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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

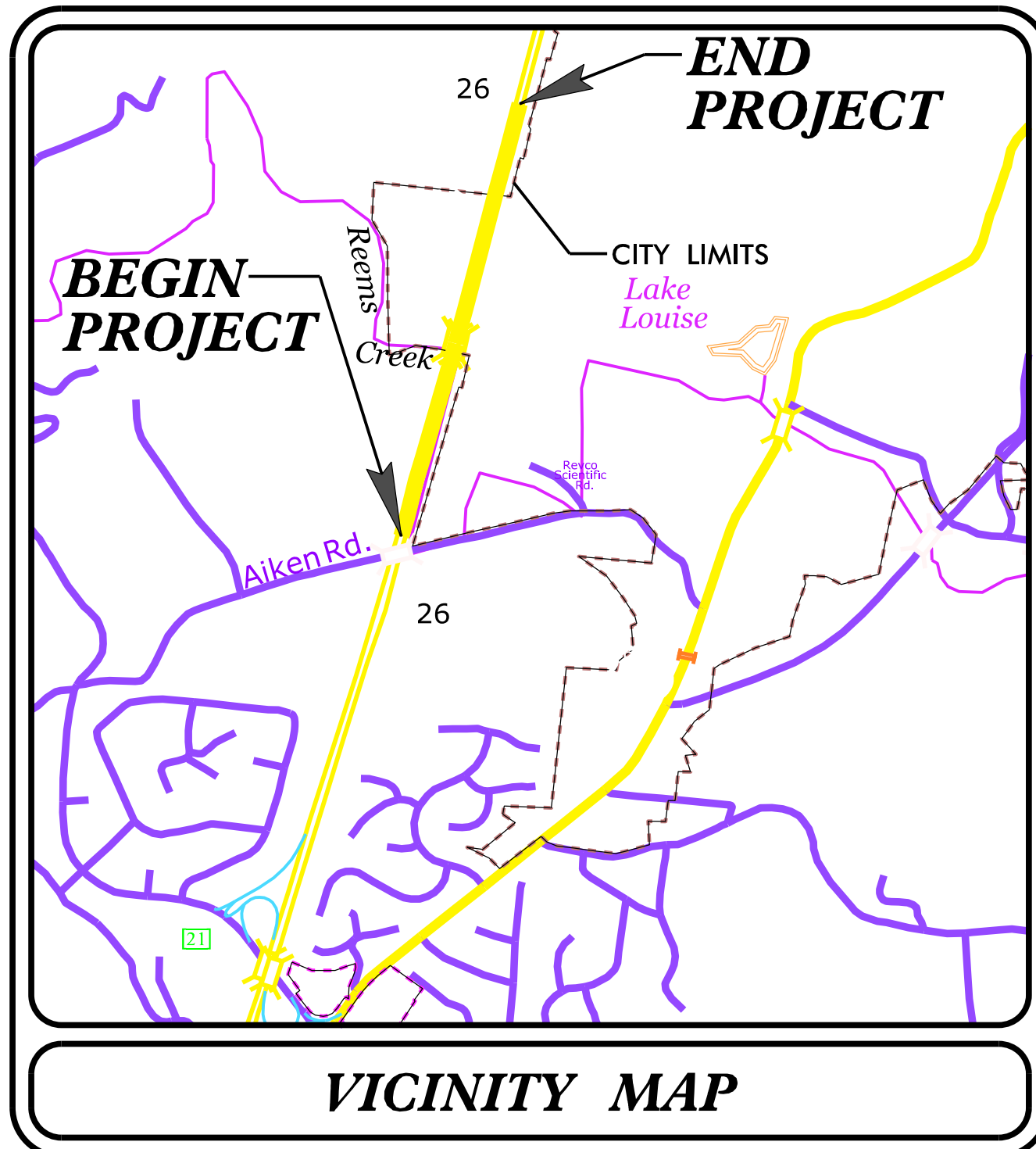
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

BUNCOMBE COUNTY

LOCATION: REPLACE US-19, US-23, US-25, US-70, FUTURE I-26
BRIDGES OVER REEMS CREEK- STRUCTURES NO. 370 and 373
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

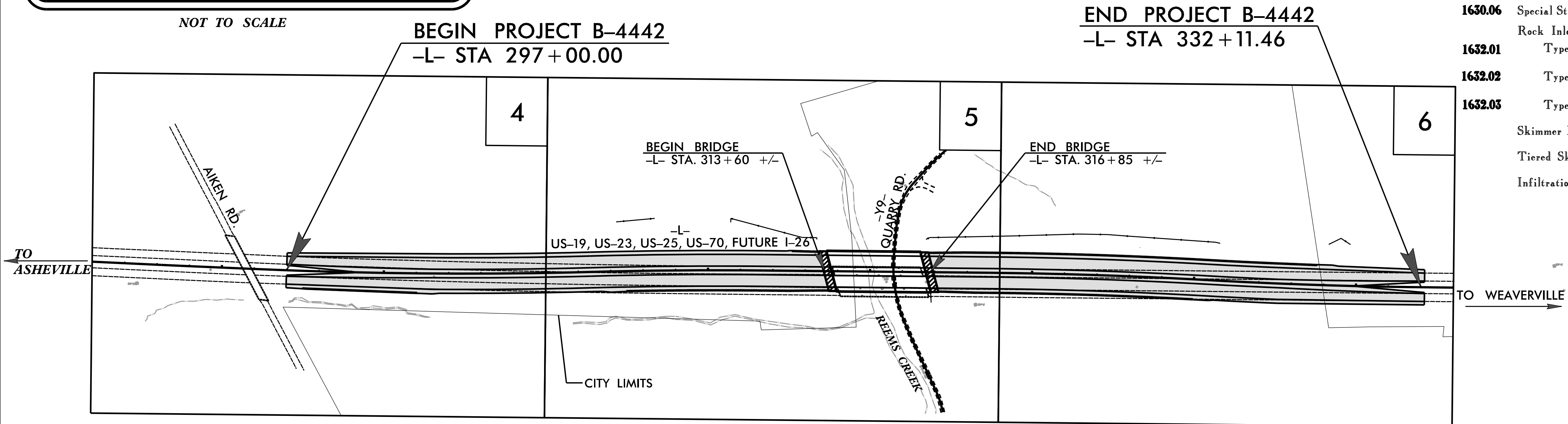
NAD 83/2011

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4442	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38368.1.2	0019061	PE / CONST.	



VICINITY MAP

NOT TO SCALE



EROSION AND SEDIMENT CONTROL MEASURES

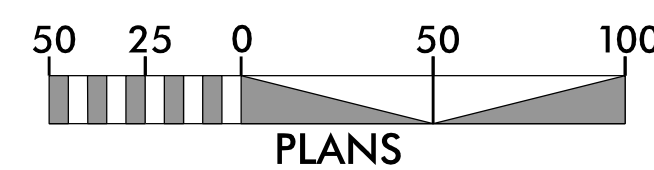
Std. #	Description	Symbol
1630.05	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	TBD
1630.02	Silt Basin Type B	Silt Basin Symbol
1633.01	Temporary Rock Silt Check Type-A	Rock Silt Check Symbol
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	Rock Silt Check with PAM Symbol
1633.02	Temporary Rock Silt Check Type-B	Rock Silt Check Symbol
	Wattle/Coir Fiber Wattle	Wattle Symbol
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	Wattle with PAM Symbol
1634.01	Temporary Rock Sediment Dam Type-A	Rock Sediment Dam Type A Symbol
1634.02	Temporary Rock Sediment Dam Type-B	Rock Sediment Dam Type B Symbol
1635.01	Rock Pipe Inlet Sediment Trap Type-A	Rock Pipe Inlet Sediment Trap Type A Symbol
1635.02	Rock Pipe Inlet Sediment Trap Type-B	Rock Pipe Inlet Sediment Trap Type B Symbol
1630.04	Stilling Basin	Stilling Basin Symbol
1630.06	Special Stilling Basin	Special Stilling Basin Symbol
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.05	Type C	C
	Skimmer Basin	Skimmer Basin Symbol
	Tiered Skimmer Basin	Tiered Skimmer Basin Symbol
	Infiltration Basin	Infiltration Basin Symbol

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

TIP PROJECT: B-4442

CONTRACT: 38368.1.2

GRAPHIC SCALES



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

AECOM

Prepared in the Office of:

AECOM
Firm License No. F-0342
5438 Wade Park Boulevard, Suite 200
Raleigh, NC 27607
+1-919-461-1100

Designed by:

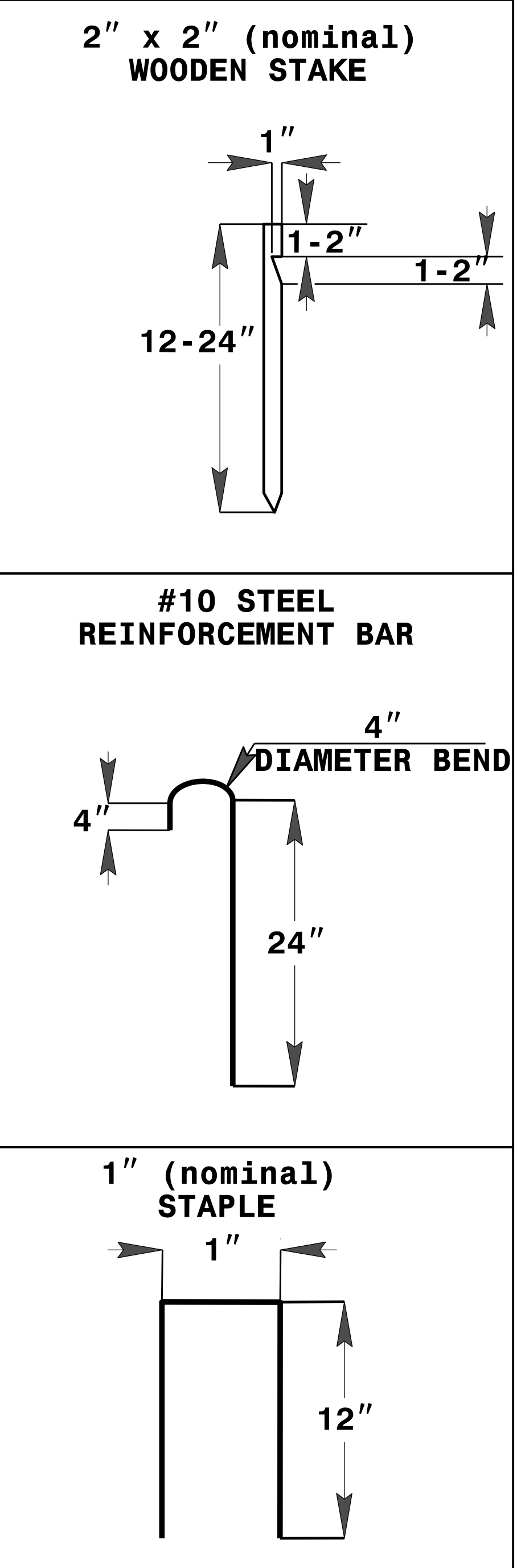
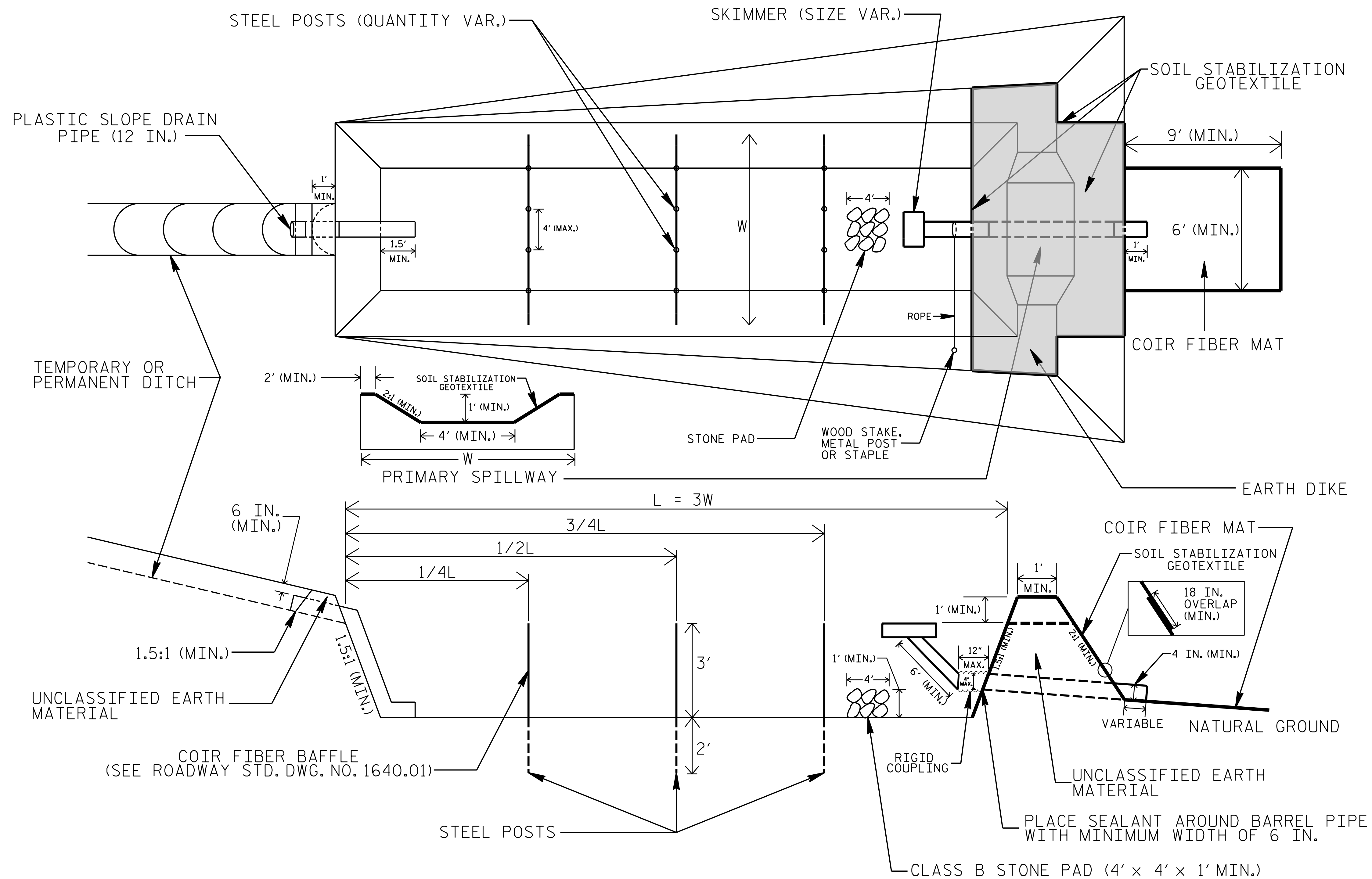
RENE REMY, CPESC, CPSWQ 3125
NAME LEVEL III CERTIFICATION NO.

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 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

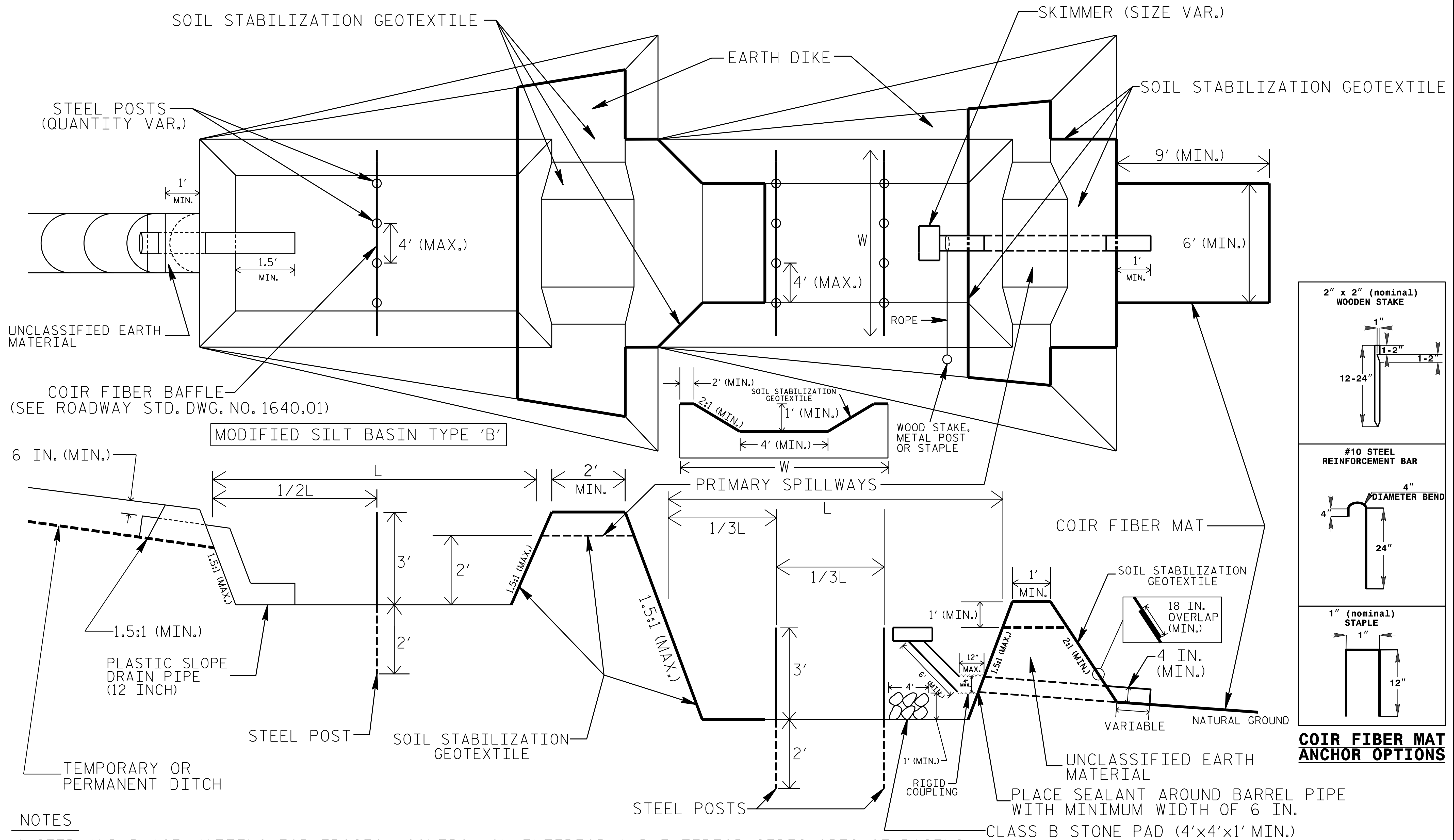
NOTES

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.).

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TIERED SKIMMER BASIN DETAIL



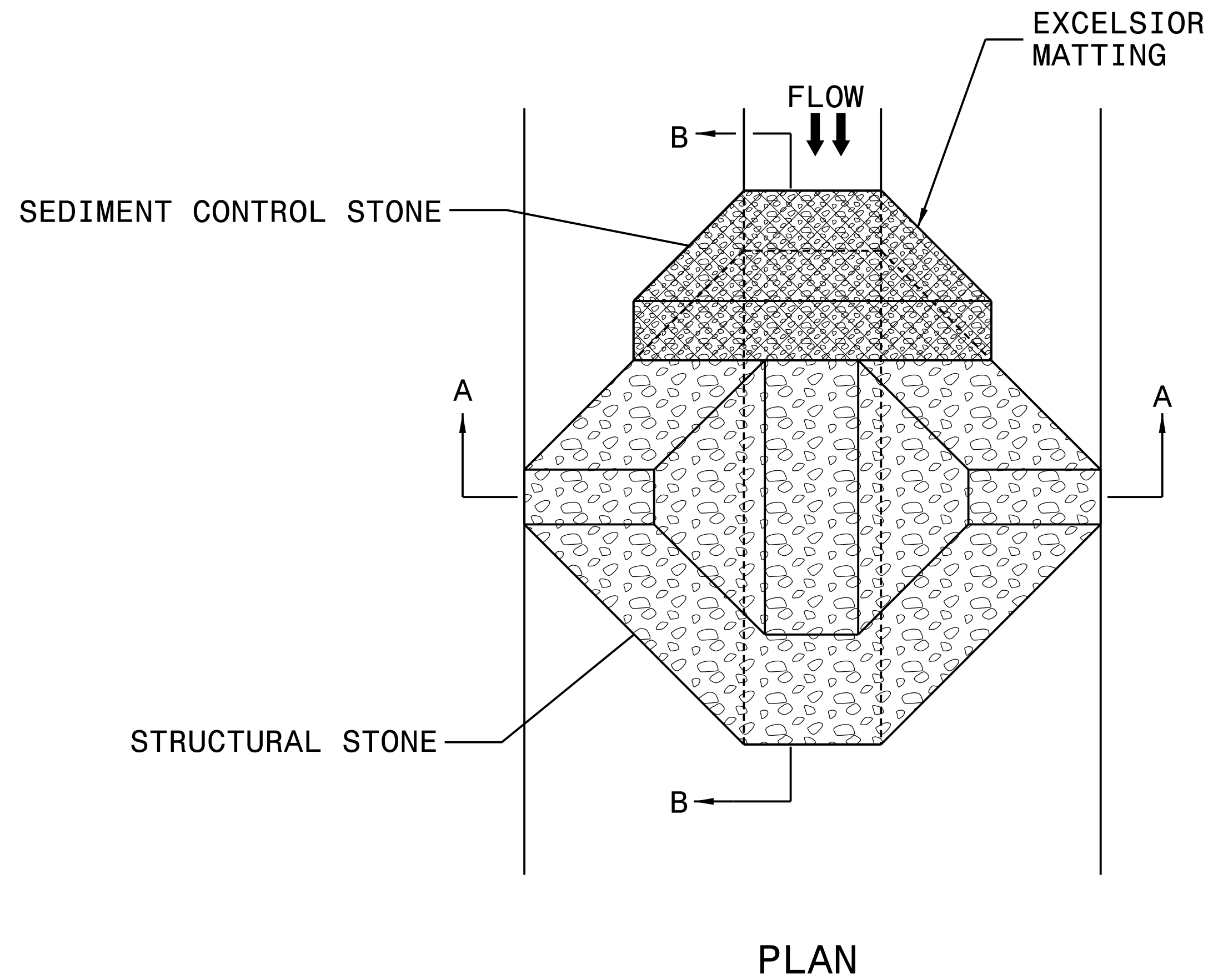
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. FOR BASIN DEPTHS OF 3FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE PRIMARY SPILLWAY WEIR LENGTHS (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

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



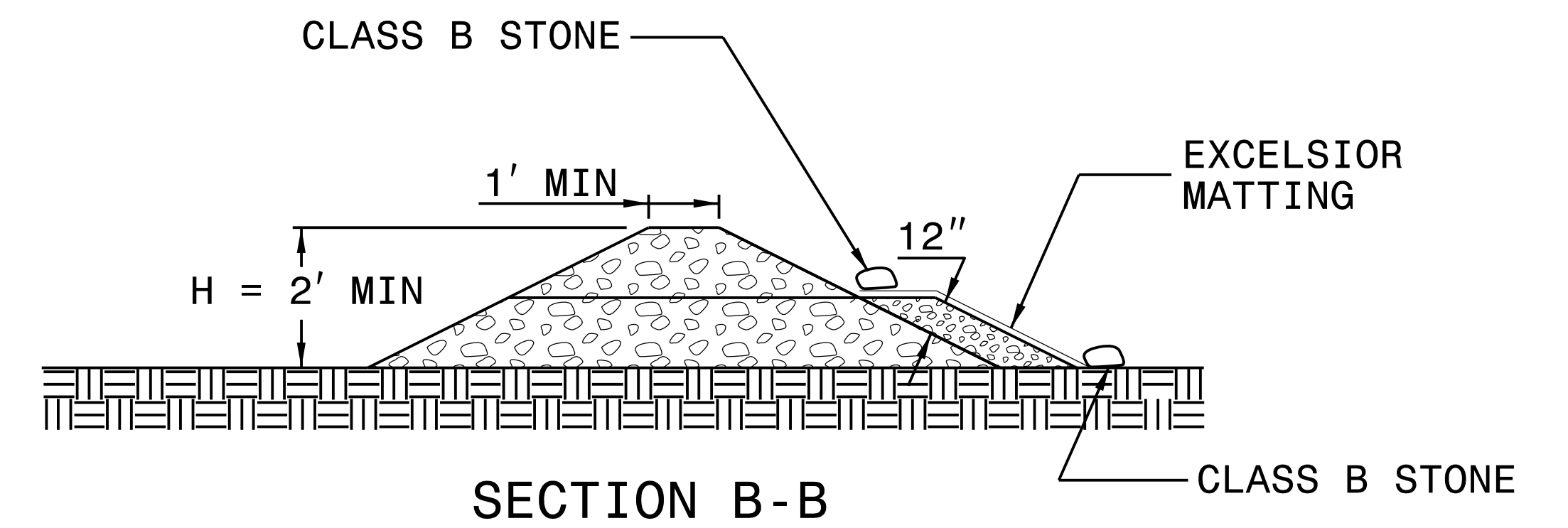
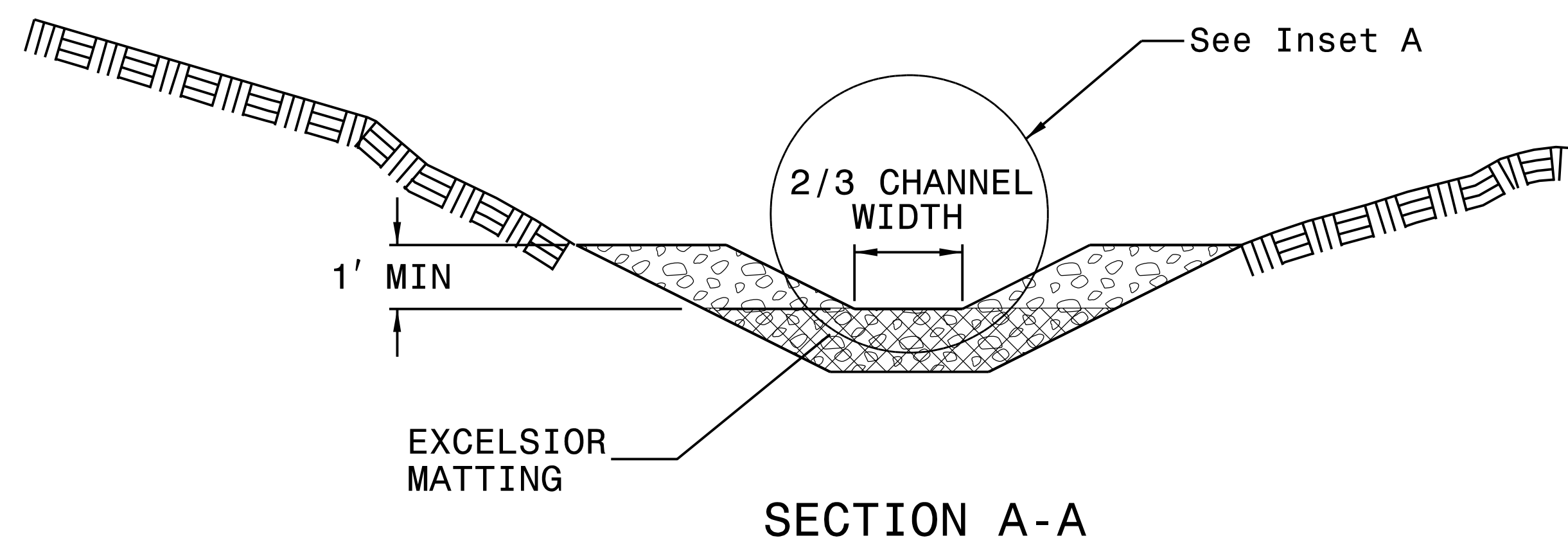
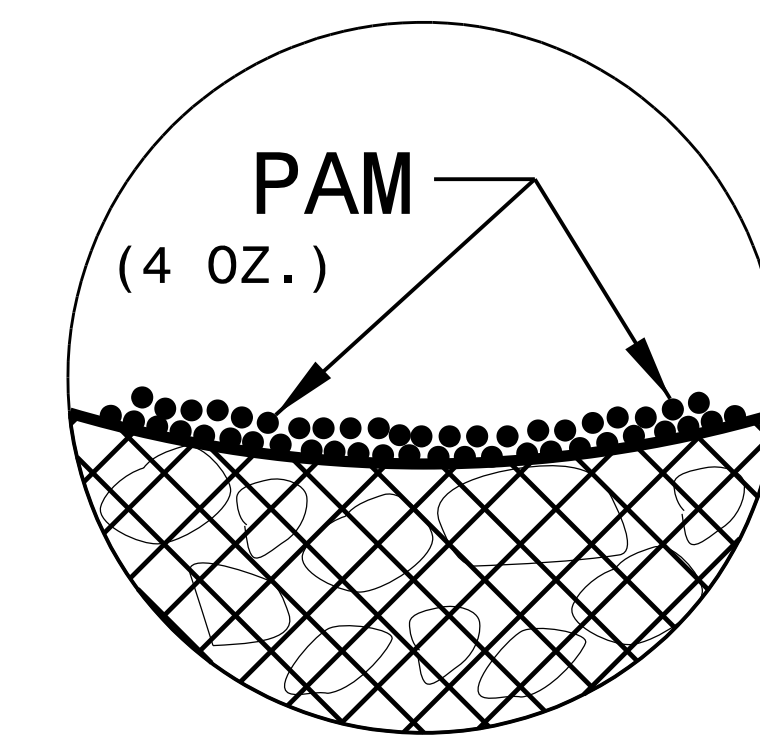
NOTES:

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.



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-26 over

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.

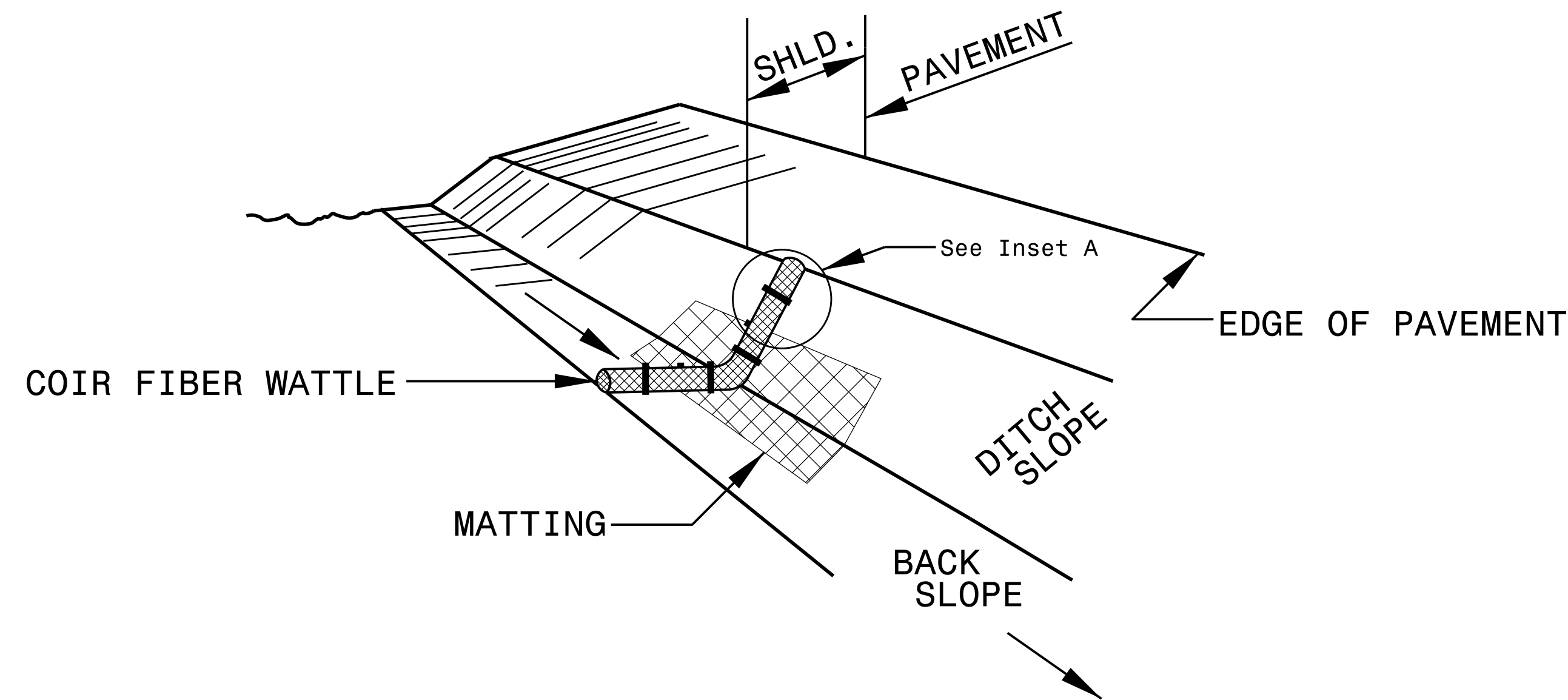
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

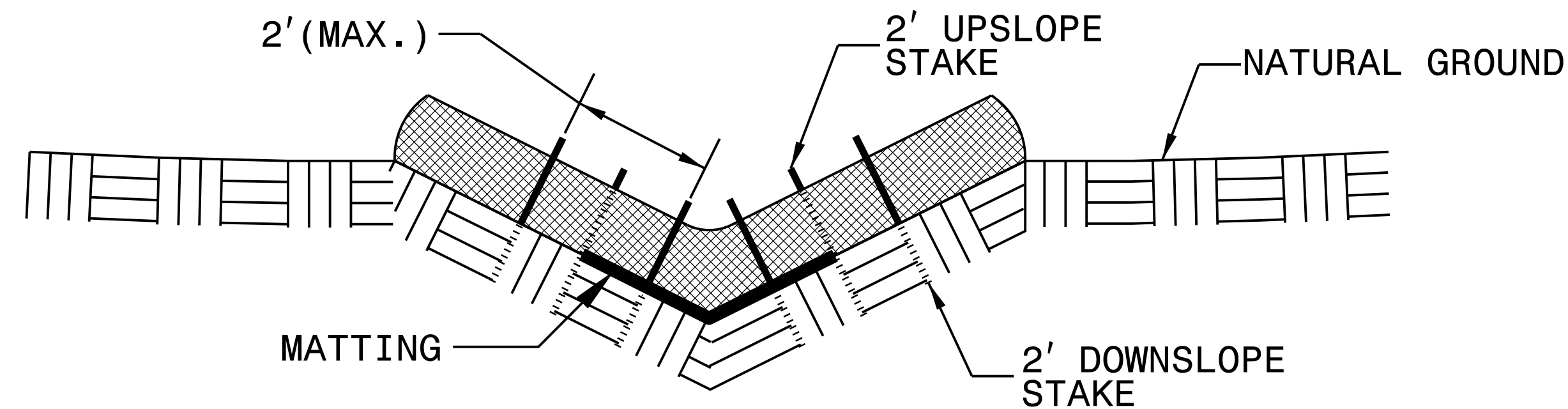
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

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.

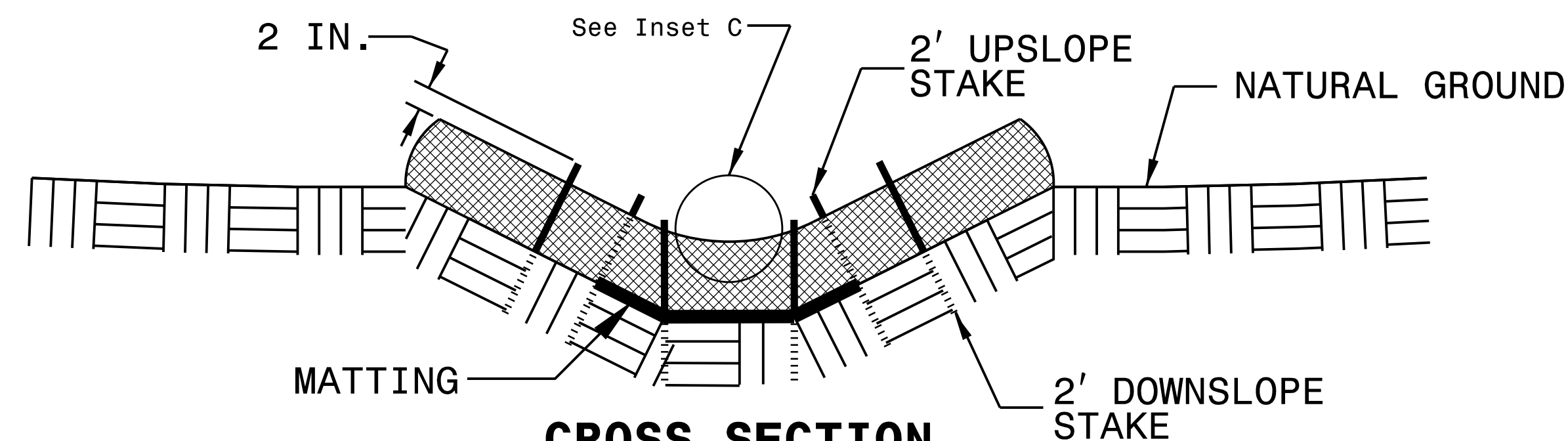
INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



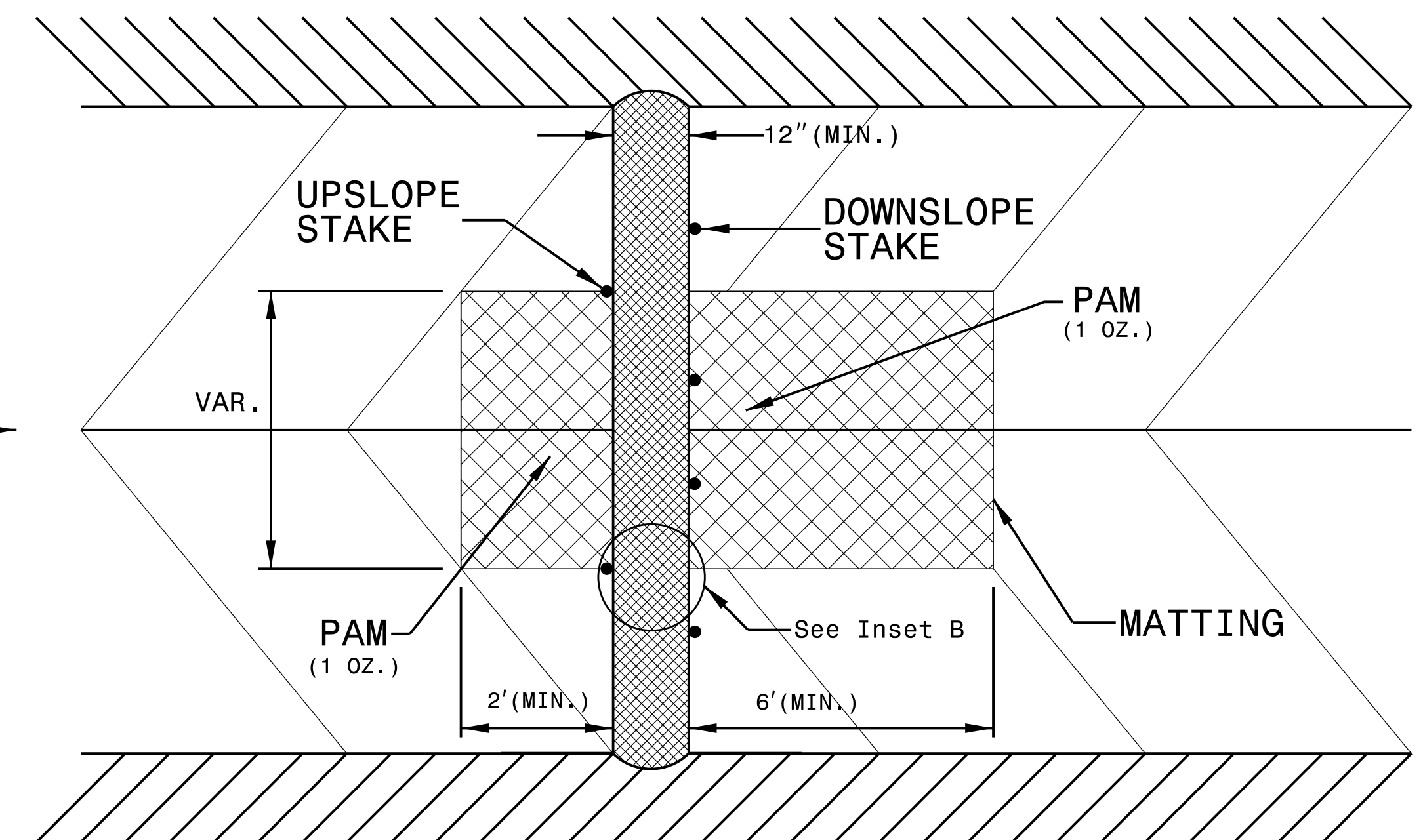
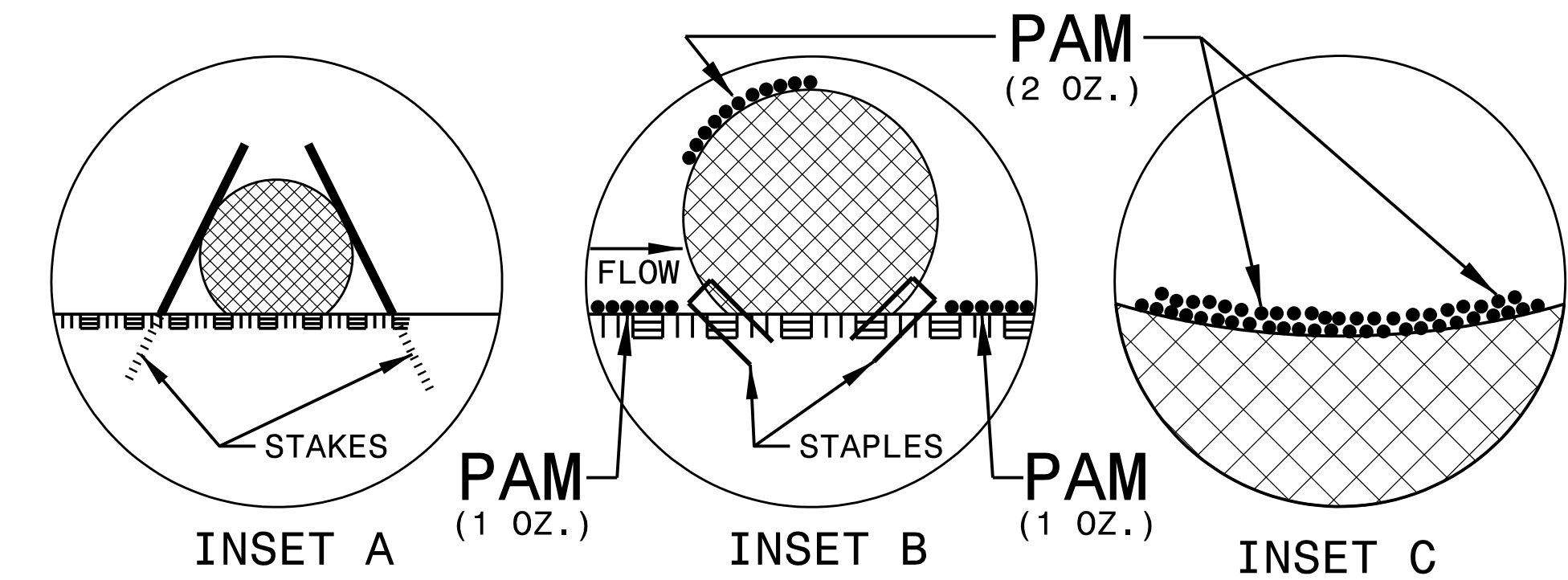
ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH



TOP VIEW

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

STRAW MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
	IN DITCHES				
4	-L-	298+00	299+00	LT	265
4	-L-	297+00	298+50	MEDIAN	225
5	-L-	305+00	312+50	LT	2,520
				SUBTOTAL	3,010
				SAY	3,100
	ON SLOPES				
4	-L-	297+50	301+00	RT	972
4	-L-	299+00	305+00	LT	5,332
5	-L-	307+00	313+50	RT	1,083
5	-L-	305+00	313+50	LT	7,083
6	-L-	317+00	321+00	RT	3,335
6	-L-	324+50	332+11	RT	6,342
6	-L-	317+00	332+11	LT	8,395
				SUBTOTAL	32,542

EXCELSIOR MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
	IN DITCHES				
4	-L-	299+00	305+00	LT	2,015
4	-L-	302+00	305+00	RT	885
5	-L-	305+00	307+00	RT	745
6	-L-	330+00	325+50	RT	1,360
				SUBTOTAL	5,005
				SAY	5,100
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				
					13,960
				TOTAL	54,702
				SAY	54,700

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

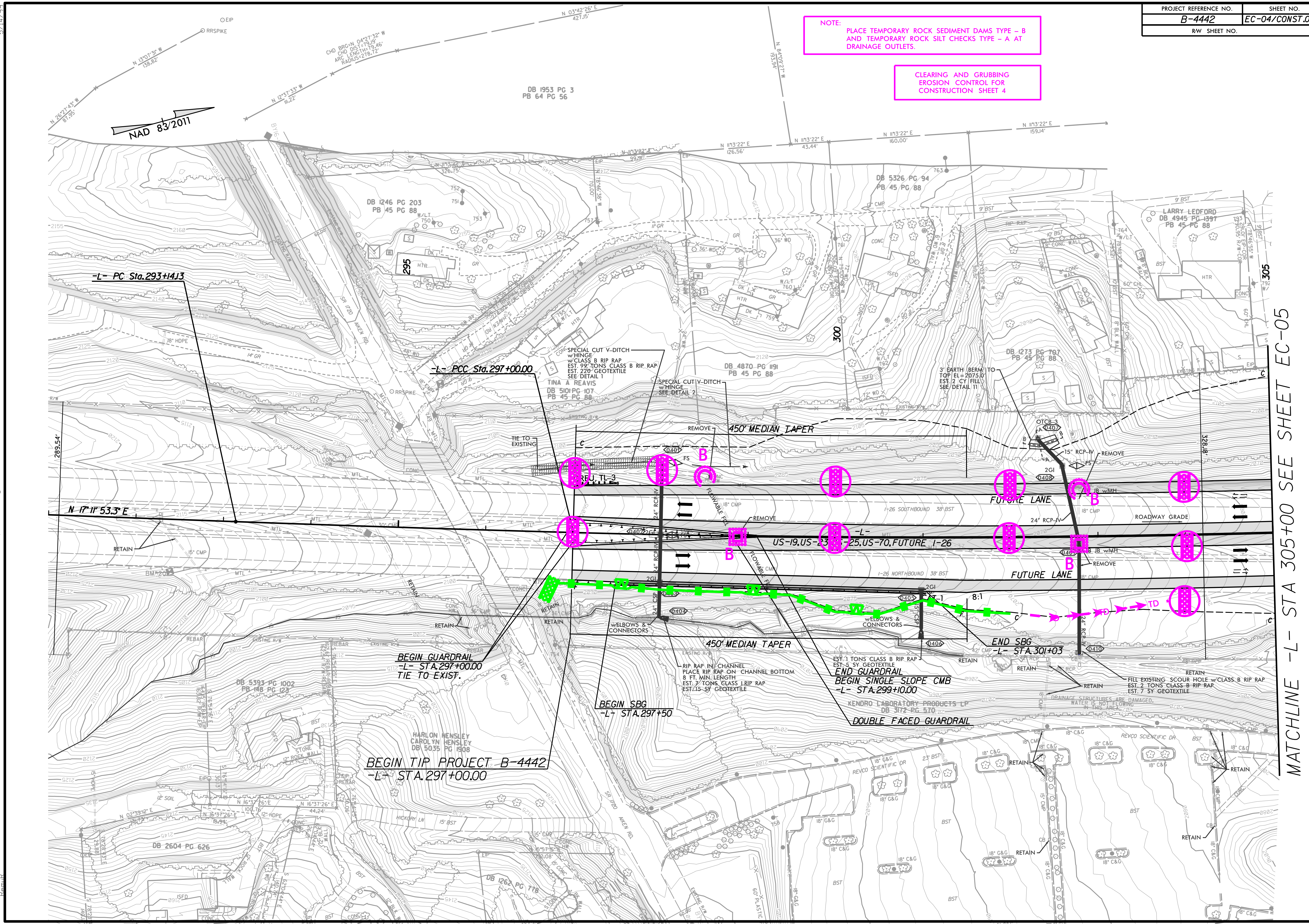
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 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.

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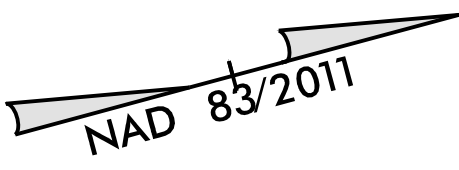
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

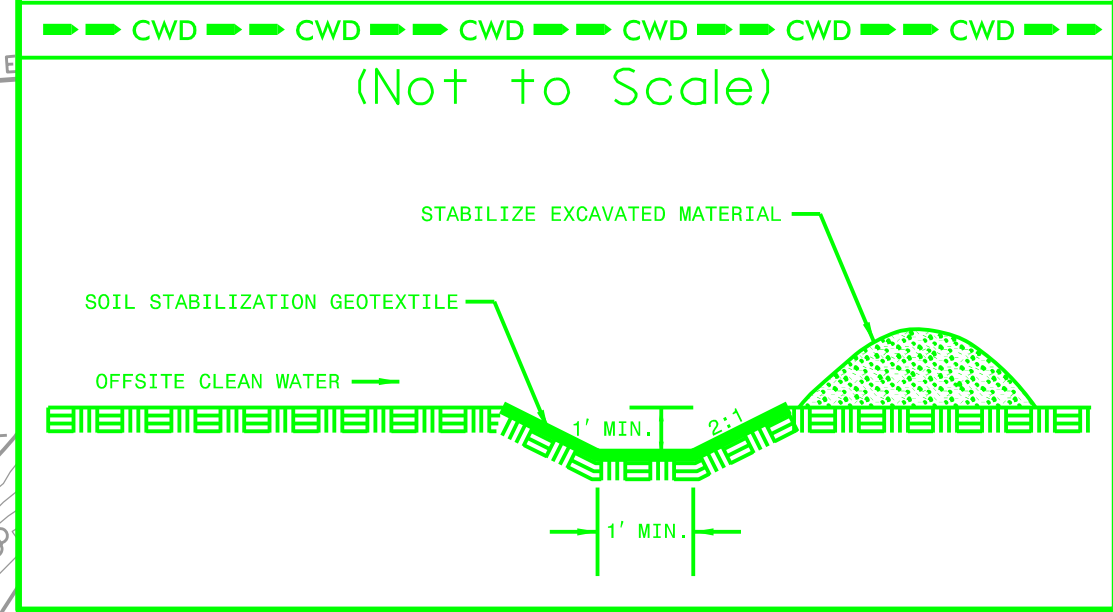
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MATCHLINE -L- STA 305+00 SEE SHEET EC-05



CLEAN WATER DIVERSION



Modified Silt Basin
Type 'B'
78' x 16' x 3'
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 5.3

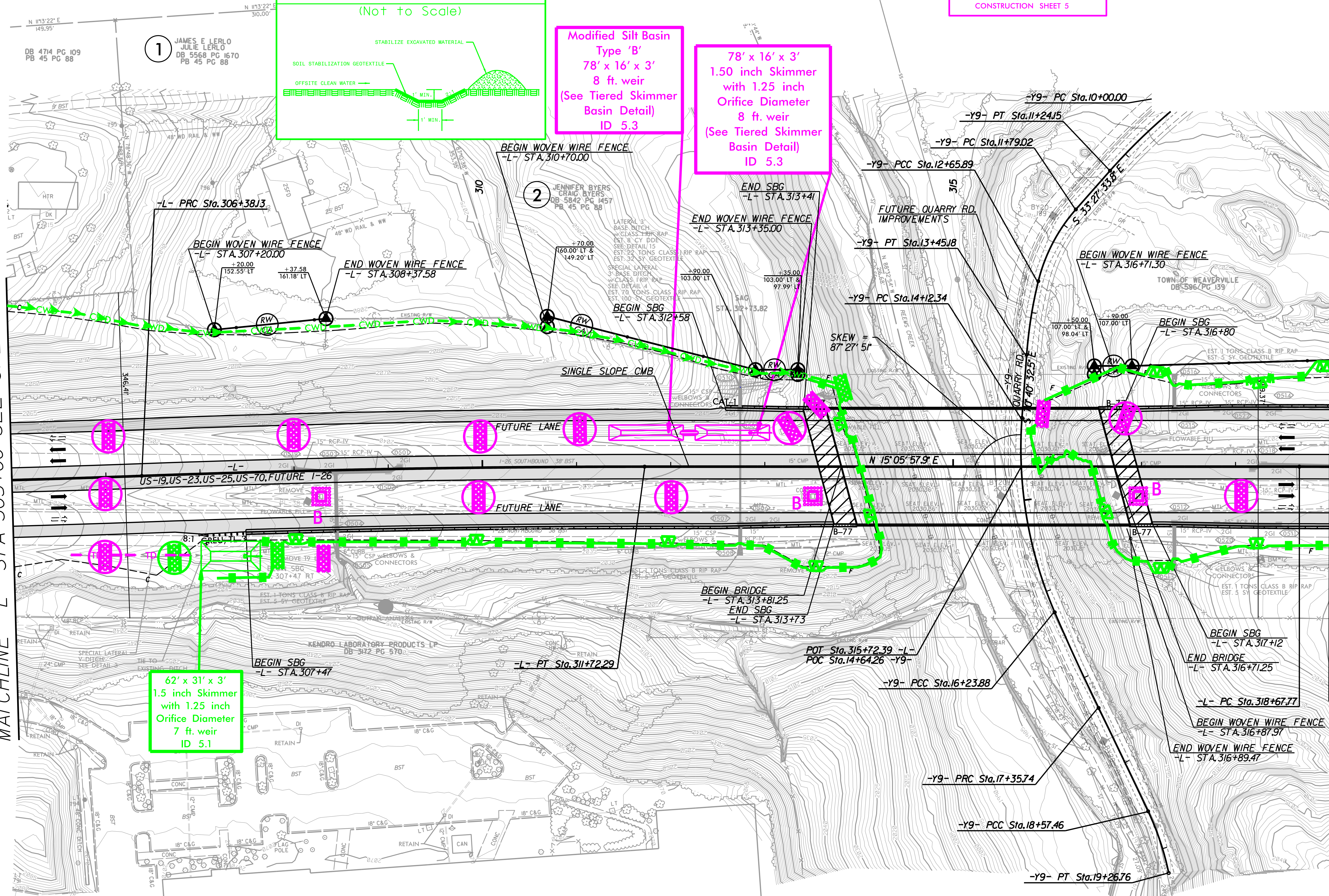
78' x 16' x 3'
1.50 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 5.3

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

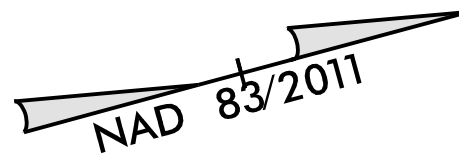
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

MATCHLINE -L- STA 305+00 SEE SHEET EC-04

MATCHLINE -L- STA 319+00 SEE SHEET EC-06

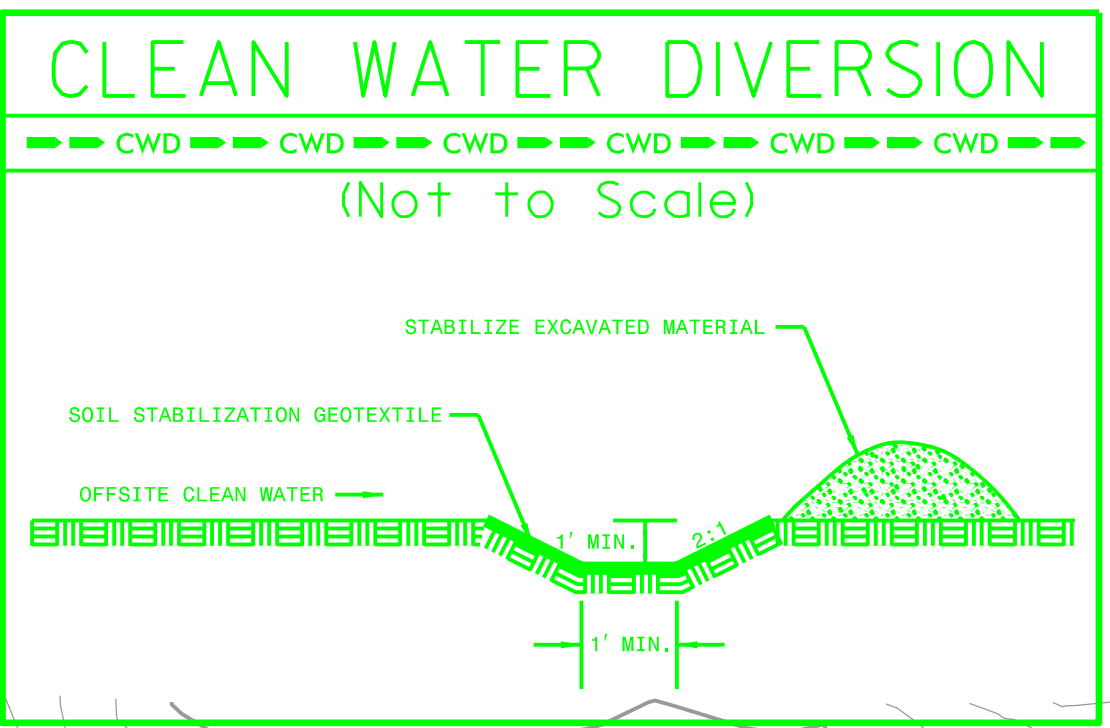


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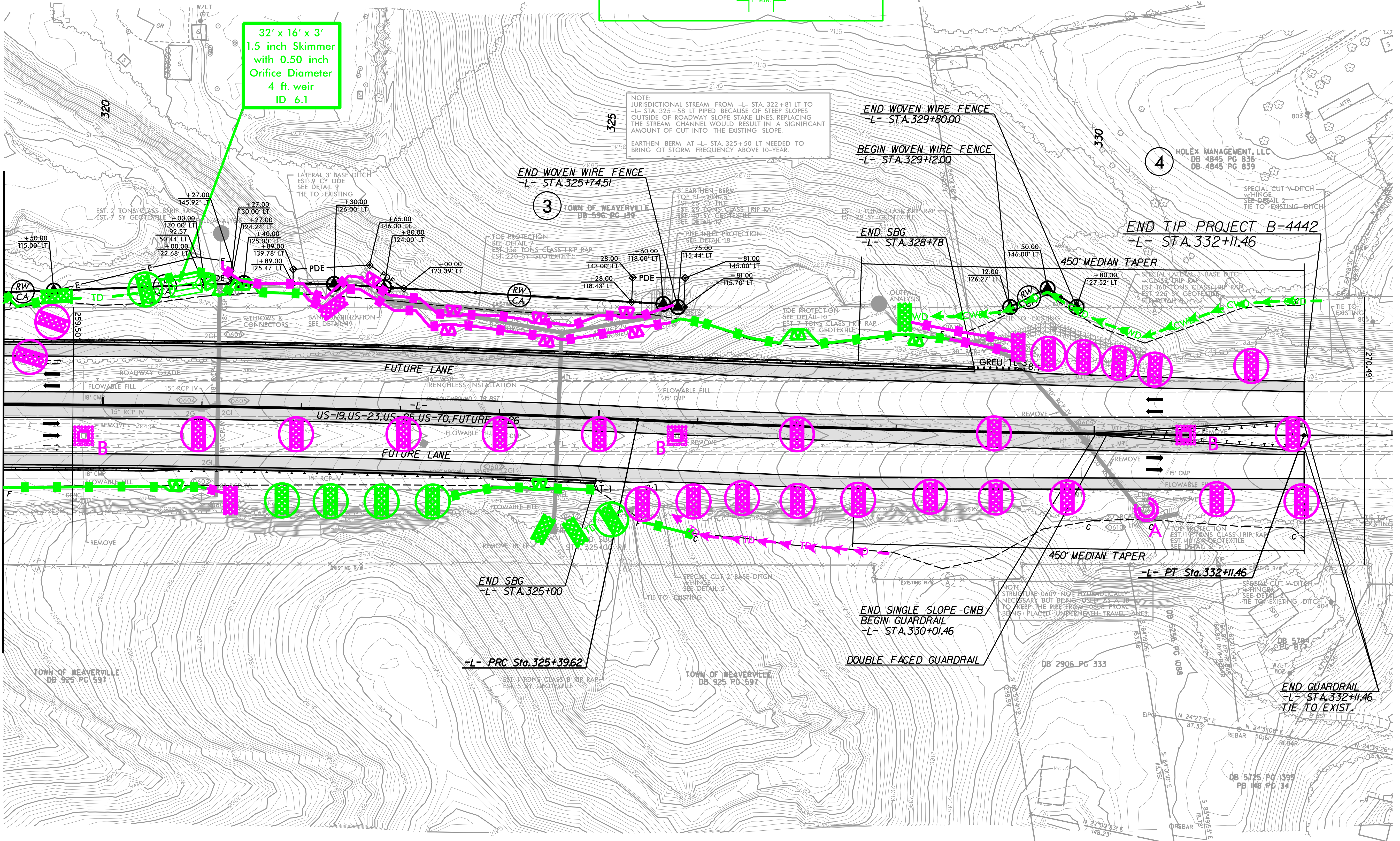


NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6



MATCHLINE -L- STA 319+00 SEE SHEET EC-05



NOTE: JURISDICTIONAL STREAM FROM -L- STA. 322+81 LT TO -L- STA. 325+58 LT PIPED BECAUSE OF STEEP SLOPES OUTSIDE OF ROADWAY SLOPE STAKE LINES. REPLACING THE STREAM CHANNEL WOULD RESULT IN A SIGNIFICANT AMOUNT OF CUT INTO THE EXISTING SLOPE.
EARTHEN BERM AT -L- STA. 325+50 LT NEEDED TO BRING OT STORM FREQUENCY ABOVE 10-YEAR.

DB 4786 PG 1703

4

HOLEX MANAGEMENT, LLC
DB 4845 PG 836
DB 4845 PG 839

END TIP PROJECT B-4442
-L- STA. 332+11.46

END WOVEN WIRE FENCE
-L- STA. 329+80.00

BEGIN WOVEN WIRE FENCE
-L- STA. 329+12.00

END WOVEN WIRE FENCE
-L- STA. 325+74.51

END SBG
-L- STA. 328+78

END SBG
-L- STA. 325+00

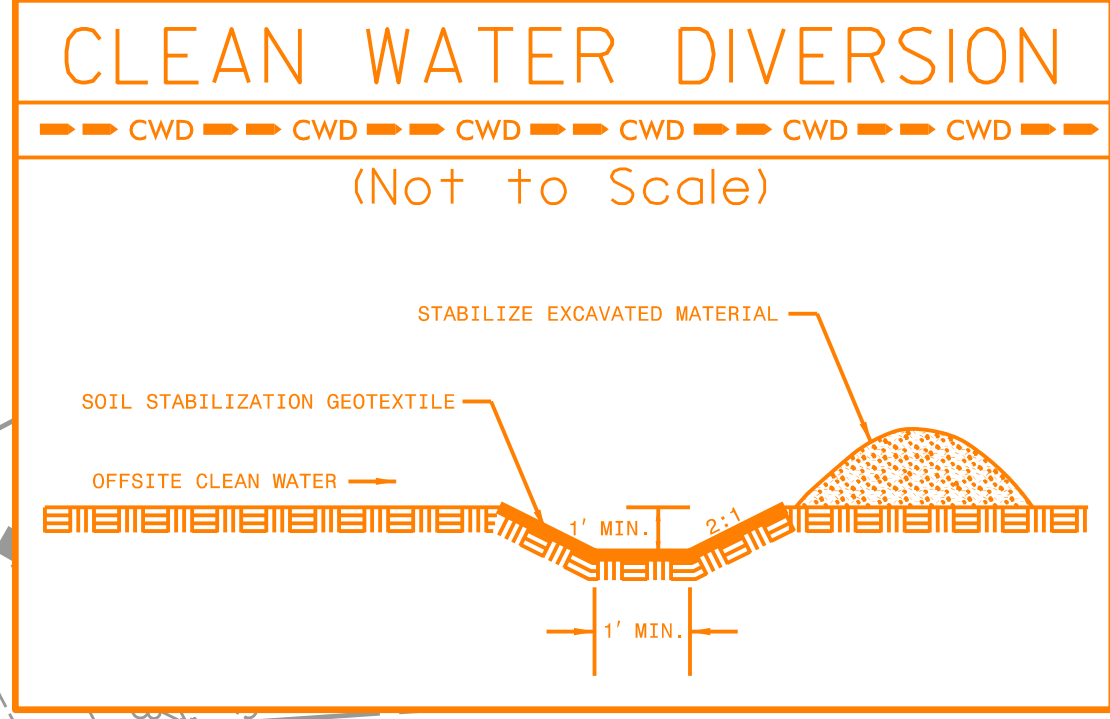
END SINGLE SLOPE CMB
BEGIN GUARDRAIL
-L- STA. 330+01.46

-L- PRC Sta. 325+39.62

450' MEDIAN TAPER
-L- PT Sta. 332+11.46

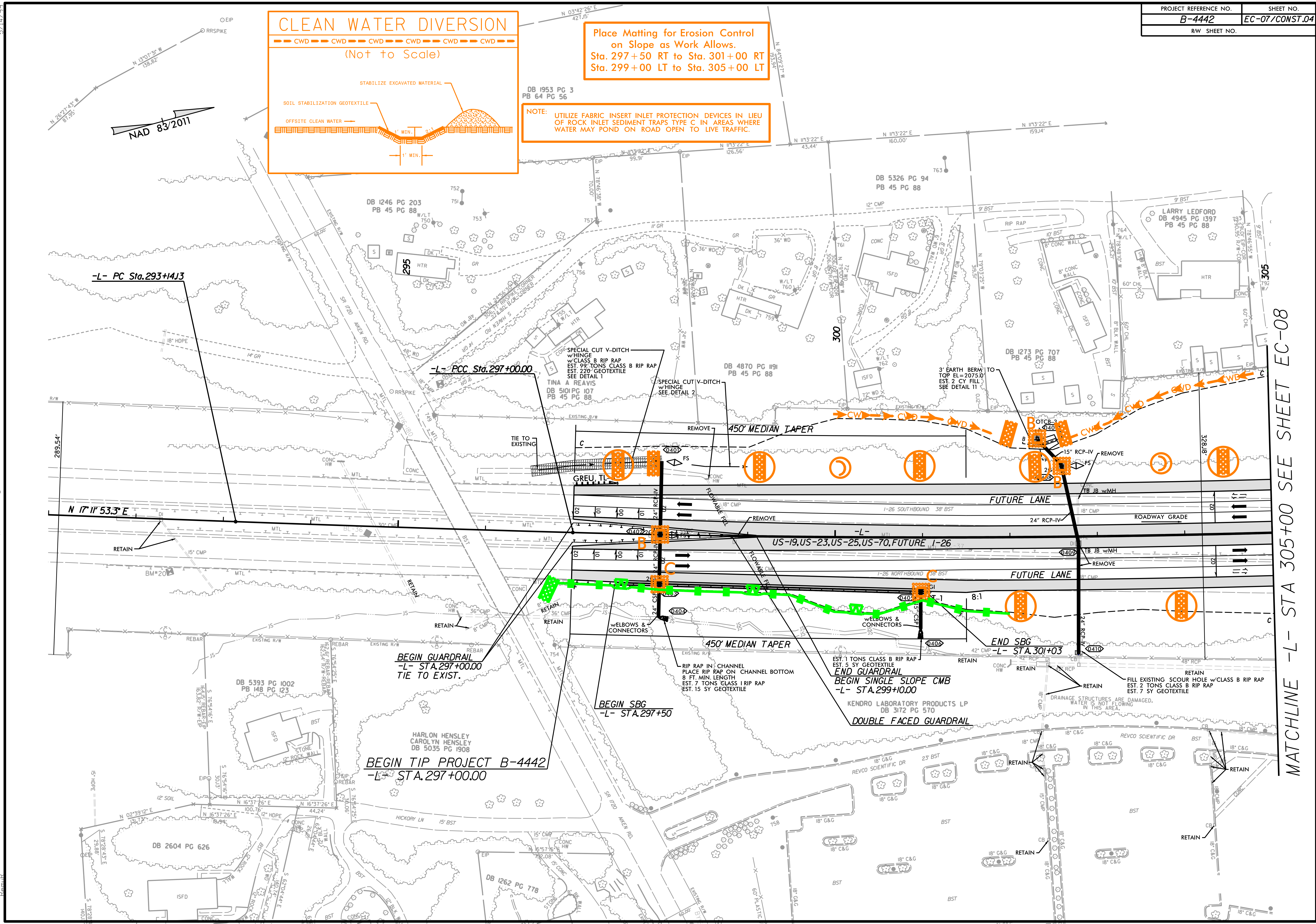
END GUARDRAIL
-L- STA. 332+11.46
TIE TO EXIST.

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Place Matting for Erosion Control on Slope as Work Allows.
Sta. 297+50 RT to Sta. 301+00 RT
Sta. 299+00 LT to Sta. 305+00 LT

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS TYPE C IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

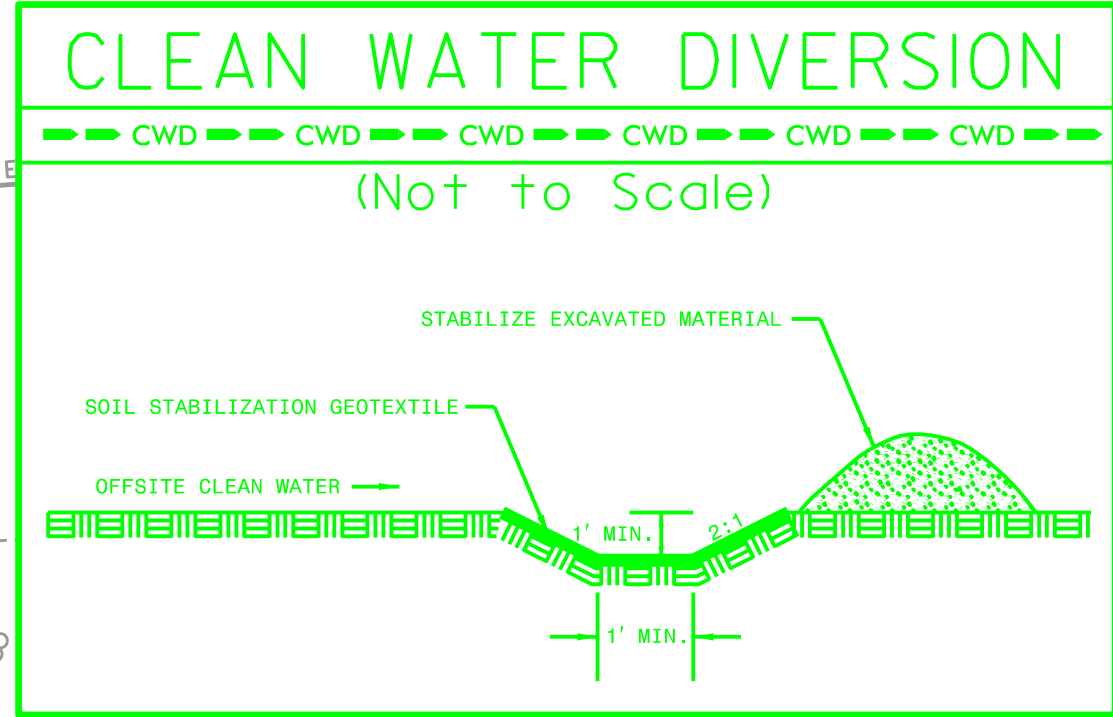


MATCHLINE -L- STA 305+00 SEE SHEET EC-08

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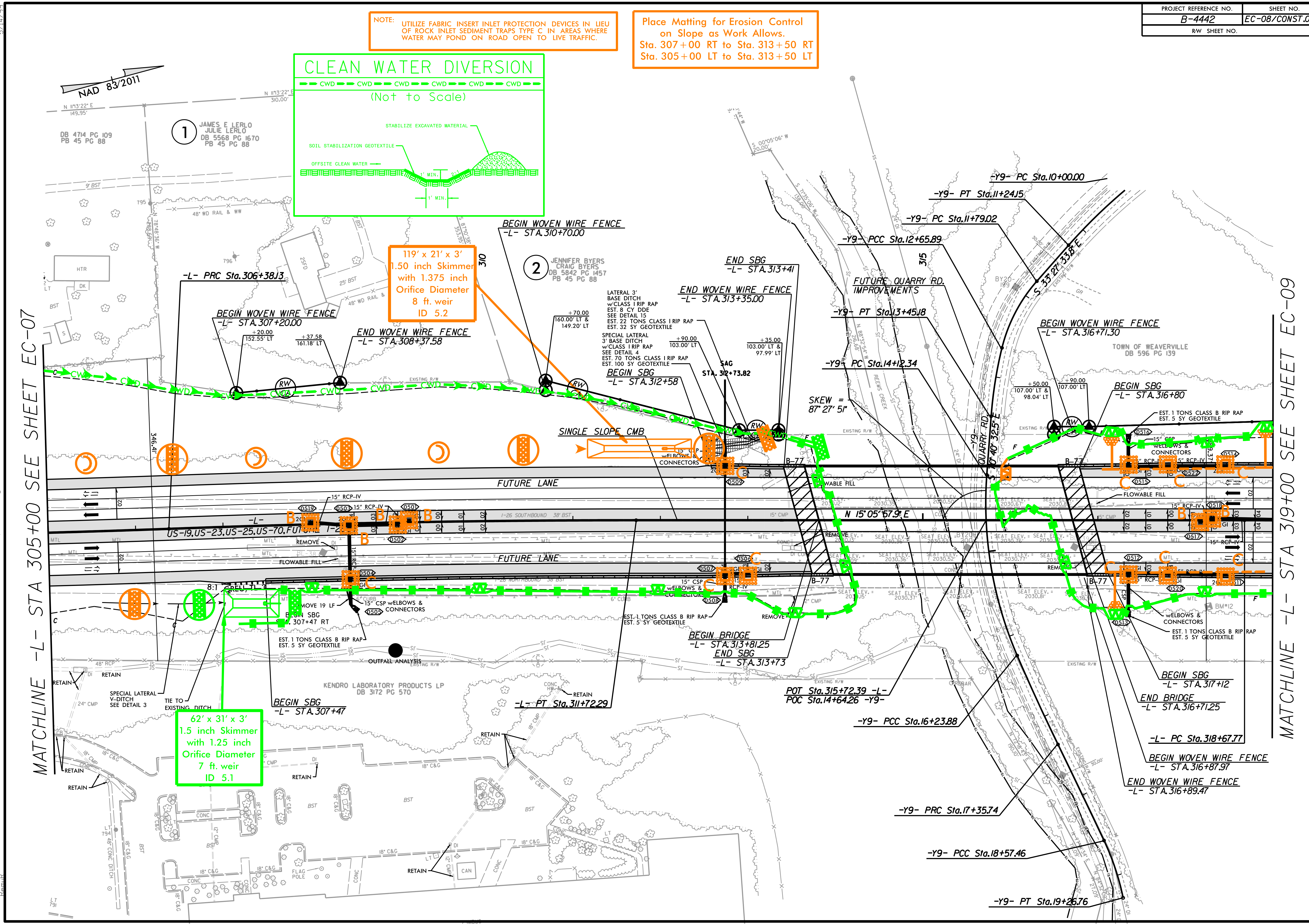
NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS TYPE C IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 307+00 RT to Sta. 313+50 RT
Sta. 305+00 LT to Sta. 313+50 LT



119' x 21' x 3'
1.50 inch Skimmer
with 1.375 inch
Orifice Diameter
8 ft. weir
ID 5.2

62' x 31' x 3'
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 5.1



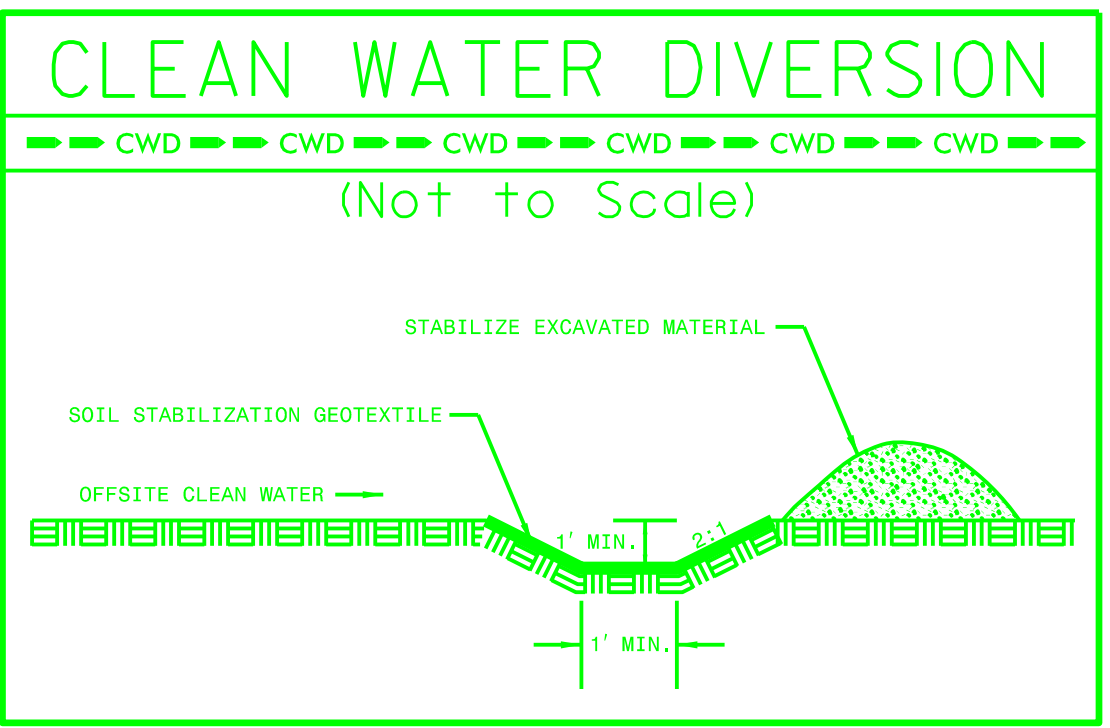
MATCHLINE -L- STA 305+00 SEE SHEET EC-07

MATCHLINE -L- STA 319+00 SEE SHEET EC-09

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Place Matting for Erosion Control on Slope as Work Allows.
 Sta. 317+00 RT to Sta. 321+00 RT
 Sta. 324+50 RT to Sta. 332+11 RT
 Sta. 317+00 LT to Sta. 332+11 LT

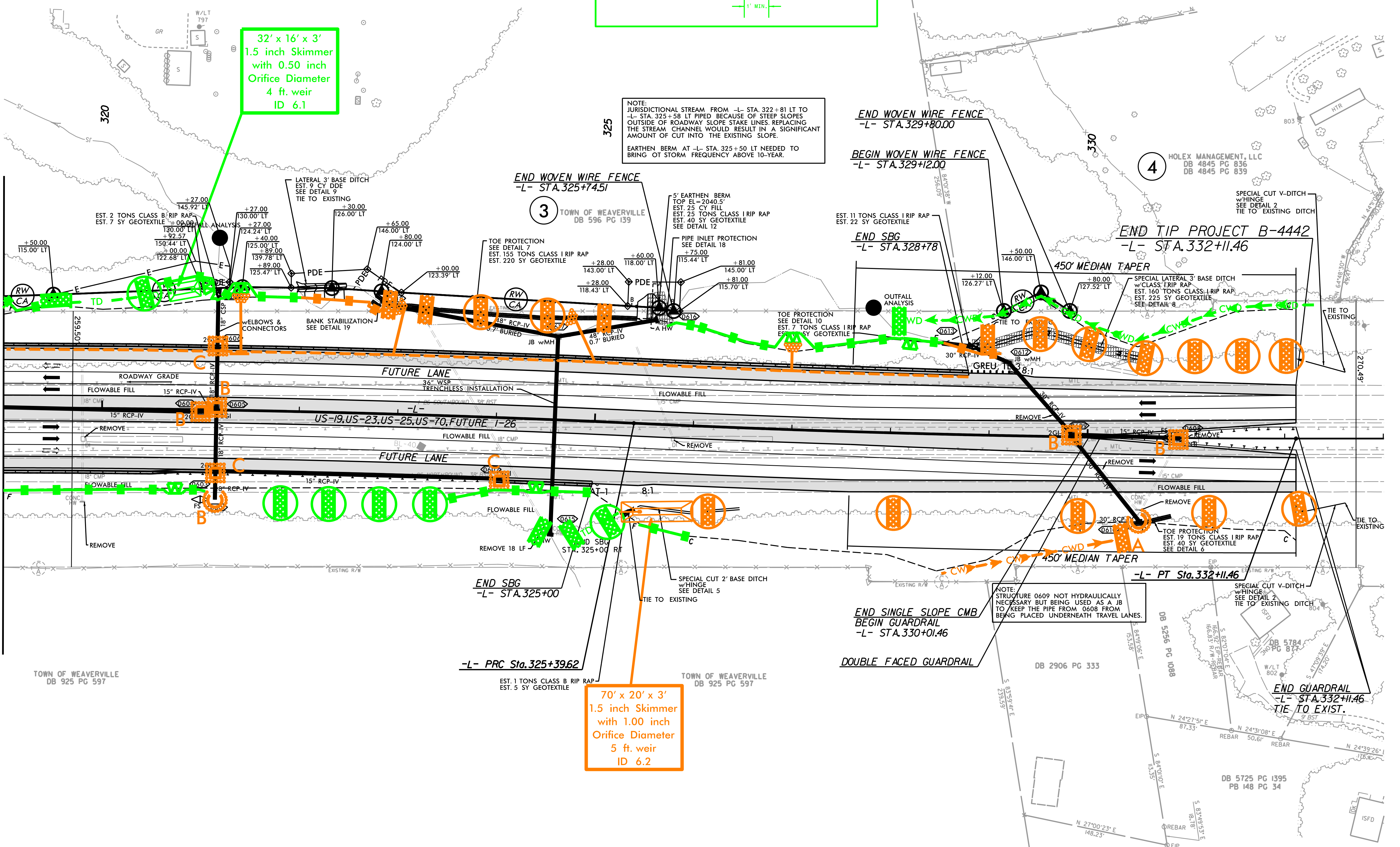
NOTE: UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN LIEU OF ROCK INLET SEDIMENT TRAPS TYPE C IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.



32' x 16' x 3'
 1.5 inch Skimmer
 with 0.50 inch
 Orifice Diameter
 4 ft. weir
 ID 6.1

NOTE: JURISDICTIONAL STREAM FROM -L- STA. 322+81 LT TO -L- STA. 325+58 LT PIPED BECAUSE OF STEEP SLOPES OUTSIDE OF ROADWAY SLOPE STAKE LINES. REPLACING THE STREAM CHANNEL WOULD RESULT IN A SIGNIFICANT AMOUNT OF CUT INTO THE EXISTING SLOPE.
 EARTHEN BERM AT -L- STA. 325+50 LT NEEDED TO BRING OT STORM FREQUENCY ABOVE 10-YEAR.

MATCHLINE -L- STA 319+00 SEE SHEET EC-08



END SBG
 -L- STA. 325+00

-L- PRC Sta. 325+39.62

70' x 20' x 3'
 1.5 inch Skimmer
 with 1.00 inch
 Orifice Diameter
 5 ft. weir
 ID 6.2

END SINGLE SLOPE CMB
 BEGIN GUARDRAIL
 -L- STA. 330+01.46

DOUBLE FACED GUARDRAIL

END TIP PROJECT B-4442
 -L- STA. 332+11.46

END GUARDRAIL
 -L- STA. 332+11.46
 TIE TO EXIST.

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