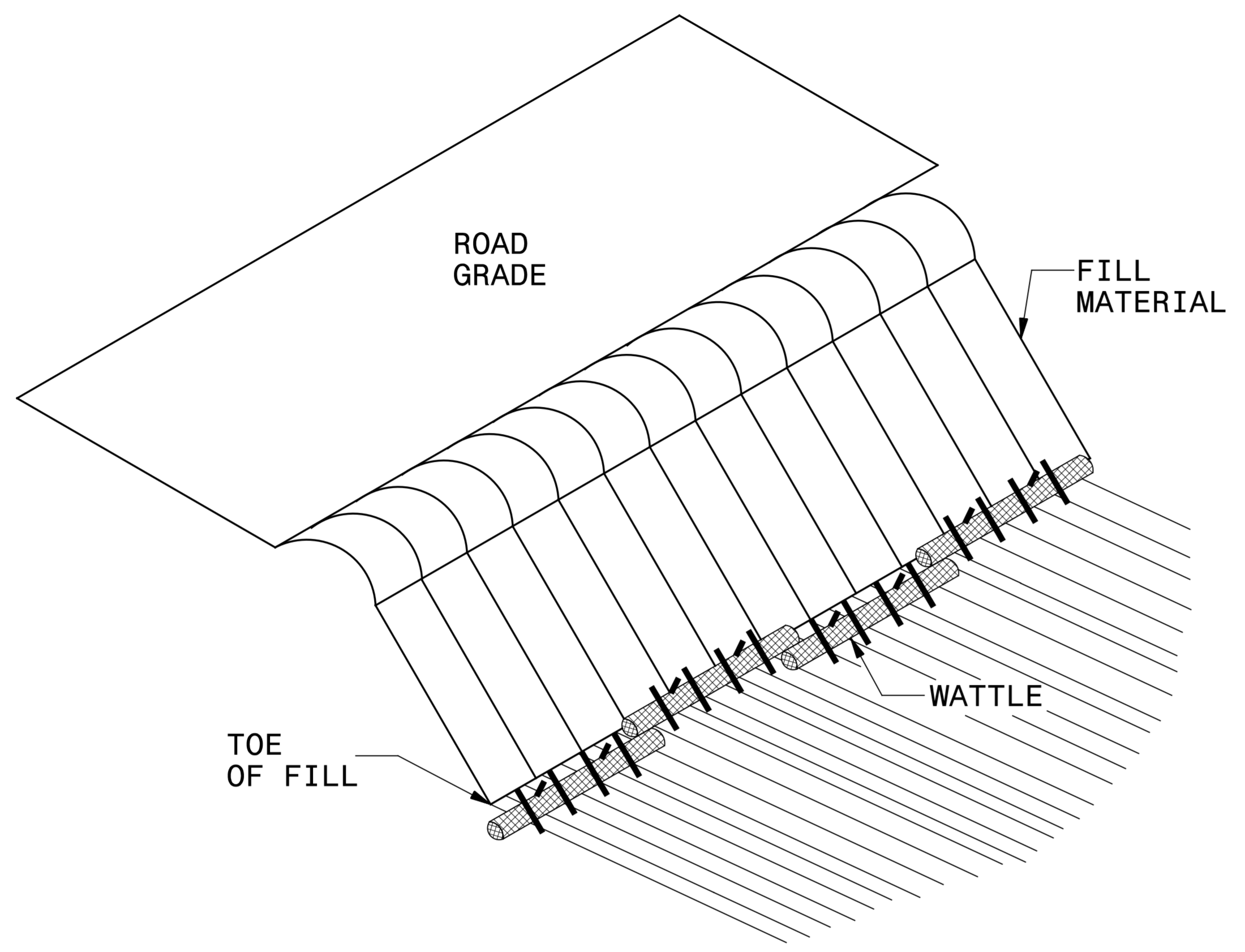


NOTES:

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



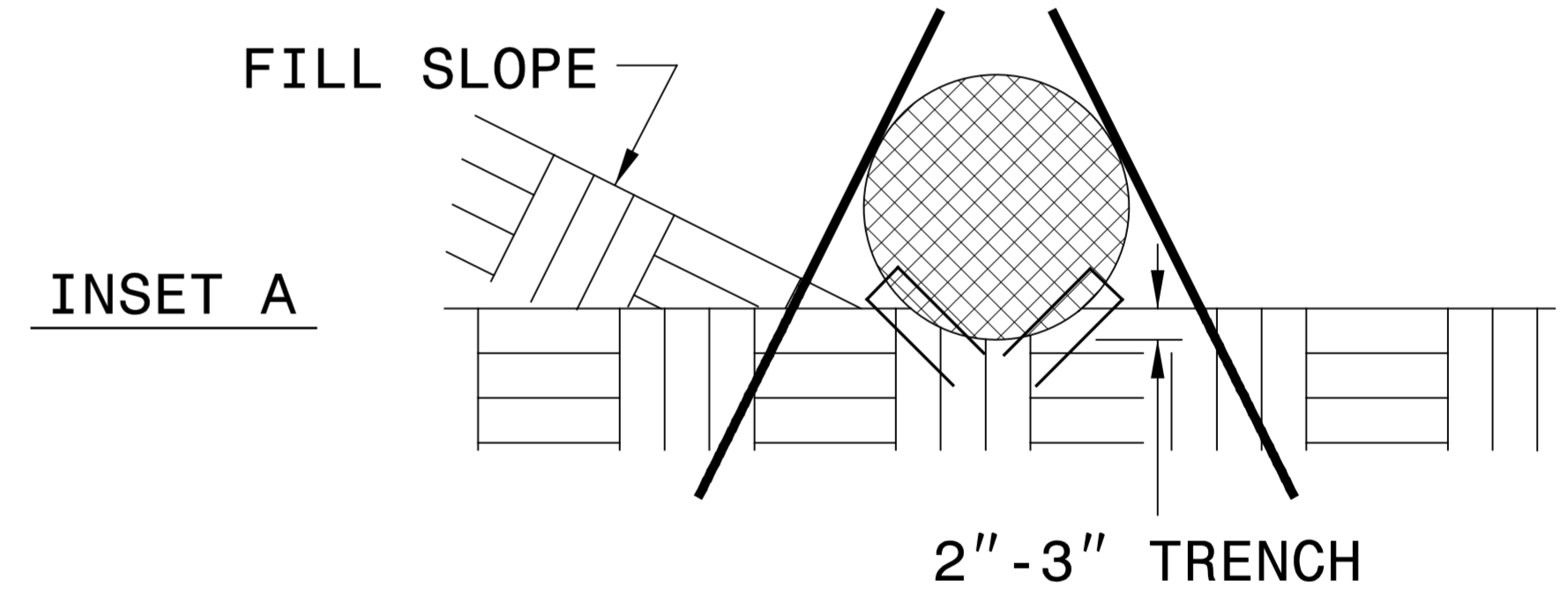
WATTLE BARRIER DETAIL



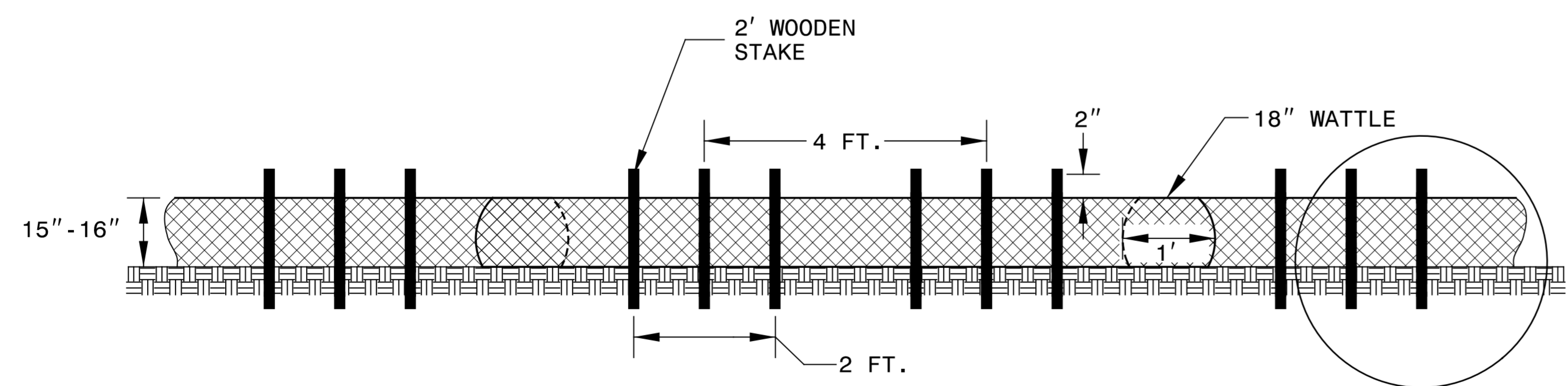
ISOMETRIC VIEW

NOTES:

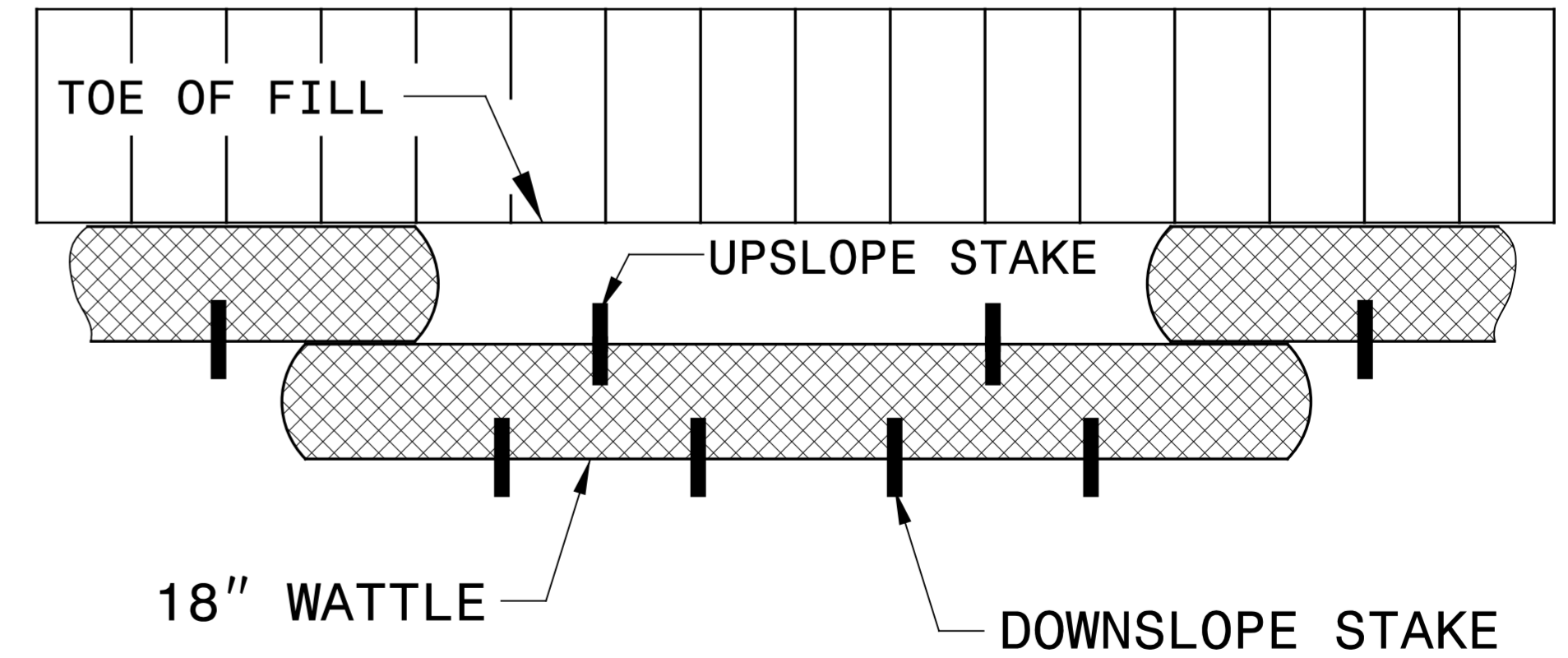
- USE MINIMUM 18 IN. NOMINAL DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLES ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES 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.
- FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 25 FT.



INSET A



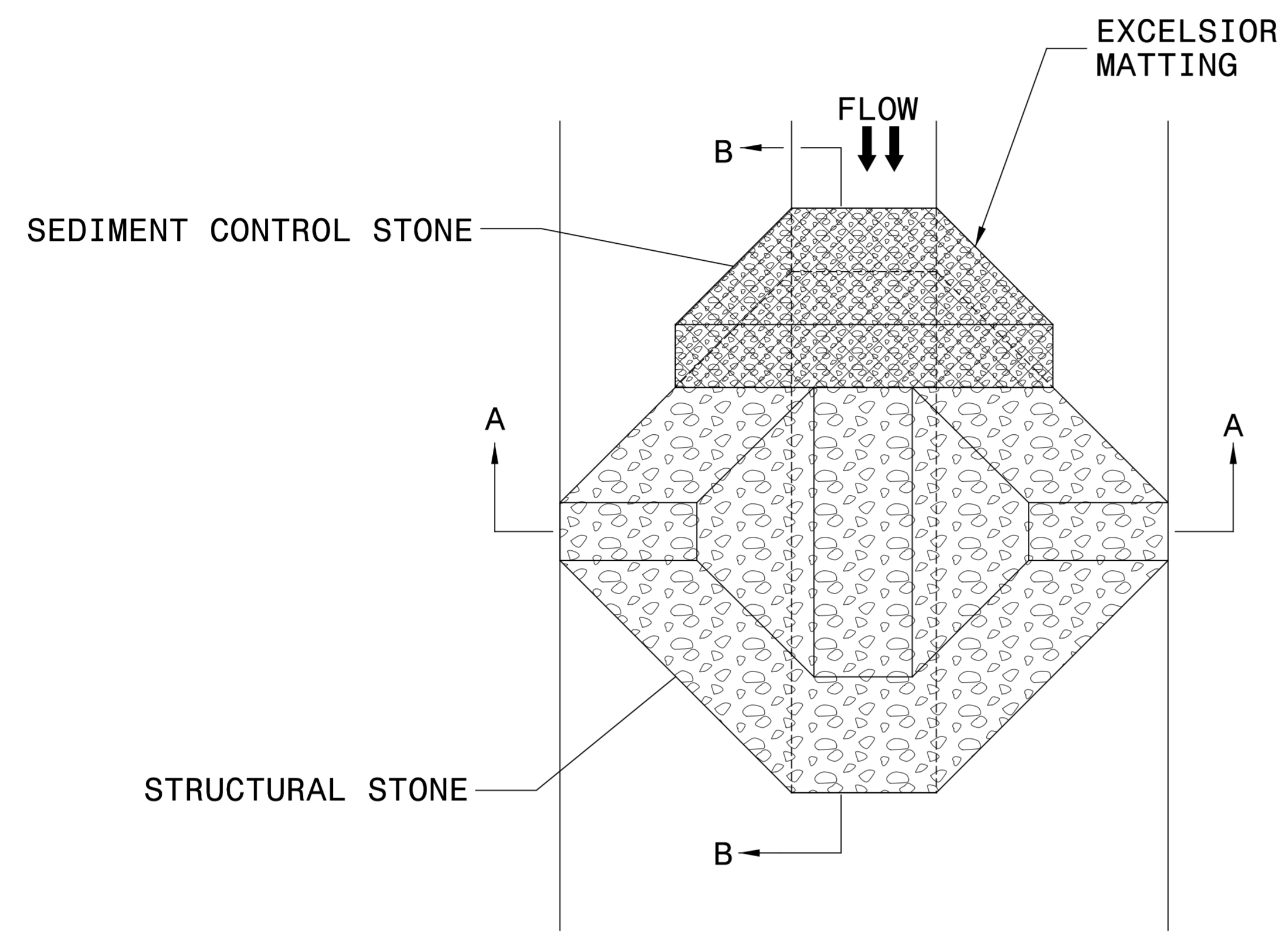
FRONT VIEW



TOP VIEW

SEE INSET A

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



PLAN

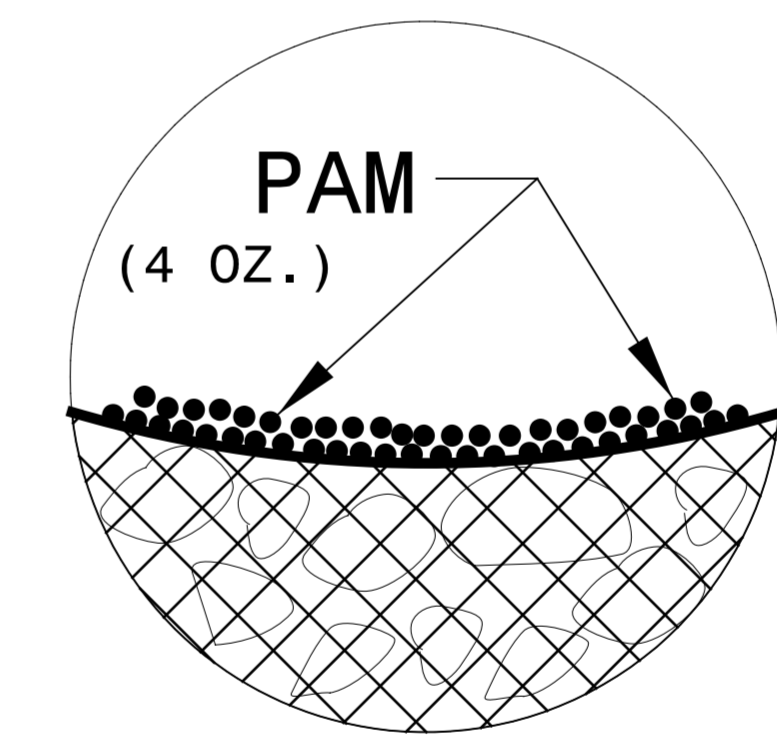
NOTES:

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

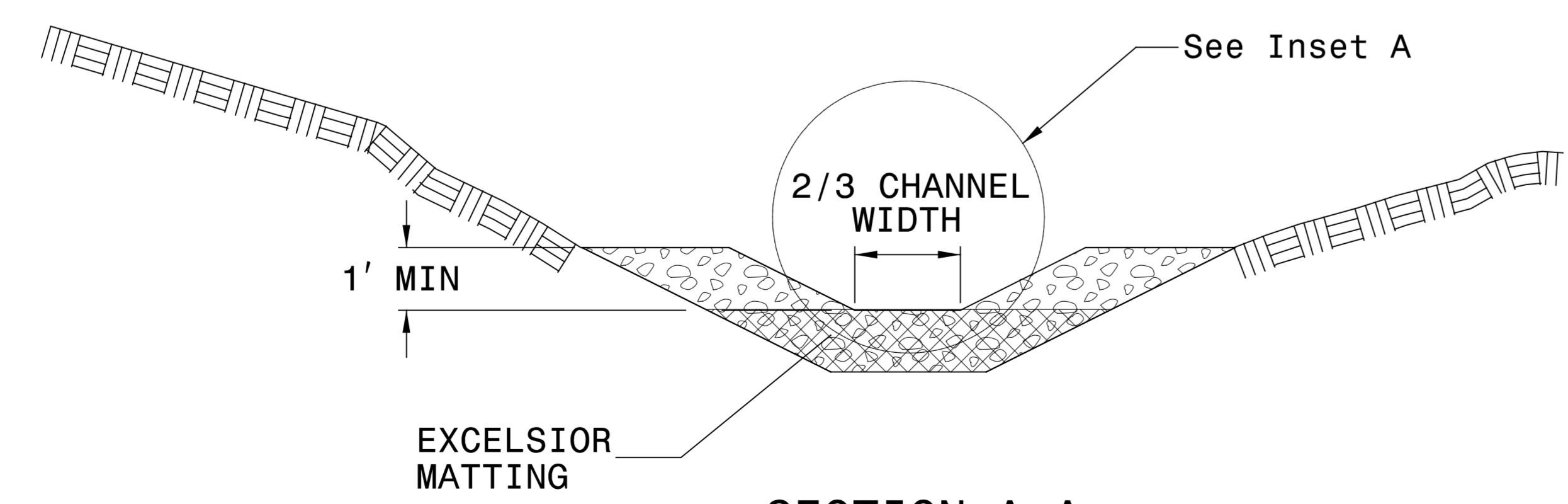
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

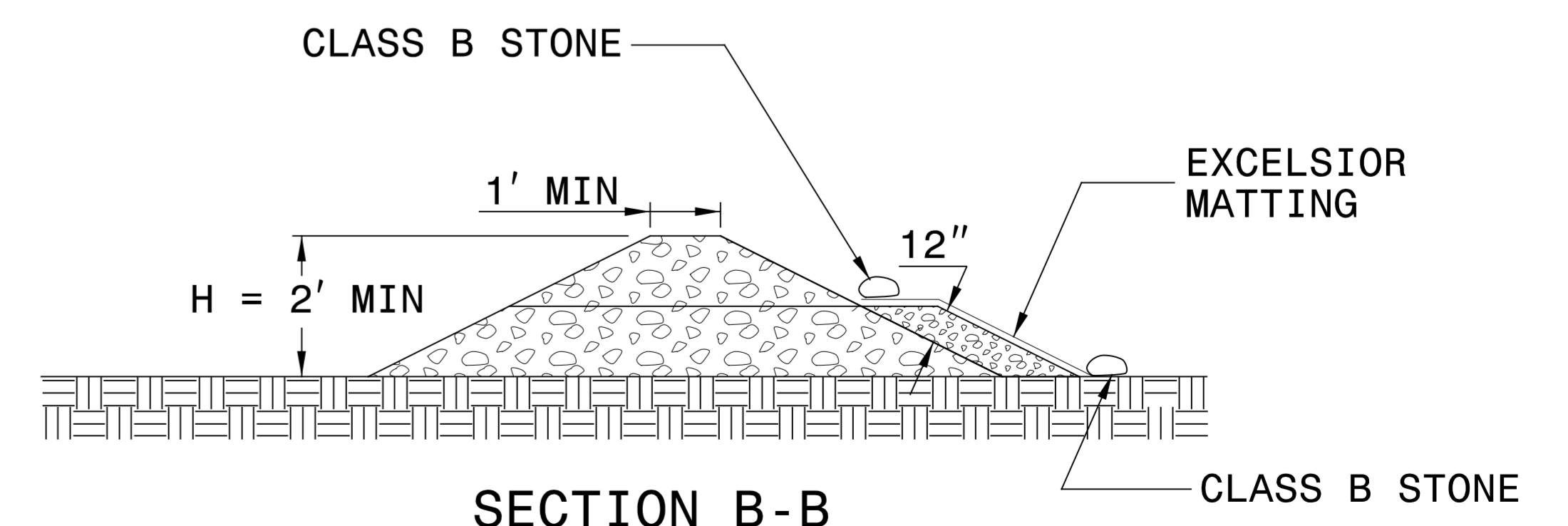
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
U-4734	EC-3
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ALEXANDER D. SNIDER, PE CERTIFICATION NUMBER: 3064 ISSUED: NOVEMBER 29, 2017	

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-Y7-	18+30	18+39	LT	55
6	-L-	43+86	46+08	LT	105
7	-Y9-	11+40	12+35	RT	45
7	-L-	57+08	58+14	LT	60
7	-L-	46+75	47+13	RT	20
9	-L-	73+75	74+22	RT	65
10	-L-	88+54	90+43	RT	120
10	-L-	90+71	92+86	RT	115
10	-L-	93+81	95+36	RT	85
10	-Y12-	11+22	12+19	RT	120
10	-L-	93+39	93+80	RT	40
11	-L-	97+96	101+04	RT	155
11	-L-	98+00	101+95	RT	285
11	-L-	96+25	99+50	LT	160
11	-L-	99+50	101+60	LT	150
11	-Y13-	14+75	18+61	RT	470
11	-Y13-	20+30	22+00	RT	125
11	-Y13-	17+00	18+50	LT	215
12	-Y13-	12+50	14+00	RT	145
12	-Y13-	13+00	17+00	LT	1800
13	-Y14-	10+80	11+00	LT	20
13	-Y13-	22+00	24+50	LT	285
13	-Y14-	11+00	13+50	LT	1125
13	-Y14-	10+80	13+50	RT	365
			SUBTOTAL		6,130
				MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER	70,870
				TOTAL	77,000
				SAY	77,000

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	18+76	20+90	LT	130
5	-L-	21+07	22+55	LT	85
5	-L-	22+54	24+83	LT	120
5	-L-	25+55	26+44	LT	50
6	-L-	40+11	43+86	LT	185
6	-L-	41+38	43+89	RT	230
7	-L-	58+37	60+49	LT	120
9	-L-	73+52	76+10	RT	165
11	-Y13-	20+56	22+50	LT	105
12	-Y13-	12+00	13+00	LT	70
			SUBTOTAL		1,260
			ADDITIONAL PSRM TO BE INSTALLED		300
			TOTAL		1,560
			SAY		1,600

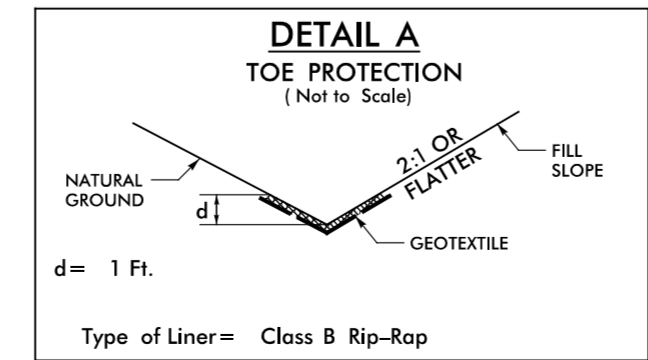
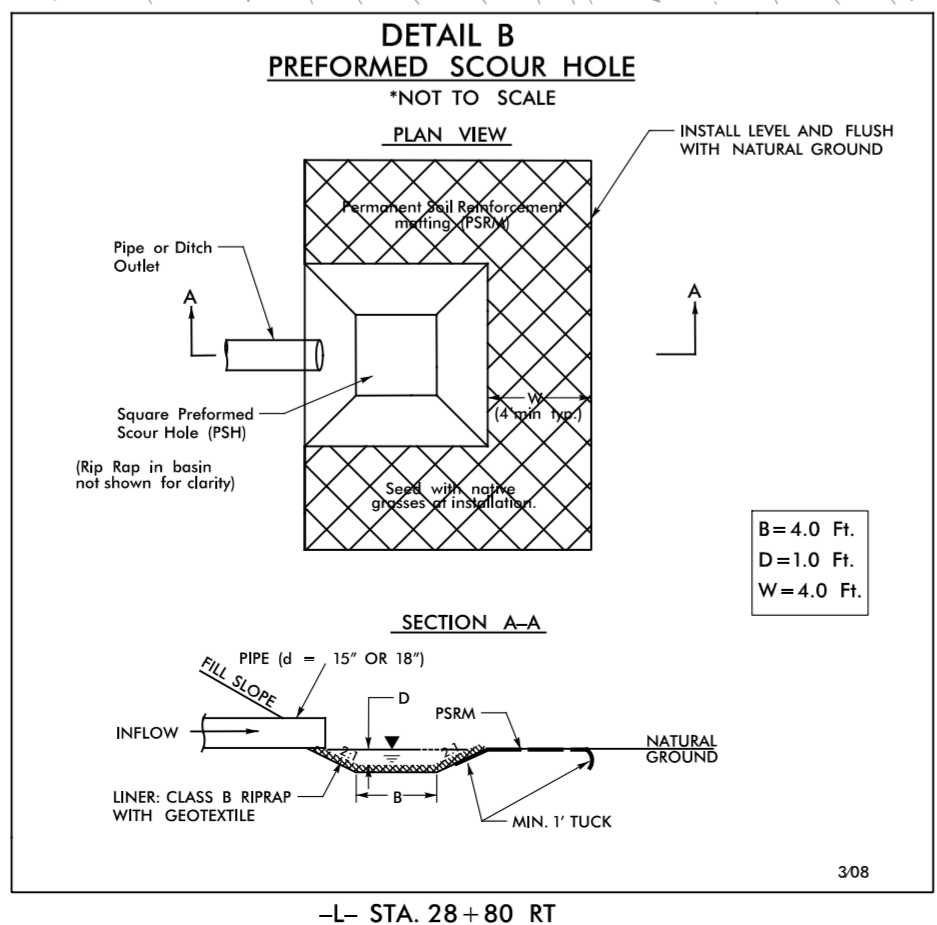
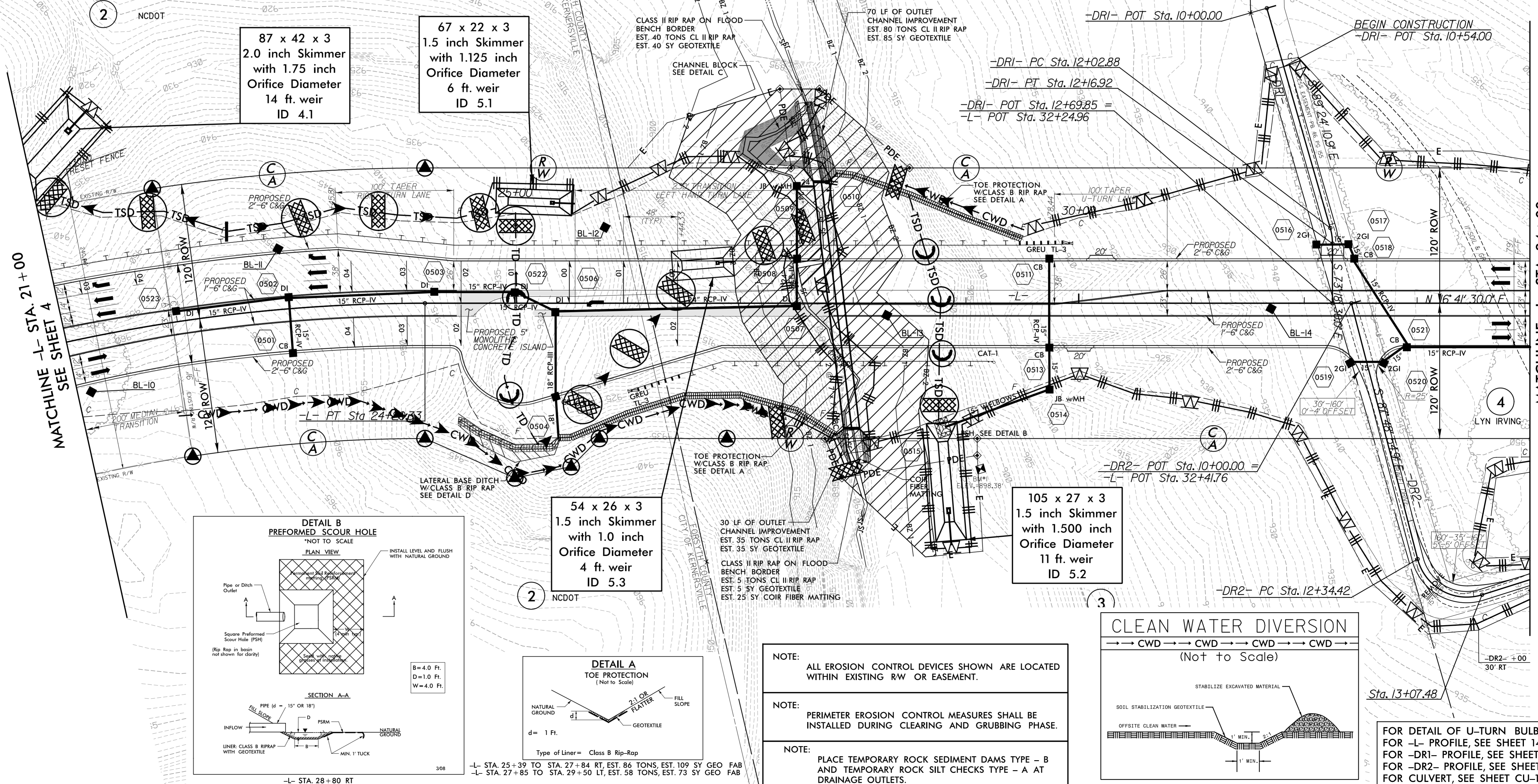
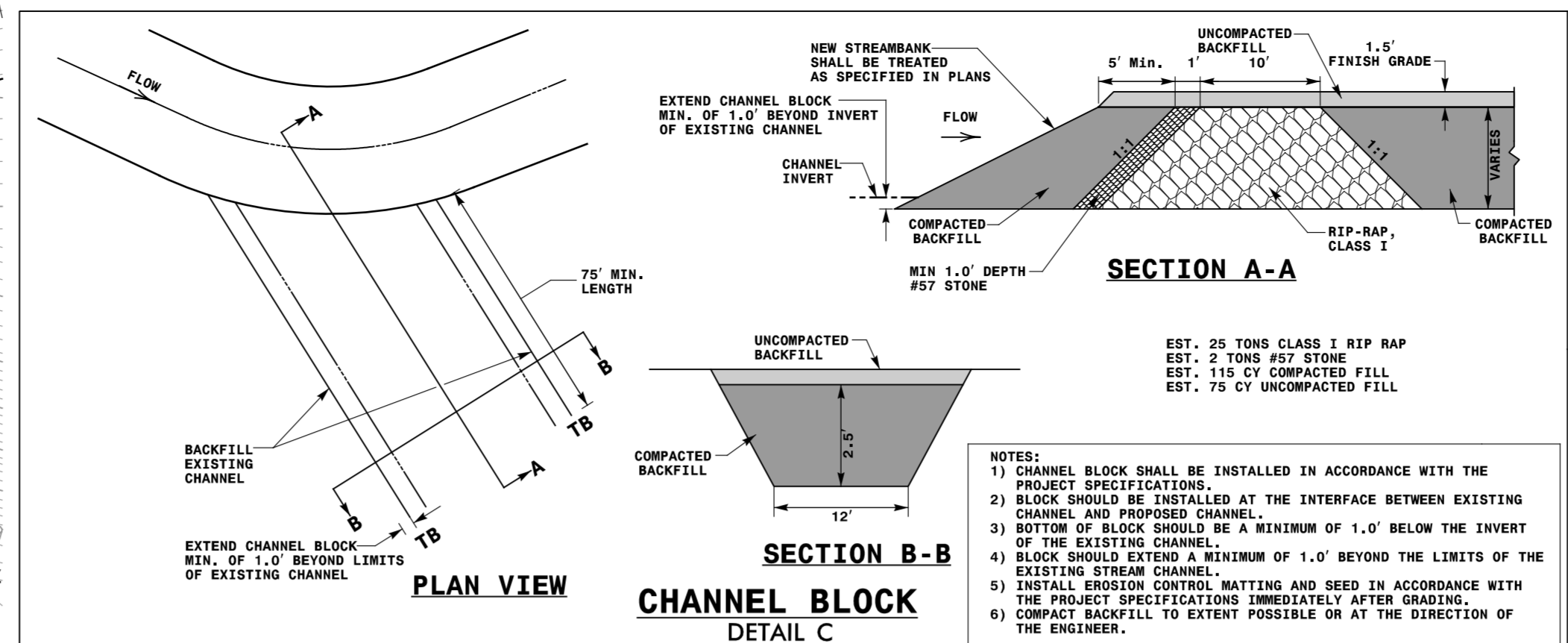
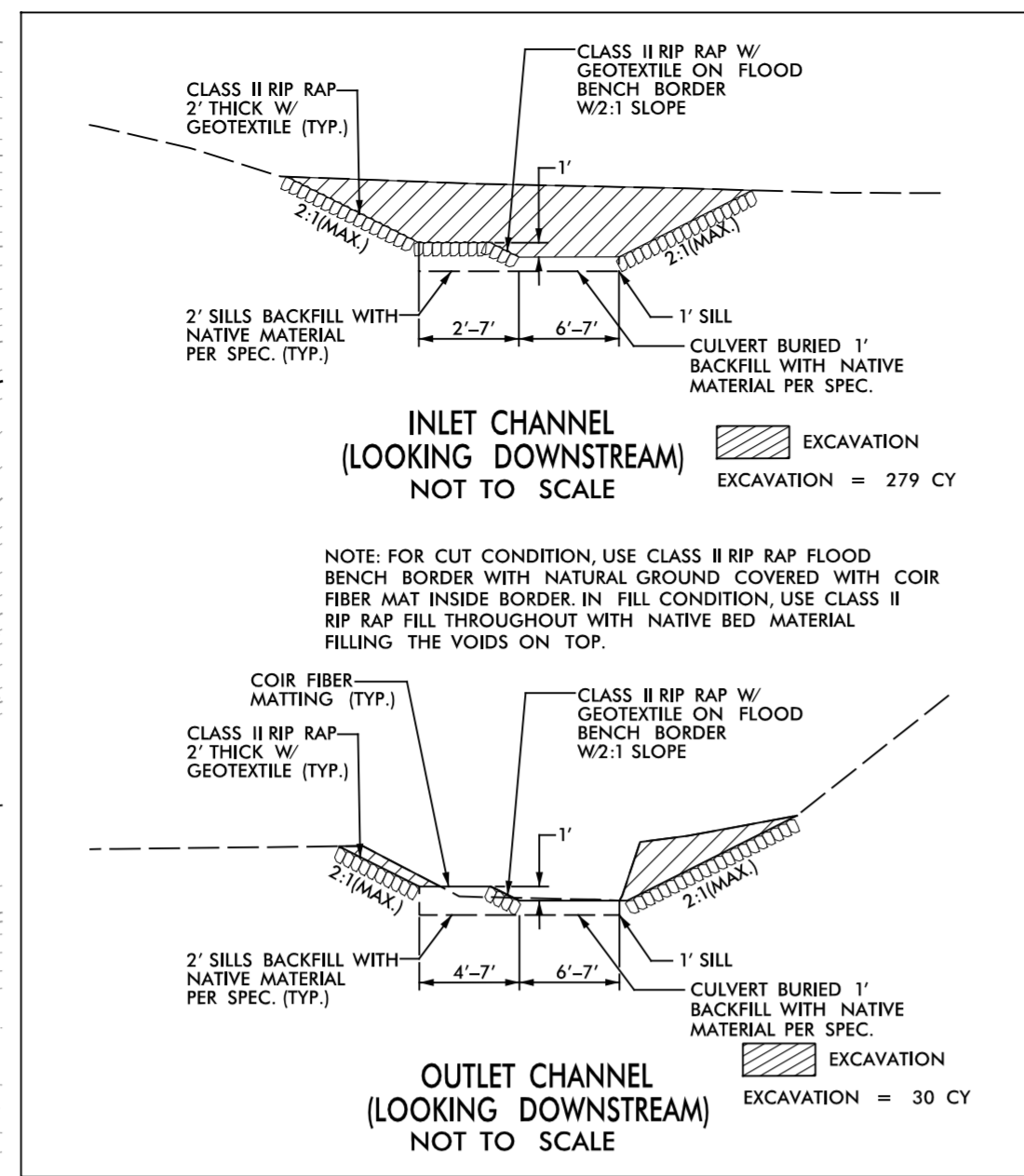
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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.

HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

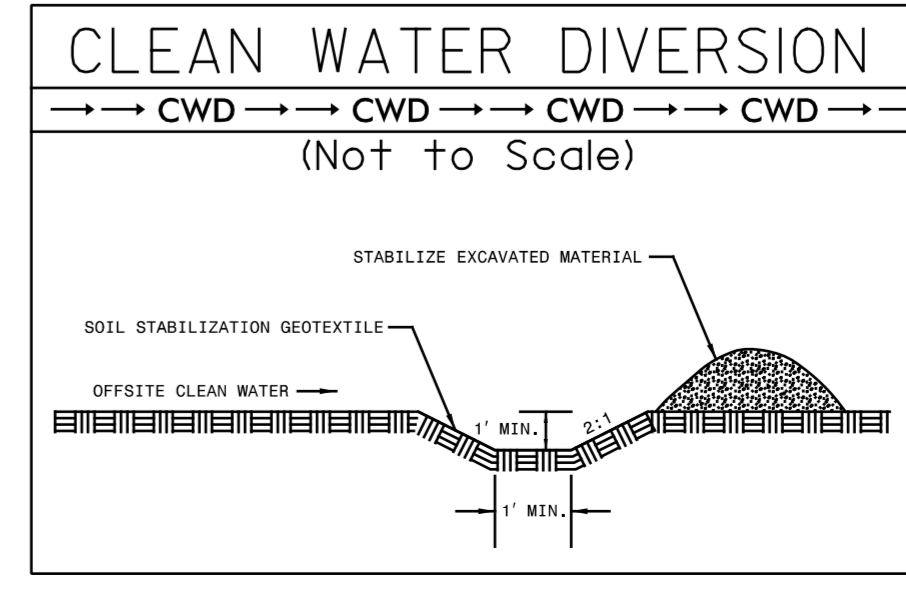
ENVIRONMENTALLY SENSITIVE AREA
 SEE PROJECT SPECIAL PROVISIONS



NOTE: ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.

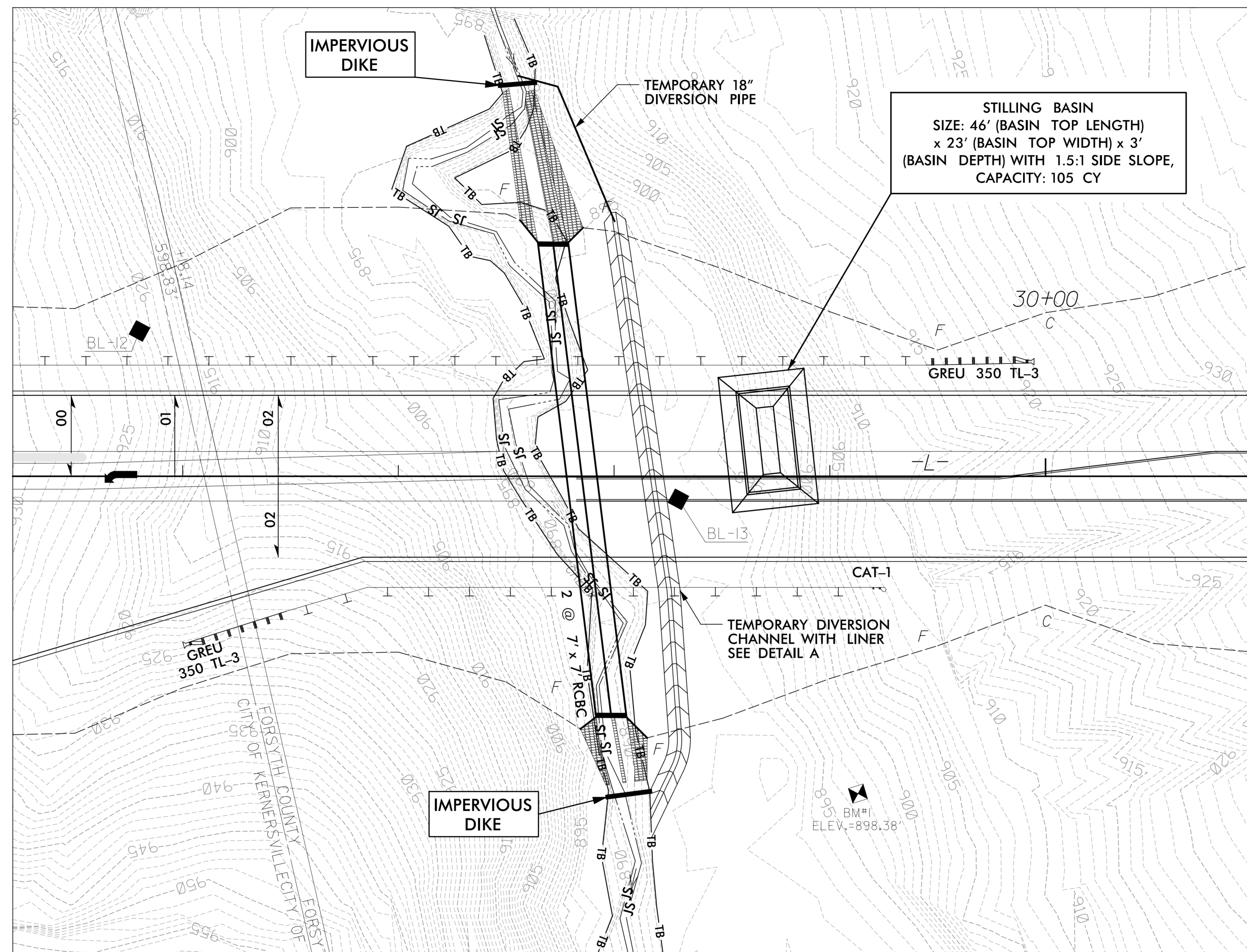
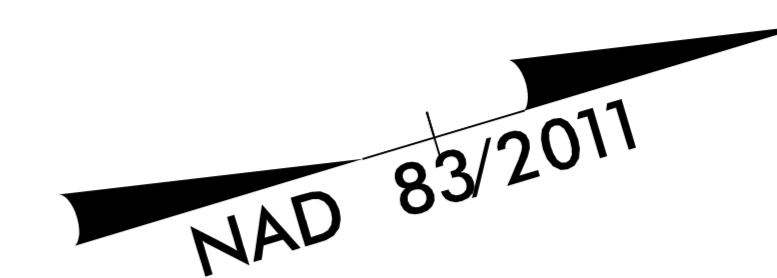
NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

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



FOR DETAIL OF U-TURN BULB, SEE SHEET 2B-4
 FOR -L- PROFILE, SEE SHEET 14
 FOR -DR1- PROFILE, SEE SHEET 21
 FOR -DR2- PROFILE, SEE SHEET 21
 FOR CULVERT, SEE SHEET CU-1 THRU CU-5

LEVEL III CERTIFIED BY:
ALEXANDER D. SNIDER, PE
CERTIFICATION NUMBER: 3064
ISSUED: NOVEMBER 29, 2017

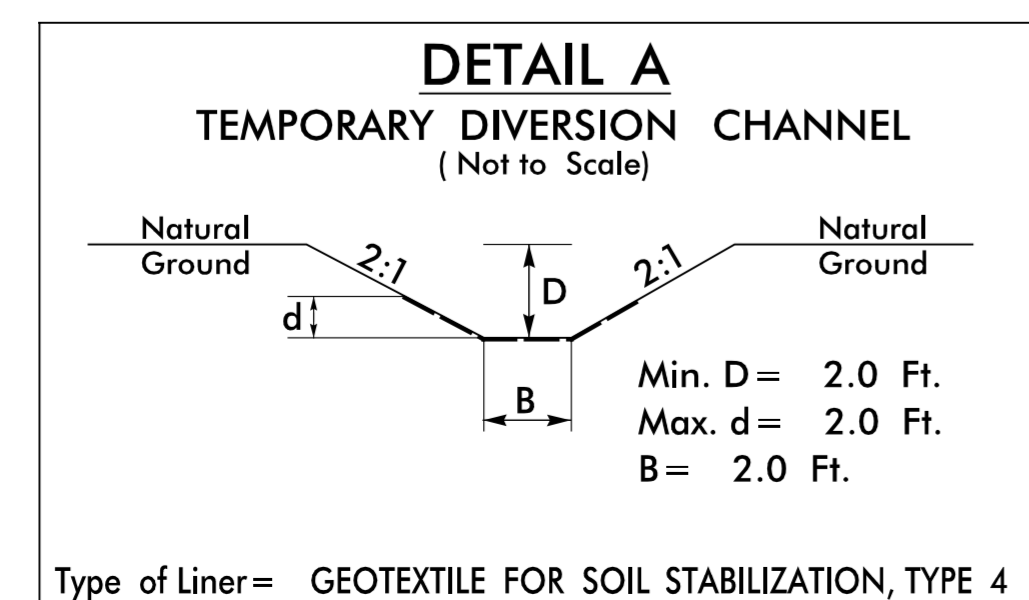


NOTES

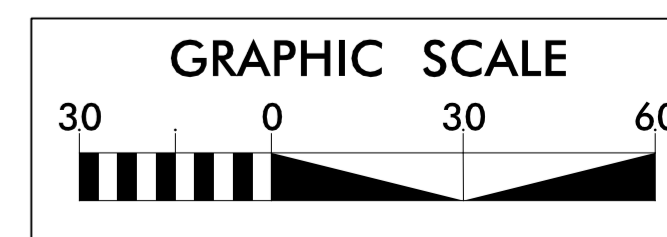
1. CULVERT CONSTRUCTION SHALL BE PERFORMED IN ONLY DRY OR ISOLATED SECTIONS OF CHANNEL.
2. IMPERVIOUS DIKES ARE TO BE USED TO ISOLATE WORK FROM STREAM FLOW AS NECESSARY.
3. ALL GRADED AREAS SHALL BE STABILIZED WITHIN 24 HOURS.
4. MAINTENANCE OF STREAM FLOW OPERATIONS SHALL BE INCIDENTAL TO THE WORK. THIS INCLUDES POLYETHYLENE SHEETING, DIVERSION PIPES, PUMPS AND HOSES.
5. PUMPS AND HOSES SHALL BE SUFFICIENT SIZE TO DEWATER THE WORK AREA.
6. THE CONTRACTOR SHALL NOT PUMP SEDIMENT-LADEN WATER DIRECTLY INTO STREAM. FOR DEWATERING OF CULVERT SITES, THE CONTRACTOR SHALL FILTER SEDIMENT-LADEN WATER THROUGH STILLING BASIN AND/OR SPECIAL STILLING BASIN.

CONSTRUCTION SEQUENCE

1. INSTALL STILLING BASIN AT LOCATION SHOWN.
2. CONSTRUCT TEMPORARY DIVERSION CHANNEL (287LF) WITH LINER, SEE DETAIL A.
3. INSTALL 18" TEMPORARY DIVERSION PIPE (87LF) AS SHOWN.
4. INSTALL IMPERVIOUS DIKES (36 LF) AS SHOWN. DIVERT FLOW INTO TEMPORARY DIVERSION CHANNEL.
5. CONSTRUCT PROPOSED CULVERTS (2 @ 7' X 7') ALONG WITH INLET AND OUTLET CHANNEL IMPROVEMENTS.
6. REMOVE IMPERVIOUS DIKES, TEMPORARY DIVERSION PIPE AND TEMPORARY DIVERSION CHANNELS AND DIRECT WATER THROUGH PROPOSED CULVERTS.
7. REMOVE STILLING BASIN.
8. CONSTRUCT PROPOSED ROADWAY.



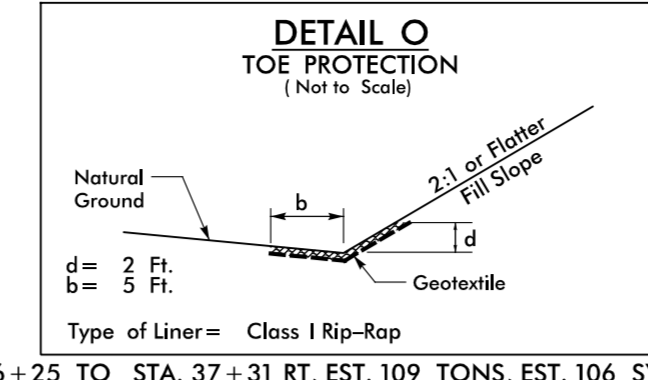
**2 @ 7' x 7' RCBC STA. 27+85 -L-
CONSTRUCTION SEQUENCE**



REVISIONS

2/19/2018 NASH/ICA/Revision Control\cadd\U4734-hyd\revision.constr.-seq-5A.dgn ICA ENGINEERING, INC.

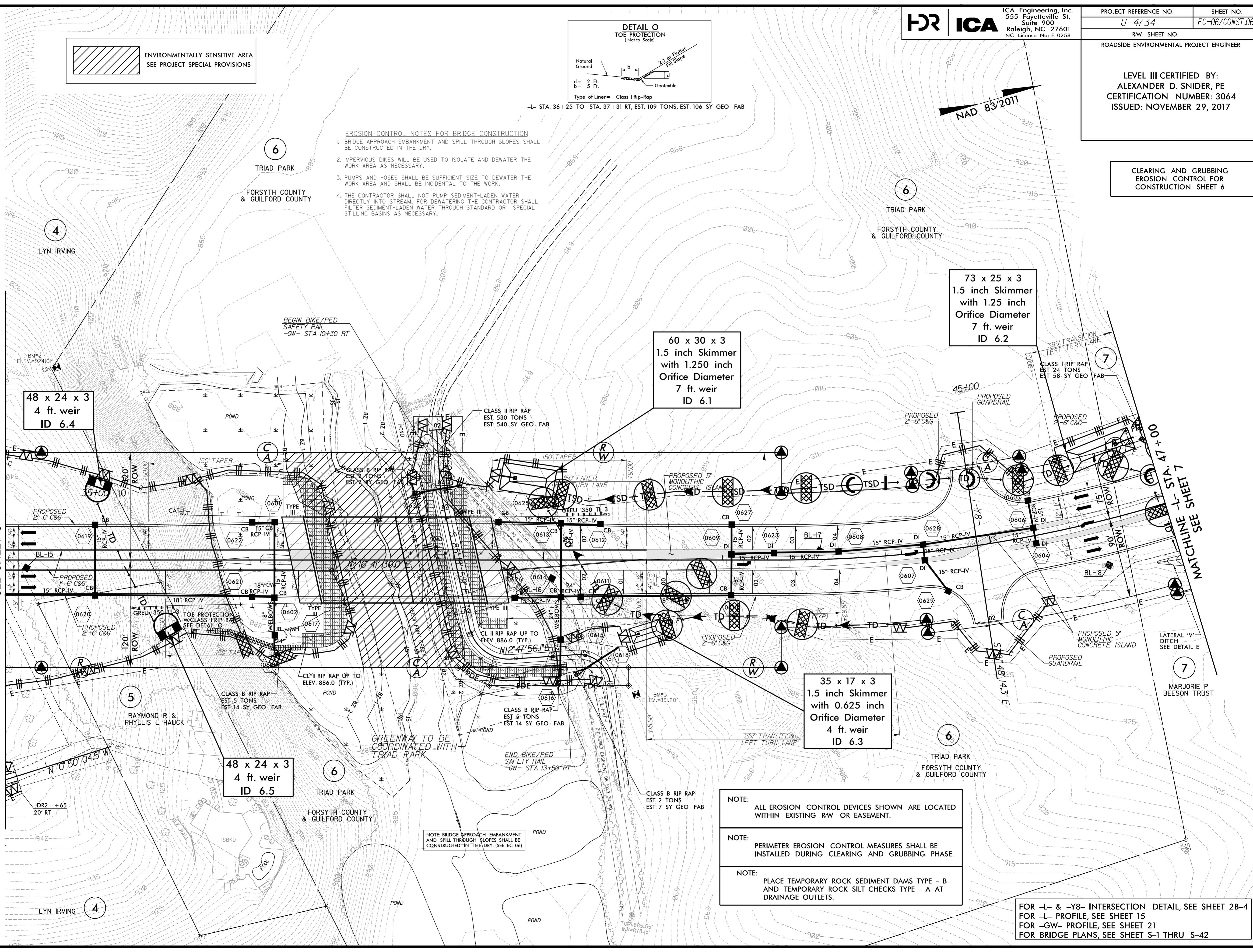
 ENVIRONMENTALLY SENSITIVE AREA
 SEE PROJECT SPECIAL PROVISIONS



- EROSION CONTROL NOTES FOR BRIDGE CONSTRUCTION**
- BRIDGE APPROACH EMBANKMENT AND SPILL THROUGH SLOPES SHALL BE CONSTRUCTED IN THE DRY.
 - IMPERVIOUS DIKS WILL BE USED TO ISOLATE AND DEWATER THE WORK AREA AS NECESSARY.
 - PUMPS AND HOSES SHALL BE SUFFICIENT SIZE TO DEWATER THE WORK AREA AND SHALL BE INCIDENTAL TO THE WORK.
 - THE CONTRACTOR SHALL NOT PUMP SEDIMENT-LADEN WATER DIRECTLY INTO STREAM. FOR DEWATERING THE CONTRACTOR SHALL FILTER SEDIMENT-LADEN WATER THROUGH STANDARD OR SPECIAL STILLING BASINS AS NECESSARY.

MATCHLINE -L- STA. 34+00
 SEE SHEET 5

MATCHLINE SHEET 7
 -L- STA. 47+00
 SEE SHEET 7



48 x 24 x 3
 4 ft. weir
 ID 6.4

60 x 30 x 3
 1.5 inch Skimmer
 with 1.250 inch
 Orifice Diameter
 7 ft. weir
 ID 6.1

73 x 25 x 3
 1.5 inch Skimmer
 with 1.25 inch
 Orifice Diameter
 7 ft. weir
 ID 6.2

35 x 17 x 3
 1.5 inch Skimmer
 with 0.625 inch
 Orifice Diameter
 4 ft. weir
 ID 6.3

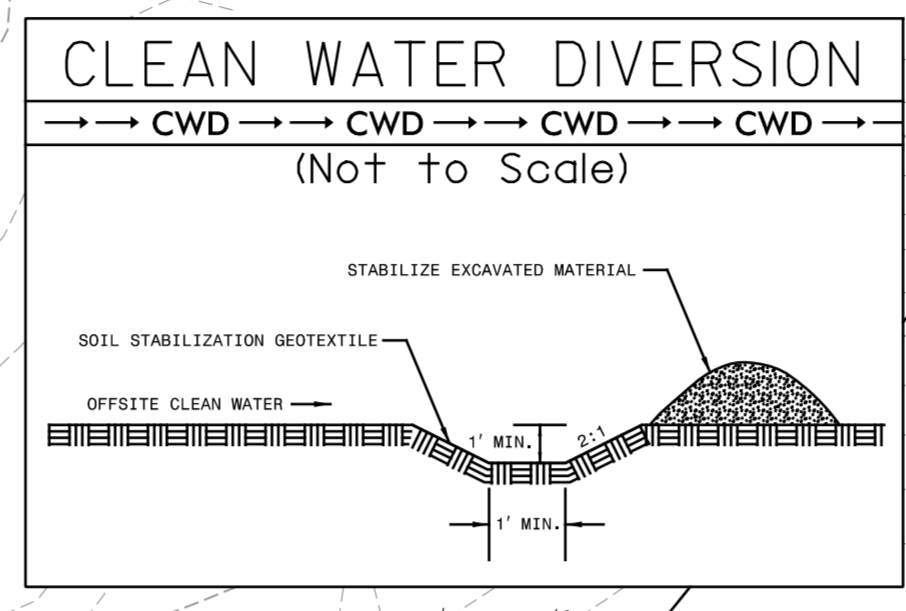
48 x 24 x 3
 4 ft. weir
 ID 6.5

3/16/2018
 M:\Projects\14734_Erosion Control\14734_hyd_esc_c&g_psh06.dgn
 ICA ENGINEERING, INC.

NOTE:
 ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

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.

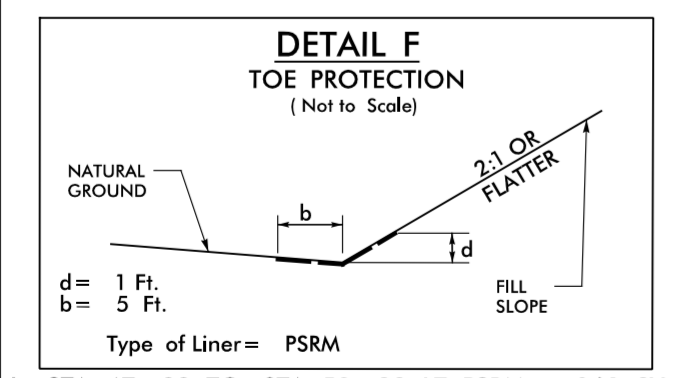


115 x 50 x 3
 2.5 inch Skimmer
 with 2.125 inch
 Orifice Diameter
 22 ft. weir
 ID 7.1

58 x 25 x 3
 1.5 inch Skimmer
 with 1.125 inch
 Orifice Diameter
 6 ft. weir
 ID 7.3

DRAIN POND UTILIZING SURFACE DEWATERING
 DEVICE TO DRAIN TO THE CLEAN WATER DIVERSION
 DITCH. COORDINATE WITH DIVISION ROADSIDE
 ENVIRONMENTAL UNIT STAFF FOR ADDITIONAL
 EROSION CONTROL MEASURES AS NEEDED.

NOTE: DRAIN POND BEFORE
 FILLING (SEE EC-07)



L- STA. 47+00 TO STA. 50+38 LT, PSRM = 263 SY

PROP PAINT STRIPING
 PAVEMENT REMOVAL

FOR DETAIL OF U-TURN BULB, SEE SHEET 2B-5
 FOR -L- PROFILE, SEE SHEET 15
 FOR -Y9- PROFILE, SEE SHEET 18
 FOR -DR3- PROFILE, SEE SHEET 21

2/19/2018 M:\Projects\U4734\EROSION Control\U4734_hyd_esc_c&g_psh07.dgn ICA ENGINEERING, INC.

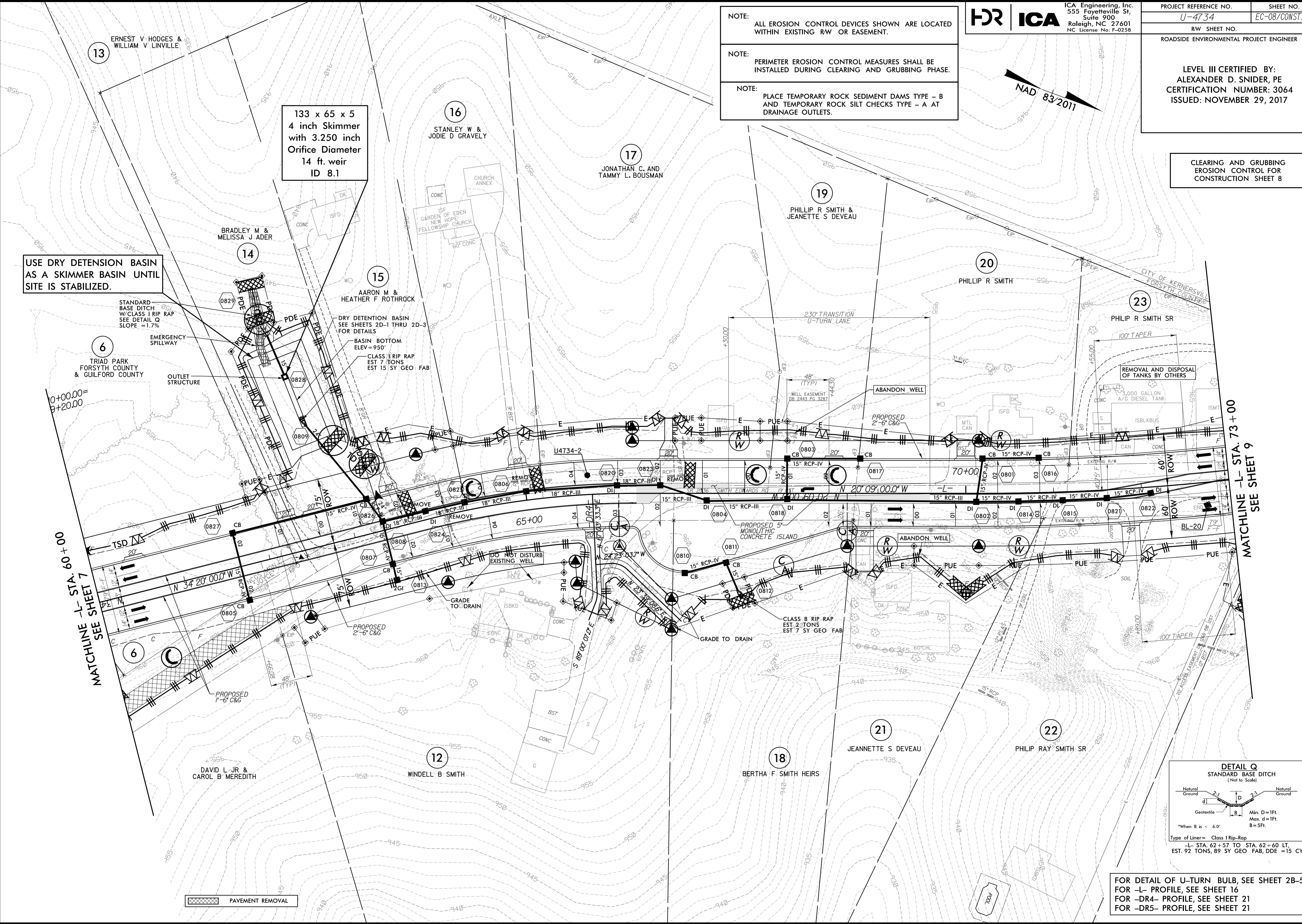
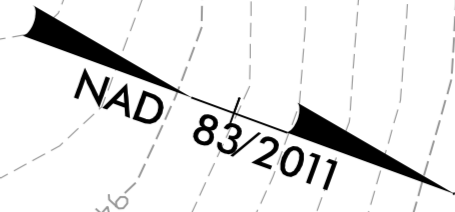
LEVEL III CERTIFIED BY:
 ALEXANDER D. SNIDER, PE
 CERTIFICATION NUMBER: 3064
 ISSUED: NOVEMBER 29, 2017

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 8

NOTE:
 ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.

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.



USE DRY DETENTION BASIN AS A SKIMMER BASIN UNTIL SITE IS STABILIZED.

133 x 65 x 5
 4 inch Skimmer
 with 3.250 inch
 Orifice Diameter
 14 ft. weir
 ID 8.1

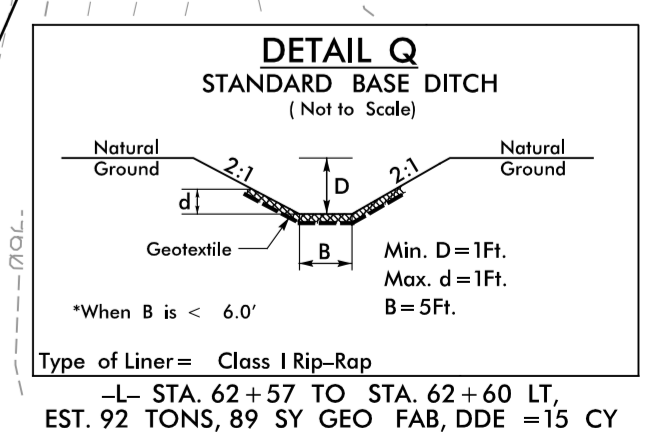
STANDARD
 BASE DITCH
 W/CLASS I RIP RAP
 SEE DETAIL Q
 SLOPE = 1.7%

DRY DETENTION BASIN
 SEE SHEETS 2D-1 THRU 2D-3
 FOR DETAILS
 BASIN BOTTOM
 ELEV = 950'
 CLASS I RIP RAP
 EST 7 TONS
 EST 15 SY GEO FAB

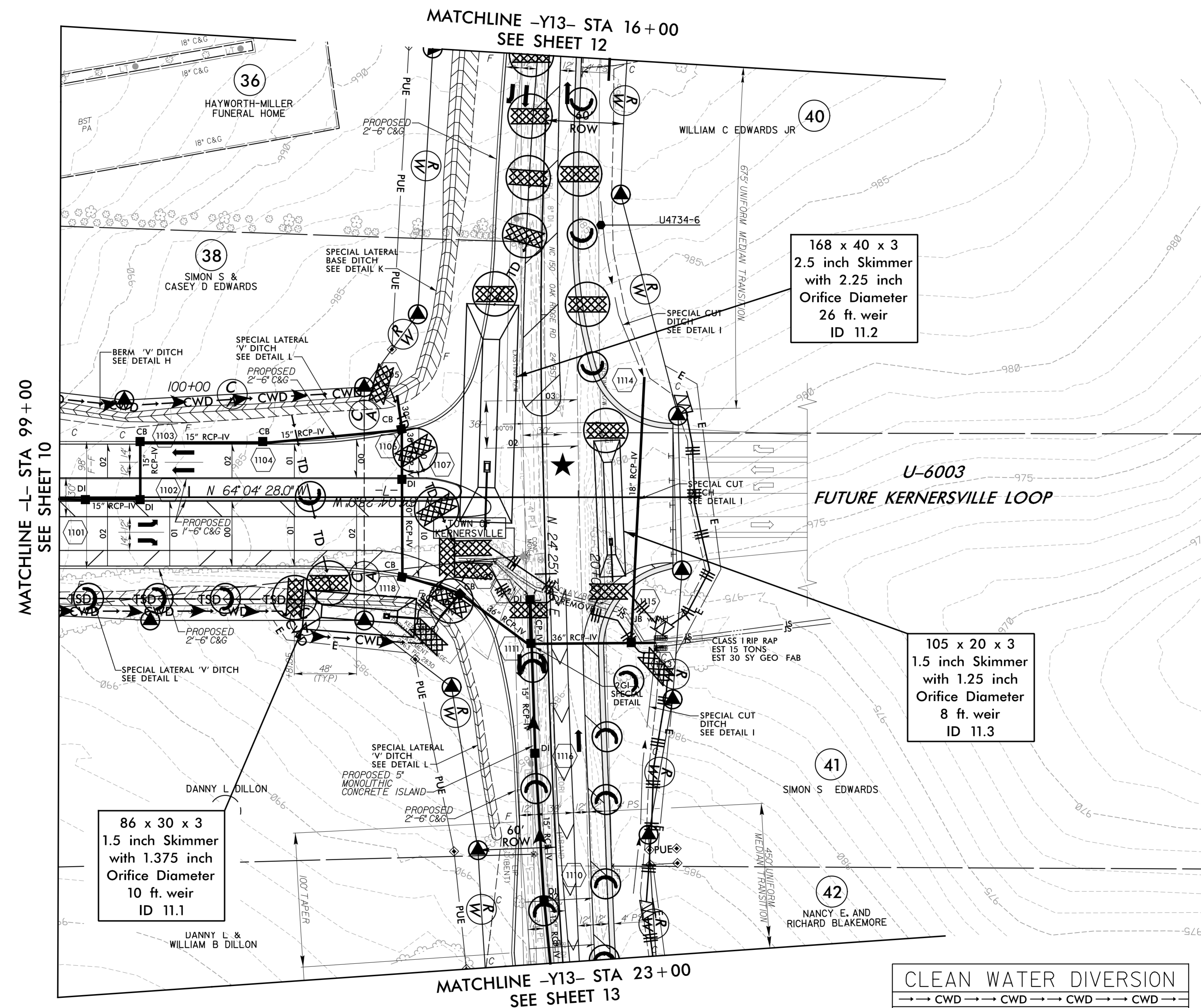
REMOVAL AND DISPOSAL
 OF TANKS BY OTHERS

MATCHLINE -L- STA. 60+00
 SEE SHEET 7

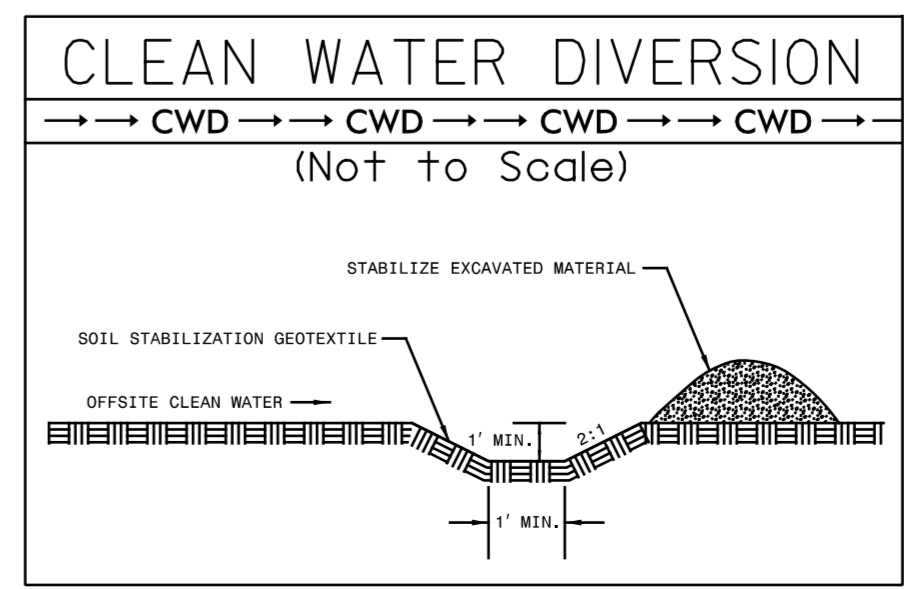
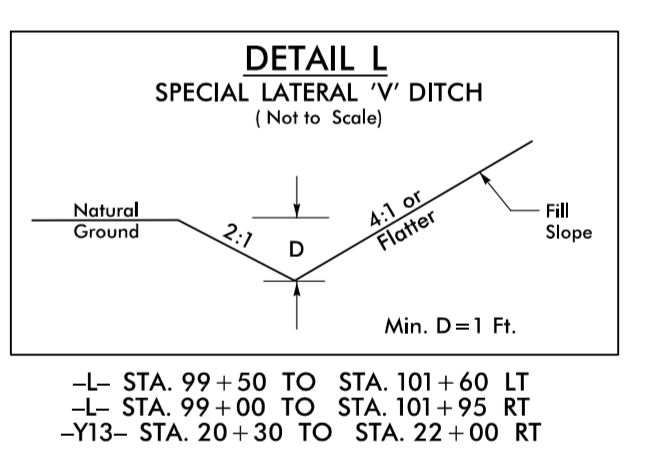
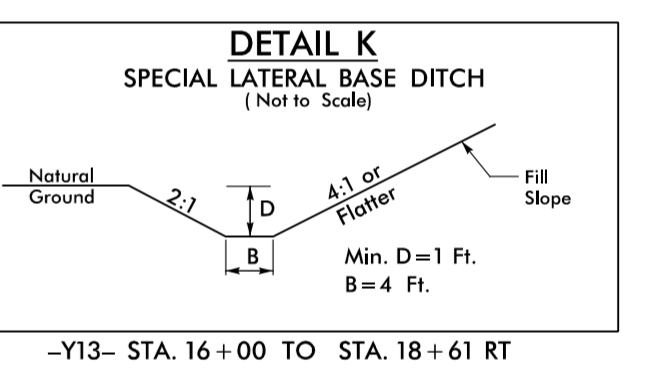
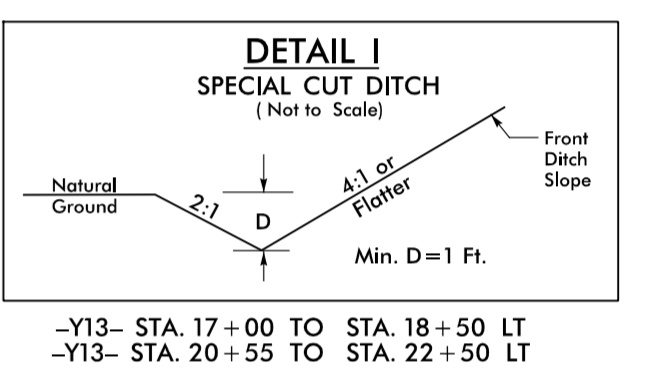
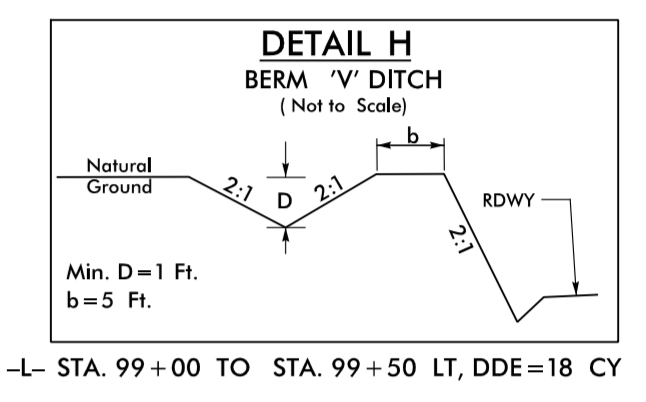
MATCHLINE -L- STA. 73+00
 SEE SHEET 9



FOR DETAIL OF U-TURN BULB, SEE SHEET 2B-5
 FOR -L- PROFILE, SEE SHEET 16
 FOR -DR4- PROFILE, SEE SHEET 21
 FOR -DR5- PROFILE, SEE SHEET 21



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11



- NOTE:** ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.
- 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.

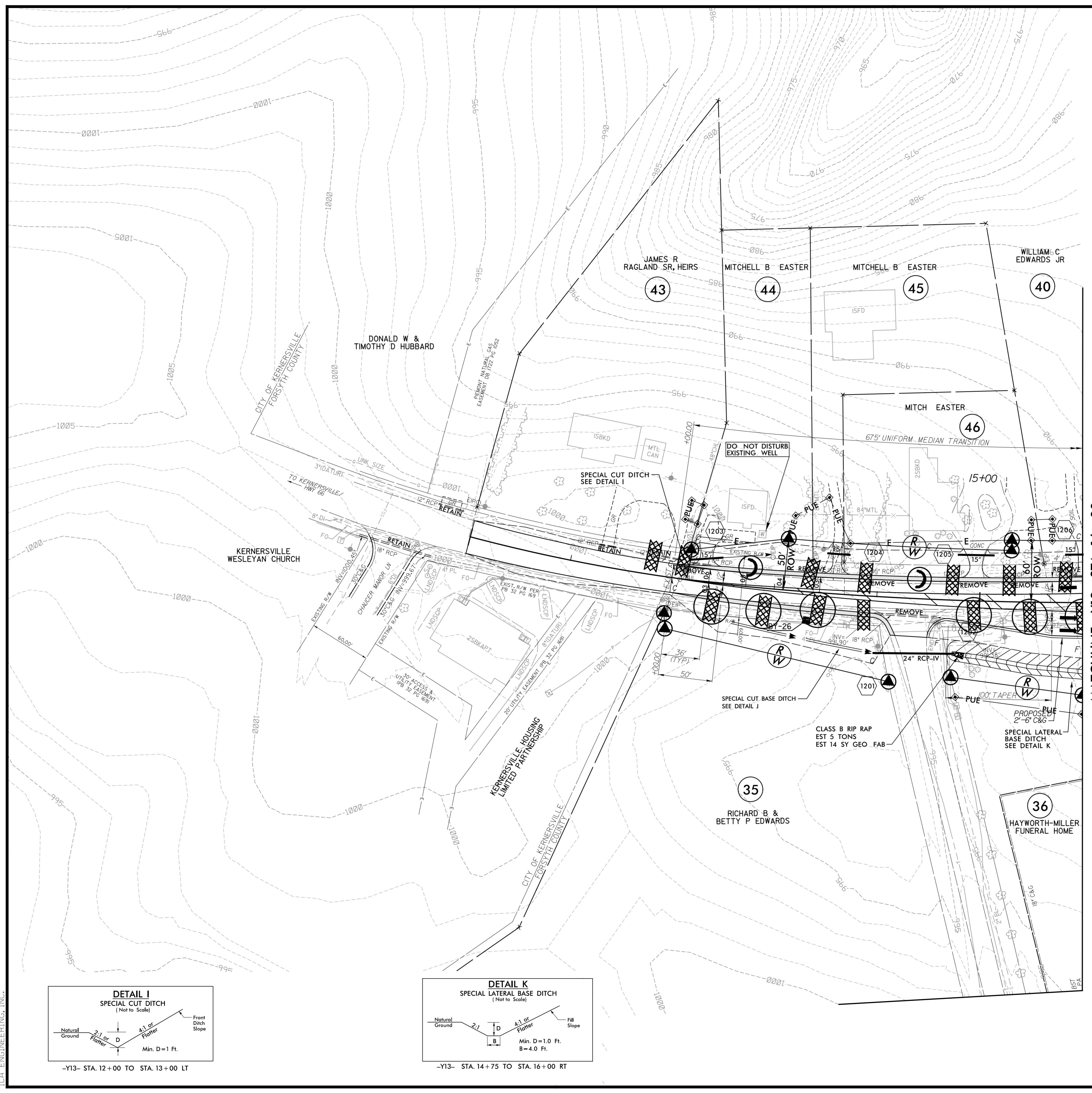
FOR -L- & -Y13- INTERSECTION DETAIL, SEE SHEET 2B-7
FOR -L- PROFILE, SEE SHEET 17
FOR -Y13- PROFILE, SEE SHEET 20

2/19/2018 M:\Highways\ICA_Erosion Control\U4734_hyd_esc_c&g_psh11.dgn ICA ENGINEERING, INC.

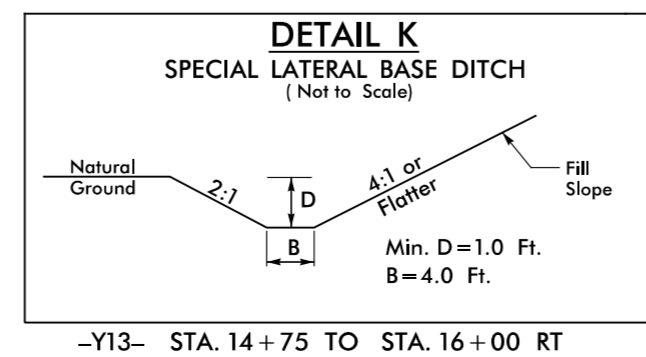
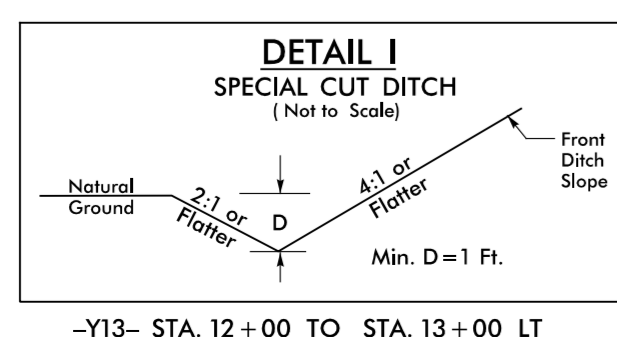




CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12



MATCHLINE -Y13- STA 16+00
SEE SHEET 11



- NOTE:** ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.
- 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.

 PROP PAINT STRIPPING
 FOR -Y13- PROFILE, SEE SHEET 20

2/19/2018
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 ICA ENGINEERING, INC.

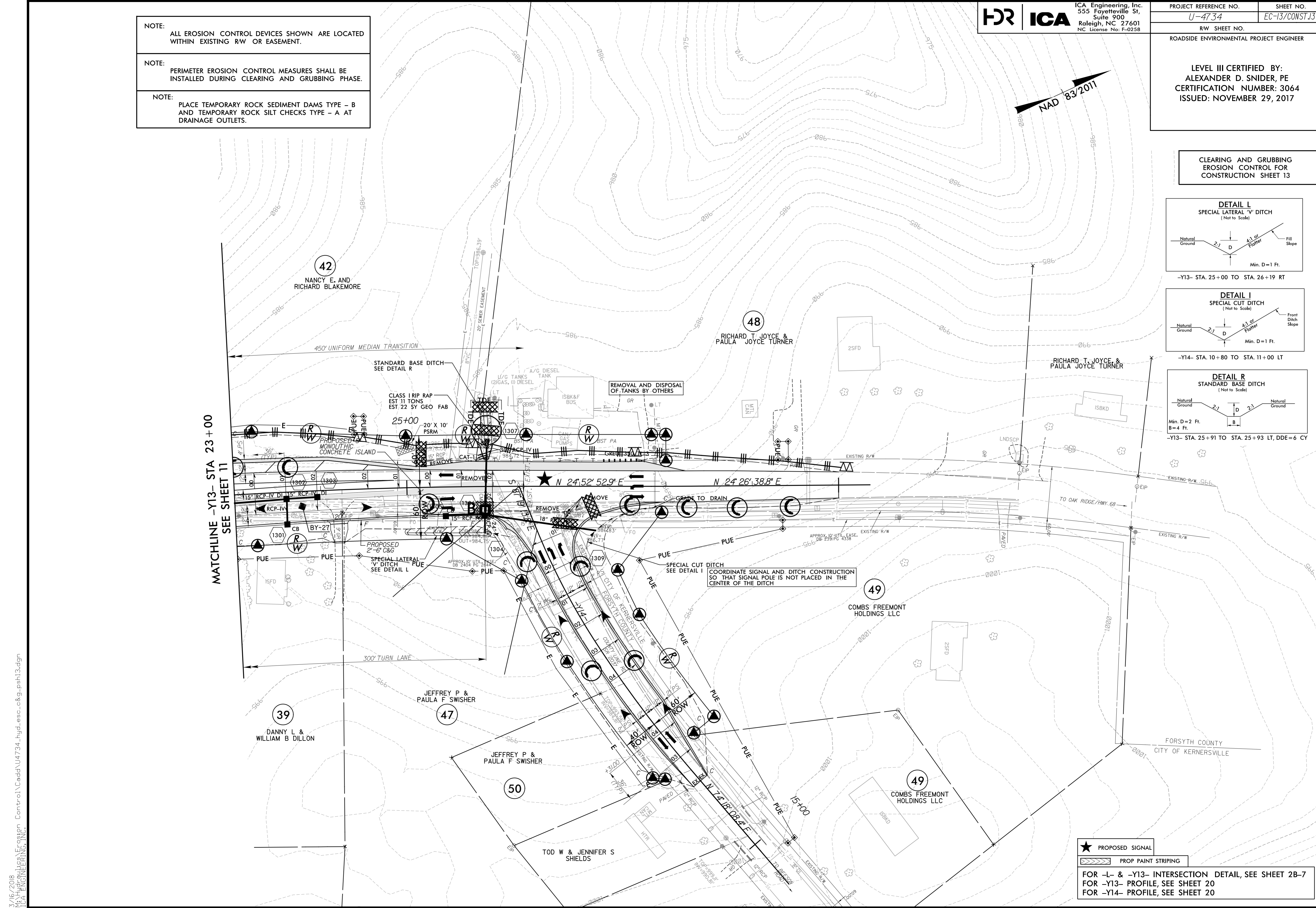
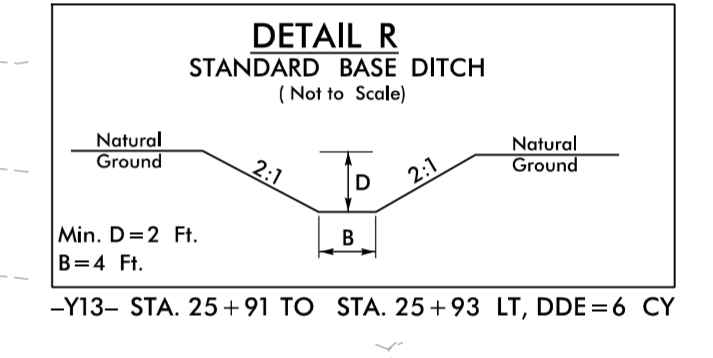
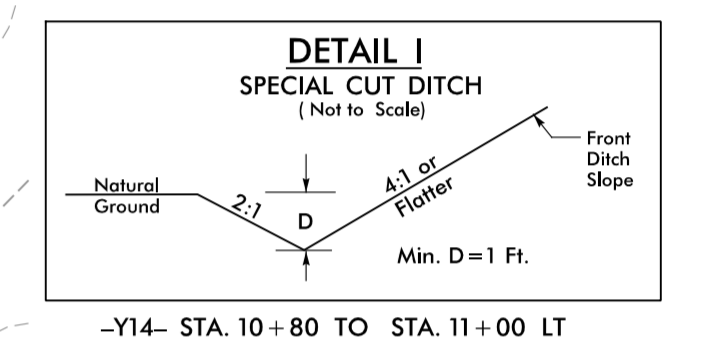
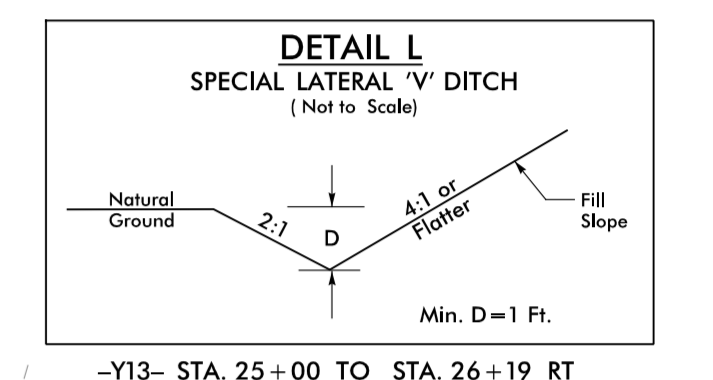
LEVEL III CERTIFIED BY:
 ALEXANDER D. SNIDER, PE
 CERTIFICATION NUMBER: 3064
 ISSUED: NOVEMBER 29, 2017

NOTE:
 ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.

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 13

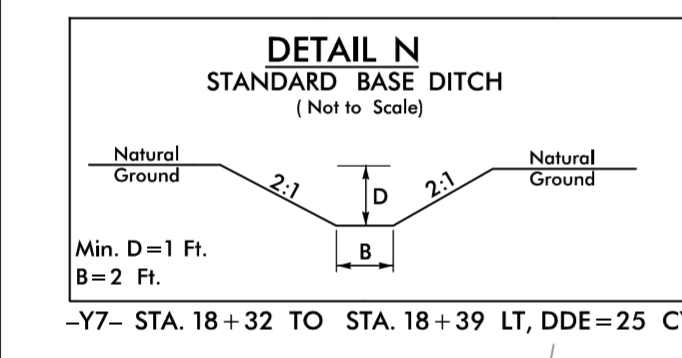
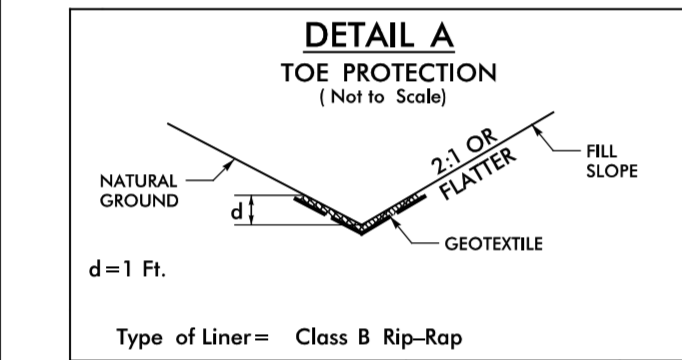
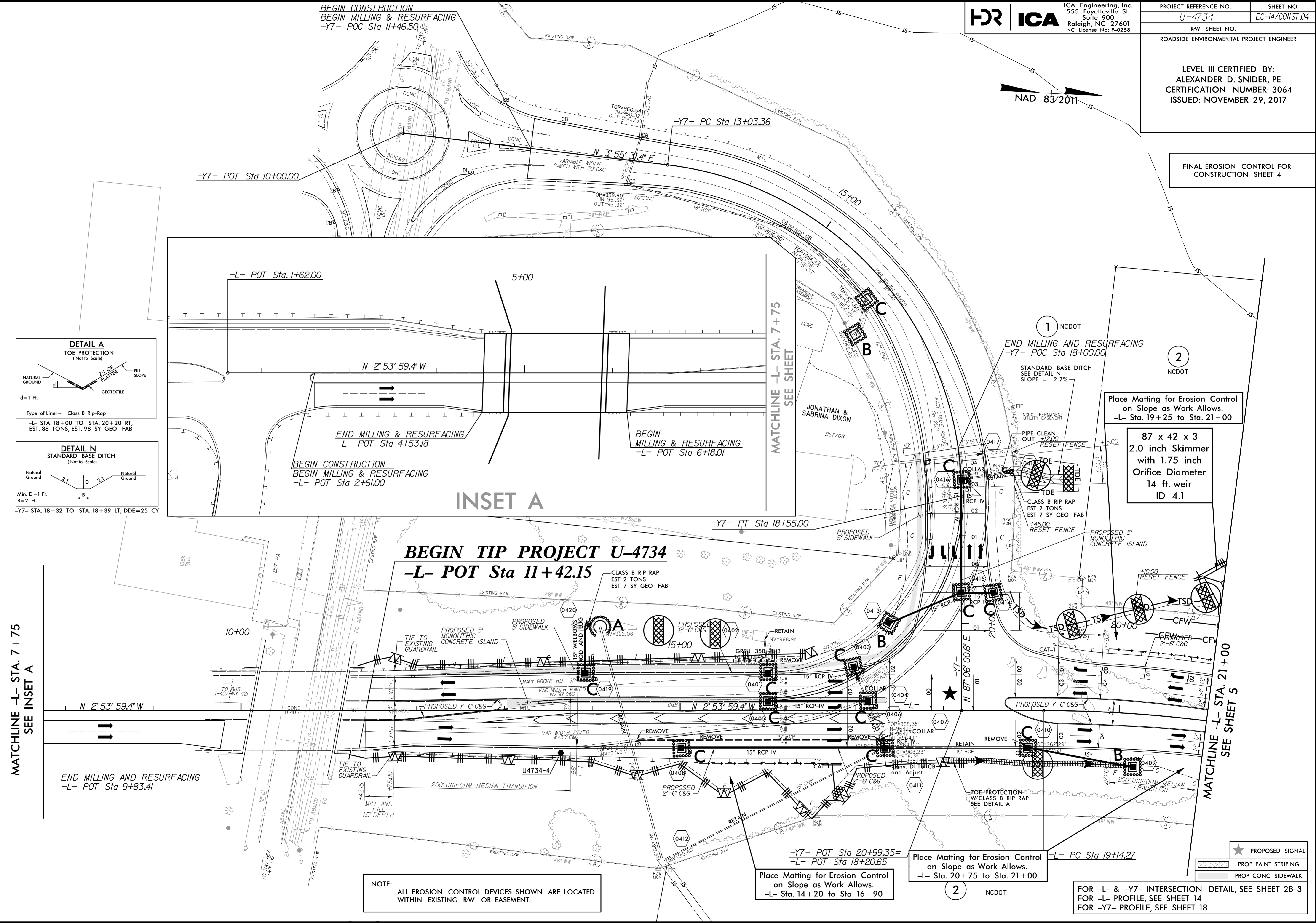
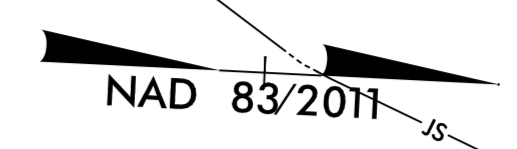


MATCHLINE -Y13- STA 23+00
 SEE SHEET 11

★ PROPOSED SIGNAL
 ▨▨▨▨▨ PROP PAINT STRIPING

FOR -L- & -Y13- INTERSECTION DETAIL, SEE SHEET 2B-7
 FOR -Y13- PROFILE, SEE SHEET 20
 FOR -Y14- PROFILE, SEE SHEET 20

3/16/2018
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 ICA ENGINEERING, INC.



NOTE:
 ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED
 WITHIN EXISTING R/W OR EASEMENT.

Place Matting for Erosion Control
 on Slope as Work Allows.
 -L- Sta. 14+20 to Sta. 16+90

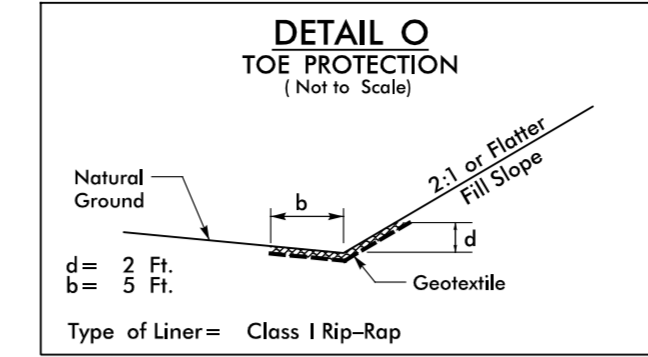
Place Matting for Erosion Control
 on Slope as Work Allows.
 -L- Sta. 20+75 to Sta. 21+00

FOR -L- & -Y7- INTERSECTION DETAIL, SEE SHEET 2B-3
 FOR -L- PROFILE, SEE SHEET 14
 FOR -Y7- PROFILE, SEE SHEET 18

2/19/2018
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 ICA ENGINEERING, INC.

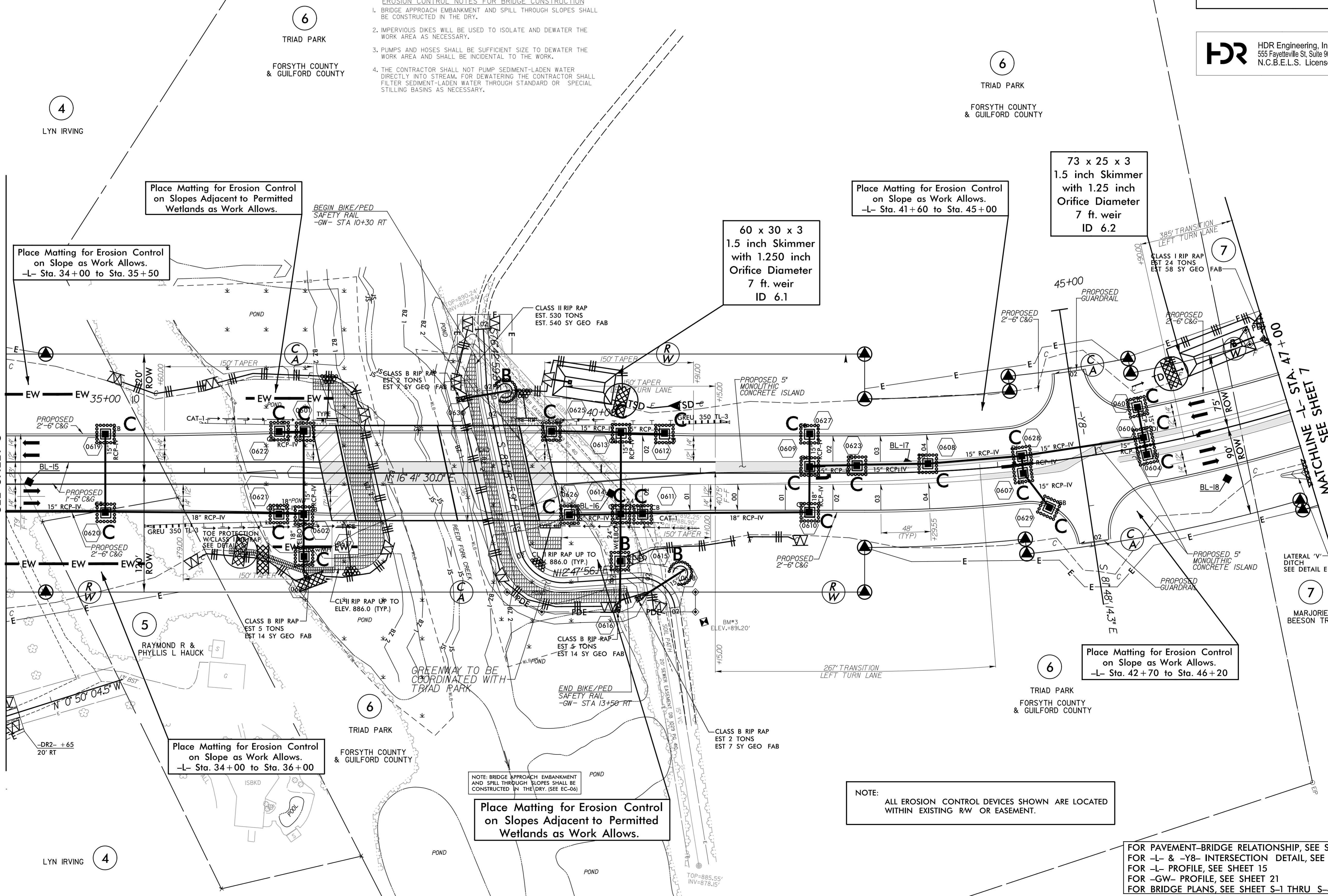
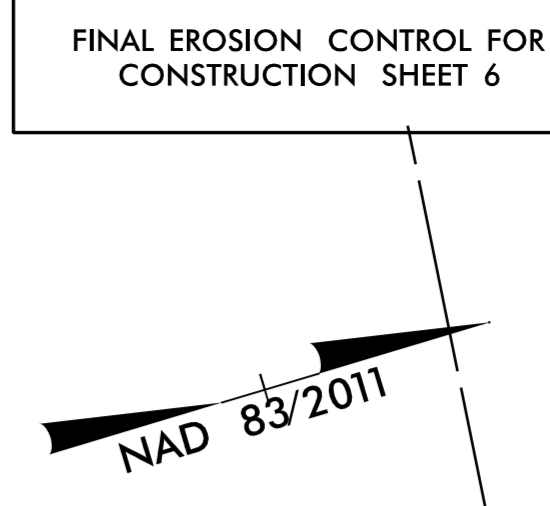
LEVEL III CERTIFIED BY:
ALEXANDER D. SNIDER, PE
CERTIFICATION NUMBER: 3064
ISSUED: NOVEMBER 29, 2017

HDR HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116



-L- STA. 36+25 TO STA. 37+31 RT, EST. 109 TONS, EST. 106 SY GEO FAB

- EROSION CONTROL NOTES FOR BRIDGE CONSTRUCTION**
- BRIDGE APPROACH EMBANKMENT AND SPILL THROUGH SLOPES SHALL BE CONSTRUCTED IN THE DRY.
 - IMPERVIOUS DIKES WILL BE USED TO ISOLATE AND DEWATER THE WORK AREA AS NECESSARY.
 - PUMPS AND HOSES SHALL BE SUFFICIENT SIZE TO DEWATER THE WORK AREA AND SHALL BE INCIDENTAL TO THE WORK.
 - THE CONTRACTOR SHALL NOT PUMP SEDIMENT-LADEN WATER DIRECTLY INTO STREAM. FOR DEWATERING THE CONTRACTOR SHALL FILTER SEDIMENT-LADEN WATER THROUGH STANDARD OR SPECIAL STILLING BASINS AS NECESSARY.



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

Place Matting for Erosion Control on Slope as Work Allows.
-L- Sta. 34+00 to Sta. 35+50

Place Matting for Erosion Control on Slope as Work Allows.
-L- Sta. 41+60 to Sta. 45+00

60 x 30 x 3
1.5 inch Skimmer
with 1.250 inch Orifice Diameter
7 ft. weir
ID 6.1

73 x 25 x 3
1.5 inch Skimmer
with 1.25 inch Orifice Diameter
7 ft. weir
ID 6.2

Place Matting for Erosion Control on Slope as Work Allows.
-L- Sta. 42+70 to Sta. 46+20

Place Matting for Erosion Control on Slope as Work Allows.
-L- Sta. 34+00 to Sta. 36+00

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

NOTE: ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.

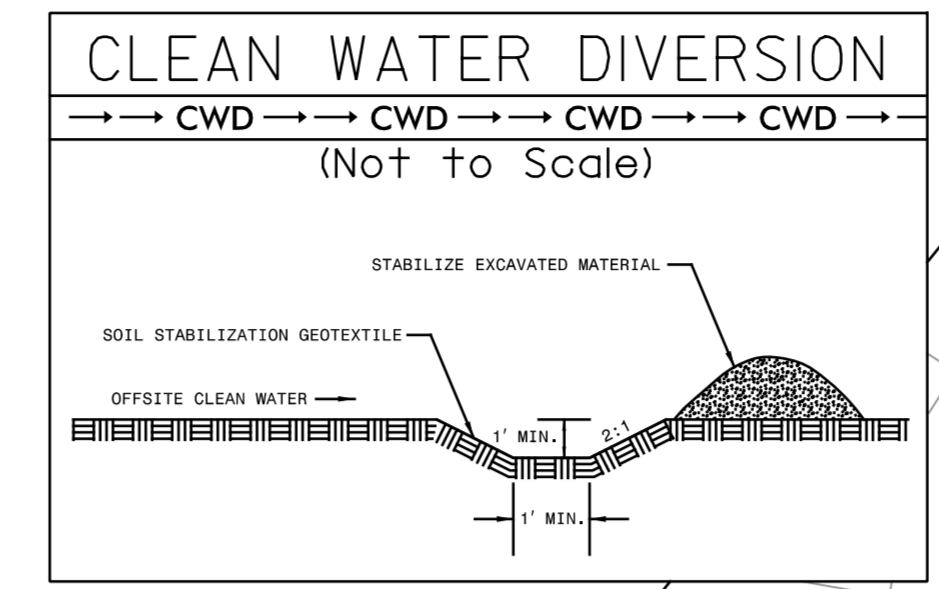
FOR PAVEMENT-BRIDGE RELATIONSHIP, SEE SHEET 2B-2
FOR -L- & -Y8- INTERSECTION DETAIL, SEE SHEET 2B-4
FOR -L- PROFILE, SEE SHEET 15
FOR -GW- PROFILE, SEE SHEET 21
FOR BRIDGE PLANS, SEE SHEET S-1 THRU S-42

3/26/2018 M:\Hydro\Jobs\Erosion Control\U4734_hyd_esc_final_psh06.dgn TCA ENGINEERING, INC.

LEVEL III CERTIFIED BY:
 ALEXANDER D. SNIDER, PE
 CERTIFICATION NUMBER: 3064
 ISSUED: NOVEMBER 29, 2017

FINAL EROSION CONTROL FOR
 CONSTRUCTION SHEET 7

NOTE:
 ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED
 WITHIN EXISTING RW OR EASEMENT.

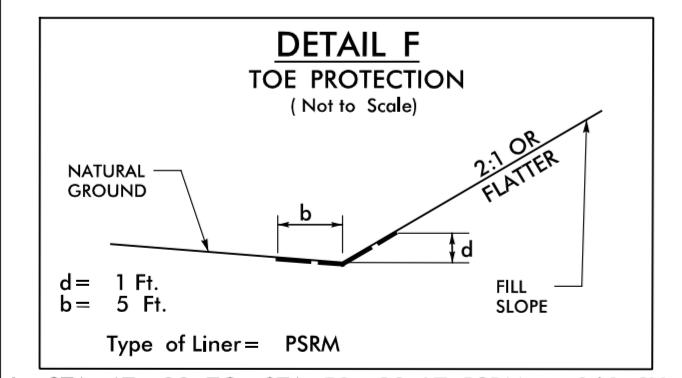


115 x 50 x 3
 2.5 inch Skimmer
 with 2.125 inch
 Orifice Diameter
 22 ft. weir
 ID 7.1

58 x 25 x 3
 1.5 inch Skimmer
 with 1.125 inch
 Orifice Diameter
 6 ft. weir
 ID 7.3

79 x 24 x 3
 1.5 inch Skimmer
 with 1.250 inch
 Orifice Diameter
 7 ft. weir
 ID 7.2

Place Matting for Erosion Control
 on Slope as Work Allows.
 -L- Sta. 53+30 to Sta. 56+00



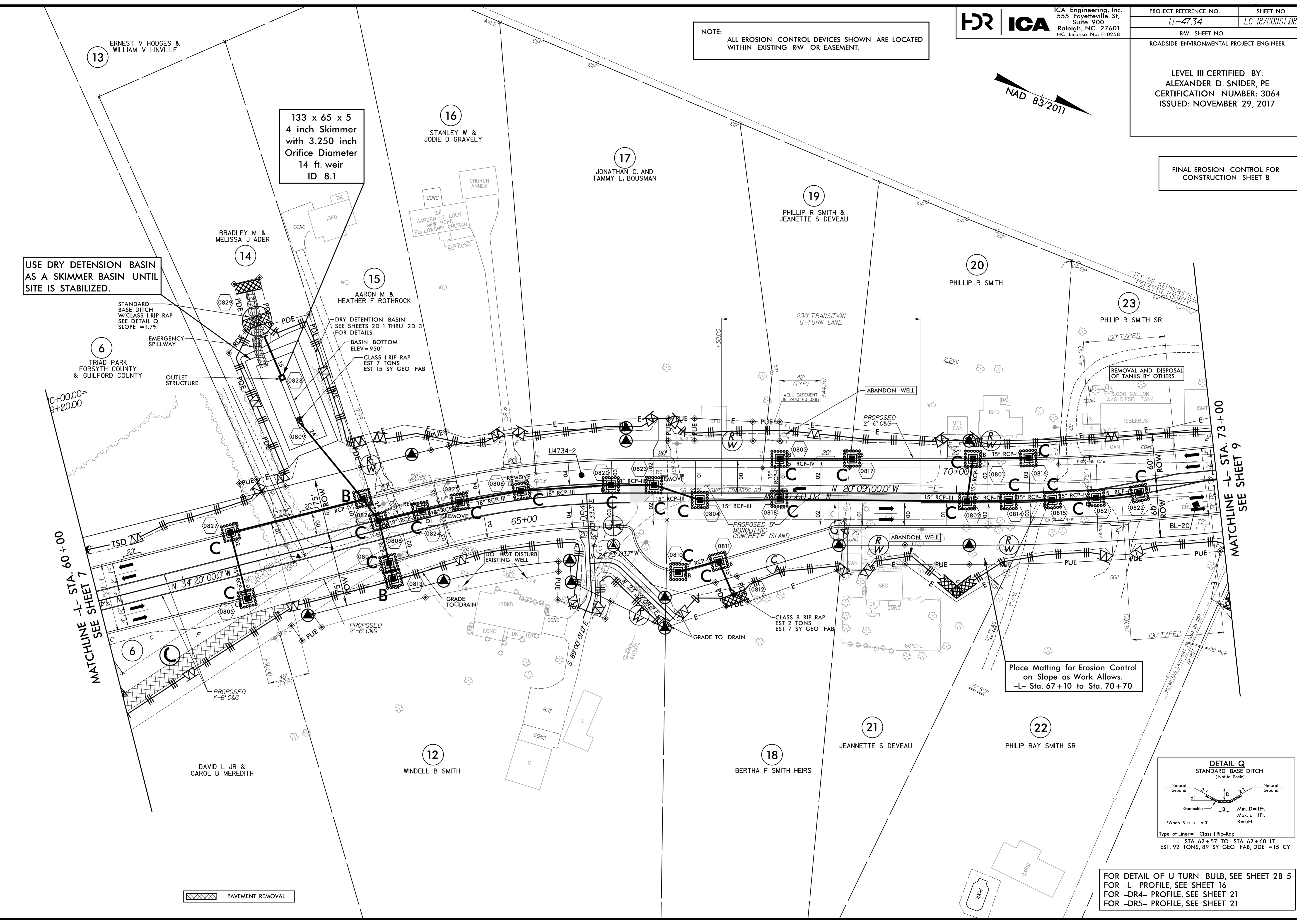
-L- STA. 47+00 TO STA. 50+38 LT, PSRM = 263 SY



FOR DETAIL OF U-TURN BULB, SEE SHEET 2B-5
 FOR -L- PROFILE, SEE SHEET 15
 FOR -Y9- PROFILE, SEE SHEET 18
 FOR -DR3- PROFILE, SEE SHEET 21

2/19/2018
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 ICA ENGINEERING, INC.

NOTE:
 ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED
 WITHIN EXISTING RW OR EASEMENT.



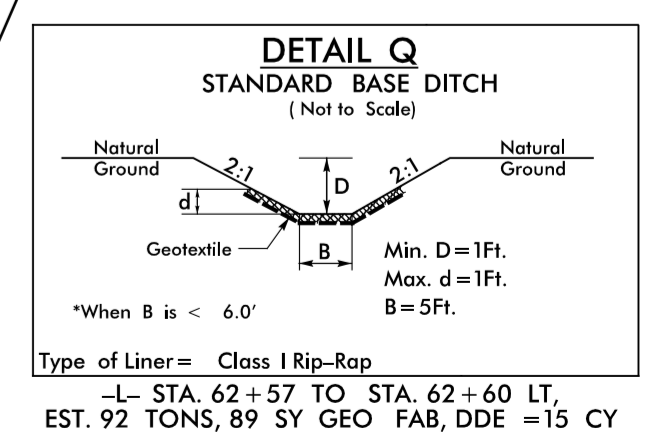
USE DRY DETENTION BASIN
 AS A SKIMMER BASIN UNTIL
 SITE IS STABILIZED.

133 x 65 x 5
 4 inch Skimmer
 with 3.250 inch
 Orifice Diameter
 14 ft weir
 ID 8.1

STANDARD
 BASE DITCH
 W/CLASS I RIP RAP
 SEE DETAIL Q
 SLOPE = 1.7%

DRY DETENTION BASIN
 SEE SHEETS 2D-1 THRU 2D-3
 FOR DETAILS
 BASIN BOTTOM
 ELEV = 950'
 CLASS I RIP RAP
 EST 7 TONS
 EST 15 SY GEO FAB

Place Matting for Erosion Control
 on Slope as Work Allows.
 -L- Sta. 67+10 to Sta. 70+70



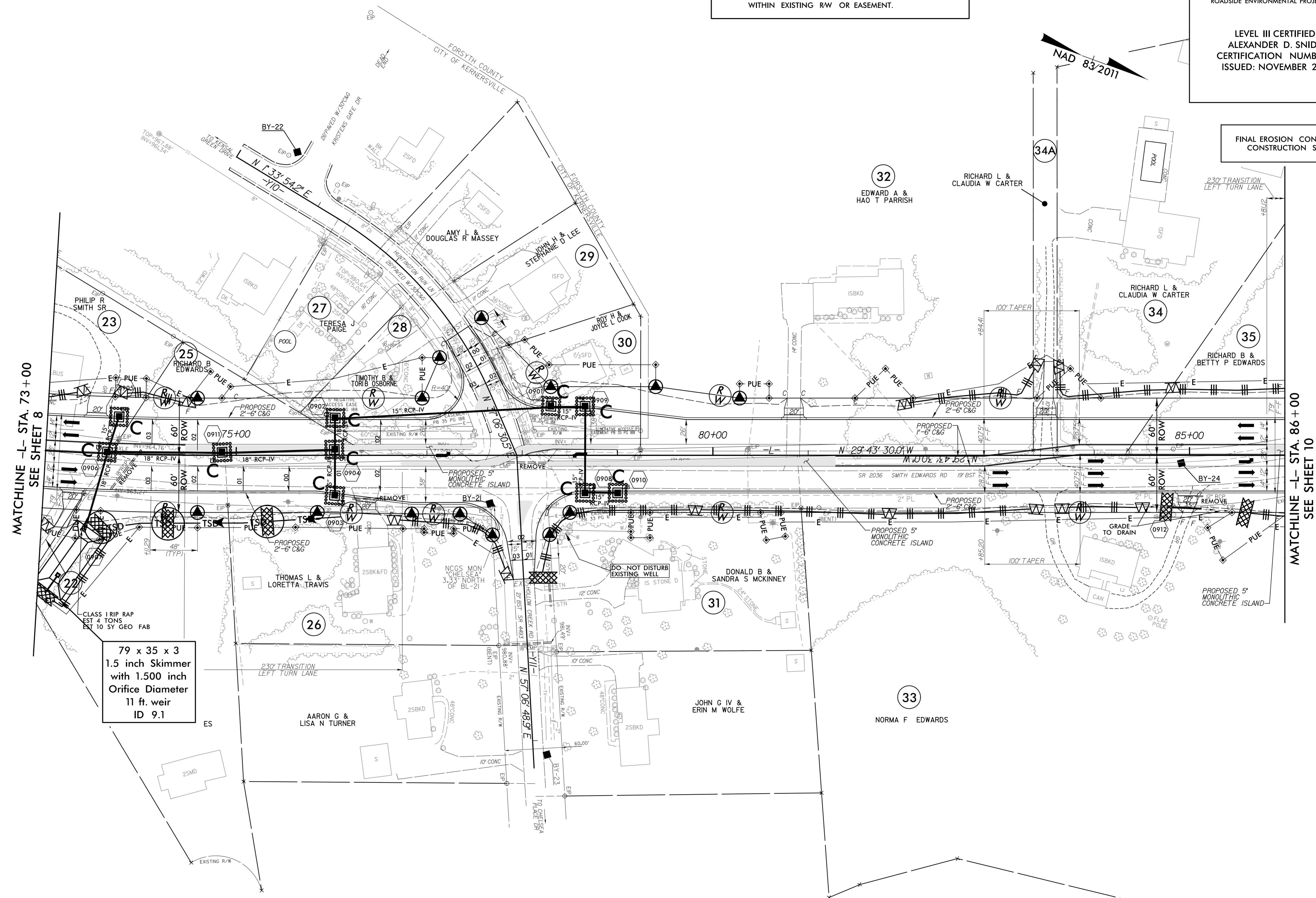
FOR DETAIL OF U-TURN BULB, SEE SHEET 2B-5
 FOR -L- PROFILE, SEE SHEET 16
 FOR -DR4- PROFILE, SEE SHEET 21
 FOR -DR5- PROFILE, SEE SHEET 21

2/19/2018
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 ICA ENGINEERING, INC.

LEVEL III CERTIFIED BY:
 ALEXANDER D. SNIDER, PE
 CERTIFICATION NUMBER: 3064
 ISSUED: NOVEMBER 29, 2017

NOTE:
 ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED
 WITHIN EXISTING RW OR EASEMENT.

FINAL EROSION CONTROL FOR
 CONSTRUCTION SHEET 9



MATCHLINE -L- STA. 73+00
 SEE SHEET 8

MATCHLINE -L- STA. 86+00
 SEE SHEET 10

79 x 35 x 3
 1.5 inch Skimmer
 with 1.500 inch
 Orifice Diameter
 11 ft. weir
 ID 9.1

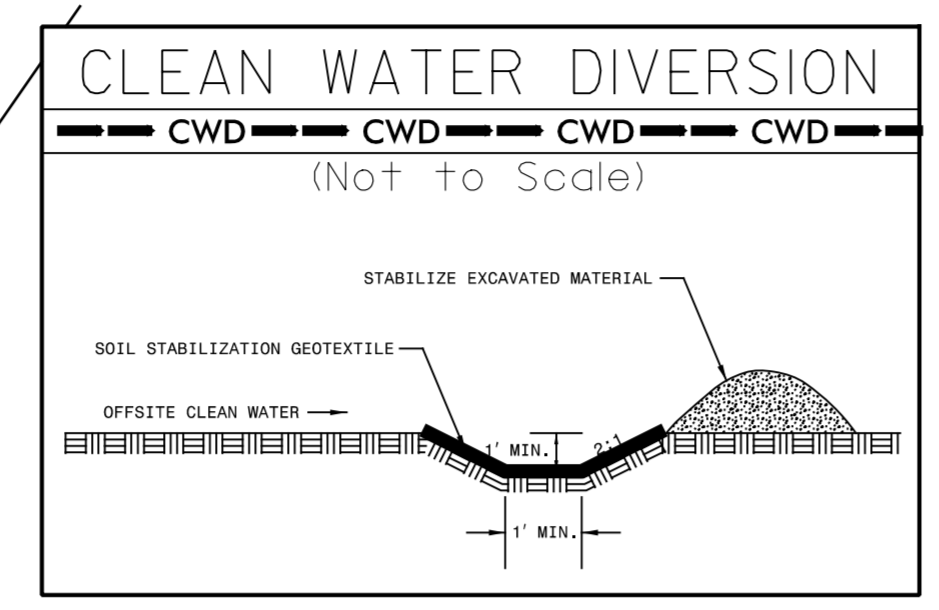
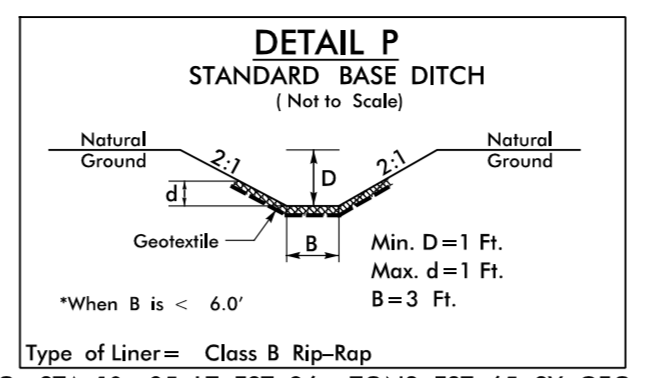
FOR -L- & -Y10- INTERSECTION DETAIL, SEE SHEET 2B-6
 FOR -L- PROFILE, SEE SHEET 16
 FOR -Y10- PROFILE, SEE SHEET 19
 FOR -Y11- PROFILE, SEE SHEET 19

PROP PAINT STRIPING

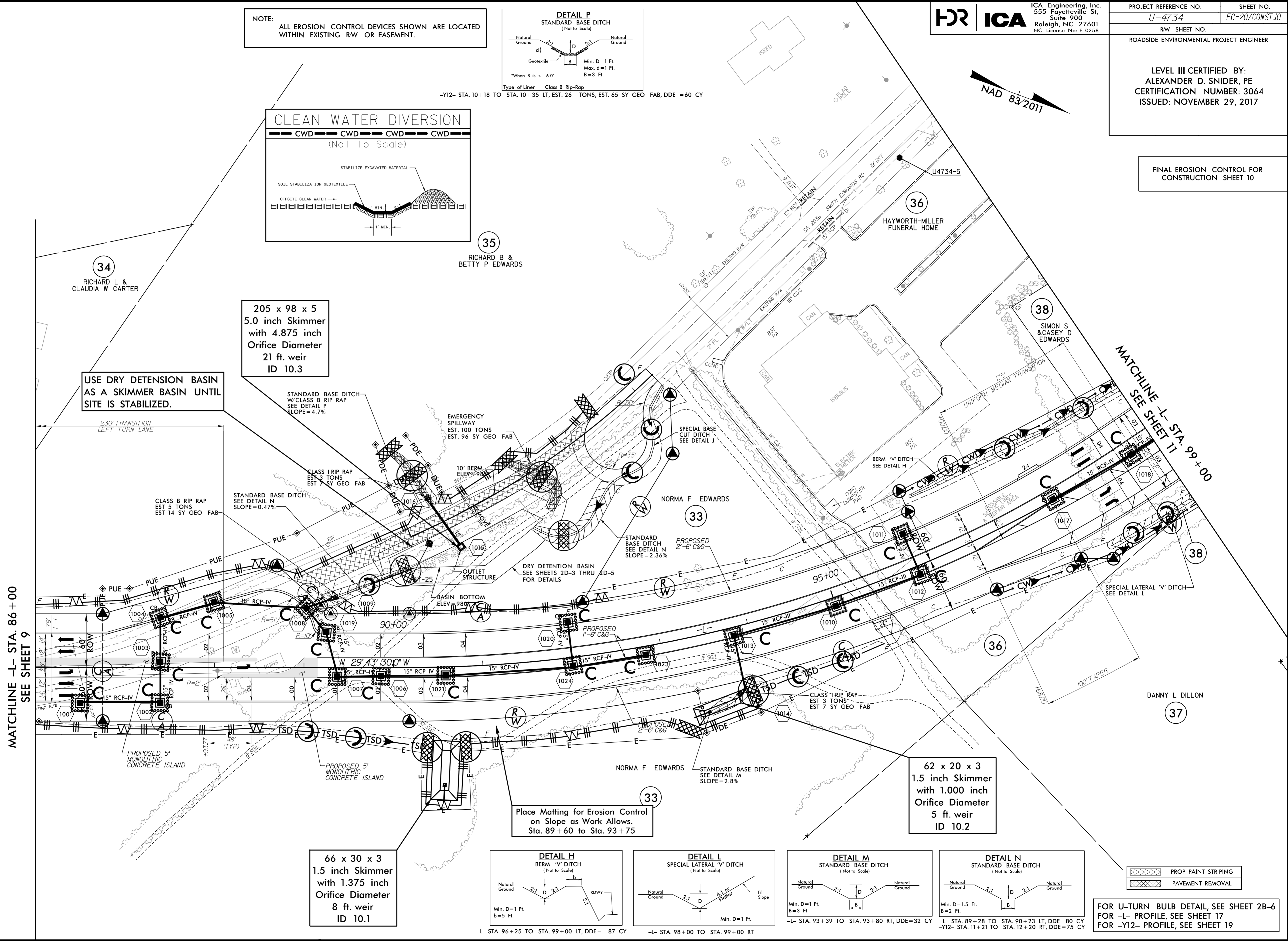
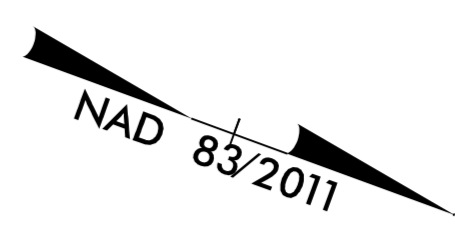
LEVEL III CERTIFIED BY:
 ALEXANDER D. SNIDER, PE
 CERTIFICATION NUMBER: 3064
 ISSUED: NOVEMBER 29, 2017

FINAL EROSION CONTROL FOR
 CONSTRUCTION SHEET 10

NOTE:
 ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED
 WITHIN EXISTING RW OR EASEMENT.



-Y12- STA. 10+18 TO STA. 10+35 LT, EST. 26 TONS, EST. 65 SY GEO FAB, DDE = 60 CY



34
 RICHARD L. &
 CLAUDIA W. CARTER

35
 RICHARD B. &
 BETTY P. EDWARDS

38
 SIMON S. &
 CASEY D. EDWARDS

37
 DANNY L. DILLON

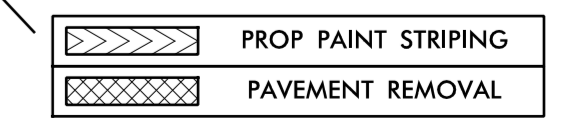
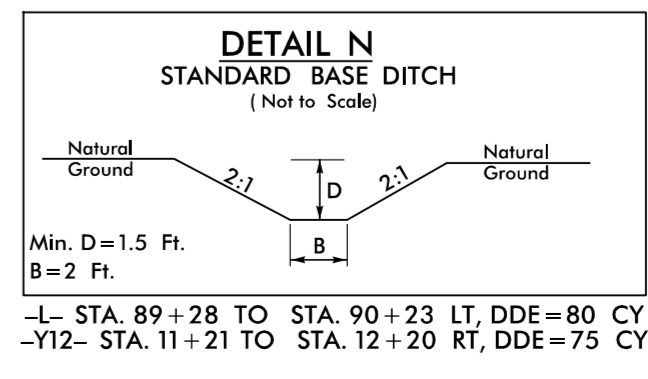
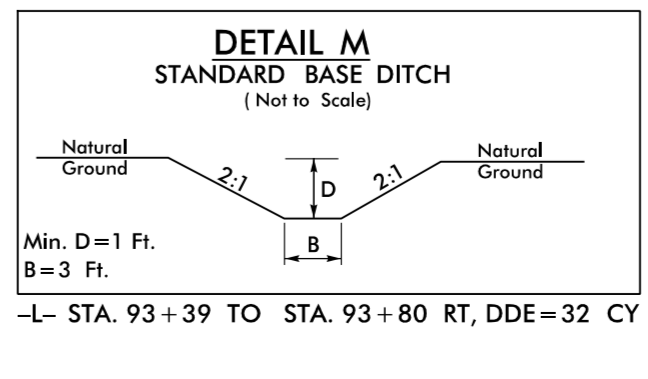
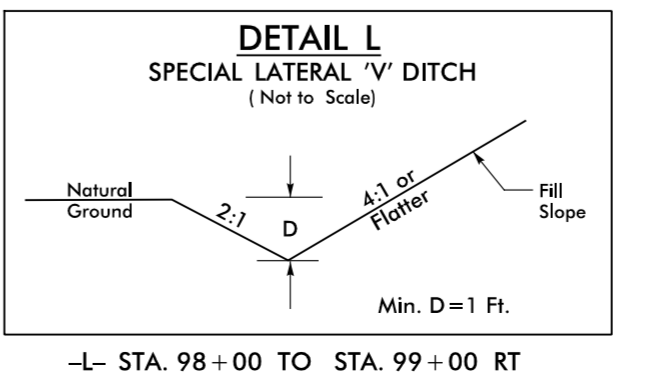
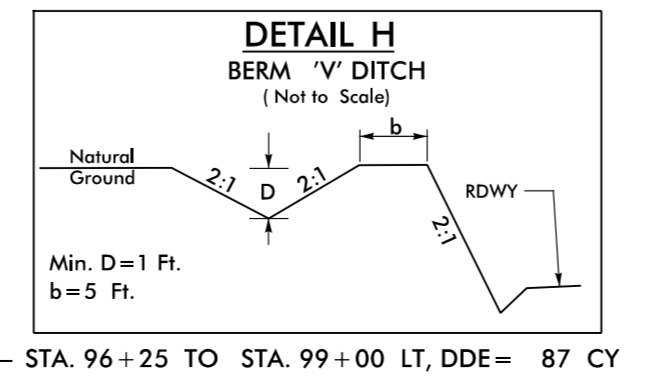
205 x 98 x 5
 5.0 inch Skimmer
 with 4.875 inch
 Orifice Diameter
 21 ft. weir
 ID 10.3

USE DRY DETENTION BASIN
 AS A SKIMMER BASIN UNTIL
 SITE IS STABILIZED.

Place Matting for Erosion Control
 on Slope as Work Allows.
 Sta. 89+60 to Sta. 93+75

62 x 20 x 3
 1.5 inch Skimmer
 with 1.000 inch
 Orifice Diameter
 5 ft. weir
 ID 10.2

66 x 30 x 3
 1.5 inch Skimmer
 with 1.375 inch
 Orifice Diameter
 8 ft. weir
 ID 10.1



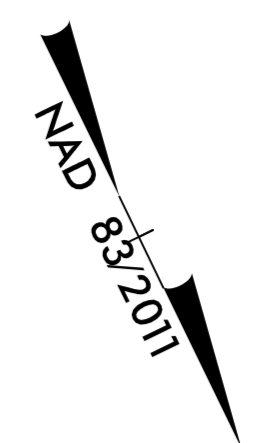
FOR U-TURN BULB DETAIL, SEE SHEET 2B-6
 FOR -L- PROFILE, SEE SHEET 17
 FOR -Y12- PROFILE, SEE SHEET 19

2/19/2018 M:\Projects\2018\20180219\20180219\Control\Cadd\U4734_hyd_esc_f.ina_l_psh10.dgn ICA ENGINEERING, INC.

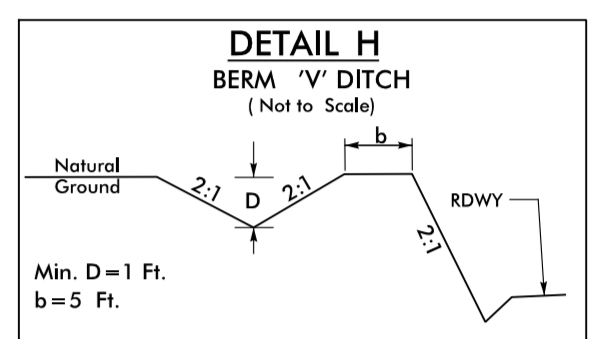
NOTE: ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

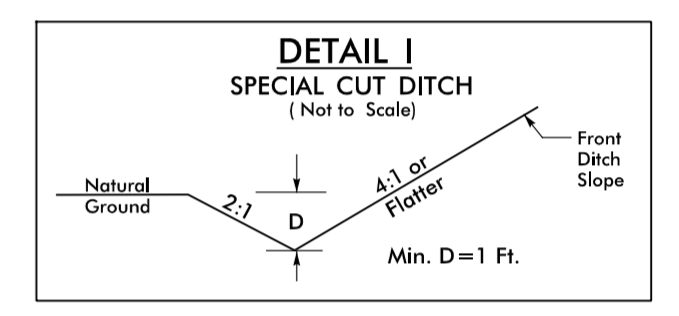
LEVEL III CERTIFIED BY:
ALEXANDER D. SNIDER, PE
CERTIFICATION NUMBER: 3064
ISSUED: NOVEMBER 29, 2017



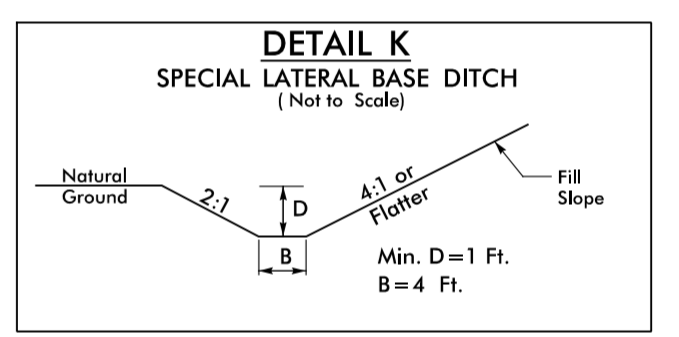
FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 11



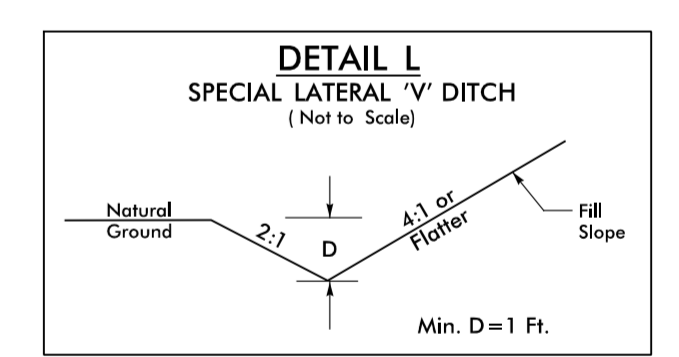
-L- STA. 99+00 TO STA. 99+50 LT, DDE=18 CY



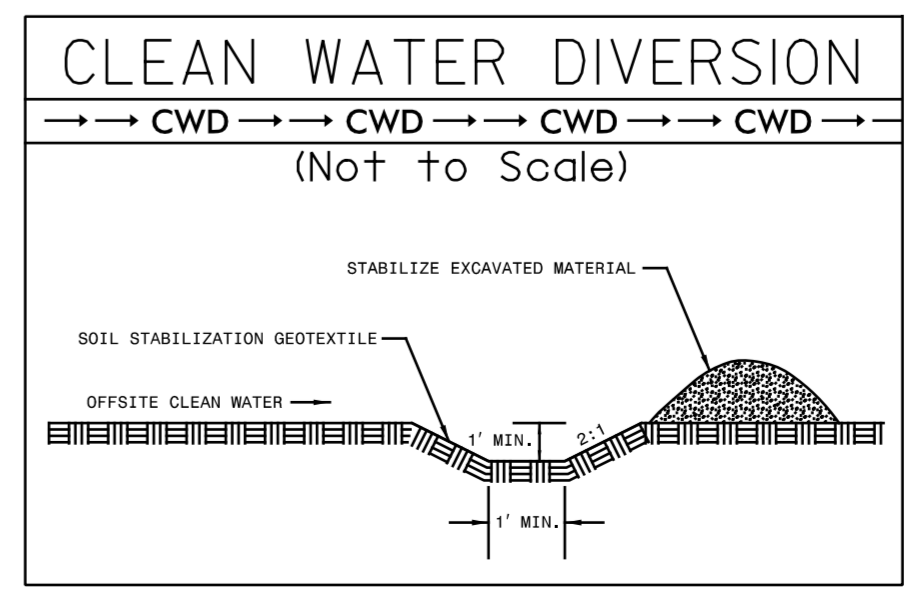
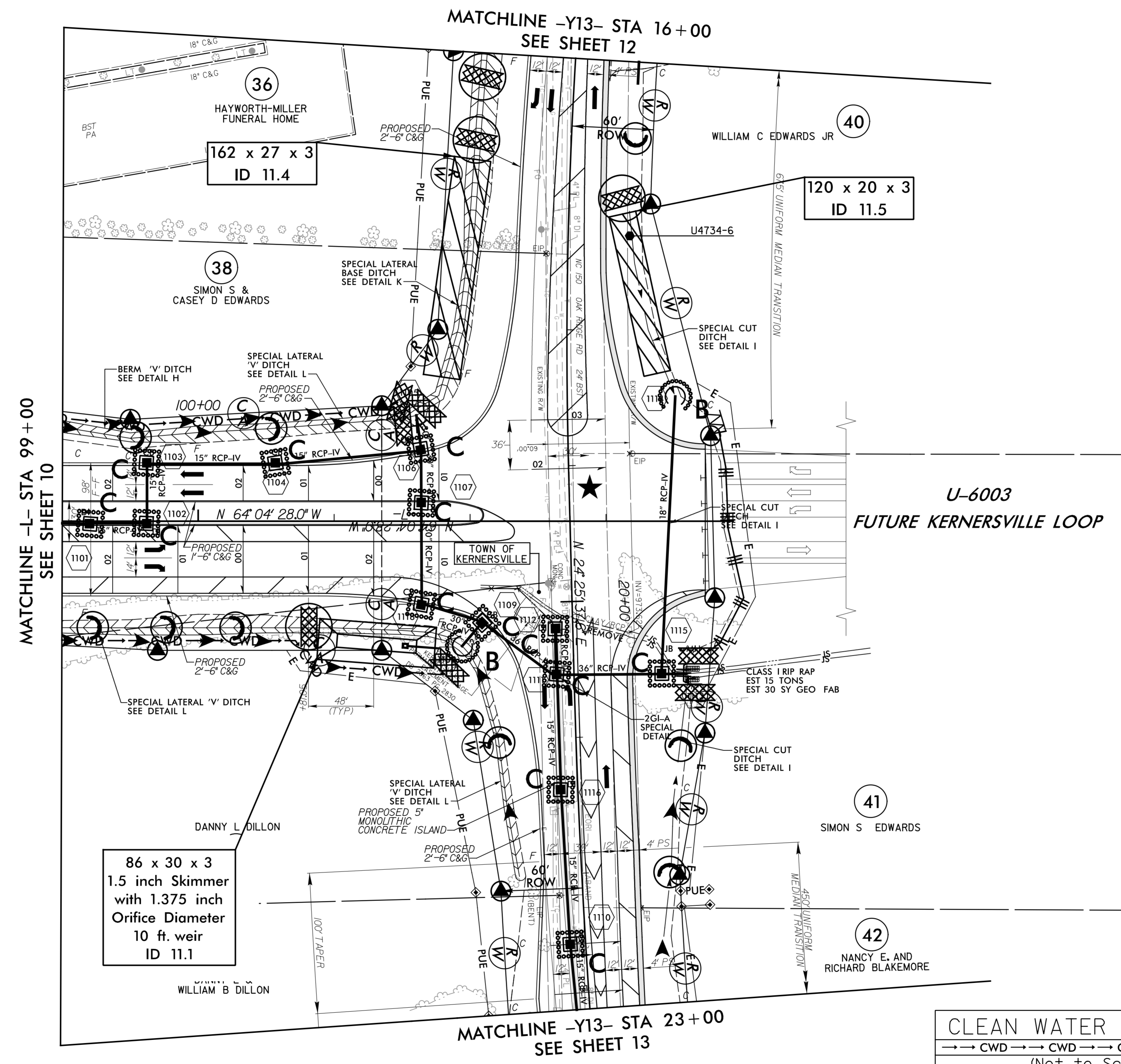
-Y13- STA. 17+00 TO STA. 18+50 LT
-Y13- STA. 20+55 TO STA. 22+50 LT



-Y13- STA. 16+00 TO STA. 18+61 RT



-L- STA. 99+50 TO STA. 101+60 LT
-L- STA. 99+00 TO STA. 101+95 RT
-Y13- STA. 20+30 TO STA. 22+00 RT



FOR -L- & -Y13- INTERSECTION DETAIL, SEE SHEET 2B-7
FOR -L- PROFILE, SEE SHEET 17
FOR -Y13- PROFILE, SEE SHEET 20



2/19/2018 M:\Projects\U4734\Erosion Control\U4734_hyd_esc_final_psh11.dgn ICA ENGINEERING, INC.

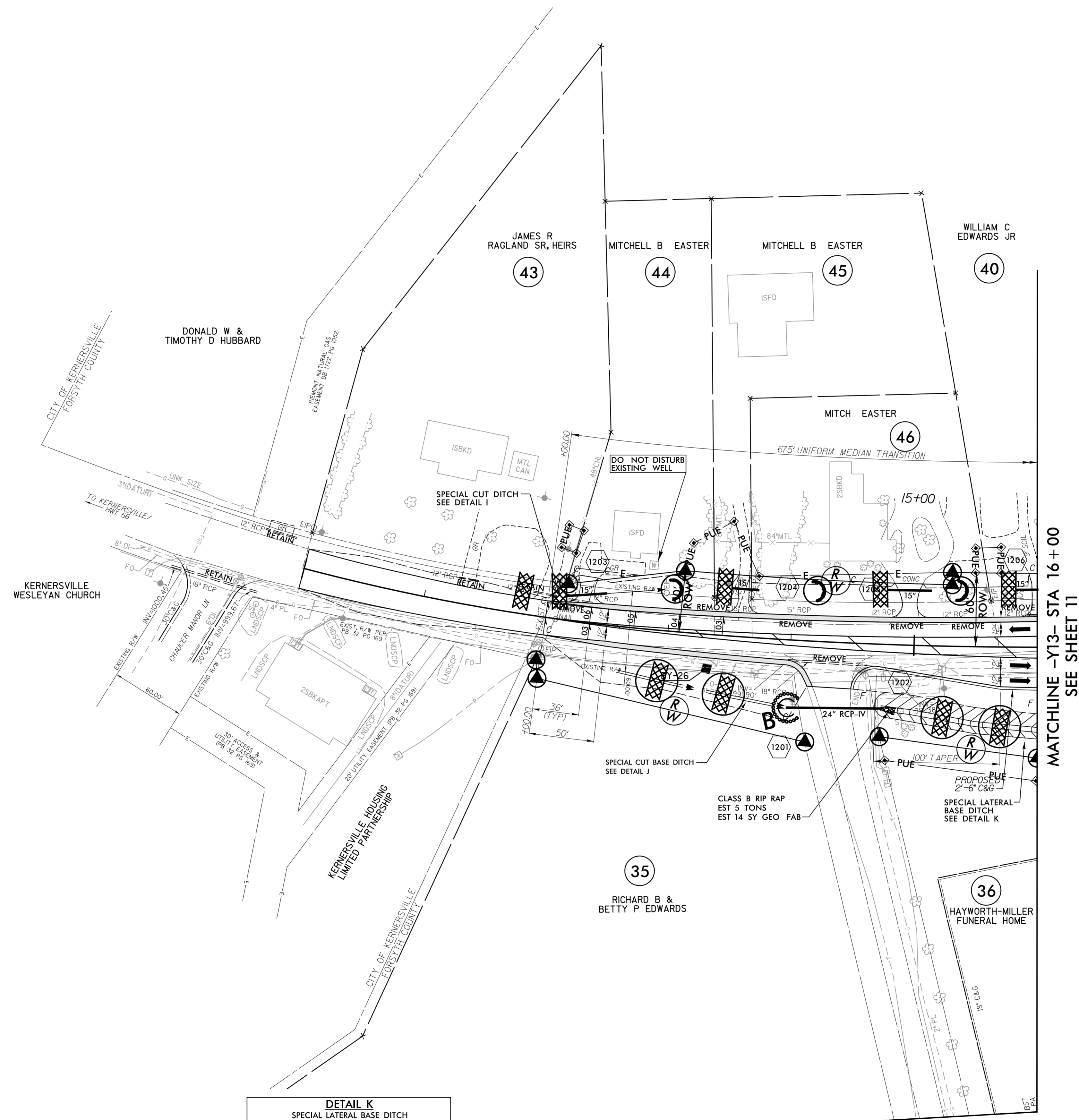
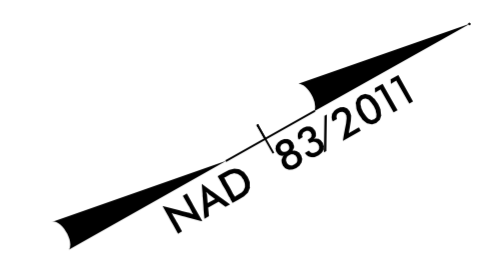
NOTE: ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.

ICA Engineering, Inc.
555 Fayetteville St,
Suite 900
Raleigh, NC 27601
NC License No: F-0258

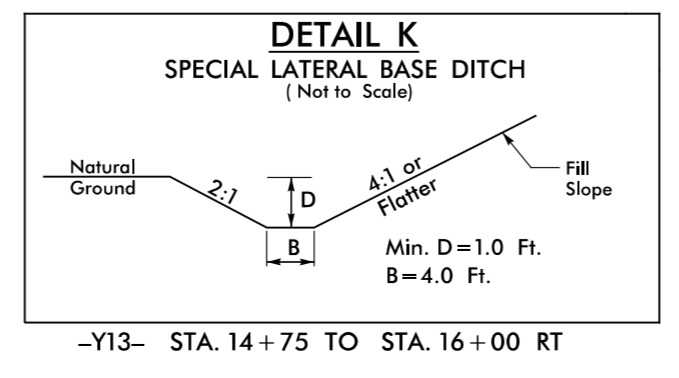
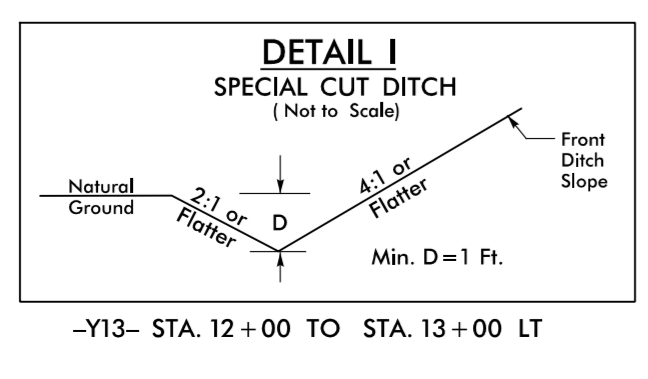
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U-4734	EC-22/CONST.12
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	

LEVEL III CERTIFIED BY:
ALEXANDER D. SNIDER, PE
CERTIFICATION NUMBER: 3064
ISSUED: NOVEMBER 29, 2017

FINAL EROSION CONTROL FOR
CONSTRUCTION SHEET 12



MATCHLINE -Y13- STA 16+00
SEE SHEET 11



PROP PAINT STRIPING
FOR -Y13- PROFILE, SEE SHEET 20

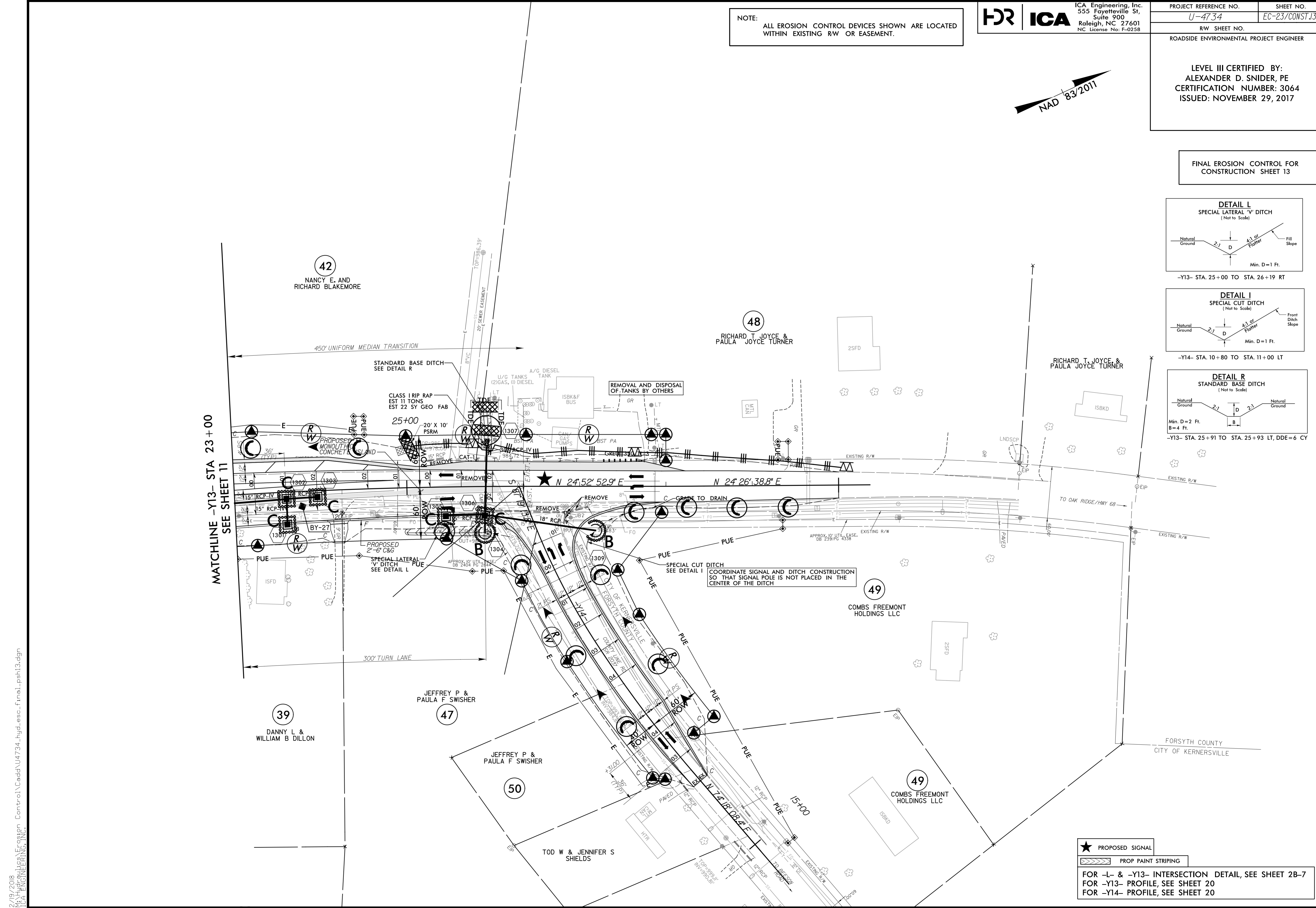
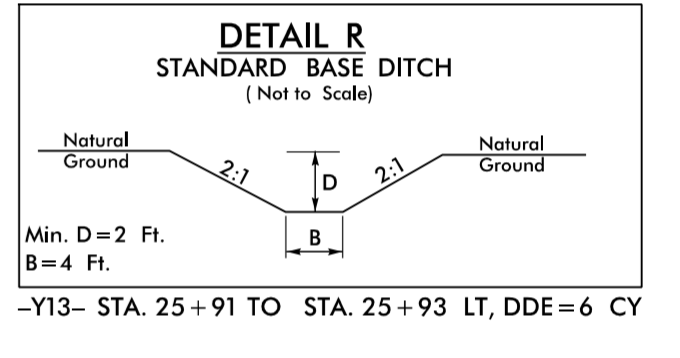
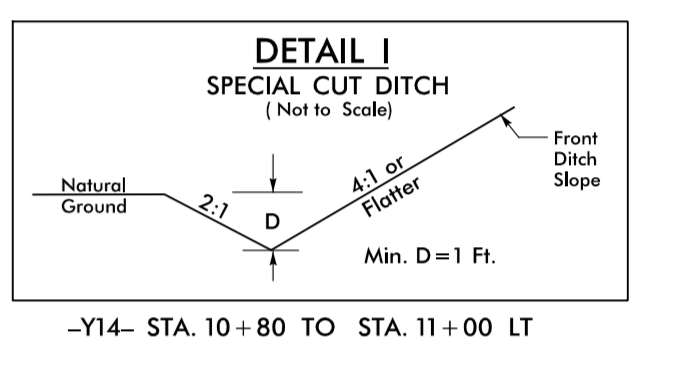
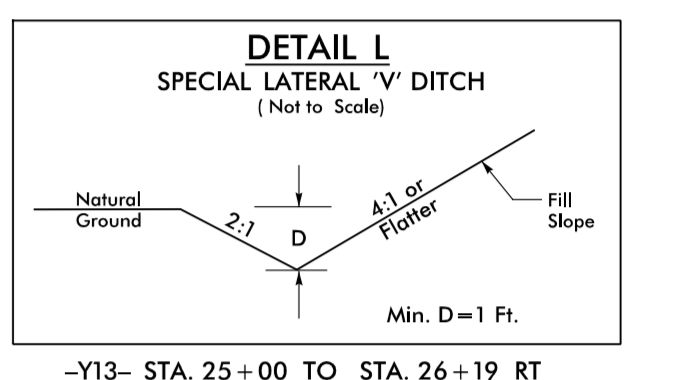
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LEVEL III CERTIFIED BY:
 ALEXANDER D. SNIDER, PE
 CERTIFICATION NUMBER: 3064
 ISSUED: NOVEMBER 29, 2017

FINAL EROSION CONTROL FOR
 CONSTRUCTION SHEET 13



2/19/2018
 M:\Projects\ICA\Projects\Control\U4734_hyd_esc_final_psh13.dgn
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★ PROPOSED SIGNAL
 ▨▨▨▨▨ PROP PAINT STRIPING
 FOR -L- & -Y13- INTERSECTION DETAIL, SEE SHEET 2B-7
 FOR -Y13- PROFILE, SEE SHEET 20
 FOR -Y14- PROFILE, SEE SHEET 20