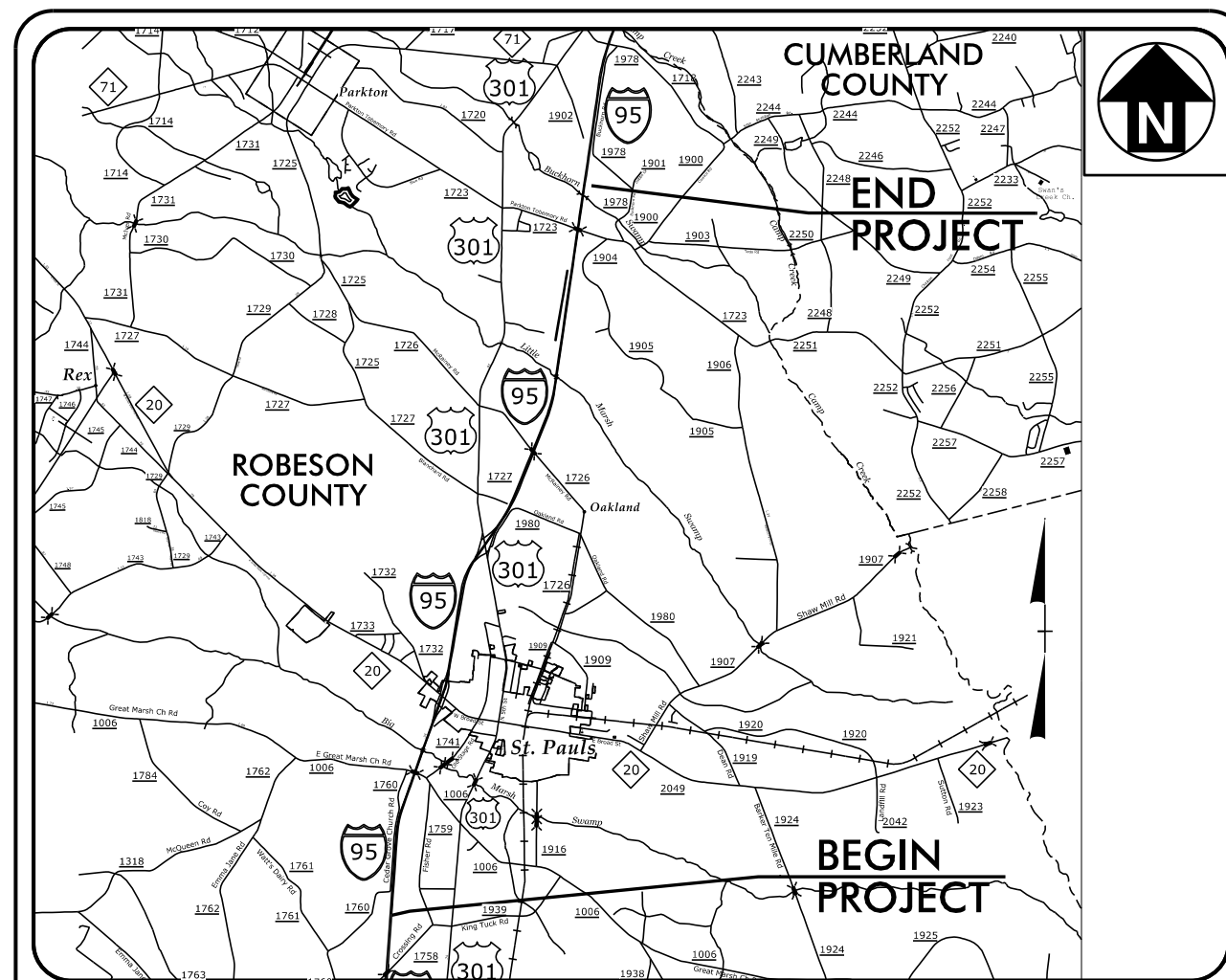


TIP PROJECT: I-5987B



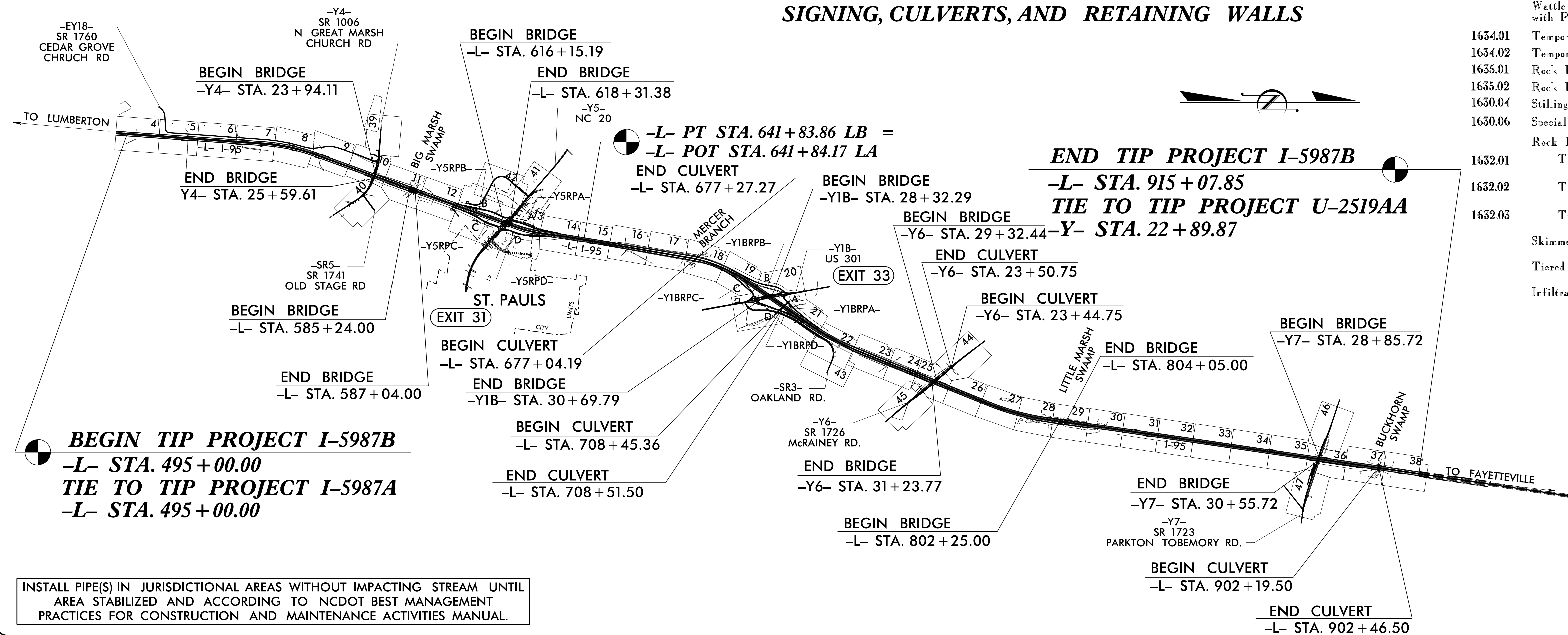
VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

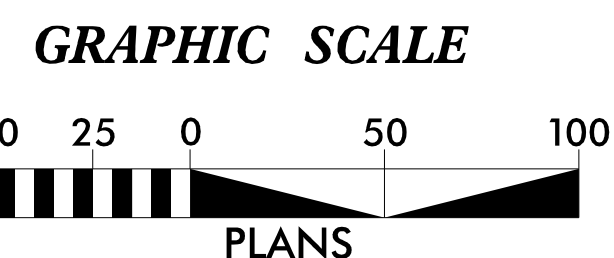
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

ROBESON COUNTY

LOCATION: I-95 IMPROVEMENTS FROM NORTH OF SR 1758 (McDUFFIE CROSSING RD.) TO NORTH OF SR 1723 (PARKTON TOBEMORY RD.)
TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES, SIGNING, CULVERTS, AND RETAINING WALLS



INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-01000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

M M
MOTT
MACDONALD

WETHERILL ENGINEERING
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Bus: 919 851 8077
Fax: 919 851 8107

Prepared in the Offices of:

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Designed by:

Eleni Riggs, PE 3056
NAME - MOTT MACDONALD LEVEL III CERTIFICATION NO.
Matthew Harvey, PE 3487
NAME - WETHERILL ENGINEERING 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 | 1633.03 Temporary Rock Silt Check Type C |
| 1630.02 Silt Basin Type A | 1634.01 Temporary Rock Sediment Dam Type A |
| 1630.03 Temporary Silt Ditch | 1634.02 Temporary Rock Sediment Dam Type B |
| 1630.04 Stilling Basin | 1635.01 Rock Pipe Inlet Sediment Trap Type A |
| 1630.05 Temporary Diversion | 1635.02 Rock Pipe Inlet Sediment Trap Type B |
| 1630.06 Special Stilling Basin | 1640.01 Coir Fiber Jaffle |
| 1631.01 Matting Installation | 1645.01 Temporary Stream Crossing |

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:	III III III
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.

CONSTRUCTION SEQUENCE FOR TRENCHLESS INSTALLATION

PROJECT REFERENCE NO. SHEET NO.

1-5987B EC-2

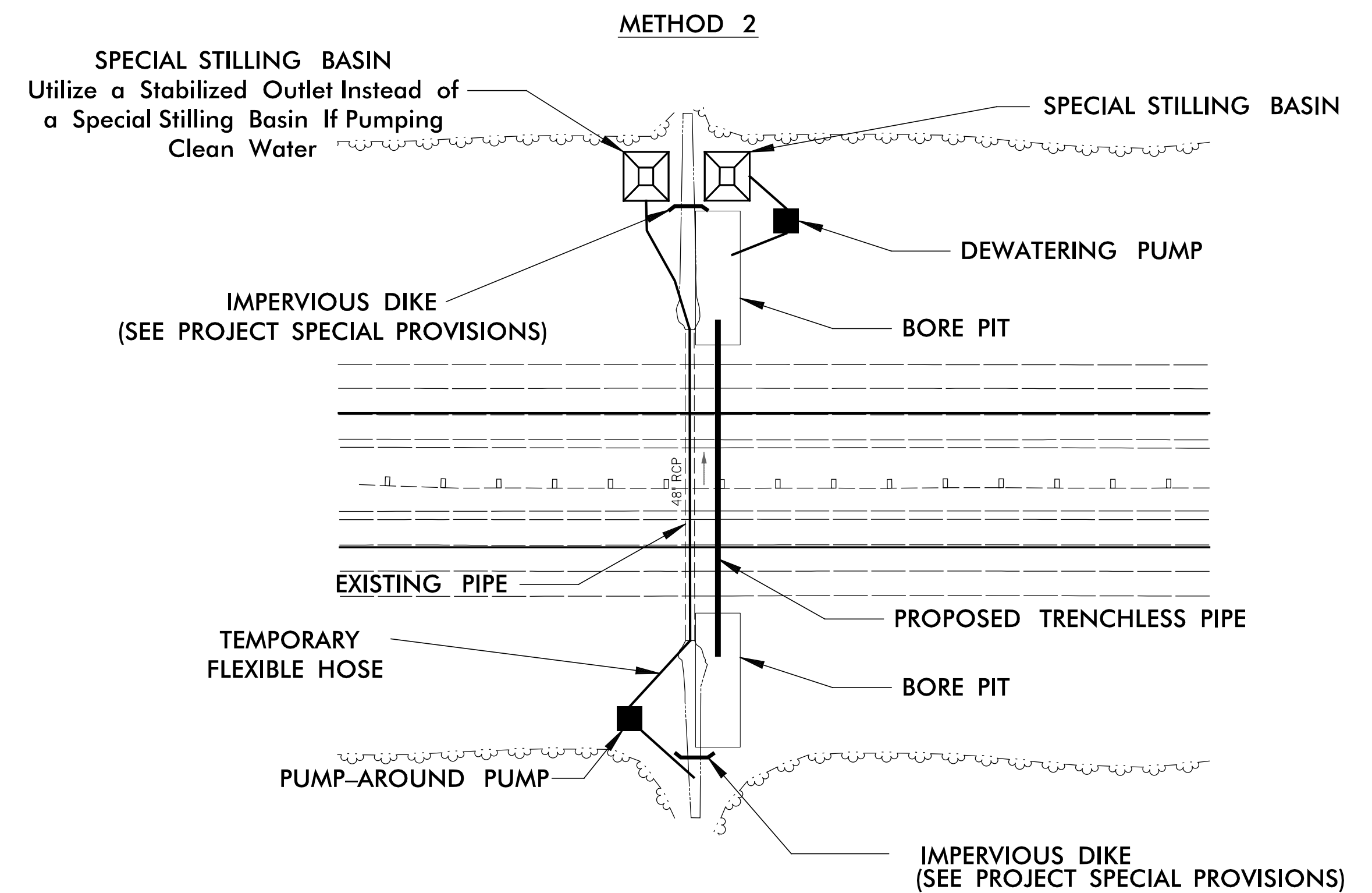
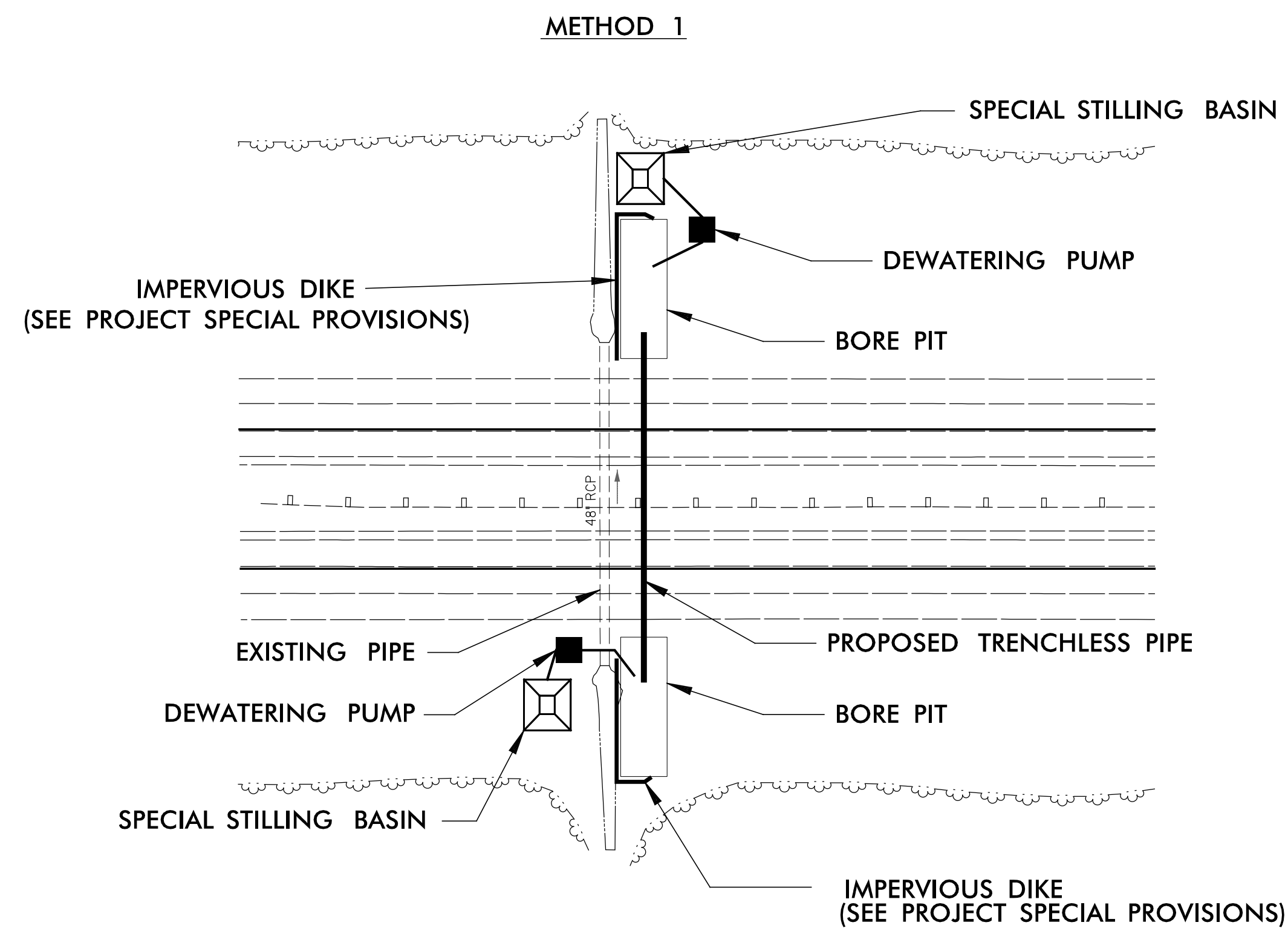
RW SHEET NO.

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
 ELENI M. RIGGS, PE
 CERTIFICATION NUMBER: 3056
 ISSUED: MARCH 15, 2022

NOTES:

- 1) All excavation shall be performed in only dry or isolated areas of the work zone.
- 2) Impervious dikes are to be used to isolate work from stream flow when necessary.
- 3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
- 4) Pumps and hoses shall be of sufficient size to dewater the work area.



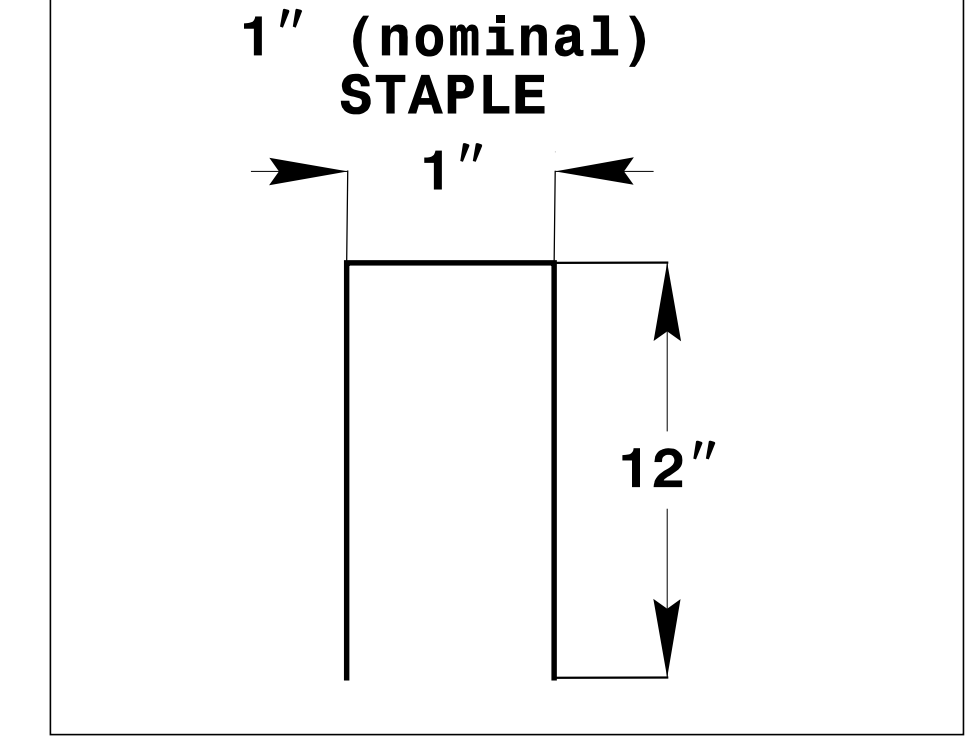
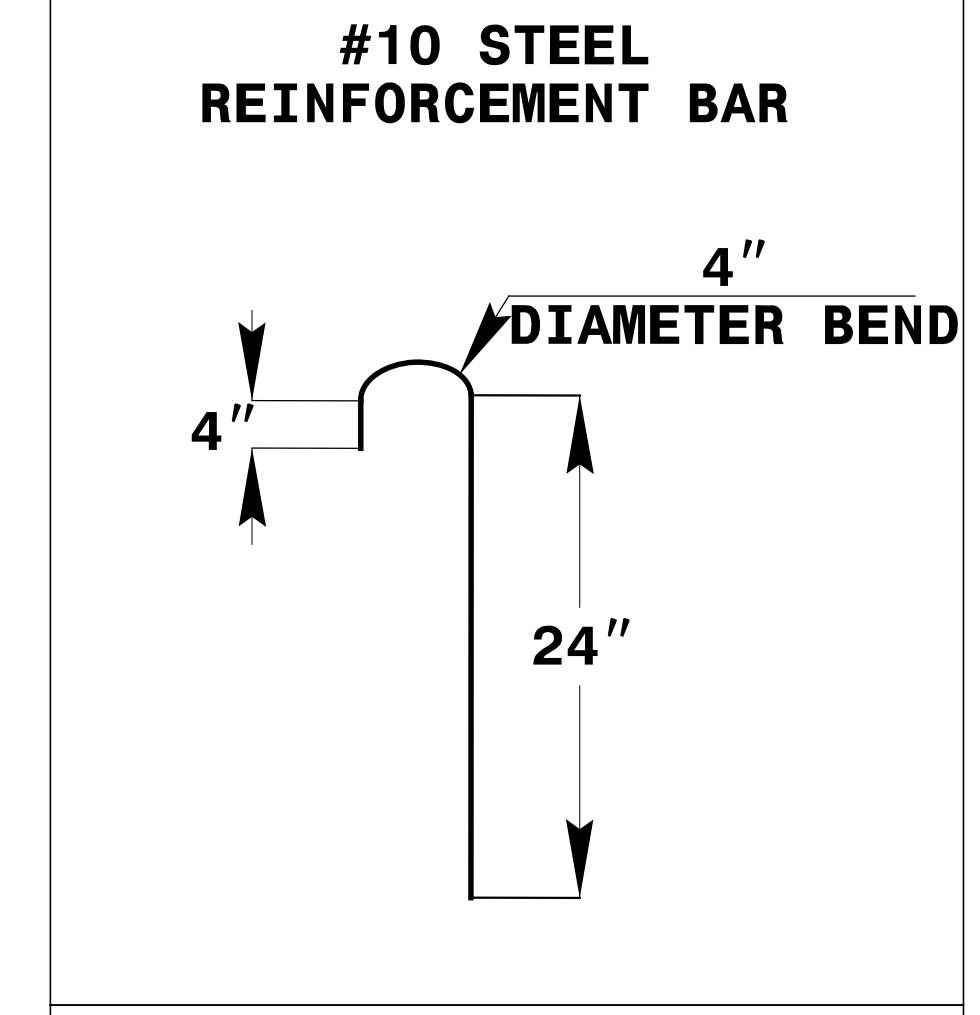
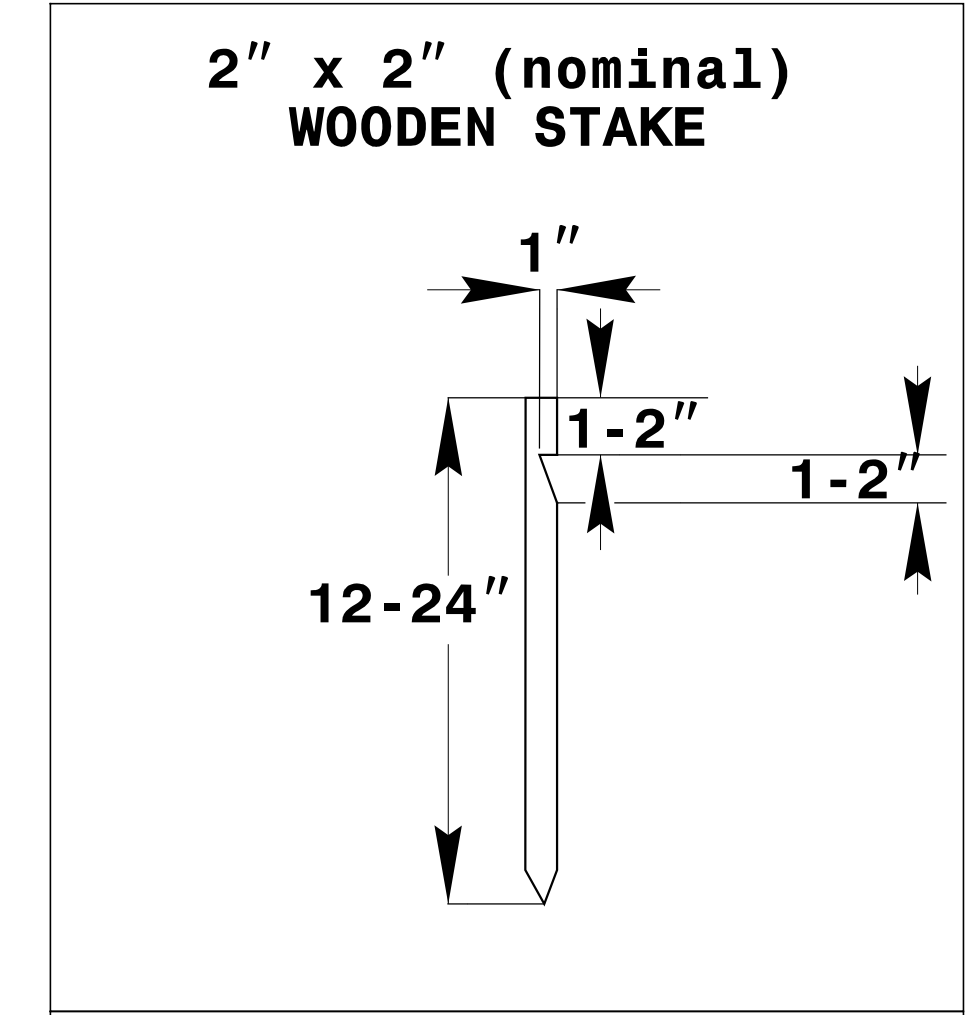
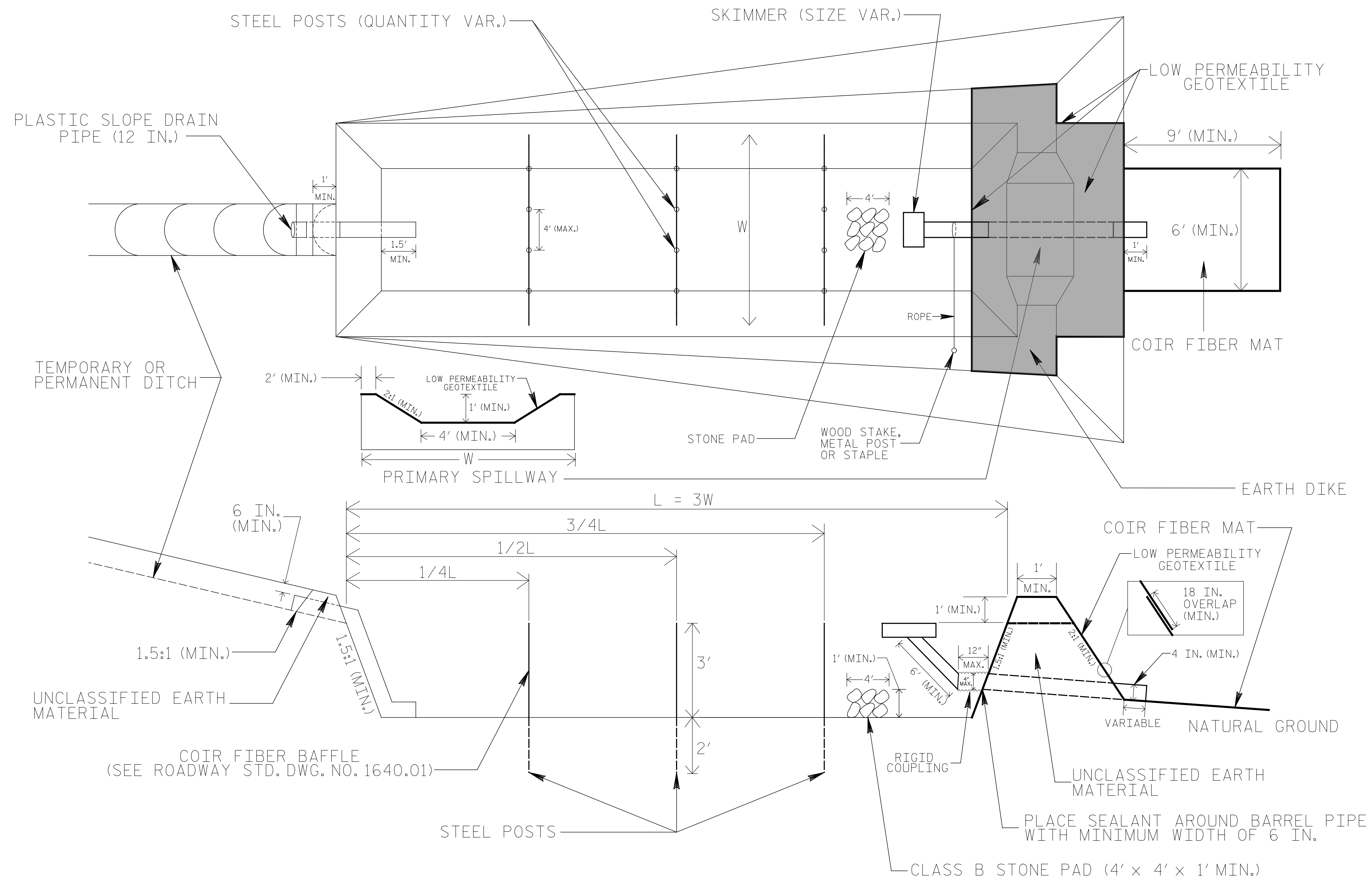
METHOD 1: CONSTRUCTION SEQUENCE FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S) AS NEEDED.
2. PLACE UPSTREAM IMPERVIOUS DIKE AND CONSTRUCT BORE PIT FOR TRENCHLESS INSTALLATION. INSTALL PUMPING APPARATUS AND DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
3. PLACE DOWNSTREAM IMPERVIOUS DIKE AND CONSTRUCT BORE PIT FOR TRENCHLESS INSTALLATION. INSTALL PUMPING APPARATUS AND DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
4. INSTALL TRENCHLESS PIPE IN ACCORDANCE WITH THE PLANS.
5. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
6. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

METHOD 2: CONSTRUCTION SEQUENCE FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND CONSTRUCT BORE PIT FOR TRENCHLESS INSTALLATION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
6. INSTALL TRENCHLESS PIPE IN ACCORDANCE WITH THE PLANS.
7. CONSTRUCT INLET AND OUTLET CHANNEL IMPROVEMENTS IN ACCORDANCE WITH THE PLANS, STABILIZING THE CHANNEL IMPROVEMENTS AS THE WORK IS COMPLETED.
8. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
9. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

SKIMMER BASIN WITH BAFFLES DETAIL (EAST)



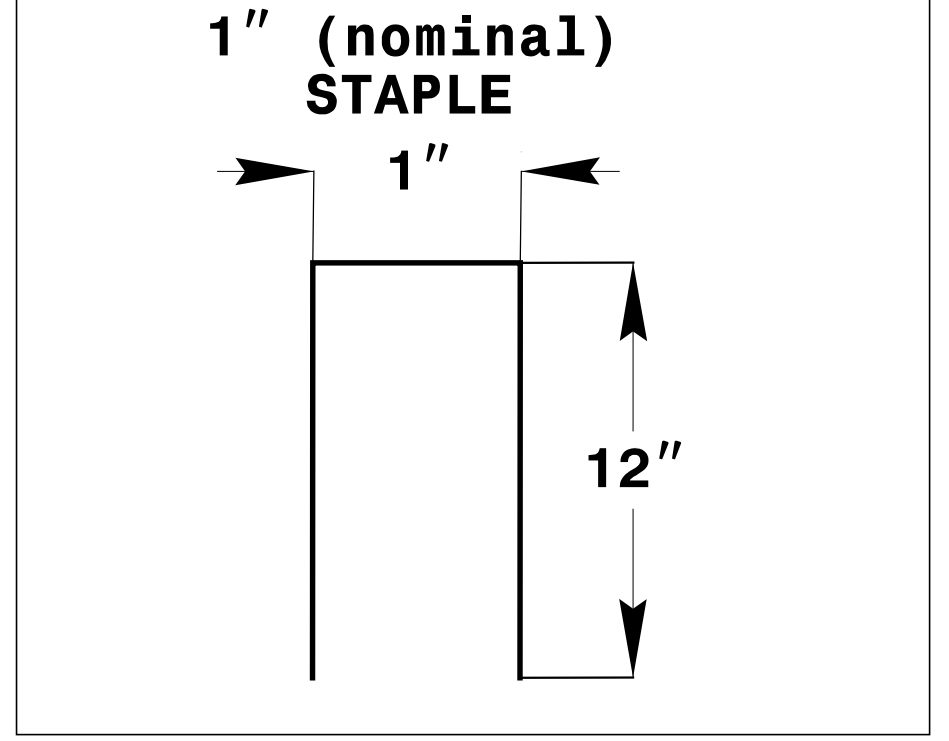
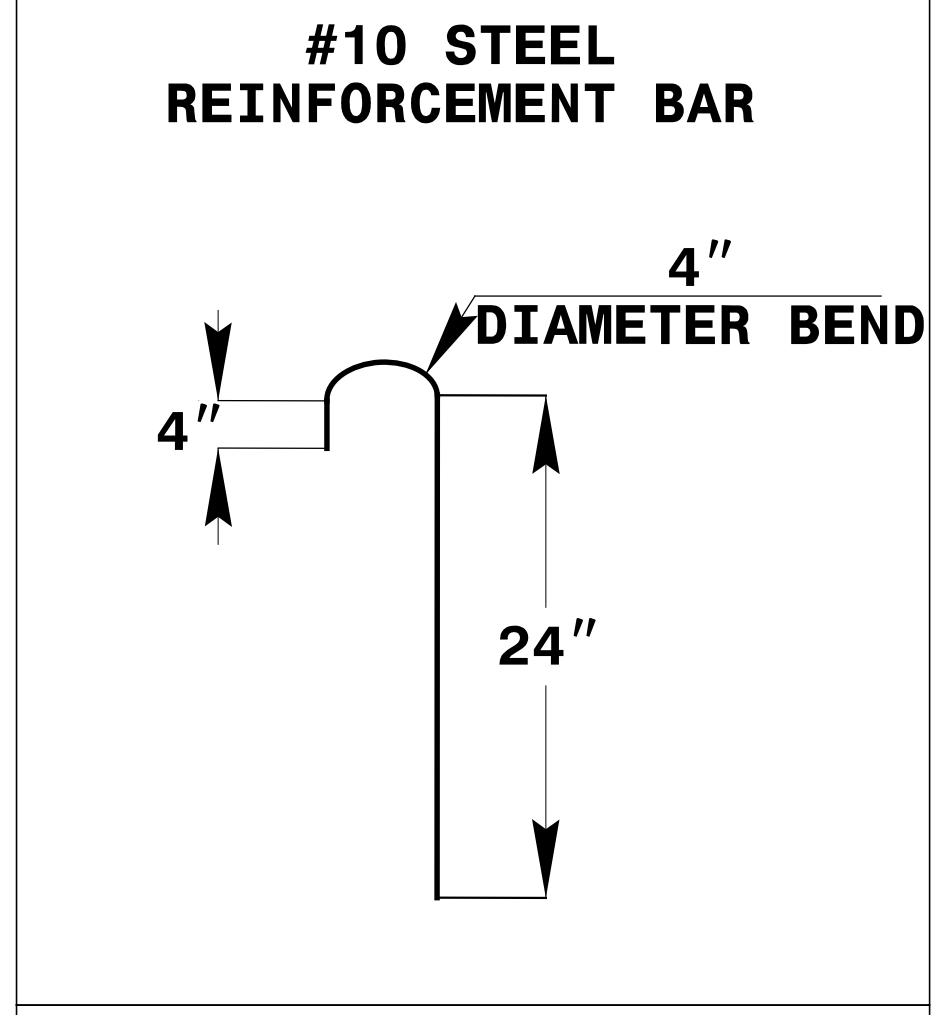
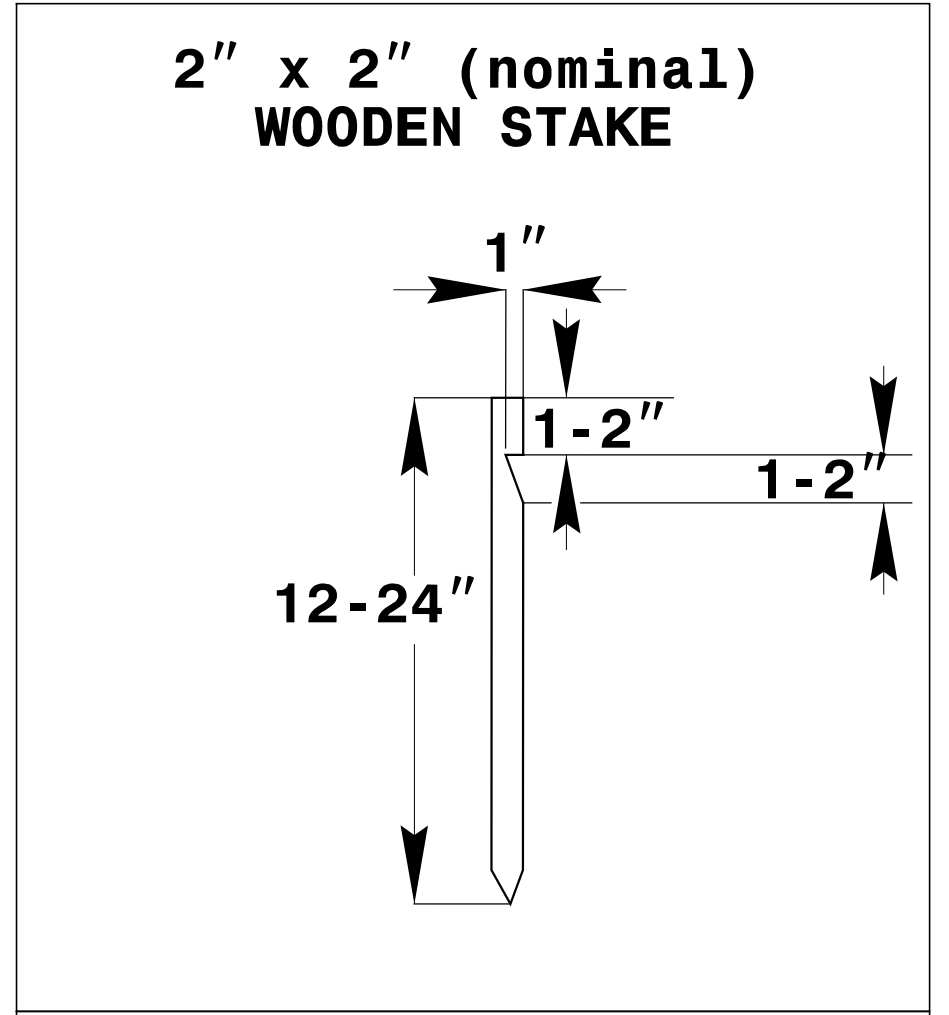
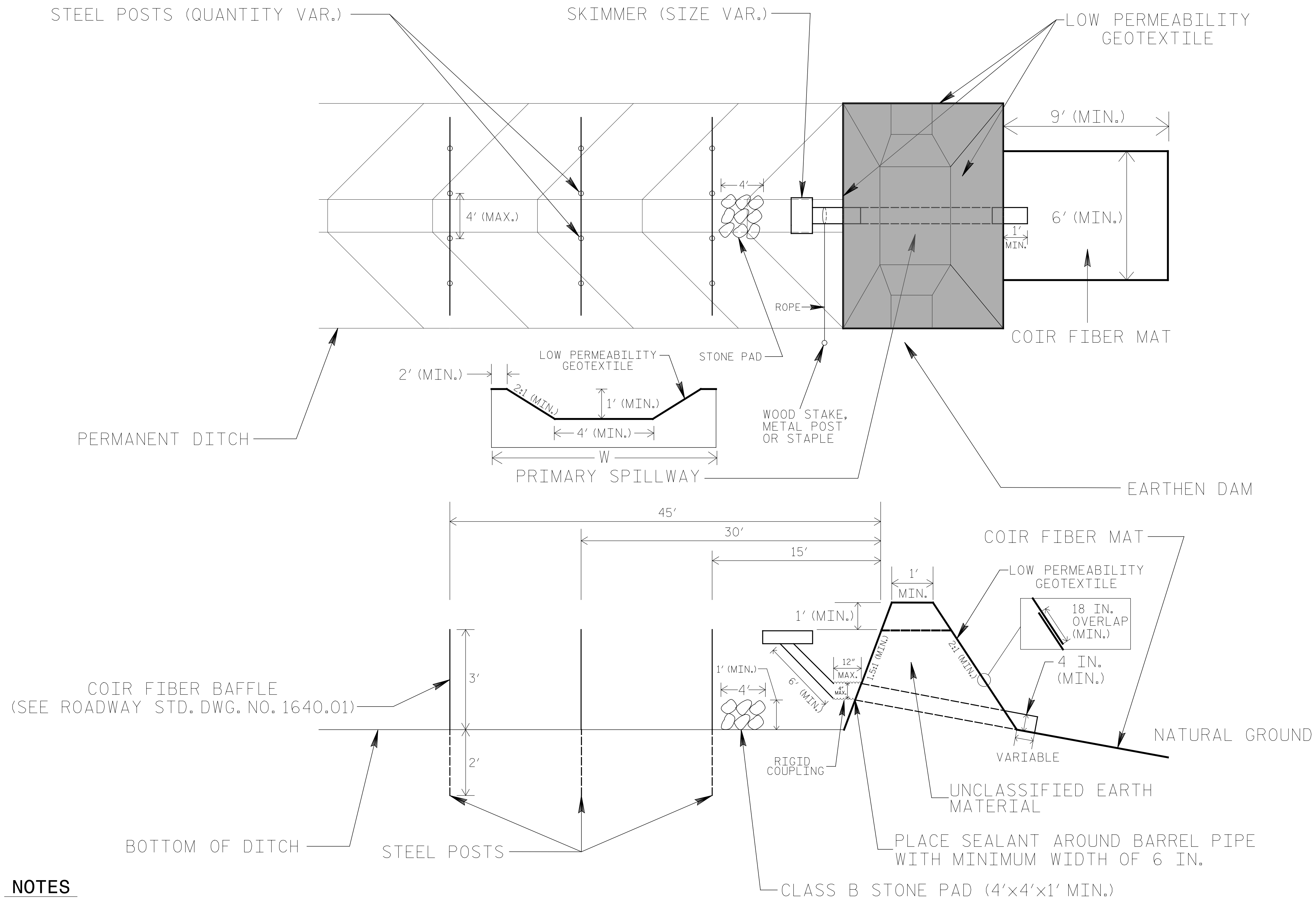
COIR FIBER MAT ANCHOR OPTIONS

NOTES

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

NOT TO SCALE

EARTHEN DAM WITH SKIMMER DETAIL (EAST)



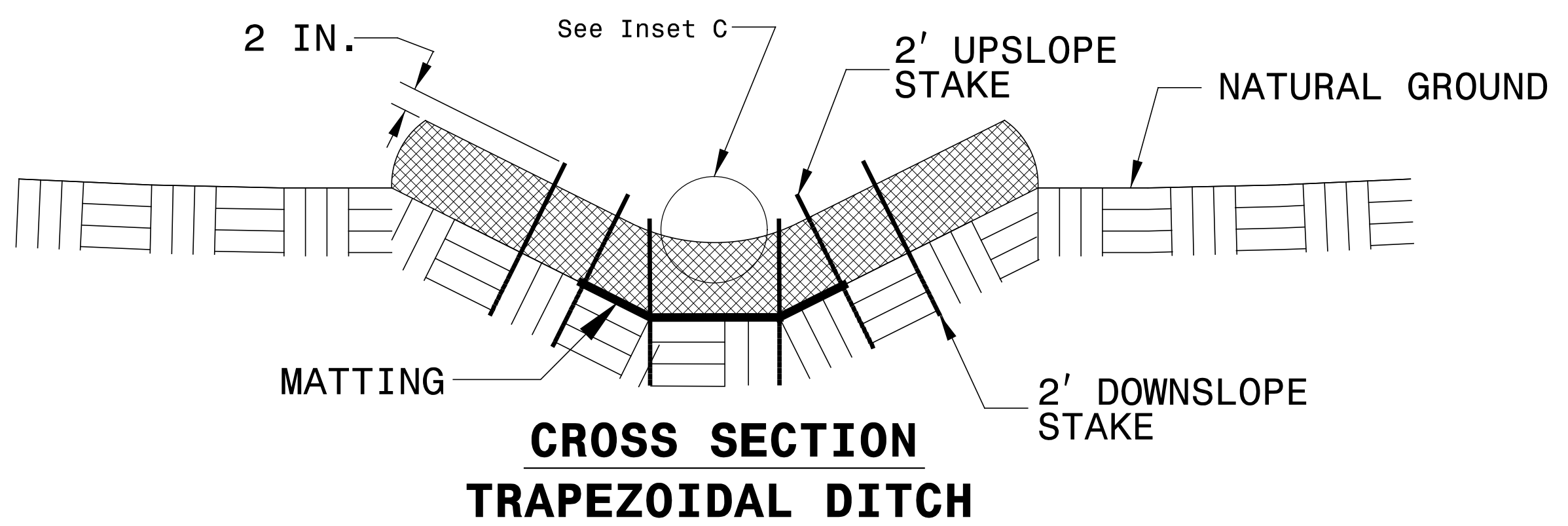
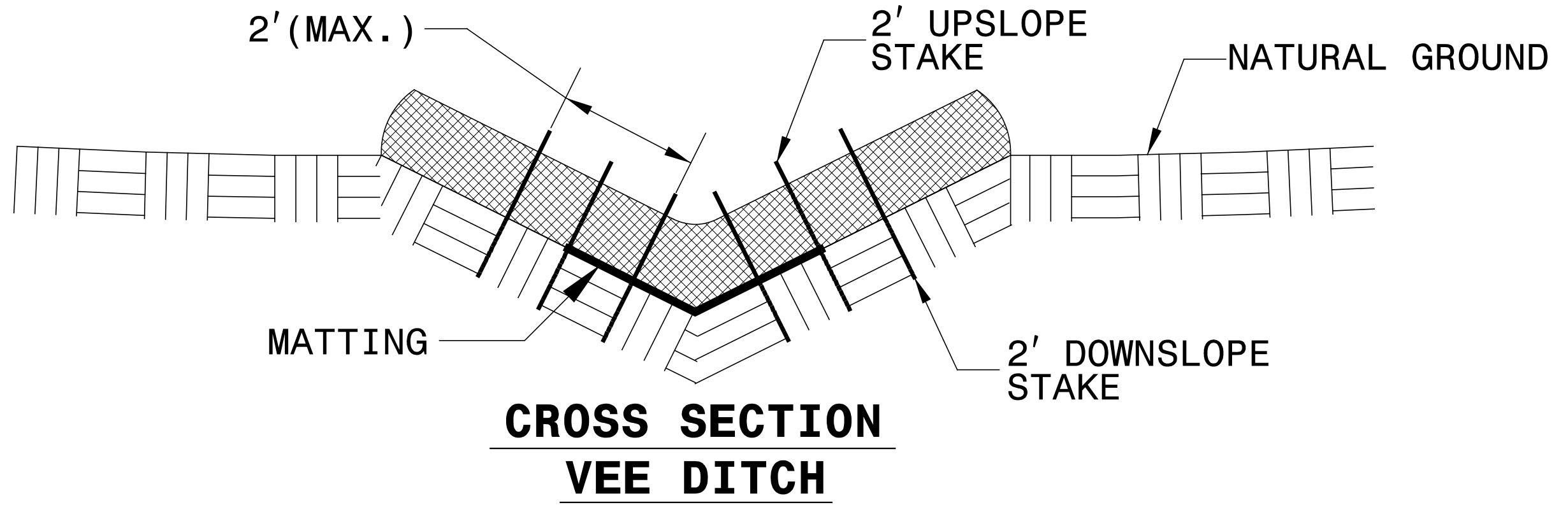
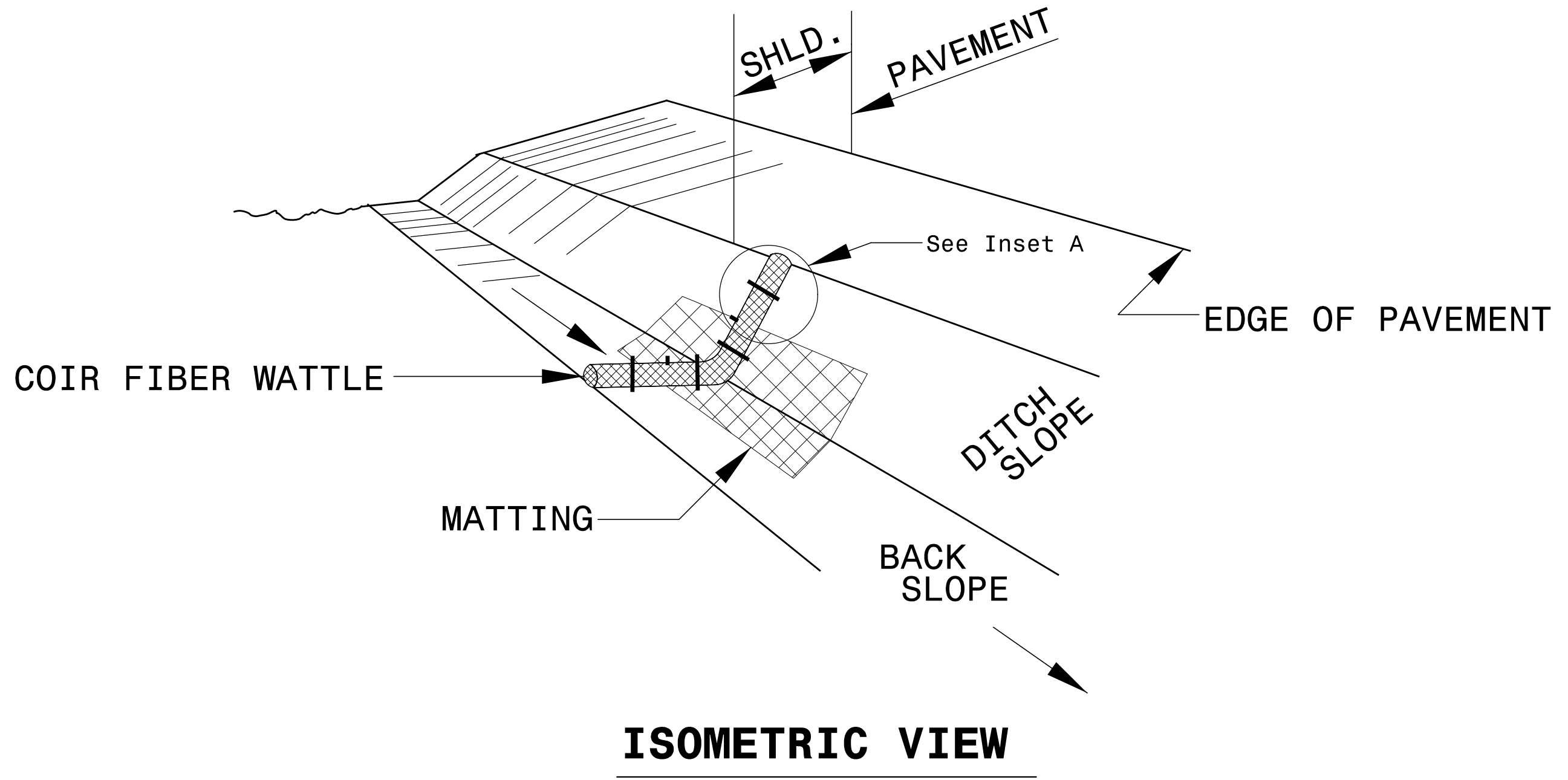
COIR FIBER MAT ANCHOR OPTIONS

NOTES

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

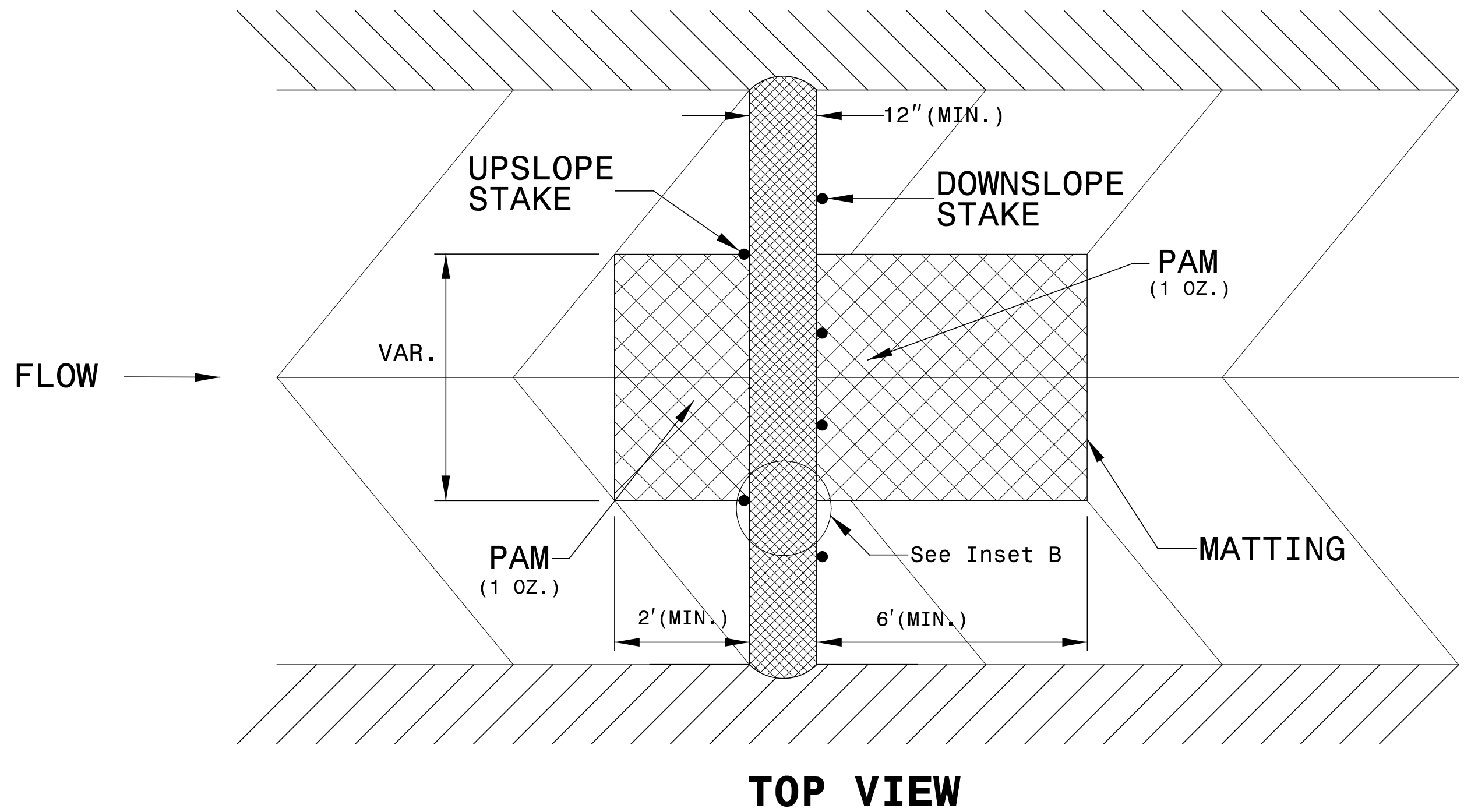
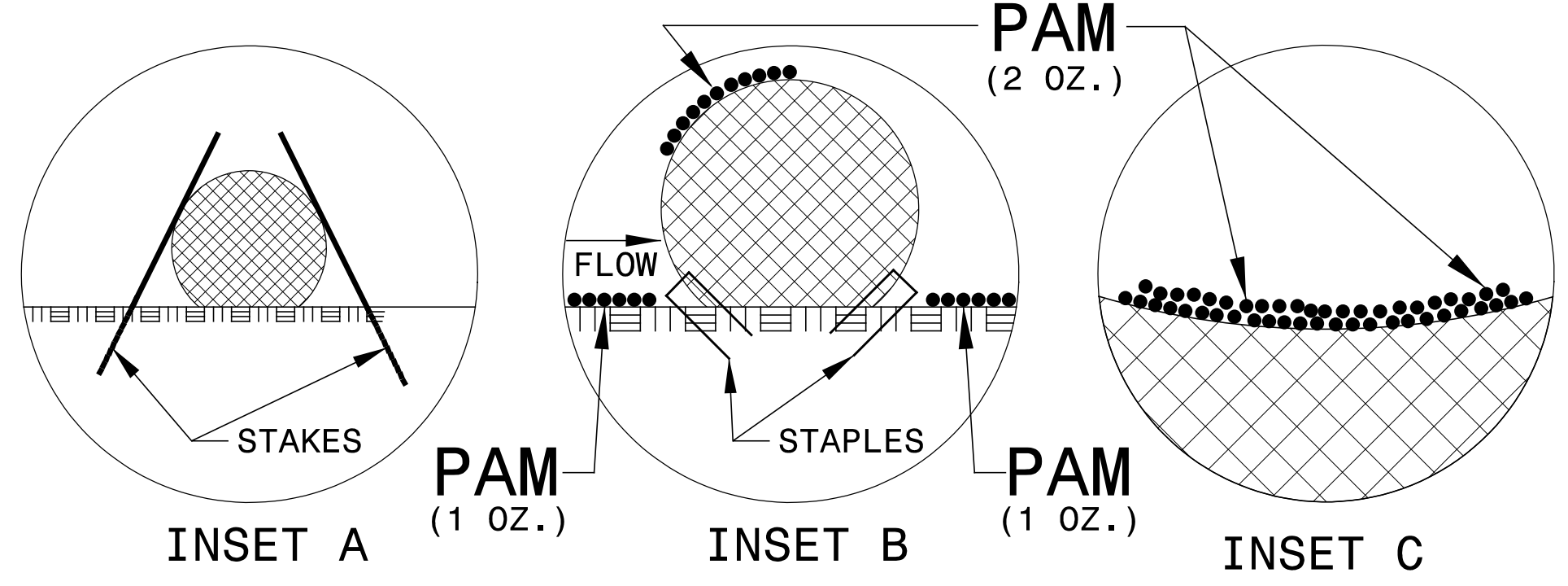
NOT TO SCALE

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

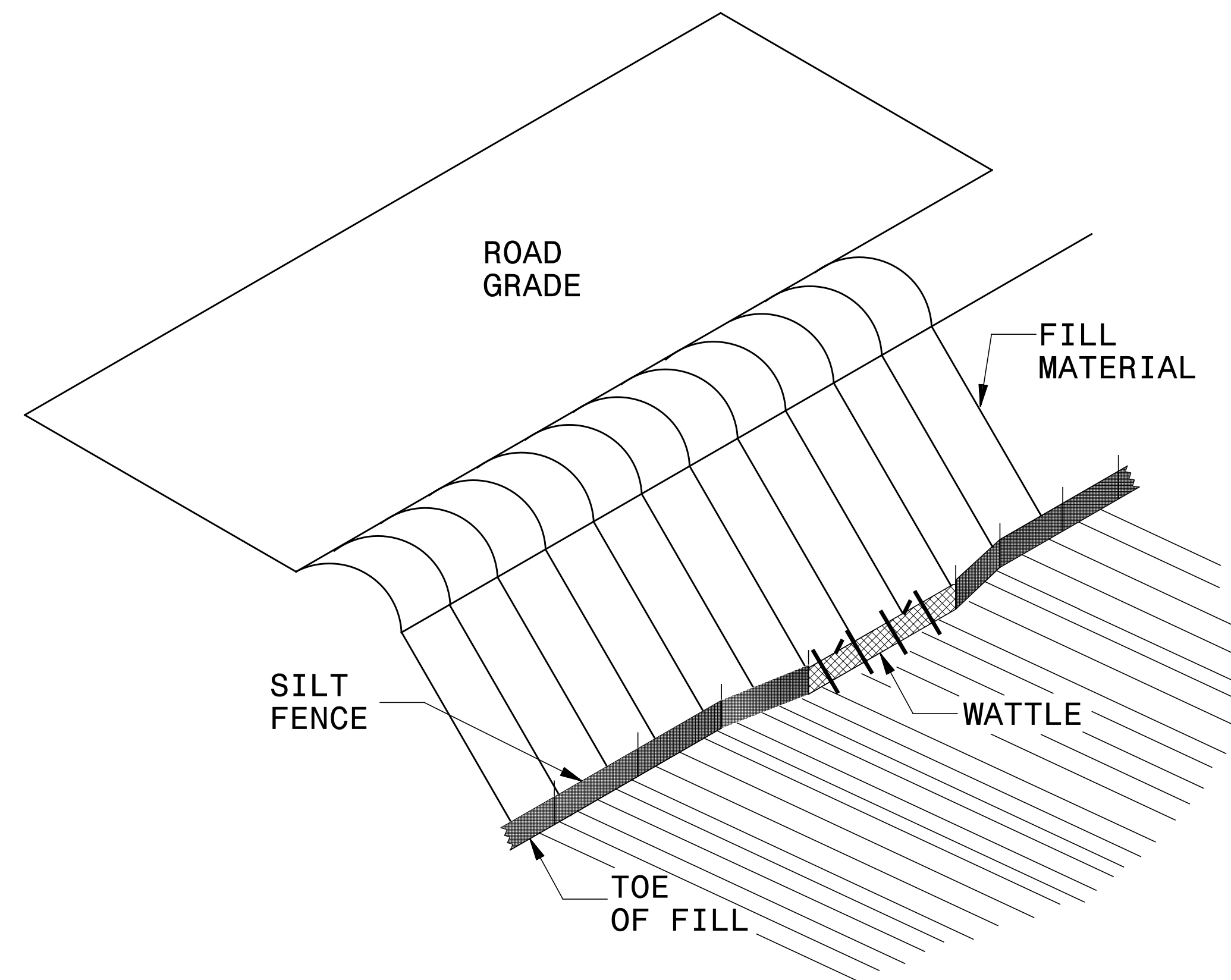


NOTES:

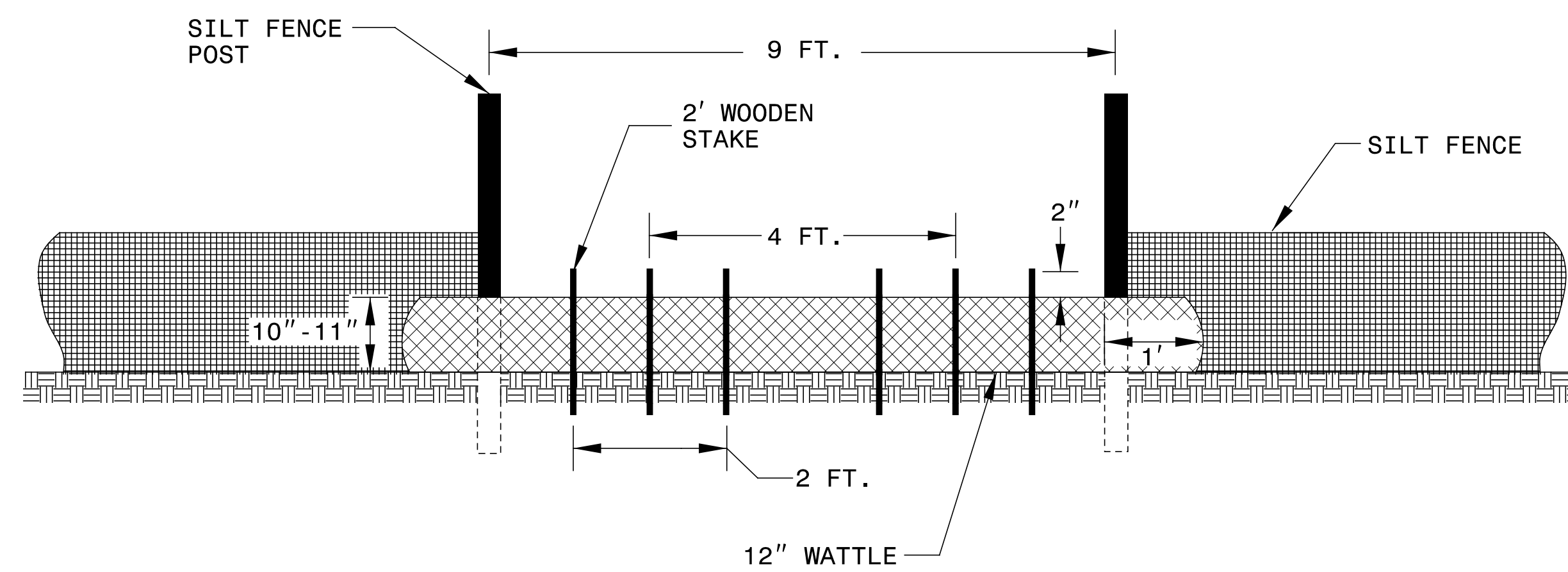
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 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.



SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

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

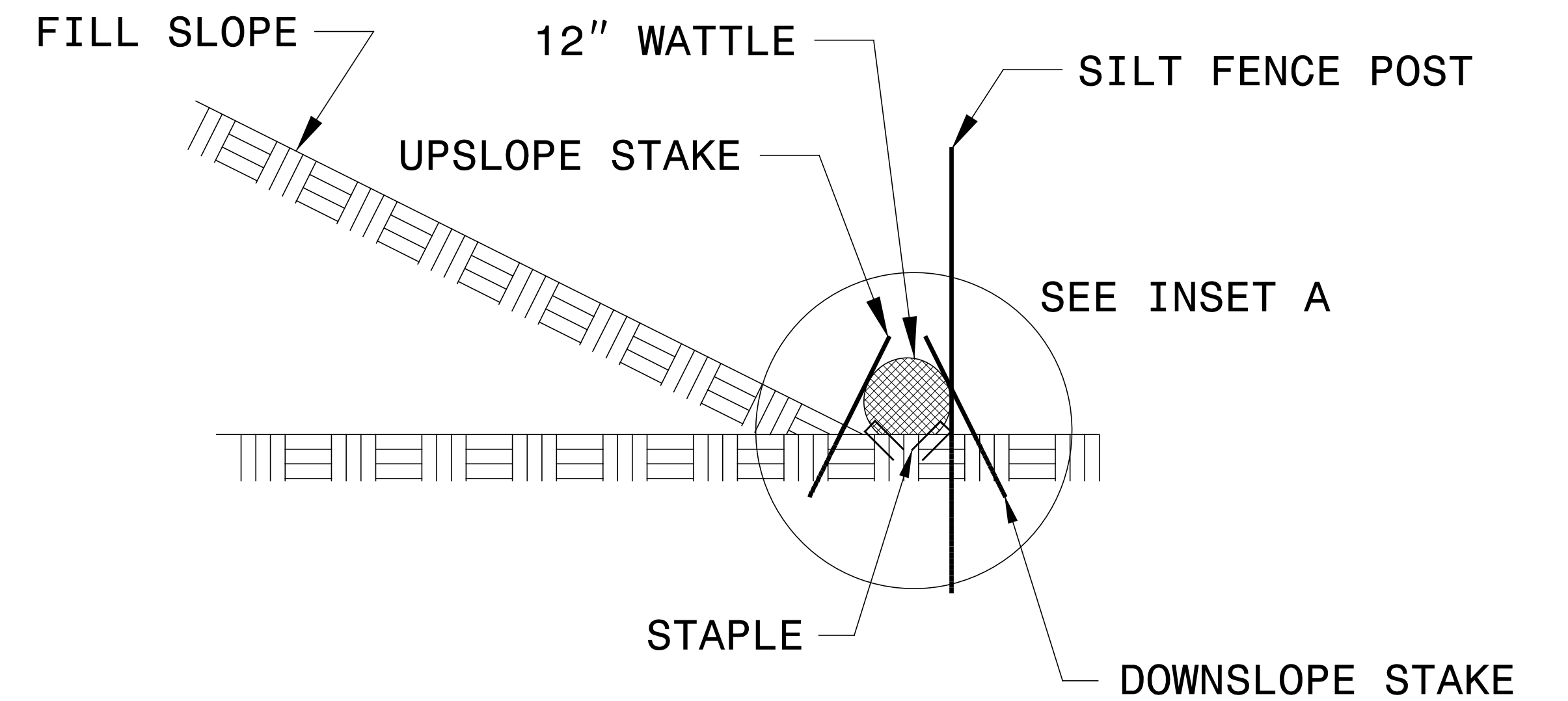
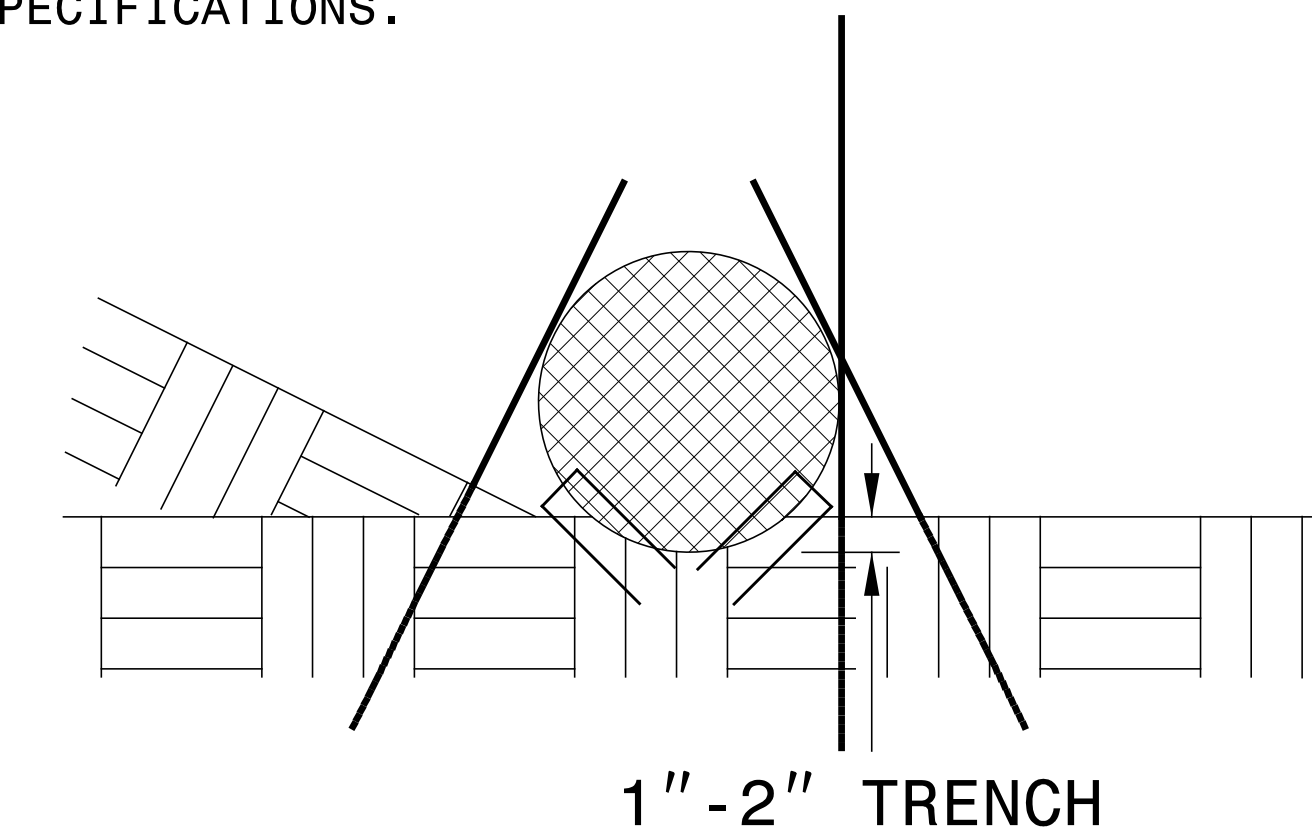
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

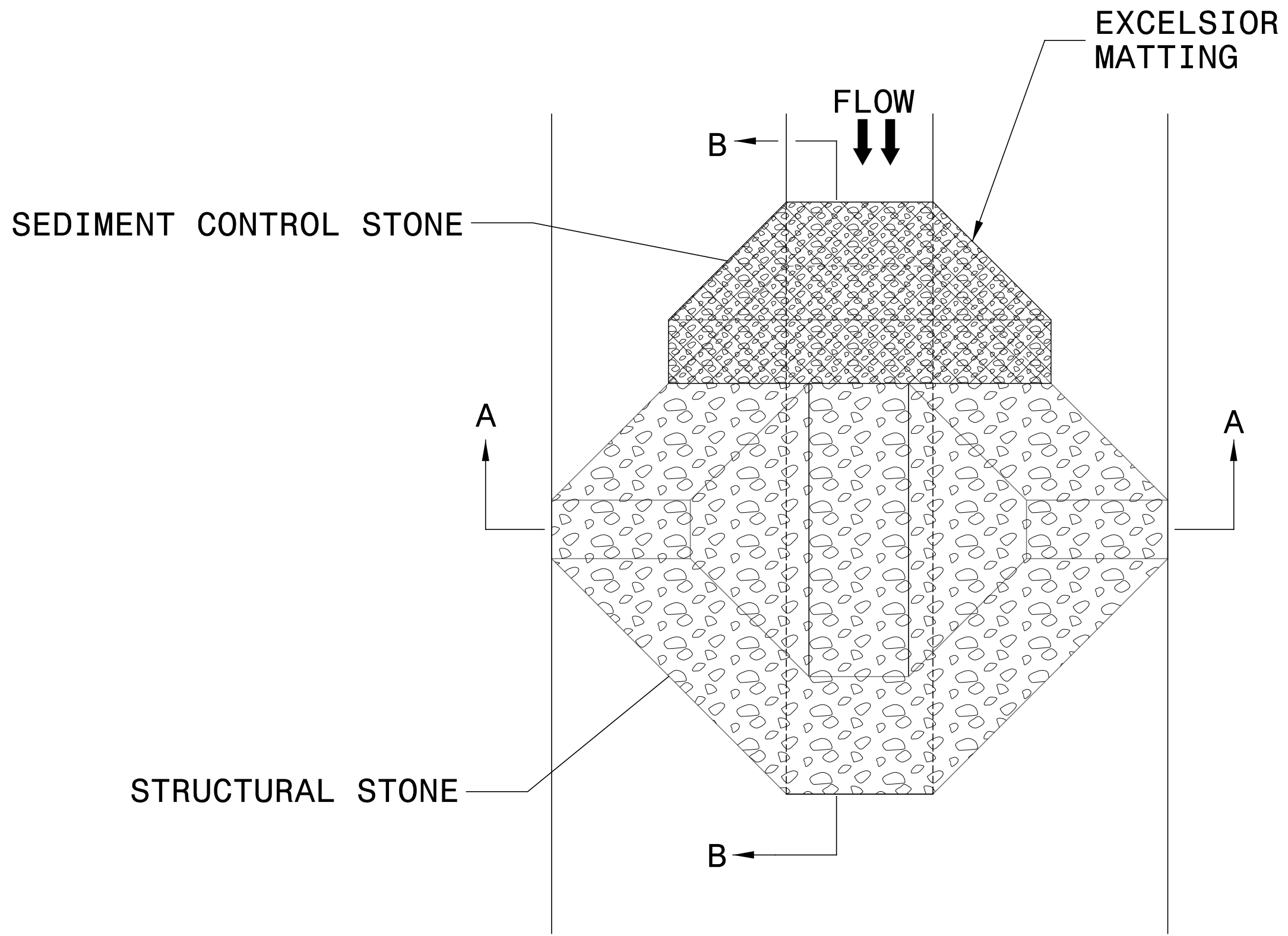
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A



SIDE VIEW

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



PLAN

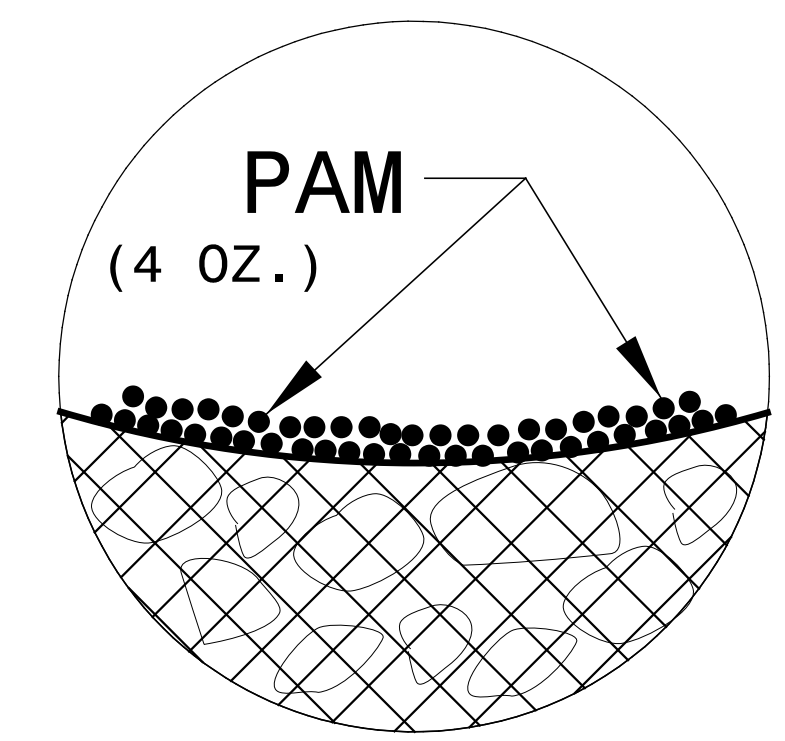
NOTES:

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

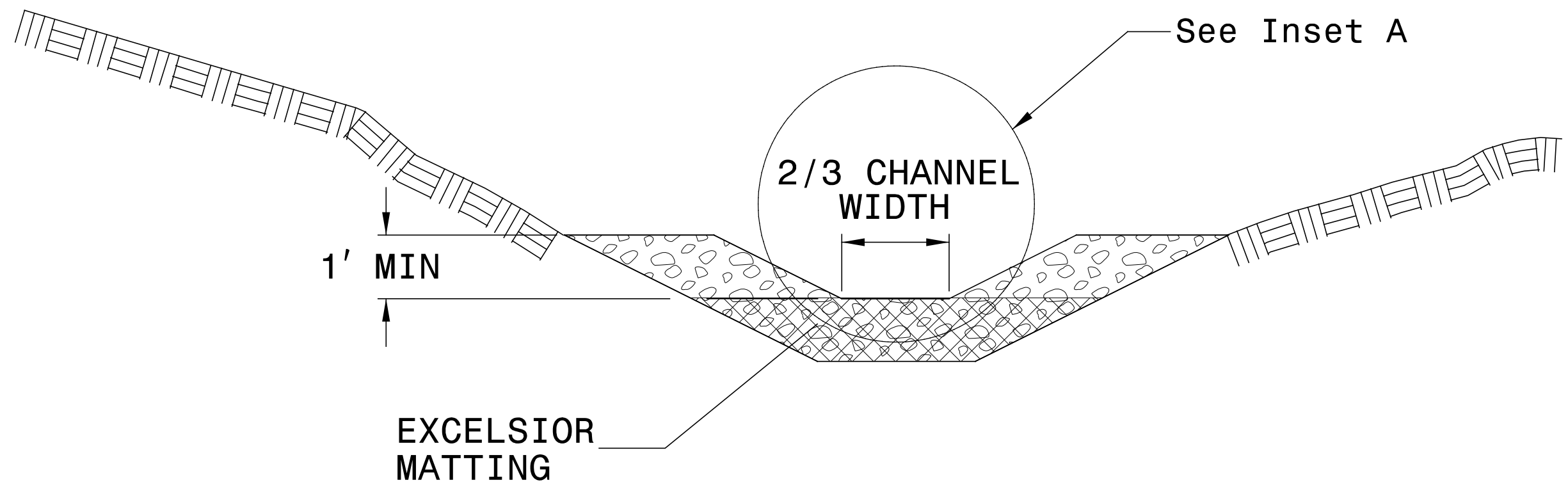
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

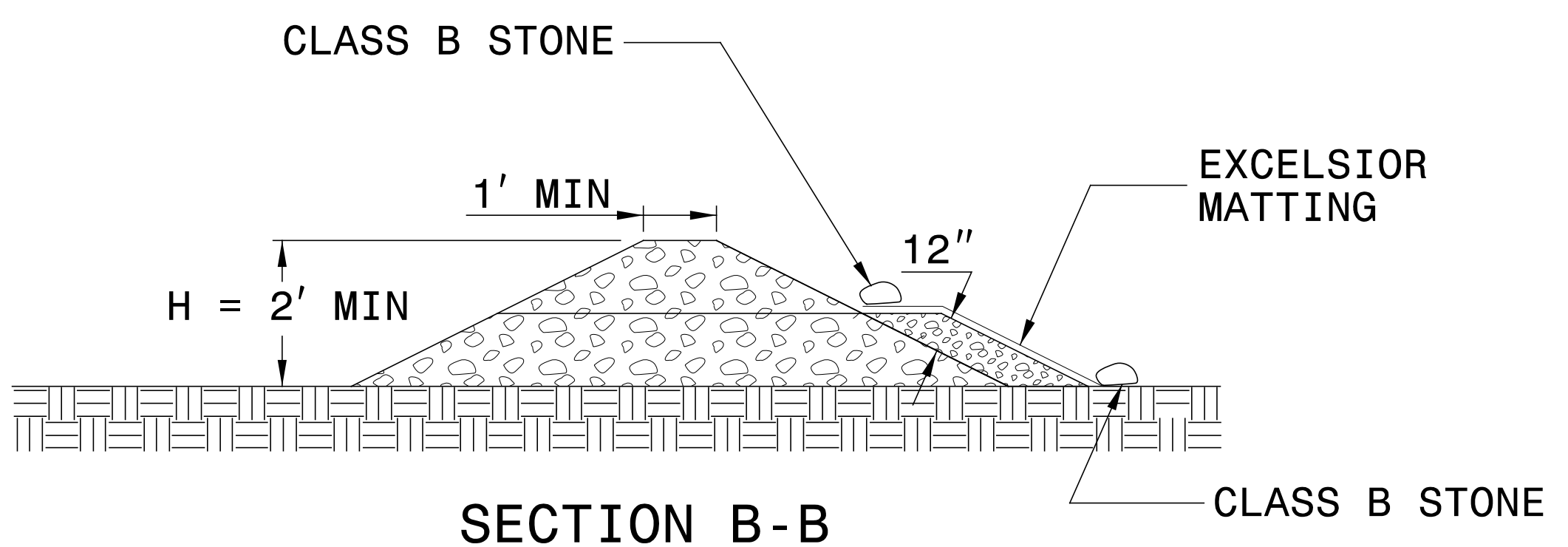
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

BORROW PIT DEWATERING BASIN DETAIL

GENERAL NOTES:

DETERMINE BORROW PIT DEWATERING BASIN SIZE USING $V = 8.0203 * Q * T$, WHERE V IS VOLUME (FT³), Q IS PUMP FLOW RATE (GPM), AND T IS DEWATERING TIME (HR). USE MAXIMUM FLOW RATE OF 1000 GPM AND A MINIMUM DEWATERING TIME OF 2 HOURS.

RISER SHALL BE A NON-PERFORATED, SMOOTH OR CORRUGATED MATERIAL WITH A FLASHBOARD OPTION.

CONSTRUCT THE COIR FIBER BAFFLE IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1640.01 AND WITH MATERIAL THAT MEETS THE SPECIFICATIONS OF ROADWAY STANDARD 1640-14.

PROVIDE 5' STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 3' OF THE POST APPEARING ABOVE THE GROUND.

ATTACH THE COIR FIBER MAT TO THE STEEL POSTS WITH WIRE OR OTHER ACCEPTABLE MEANS AND STAPLED INTO THE BOTTOM AND SIDE SLOPES OF THE BASIN WITH 12" STAPLES.

INSTALL TYPE 2 GEOTEXTILE ON SIDESLOPES AND BOTTOM OF BASIN AT INLET AS SHOWN IN THE DETAIL.

USE THE TYPICAL SECTION SHOWN FOR THE BORROW PIT DEWATERING BASIN AS A GUIDE. THE BASIN MAY HAVE ANY TYPE CONFIGURATION AS LONG AS SUFFICIENT VOLUME IS PROVIDED AND PROVISIONS ARE MADE FOR A NON-PERFORATED RISER.

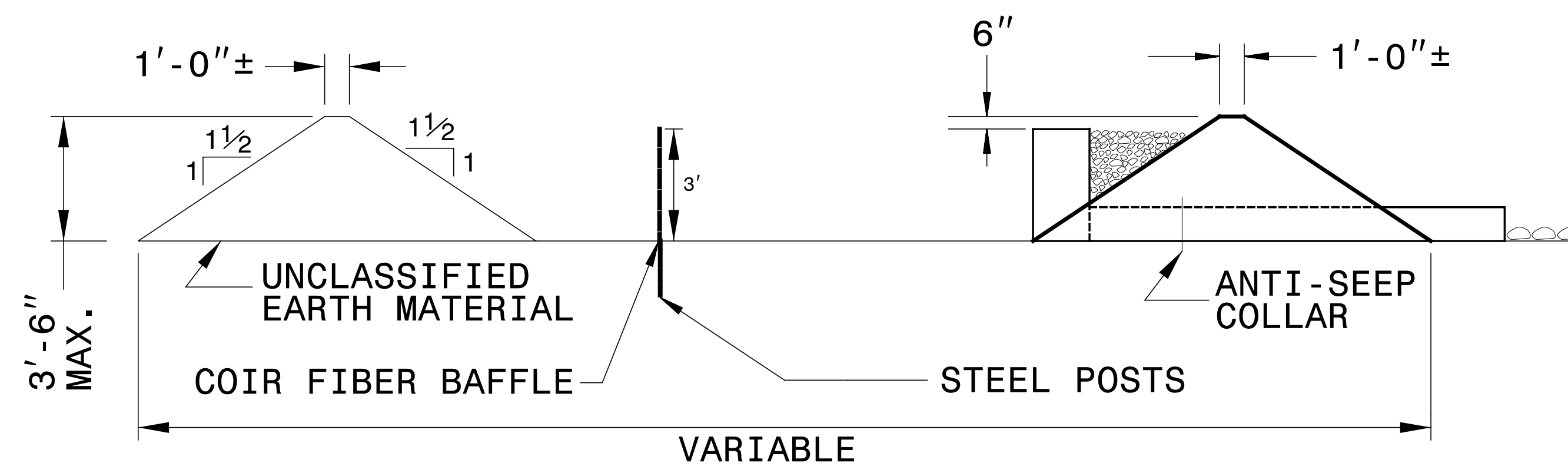
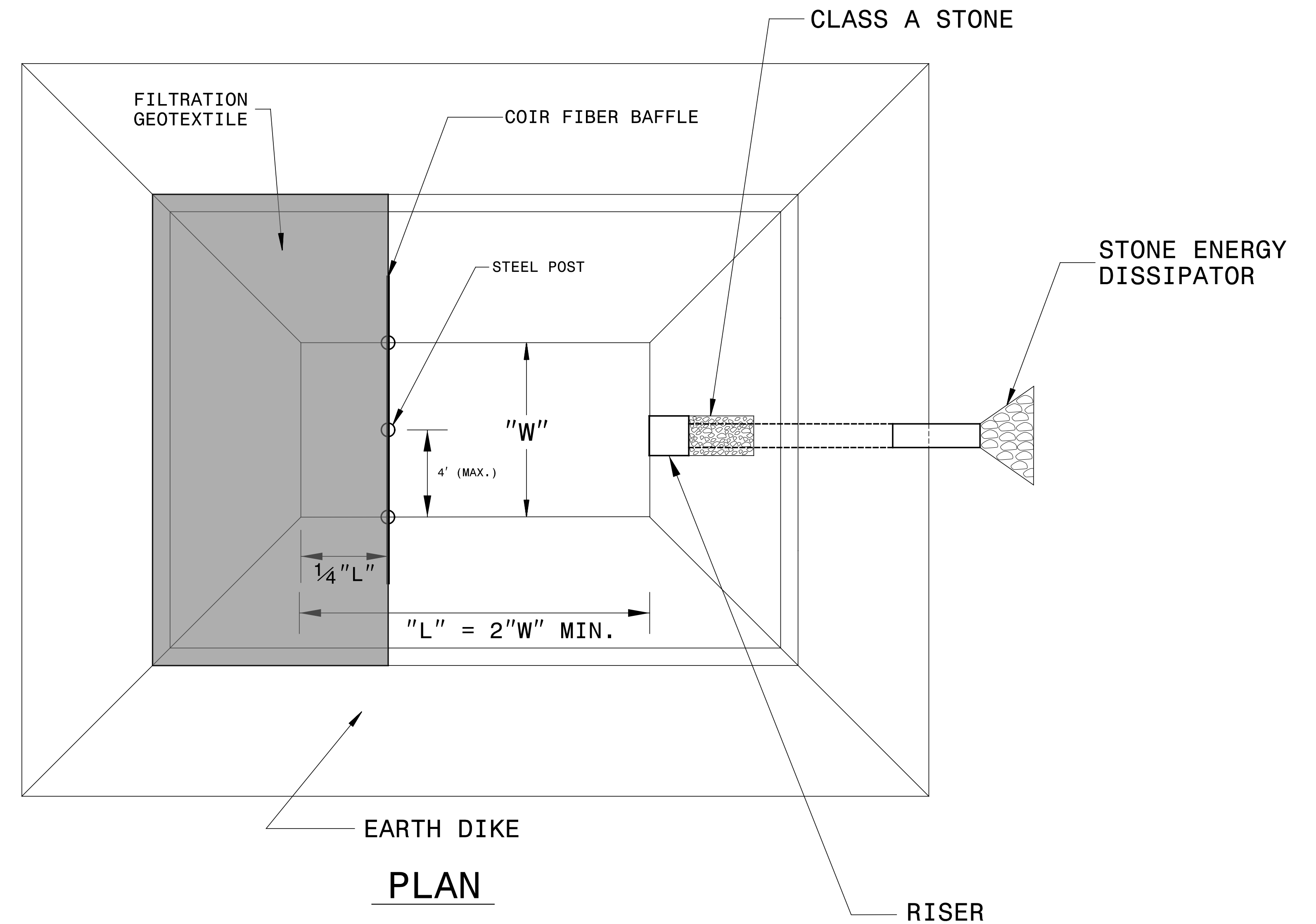
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

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

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

PUMP THE EFFLUENT INTO THE BORROW PIT DEWATERING BASIN TO A MAXIMUM DEPTH OF 6 IN. BELOW TOP OF EARTH DIKE.

PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.



TYPICAL SECTION VIEW

NOT TO SCALE

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.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET
MATTING FOR EROSION CONTROL DITCHES **MATTING FOR EROSION CONTROL DITCHES**

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	495+00	497+80	Lt	510
4	-L-	497+80	502+00	Lt	640
4	-L-	502+00	503+00	Lt	80
4	-L-	503+00	507+00	Lt	320
4	-L-	495+00	497+80	Rt	615
4	-L-	497+80	506+50	Rt	1,690
5	-L-	507+00	513+95	Rt	1,020
6	-L-	518+33	520+00	Rt	225
6	-L-	520+00	522+00	Rt	260
6	-L-	522+00	527+00	Rt	490
7	-L-	527+50	529+50	Rt	125
7	-L-	534+00	536+80	Rt	150
7	-L-	536+85	543+50	Rt	865
7	-L-	536+82		Rt	170
7	-L-	529+35		Rt	75
7	-L-	530+15	531+05	Rt	305
8	-L-	543+50	549+00	Rt	965
8	-L-	551+50	553+50	Rt	340
8	-L-	553+50	556+00	Rt	370
8	-L-	556+00	556+10	Rt	20
8	-L-	552+00	554+00	Lt	140
8	-L-	554+00	555+90	Lt	110
9	-L-	555+90	558+00	Lt	130
9	-L-	564+00	565+00	Lt	80
9	-L-	565+00	566+00	Lt	105
9	-L-	557+50	562+00	Rt	400
9	-L-	562+00	566+50	Rt	335
10	-L-	574+90	577+00	Lt	415
10	-L-	571+50	572+50	Lt	145
			SUBTOTAL		11,095

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
11	-L-	577+00	582+00	Lt	1,190
11	-L-	582+00	585+00	Lt	825
12	-L-	593+30	595+00	Rt	455
12	-L-	595+00	597+00	Rt	405
12	-L-	592+50	592+75	Lt	20
12	-L-	592+75	595+25	Lt	200
12	-L-	595+25	599+00	Lt	355
12	-L-	599+00	600+00	Lt	100
12	-L-	600+00	603+00	Lt	215
12	-L-	603+00	604+64	Lt	90
13	-L-	613+00	615+50	Lt	160
13	-L-	615+50	616+00	Lt	35
13	-L-	618+50	621+12	Rt	385
13	-L-	601+50	607+00	Rt	860
13	-L-	607+00	610+00	Rt	395
13	-L-	619+45	622+13	Lt	610
13	-L-	622+13	626+00	Lt	925
13	-L-	621+12	624+72	Rt	685
13	-L-	624+72	628+00	Rt	530
13	-L-	617+15	617+56	Rt	30
14	-L-	626+00	630+00	Lt	895
14	-L-	630+00	634+50	Lt	1,070
14	-L-	634+50	639+50	Lt	770
14	-L-	639+50	641+00	Lt	75
14	-L-	628+00	632+00	Rt	660
14	-L-	632+00	634+39	Rt	455
14	-L-	634+39	638+00	Rt	405
14	-L-	638+00	639+50	Rt	75
			SUBTOTAL		12,875

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET
MATTING FOR EROSION CONTROL DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
15	-L-	639+50	642+25	RT	235
15	-L-	642+25	645+50	RT	235
15	-L-	645+50	646+50	RT	50
15	-L-	646+50	650+00	RT	300
15	-L-	641+00	642+26	LT	70
15	-L-	642+26	645+50	LT	230
16	-L-	650+00	655+60	RT	720
16	-L-	650+00	654+98	LT	670
19-20	-L-	694+00	700+50	RT	635
19-20	-L-	697+00	702+50	LT	745
20	-L-	703+50	707+50	RT	255
21-22	-L-	721+00	724+50	LT	295
22	-L-	726+50	730+00	RT	240
22	-L-	727+00	730+00	LT	205
25	-L-	755+50	759+00	RT	355
25-26	-L-	762+00	771+52	RT	1,390
25-26	-L-	762+50	771+52	LT	1,220
26-27	-L-	772+50	789+00	RT	2,040
26-28	-L-	775+00	794+50	LT	3,050
30-32	-L-	816+50	871+00	RT	8,350
30-32	-L-	817+00	838+00	LT	4,005
32-34	-L-	839+00	863+00	LT	3,645
35-36	-L-	868+00	882+50	LT	1,985
35	-L-	875+00	878+50	RT	330
35-36	-L-	879+00	881+95	RT	165
36-37	-L-	884+50	898+50	RT	2,495
38	-L-	906+77	915+07.85	RT	1,365
38	-L-	907+50	915+07.85	LT	1,185
				SUBTOTAL	36,465

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
8	-EY18-	54+20	54+83	LT	50
8	-EY18-	54+83	55+22	LT	30
20	-GR3-	10+50	12+38	RT	345
20	-GR3-	10+80	16+50	LT	515
21-22, 43	-GR3-	25+50	43+00	RT	3,175
10	-GR4-	74+00	76+50	RT	165
10	-GR4-	76+50	81+00	RT	325
10	-GR4-	73+50	77+00	LT	635
10	-GR4-	77+00	79+00	LT	300
10	-GR4-	79+00	80+88	LT	235
42	-GR10-	12+50	15+00	RT	90
42	-GR10-	24+00	28+00	RT	130
42	-GR10-	28+00	35+00	RT	395
42	-GR10-	35+00	36+00	RT	15
42	-GR10-	19+50	21+17	LT	90
42	-GR10-	24+00	27+50	LT	225
42	-GR10-	27+50	30+00	LT	300
42	-GR10-	30+00	33+00	LT	485
42	-GR10- / -L-	36+00	603+65	RT/LT	50
20	-Y10-	23+09	23+59	LT	30
20	-Y10-	20+50	22+50	RT	250
20	-Y10-	34+87	38+50	RT	375
20-21	-Y10RPA-	10+00	22+14	RT	2,075
				SUBTOTAL	10,285

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET
MATTING FOR EROSION CONTROL SLOPES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
10-11	-L-	575+50	584+86	RT	4,200
10-11	-L-	576+50	585+12	LT	4,055
11-12	-L-	587+16	591+00	RT	1,640
11-12	-L-	587+42	595+50	LT	3,805
18	-L-	680+50	683+50	LT	710
19	-L-	687+00	689+00	LT	495
19	-L-	679+00	685+00	RT	1,305
20	-L-	703+00	703+50	RT	65
22-23	-L-	730+50	736+50	RT	1,465
25	-L-	759+00	760+50	RT	555
26-27	-L-	776+00	788+00	RT	2,755
28-29	-L-	791+00	802+00	RT	4,640
28+29	-L-	798+00	802+00	LT	1,770
29-30	-L-	804+50	811+50	RT	3,380
29-30	-L-	804+50	812+00	LT	3,755
30-32	-L-	818+50	834+50	RT	3,400
30-31	-L-	819+00	827+50	LT	1,895
33	-L-	845+50	848+50	LT	560
33-34	-L-	855+50	859+00	RT	545
34	-L-	857+50	861+50	LT	835
36-37	-L-	884+00	898+00	RT	6,600
37	-L-	900+00	902+50	RT	535
37-38	-L-	902+00	905+00	LT	940
38	-L-	908+00	911+50	RT	740
				SUBTOTAL	50,645

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
20	-GR3-	10+50	16+50	LT	1,815
20-22	-GR3-	10+50	39+50	RT	10,105
10	-GR4-	80+00	81+34	LT	440
10	-GR4-	80+00	81+50	RT	550
41	-GR5-	10+40	14+00	LT	1,745
41	-GR5-	10+40	14+00	RT	1,650
20	-Y1B-	23+00	23+50	LT	515
20	-Y1B-	27+50	27+73	LT	100
20	-Y1B-	34+50	35+50	LT	130
20	-Y1B-	36+50	38+00	LT	335
20	-Y1B-	21+00	22+50	RT	315
20	-Y1B-	26+00	28+33	RT	2,090
20	-Y1B-	31+00	33+20	RT	1,860
20	-Y1B-	24+80	38+50	RT	1,750
19	-Y1BRPB-	10+00	13+00	LT	1,010
20	-Y1BRPB-	22+50	27+50	LT	2,370
19	-Y1BRPC-	10+00	15+50	RT	1,565
19-20	-Y1BRPC-	19+00	24+00	RT	2,525
10,40	-Y4-	17+00	24+00	LT	4,900
10,40	-Y4-	17+00	21+00	RT	920
10,41	-Y4-	24+54	35+00	LT	6,255
10,41	-Y4-	29+00	35+00	RT	2,550
				SUBTOTAL	45,495

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET
MATTING FOR EROSION CONTROL SLOPES **MATTING FOR EROSION CONTROL SLOPES**

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
10	-Y4DR1-	10+13	10+50	LT	55
10	-Y4DR1-	10+15	10+50	RT	55
13	-Y5RPA-	12+50	16+50	RT	2,400
13	-Y5RPB-	12+50	21+00	LT	3,800
13	-Y5RPC-	17+00	20+50	RT	1,740
13	-Y5RPD-	10+00	23+50	LT	8,580
25, 44	-Y6-	21+00	29+00	LT	3,960
25, 44	-Y6-	22+00	29+00	RT	1,455
25, 45	-Y6-	31+50	42+50	LT	6,425
25, 45	-Y6-	31+50	41+50	RT	3,965
36, 46	-Y7-	18+50	21+00	RT	675
36, 46	-Y7-	22+00	28+50	RT	3,510
36, 46	-Y7-	24+00	28+50	LT	3,155
36, 47	-Y7-	30+50	38+50	LT	2,090
36, 47	-Y7-	30+50	45+50	RT	6,465
				SUBTOTAL	48,330
				TOTAL - SLOPES	144,470

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
					TOTAL - DITCHES
					79,185
					TOTAL - SLOPES
					144,470
					OVERALL TOTAL - DITCHES AND SLOPES
					223,655
					MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED
					150,000
					GRAND TOTAL
					373,655
					SAY
					375,000

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

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.

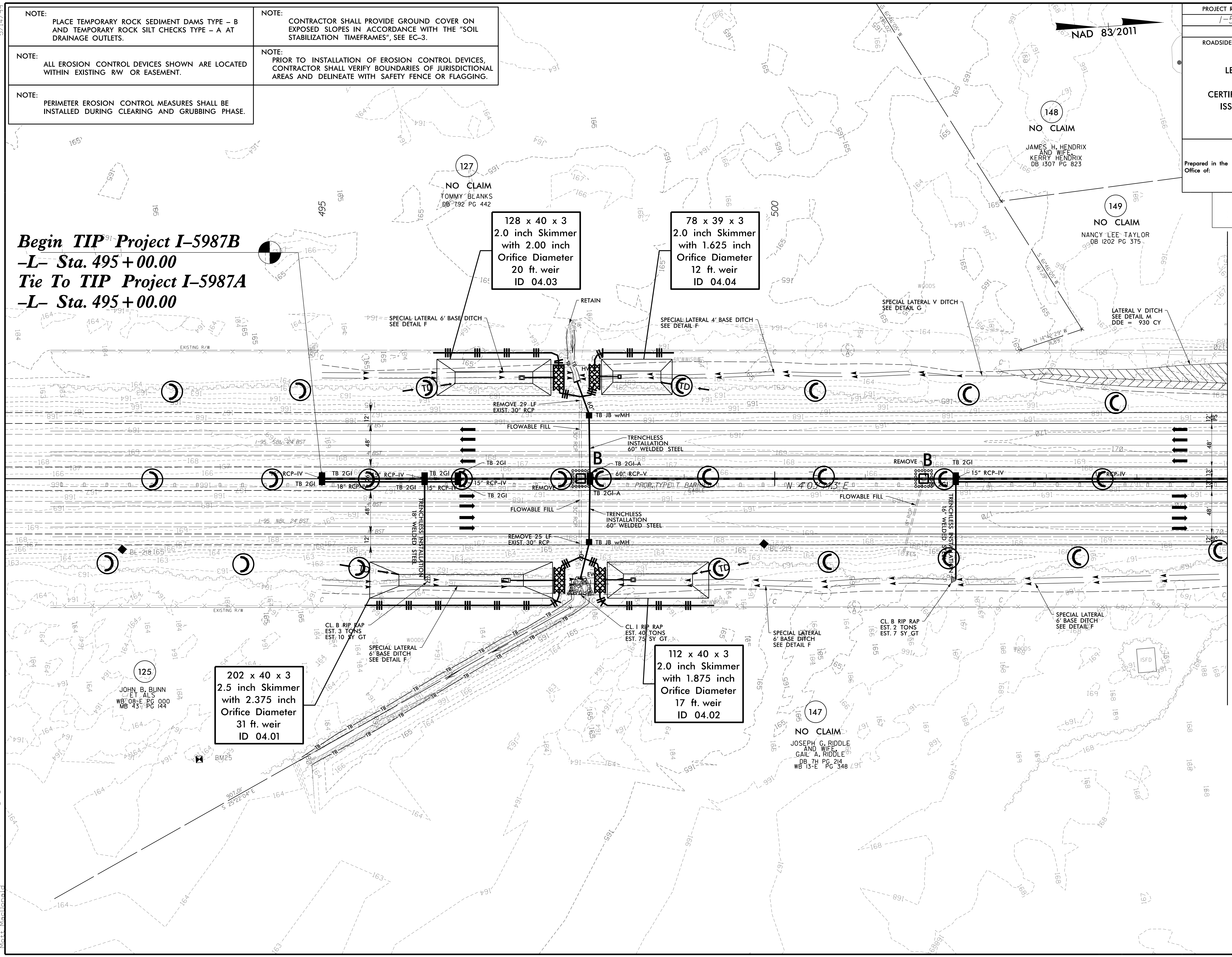
NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

PROJECT REFERENCE NO.	SHEET NO.
I-5987B	EC-4/CONST.4
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M MOTT MACDONALD
7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com/americas	

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

Begin TIP⁹¹ Project I-5987B
-L- Sta. 495+00.00
Tie To TIP Project I-5987A
-L- Sta. 495+00.00



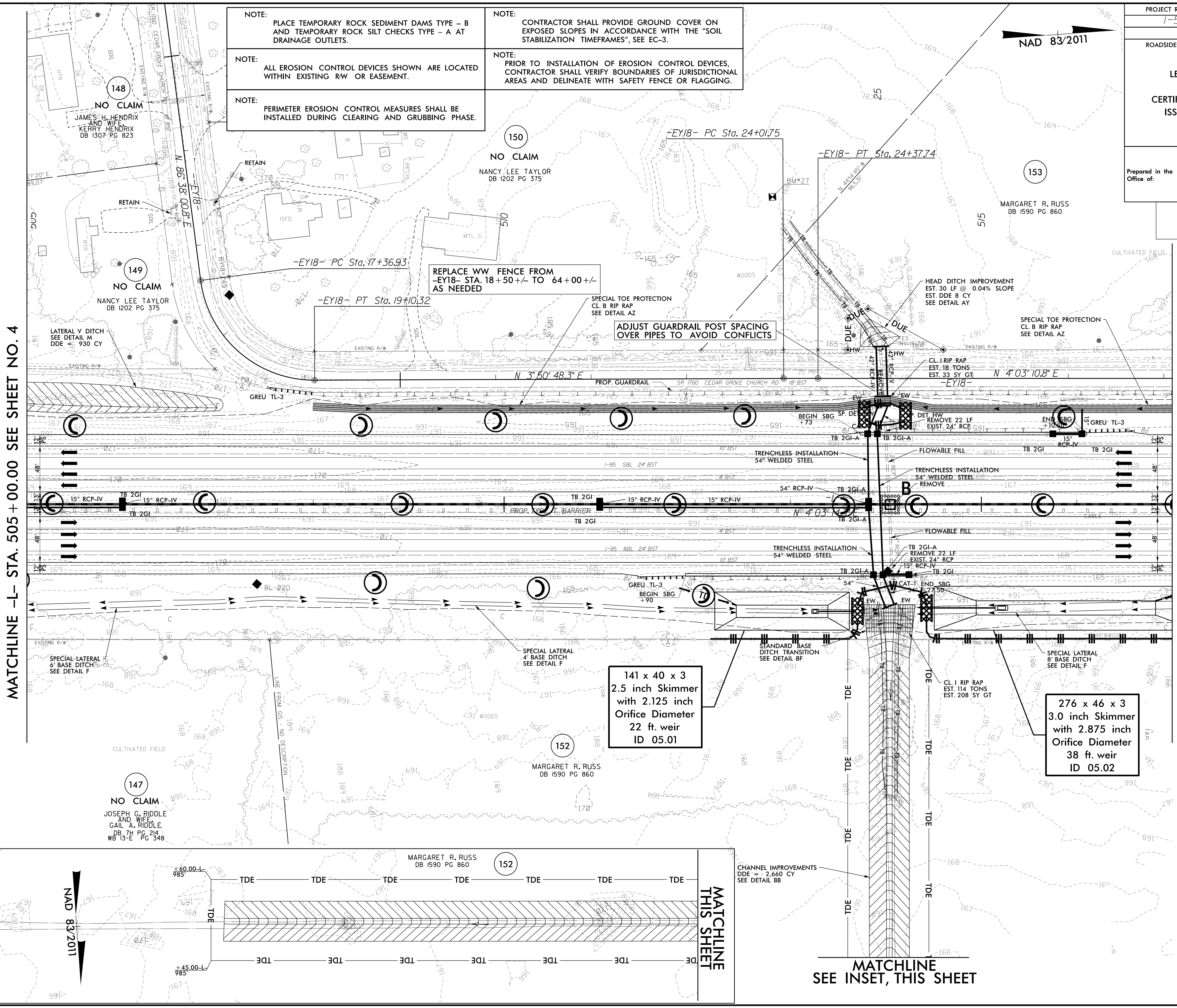
MATCHLINE -L- STA. 505+00.00 SEE SHEET NO. 5

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5/14/22

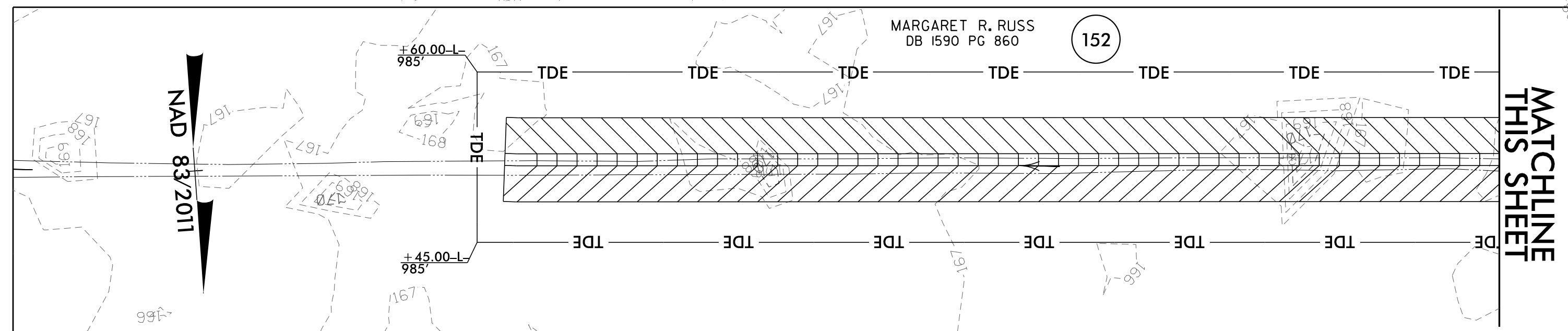
PROJECT REFERENCE NO. 1-5987B	SHEET NO. EC-5/CONST.5
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M MOTT MACDONALD 7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com/americas

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5



MATCHLINE -L- STA. 505 + 00.00 SEE SHEET NO. 4

MATCHLINE -L- STA. 517 + 00.00 SEE SHEET NO. 6

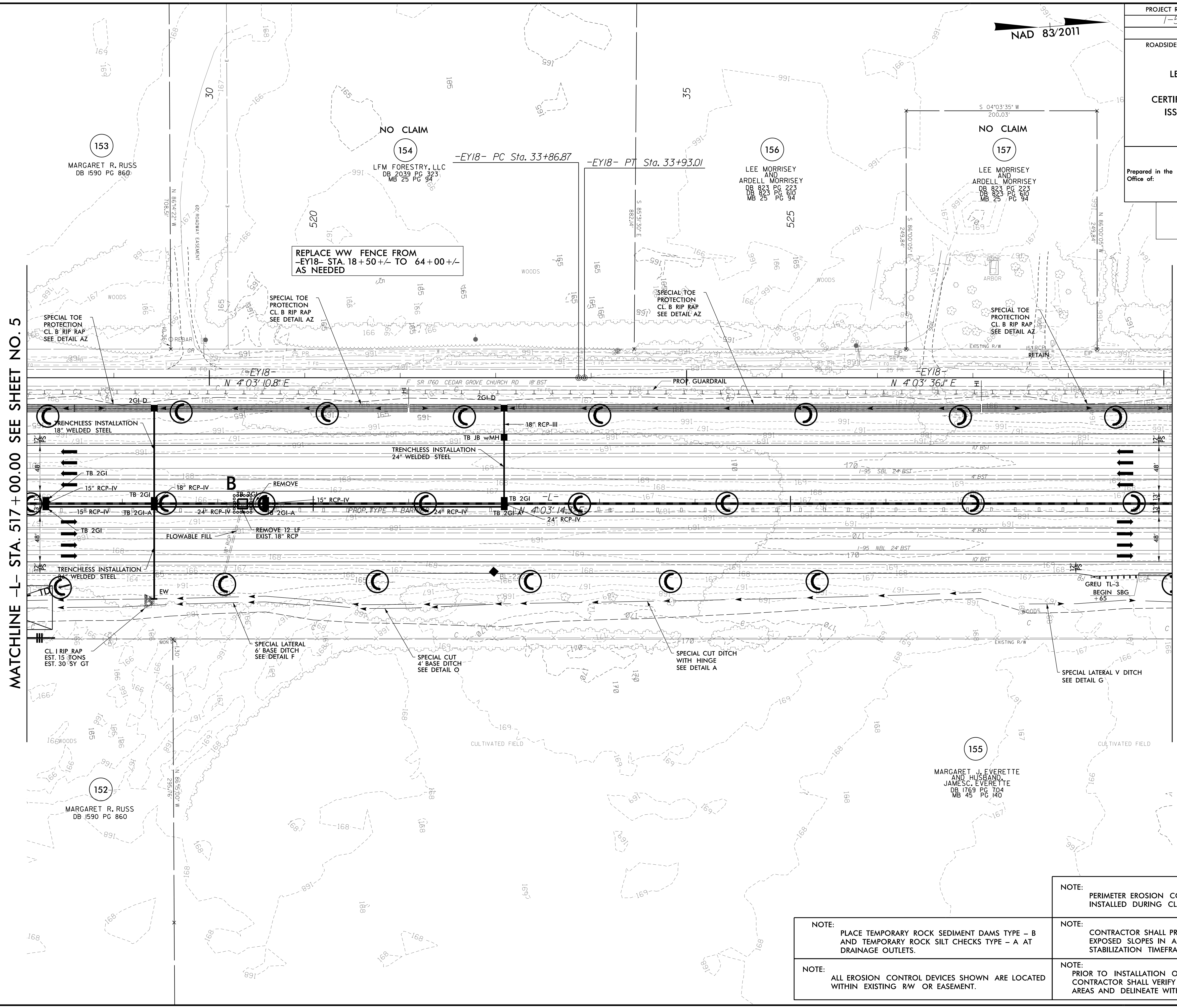


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5/14/22

PROJECT REFERENCE NO.	SHEET NO.
1-5987B	EC-6/CONST.6
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M MOTT MACDONALD 7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com/americas

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6



MATCHLINE -L- STA. 517 + 00.00 SEE SHEET NO. 5

MATCHLINE -L- STA. 529 + 00.00 SEE SHEET NO. 7

REPLACE WW FENCE FROM -EY18- STA. 18+50+/- TO 64+00+/- AS NEEDED

- NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.
- NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.
- NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.
- NOTE: ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.
- NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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3/14/2022 1:59:57 PM EC_psh07_c9.dgn

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

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.

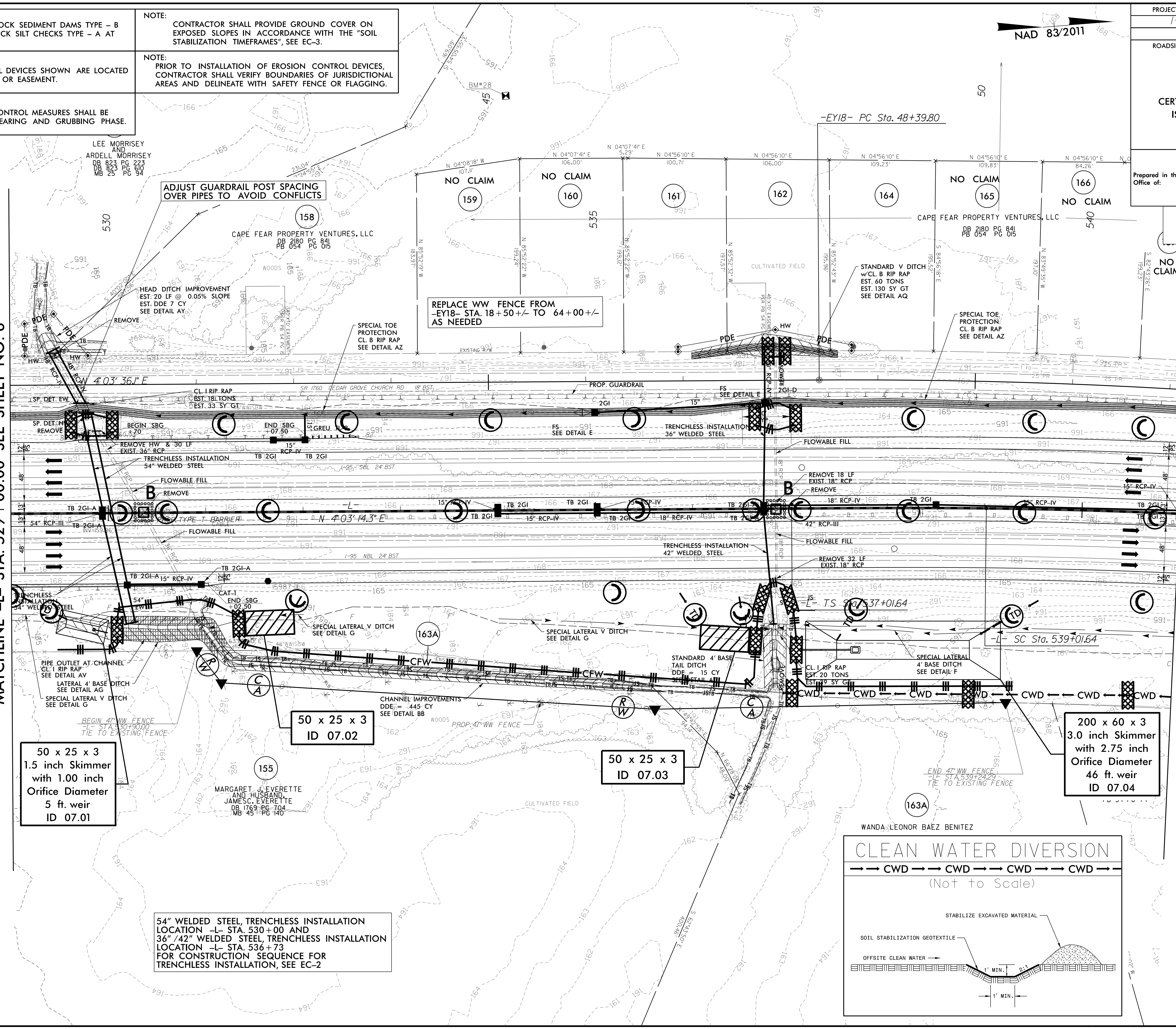
NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

PROJECT REFERENCE NO. 1-5987B	SHEET NO. EC-7/CONST.7
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M MOTT MACDONALD 7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com/americas

MATCHLINE -L- STA. 529 + 00.00 SEE SHEET NO. 6

MATCHLINE -L- STA. 541 + 00.00 SEE SHEET NO. 8



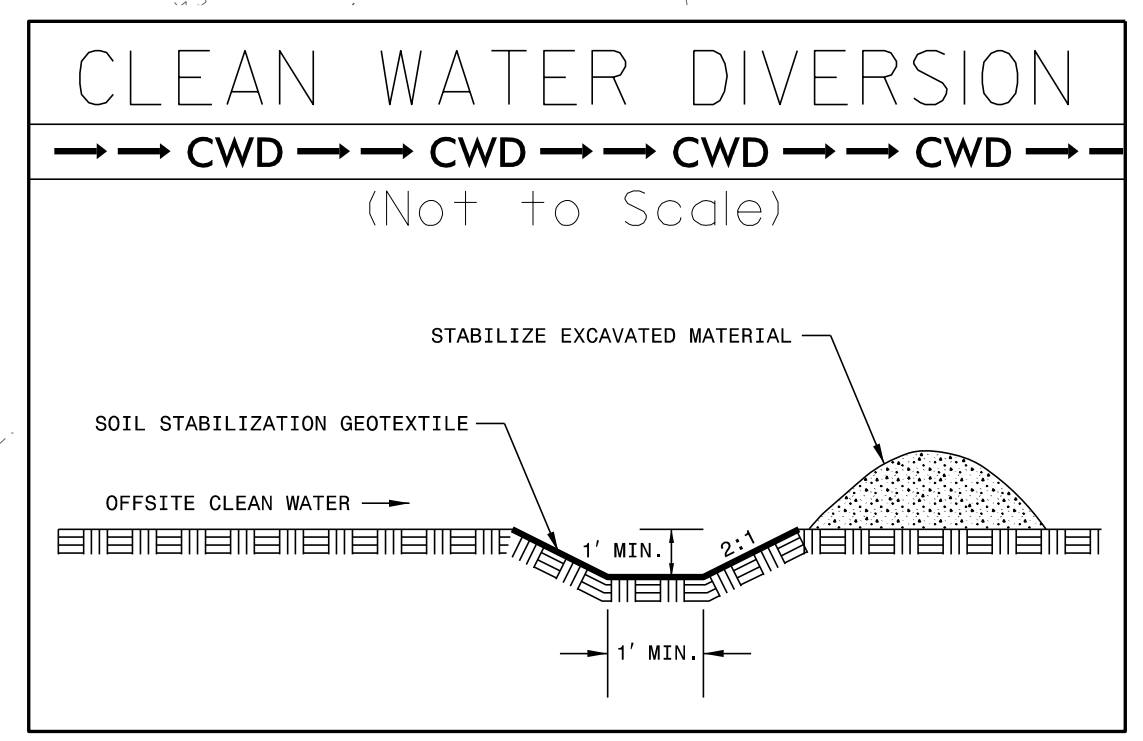
50 x 25 x 3
1.5 inch Skimmer
with 1.00 inch
Orifice Diameter
5 ft. weir
ID 07.01

50 x 25 x 3
ID 07.02

50 x 25 x 3
ID 07.03

200 x 60 x 3
3.0 inch Skimmer
with 2.75 inch
Orifice Diameter
46 ft. weir
ID 07.04

54" WELDED STEEL, TRENCHLESS INSTALLATION
LOCATION -L- STA. 530+00 AND
36"/42" WELDED STEEL, TRENCHLESS INSTALLATION
LOCATION -L- STA. 536+73
FOR CONSTRUCTION SEQUENCE FOR
TRENCHLESS INSTALLATION, SEE EC-2



WANDA LEONOR BAEZ BENITEZ

5/14/22

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

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: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

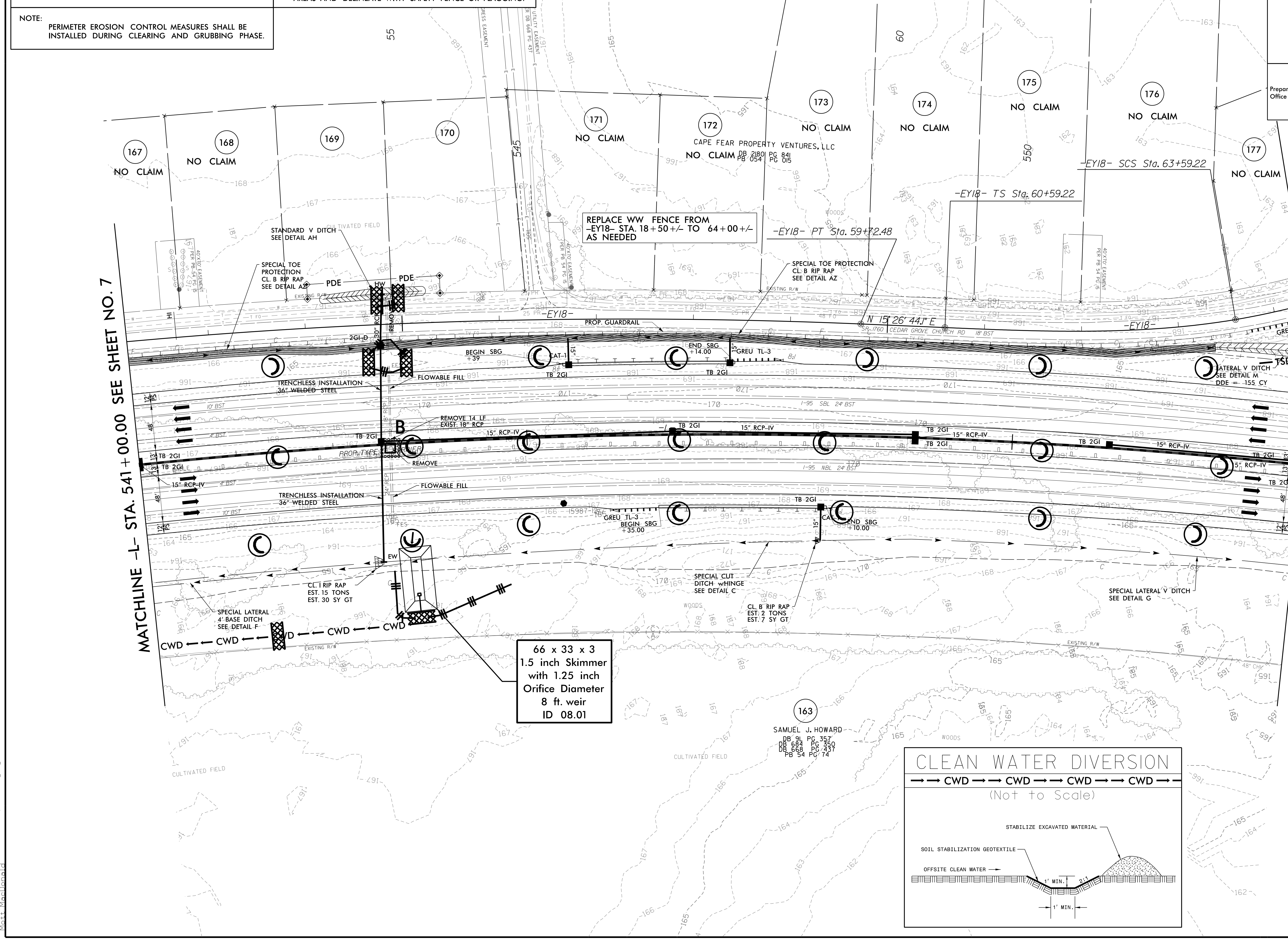
NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

PROJECT REFERENCE NO. 1-5987B	SHEET NO. EC-8/CONST.8
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M MOTT MACDONALD 7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com/americas

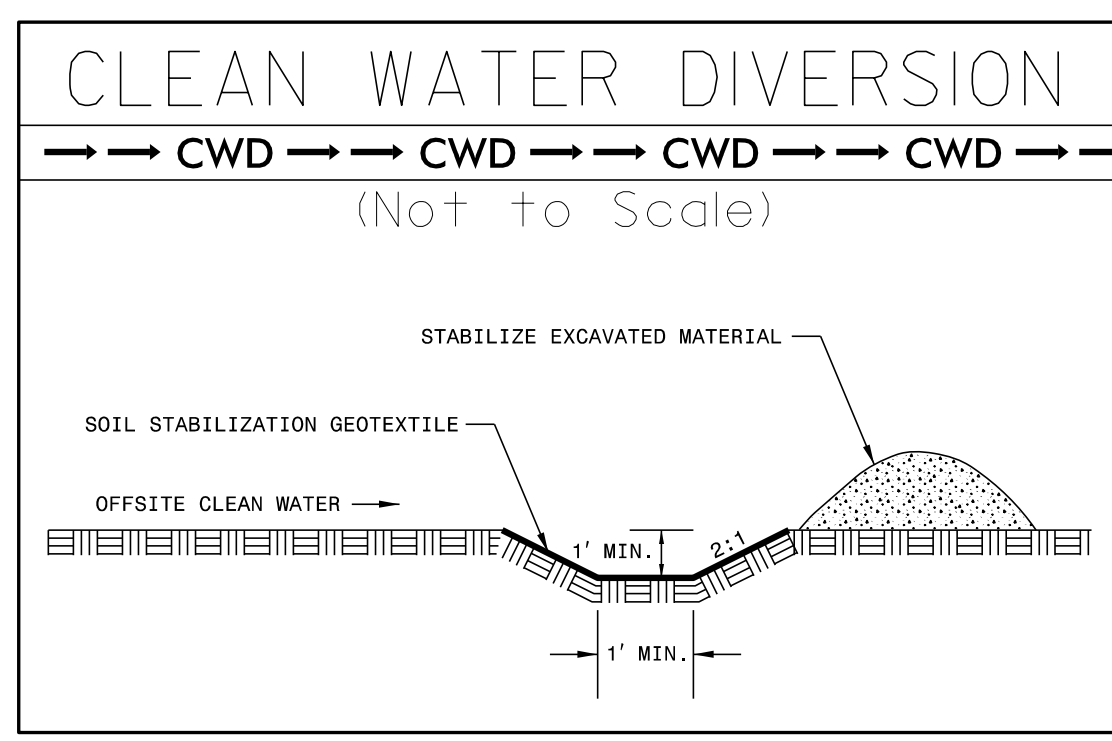
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 8

MATCHLINE -L- STA. 541 + 00.00 SEE SHEET NO. 7

MATCHLINE -L- STA. 553 + 00.00 SEE SHEET NO. 9



66 x 33 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID 08.01



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3/14/2022
Mott MacDonald

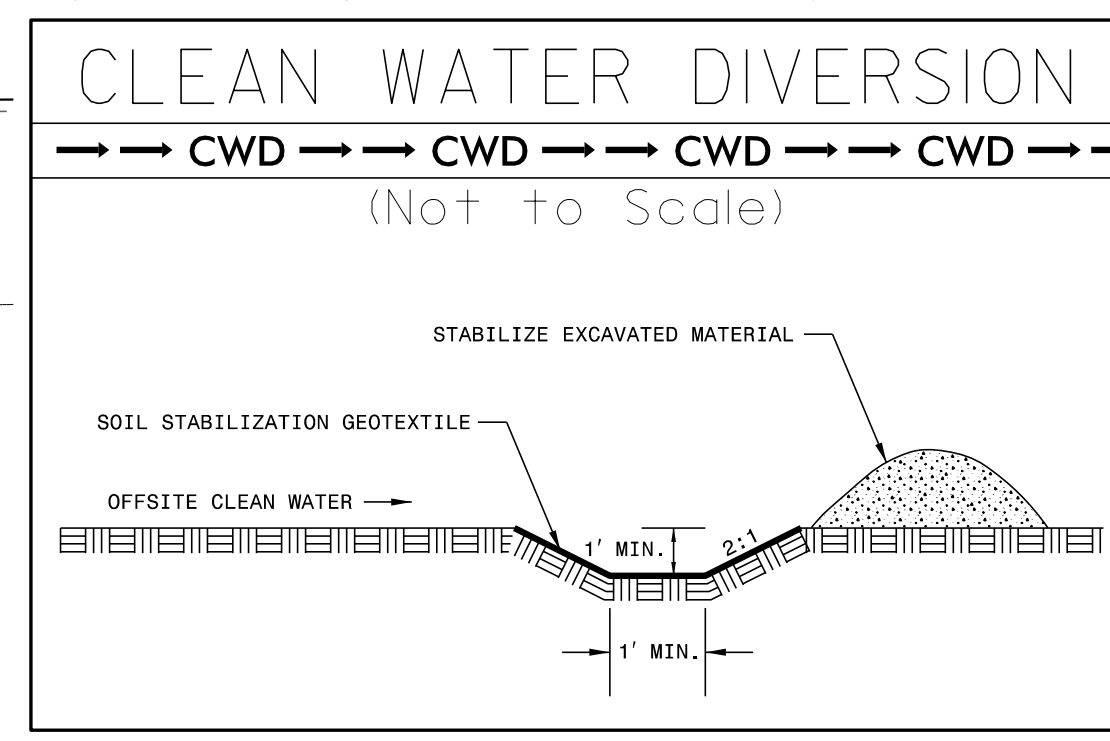
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

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: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

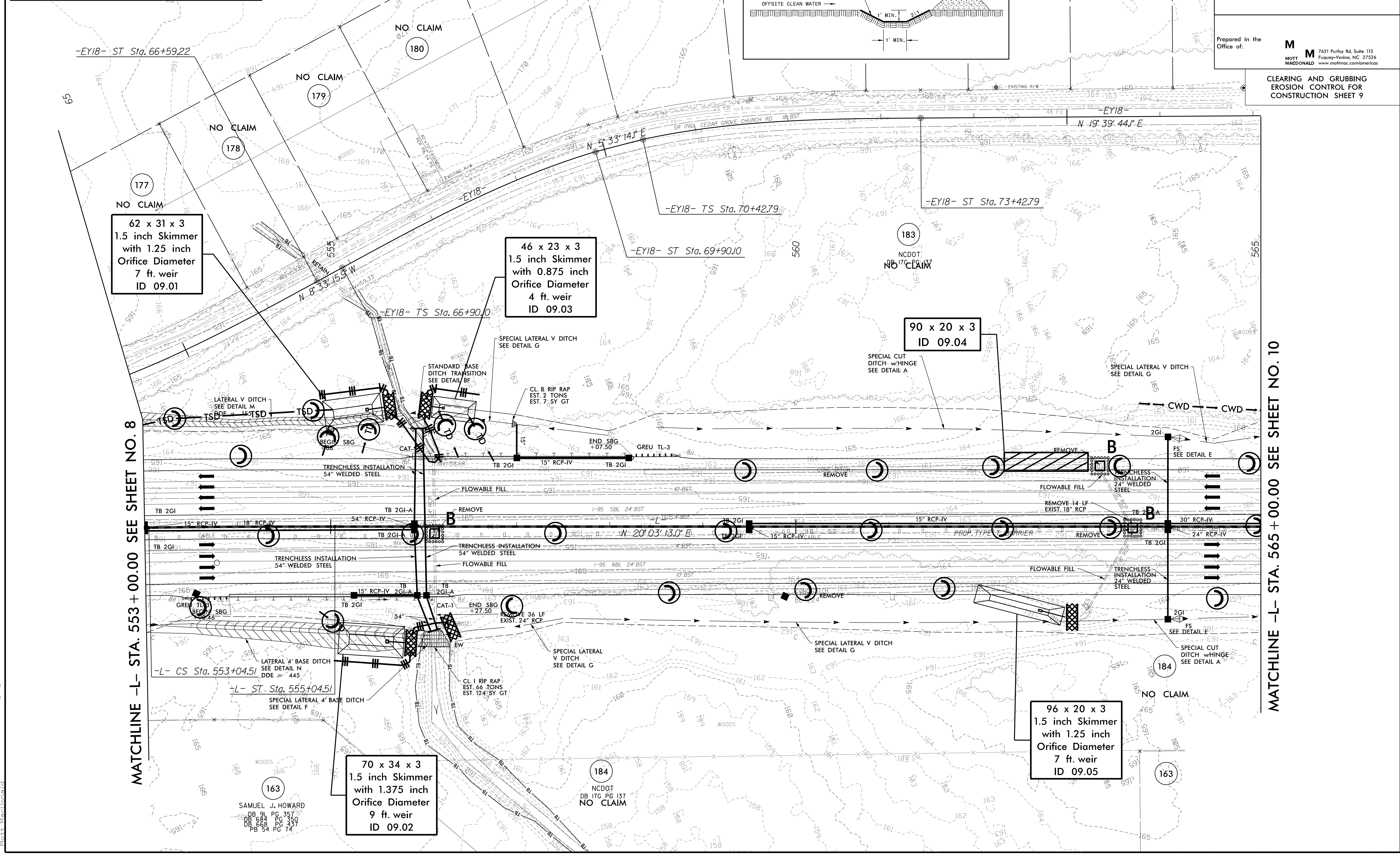
NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.



PROJECT REFERENCE NO. 1-5987B
SHEET NO. EC-9/CONST.9
RW SHEET NO.
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
ELENI M. RIGGS, PE
CERTIFICATION NUMBER: 3056
ISSUED: MARCH 15, 2022

Prepared in the Office of:
MOTT MACDONALD
7621 Purfoy Rd, Suite 115
Fuquay-Varina, NC 27526
www.mottmac.com/americas



62 x 31 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 09.01

46 x 23 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 09.03

90 x 20 x 3
ID 09.04

96 x 20 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 09.05

70 x 34 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
9 ft. weir
ID 09.02

MATCHLINE -L- STA. 553 + 00.00 SEE SHEET NO. 8

MATCHLINE -L- STA. 565 + 00.00 SEE SHEET NO. 10

3/14/2022 R:\ec\c1\15987b-ec-psh09-cs.dgn Mott MacDonald

SAMUEL J. HOWARD
DB 91 PG 357
DB 88 PG 360
PB 54 PG 74

NCDOT
DB 176 PG 137
NO CLAIM

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

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

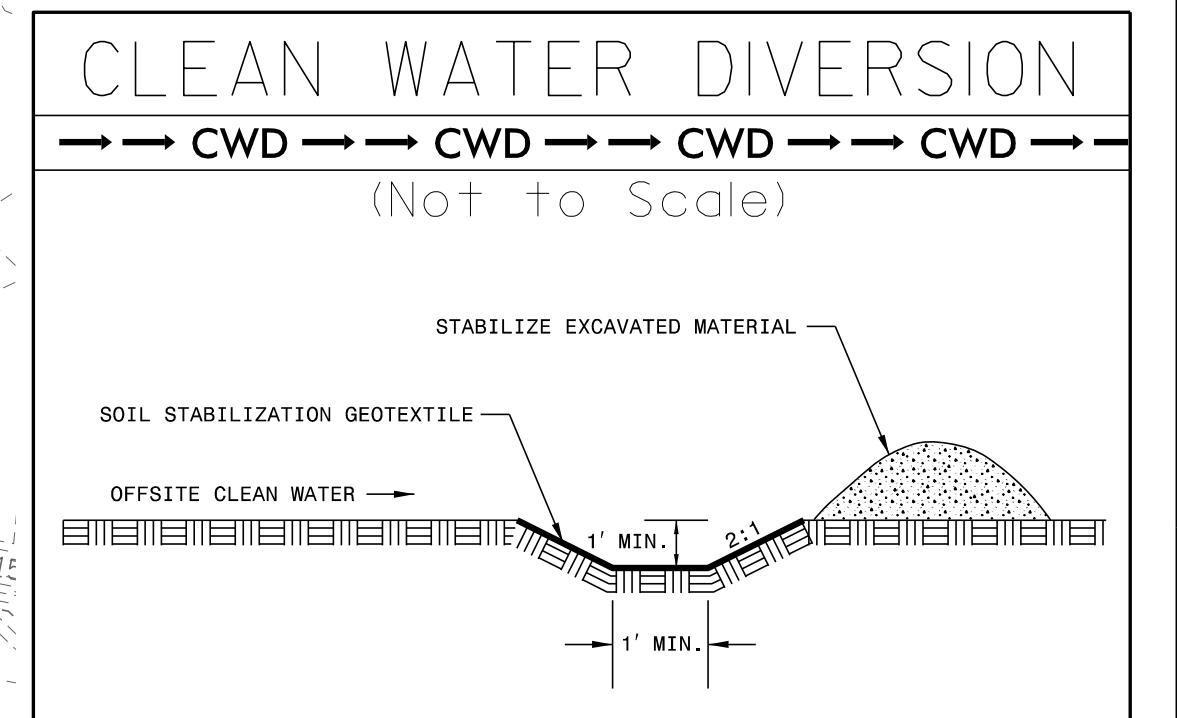
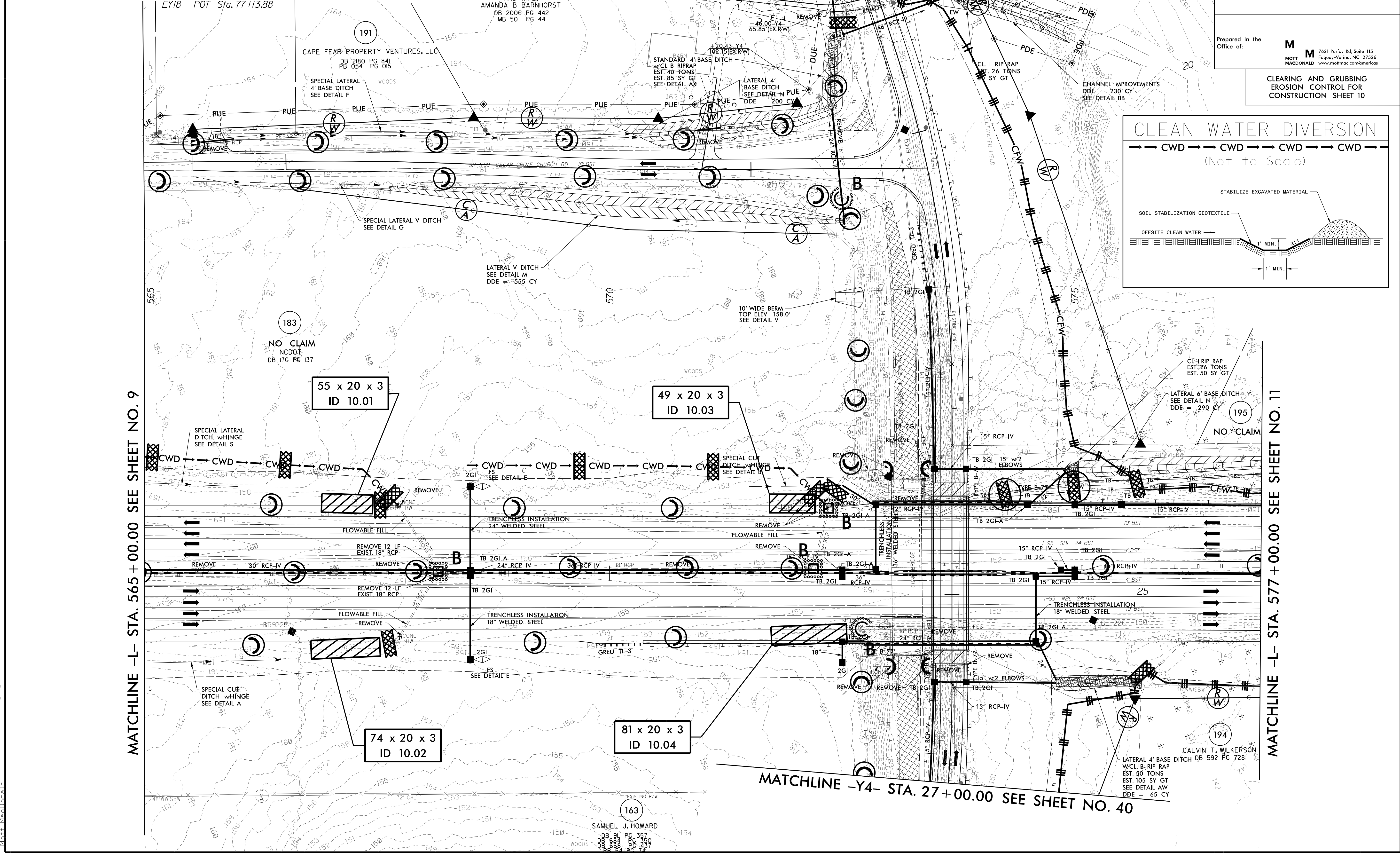
NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

PROJECT REFERENCE NO. I-5987B	SHEET NO. EC-10/CONST.10
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M 7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com/americas

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 10



MATCHLINE -L- STA. 565 + 00.00 SEE SHEET NO. 9

MATCHLINE -L- STA. 577 + 00.00 SEE SHEET NO. 11

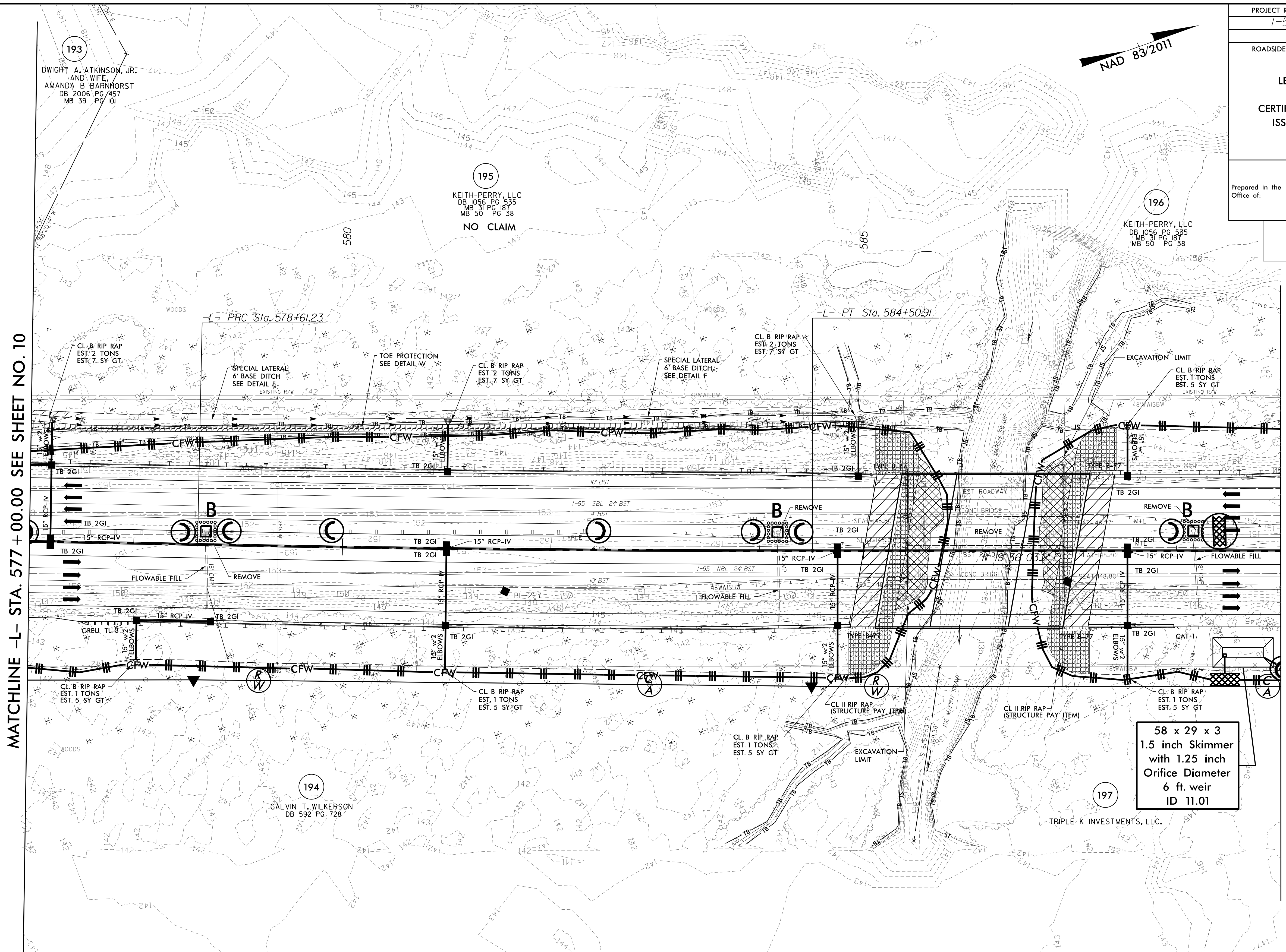
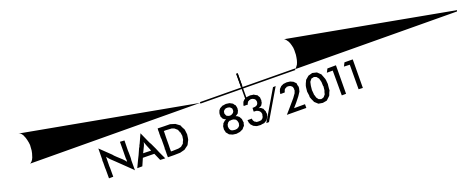
MATCHLINE -Y4- STA. 27 + 00.00 SEE SHEET NO. 40

3/14/2022 8:11:59 AM I:\5987B-EC.esk10.dgn

LEVEL III CERTIFIED BY:
 ELENI M. RIGGS, PE
 CERTIFICATION NUMBER: 3056
 ISSUED: MARCH 15, 2022

Prepared in the Office of:
M MOTT MACDONALD
 7621 Purfoy Rd, Suite 115
 Fuquay-Varina, NC 27526
 www.mottmac.com/americas

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 11



MATCHLINE -L- STA. 577 + 00.00 SEE SHEET NO. 10

MATCHLINE -L- STA. 589 + 00.00 SEE SHEET NO. 12

NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.	NOTE: UTILIZE SPECIAL STILLING BASINS AS NEEDED.
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.	NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.
NOTE: ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.	NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

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: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

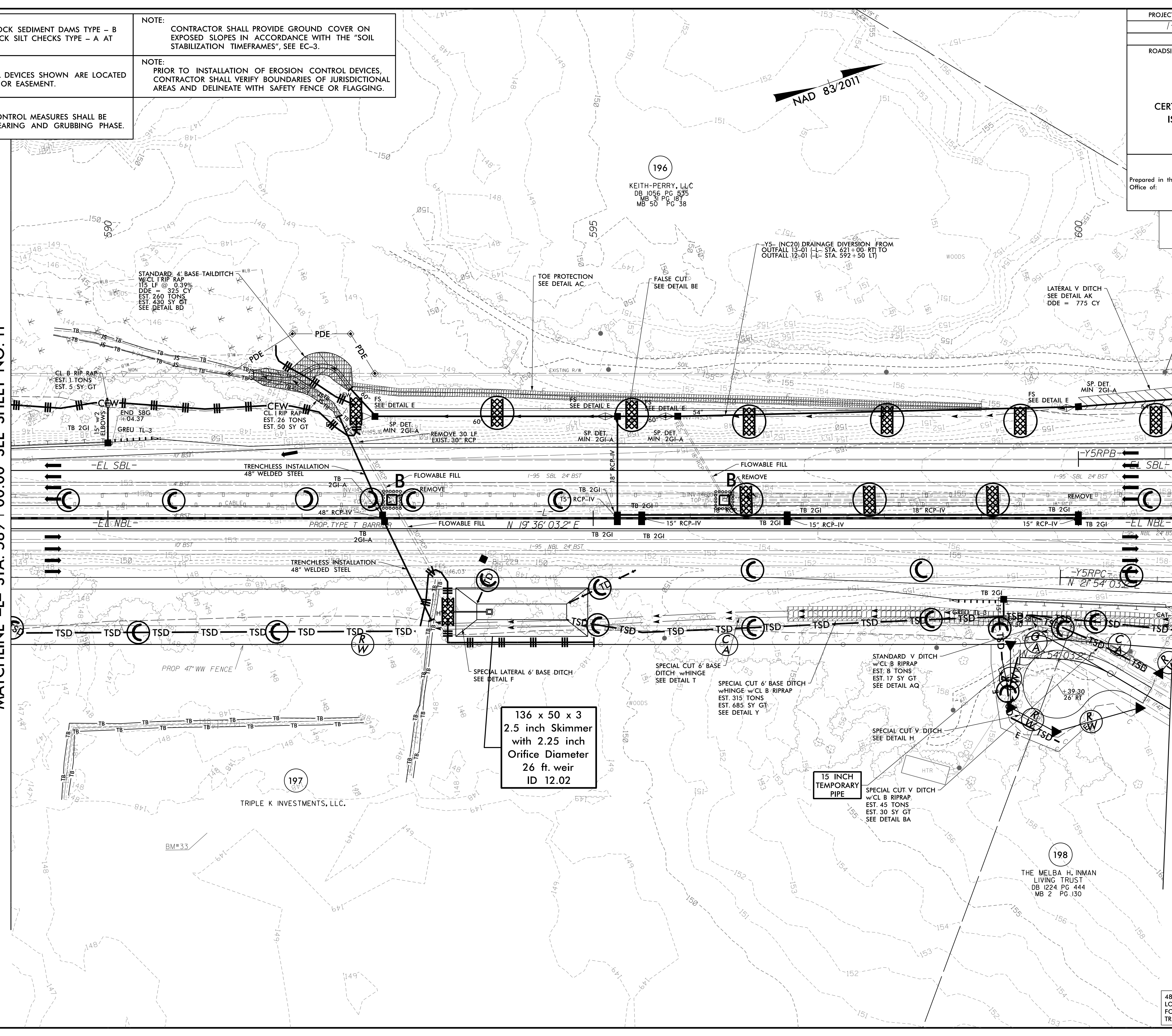
NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

PROJECT REFERENCE NO. I-5987B	SHEET NO. EC-12/CONST.12
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M MOTT MACDONALD 7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com/americas

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 12

MATCHLINE -L- STA. 589 + 00.00 SEE SHEET NO. 11

MATCHLINE -L- STA. 601 + 00.00 SEE SHEET NO. 13

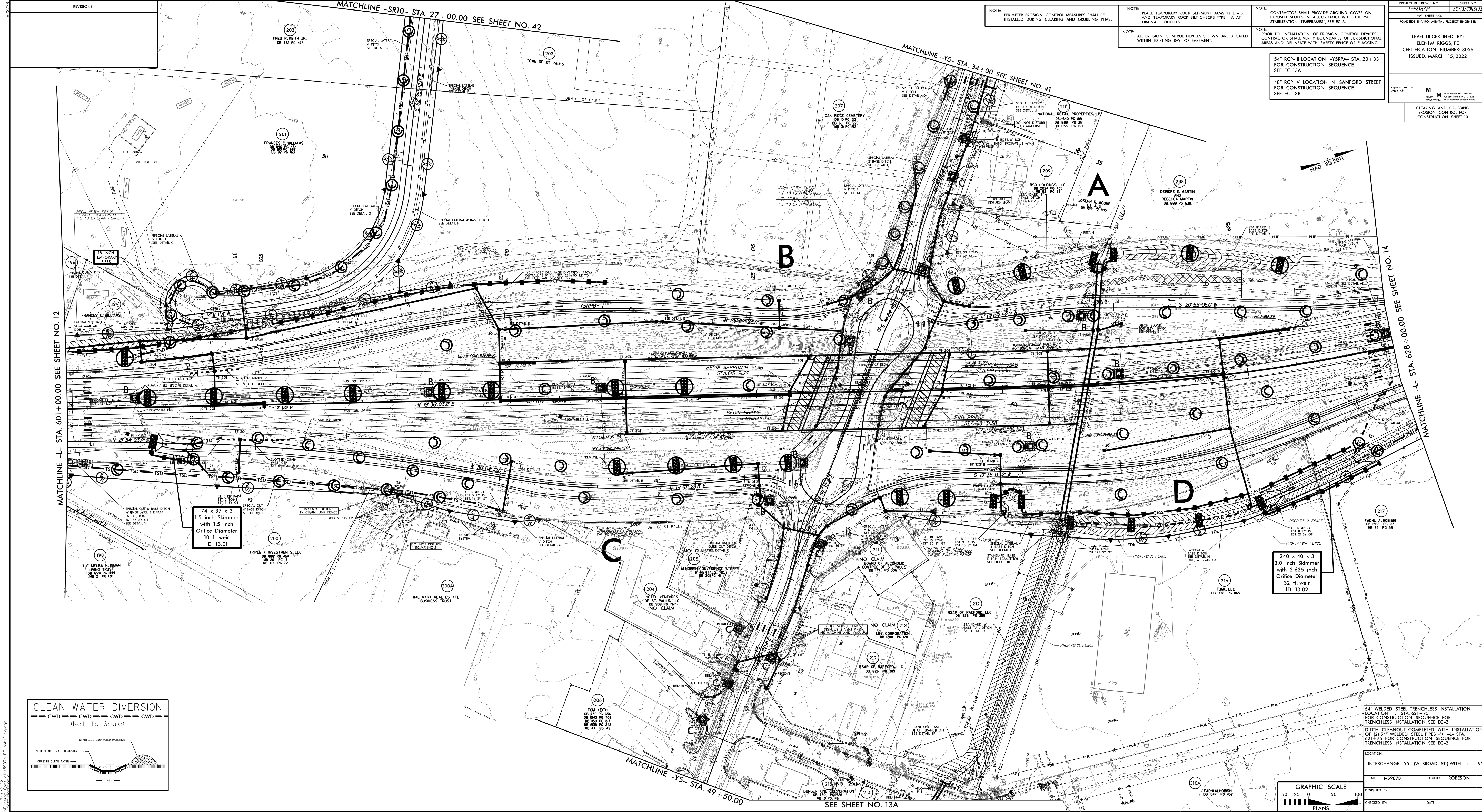


136 x 50 x 3
2.5 inch Skimmer
with 2.25 inch
Orifice Diameter
26 ft. weir
ID 12.02

15 INCH
TEMPORARY
PIPE

48" WELDED STEEL, TRENCHLESS INSTALLATION LOCATION -L- STA. 592 + 84 FOR CONSTRUCTION SEQUENCE FOR TRENCHLESS INSTALLATION, SEE EC-2

3/14/2022 8:14:59 AM R:\Eco3\15987b-ec.psk12.dgn Mott MacDonald



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.

NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE 'SOIL STABILIZATION TIMEFRAMES' SEE EC-3.

NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

54" RCP-III LOCATION -Y5RPA- STA. 20+33 FOR CONSTRUCTION SEQUENCE SEE EC-13A

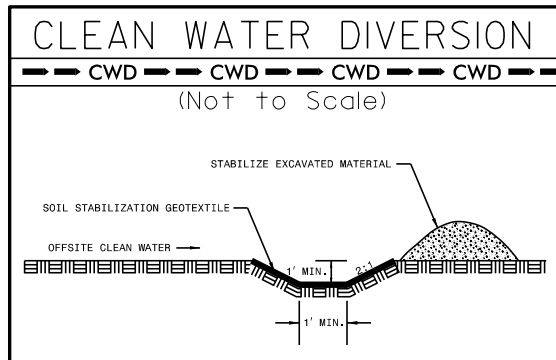
48" RCP-IV LOCATION N SANFORD STREET FOR CONSTRUCTION SEQUENCE SEE EC-13B

PROJECT REFERENCE NO. 1-5987B
 SHEET NO. EC-13/CONSTR 13
 ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
 ELENIA M. RIGGS, PE
 CERTIFICATION NUMBER: 3056
 ISSUED: MARCH 15, 2022

Prepared in the Office of:
 M M
 201 Paddy Rd. S.W., Tallahassee, FL 32310
 NATIONAL CONSULTING ENGINEERS

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 13



7.4 x 37 x 3
 1.5 inch Skimmer
 with 1.5 inch
 Orifice Diameter
 10 ft. weir
 ID 13.01

240 x 40 x 3
 3.0 inch Skimmer
 with 2.625 inch
 Orifice Diameter
 32 ft. weir
 ID 13.02

54" WELDED STEEL TRENCHLESS INSTALLATION
 LOCATION -L- STA. 621+75
 FOR CONSTRUCTION SEQUENCE FOR
 TRENCHLESS INSTALLATION, SEE EC-2

DITCH CLEANOUT COMPLETED WITH INSTALLATION
 OF (2) 54" WELDED STEEL PIPES -L- STA.
 621+75 FOR CONSTRUCTION SEQUENCE FOR
 TRENCHLESS INSTALLATION, SEE EC-2

LOCATION:
 INTERCHANGE -Y5- (W. BROAD ST.) WITH -L- (I-95)

TR. NO. 1-5987B COUNTY: ROBESON
 DESIGNED BY:
 CHECKED BY: DATE:

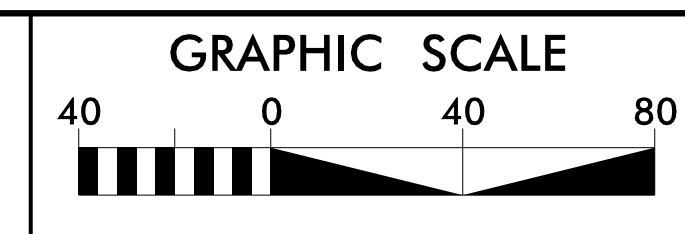
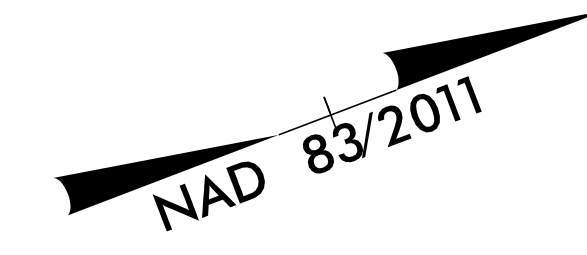
GRAPHIC SCALE
 0 25 50 100
 PLANS

10/15/2022 10:58:13 AM 10/15/2022 10:58:13 AM
 10/15/2022 10:58:13 AM 10/15/2022 10:58:13 AM

5/14/2022

3/14/2022
MOTT MACDONALD

CONSTRUCTION SEQUENCE STA. 20+33 -Y5RPA-

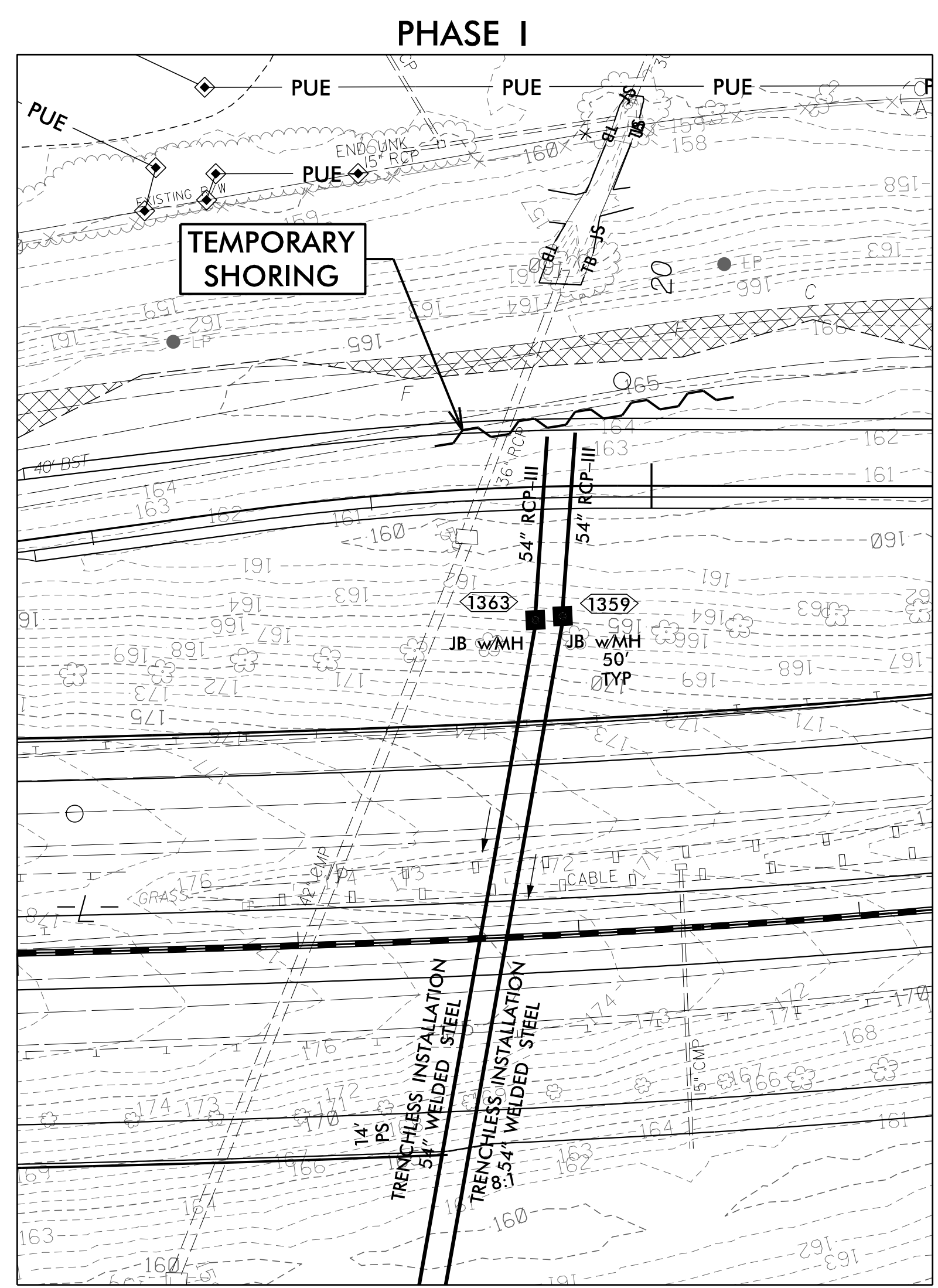


PROJECT REFERENCE NO.	SHEET NO.
1-5987B	EC-13A/CONST13
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	

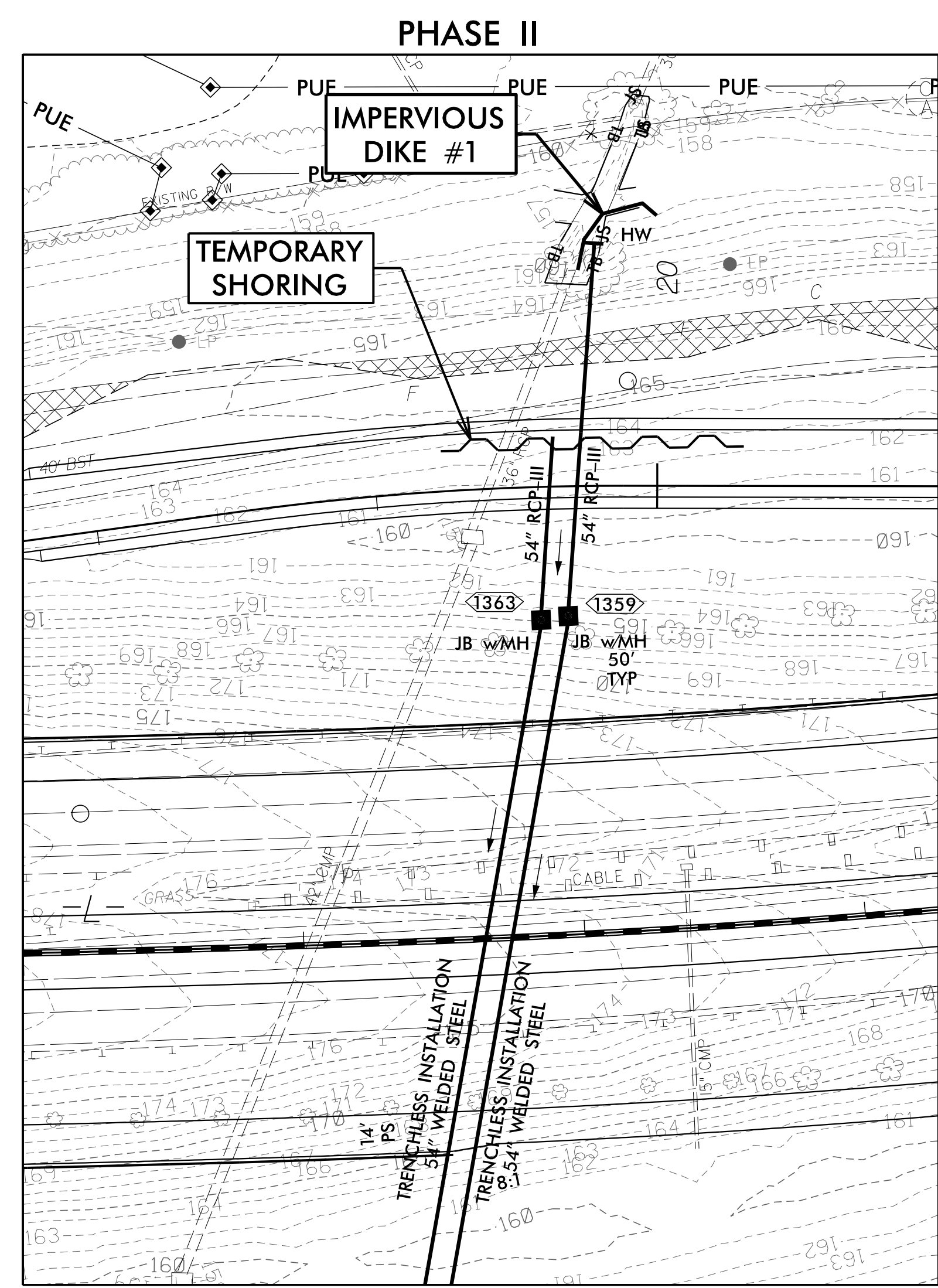
Prepared in the Office of:

M MOTT MACDONALD

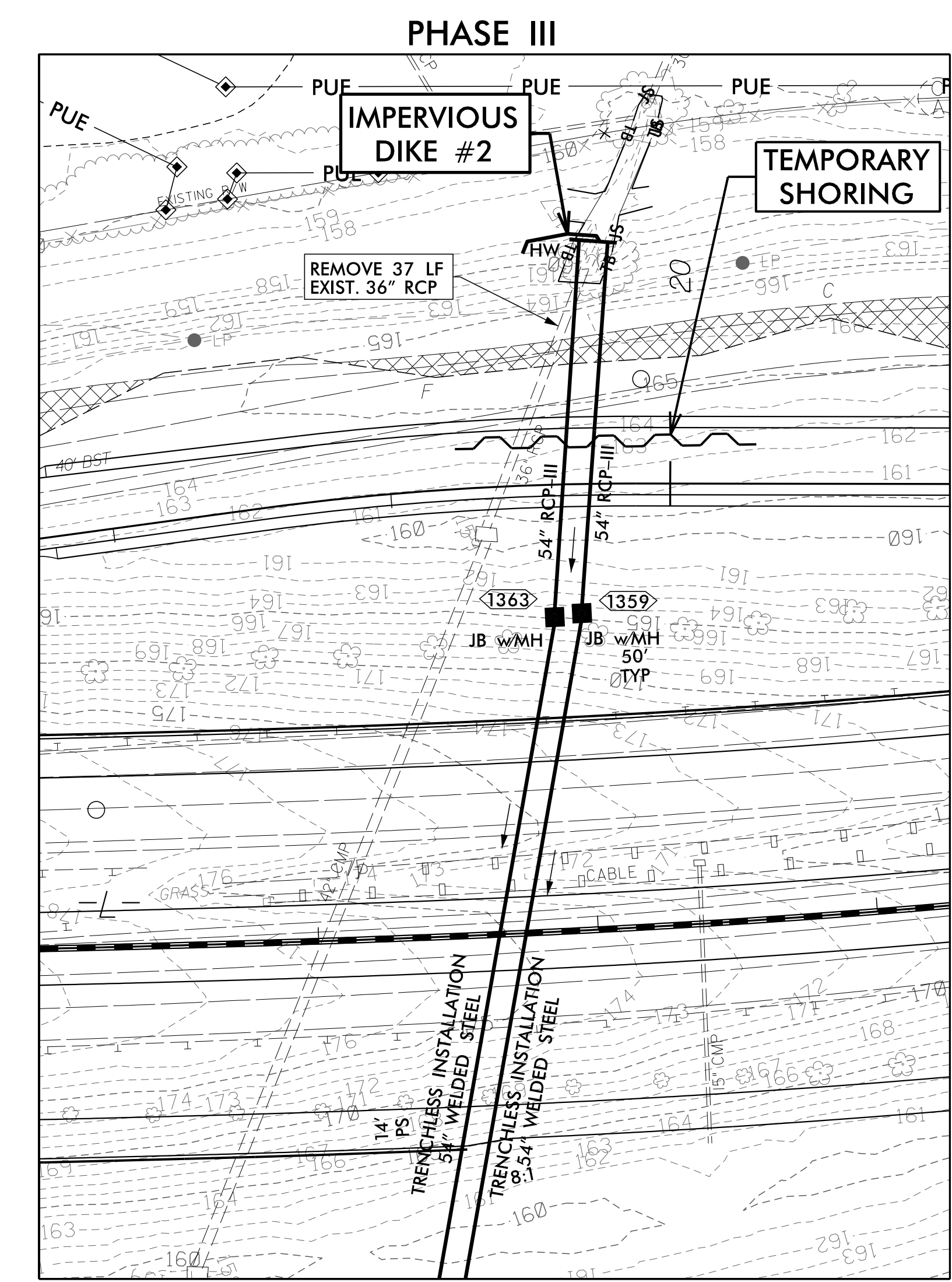
7621 Purfoy Road, Suite 115
Fuquay-Varina, NC 27526
(919) 552-2253
www.mottmac.com
NC License No. F-0669



- 1.) UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT PIPE CONSTRUCTION/INSTALLATION.
- 2.) MAINTAIN TRAFFIC ON THE EXISTING RAMP AND MAINTAIN FLOW IN THE EXISTING 36" RCP.
- 3.) INSTALL (2) @ 54" TRENCHLESS INSTALLATION WELDED STEEL PIPES UNDER -L- AND -Y5RPD- AND BOTH JUNCTION BOXES (STR. #1359 AND #1363).
- 4.) INSTALL TEMPORARY SHORING ACCORDING TO TMP STAGING PLANS.
- 5.) INSTALL APPROXIMATELY 64 LF OF BOTH PROPOSED 54" RCP-III INCLUDING TIES TO THE JUNCTION BOXES.
- 6.) CONSTRUCT PROPOSED -Y5RPA-, AS DETAILED IN THE TMP STAGING PLANS.



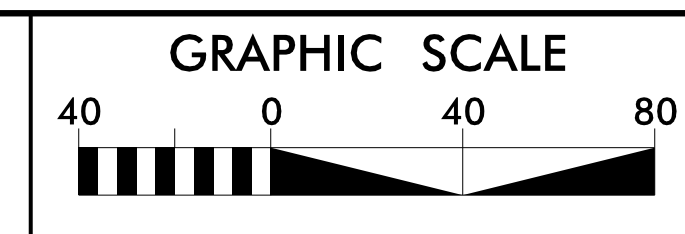
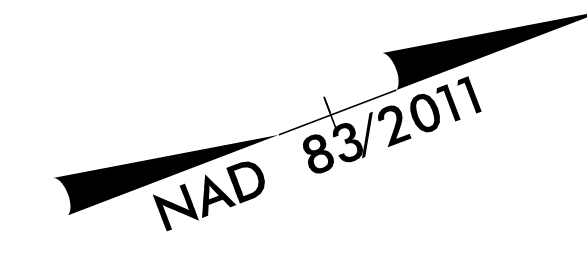
- 1.) INSTALL TEMPORARY SHORING ACCORDING TO TMP STAGING PLANS.
- 2.) INSTALL IMPERVIOUS DIKE #1.
- 3.) INSTALL THE REMAINING PORTION OF THE NORTHERN PROPOSED 54" RCP-III, INCLUDING HEADWALL.
- 4.) REMOVE IMPERVIOUS DIKE #1.



- 1.) INSTALL IMPERVIOUS DIKE #2 AND DIRECT FLOW INTO THE NEWLY INSTALLED 54" RCP-III
- 2.) REMOVE APPROXIMATELY 37 LF OF EXISTING 36" RCP.
- 3.) INSTALL THE REMAINING PORTION OF THE SOUTHERN PROPOSED 54" RCP-III AND TIE HEADWALL TO THE PORTION CONSTRUCTED IN PHASE II.
- 4.) REMOVE IMPERVIOUS DIKE #2, ALLOWING FLOW INTO BOTH 54" RCP-III. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
- 5.) REMOVE PAVEMENT FROM EXISTING RAMP AND OPEN THE FULL WIDTH OF NEWLY CONSTRUCTED -Y5RPA- TO TRAFFIC.

5/14/99

CONSTRUCTION SEQUENCE N SANFORD STREET

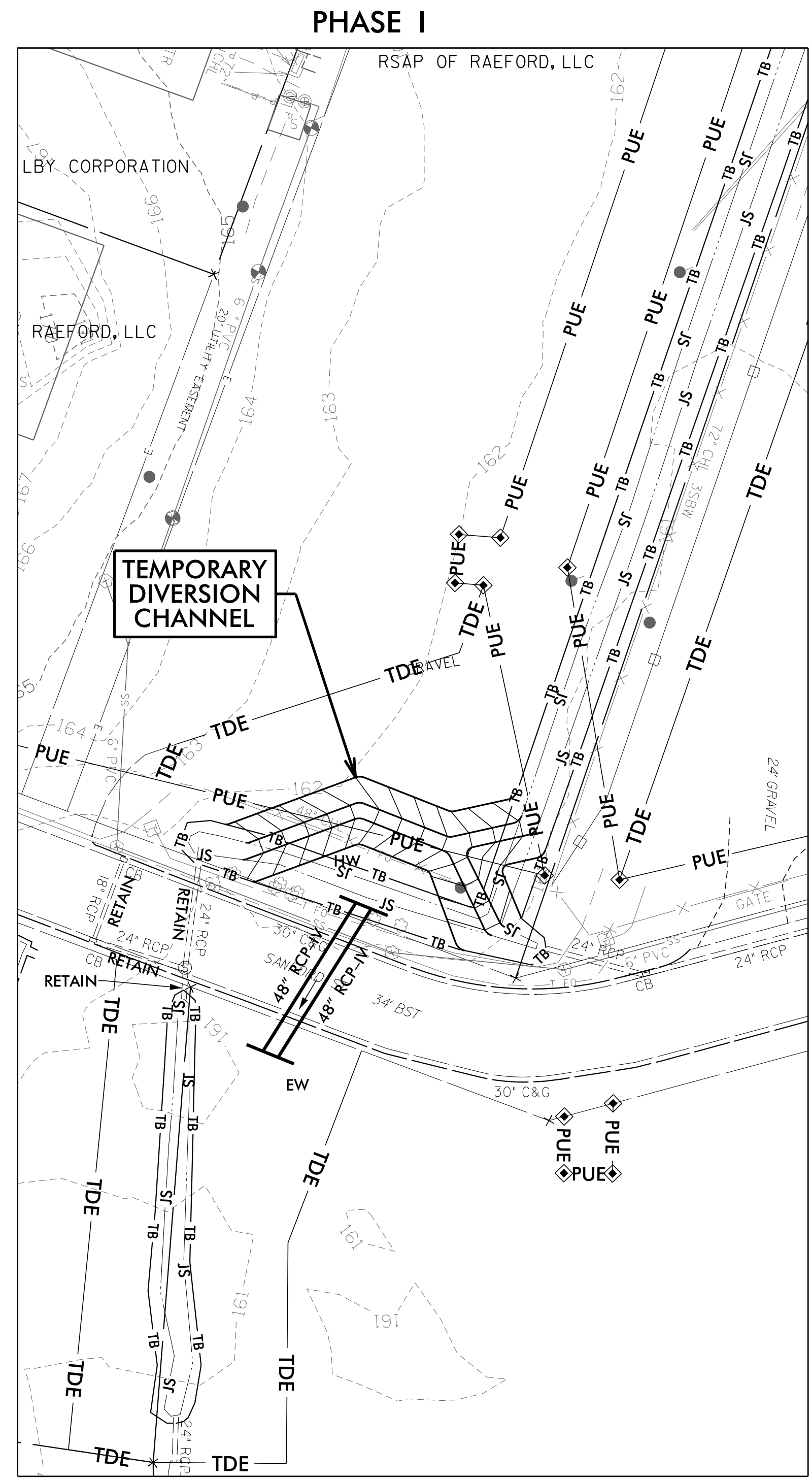


PROJECT REFERENCE NO.	SHEET NO.
1-5987B	EC-13B/CONST13
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	

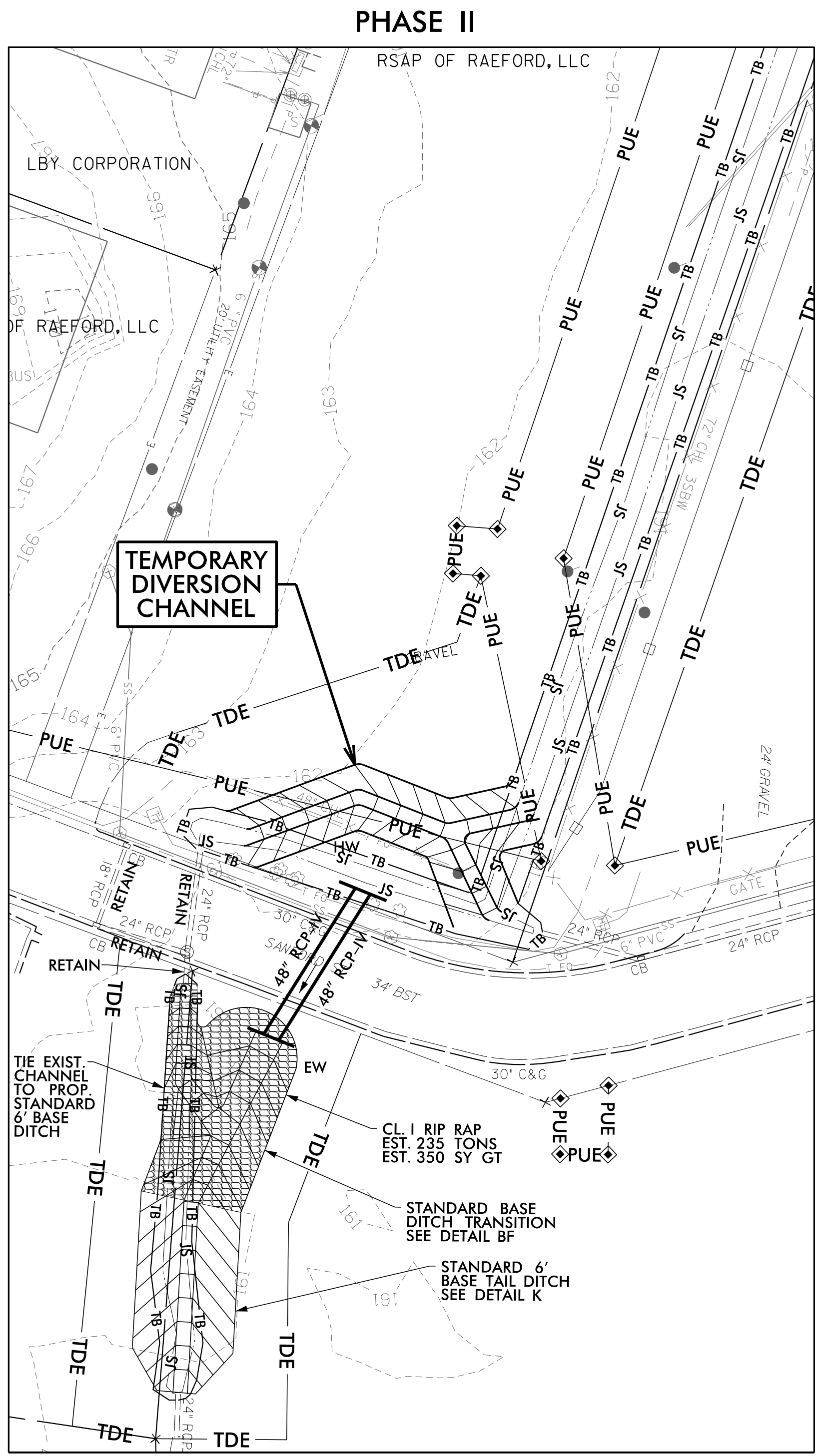
Prepared in the Office of:

M MOTT MACDONALD

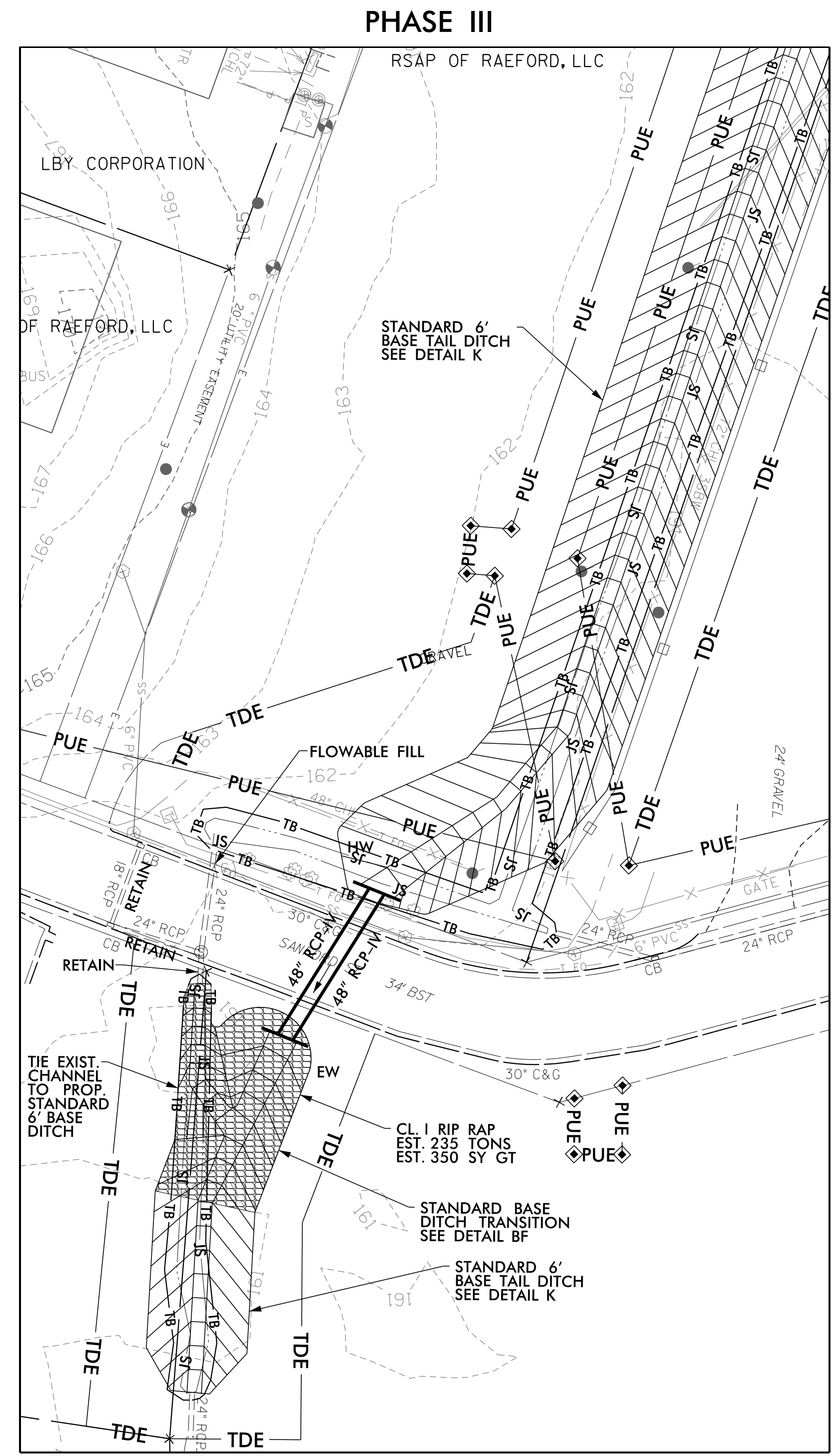
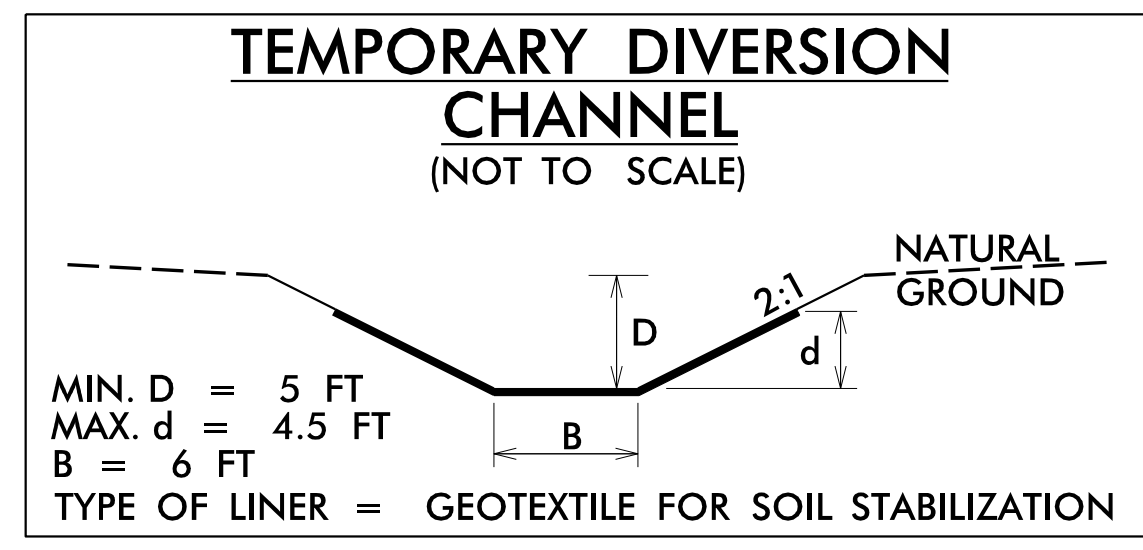
7621 Purfoy Road, Suite 115
Fuquay-Varina, NC 27526
(919) 552-2253
www.mottmac.com
NC License No. F-0669



- 1.) UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT PIPE CONSTRUCTION/INSTALLATION.
- 2.) INSTALL TEMPORARY DIVERSION CHANNEL AROUND PROPOSED HEADWALL, PER ADJACENT DETAIL.
- 3.) CLOSE N SANFORD STREET TO TRAFFIC AND MAINTAIN FLOW IN THE EXISTING 24" RCP.
- 4.) INSTALL (2) @ 48" RCP-IV UNDER N SANFORD STREET, INCLUDING HEADWALL AND ENDWALL.
- 5.) OPEN N SANFORD STREET TO TRAFFIC.



- 1.) CONSTRUCT DOWNSTREAM CHANNEL, INCLUDING THE TIE-IN TO THE EXISTING CHANNEL, UTILIZING PUMP-AROUND OPERATIONS, AS NEEDED.



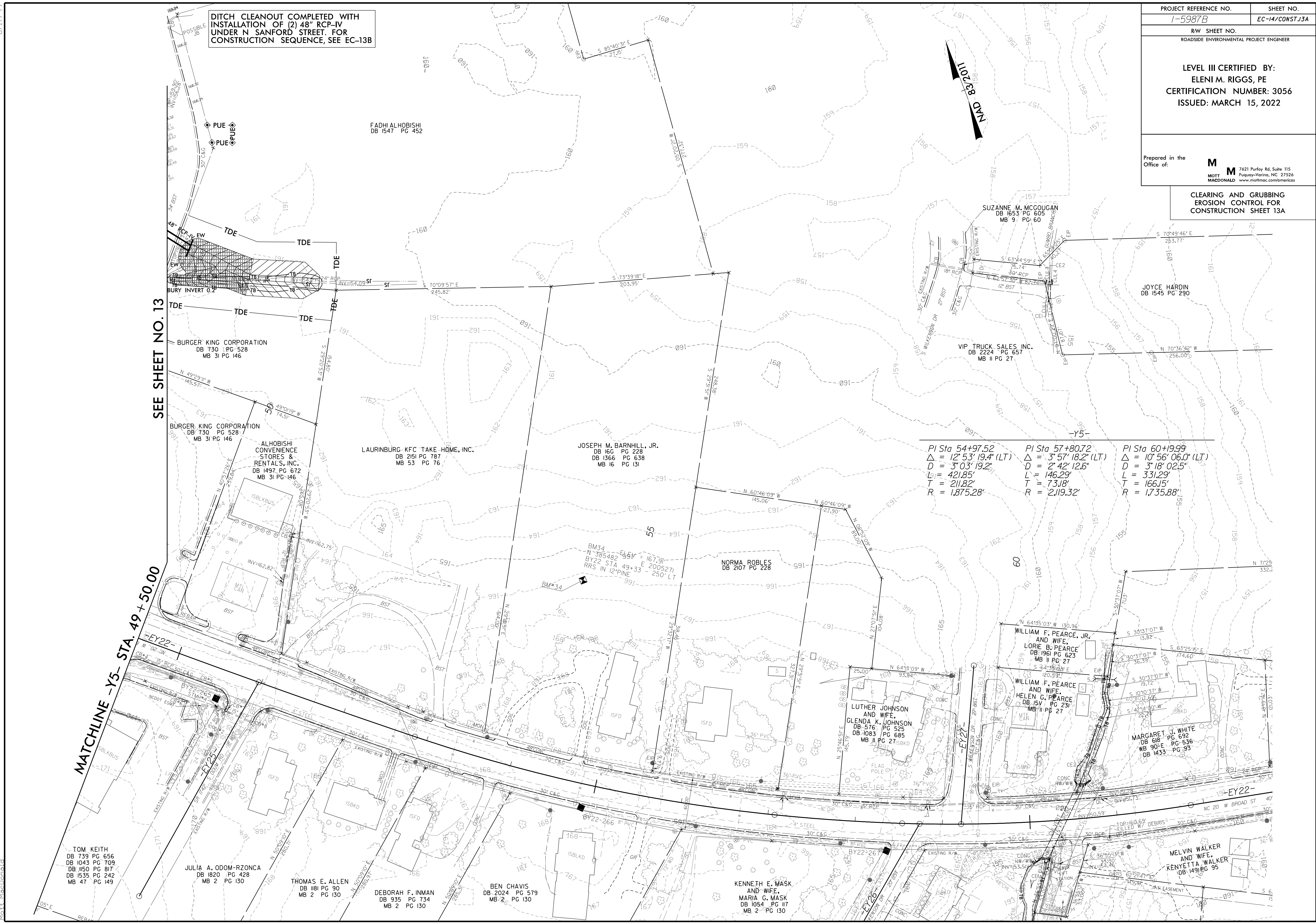
- 1.) REMOVE THE TEMPORARY DIVERSION CHANNEL AND CONSTRUCT THE PROPOSED STANDARD 6' BASE DITCH, FORCING THE FLOW THRU THE NEWLY INSTALLED (2) @ 48" RCP-IV. UTILIZE PUMP-AROUND OPERATIONS, AS NEEDED.
- 2.) REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
- 3.) FILL EXISTING 24" RCP WITH FLOWABLE FILL, AS SHOWN ON PLAN ABOVE, RETAINING THE REST OF THE EXISTING STORM DRAIN SYSTEM.

3/14/2022
Mott MacDonald

PROJECT REFERENCE NO.	SHEET NO.
1-5987B	EC-14/CONST.13A
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M 7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 MOTT MACDONALD www.mottmac.com/mottmac

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 13A

DITCH CLEANOUT COMPLETED WITH
INSTALLATION OF (2) 48" RCP-IV
UNDER N SANFORD STREET. FOR
CONSTRUCTION SEQUENCE, SEE EC-13B



$PI\ Sta\ 54+97.52$ $\Delta = 12' 53'' 19.4'' (LT)$ $D = 3' 03'' 19.2''$ $L = 421.85'$ $T = 211.82'$ $R = 1,875.28'$	$PI\ Sta\ 57+80.72$ $\Delta = 3' 57'' 18.2'' (LT)$ $D = 2' 42'' 12.6''$ $L = 146.29'$ $T = 73.18'$ $R = 2,119.32'$	$PI\ Sta\ 60+99.99$ $\Delta = 10' 56'' 06.0'' (LT)$ $D = 3' 18'' 02.5''$ $L = 331.29'$ $T = 166.15'$ $R = 1,735.88'$
---	---	---

SEE SHEET NO. 13

MATCHLINE -Y5- STA. 49 +50.00

TOM KEITH
DB 739 PG 656
DB 1043 PG 709
DB 1150 PG 817
DB 1535 PG 242
MB 47 PG 149

JULIA A. ODOM-RZONCA
DB 1820 PG 428
MB 2 PG 130

THOMAS E. ALLEN
DB 1181 PG 90
MB 2 PG 130

DEBORAH F. INMAN
DB 935 PG 734
MB 2 PG 130

BEN CHAVIS
DB 2024 PG 579
MB 2 PG 130

KENNETH E. MASK
AND WIFE,
MARIA G. MASK
DB 1054 PG 117
MB 2 PG 130

LUTHER JOHNSON
AND WIFE,
GLENDA K. JOHNSON
DB 576 PG 525
DB 1083 PG 685
MB II PG 27 (SBD)

WILLIAM F. PEARCE, JR.
AND WIFE,
LORIE B. PEARCE
DB 191 PG 623
MB II PG 27

WILLIAM F. PEARCE
AND WIFE,
HELEN G. PEARCE
DB 151 PG 231
MB II PG 27

MARGARET J. WHITE
DB 618 PG 692
WB 90-E PG 536
DB 1433 PG 93

MELVIN WALKER
AND WIFE,
KENYETTA WALKER
DB 1491 PG 95

FADHI ALHOBISHI
DB 1547 PG 452

SUZANNE M. MCGOUGAN
DB 1653 PG 605
MB 9 PG 60

VIP TRUCK SALES, INC.
DB 2224 PG 657
MB II PG 27

JOYCE HARDIN
DB 1545 PG 290

LAURINBURG KFC TAKE HOME, INC.
DB 2151 PG 787
MB 53 PG 76

JOSEPH M. BARNHILL, JR.
DB 166 PG 228
DB 1366 PG 638
MB 16 PG 131

NORMA ROBLES
DB 2107 PG 228

BURGER KING CORPORATION
DB 730 PG 528
MB 31 PG 146

BURGER KING CORPORATION
DB 730 PG 528
MB 31 PG 146

ALHOBISHI
CONVENIENCE
STORES &
RENTALS, INC.
DB 1497 PG 672
MB 31 PG 146

8/17/99

3/14/2022
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Mott MacDonald

5/14/22

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

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: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

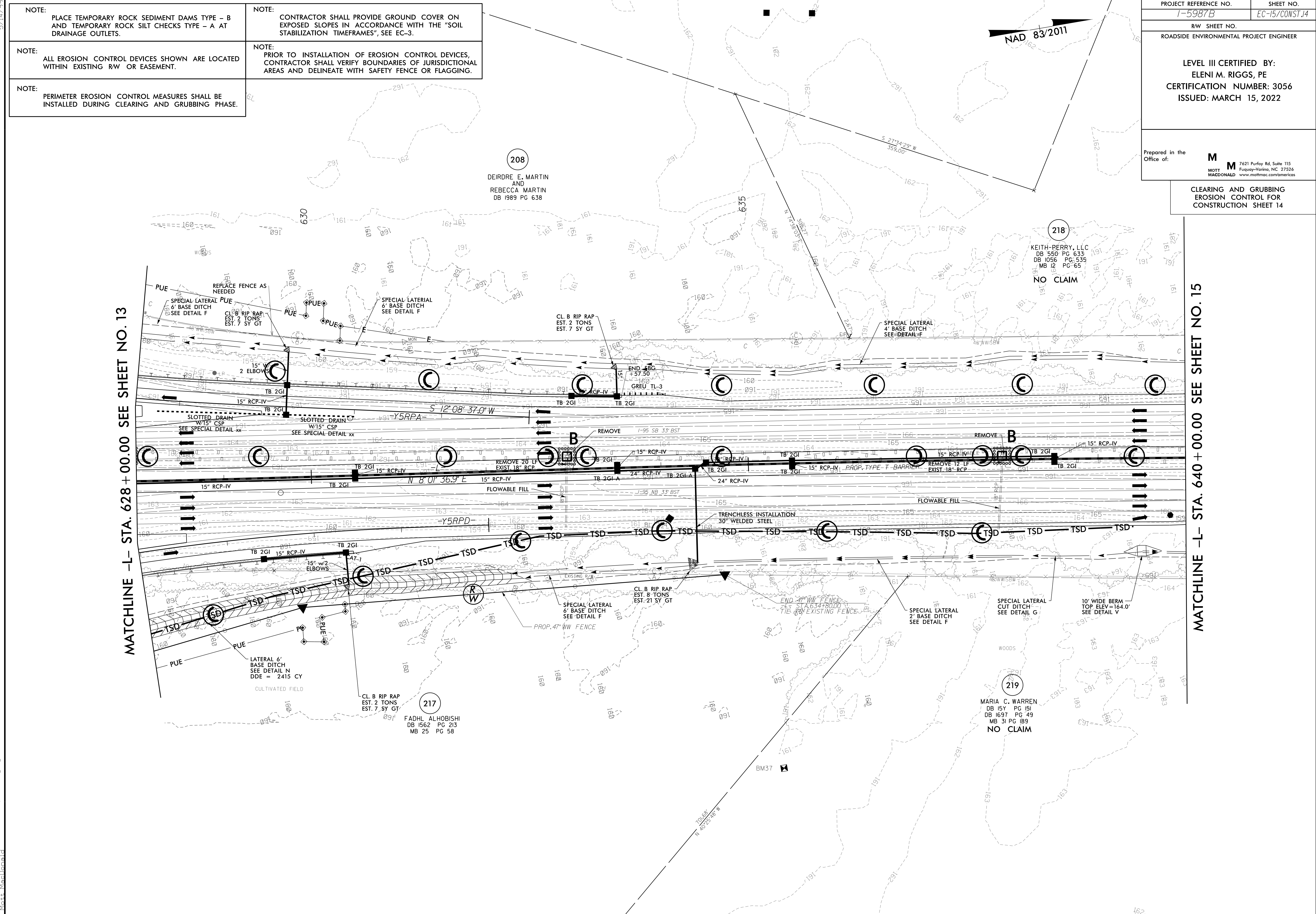
NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

PROJECT REFERENCE NO.	SHEET NO.
1-5987B	EC-15/CONST.14
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M MOTT MACDONALD
	7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com/americas

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 14

MATCHLINE -L- STA. 628 + 00.00 SEE SHEET NO. 13

MATCHLINE -L- STA. 640 + 00.00 SEE SHEET NO. 15



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Mott MacDonald

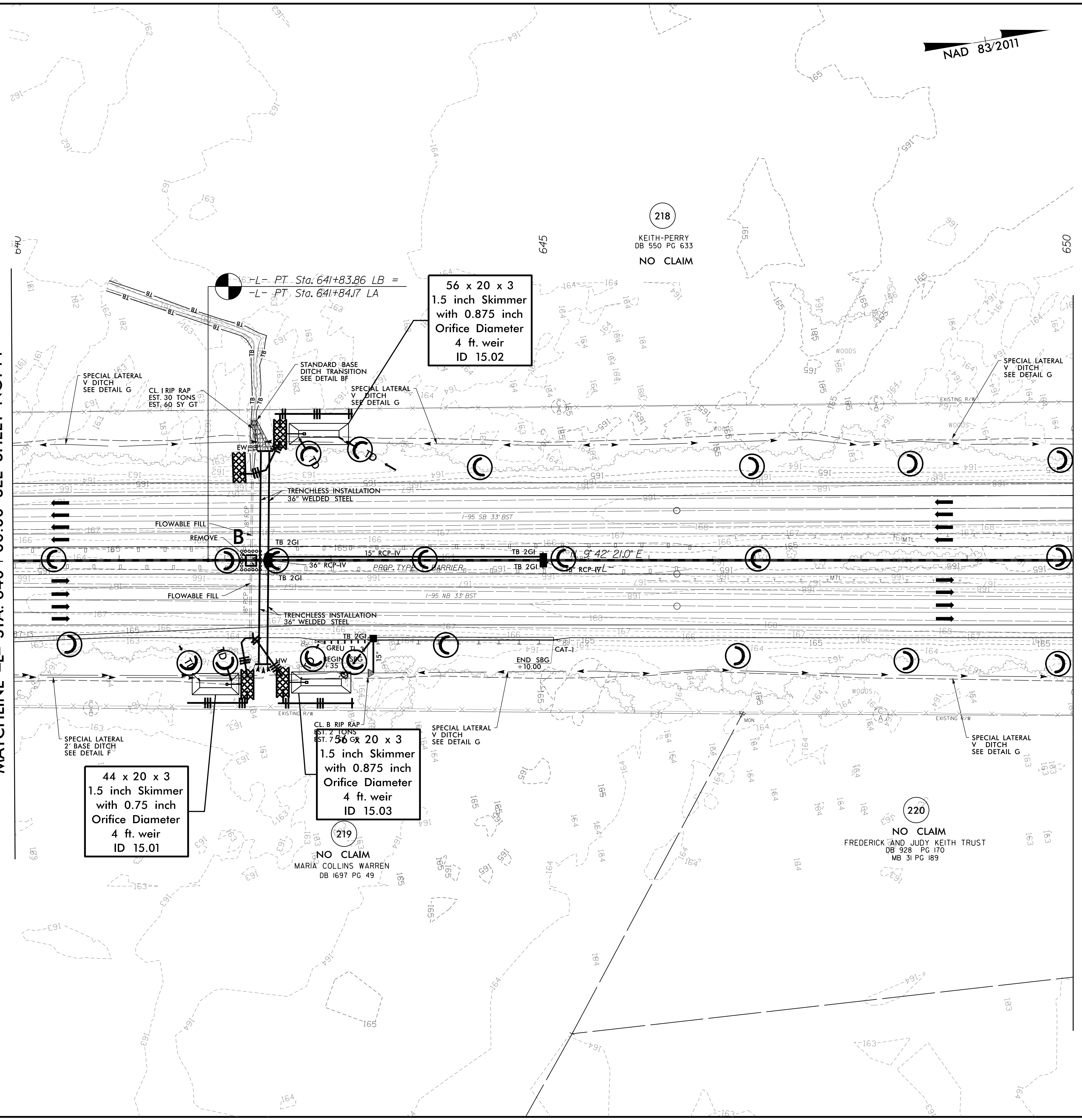
5/14/22

PROJECT REFERENCE NO.	SHEET NO.
I-5987B	EC-16/CONST.15
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	M MOTT MACDONALD 7621 Purfoy Rd, Suite 115 Fuquay-Varina, NC 27526 www.mottmac.com/americas
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 15	

NAD 83/2011

MATCHLINE -L- STA. 640 + 00.00 SEE SHEET NO. 14

MATCHLINE -L- STA. 650 + 00.00 SEE SHEET NO. 16



218
KEITH-PERRY
DB 550 PG 633
NO CLAIM

219
NO CLAIM
MARIA COLLINS WARREN
DB 1697 PG 49

220
NO CLAIM
FREDERICK AND JUDY KEITH TRUST
DB 928 PG 170
MB 31 PG 189

- NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.
- 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: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.
- NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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5/14/2022

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 16

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

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

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

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

NAD 83/2011

PROJECT REFERENCE NO. 1-5987B
SHEET NO. EC-17/CONST.16
RW SHEET NO.

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
MATTHEW HARVEY, PE
CERTIFICATION NUMBER: 3487
ISSUED: MARCH 15, 2022

ETHERILL ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

MATCHLINE -L- STA. 650 + 00.00 SEE SHEET NO. 15

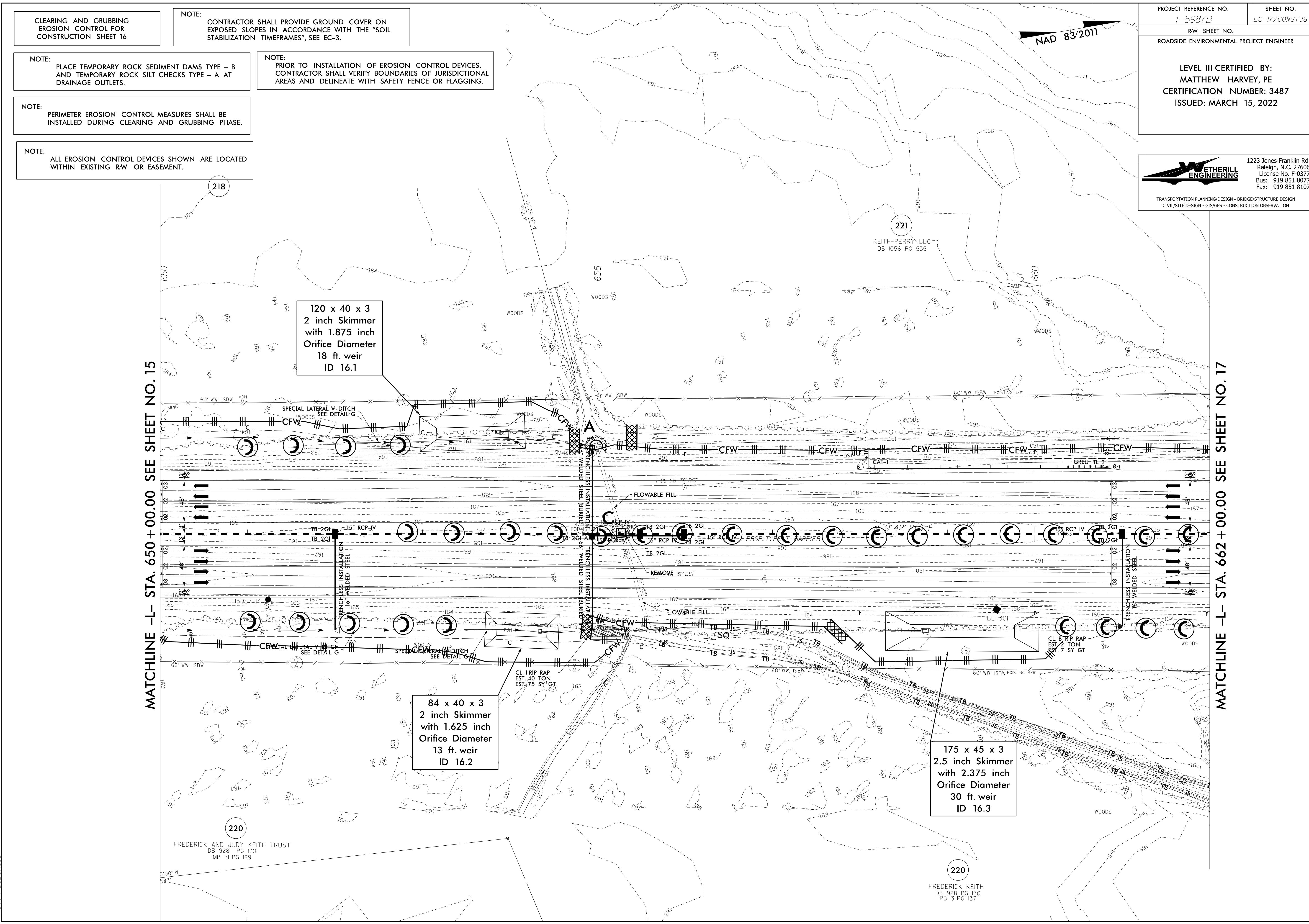
MATCHLINE -L- STA. 662 + 00.00 SEE SHEET NO. 17

120 x 40 x 3
2 inch Skimmer
with 1.875 inch
Orifice Diameter
18 ft. weir
ID 16.1

84 x 40 x 3
2 inch Skimmer
with 1.625 inch
Orifice Diameter
13 ft. weir
ID 16.2

175 x 45 x 3
2.5 inch Skimmer
with 2.375 inch
Orifice Diameter
30 ft. weir
ID 16.3

3/14/2022
Erosion Control 15987B_EC_PSH_16_CG.dgn
Matt MacDonald



FREDERICK AND JUDY KEITH TRUST
DB 928 PG 170
MB 31 PG 189

FREDERICK KEITH
DB 928 PG 170
PB 31 PG 137

5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 17

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.

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

NAD 83/2011

PROJECT REFERENCE NO.

1-5987B

SHEET NO.

EC-18/CONST.17

R/W SHEET NO.

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
MATTHEW HARVEY, PE
CERTIFICATION NUMBER: 3487
ISSUED: MARCH 15, 2022



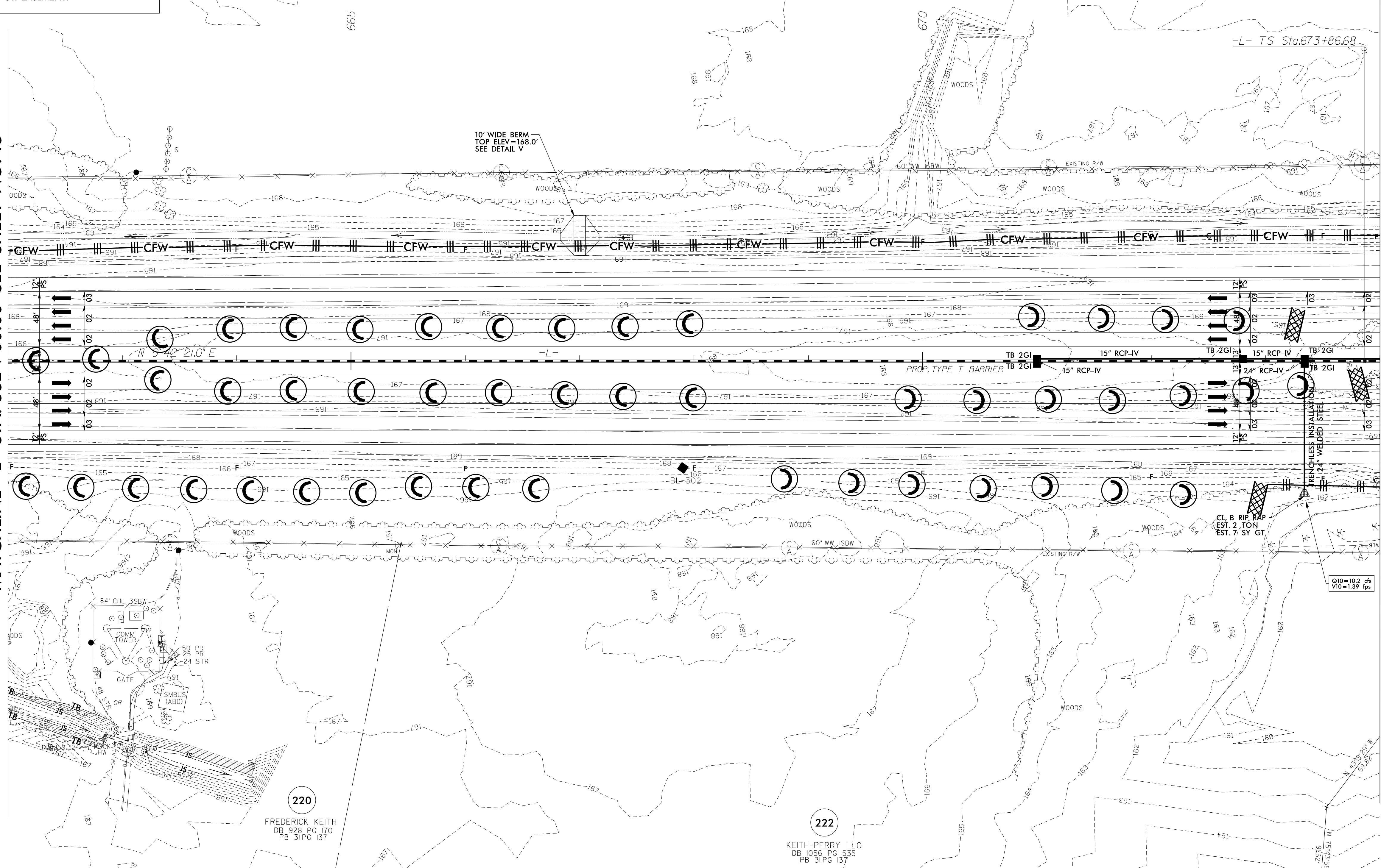
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

221
KEITH-PERRY LLC
DB 1056 PG 535

MATCHLINE -L- STA. 662 + 00.00 SEE SHEET NO. 16

MATCHLINE -L- STA. 674 + 00.00 SEE SHEET NO. 18

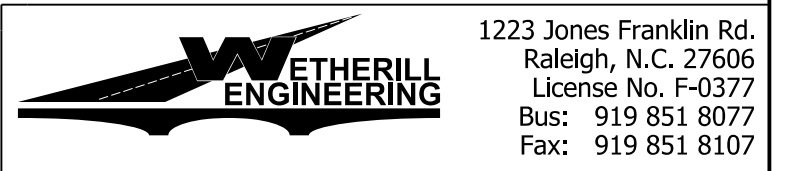


220
FREDERICK KEITH
DB 928 PG 170
PB 31 PG 137

222
KEITH-PERRY LLC
DB 1056 PG 535
PB 31 PG 137

3/14/2022
E:\cadd\cadd\15987B_EC_PSH_17_CG.dgn
Matt MacDonald

LEVEL III CERTIFIED BY:
MATTHEW HARVEY, PE
CERTIFICATION NUMBER: 3487
ISSUED: MARCH 15, 2022



TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

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.

NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

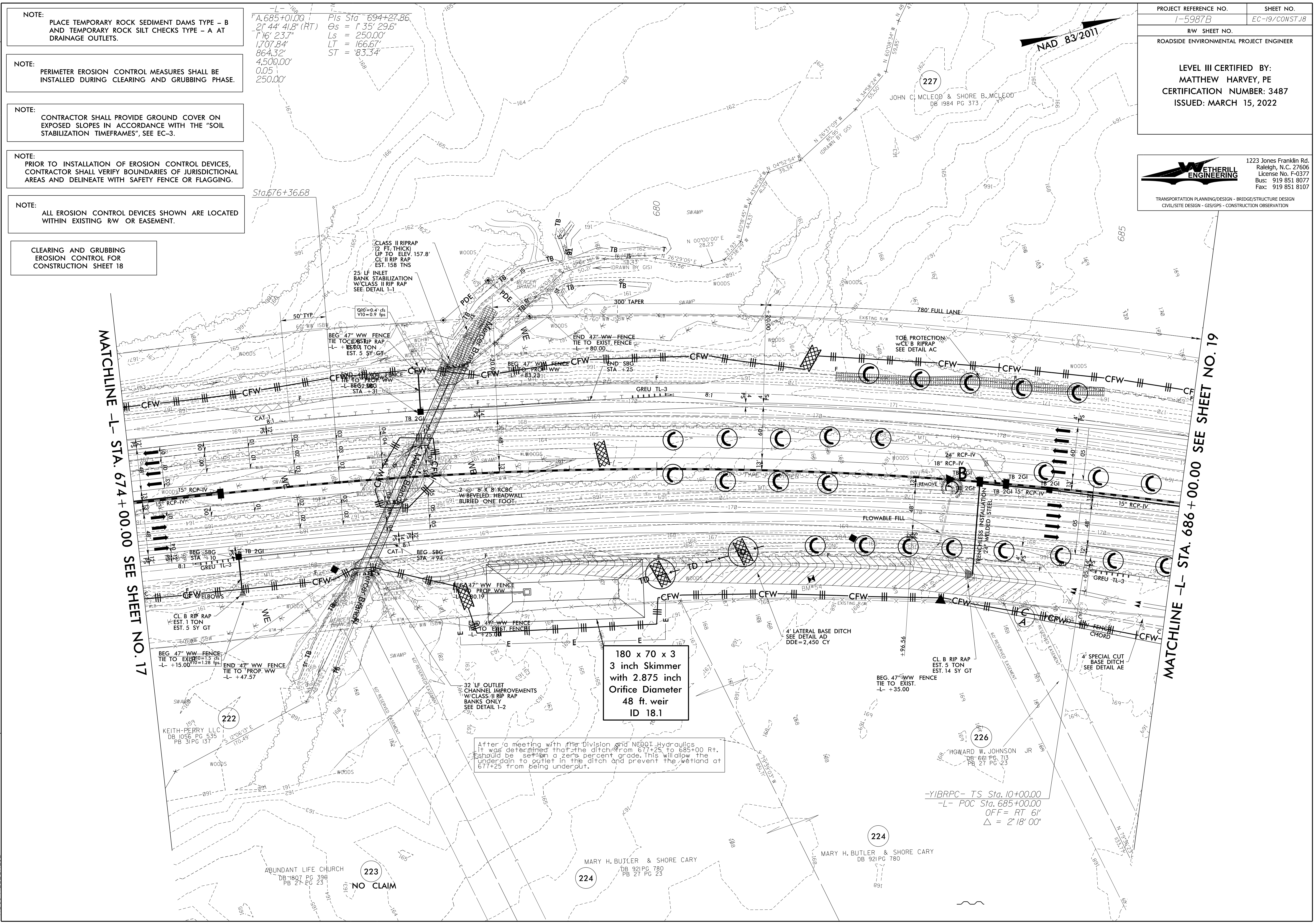
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 18

Sta. 685+01.00
Pis Sta. 694+27.86
21' 44" 41.8" (RT)
Os = 1' 35" 29.6"
Ls = 250.00'
LT = 166.67'
ST = 83.34'

Sta. 676+36.68

MATCHLINE -L- STA. 674+00.00 SEE SHEET NO. 17

MATCHLINE -L- STA. 686+00.00 SEE SHEET NO. 19



180 x 70 x 3
3 inch Skimmer
with 2.875 inch
Orifice Diameter
48 ft. weir
ID 18.1

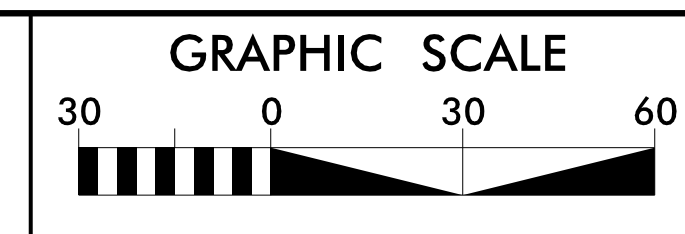
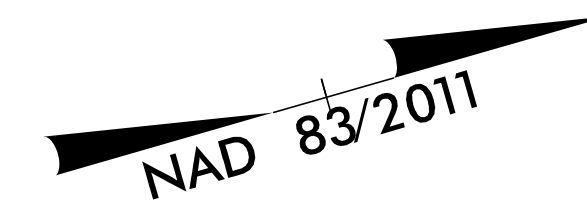
After a meeting with the Division and NCDOT Hydraulics it was determined that the ditch from 677+25 to 685+00 Rt. should be set on a zero percent grade. This will allow the underdrain to outlet in the ditch and prevent the wetland at 677+25 from being underout.

REVISIONS

5/14/2022

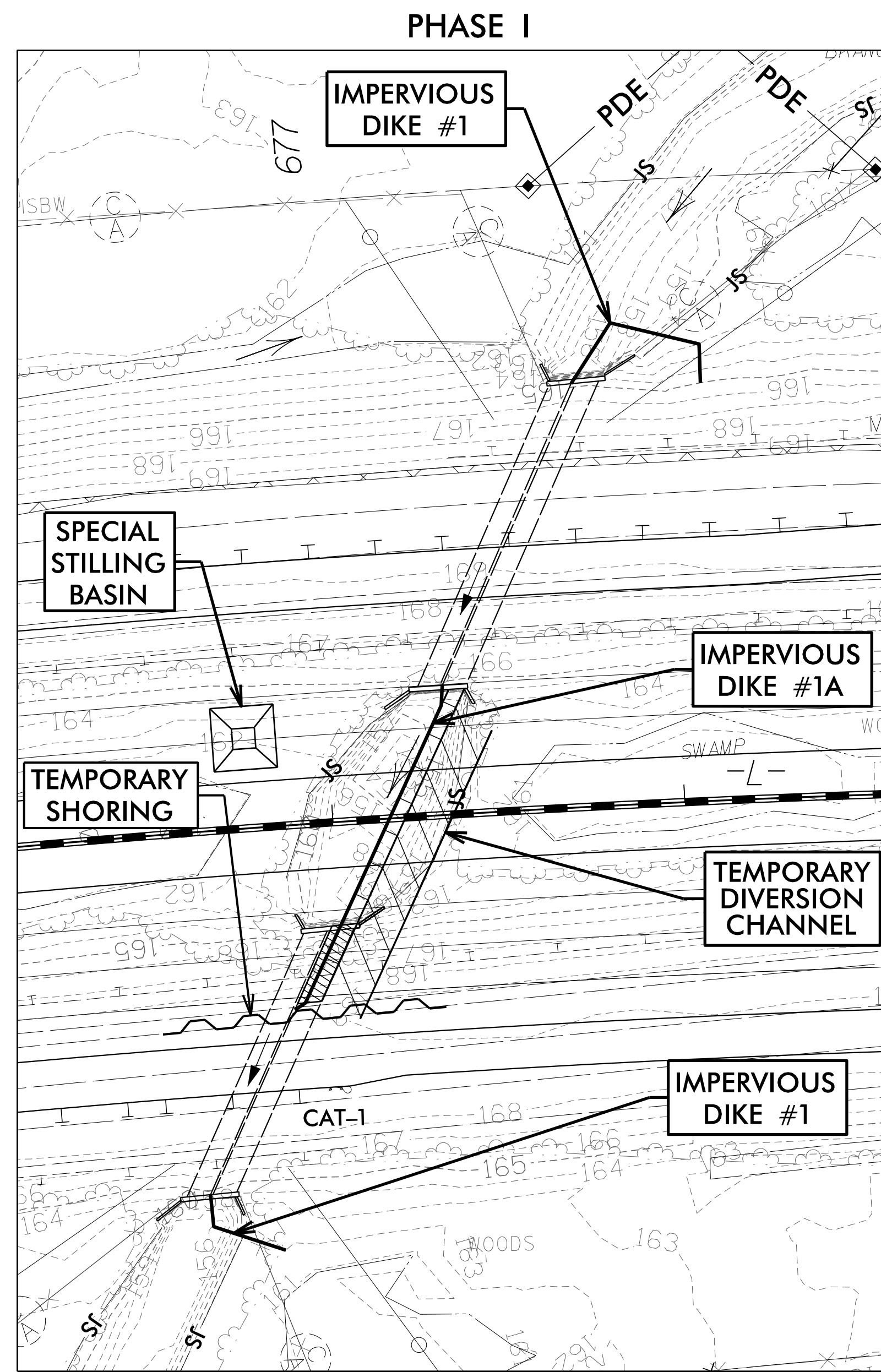
3/14/2022
E:\cadd\cadd\15987B_EC_PSH_18.CG.dgn
Matt MacDonald

CONSTRUCTION SEQUENCE STA. 677+13.2 -L-

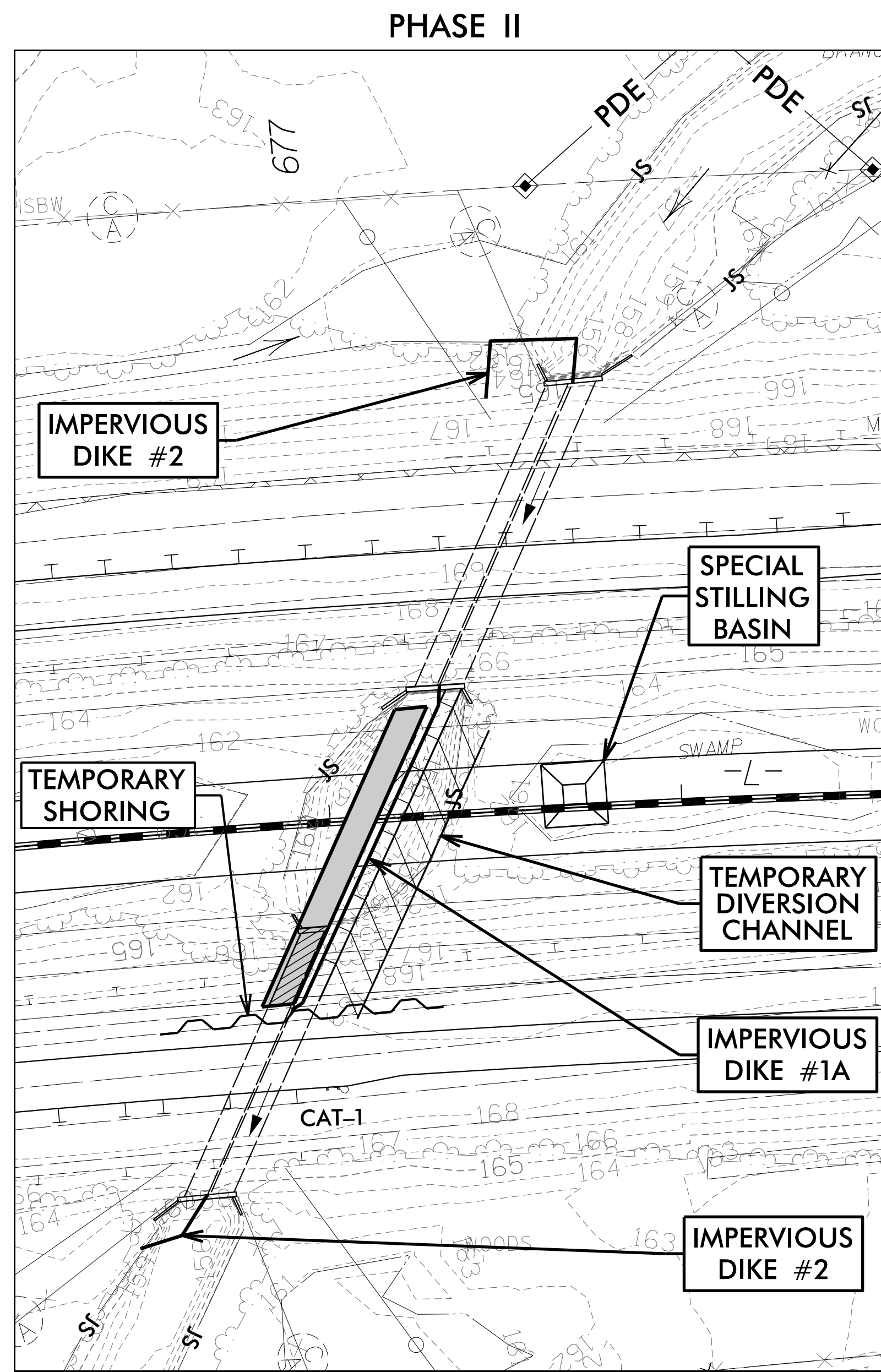


PROJECT REFERENCE NO.	SHEET NO.
1-5987B	EC-19A/CONST.18
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	

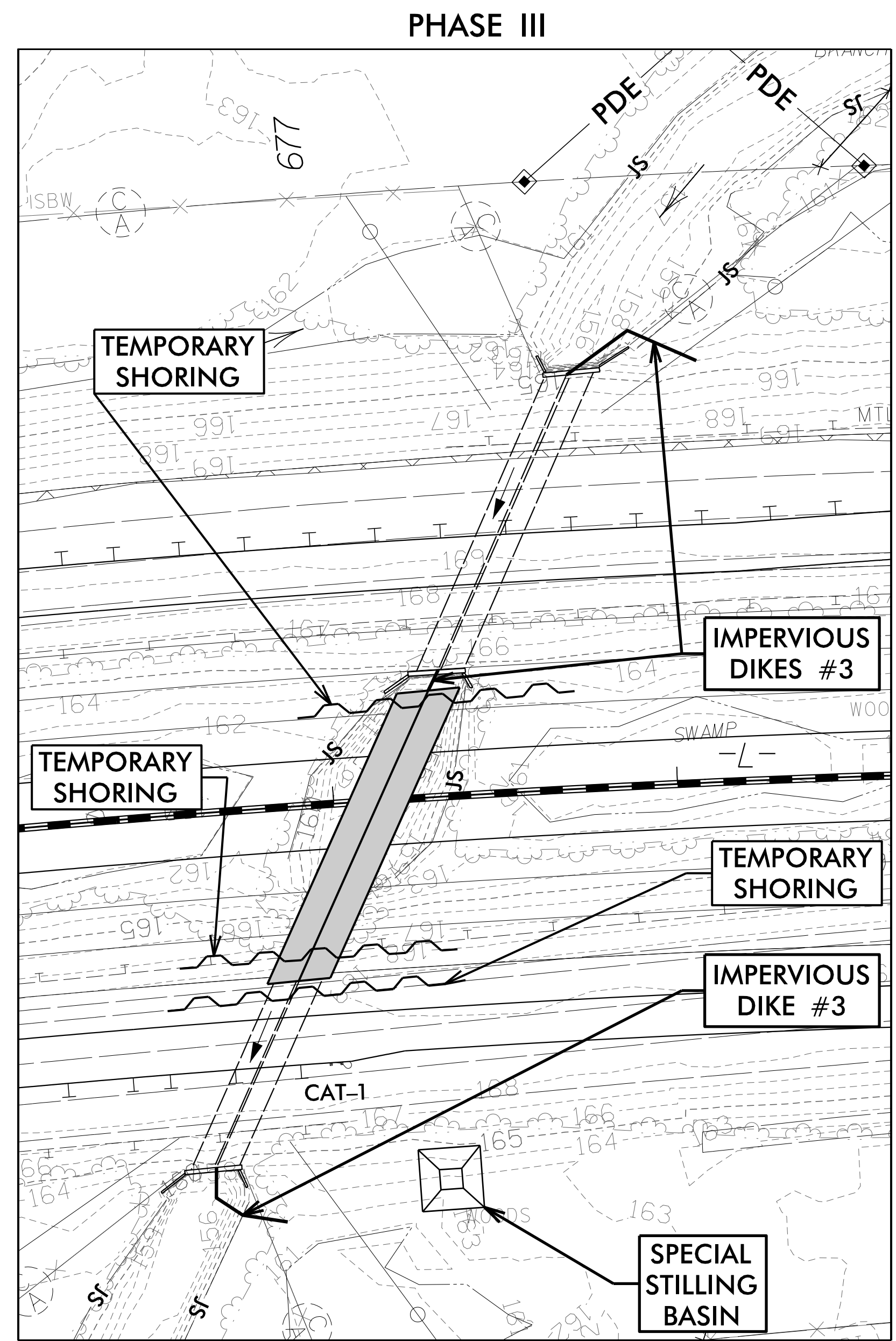
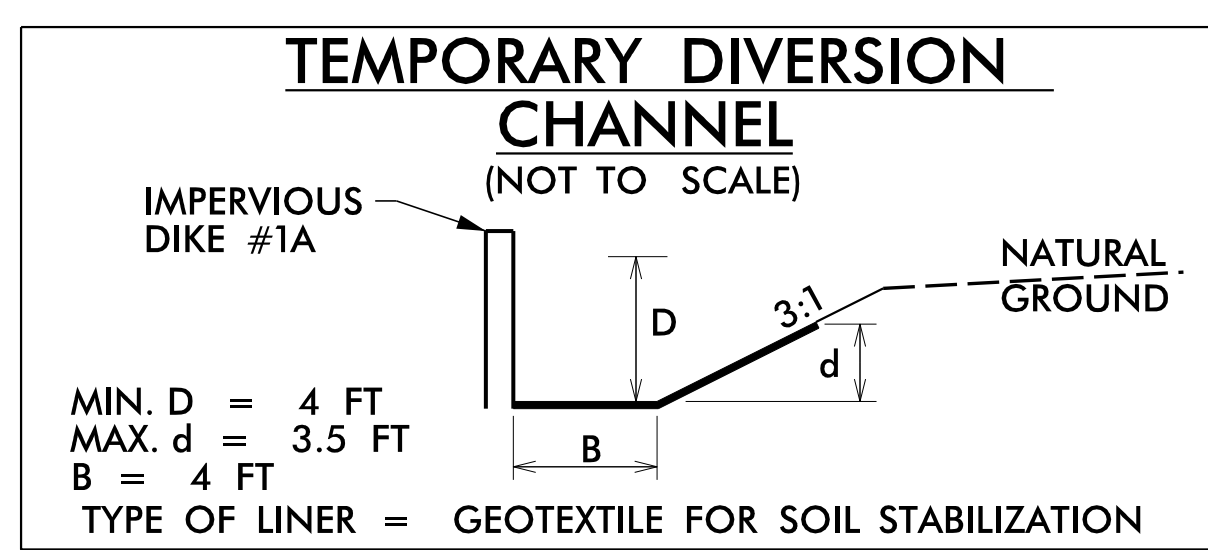
Prepared in the Office of: **M** MOTT MACDONALD
 7621 Purfoy Road, Suite 115
 Fuquay-Varina, NC 27526
 (919) 552-2253
 www.mottmac.com
 NC License No. F-0669



- 1.) INSTALL ALL TEMPORARY SEDIMENT CONTROL DEVICES NECESSARY FOR CULVERT CONSTRUCTION.
- 2.) SHIFT TRAFFIC ONTO THE REPLACED OUTSIDE NB I-95 SHOULDER.
- 3.) INSTALL TEMPORARY SHORING ACCORDING TO TMP STAGING PLANS.
- 4.) INSTALL SPECIAL STILLING BASIN BEHIND MEDIAN BARRIER. PUMP ALL EFFLUENT INTO SPECIAL STILLING BASIN, AS NECESSARY.
- 5.) INSTALL IMPERVIOUS DIKES #1 AND #1A TO DIRECT THE FLOW INTO THE SOUTH BARREL OF THE EXISTING RCBC UNDER NB I-95.
- 6.) REMOVE THE NORTH BARREL OF THE EXISTING RCBC, INCLUDING WINGWALL, UP TO 4.7' FROM TEMPORARY SHORING, AS DETAILED IN THE TMP STAGING PLANS.
- 7.) EXTEND IMPERVIOUS DIKE #1A AND CONSTRUCT TEMPORARY DIVERSION CHANNEL, PER DETAIL.
- 8.) REMOVE IMPERVIOUS DIKES #1, LEAVING IMPERVIOUS DIKE #1A IN PLACE.



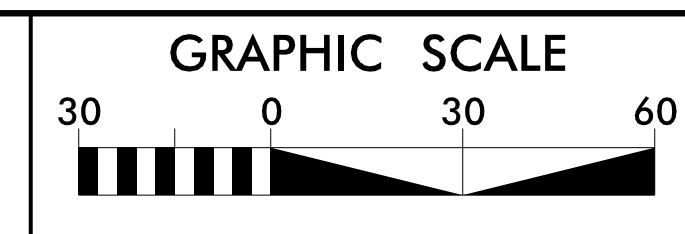
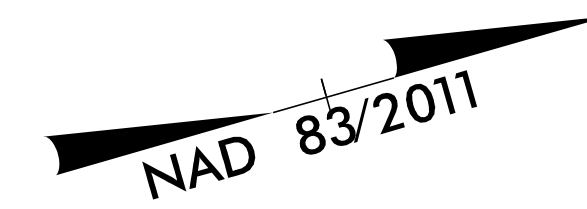
- 1.) ADJUST LOCATION OF SPECIAL STILLING BASIN.
- 2.) INSTALL IMPERVIOUS DIKES #2 TO DIRECT THE FLOW INTO THE NORTH BARREL OF THE EXISTING RCBC.
- 3.) REMOVE THE SOUTH BARREL OF THE EXISTING RCBC UP TO 4.7' FROM TEMPORARY SHORING, SIMILAR TO THE NORTH BARREL IN PHASE I.
- 4.) WITH FLOW DIRECTED IN THE NORTH BARREL, CONSTRUCT APPROX. 80' OF THE SOUTH BARREL OF PROPOSED 8' X 8' RCBC, AS DETAILED IN THE TMP STAGING PLANS.
- 5.) REMOVE IMPERVIOUS DIKES #1A AND #2.



- 1.) INSTALL IMPERVIOUS DIKES #3 ON THE UPSTREAM AND DOWNSTREAM ENDS AND A SMALL PIECE IN THE MEDIAN TO DIRECT FLOW BACK INTO THE SOUTH BARREL.
- 2.) INSTALL SPECIAL STILLING BASIN ON DOWNSTREAM END. PUMP ALL EFFLUENT INTO SPECIAL STILLING BASIN, AS NECESSARY.
- 3.) CONSTRUCT APPROX. 80' OF THE NORTH BARREL OF THE PROPOSED 8' X 8' RCBC, SIMILAR TO SOUTH BARREL IN PHASE II.
- 4.) INSTALL TEMPORARY SHORING ACCORDING TO TMP STAGING PLANS.
- 5.) CONSTRUCT MEDIAN ROADWAY BETWEEN THE TEMPORARY SHORING, AS DETAILED IN THE TMP STAGING PLANS.

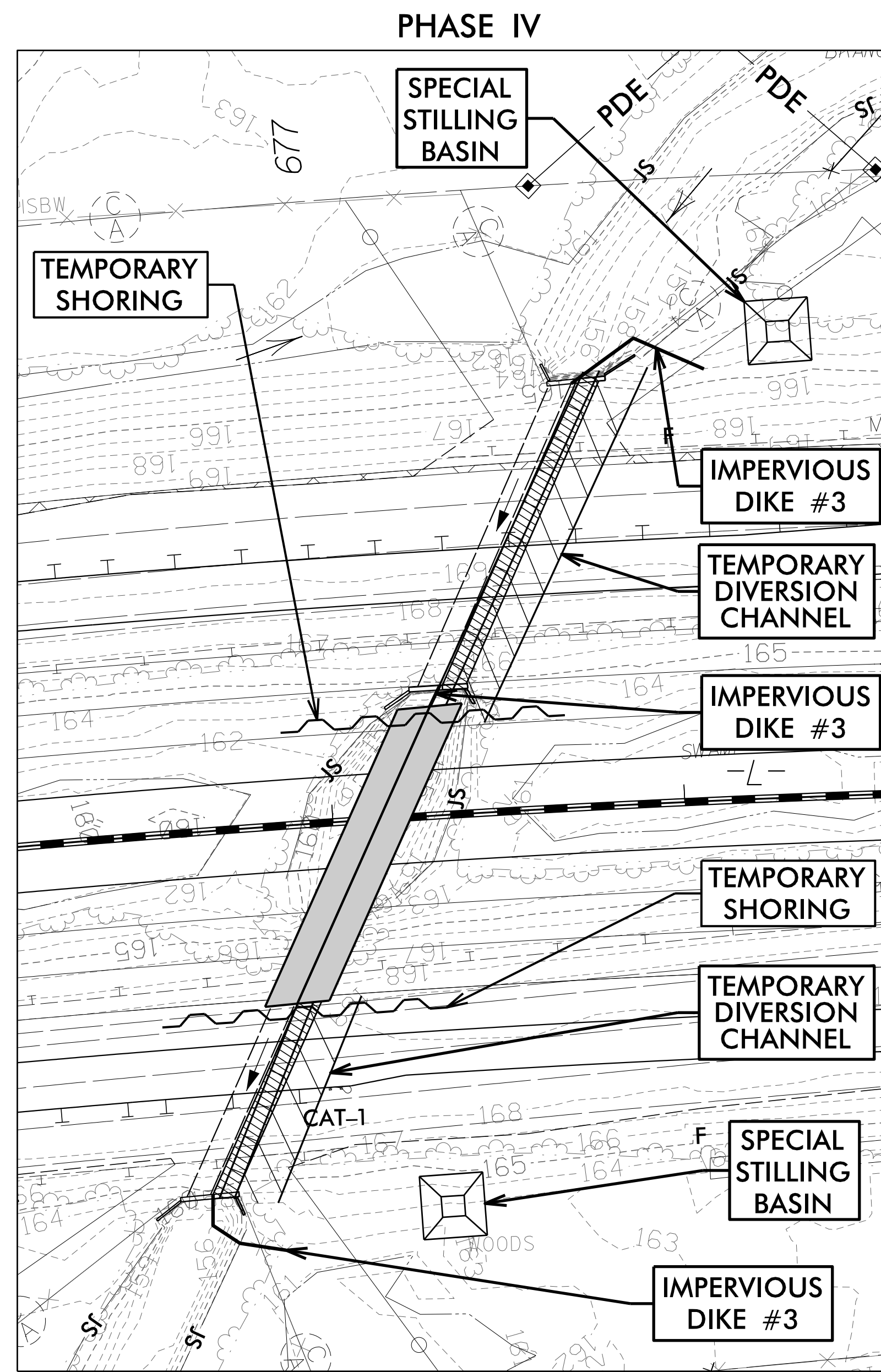
5/14/2022 3:14 2022 R:\Eco\c1\5987b_EC_psh19A_cg.dgn Mott MacDonald

CONSTRUCTION SEQUENCE STA. 677+13.2 -L-

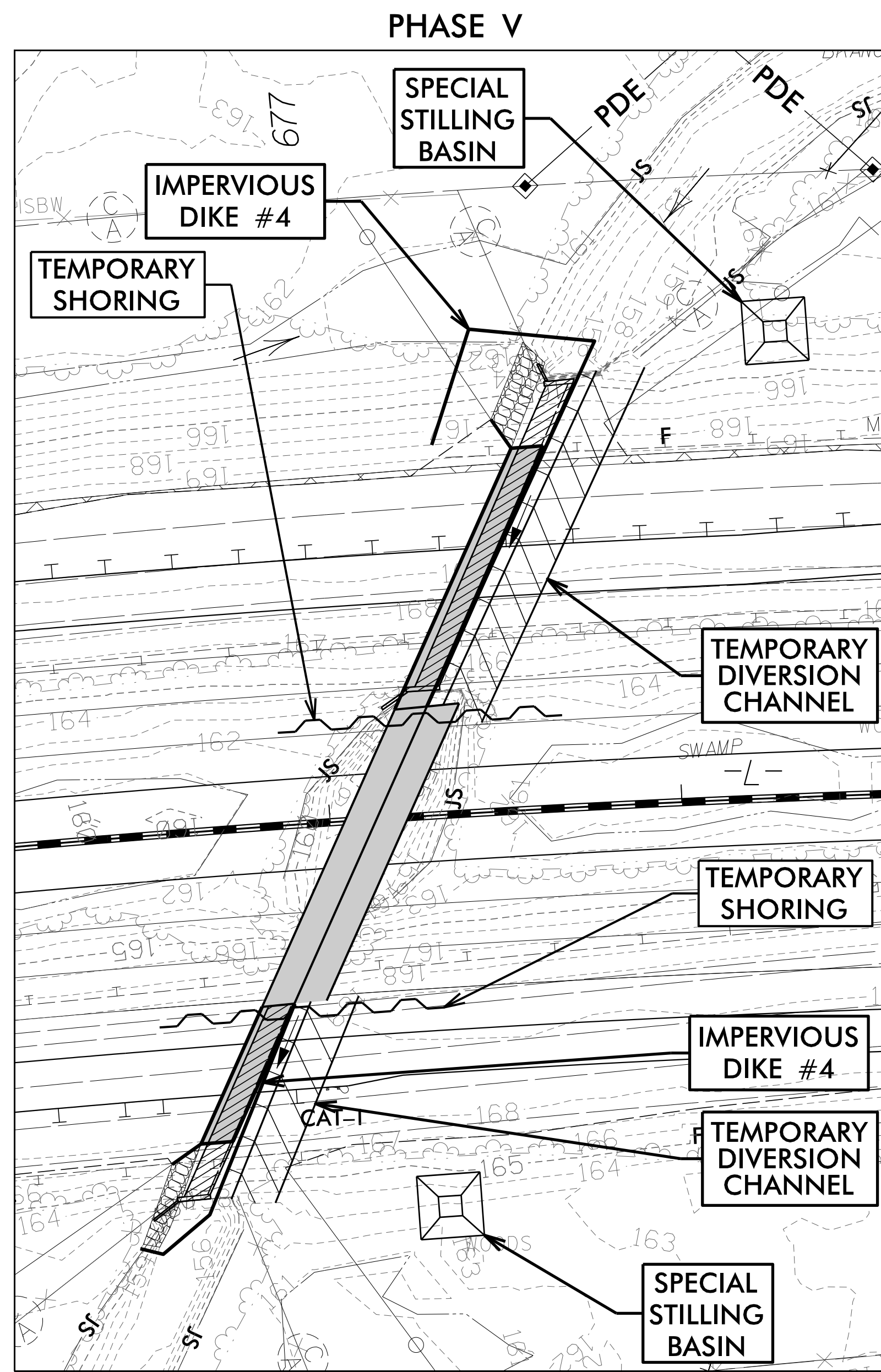


PROJECT REFERENCE NO.	SHEET NO.
1-5987B	EC-19B/CONST.18
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: ELENI M. RIGGS, PE CERTIFICATION NUMBER: 3056 ISSUED: MARCH 15, 2022	

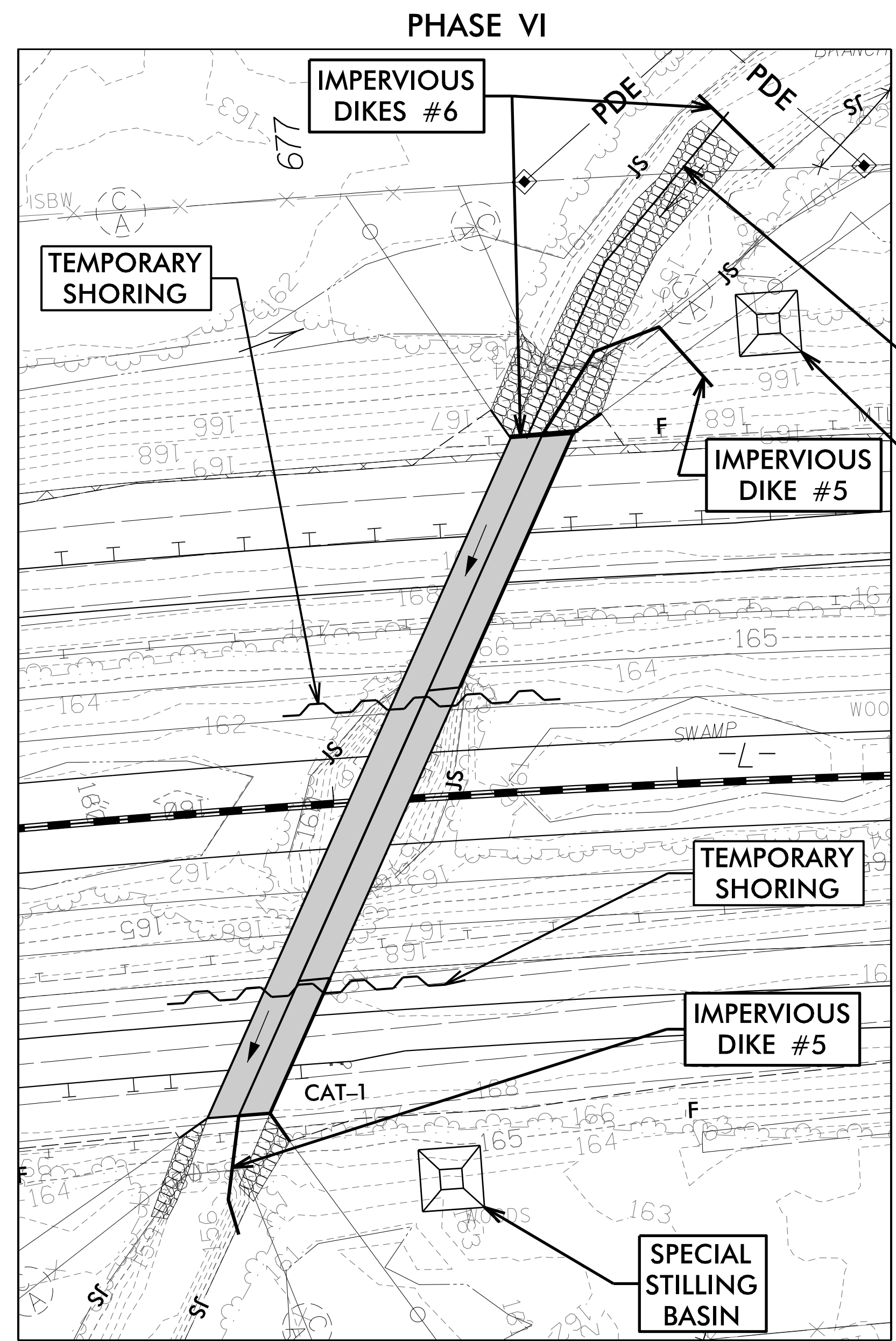
Prepared in the Office of: **M** 7621 Purfoy Road, Suite 115 Fuquay-Varina, NC 27526 (919) 552-2253 www.mottmac.com
M MOTT MACDONALD NC License No. F-0669



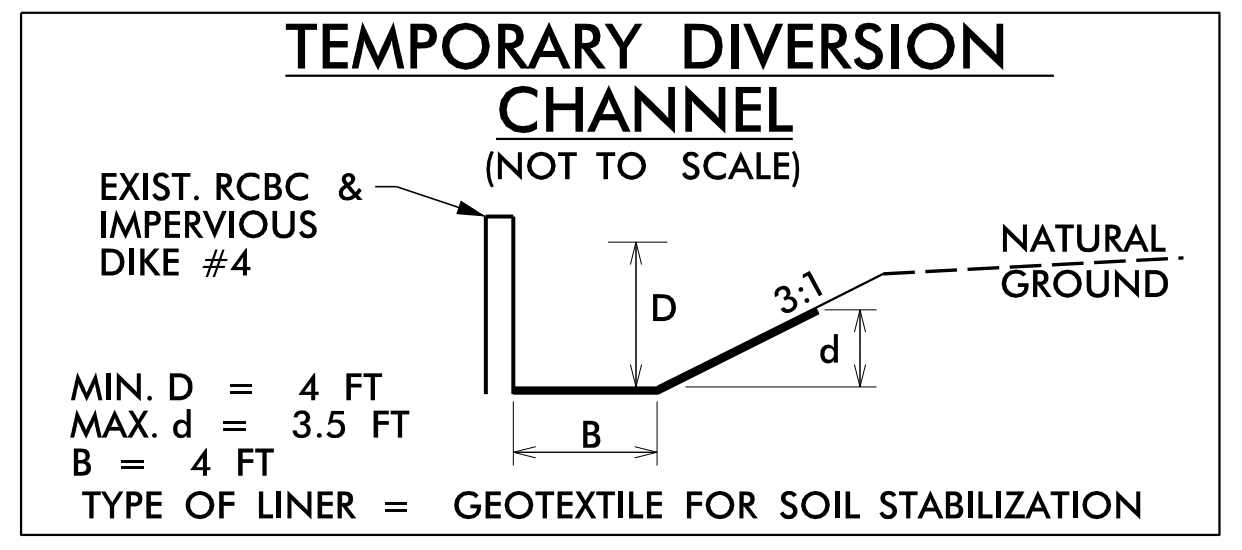
- 1.) SHIFT ALL I-95 TRAFFIC ONTO THE MEDIAN WIDENING CONSTRUCTED IN PHASE III.
- 2.) INSTALL SPECIAL STILLING BASIN ON THE UPSTREAM END. PUMP ALL EFFLUENT INTO SPECIAL STILLING BASIN, AS NECESSARY.
- 3.) REMOVE THE REMAINING PORTIONS OF THE NORTH BARREL OF THE EXISTING RCBC.
- 4.) CONSTRUCT TEMPORARY DIVERSION CHANNEL, PER DETAIL.
- 6.) REMOVE IMPERVIOUS DIKES #3.



- 1.) INSTALL IMPERVIOUS DIKES #4 ON THE UPSTREAM AND DOWNSTREAM ENDS TO ISOLATE THE SOUTH BARREL.
- 2.) REMOVE THE REMAINING PORTIONS OF THE SOUTH BARREL OF THE EXISTING RCBC.
- 3.) CONSTRUCT THE UPSTREAM AND DOWNSTREAM PORTIONS OF THE SOUTH BARREL OF THE PROPOSED 8' X 8' RCBC, INCLUDING HEADWALL AND WINGWALL. INSTALL THE UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS ON THE SOUTH BANKS.
- 4.) REMOVE IMPERVIOUS DIKES #4.



- 1.) INSTALL IMPERVIOUS DIKES #5 ON THE UPSTREAM AND DOWNSTREAM ENDS.
- 2.) CONSTRUCT REMAINING PORTIONS OF THE NORTH BARREL OF THE PROPOSED 8' X 8' RCBC, INCLUDING THE WINGWALLS AND CHANNEL IMPROVEMENTS, AS SHOWN.
- 3.) REMOVE IMPERVIOUS DIKES #5 TO OPEN FLOW TO BOTH BARRELS OF THE PROPOSED (2) @ 8' X 8' RCBC.
- 4.) INSTALL TEMPORARY 24" PIPE AND IMPERVIOUS DIKES #6 TO ISOLATE THE UPSTREAM CHANNEL WORK AREA.
- 5.) INSTALL CLASS II RIP RAP IN CHANNEL BED OF ISOLATED UPSTREAM CHANNEL WORK AREA.
- 6.) REMOVE IMPERVIOUS DIKES #6 AND TEMPORARY 24" PIPE.
- 7.) CONSTRUCT I-95 OUTSIDE ROADWAY WIDENING.



- TEMPORARY 24" PIPE
- SPECIAL STILLING BASIN

5/14/2022 3/14/2022 R:\Eco\1\5987b_EC_psh19B_cg.dgn Mott MacDonald

5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 19

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.

NOTE:

CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:

PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

NOTE:

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

-YIBRPB-
 3.35 PI STA. 685+01.00 PIs Sta 694+27.86
 $\Delta = 21' 44" 41.8" (RT)$ $\Delta s = 1' 35" 29.6"$
 $D = 116' 23.7"$ $Ls = 250.00'$
 $L = 1707.84'$ $LT = 166.67'$
 $T = 864.32'$ $ST = 83.34'$
 $R = 4500.00'$
 $SE = 0.05$
 $RO = 250.00'$

-YIBRPB-
 PIs Sta 16+76.86 PI STA. 19+36.27
 $\Delta = 12' 36" 36.6" (LT)$
 $D = 3' 08" 53.2"$
 $L = 175.00'$ $L = 400.56'$
 $LT = 116.68'$ $T = 20.09'$
 $ST = 58.35'$ $R = 1820.00'$
 $SE = 0.07$

ORE B. MCLEOD
 373
 -YIBRPB- POT Sta 10+00.00=
 -L- POC Sta. 689+00.00
 OFF. = 6' LT

-YIBRPB- SC Sta. 17+35.18
 -YIBRPB- TS Sta. 15+60.18

-YIBRPB- SC Sta. 12+00.00
 HOWARD W. JOHNSON, JR.
 DB 60 PG 713
 PB 27 PG 23
 226

-YIBRPB- CS Sta. 16+82.05

-YIBRPB-
 PIs Sta 11+33.35 PI STA. 14+41.99 PIs Sta 17+48.73
 $\Delta s = 2' 35" 33.2"$ $\Delta = 12' 29" 51.2" (RT)$ $\Delta s = 2' 35" 33.2"$
 $Ls = 200.00'$ $D = 2' 35" 33.2"$ $Ls = 200.00'$
 $LT = 133.35'$ $L = 482.05'$ $LT = 133.35'$
 $ST = 66.68'$ $T = 241.99'$ $ST = 66.68'$
 $R = 2210.00'$
 $SE = 0.08$

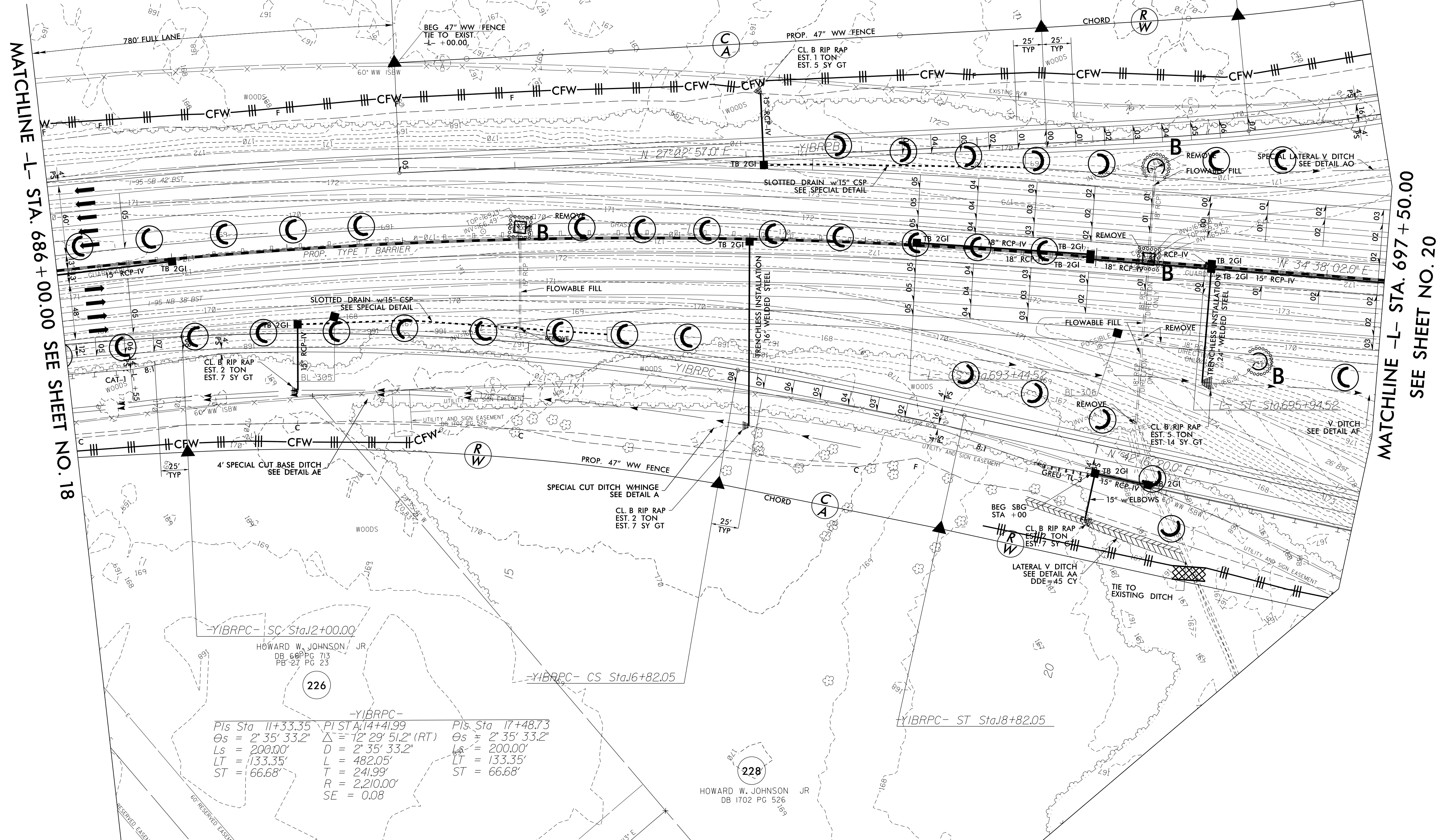
-YIBRPB- ST Sta. 18+82.05

228
 HOWARD W. JOHNSON, JR.
 DB 1702 PG 526

PROJECT REFERENCE NO.	SHEET NO.
1-5987B	EC-20/CONST.19
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: MATTHEW HARVEY, PE CERTIFICATION NUMBER: 3487 ISSUED: MARCH 15, 2022	

ETHERILL ENGINEERING
 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 License No. F-0377
 Bus: 919 851 8077
 Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION



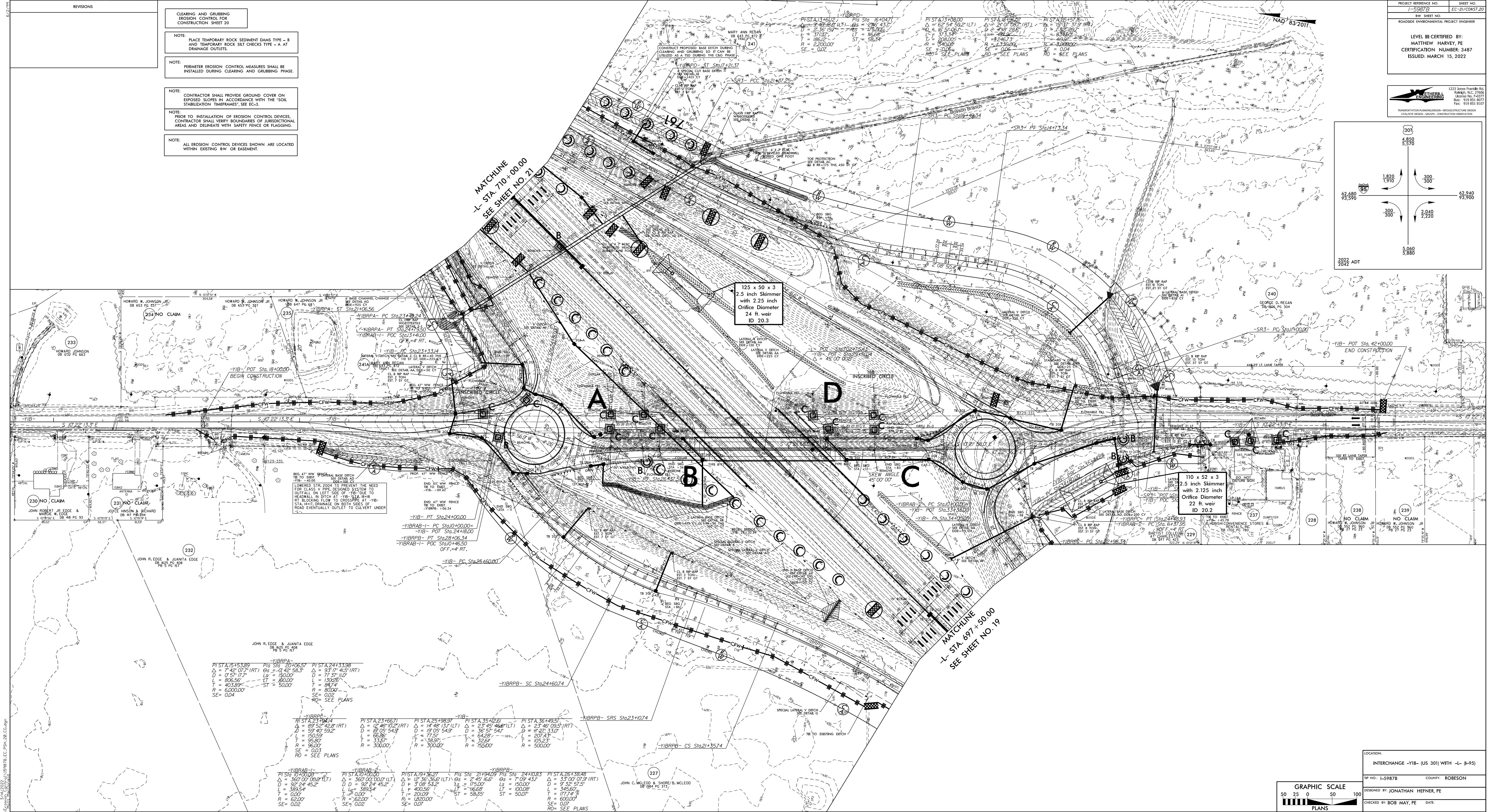
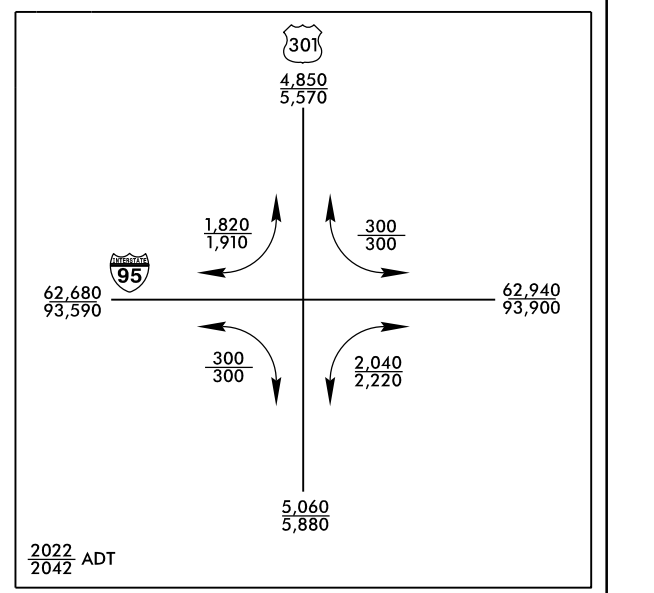
3/14/2022
 \Ercator\Control\15987B_EC_PSH_19.CG.dgn
 Matt MacDonald

REVISIONS

- CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 20
- 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.
- NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMBERFRAMES", SEE EC-3.
- NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.
- NOTE: ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING RW OR EASEMENT.

PROJECT REFERENCE NO. EC-20/COW/20
 SHEET NO. 1-5987B
 ROADSIDE ENVIRONMENTAL PROJECT ENGINEER
 LEVEL III CERTIFIED BY: MATTHEW HARVEY, PE
 CERTIFICATION NUMBER: 3487
 ISSUED: MARCH 15, 2022

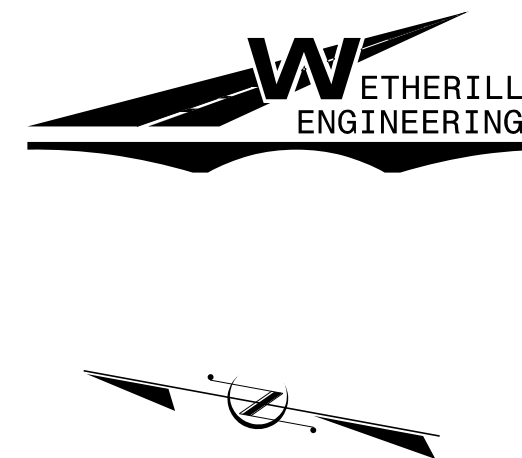
2223 JAMES FINNIN BLVD.
 RALEIGH, N.C. 27606
 PHONE: 919.421.1234
 FAX: 919.421.1234
 TRANSPORTATION PLANNING/DESIGN + GEOSTRUCTURAL DESIGN
 CIVIL/ENVIRONMENTAL/GEOTECHNICAL ENGINEERING



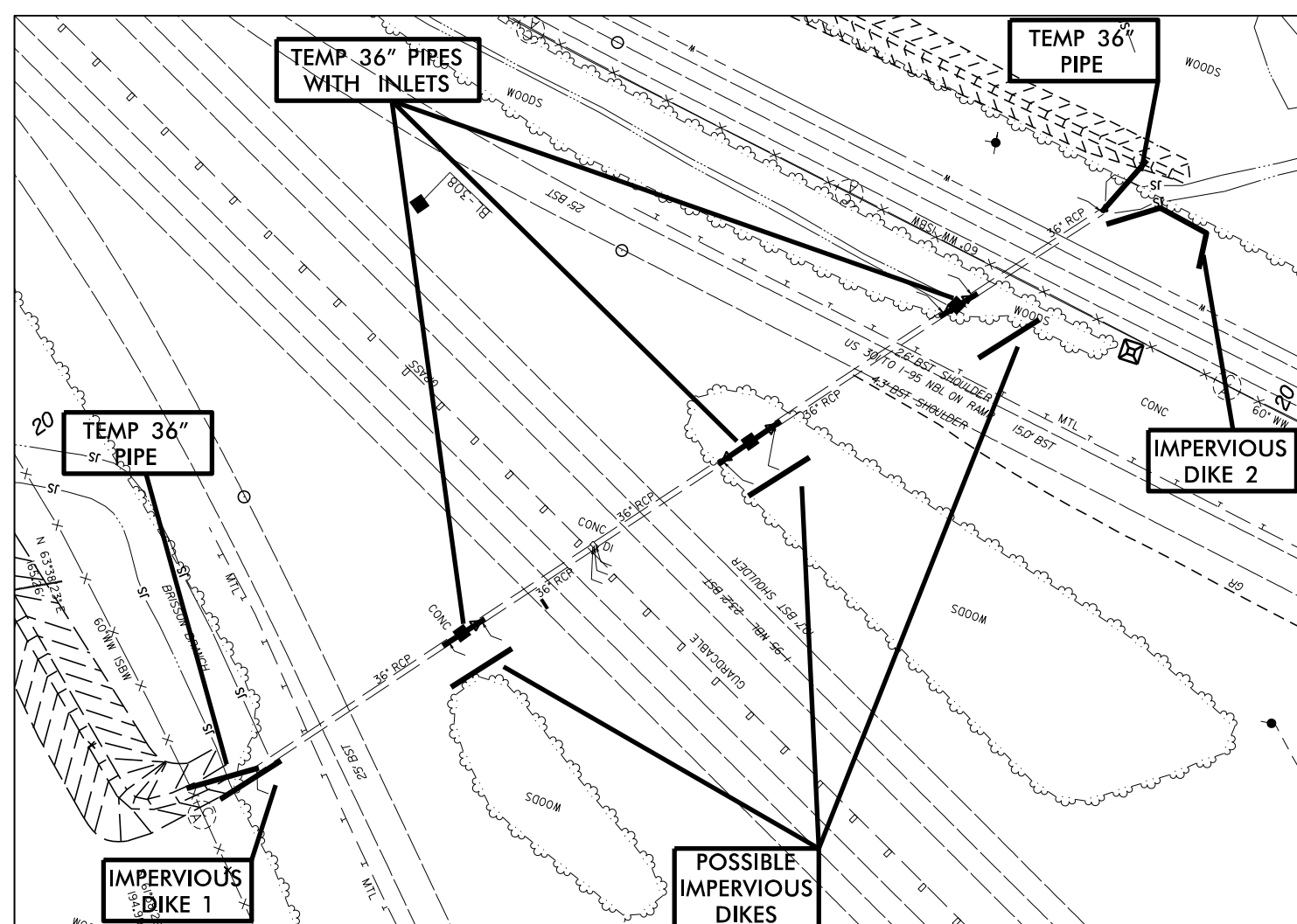
GRAPHIC SCALE
 50 25 0 50 100
 PLANS
 LOCATION: INTERCHANGE -YIB- (US 301) WITH -L- (I-95)
 TYP. NO. I-5987B COUNTY: ROBESON
 DESIGNED BY: JONATHAN HEFFNER, PE
 CHECKED BY: BOB MAY, PE DATE:

*EXECUTE ALL PHASES OF CONSTRUCTION IN A CONTINUOUS MANNER AS MUCH AS PERMITTED BY TRAFFIC MANAGEMENT PLAN PHASING. MAINTAIN FLOW THROUGH EXISTING PIPE UNTIL CULVERT IS CONSTRUCTED

CONSTRUCTION SEQUENCE STA 708+50 -L2- FOR PROPOSED 1@ 6' X 7' RCBC

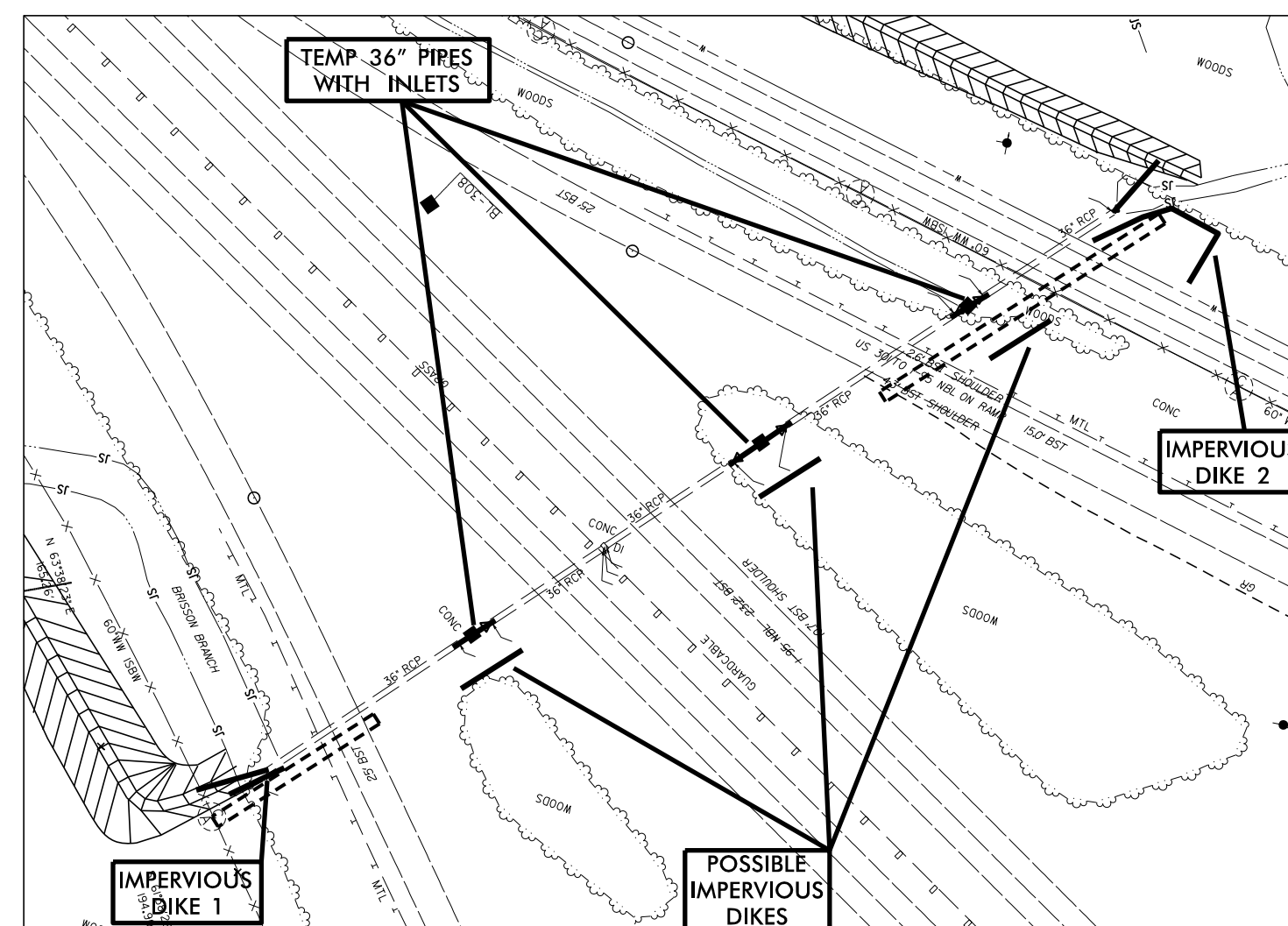


PROJECT REFERENCE NO.	SHEET NO.
I-5987B	EC-21A/CONST.20
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: MATTHEW HARVEY, PE CERTIFICATION NUMBER: 3487 ISSUED: MARCH 15, 2022	



-PHASE I-

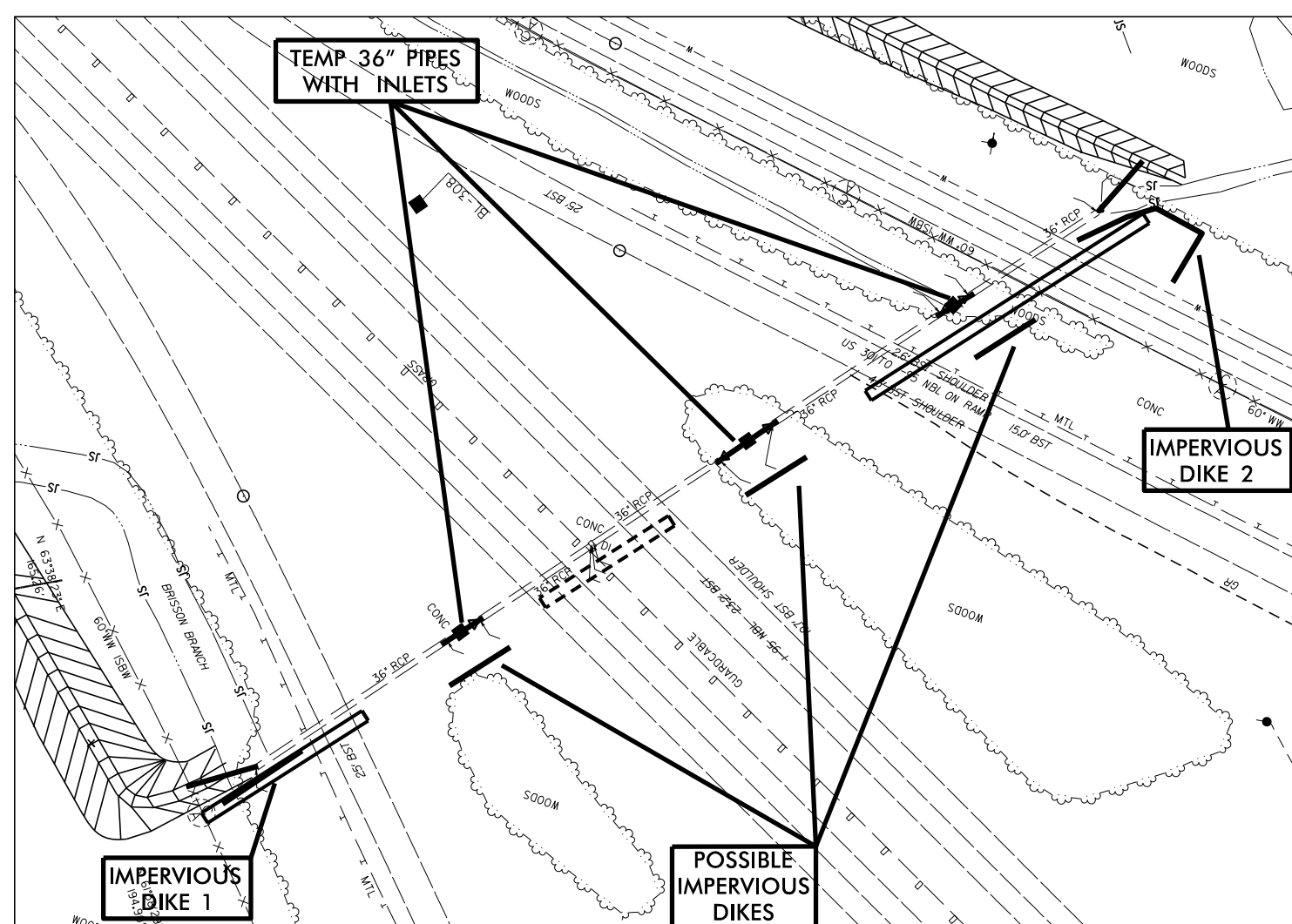
1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. INSTALL IMPERVIOUS DIKES #1 #2, TEMPORARY 36" PIPES WITH BOXES AND STUBOUT IF NEEDED, AND 3 POSSIBLE DIKES WITH PUMP AROUNDS DEPENDENT ON SITE CONDITIONS.
3. CONSTRUCT MODIFIED DRAINAGE CHANNELS AND EXTEND INLET AND OUTLET OF EXISTING CROSS PIPES WITH TEMP 36" PIPES TO MAINTAIN FLOW.
4. CONSTRUCT TEMPORARY RAMPS A AND D AND TEMPORARY SHOULDER LANES ALONG -L- LINE.



-PHASE II-

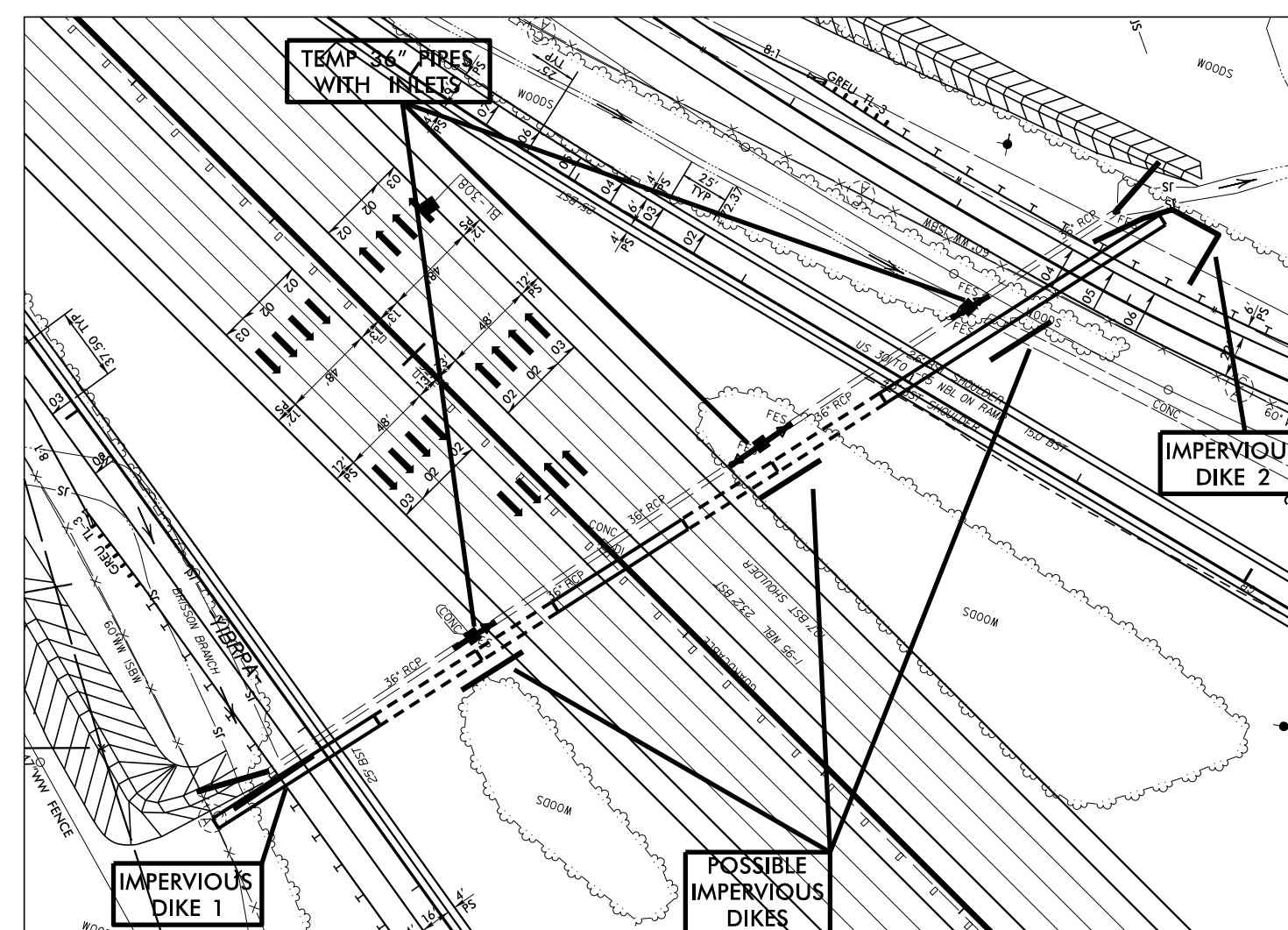
1. SHIFT TRAFFIC TO OUTER TEMP. L LINE LANES AND DIVERT RAMP A AND D TRAFFIC TO TEMPORARY RAMPS.
2. INSTALL RCBC UNDER EXISTING RAMPS A AND D, AND SR3 PER TRAFFIC CONTROL GUIDELINES.
3. CONSTRUCT RAMPS A AND D.

NOTE: SR3 WILL BE CLOSED WITH AN OFF SITE DETOUR PER TRAFFIC CONTROL PLANS.



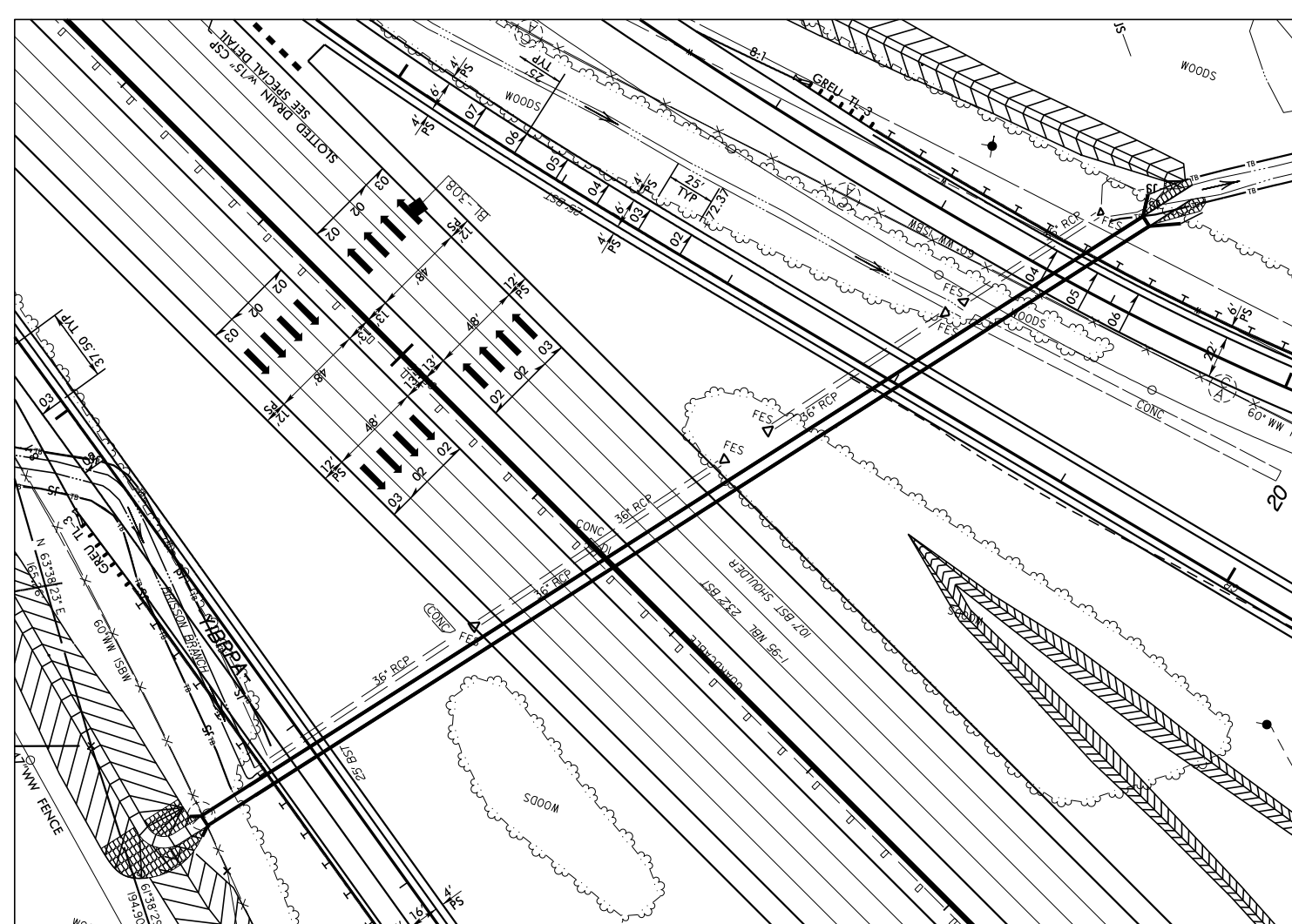
-PHASE III-

1. CONSTRUCT MEDIAN AND CENTER PORTION OF THE RCBC ON THE -L- LINE.



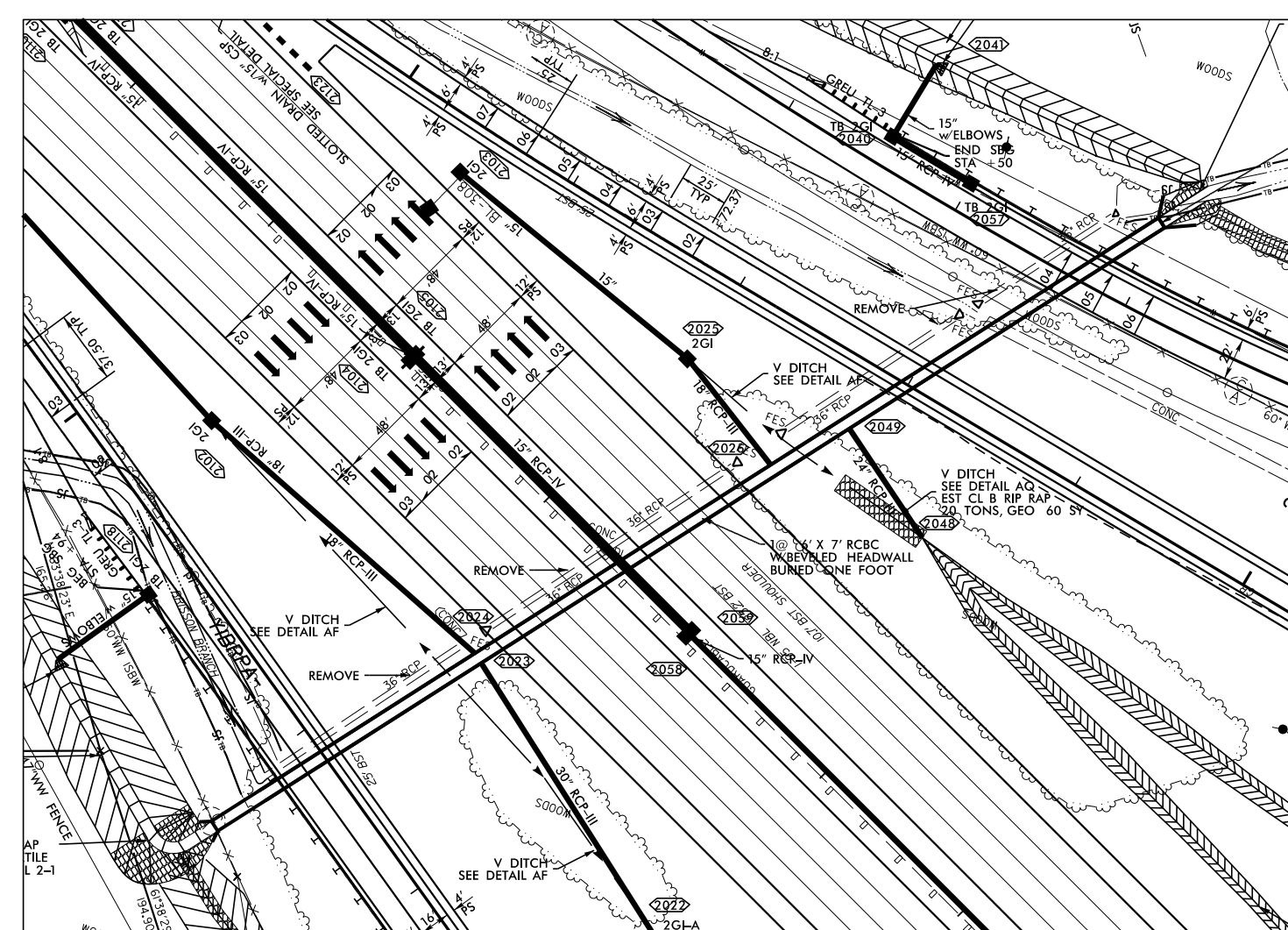
-PHASE IV-

1. SHIFT TRAFFIC TO CENTER SECTION.
2. CONSTRUCT PORTION OF RCBC UNDER TEMPORARY RAMPS A AND D.
3. INSTALL FINAL PORTIONS OF CULVERT, CONNECTING CENTER TO OUTER SECTIONS.
4. REMOVE IMPERVIOUS DIKES ALONG -L- LINE IF UTILIZED.
5. CONSTRUCT OUTER SECTIONS OF ROADWAY AS SHOWN IN TRAFFIC CONTROL PLANS.



-PHASE V-

1. CONSTRUCT OUTLET CHANNEL.
2. REMOVE IMPERVIOUS DIKES AND MODIFY/COMPLETE CHANNELS TO DIVERT WATER FROM EXISTING PIPES TO NEW RCBC.
3. INSTALL CHANNEL PROTECTION



-PHASE VI-

1. REMOVE OR FLOWABLE FILL EXISTING PIPES AND IMPLEMENT NEW DRAINAGE FEATURES INCLUDING SYSTEMS AND DITCHES.
2. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S) AND STABILIZE WORK AREAS.

5/14/2022

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 21

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.

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

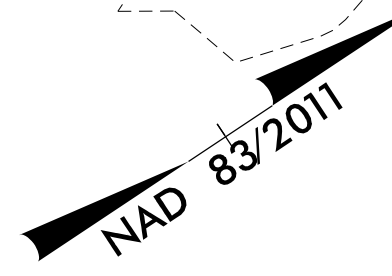
NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

PROJECT REFERENCE NO. SHEET NO.
1-5987B EC-22/CONST.21
RW SHEET NO.
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
MATTHEW HARVEY, PE
CERTIFICATION NUMBER: 3487
ISSUED: MARCH 15, 2022

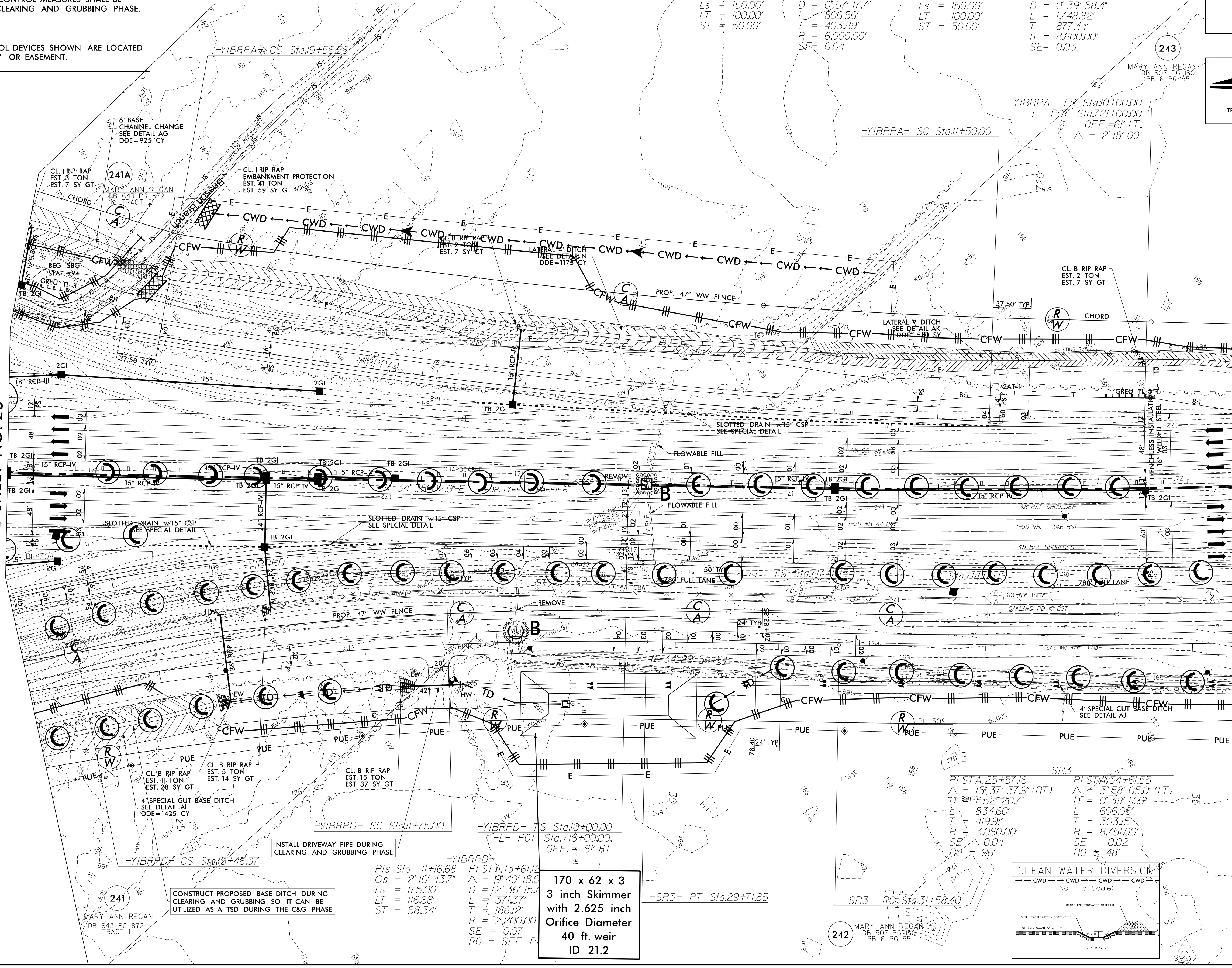
ETHERILL
ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION



-YIBRPA-
Pls Sta 11+00.00 PI STA 15+53.89 Pls Sta 718+11.5 PI STA 727+38.59
Os = 0° 42' 58.3" Δ = 7' 42' 07.7" (RT) Os = 0° 29' 58.8" Δ = 11' 39' 04.3" (LT)
Ls = 150.00' D = 0' 57' 17.7" L = 806.56' T = 403.89' R = 6,000.00' SE = 0.04
LT = 100.00' ST = 50.00' L = 1,748.82' T = 877.44' R = 8,600.00' SE = 0.03
ST = 50.00'

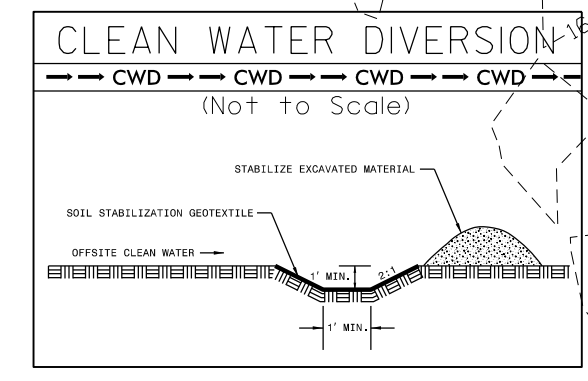
MATCHLINE -L- STA. 710+00.00
SEE SHEET NO. 20

MATCHLINE -L- STA. 722+00.00 SEE SHEET NO. 22



CONSTRUCT PROPOSED BASE DITCH DURING
CLEARING AND GRUBBING SO IT CAN BE
UTILIZED AS A TSD DURING THE C&G PHASE

170 x 62 x 3
3 inch Skimmer
with 2.625 inch
Orifice Diameter
40 ft. weir
ID 21.2



REVISIONS

3/14/2022
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Matt MacDonald

**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 22**

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.

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

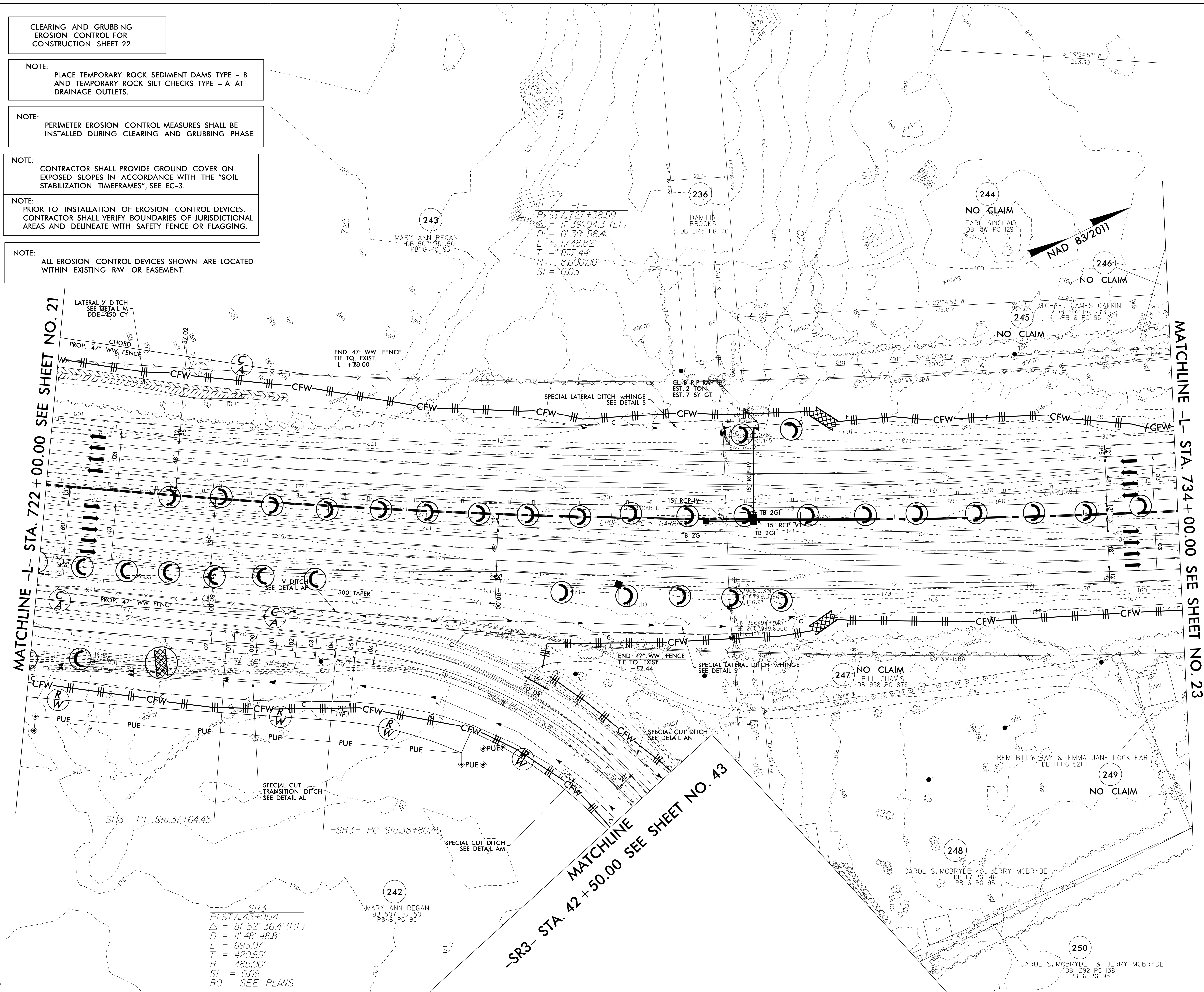
NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED
WITHIN EXISTING RW OR EASEMENT.

PROJECT REFERENCE NO. 1-5987B	SHEET NO. EC-23/CONST.22
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: MATTHEW HARVEY, PE CERTIFICATION NUMBER: 3487 ISSUED: MARCH 15, 2022	

**ETHERILL
ENGINEERING**

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION



REVISIONS

5/14/99

3/14/2022
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Matt MacDonald

5/14/2022

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 23

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.

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

PI STA. 727+38.59 Pls Sta 736+59.98
 $\Delta = 1^{\circ} 39' 04.3" (LT)$ $\theta_s = 0^{\circ} 29' 58.8"$
 $D = 0^{\circ} 39' 58.4"$ $L_s = 150.00'$
 $L = 1748.82'$ $LT = 100.00'$
 $T = 877.44'$ $ST = 50.00'$
 $R = 8,600.00'$
 $SE = 0.03$

167 MICHAEL JAMES CALKIN
246 DB 2021 PG 773
PB 6 PG 95
NO CLAIM

NAD 83/2011
FAYE E. MCRAINEY REAVES
DB 519 PG 355
PB 26 PG 23
252

PROJECT REFERENCE NO. SHEET NO.
1-5987B EC-24/CONST.23

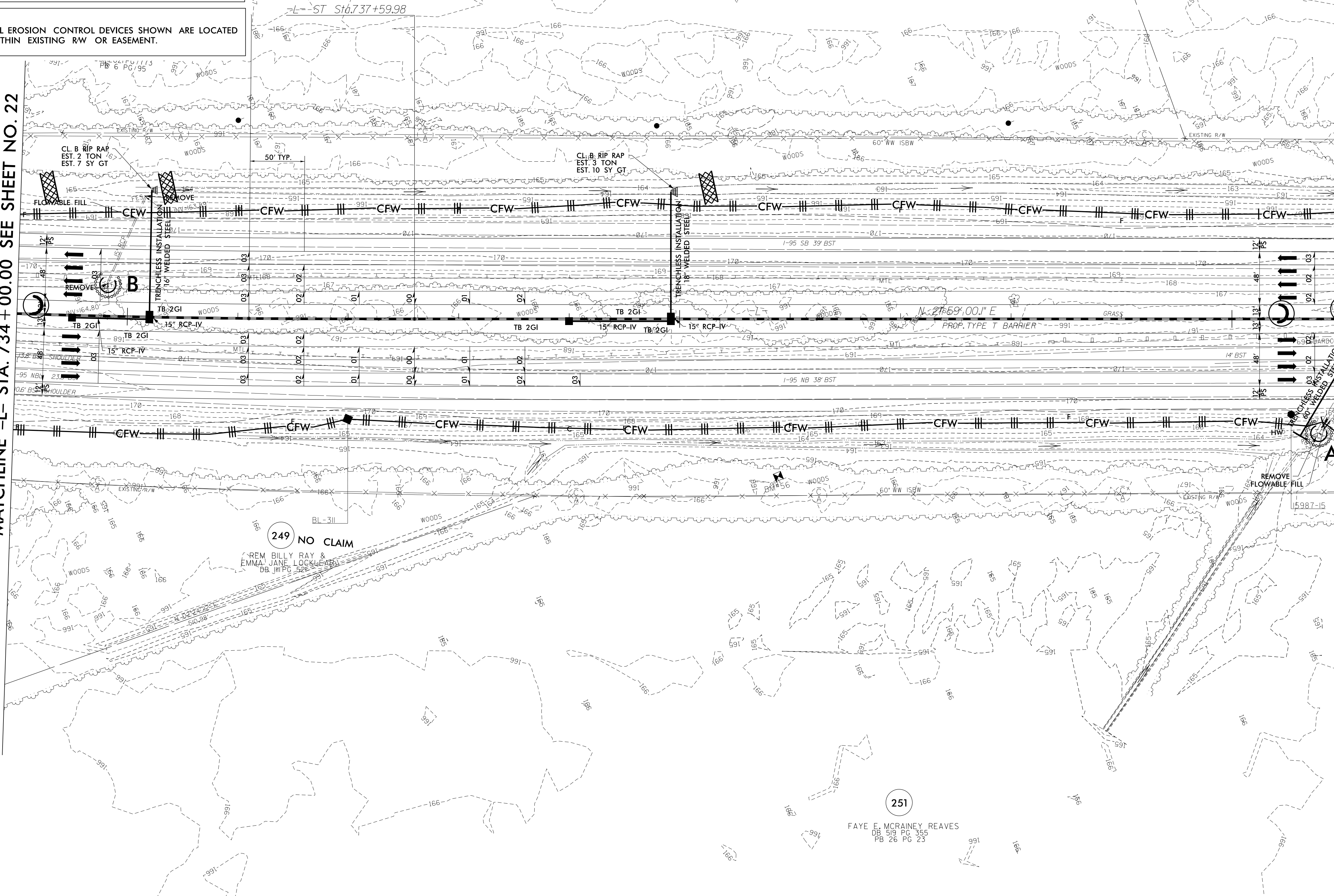
R/W SHEET NO.
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
MATTHEW HARVEY, PE
CERTIFICATION NUMBER: 3487
ISSUED: MARCH 15, 2022

ETHERILL
ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

MATCHLINE -L- STA. 734 + 00.00 SEE SHEET NO. 22

MATCHLINE -L- STA. 746 + 00.00 SEE SHEET NO. 24



3/14/2022
Erosion_Control\15987B\EC_PSH_23_CG.dgn
Matt MacDonald

5/14/2022

3/14/2022
\\Erosion_Control\15987B_EC_PSH_24_CG.dgn
Matt MacDonald

**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 24**

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

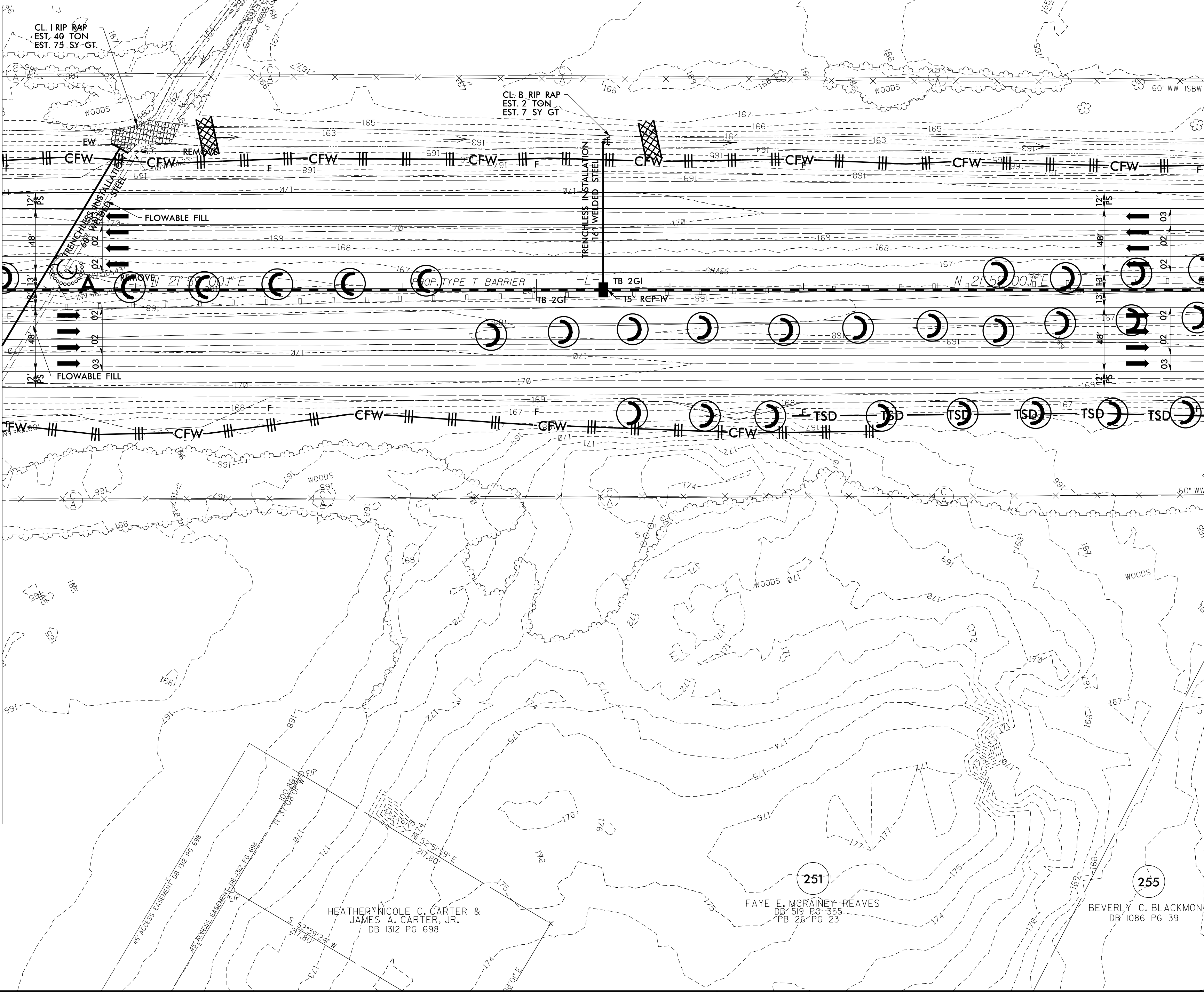
NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE
INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

MATCHLINE -L- STA. 746 + 00.00 SEE SHEET NO. 23



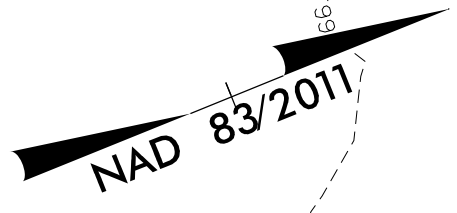
MATCHLINE -L- STA. 755 + 00.00 SEE SHEET NO. 25

PROJECT REFERENCE NO.	SHEET NO.
1-5987B	EC-25/CONST.24
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: MATTHEW HARVEY, PE CERTIFICATION NUMBER: 3487 ISSUED: MARCH 15, 2022	

**ETHERILL
ENGINEERING**

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Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION



FAYE E. MCRAINEY REAVES
DB 519 PG 355
FB 26 PG 23

252

HEATHER NICOLE C. CARTER &
JAMES A. CARTER, JR.
DB 1312 PG 698

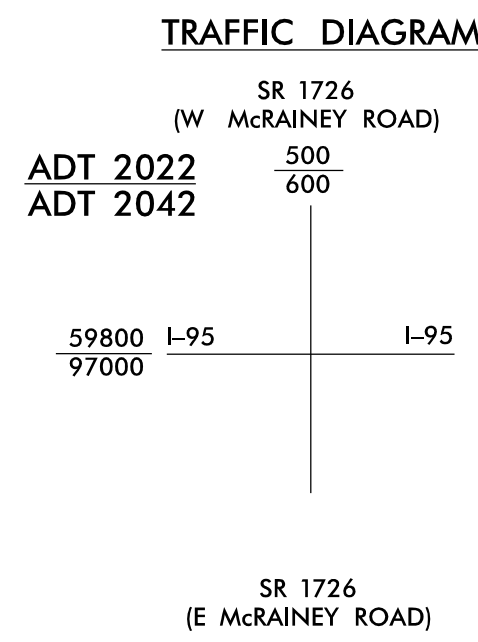
251

FAYE E. MCRAINEY REAVES
DB 519 PG 355
FB 26 PG 23

255

BEVERLY C. BLACKMON
DB 1086 PG 39

5/14/2022



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 25

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

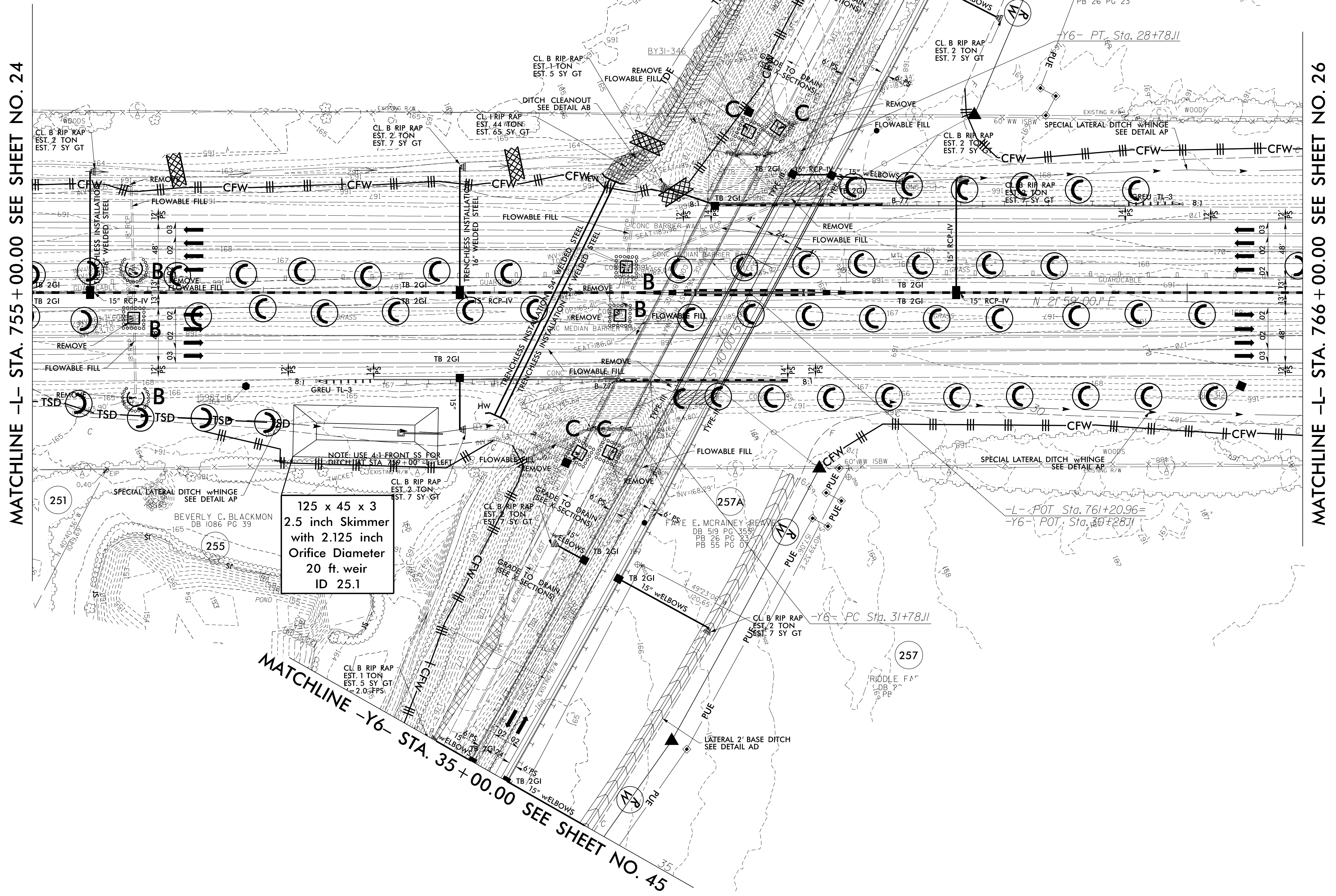
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

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

NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

PROJECT REFERENCE NO. 1-5897B	SHEET NO. EC-26/CONST.25
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: MATTHEW HARVEY, PE CERTIFICATION NUMBER: 3487 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	 MOTT MACDONALD PO Box 700 Fuquay-Varina, NC 27526 www.mottmac.com/america
 1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. 1-4377 Bus: 919.851.8077 Fax: 919.851.9107	



3/14/2022
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Mott MacDonald

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 26

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

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.

NOTE: CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE: PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES, CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

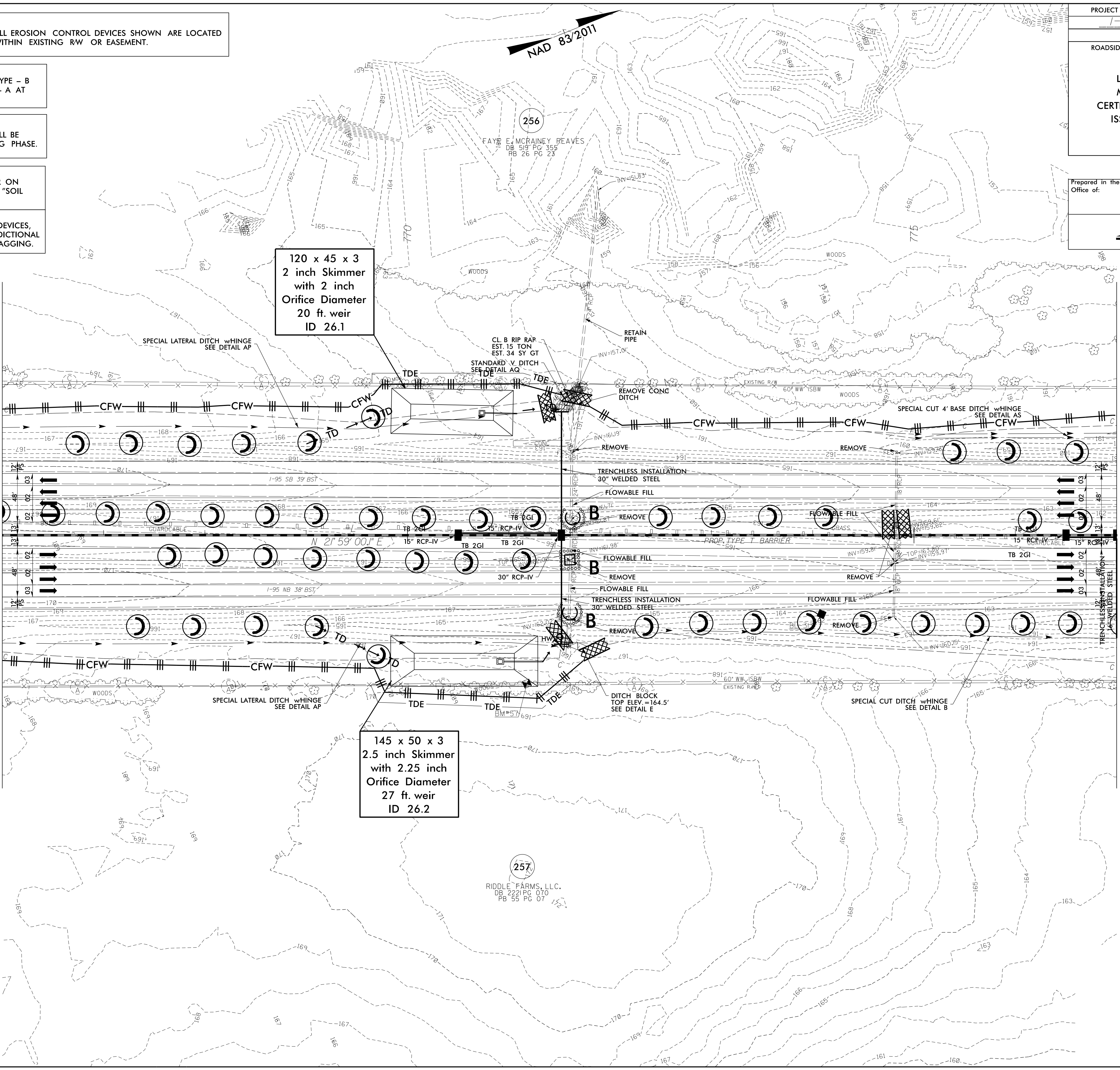
Roadside Environmental Project Engineer

LEVEL III CERTIFIED BY: MATTHEW HARVEY, PE CERTIFICATION NUMBER: 3487 ISSUED: MARCH 15, 2022

Prepared in the Office of: MOTT MACDONALD MOTT MACDONALD ENGINEERING 1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. 1-43777 Fax: 919 851 9107

MATCHLINE -L- STA. 766 + 00.00 SEE SHEET NO. 25

MATCHLINE -L- STA. 777 + 00.00 SEE SHEET NO. 27



120 x 45 x 3 2 inch Skimmer with 2 inch Orifice Diameter 20 ft. weir ID 26.1

145 x 50 x 3 2.5 inch Skimmer with 2.25 inch Orifice Diameter 27 ft. weir ID 26.2

5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 27

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.

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

PROJECT REFERENCE NO. SHEET NO.
1-5897B EC-28/CONST.27
RW SHEET NO.
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

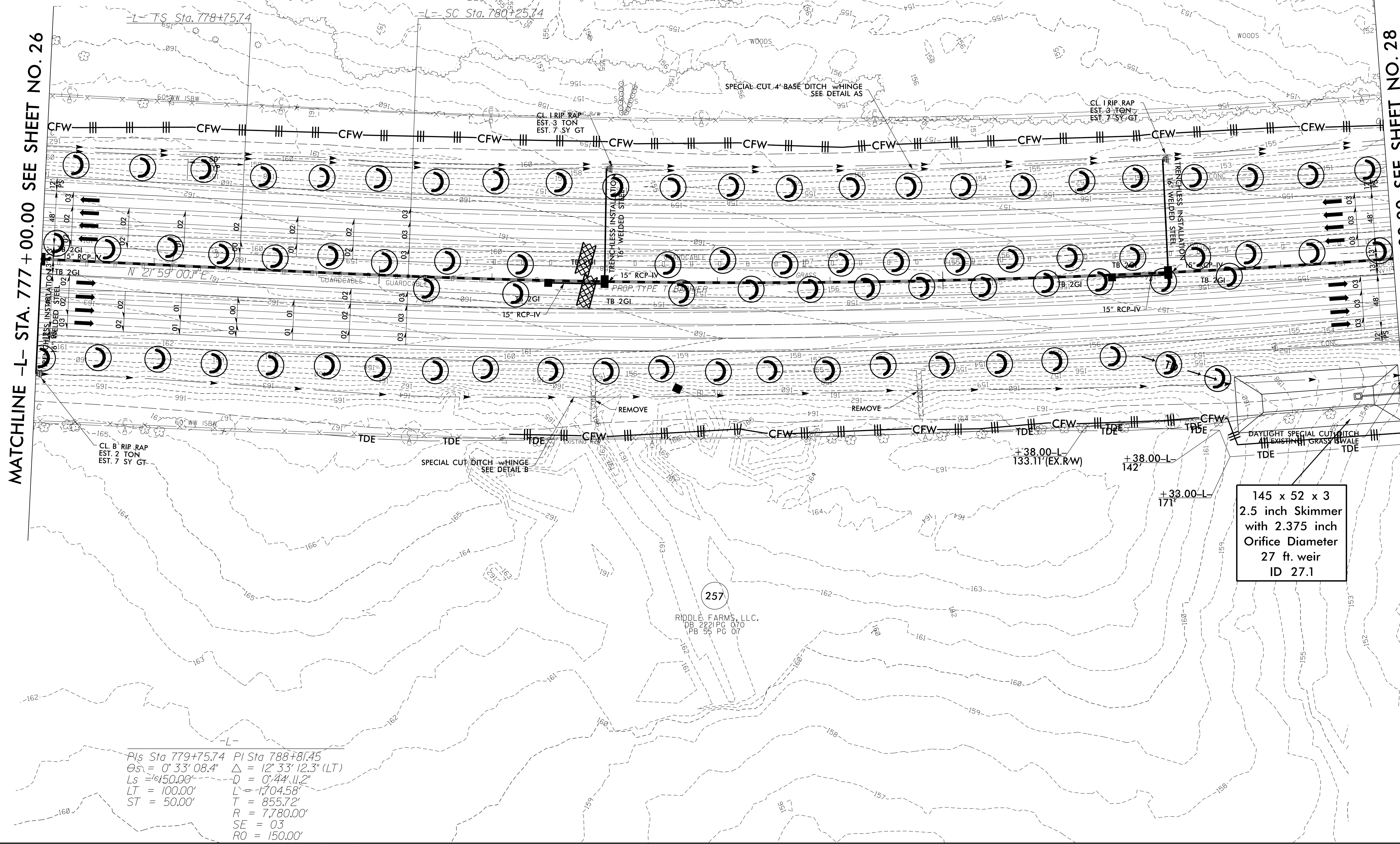
LEVEL III CERTIFIED BY:
MATTHEW HARVEY, PE
CERTIFICATION NUMBER: 3487
ISSUED: MARCH 15, 2022

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Fuquay-Varina, NC 27526
www.mottmac.com/americas

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ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-4377
Bus: 919.951.8077
Fax: 919.951.9107

MATCHLINE -L- STA. 777 + 00.00 SEE SHEET NO. 26

MATCHLINE -L- STA. 789 + 00.00 SEE SHEET NO. 28



P_1 Sta 779+75.74 P_2 Sta 788+81.45
 $\theta_s = 0^\circ 33' 08.4''$ $\Delta = 12^\circ 33' 12.3''$ (LT)
 $L_s = 150.00'$ $D = 0' 44' 11.2''$
 $LT = 100.00'$ $L = 1704.58'$
 $ST = 50.00'$ $T = 855.72'$
 $R = 7780.00'$
 $SE = 03$
 $RO = 150.00'$

3/14/2022
Erosion_Control\15897B_EC_PSH_27.CG.dgn
Mott MacDonald

5/14/2022

3/14/2022
Erosion_Control\15587B_EC_PSH_28-CG.dgn
Mott MacDonald

**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 28**

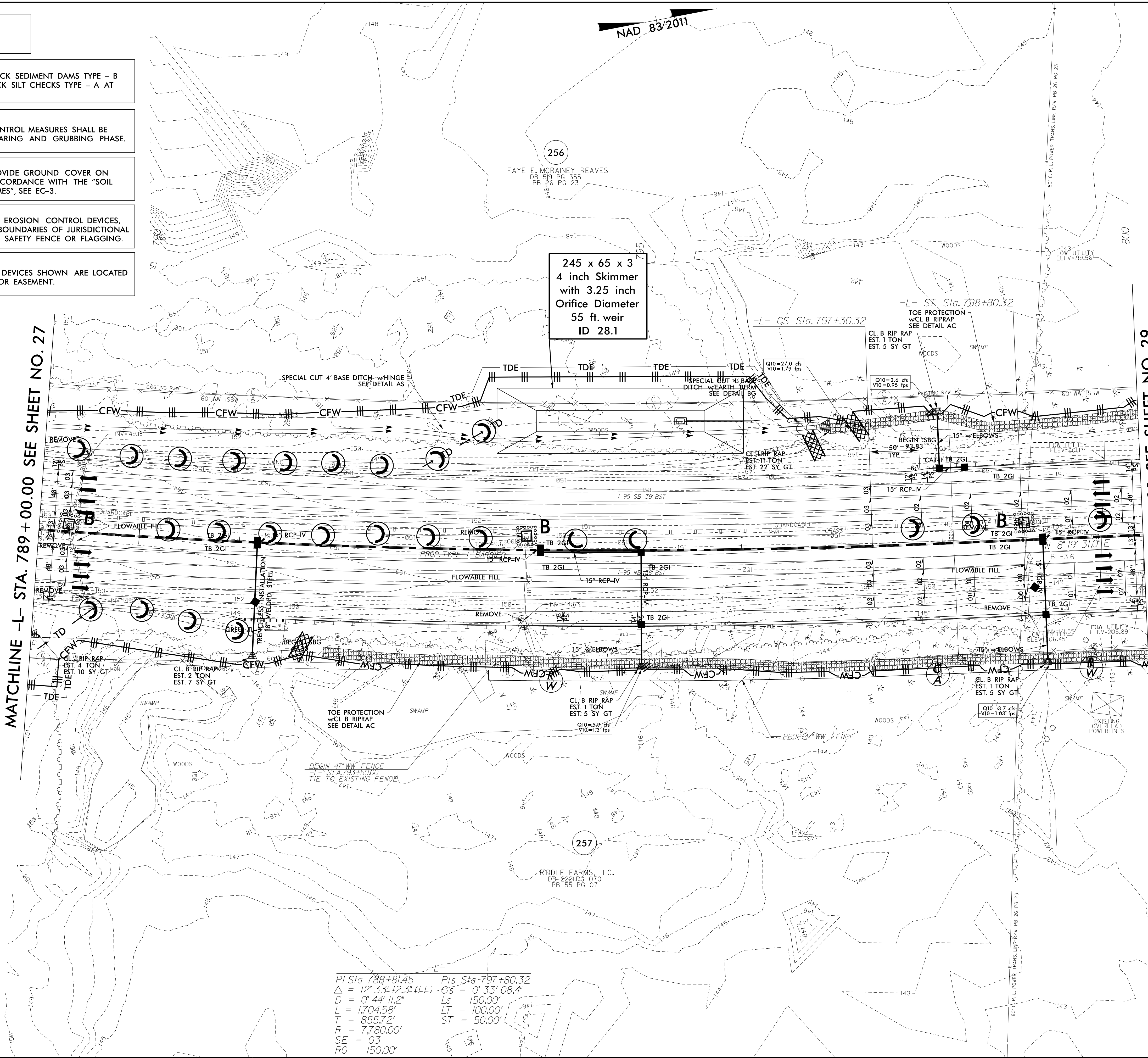
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

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

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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



245 x 65 x 3
4 inch Skimmer
with 3.25 inch
Orifice Diameter
55 ft weir
ID 28.1

MATCHLINE -L- STA. 789 + 00.00 SEE SHEET NO. 27

MATCHLINE -L- STA. 800 + 00.00 SEE SHEET NO. 29

PI Sta 788+81.45	PIs Sta 797+80.32
$\Delta = 12^{\circ} 33' 42.3"$ (LT) - $\theta_5 = 0^{\circ} 33' 08.4"$	
$D = 0^{\circ} 44' 11.2"$	$L_s = 150.00'$
$L = 1704.58'$	$LT = 100.00'$
$R = 855.72'$	$ST = 50.00'$
$T = 7780.00'$	
$SE = 03$	
$RO = 150.00'$	

PROJECT REFERENCE NO. <i>1-5897B</i>	SHEET NO. EC-29/CONST.28
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: MATTHEW HARVEY, PE CERTIFICATION NUMBER: 3487 ISSUED: MARCH 15, 2022	
Prepared in the Office of:	 MOTT MACDONALD 1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. 143777 Bus: 919.851.8077 Fax: 919.851.9107

5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 29

UTILIZED SPECIAL
STILLING BASINS
AS NEEDED

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.

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

NAD 83/2011

PROJECT REFERENCE NO. SHEET NO.
1-5897B EC-30/CONST.29

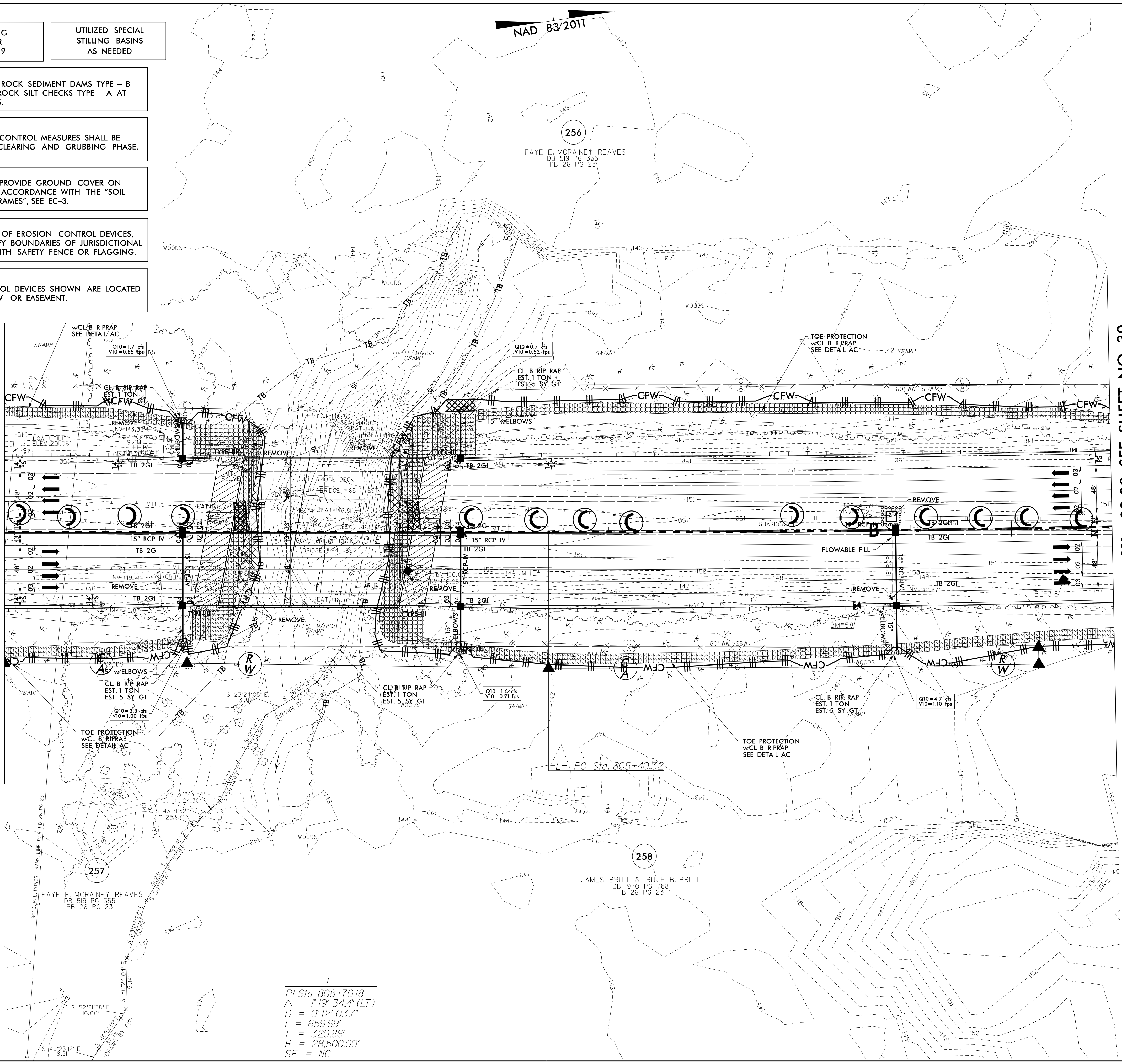
RW SHEET NO.
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
MATTHEW HARVEY, PE
CERTIFICATION NUMBER: 3487
ISSUED: MARCH 15, 2022

Prepared in the
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Fuquay-Varina, NC 27526
www.mottmac.com/america
ETHERILL
ENGINEERING
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. 143777
Bus: 919.851.8077
Fax: 919.851.9107

MATCHLINE -L- STA. 800 + 00.00 SEE SHEET NO. 28

MATCHLINE -L- STA. 811 + 00.00 SEE SHEET NO. 30



-L-
PI Sta 808+70.18
 $\Delta = 1' 19'' 34.4''$ (LT)
 $D = 0' 12'' 03.7''$
 $L = 659.69'$
 $T = 329.86'$
 $R = 28,500.00'$
SE = NC

3/14/2022
Erosion_Control\15897B_EC_PSH_29.CG.dgn
Mott MacDonald

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 30

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.

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

PROJECT REFERENCE NO.	SHEET NO.
1-5897B	EC-31/CONST.30
RW SHEET NO.	
ROADSIDE ENVIRONMENTAL PROJECT ENGINEER	
LEVEL III CERTIFIED BY: MATTHEW HARVEY, PE CERTIFICATION NUMBER: 3487 ISSUED: MARCH 15, 2022	

Prepared in the Office of:

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MACDONALD

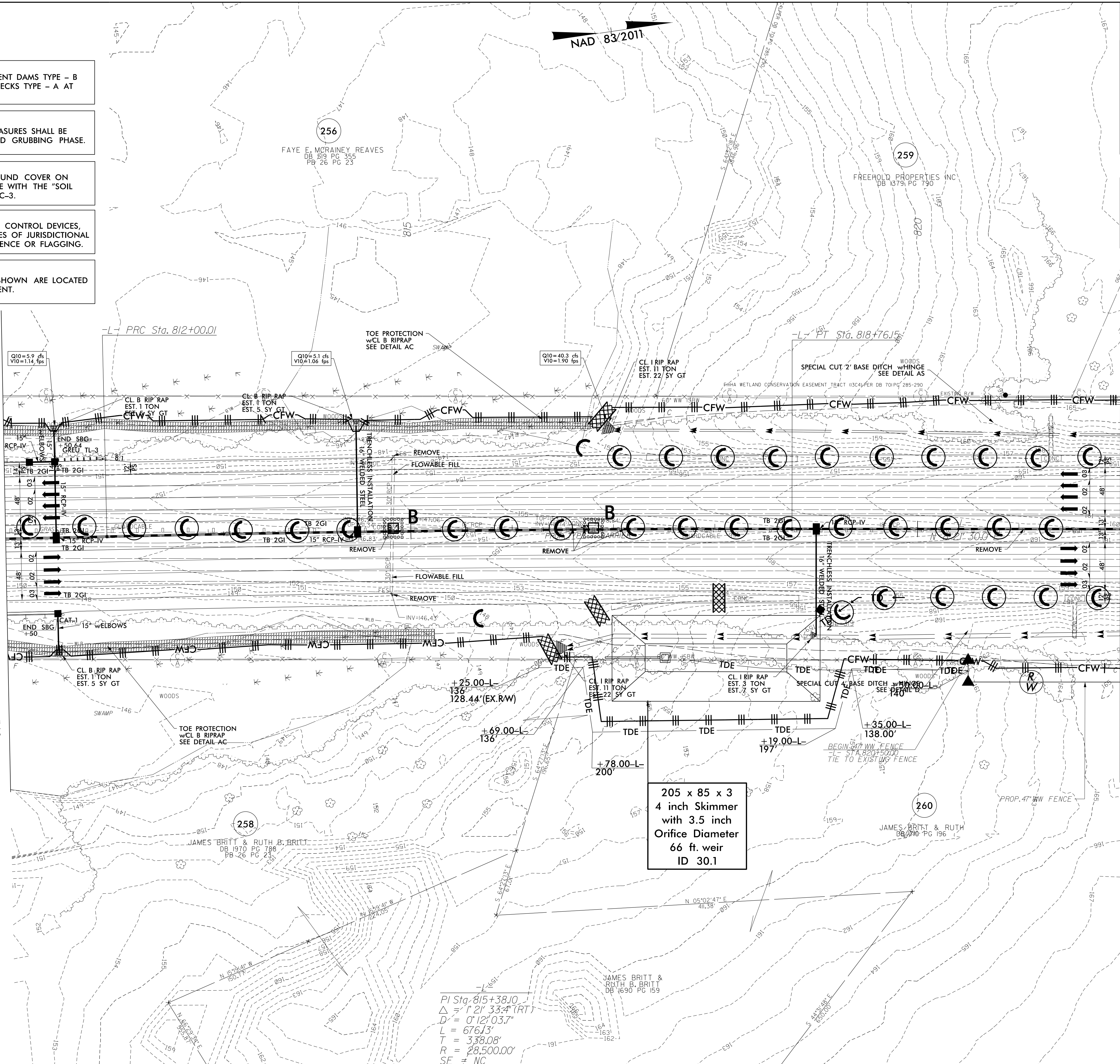
PO Box 700
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www.mottmac.com/america

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ETHERILL
ENGINEERING

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. 1-4377
Bus: 919.851.8077
Fax: 919.851.9107

MATCHLINE -L- STA. 811 + 00.00 SEE SHEET NO. 29

MATCHLINE -L- STA. 822 + 00.00 SEE SHEET NO. 31



205 x 85 x 3
4 inch Skimmer
with 3.5 inch
Orifice Diameter
66 ft. weir
ID 30.1

PI Sta. 815+38.10
Δ = 1' 21" 33.4" (RT)
D = 0' 12" 03.7"
L = 676.13'
T = 338.08'
R = 28,500.00'
SE = NC

5/14/2022

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 31

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.

NOTE:
CONTRACTOR SHALL PROVIDE GROUND COVER ON
EXPOSED SLOPES IN ACCORDANCE WITH THE "SOIL
STABILIZATION TIMEFRAMES", SEE EC-3.

NOTE:
PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES,
CONTRACTOR SHALL VERIFY BOUNDARIES OF JURISDICTIONAL
AREAS AND DELINEATE WITH SAFETY FENCE OR FLAGGING.

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

180 x 65 x 3
3 inch Skimmer
with 2.75 inch
Orifice Diameter
44 ft. weir
ID 31.1

NAD 83/2011

PROJECT REFERENCE NO. 1-5897B
SHEET NO. EC-32/CONST.31
RW SHEET NO.

ROADSIDE ENVIRONMENTAL PROJECT ENGINEER

LEVEL III CERTIFIED BY:
MATTHEW HARVEY, PE
CERTIFICATION NUMBER: 3487
ISSUED: MARCH 15, 2022

Prepared in the Office of:

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MATCHLINE -L- STA. 822 + 00.00 SEE SHEET NO. 30

MATCHLINE -L- STA. 833 + 00.00 SEE SHEET NO. 32

