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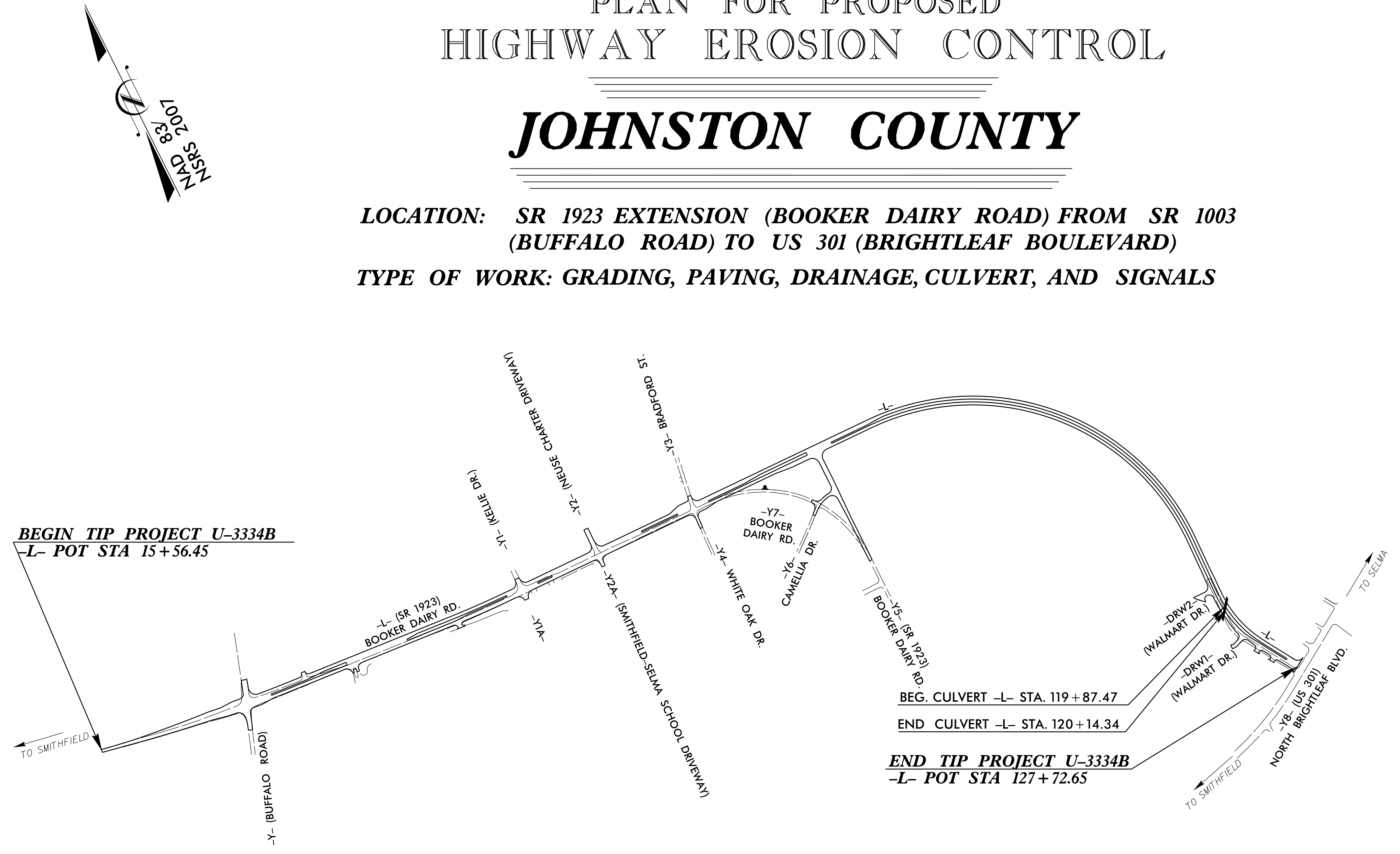
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TIP PROJECT: U-3334B

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL
JOHNSTON COUNTY

LOCATION: SR 1923 EXTENSION (BOOKER DAIRY ROAD) FROM SR 1003 (BUFFALO ROAD) TO US 301 (BRIGHTLEAF BOULEVARD)
TYPE OF WORK: GRADING, PAVING, DRAINAGE, CULVERT, AND SIGNALS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3334B	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

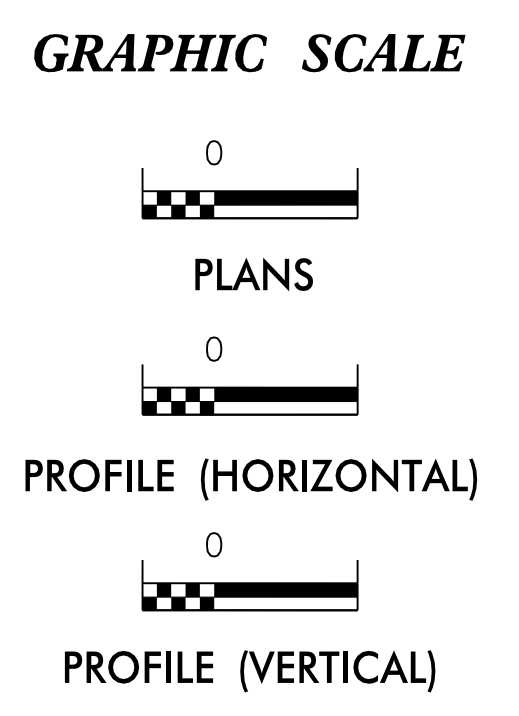
EROSION AND SEDIMENT CONTROL MEASURES

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

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
 Refer To E. C. Special Provisions for Special Considerations.



ROADSIDE ENVIRONMENTAL UNIT
 DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

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

Prepared in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
 1 South Wilmington St.
 Raleigh, NC 27611
2018 STANDARD SPECIFICATIONS

Designed by:
Wes Chandler **3374**
 NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

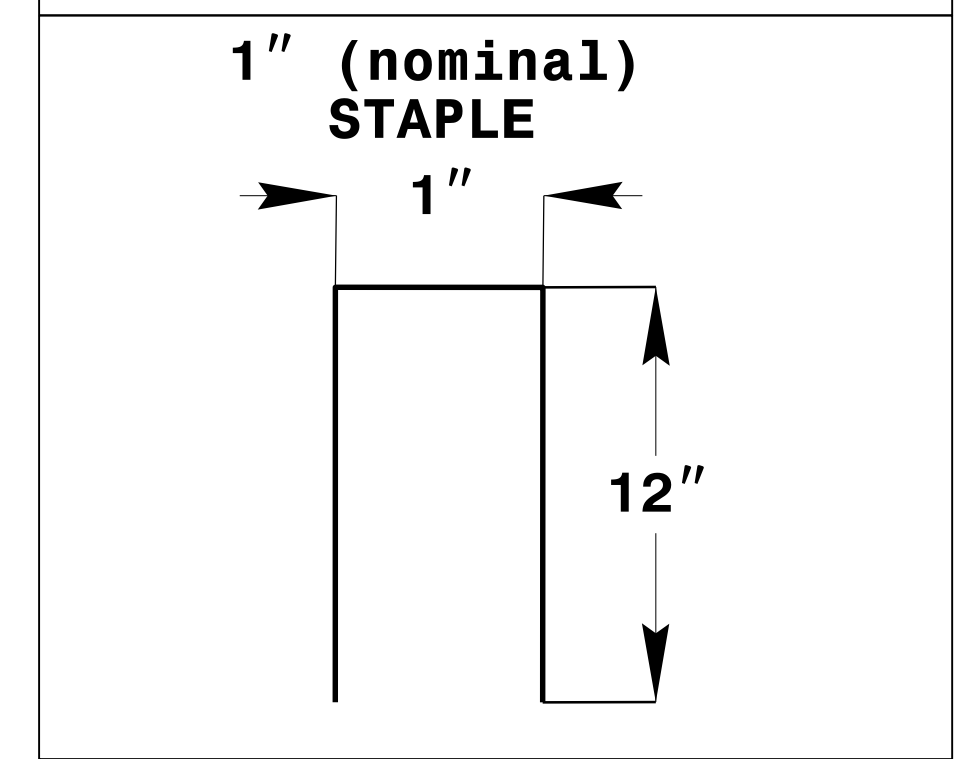
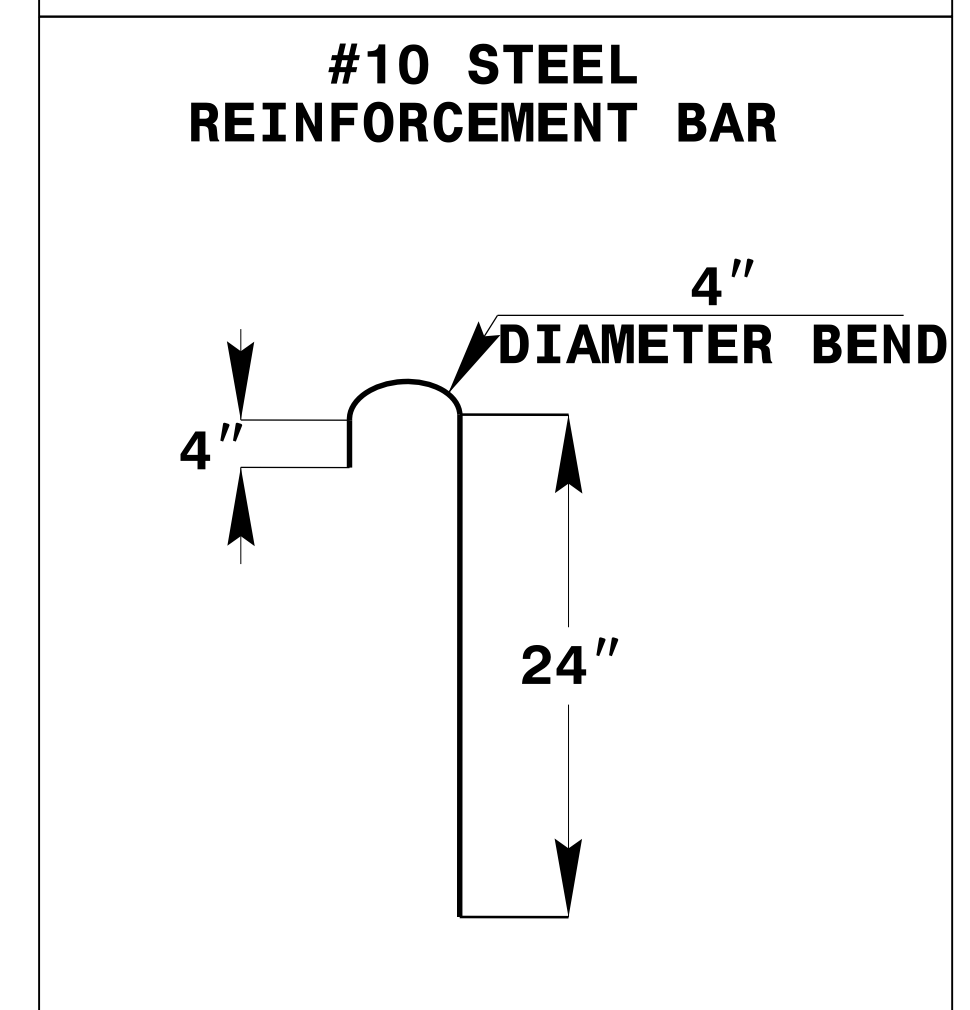
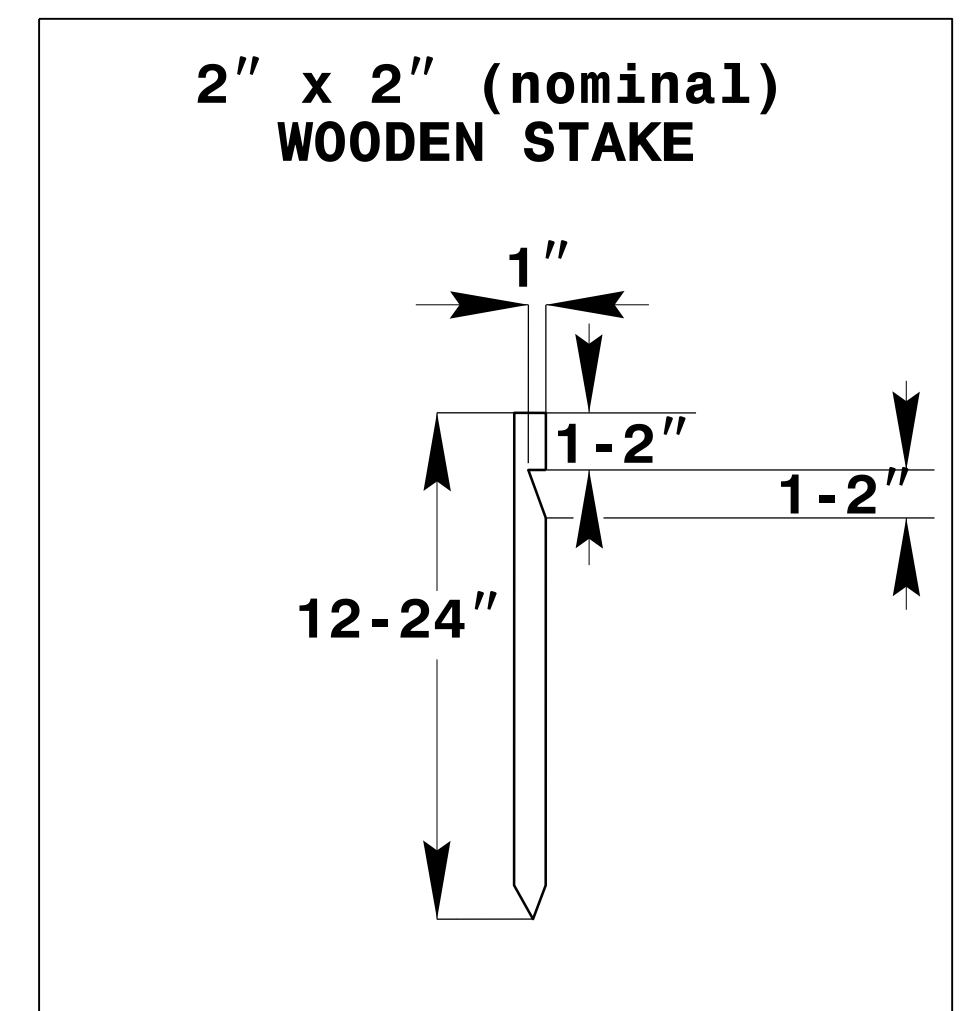
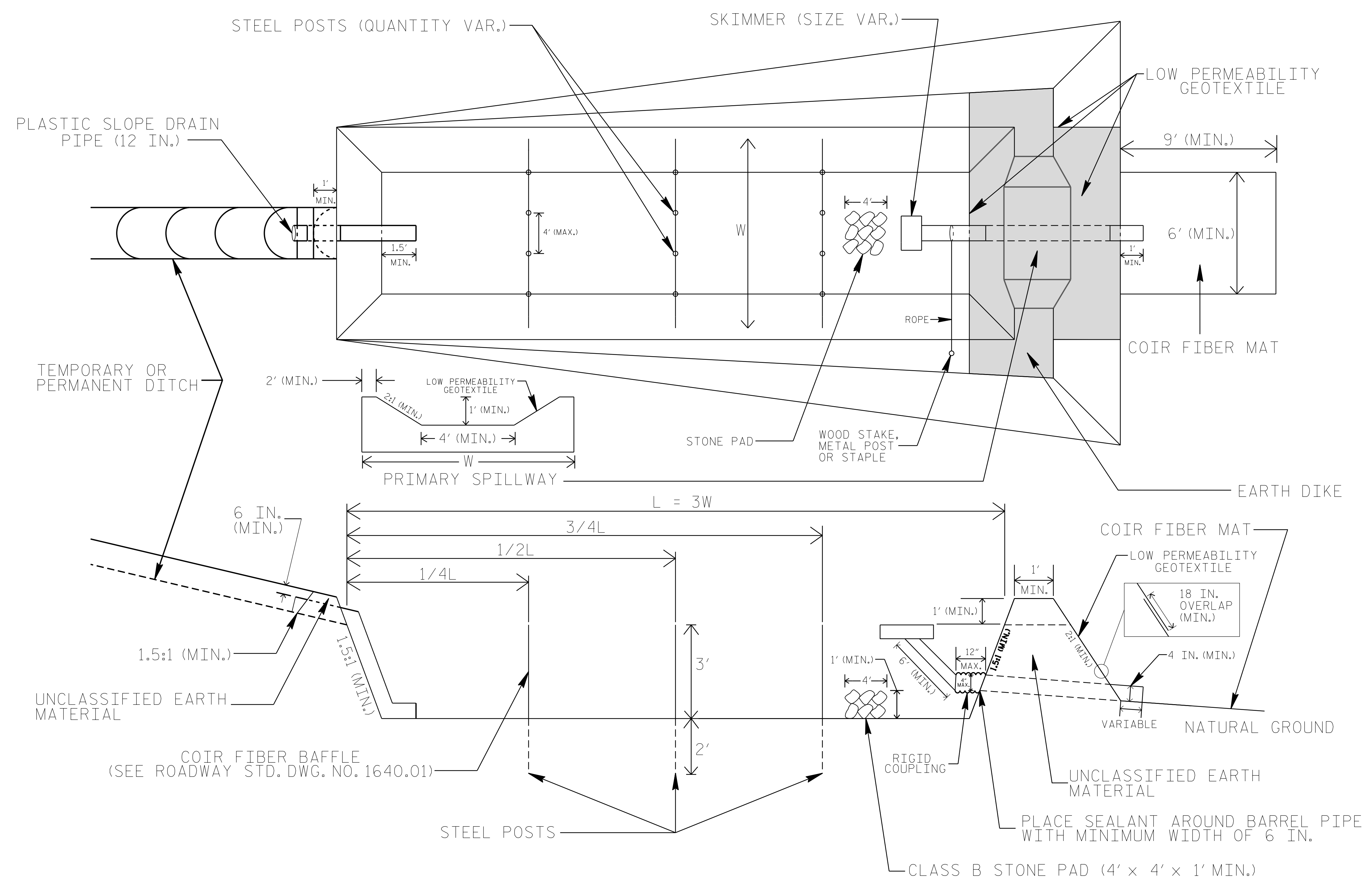
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

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PROJECT REFERENCE NO. U-3334B	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

BORROW PIT DEWATERING BASIN DETAIL

PROJECT REFERENCE NO. U-3334B	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GENERAL NOTES:

DETERMINE BORROW PIT DEWATERING BASIN SIZE USING $V = 8.0203 * Q * T$, WHERE V IS VOLUME (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 1060-14.

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.

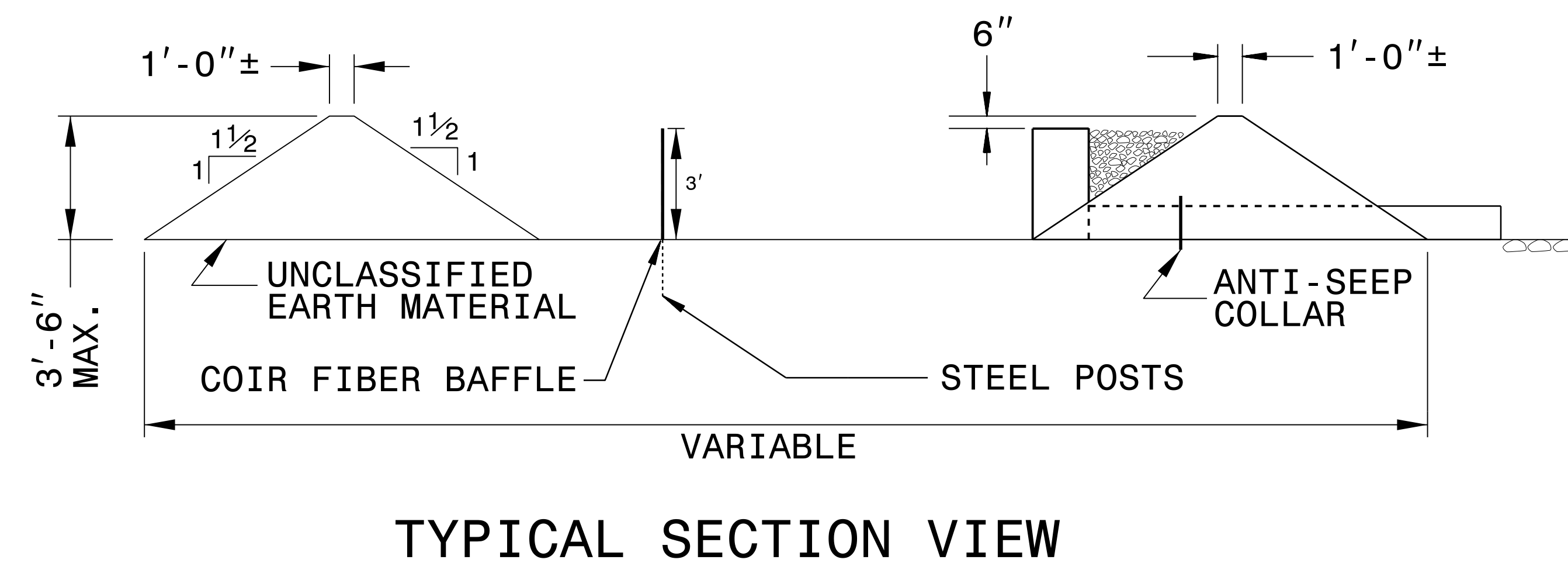
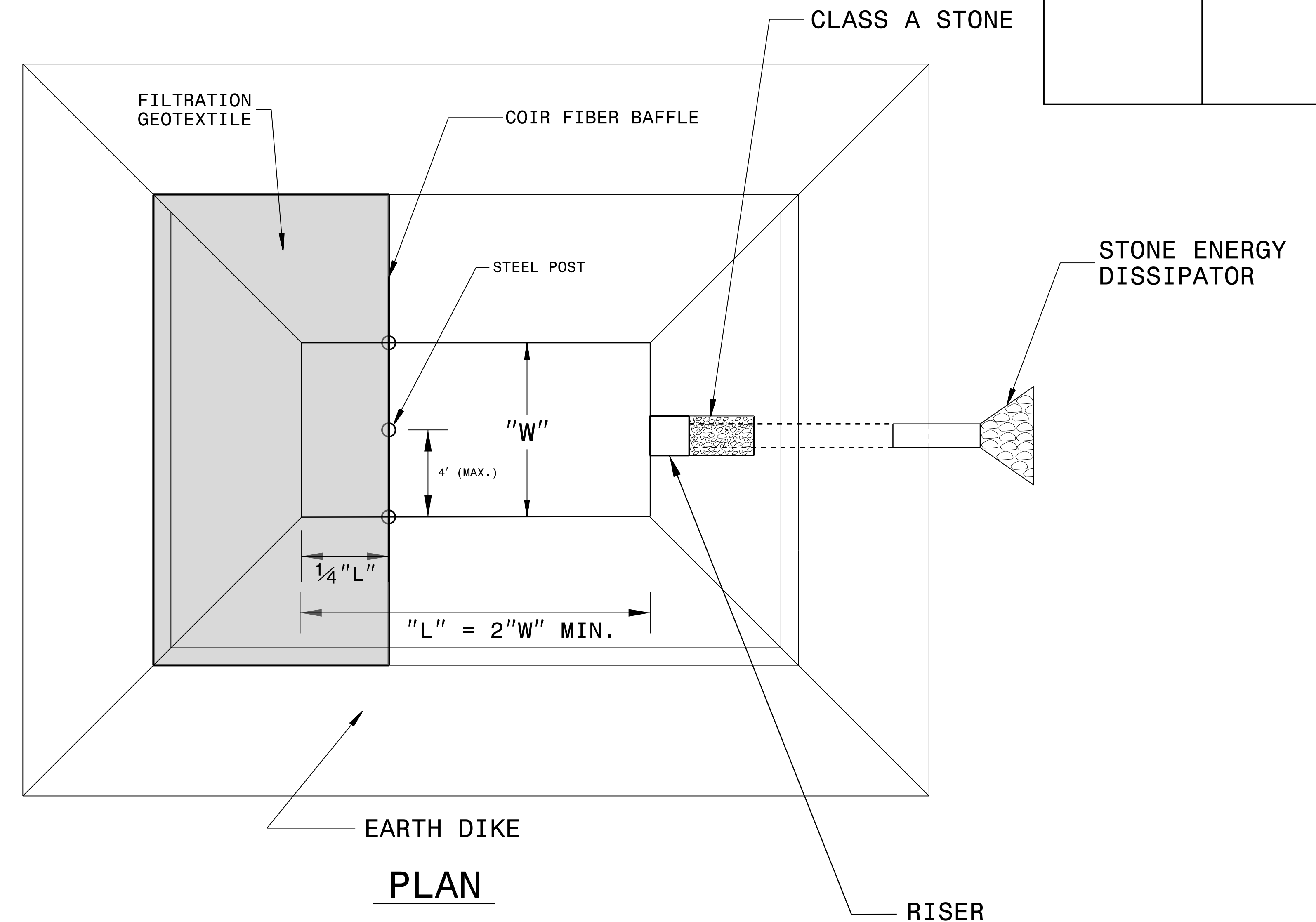
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

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.

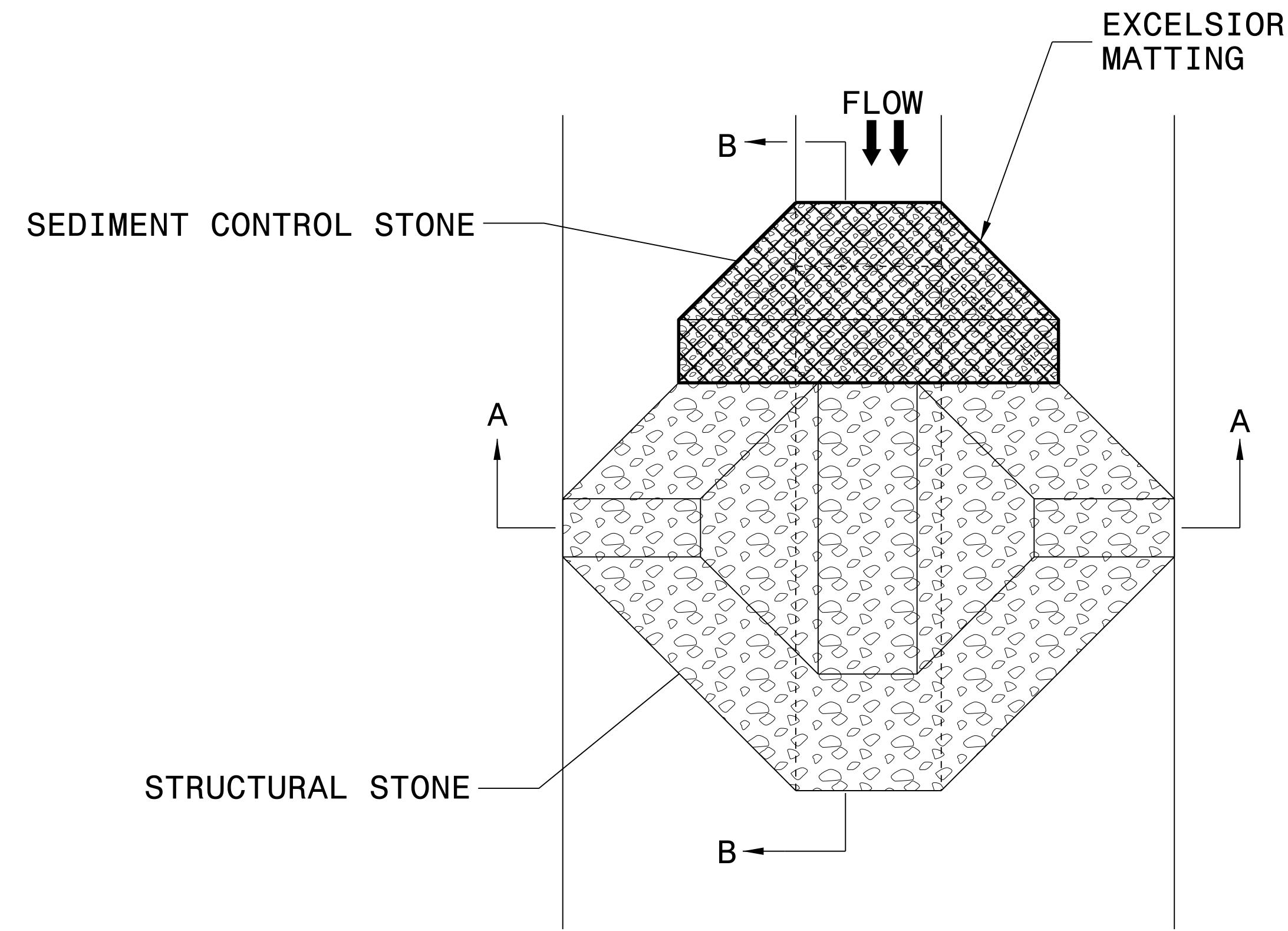
PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.



NOT TO SCALE

PROJECT REFERENCE NO. U-3334B	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN

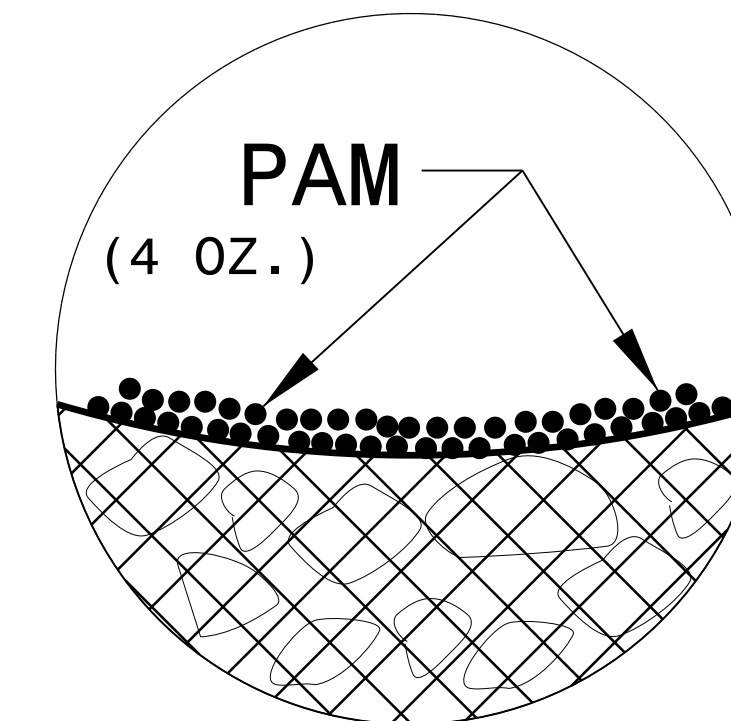
NOTES:

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

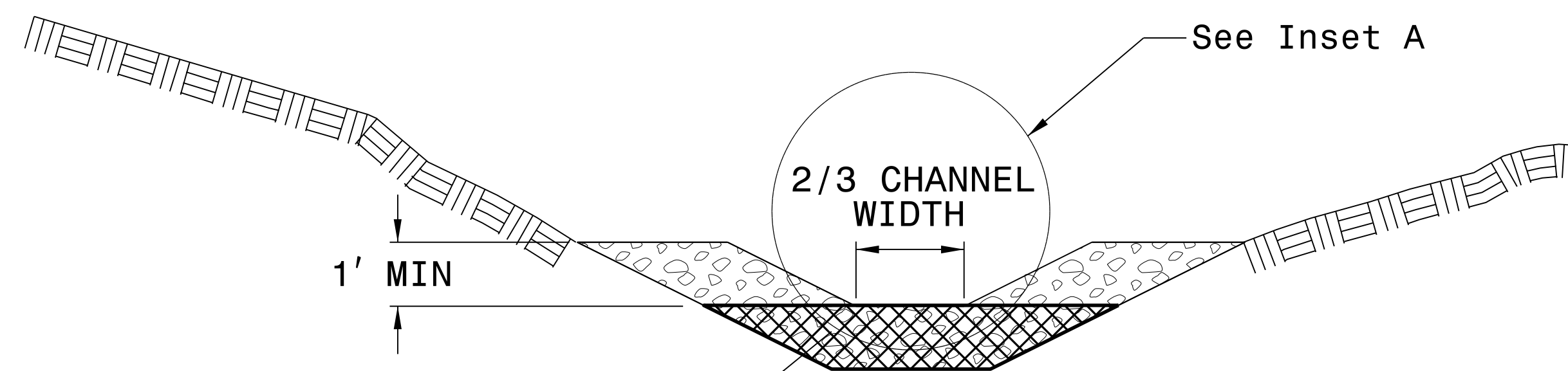
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

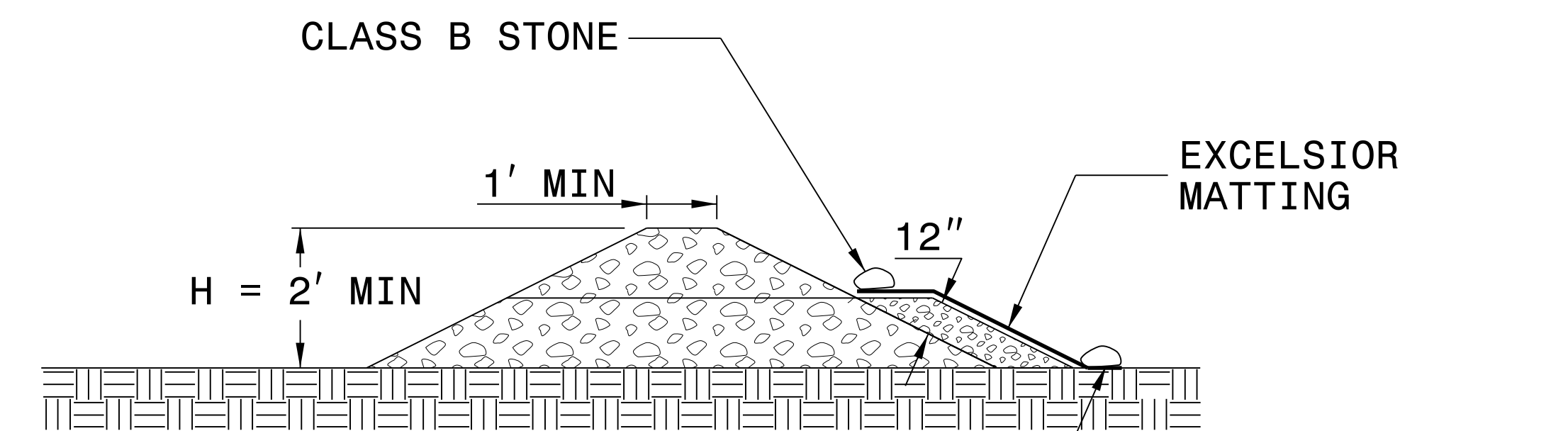
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A

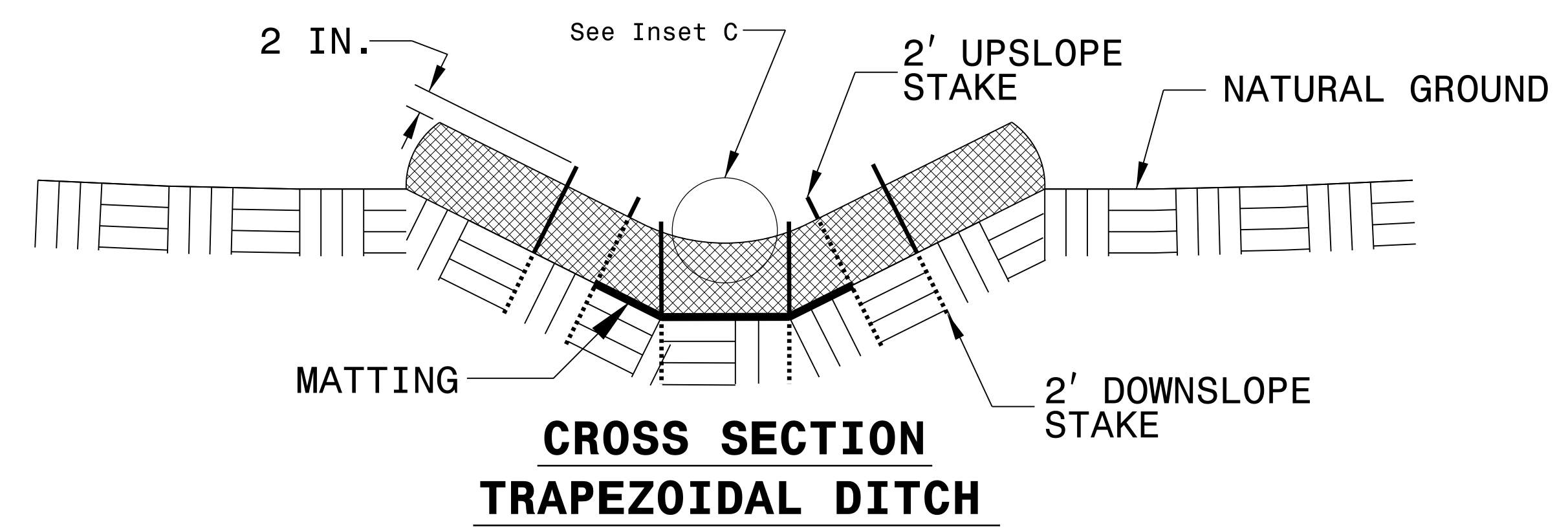
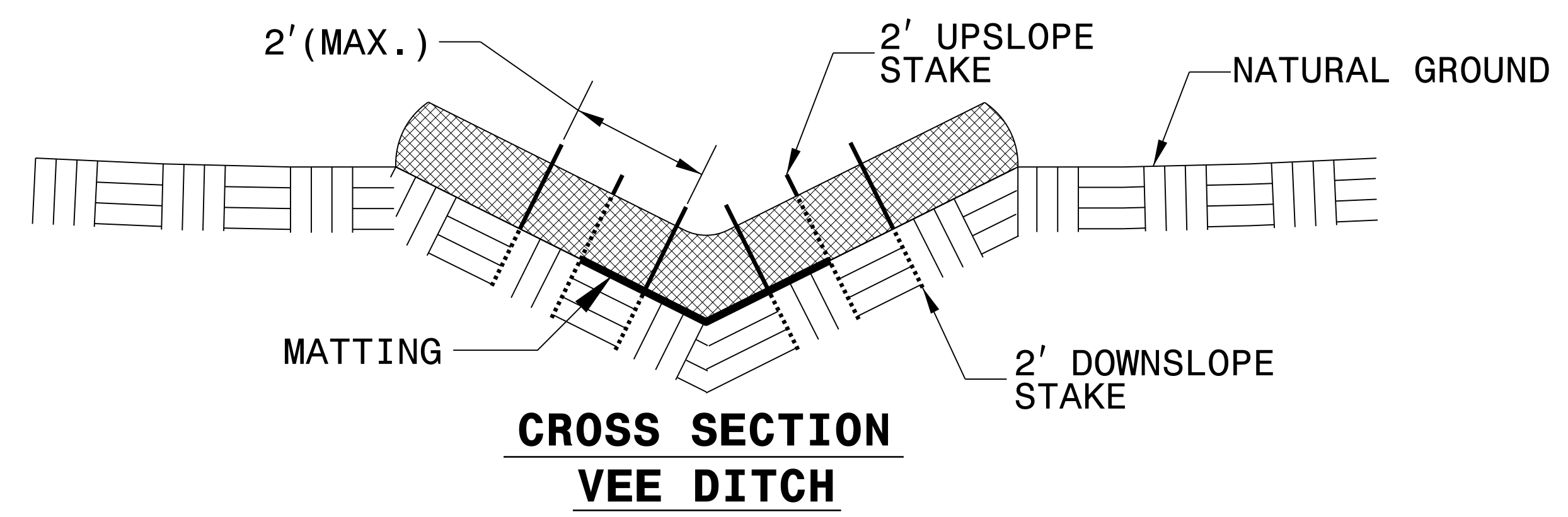
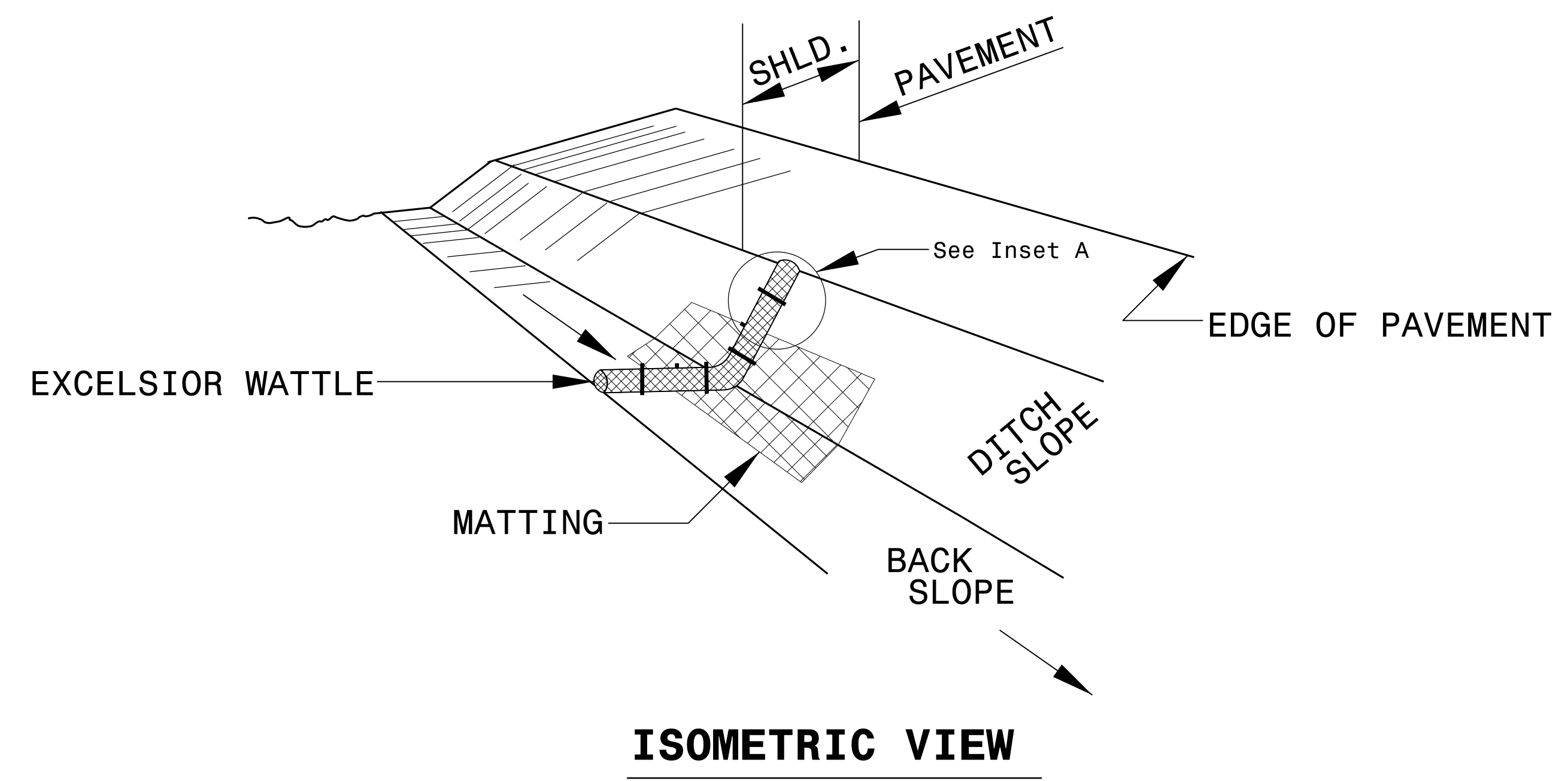


SECTION B-B

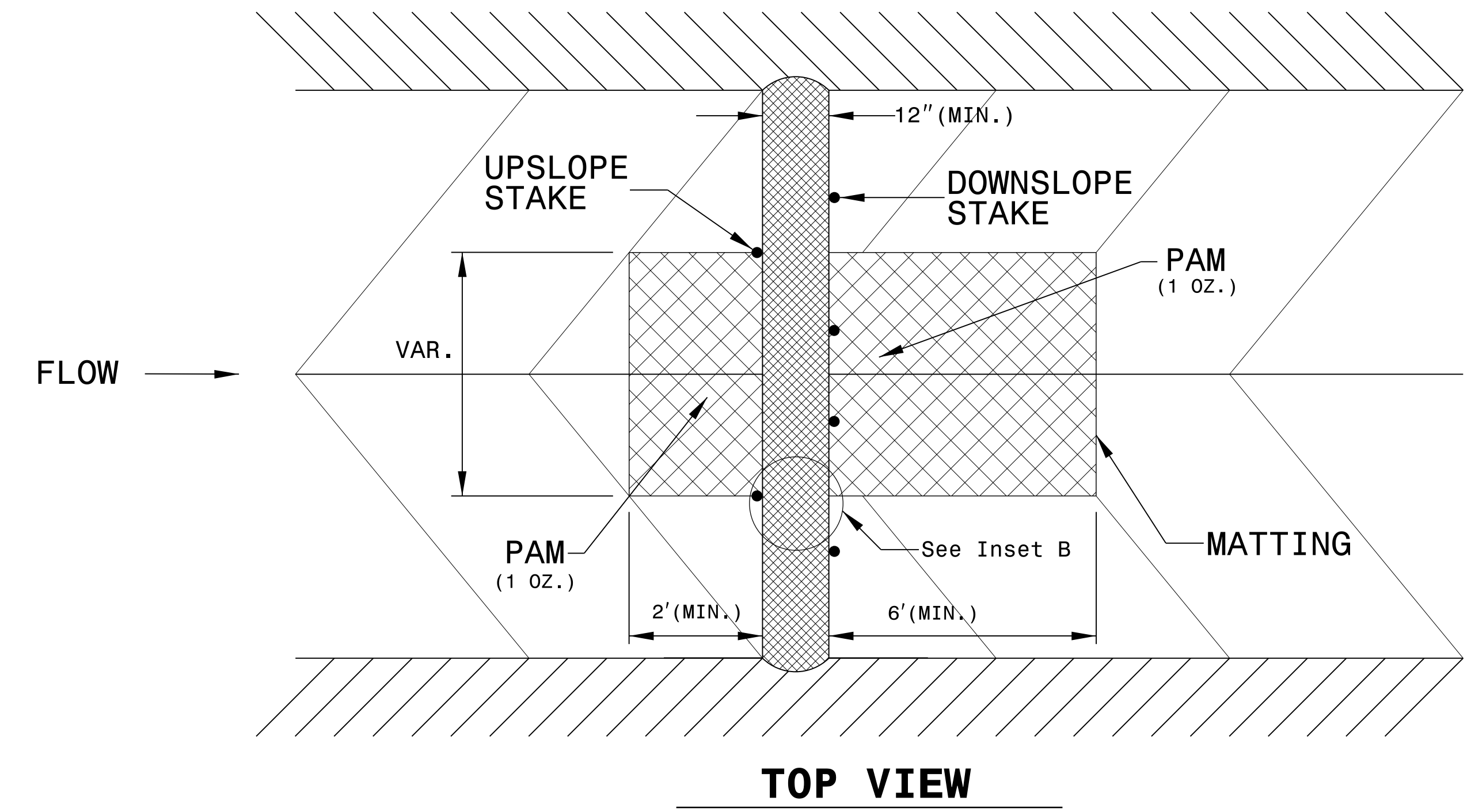
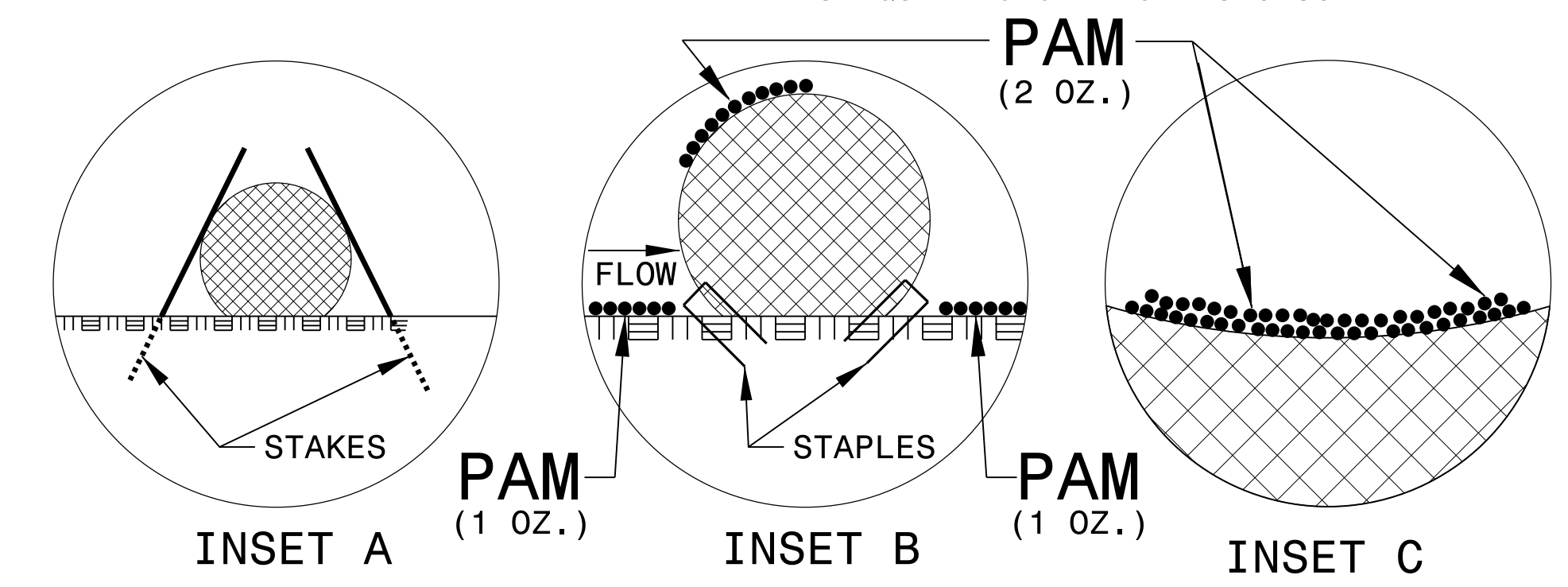
NOT TO SCALE

PROJECT REFERENCE NO. U-3334B	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

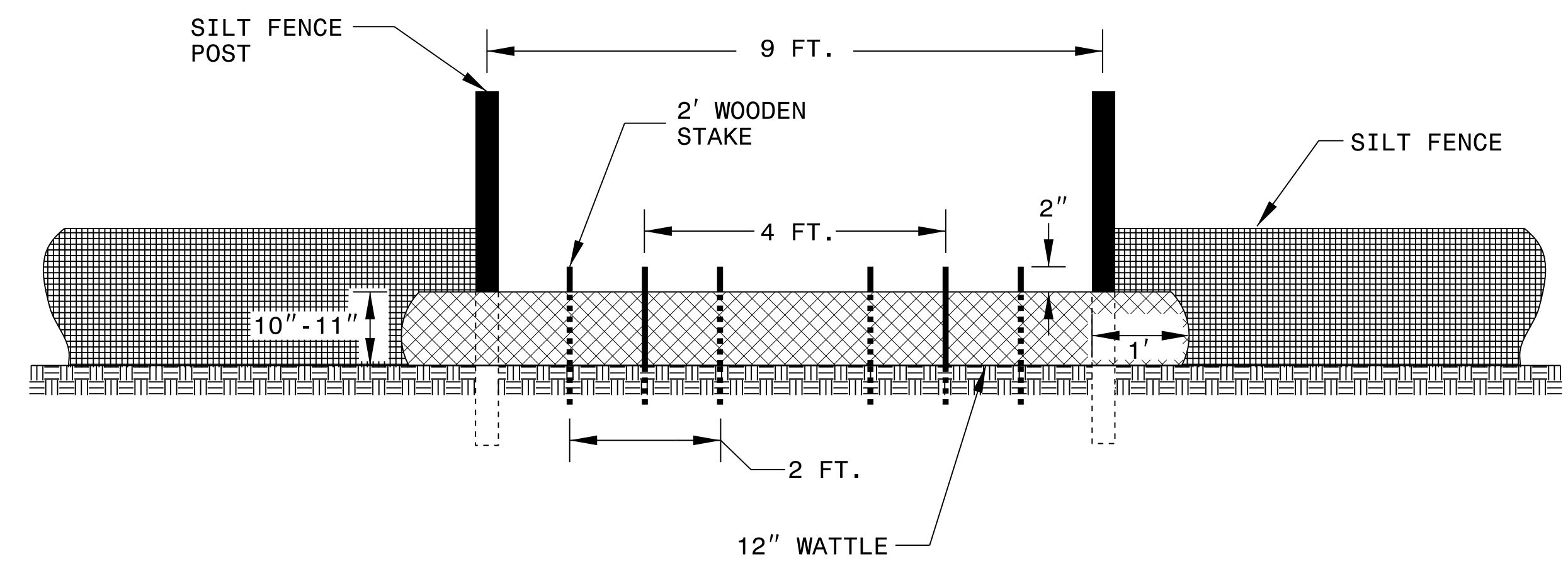
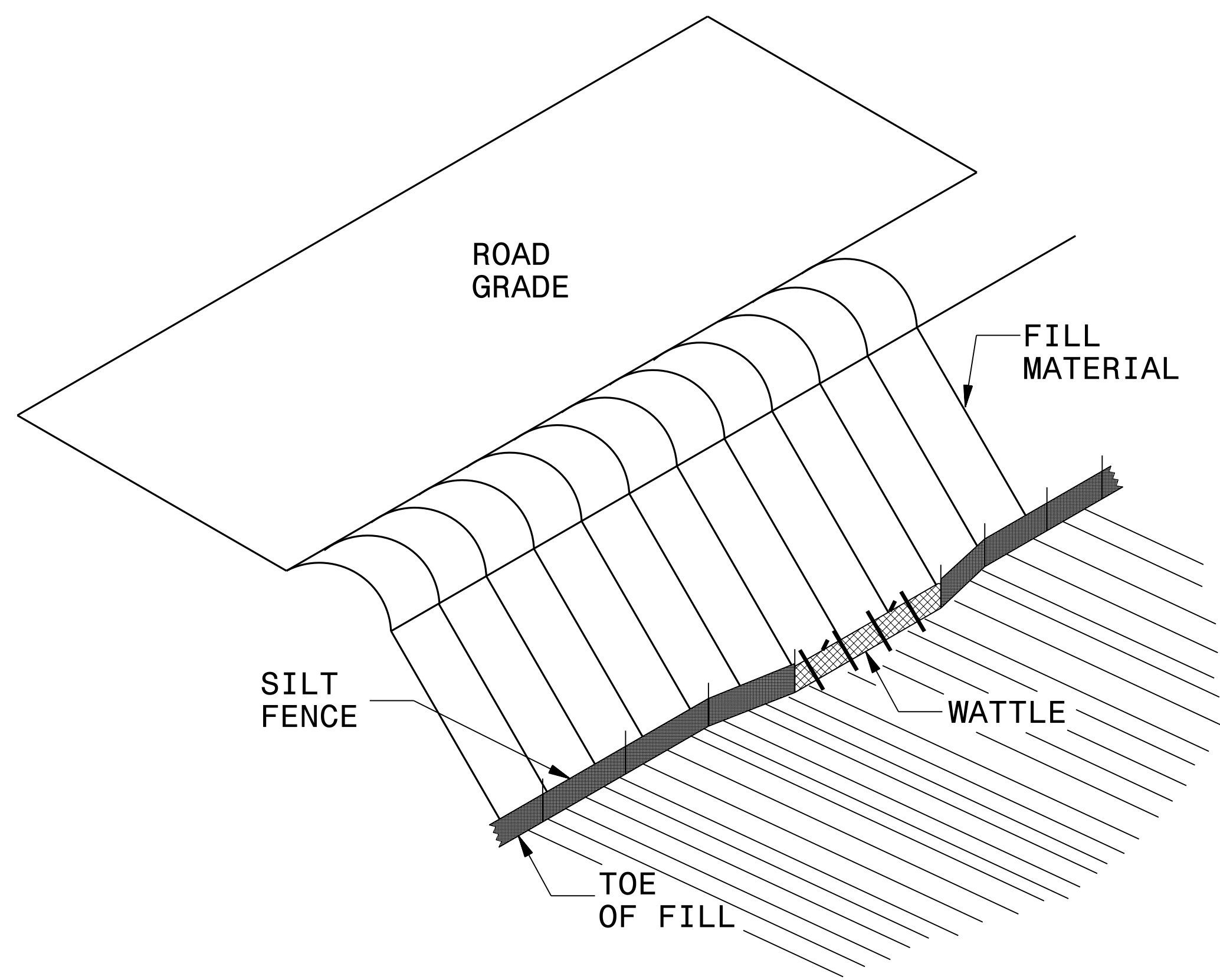


- NOTES:
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
 - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE 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

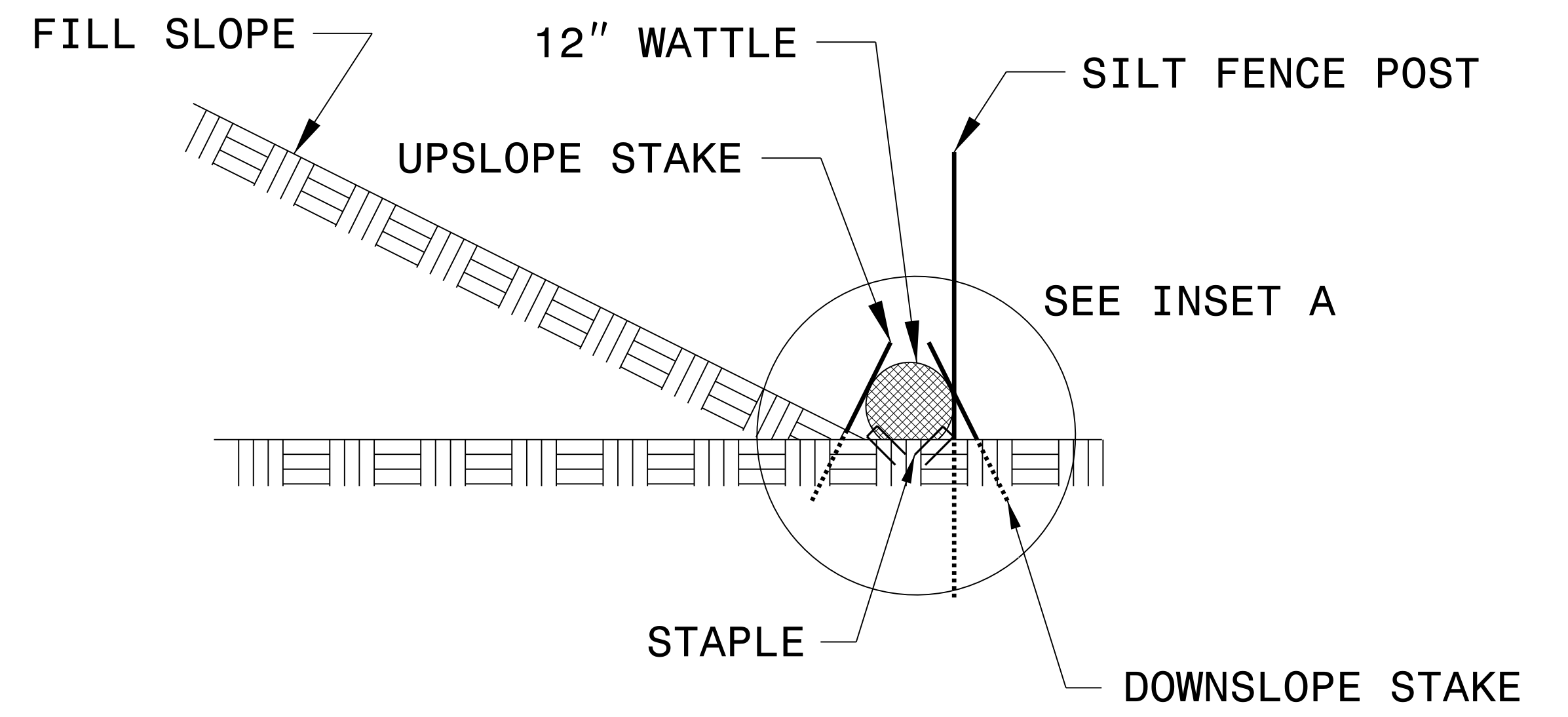
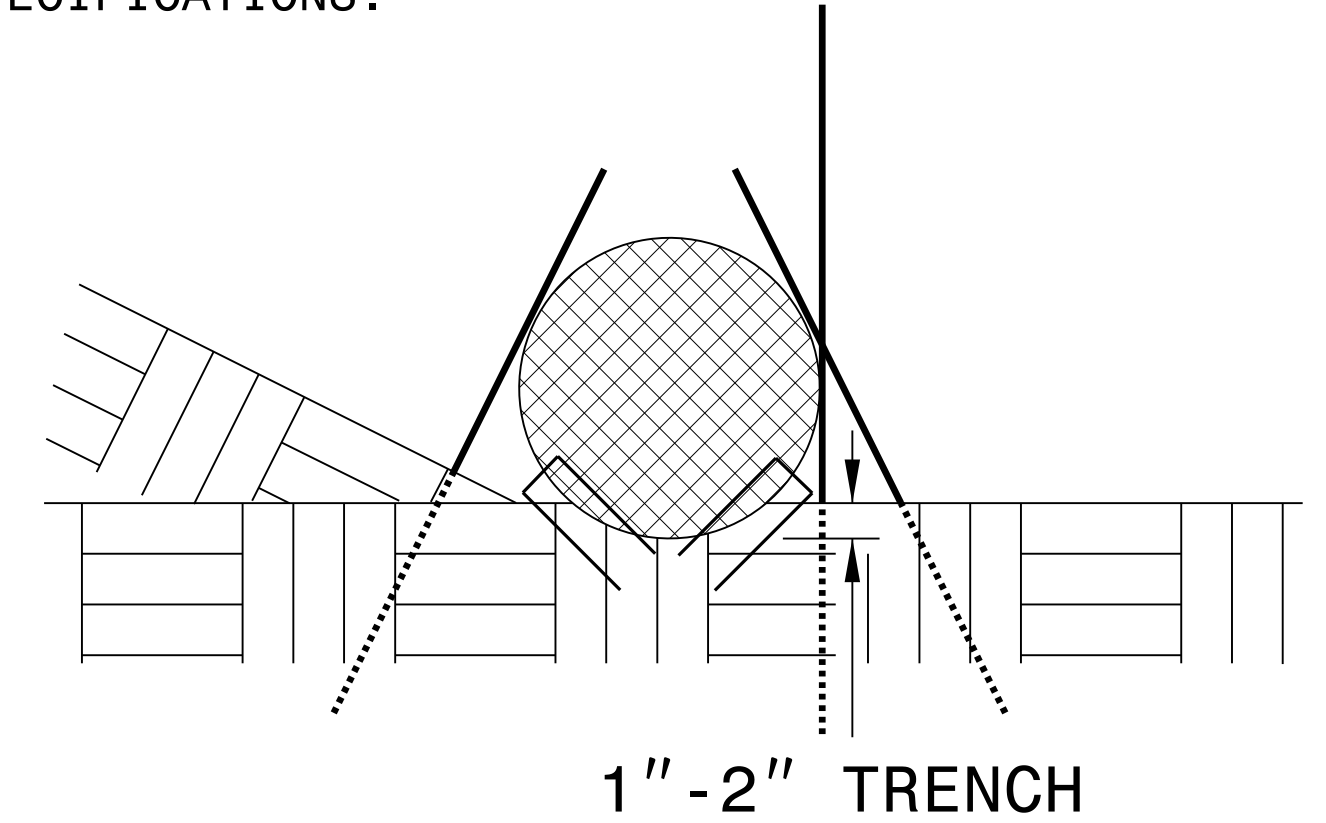
PROJECT REFERENCE NO. U-3334B	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>U-3334B</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-L-	26+50	27+18	RT	185
5	-L-	29+00	31+50	RT	480
5	-Y-	21+03	22+05	RT	130
8	-L-	67+62	71+50	RT	745
			SUBTOTAL		1,540
			MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER		7,320
			TOTAL		8,860
			SAY		9,000

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
12	-L-	116+00	116+50	RT	100
			SUBTOTAL		100
			ADDITIONAL PRGM TO BE INSTALLED		0
			TOTAL		100
			SAY		100

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>U-3334B</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

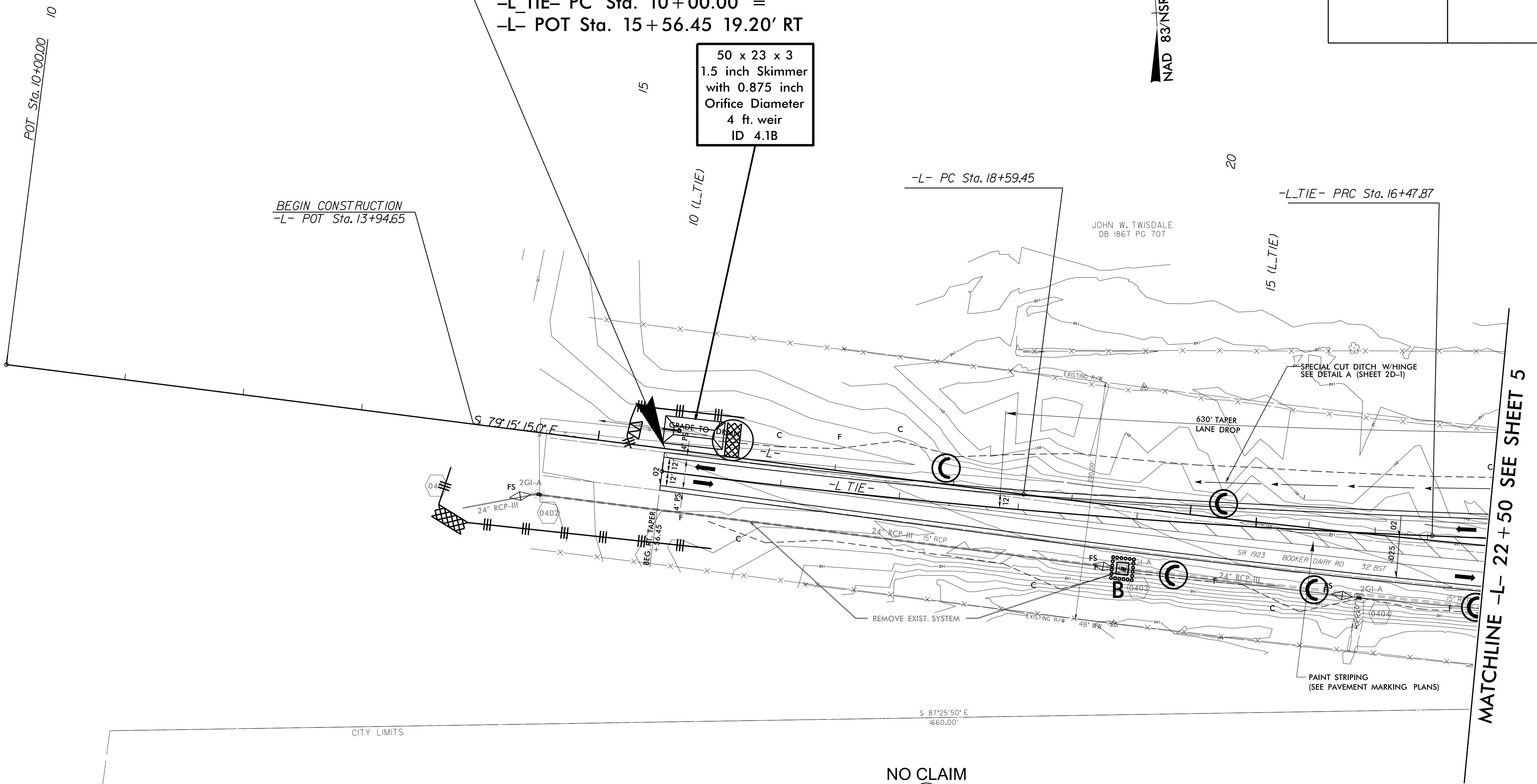
PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BEGIN T.I.P. PROJECT U-3334B

-L_TIE- PC Sta. 10+00.00 =
 -L- POT Sta. 15+56.45 19.20' RT

50 x 23 x 3
 1.5 inch Skimmer
 with 0.875 inch
 Orifice Diameter
 4 ft. weir
 ID 4.1B

NAD 83/NRS 2007



8/17/99

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 REVISION 1

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 4

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

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-5/CONST-5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

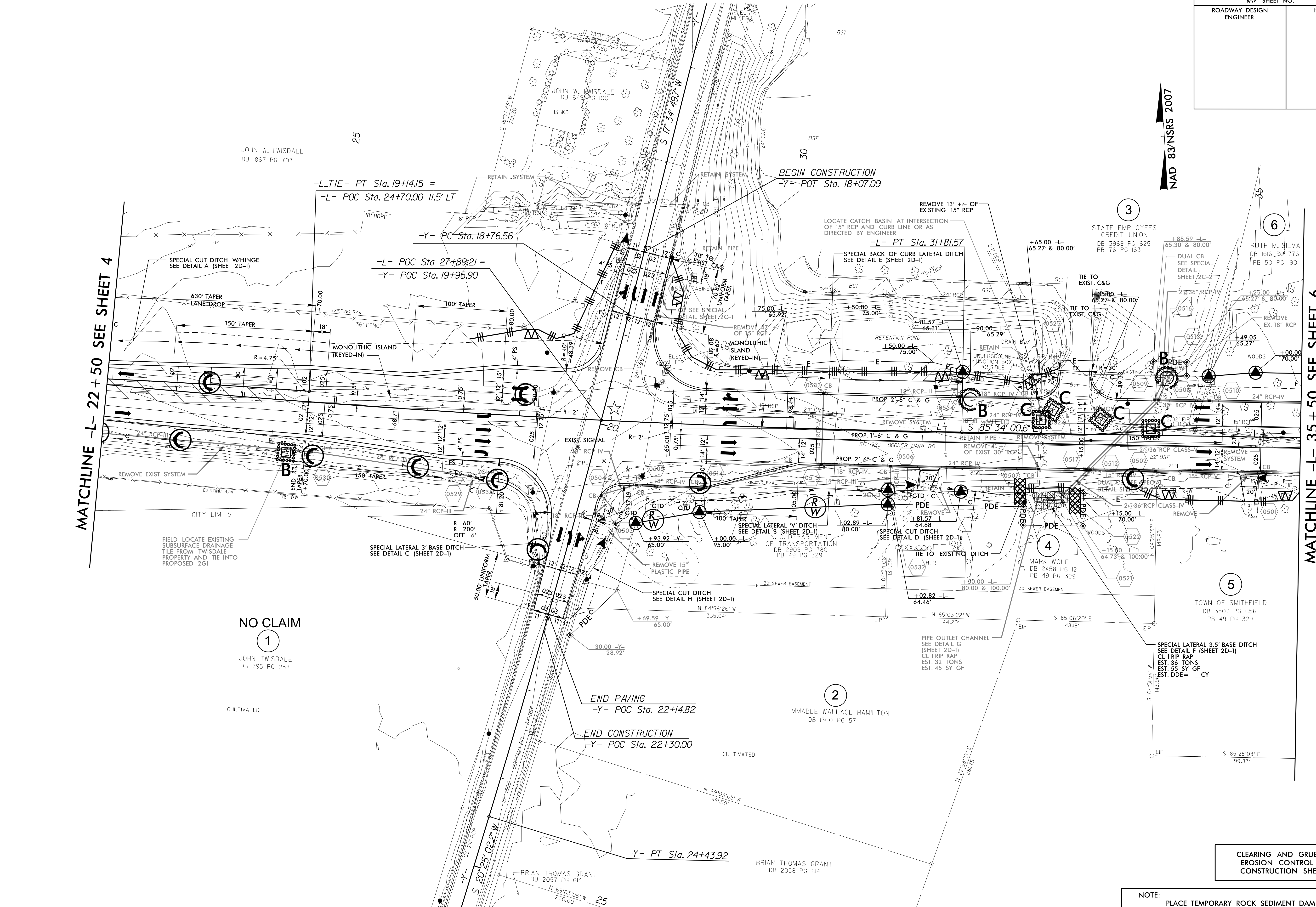
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MATCHLINE -L- 22 + 50 SEE SHEET 4

MATCHLINE -L- 35 + 50 SEE SHEET 6

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 REVISION 1



NO CLAIM
 1
 JOHN TWISDALE
 DB 795 PG 258

END PAVING
 -Y- POC Sta. 22+14.82

END CONSTRUCTION
 -Y- POC Sta. 22+30.00

-Y- PT Sta. 24+43.92

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

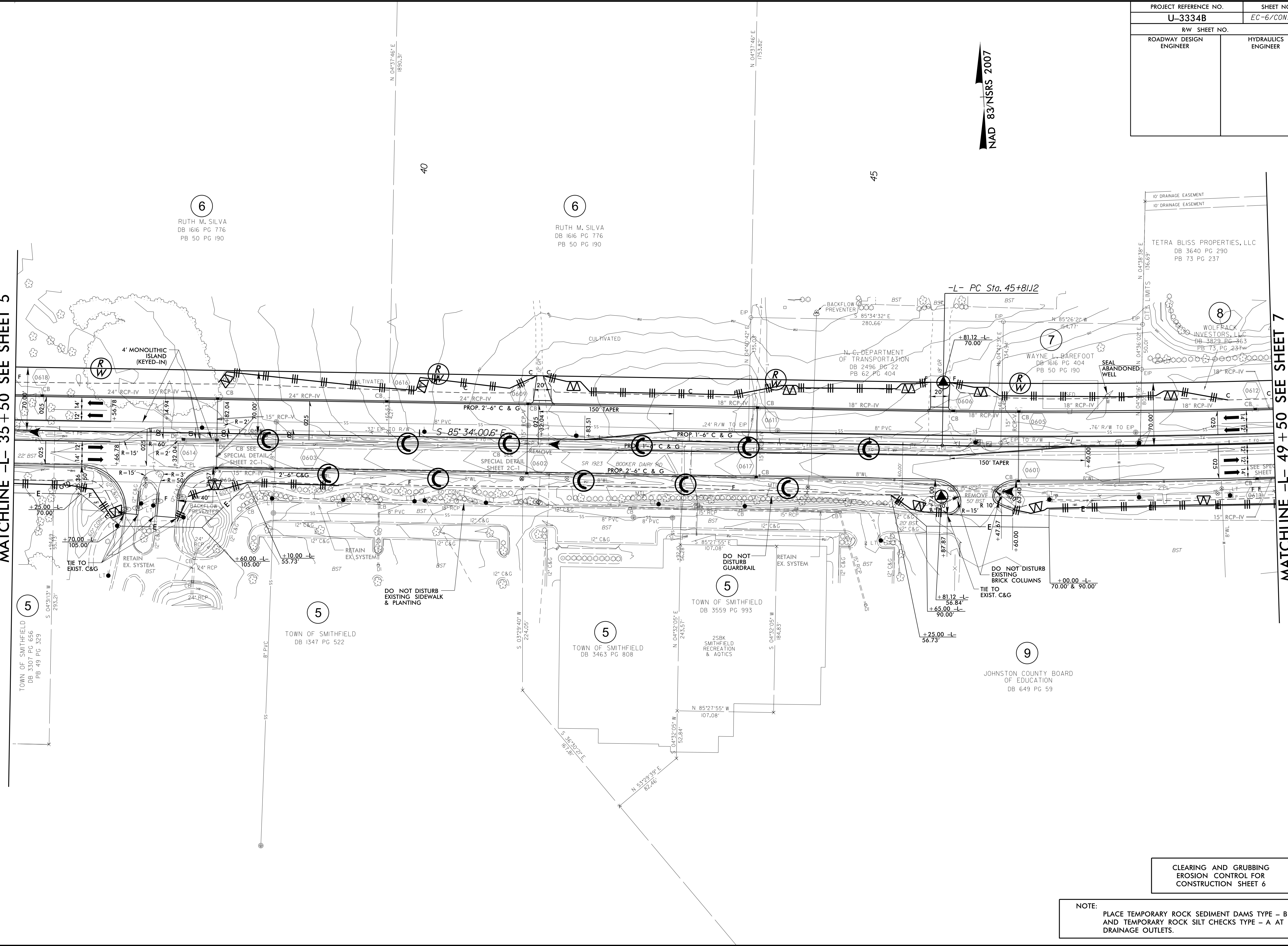
CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 5

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-6/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007

MATCHLINE -L- 35 + 50 SEE SHEET 5

MATCHLINE -L- 49 + 50 SEE SHEET 7



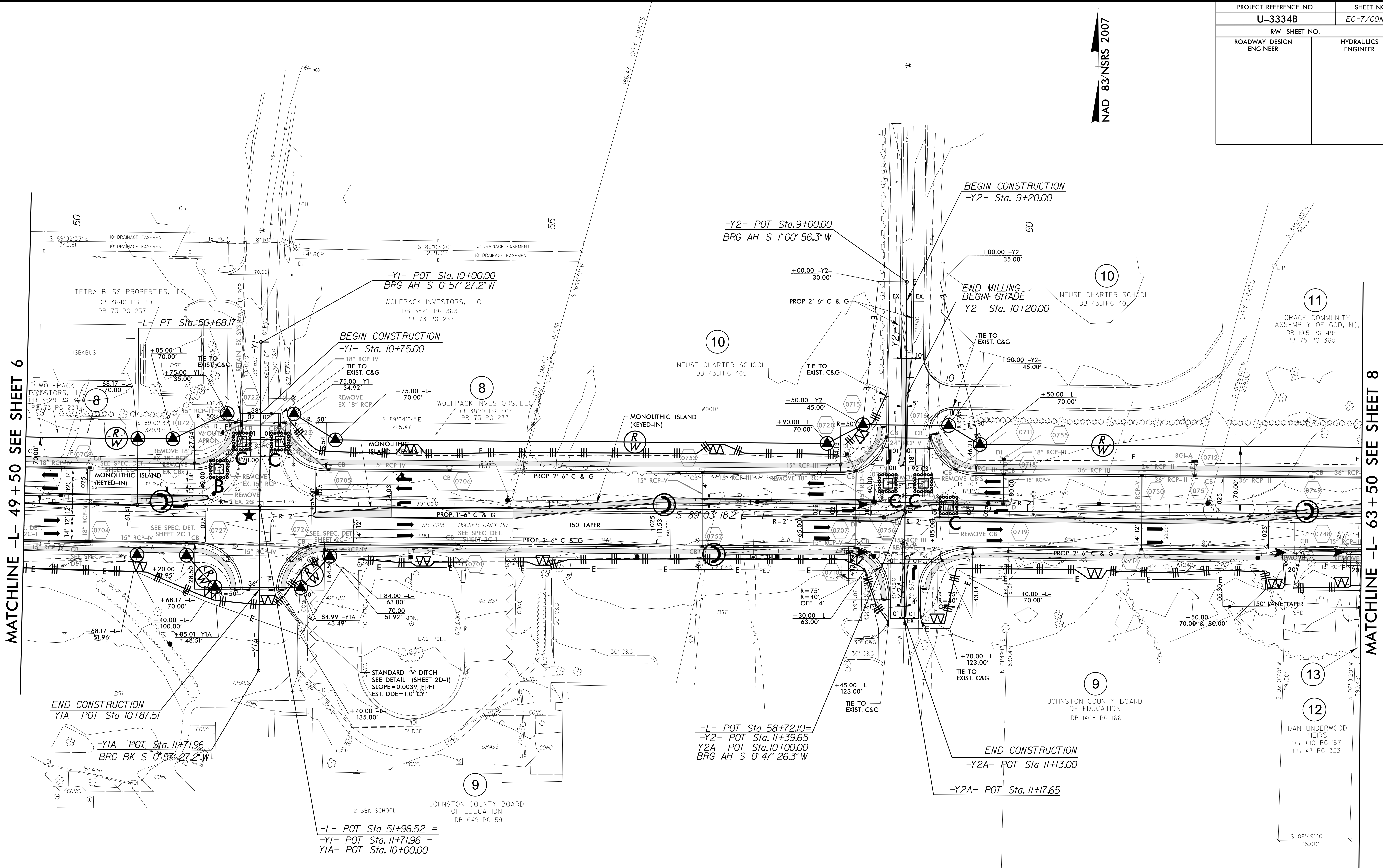
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

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

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PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-7/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



MATCHLINE -L- 49 + 50 SEE SHEET 6

MATCHLINE -L- 63 + 50 SEE SHEET 8

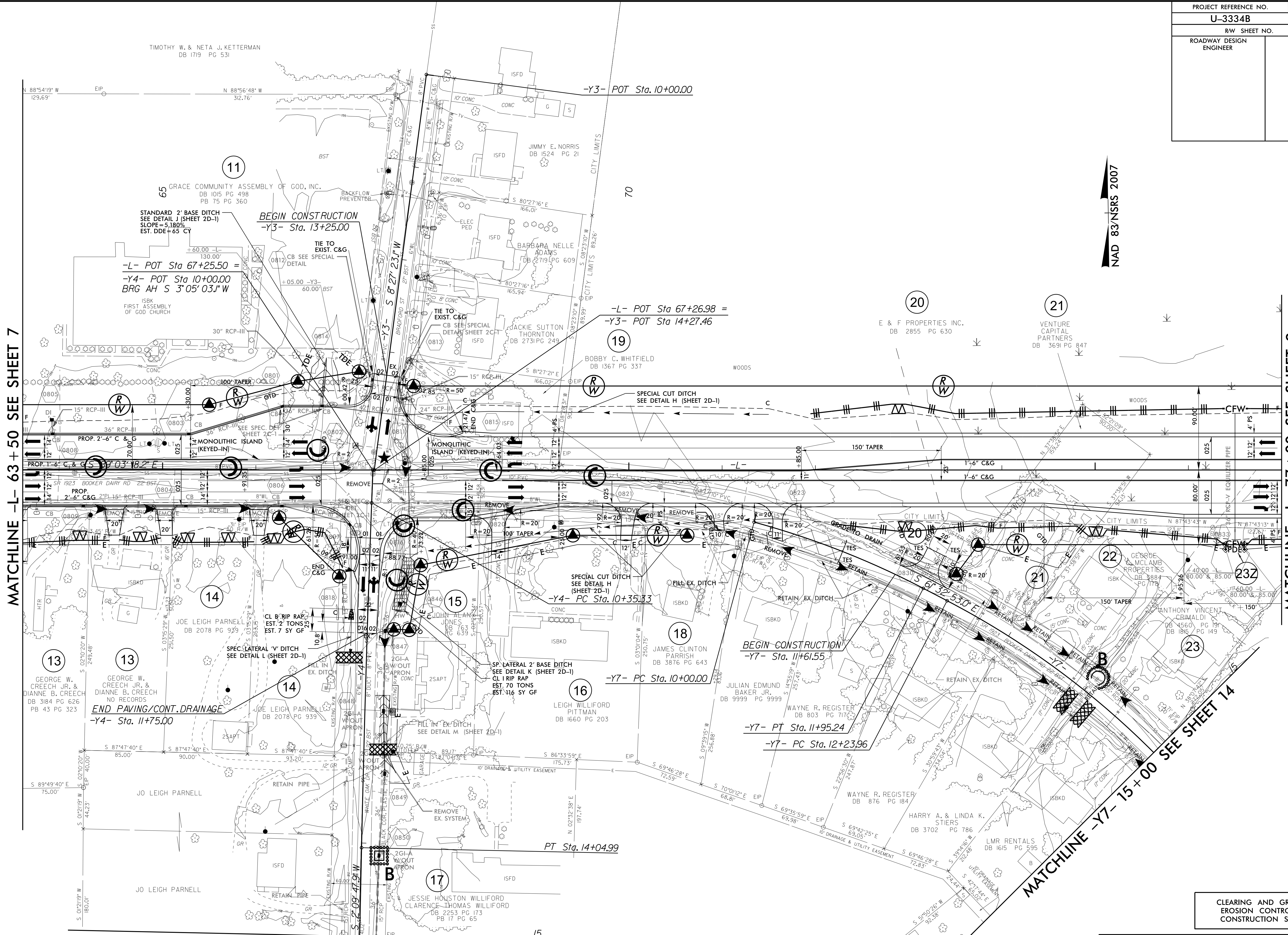
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

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

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REVISION 1/16

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-B/CONST.B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



MATCHLINE -L- 63 + 50 SEE SHEET 7

MATCHLINE -L- 77 + 00 SEE SHEET 9

MATCHLINE -Y7- 15 + 00 SEE SHEET 14

MATCHLINE -Y4- 15 + 00 SEE SHEET 13

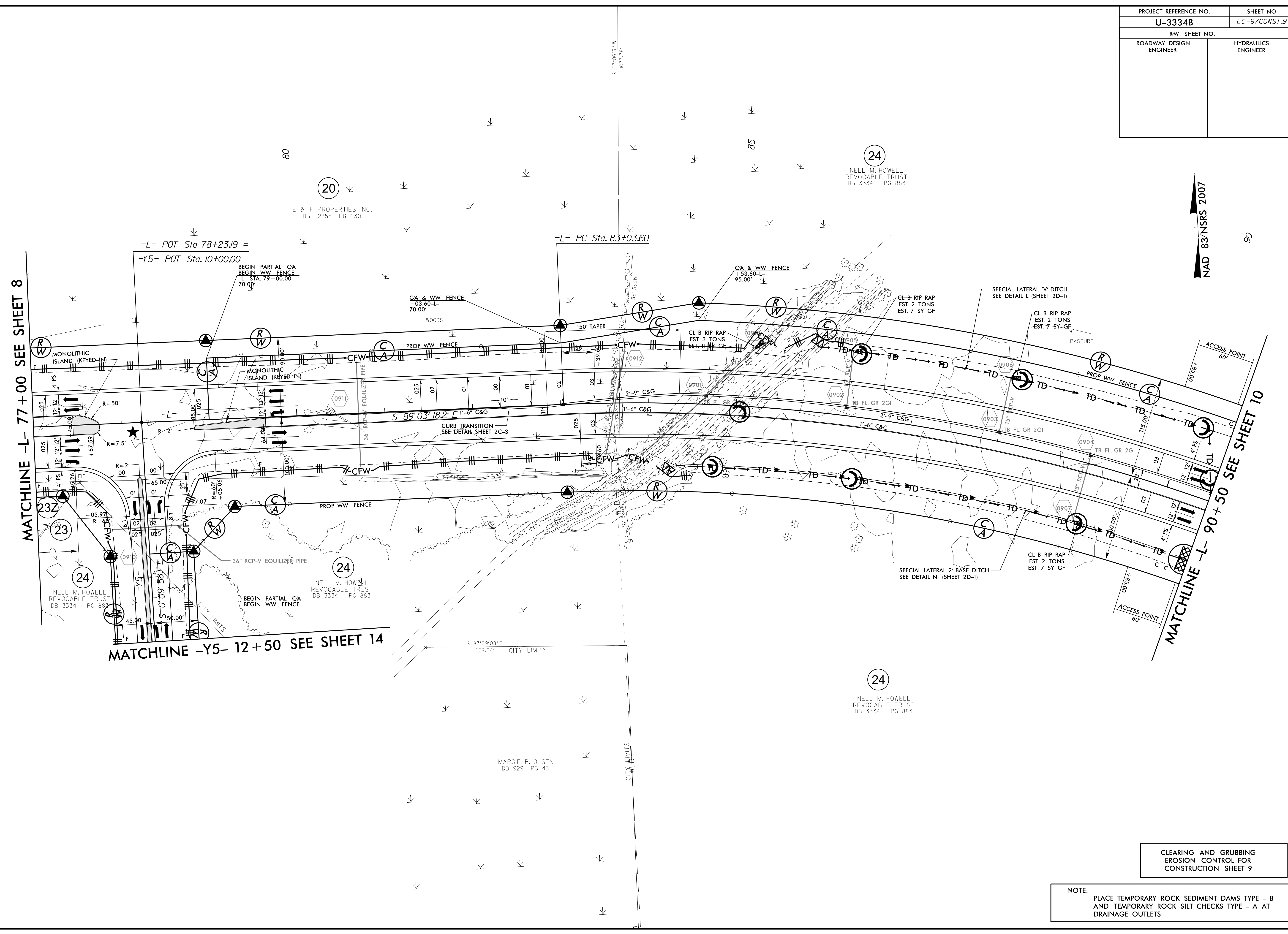
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PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-9/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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 REVISION 116



CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 9

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

PROJECT REFERENCE NO. U-3334B	SHEET NO. EC-10/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

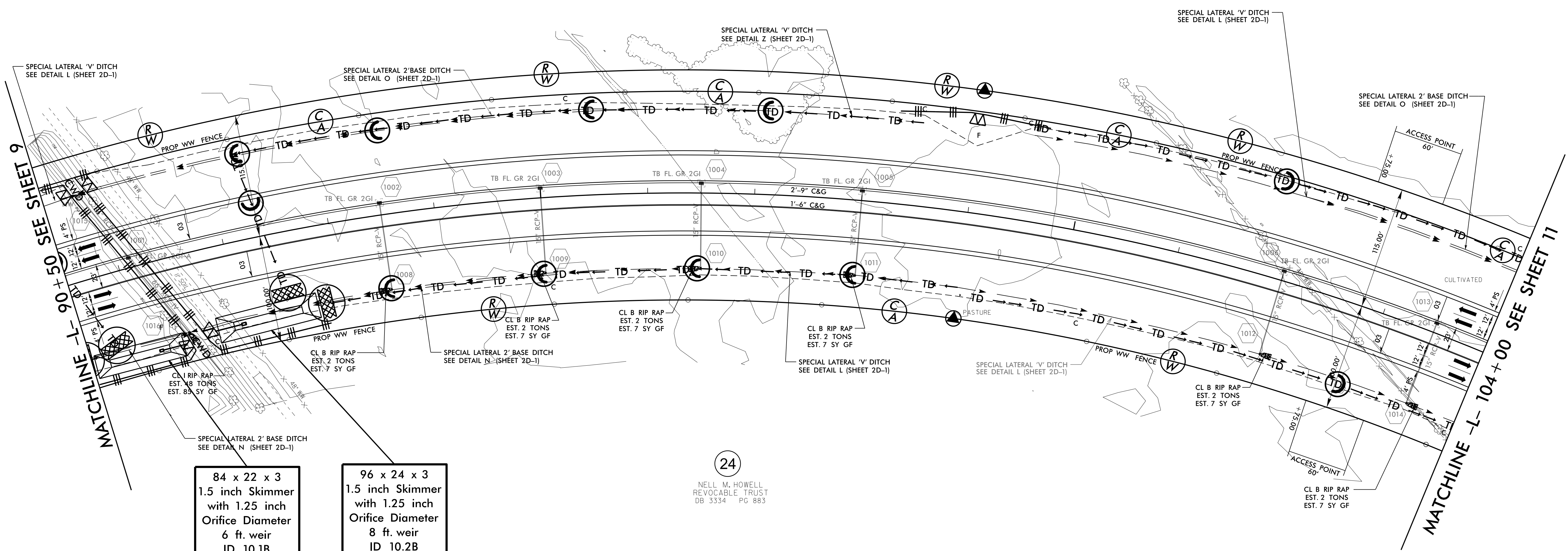
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NELL M. HOWELL
REVOCABLE TRUST
DB 3334 PG 883

95

100



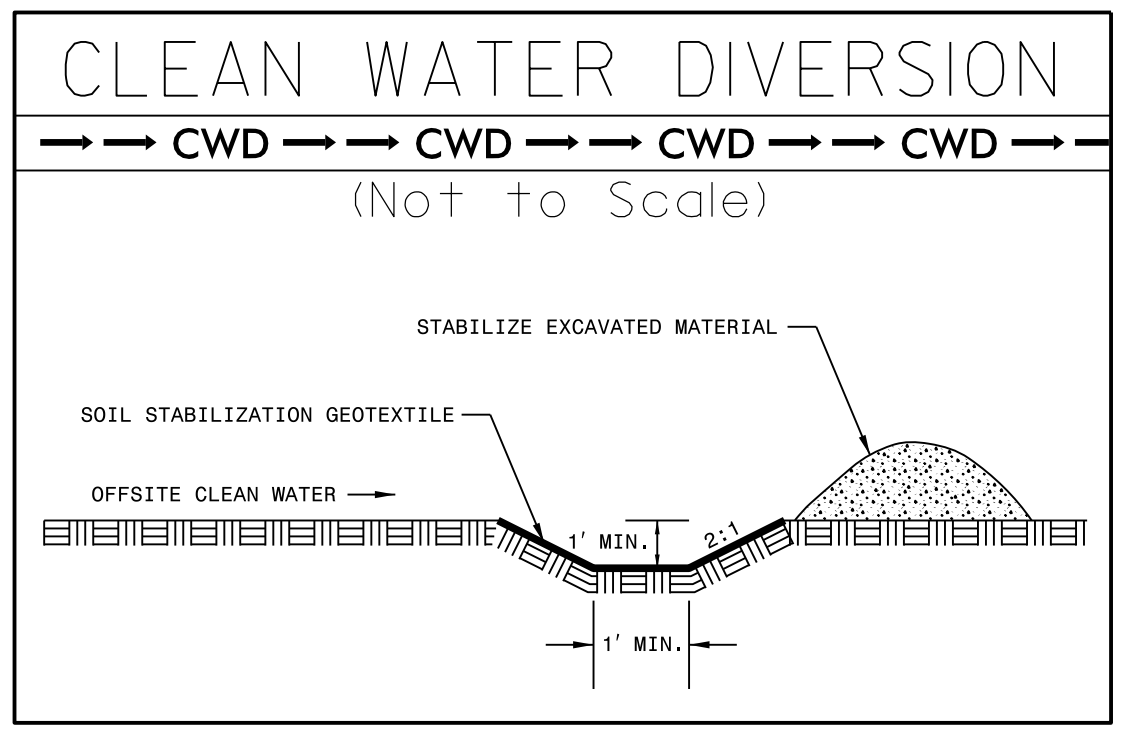
84 x 22 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
6 ft. weir
ID 10.1B

96 x 24 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID 10.2B

24

NELL M. HOWELL
REVOCABLE TRUST
DB 3334 PG 883

INSTALL 66" RCP-IV DURING
CLEARING & GRUBBING PHASE



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

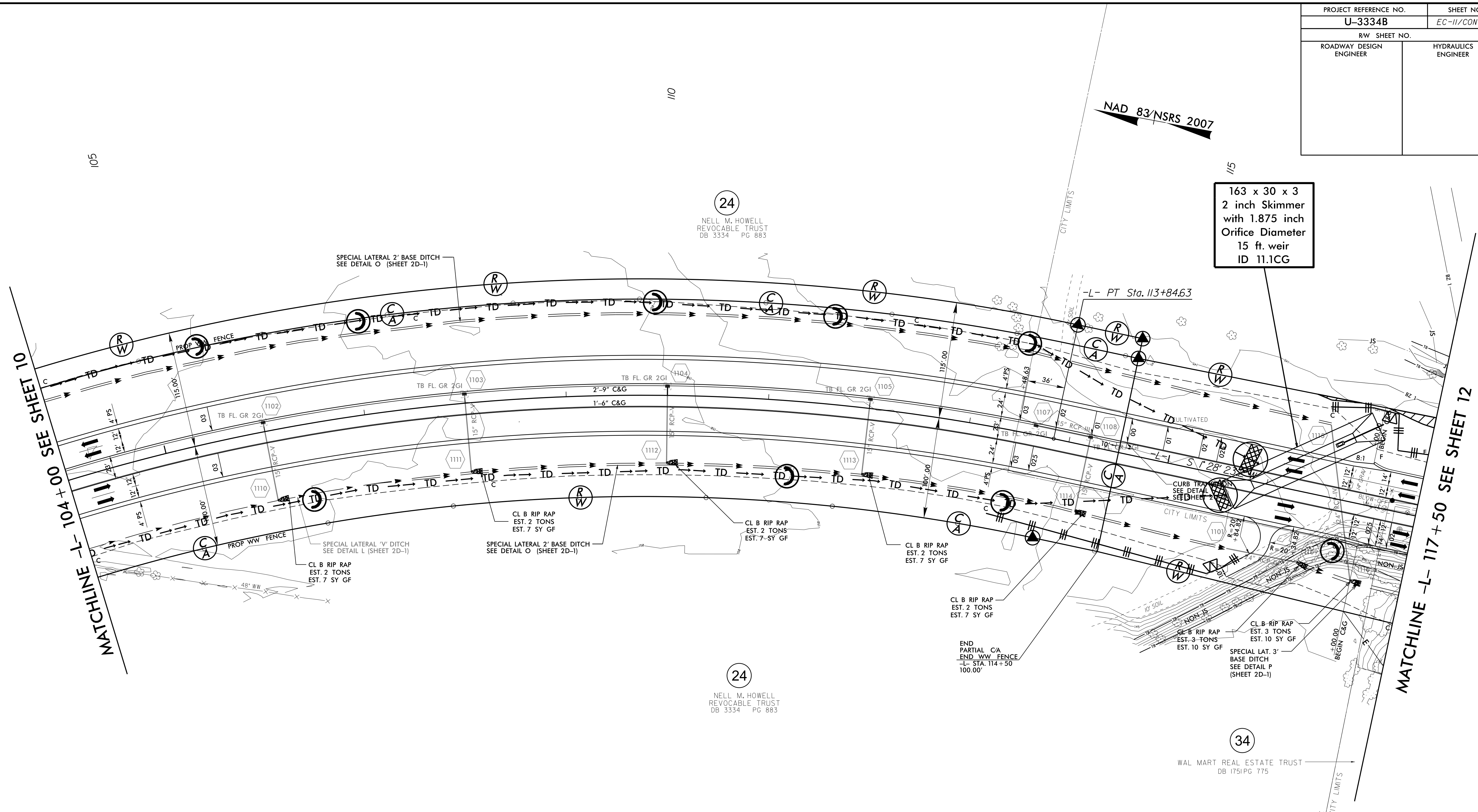
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

8/17/99

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REVISION 1/16

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-II/CONST.II
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

163 x 30 x 3
2 inch Skimmer
with 1.875 inch
Orifice Diameter
15 ft. weir
ID 11.1CG



 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11

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

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PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-12/CONST.2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NAD 83/NSRS 2007

RDWY: PLEASE PDE IS WITHIN

END T.I.P. PROJECT U-3334B
-L- POT 127+72.65

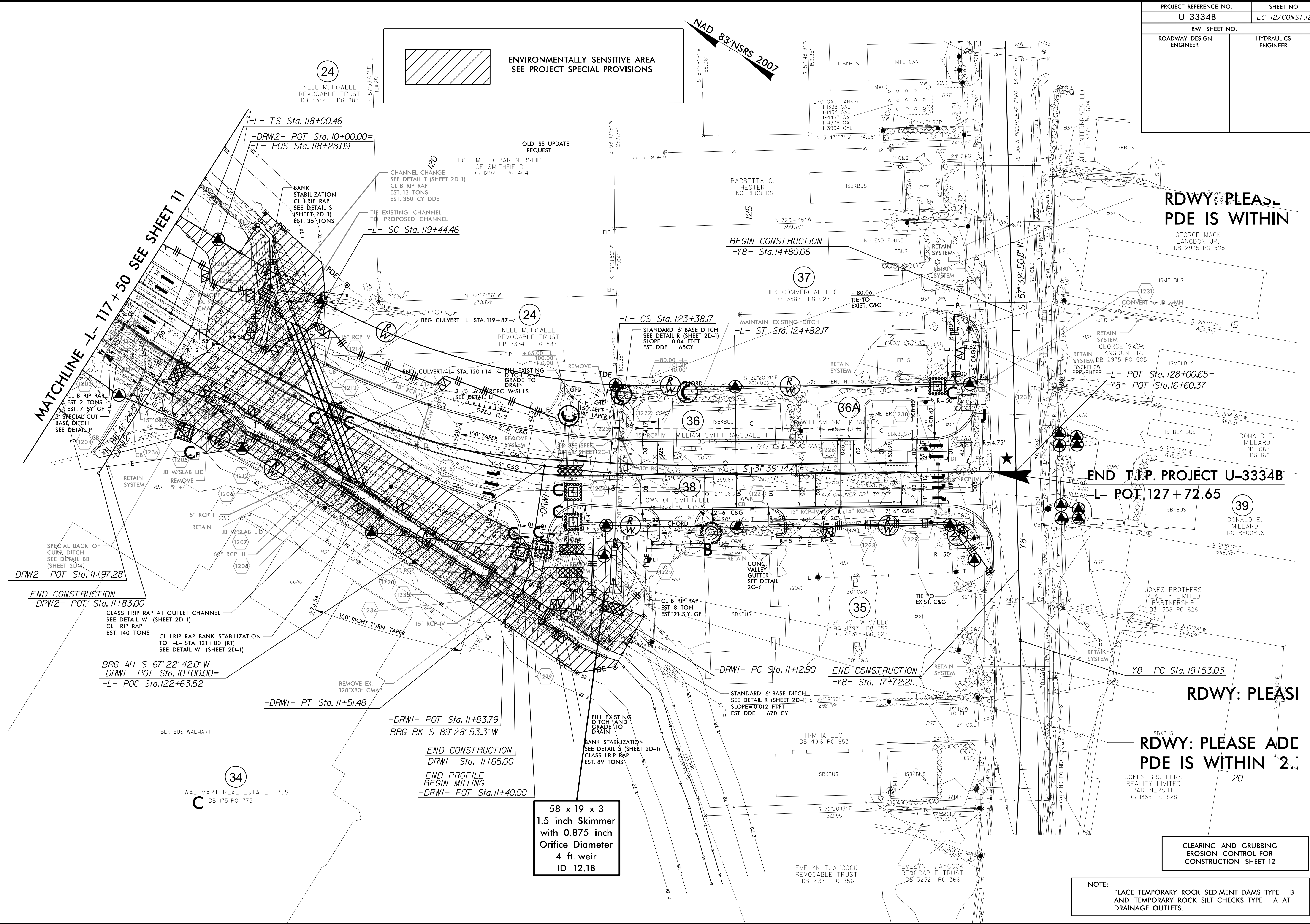
RDWY: PLEASE

RDWY: PLEASE ADD PDE IS WITHIN 2.0'

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 12

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

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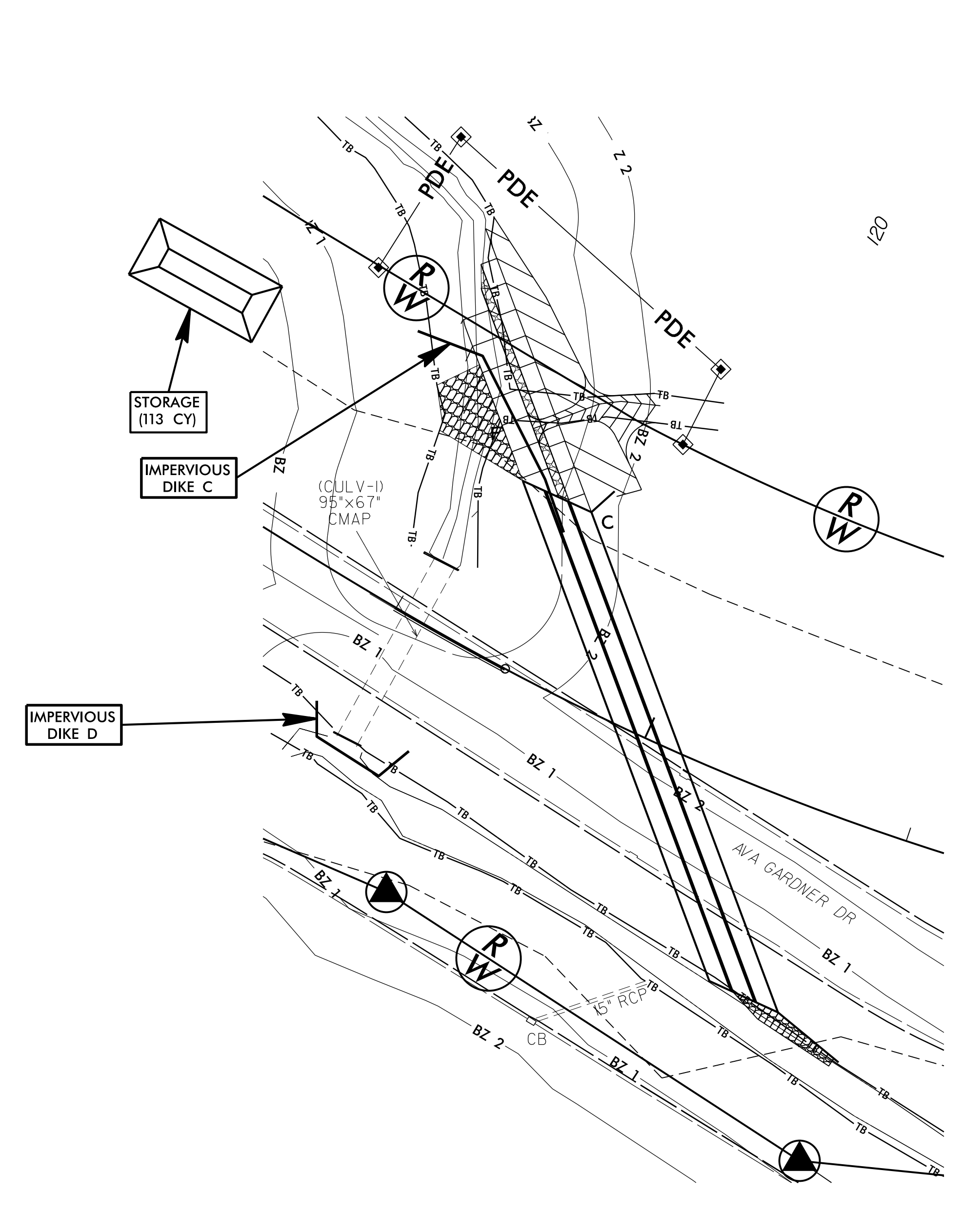
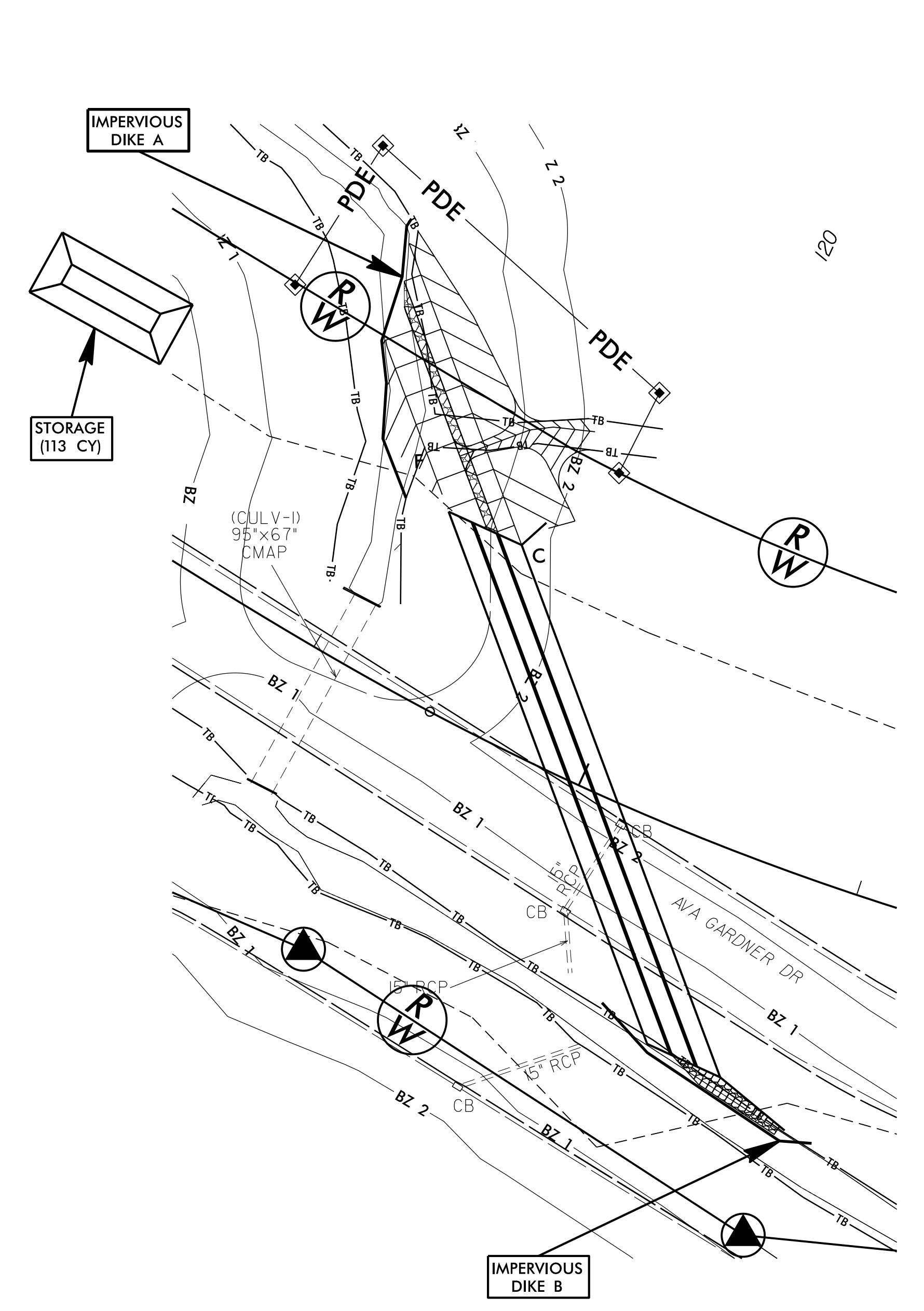
CULVERT CONSTRUCTION SEQUENCE STA. 120+00 -L-

PHASE I

1. INSTALL TEMPORARY STILLING BASIN (113 CUBIC YARDS MIN.) ON THE LEFT SIDE OF THE -L-.
2. CONSTRUCT IMPERVIOUS DIKES A AND B.
3. REMOVE EXISTING CB(S) AND 15" RCP SYTSEM AT PROPOSED CULVERT.
4. CONSTRUCT THE PROPOSED CULVERT, LEAVING APPROPRIATE OPENINGS FOR THE PROPOSED 15" RCP(S). CONSTRUCT AS MUCH OF THE PROPOSED HEADWALLS AND WINGWALLS AS POSSIBLE ON BOTH THE CULVERT INLET AND OUTLET.
5. CONSTRUCT THE INLET CHANNEL WORK.
6. CONSTRUCT OUTLET CHANNEL BANK STABILIZATION FOR LEFT BANK.
7. REMOVE IMPERVIOUS DIKES A AND B.

PHASE II

8. INSTALL IMPERVIOUS DIKES C AND D TO DIVERT FLOW INTO CENTRAL CULVERT BARREL.
9. REMOVE THE EXISTING CULVERT, PUMPING EFFLUENT INTO STILLING BASIN.
10. COMPLETE THE NORTH BANK INLET CHANNEL WORK AND WING-WALL ON THE PROPOSED CULVERT INLET. FILL IN EXISITING CHANNEL WITH SUITABLE UNCLASSIFIED MATERIAL.
11. REMOVE IMPERVIOUS DIKE D.



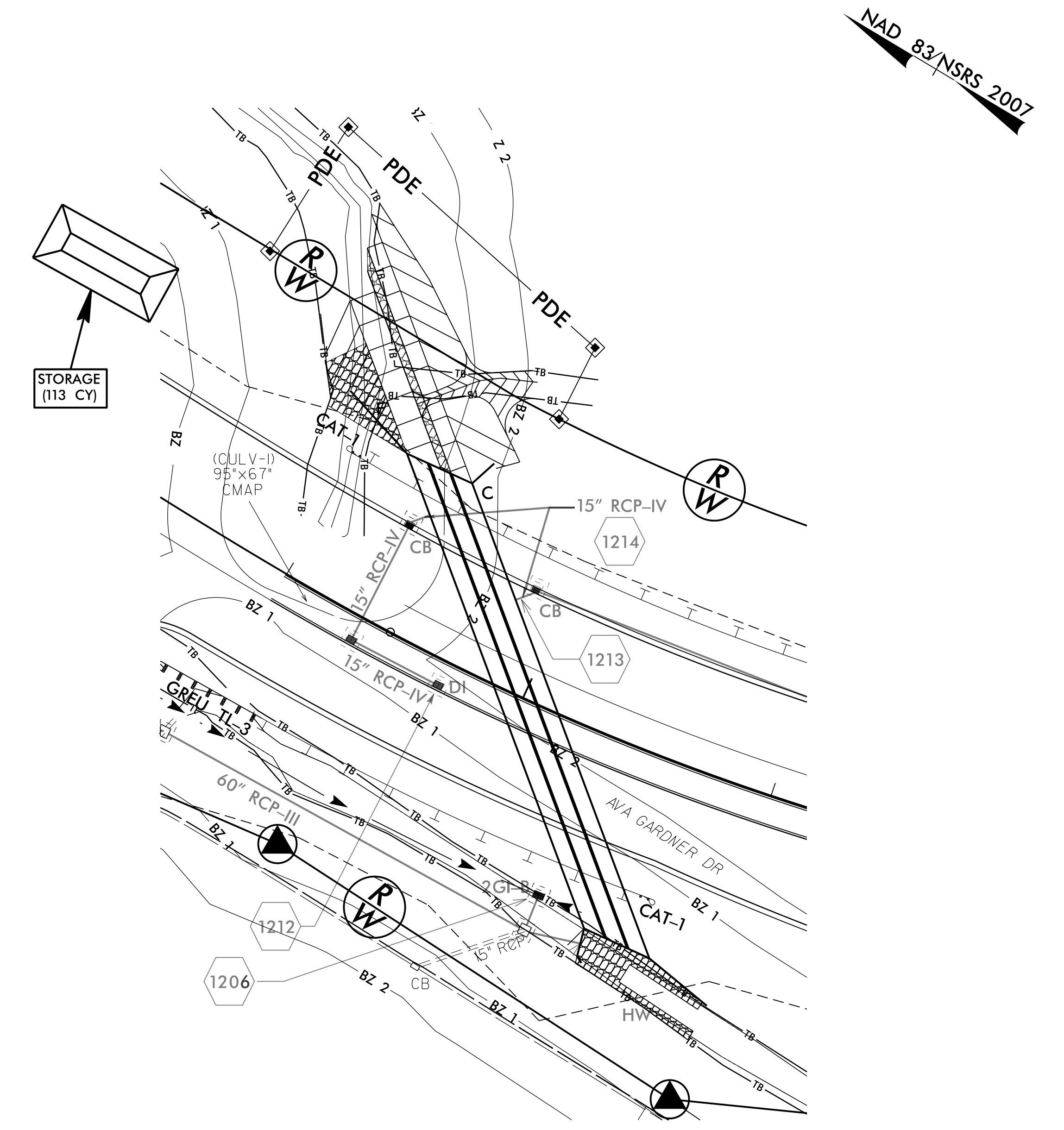
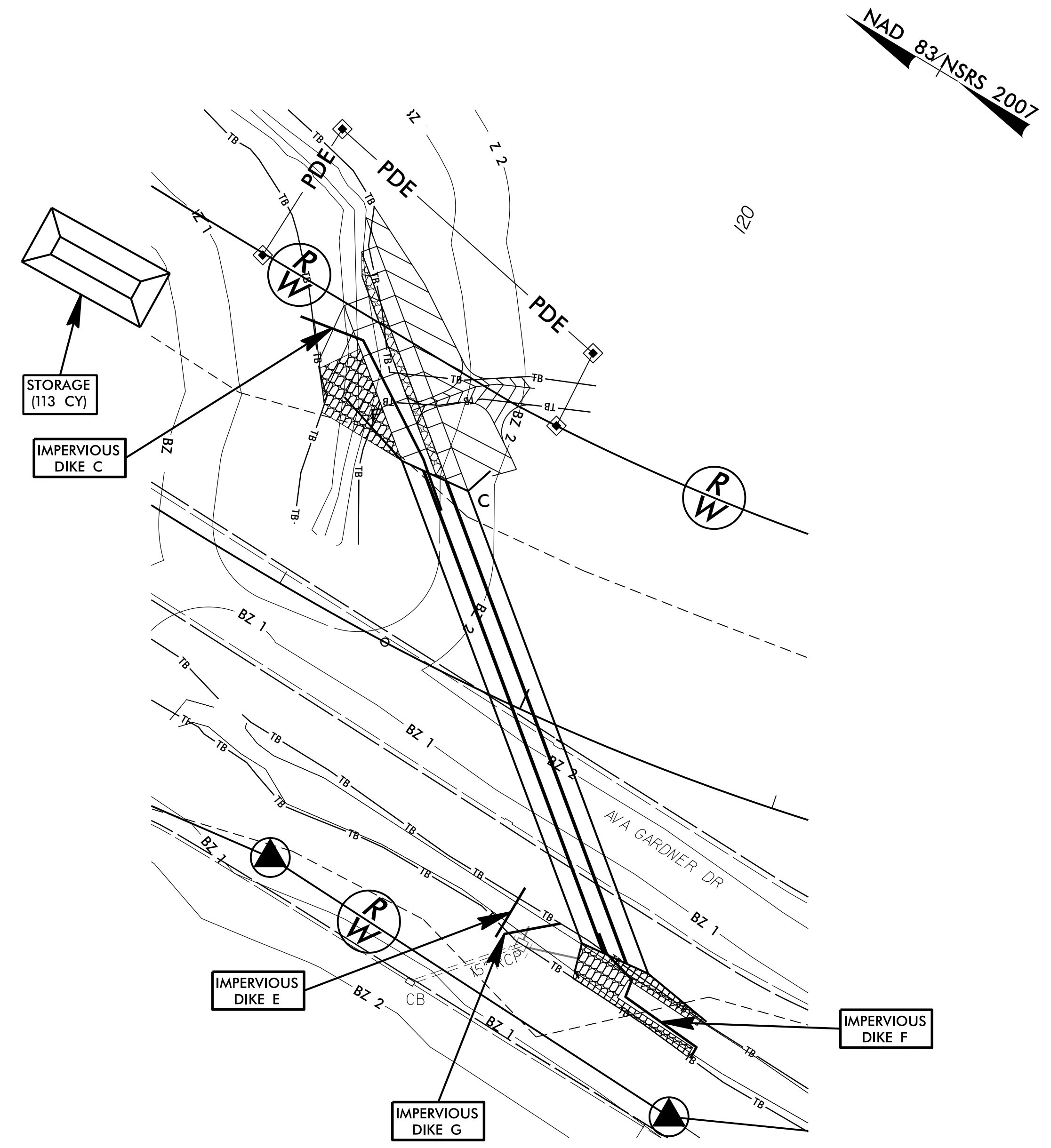
CULVERT CONSTRUCTION SEQUENCE STA. 120+00 -L-

PHASE III

PHASE IV

12. CONSTRUCT IMPERVIOUS DIKE E AND F.
13. UTILIZE A PUMP AROUND FOR THE WATER THAT BUILDS UP AT IMPERVIOUS DIKE E AND DISCHARGE IT DOWNSTREAM OF IMPERVIOUS DIKE F.
14. BUILD PROPOSED JUNCTION BOX, 60" RCP, THE REMAINDER OF PROPOSED HEADWALL, AND THE REMAINDER OF THE OUTLET CHANNEL WORK.
15. REMOVE IMPERVIOUS DIKES C, E, AND F. INSTALL IMPERVIOUS DIKE G TO DIVERT WATER INTO THE 60" RCP WHILE THE REST OF THE 60" RCP SYSTEM IS BUILT.

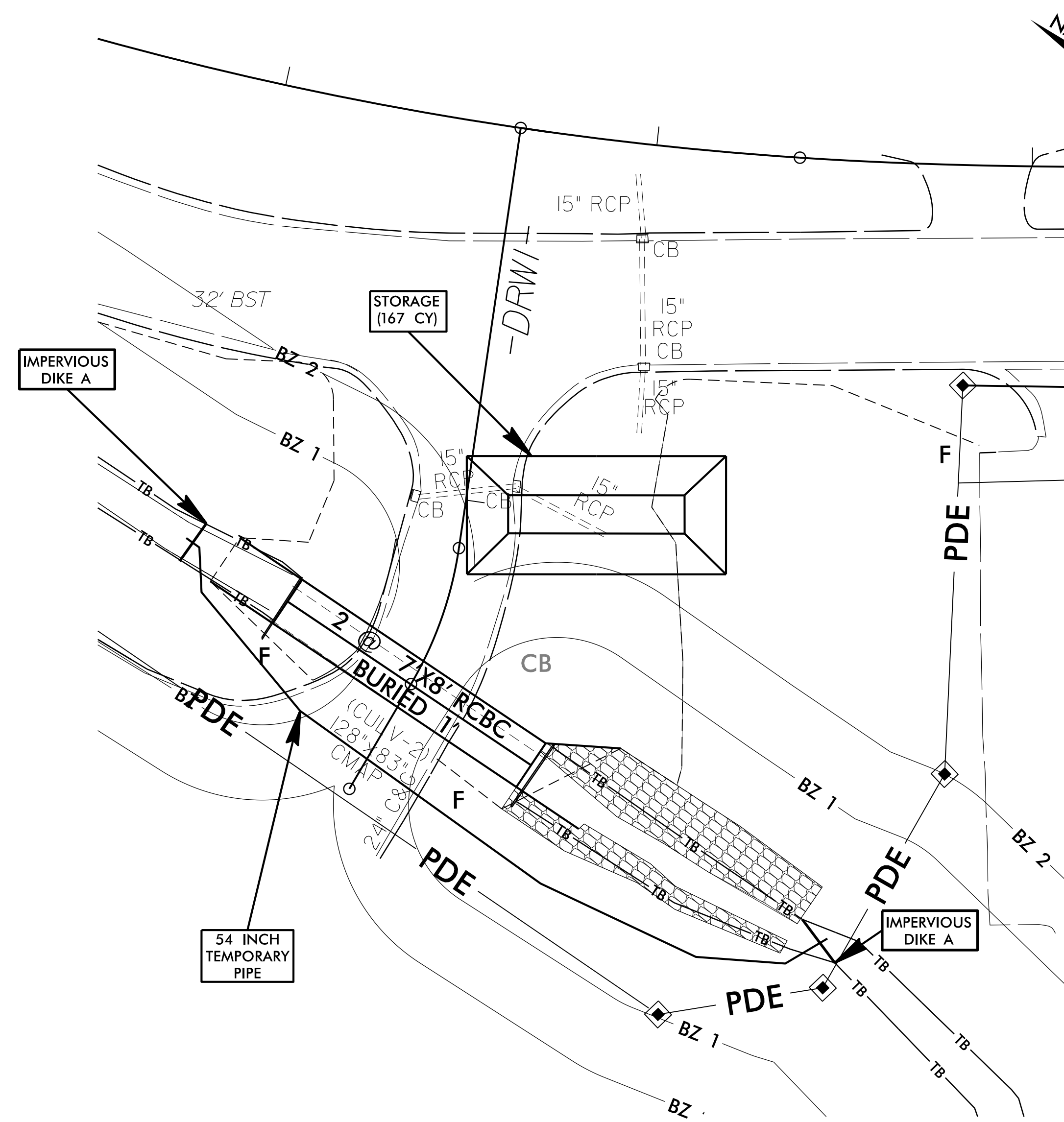
16. REMOVE IMPERVIOUS DIKE G.
17. COMPLETE ROADWAY.



CULVERT CONSTRUCTION SEQUENCE STA. 11+51.56 -DRW2-

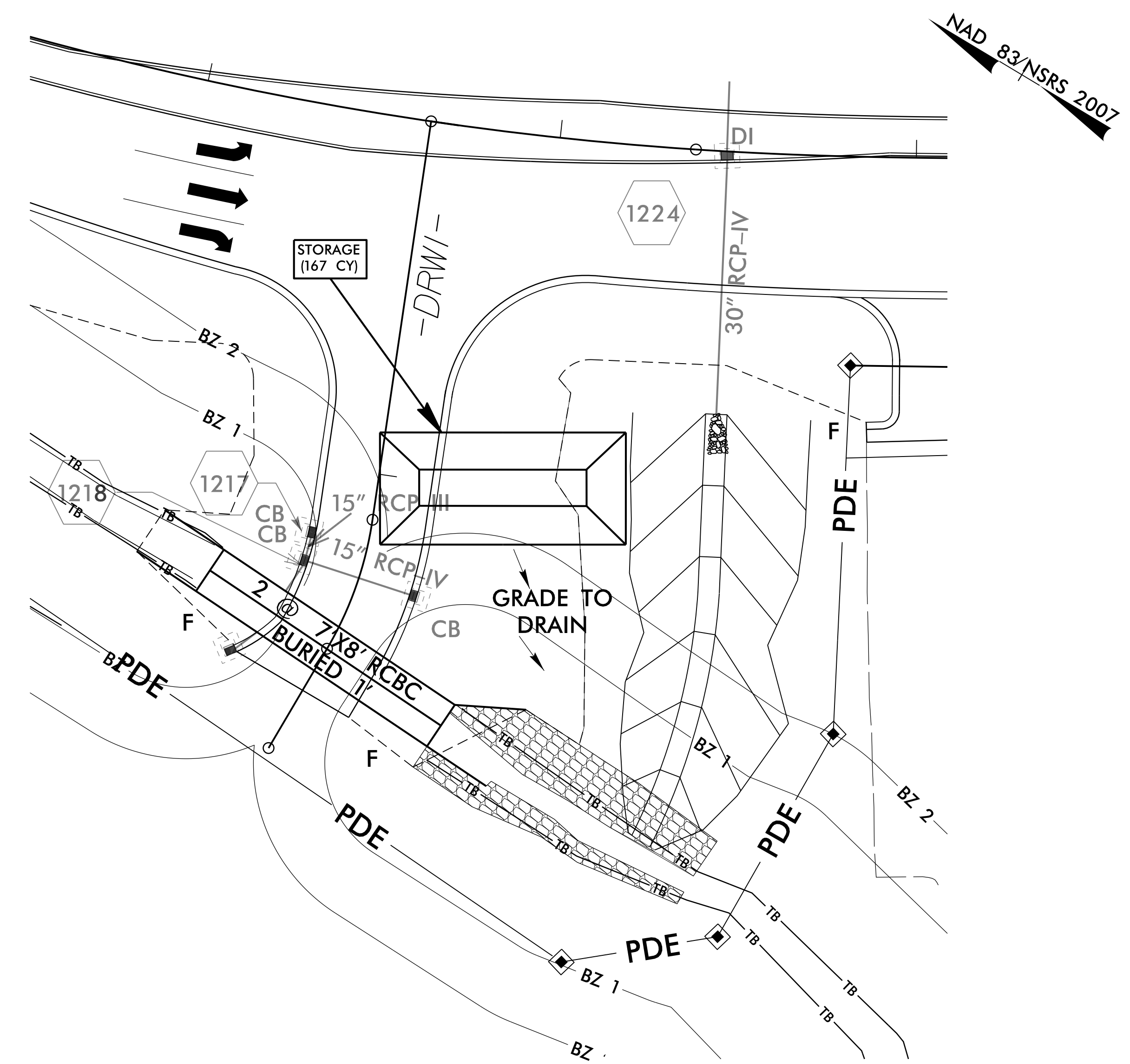
PHASE I

1. CONSTRUCT SEDIMENT CONTROL DEVICES AND SHIFT TRAFFIC TO NEWLY CONSTRUCTED DRW2TEMP.
2. REMOVE EXISTING SYSTEM LOCATED AT STA. 10+97.70 -DRW1- AND INSTALL A TEMPORARY STILLING BASIN (167 CUBIC YARDS MIN.) ON THE RIGHT SIDE OF THE -L-.
3. CONSTRUCT THE TEMPORARY IMPERVIOUS DIKES A AND TEMPORARY 54 INCH PIPE TO DIVERT FLOW AROUND THE WORK AREA.
4. REMOVE THE EXISTING CULVERT WHILE PUMPING ALL EFFLUENT INTO STILLING BASIN.
5. CONSTRUCT THE PROPOSED CULVERT, LEAVING APPROPRIATE OPENING FOR THE PROPOSED 15 INCH RCP. COMPLETE AS MUCH AS POSSIBLE OF THE PROPOSED OUTLET CHANNEL WORK.



PHASE II

6. REMOVE TEMPORARY IMPERVIOUS DIKES AND TEMPORARY PIPE TO DIRECT FLOW THROUGH NEWLY CONSTRUCTED CULVERT. COMPLETE ANY REMAINING OUTLET CHANNEL WORK NECESSARY.
7. UPON PERMANENT STABILIZATION OF ALL DISTURBED AREAS, REMOVE ALL TEMPORARY SEDIMENT CONTROL DEVICES INCLUDING STILLING BASIN.
8. COMPLETE ROADWAY.

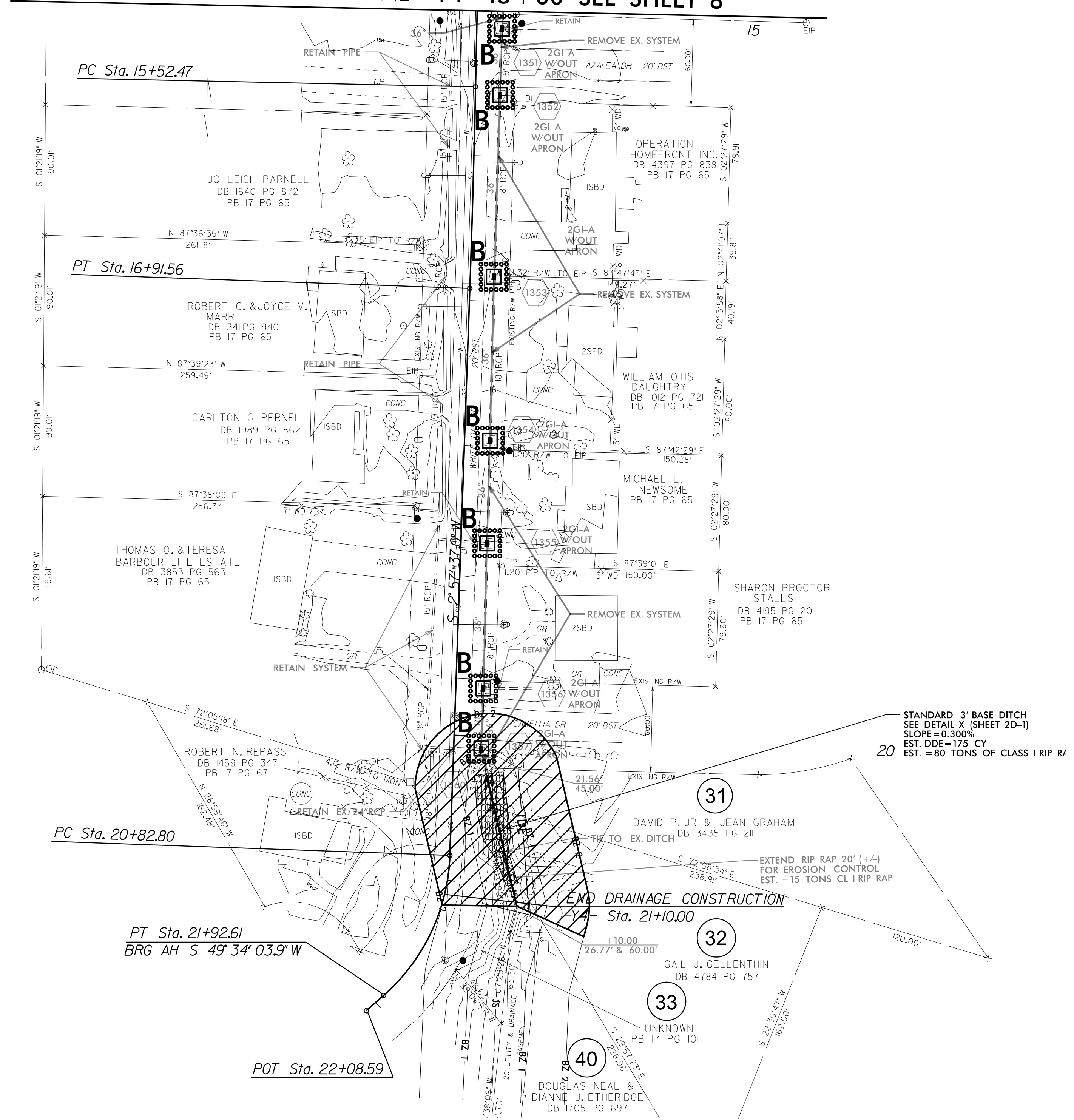


PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-13/CONST.13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NAD 83/NSRS 2007

MATCHLINE -Y4- 15+00 SEE SHEET 8



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 13

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

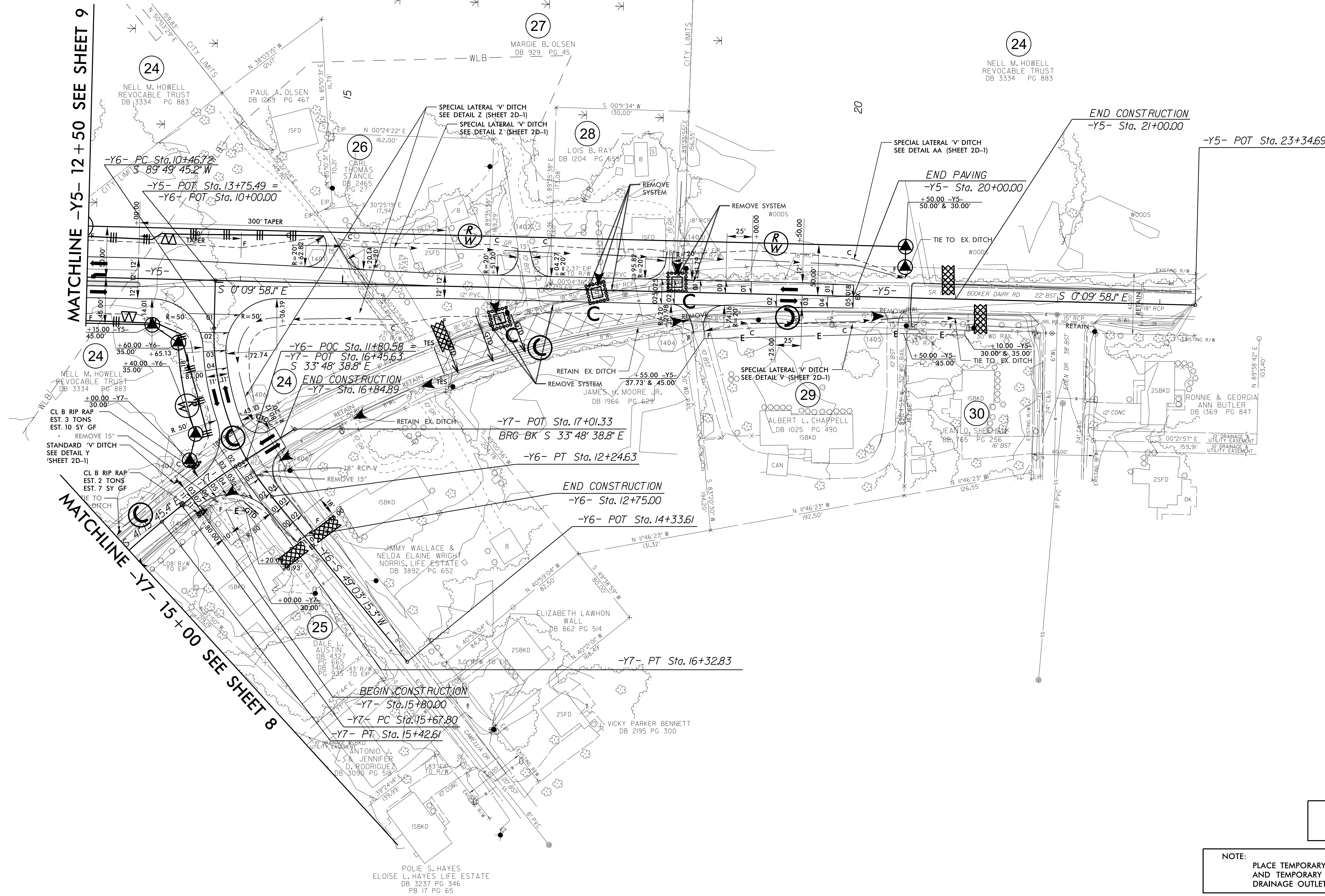
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PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-14/CONST.14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007

MATCHLINE -Y5- 12 + 50 SEE SHEET 9

MATCHLINE -Y7- 15 + 00 SEE SHEET 8



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

8/17/99

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REVISION 1416

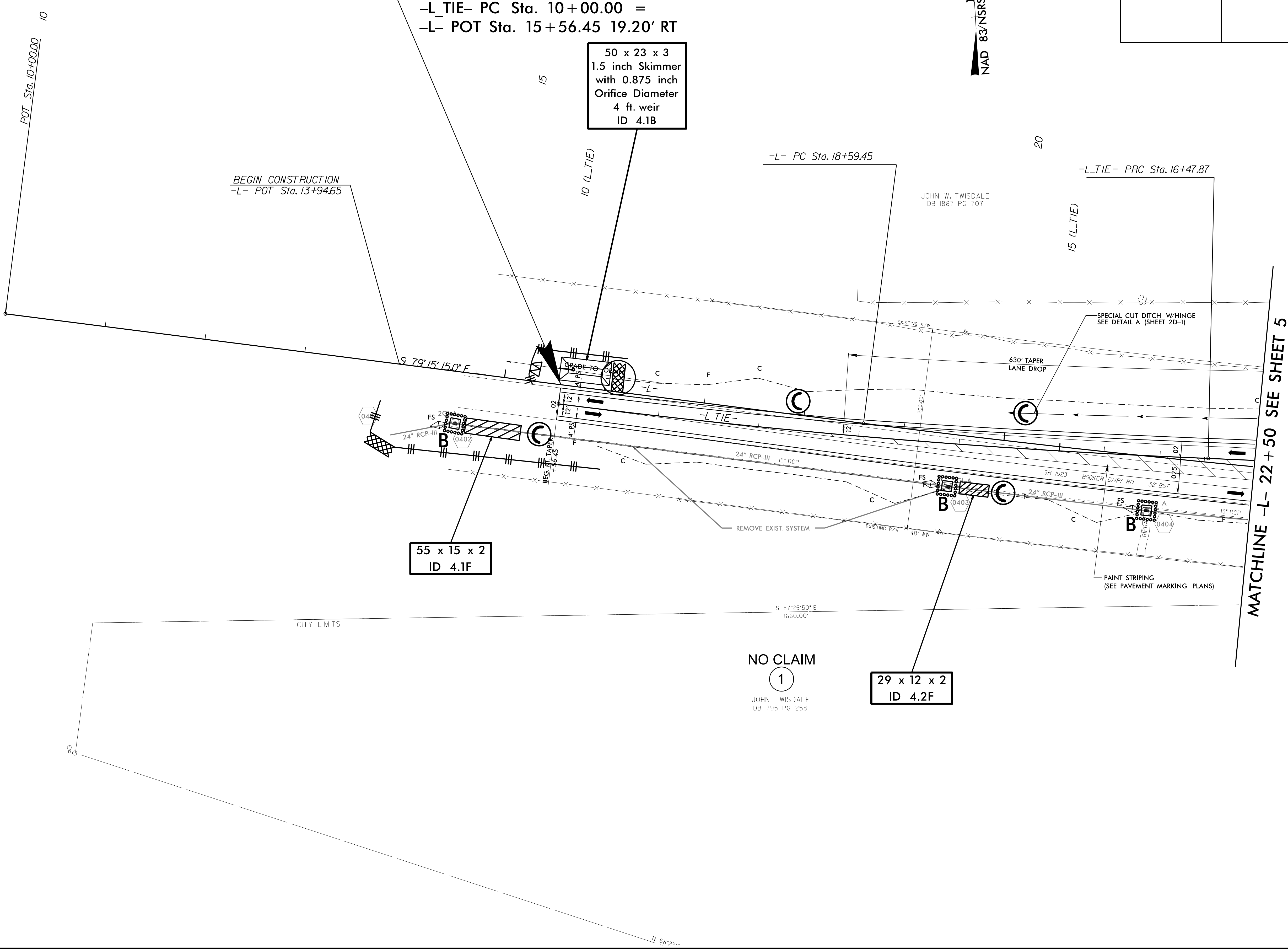
PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-15/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BEGIN T.I.P. PROJECT U-3334B

-L_TIE- PC Sta. 10+00.00 =
 -L- POT Sta. 15+56.45 19.20' RT

50 x 23 x 3
 1.5 inch Skimmer
 with 0.875 inch
 Orifice Diameter
 4 ft. weir
 ID 4.1B

NAD 83/NRS 2007



BEGIN CONSTRUCTION
 -L- POT Sta. 13+94.65

-L- PC Sta. 18+59.45

-L_TIE- PRC Sta. 16+47.87

JOHN W. TWISDALE
 DB 1867 PG 707

MATCHLINE -L- 22+50 SEE SHEET 5

55 x 15 x 2
 ID 4.1F

29 x 12 x 2
 ID 4.2F

NO CLAIM

1

JOHN TWISDALE
 DB 795 PG 258

8/17/99

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 REVISION 1/16

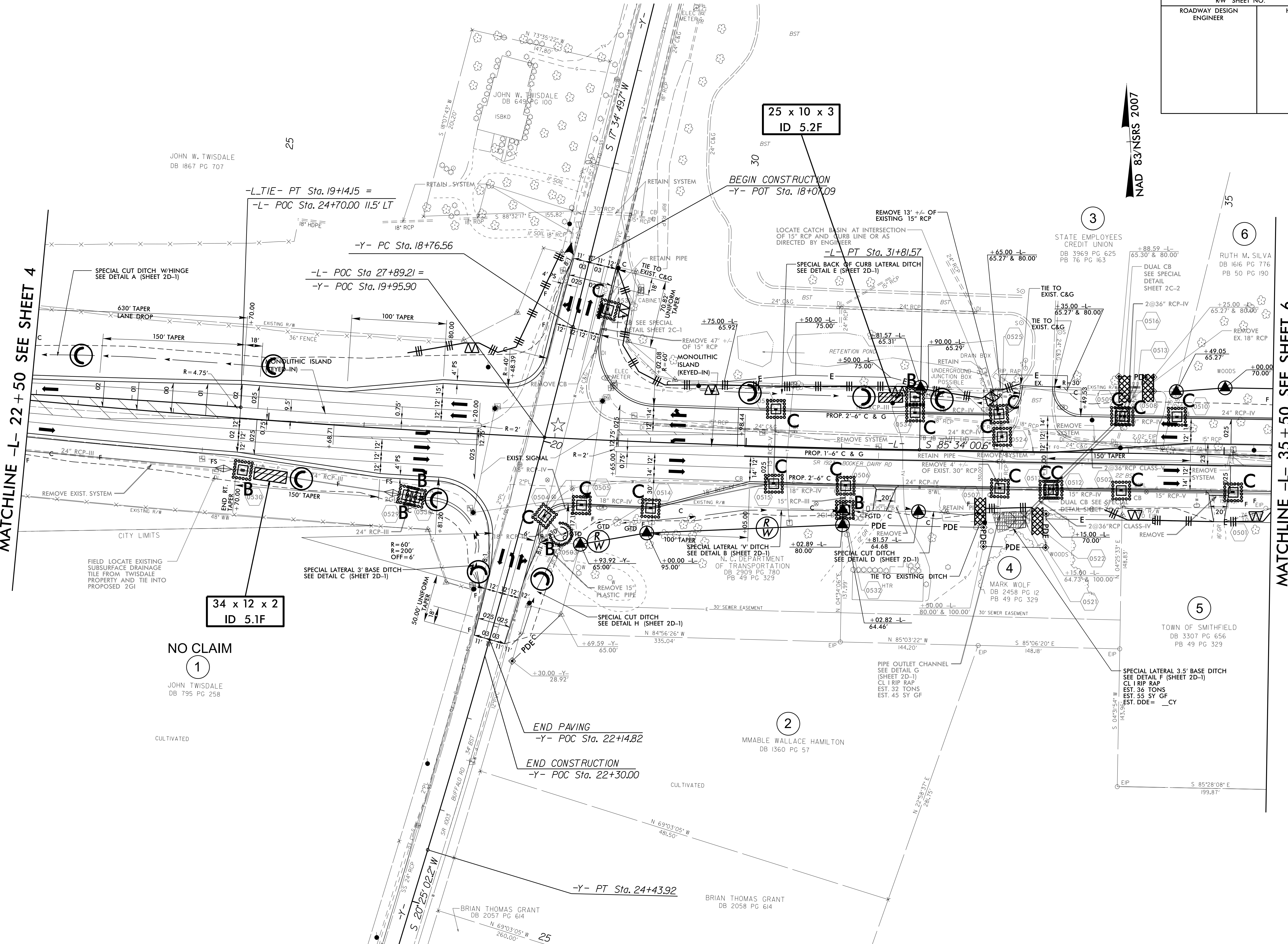
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U-3334B	EC-16/CONST-5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NRS 2007

MATCHLINE -L- 22 + 50 SEE SHEET 4

MATCHLINE -L- 35 + 50 SEE SHEET 6

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25 x 10 x 3
ID 5.2F

34 x 12 x 2
ID 5.1F

NO CLAIM
1
JOHN TWISDALE
DB 795 PG 258
CULTIVATED

END PAVING
-Y- POC Sta. 22+14.82

END CONSTRUCTION
-Y- POC Sta. 22+30.00

-Y- PT Sta. 24+43.92

2
MMABLE WALLACE HAMILTON
DB 1360 PG 57

BRIAN THOMAS GRANT
DB 2057 PG 614

BRIAN THOMAS GRANT
DB 2058 PG 614

3
STATE EMPLOYEES
CREDIT UNION
DB 3969 PG 625
PB 76 PG 163

5
TOWN OF SMITHFIELD
DB 3307 PG 656
PB 49 PG 329

6
RUTH M. SILVA
DB 1616 PG 776
PB 50 PG 190

SPECIAL LATERAL 3.5' BASE DITCH
SEE DETAIL F (SHEET 2D-1)
CL 1 RIP RAP
EST. 36 TONS
EST. 55 SY GF
EST. DDE= _CY

LOCATE CATCH BASIN AT INTERSECTION
OF 15" RCP AND CURB LINE OR AS
DIRECTED BY ENGINEER

SPECIAL BACK OF CURB LATERAL DITCH
SEE DETAIL E (SHEET 2D-1)

SPECIAL LATERAL 3' BASE DITCH
SEE DETAIL C (SHEET 2D-1)

SPECIAL CUT DITCH
SEE DETAIL H (SHEET 2D-1)

SPECIAL CUT DITCH
SEE DETAIL D (SHEET 2D-1)

SPECIAL CUT DITCH W/HINGE
SEE DETAIL A (SHEET 2D-1)

-L TIE- PT Sta. 19+14.15 =
-L- POC Sta. 24+70.00 11.5' LT

-Y- PC Sta. 18+76.56

-L- POC Sta. 27+89.21 =
-Y- POC Sta. 19+95.90

BEGIN CONSTRUCTION
-Y- POT Sta. 18+00.09

-L- PT Sta. 31+81.57

EXIST. SIGNAL

FIELD LOCATE EXISTING
SUBSURFACE DRAINAGE
TILE FROM TWISDALE
PROPERTY AND TIE INTO
PROPOSED 2GI

PIPE OUTLET CHANNEL
SEE DETAIL G
(SHEET 2D-1)
CL 1 RIP RAP
EST. 32 TONS
EST. 45 SY GF

REMOVE 15"
PLASTIC PIPE

REMOVE SYSTEM

REMOVE SYSTEM

REMOVE SYSTEM

REMOVE SYSTEM

REMOVE SYSTEM

REMOVE SYSTEM

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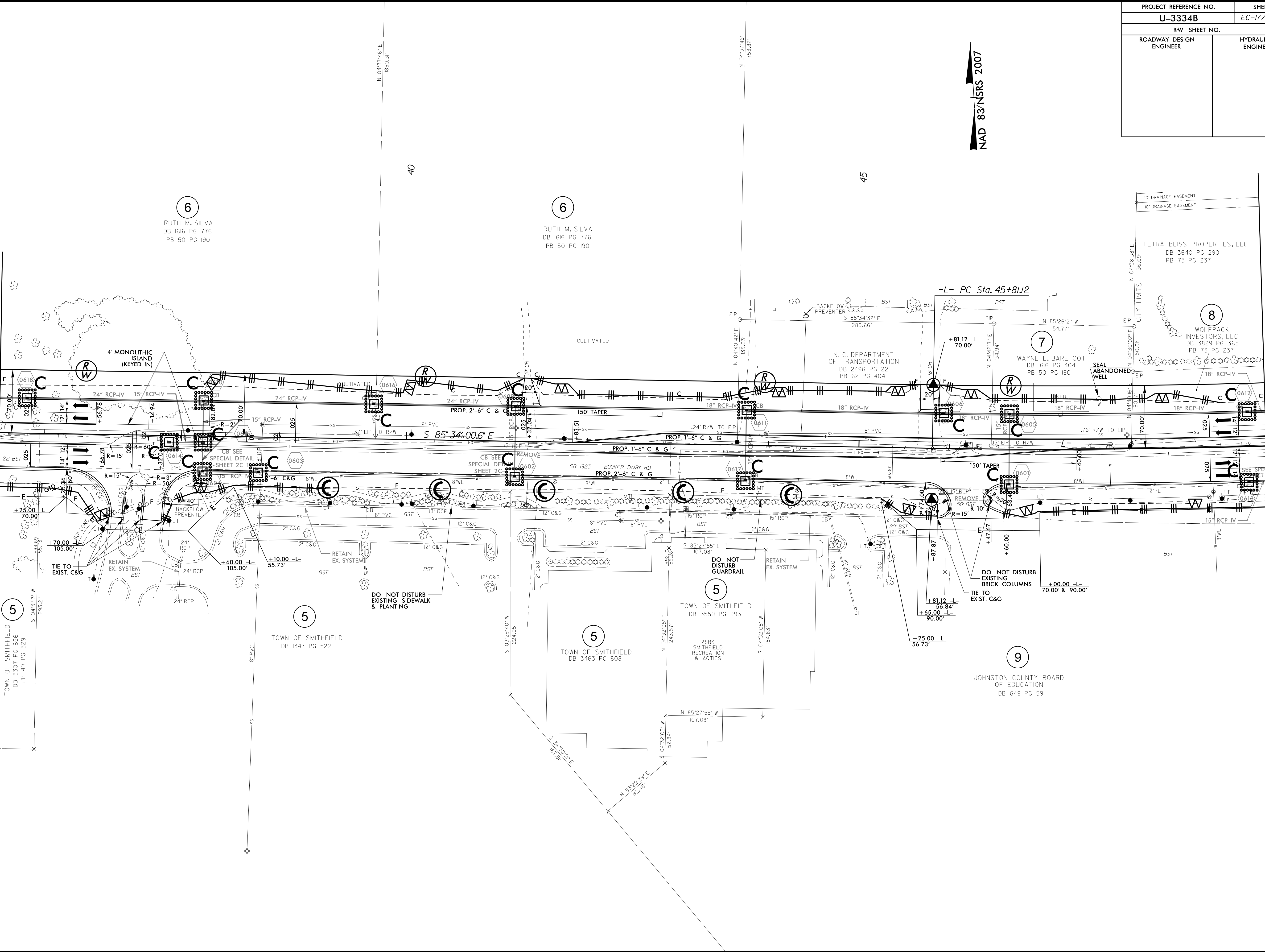
REMOVE SYSTEM

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-17/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007

MATCHLINE -L- 35 + 50 SEE SHEET 5

MATCHLINE -L- 49 + 50 SEE SHEET 7



6
RUTH M. SILVA
DB 1616 PG 776
PB 50 PG 190

6
RUTH M. SILVA
DB 1616 PG 776
PB 50 PG 190

5
TOWN OF SMITHFIELD
DB 3307 PG 656
PB 49 PG 329

5
TOWN OF SMITHFIELD
DB 1347 PG 522

5
TOWN OF SMITHFIELD
DB 3463 PG 808

5
TOWN OF SMITHFIELD
DB 3559 PG 993

9
JOHNSTON COUNTY BOARD
OF EDUCATION
DB 649 PG 59

8
TETRA BLISS PROPERTIES, LLC
DB 3640 PG 290
PB 73 PG 237

7
WAYNE L. BAREFOOT
DB 1616 PG 404
PB 50 PG 190

8
WOLFPACK INVESTORS, LLC
DB 3829 PG 363
PB 73 PG 237

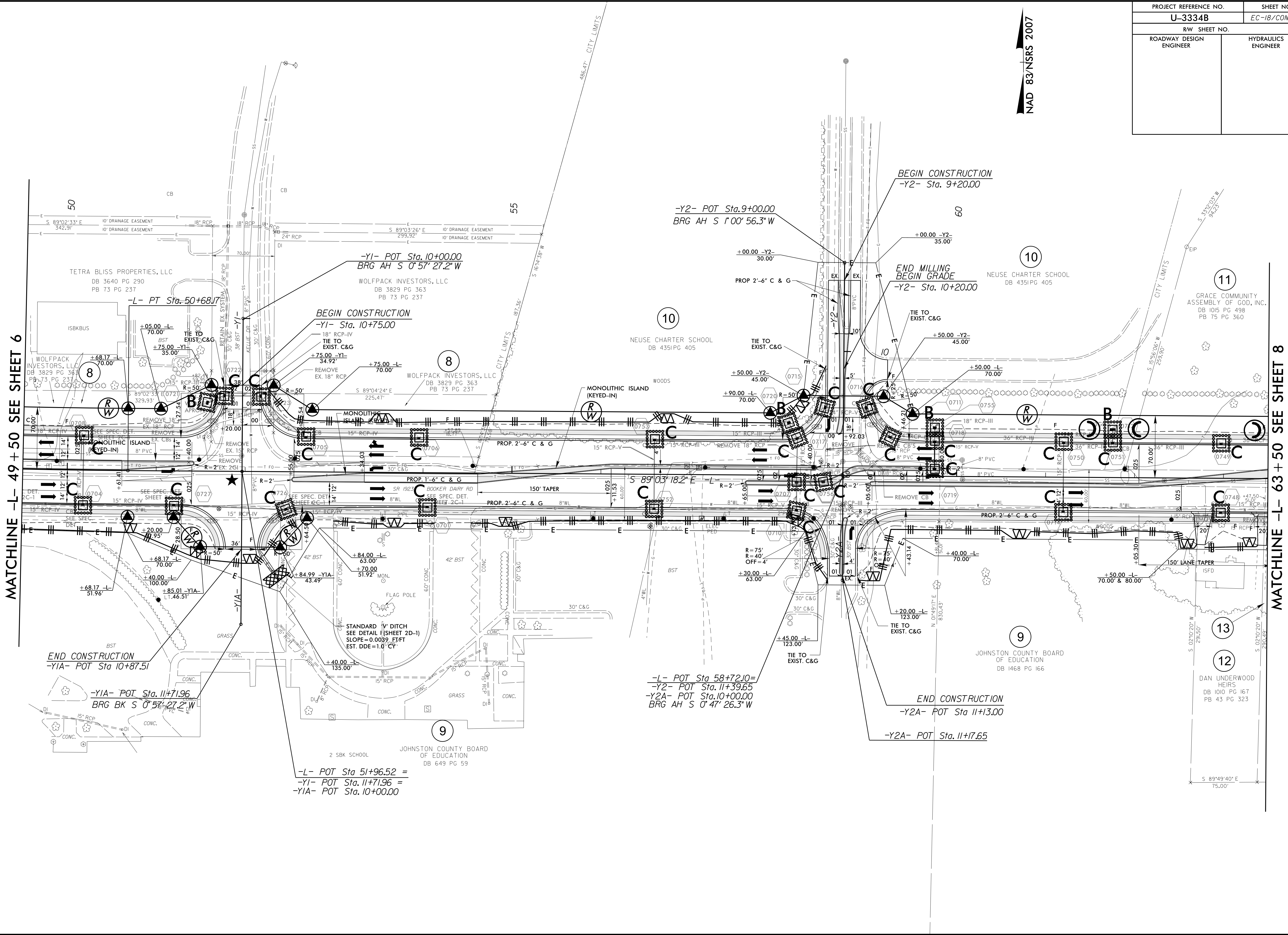
N. C. DEPARTMENT
OF TRANSPORTATION
DB 2496 PG 22
PB 62 PG 404

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REVISION 1

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-18/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



MATCHLINE -L- 49 + 50 SEE SHEET 6

MATCHLINE -L- 63 + 50 SEE SHEET 8

END CONSTRUCTION
-Y1A- POT Sta. 10+87.51

-Y1A- POT Sta. 11+71.96
BRG BK S 0° 57' 27.2\"/>

-L- POT Sta. 51+96.52 =
-Y1- POT Sta. 11+71.96 =
-Y1A- POT Sta. 10+00.00

-L- POT Sta. 58+72.10 =
-Y2- POT Sta. 11+39.65
-Y2A- POT Sta. 10+00.00
BRG AH S 0° 47' 26.3\"/>

END CONSTRUCTION
-Y2A- POT Sta. 11+17.65

BEGIN CONSTRUCTION
-Y2- Sta. 9+20.00

-Y2- POT Sta. 9+00.00
BRG AH S 1° 00' 56.3\"/>

END MILLING
BEGIN GRADE
-Y2- Sta. 10+20.00

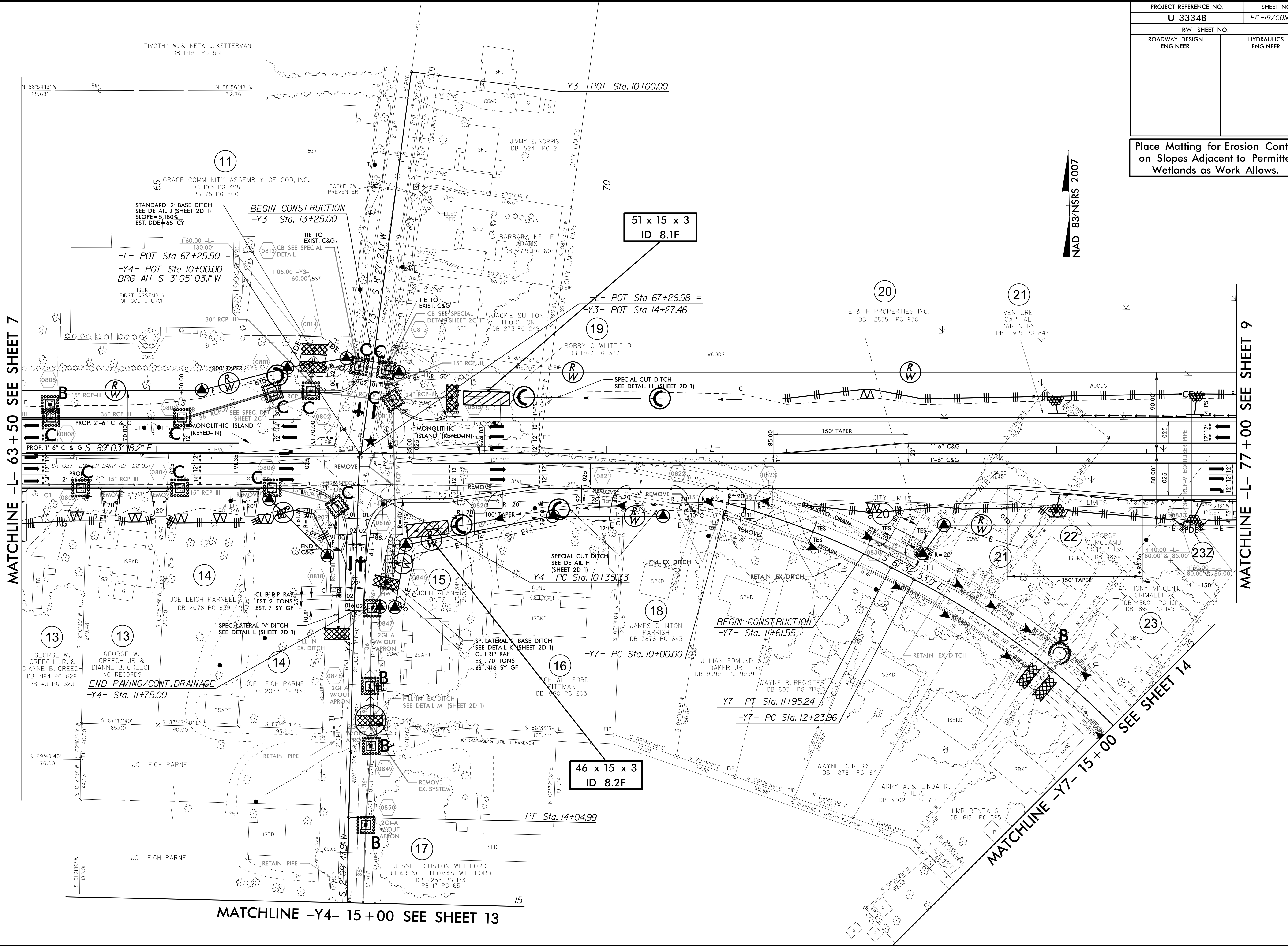
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REVISION 1
REVISION 2

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-19/CONST.B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

NAD 83/NSRS 2007



MATCHLINE -L- 63 + 50 SEE SHEET 7

MATCHLINE -L- 77 + 00 SEE SHEET 9

MATCHLINE -Y4- 15 + 00 SEE SHEET 13

MATCHLINE -Y7- 15 + 00 SEE SHEET 14

51 x 15 x 3
ID 8.1F

46 x 15 x 3
ID 8.2F

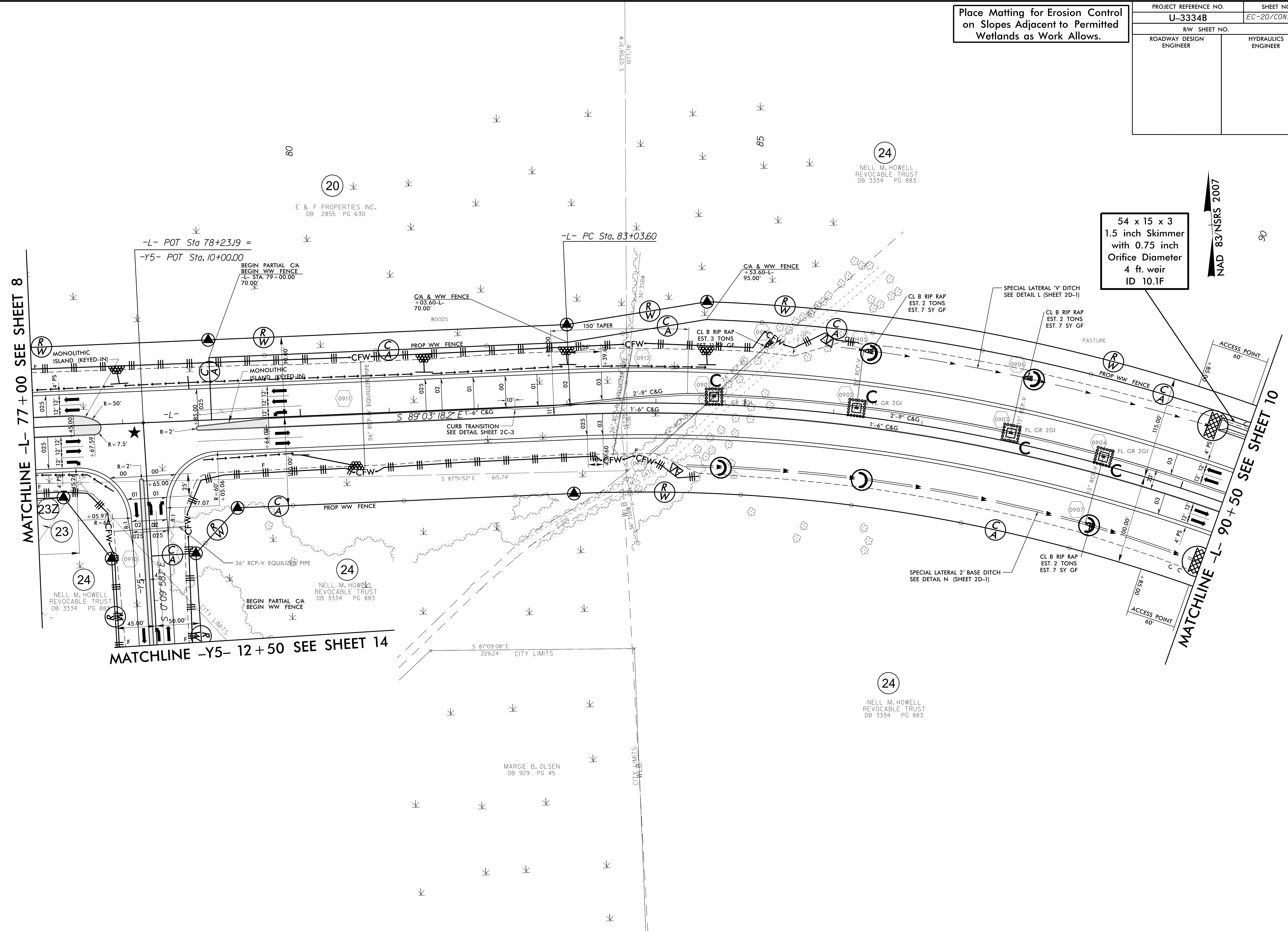
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REVISION: 6
REVISION: 5
REVISION: 4
REVISION: 3
REVISION: 2
REVISION: 1

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-20/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

54 x 15 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 10.1F

NAD 83/NSRS 2007



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PROJECT REFERENCE NO. U-3334B	SHEET NO. <i>EC-21/CONST.JO</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007

24

NELL M. HOWELL
REVOCABLE TRUST
DB 3334 PG 883

95

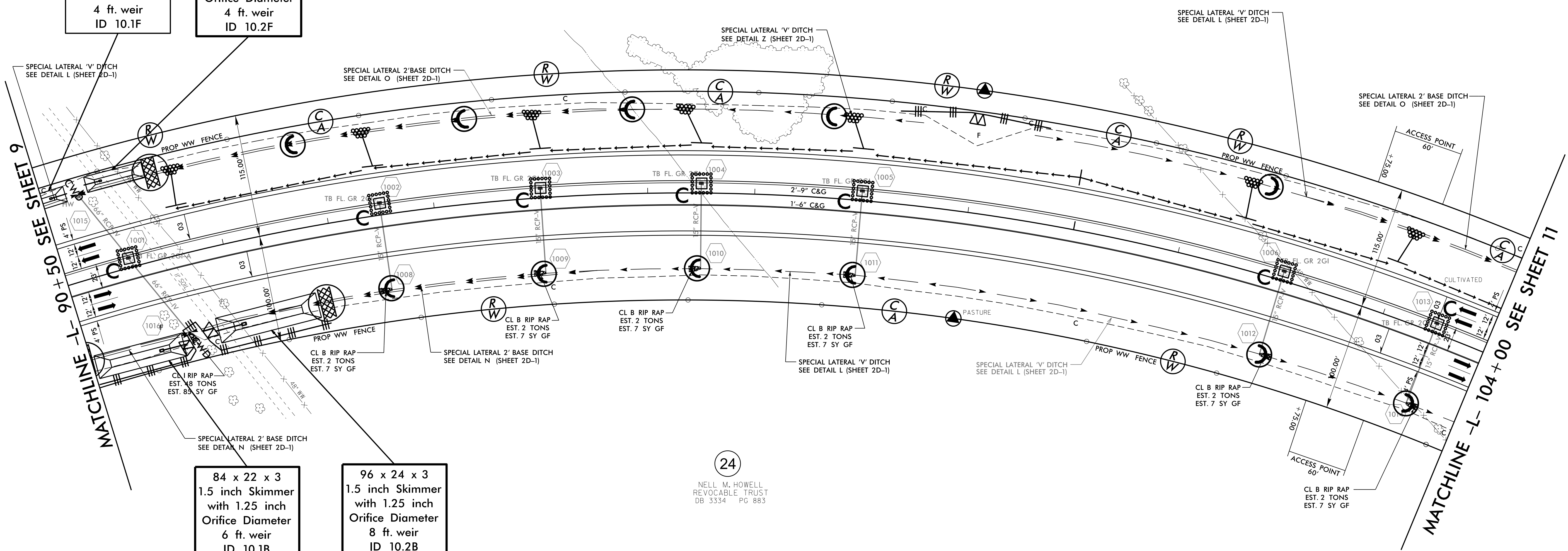
100

54 x 15 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 10.1F

55 x 15 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 10.2F

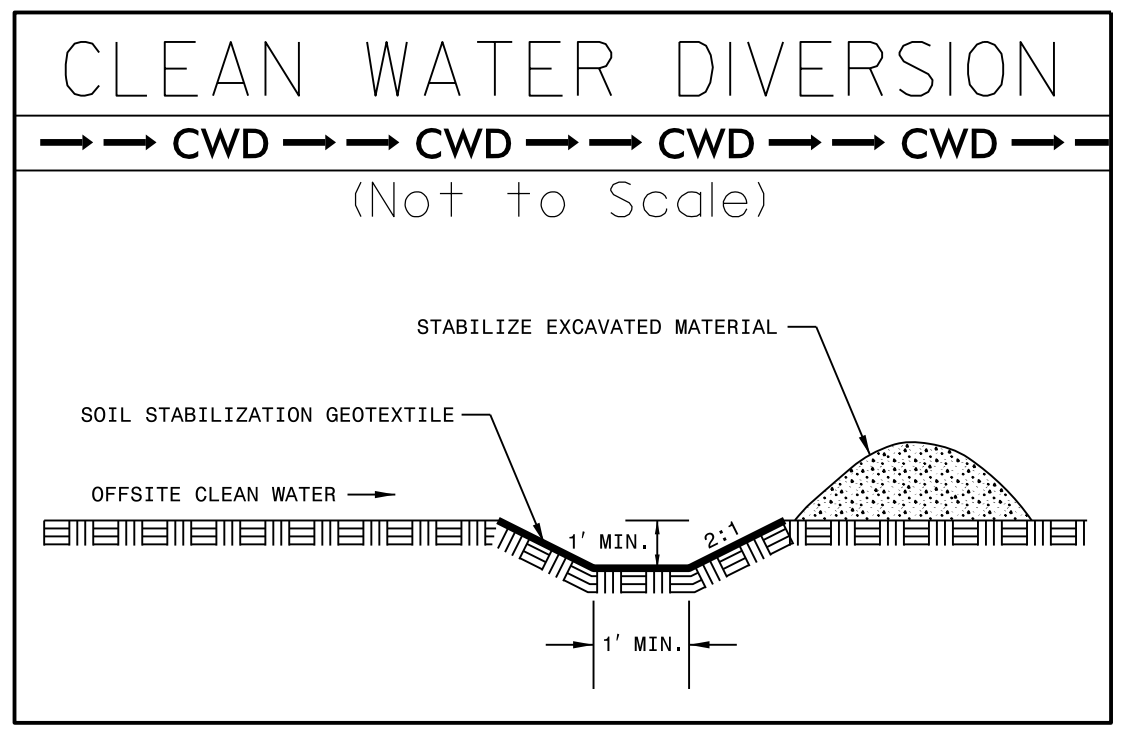
84 x 22 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
6 ft. weir
ID 10.1B

96 x 24 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID 10.2B



24

NELL M. HOWELL
REVOCABLE TRUST
DB 3334 PG 883



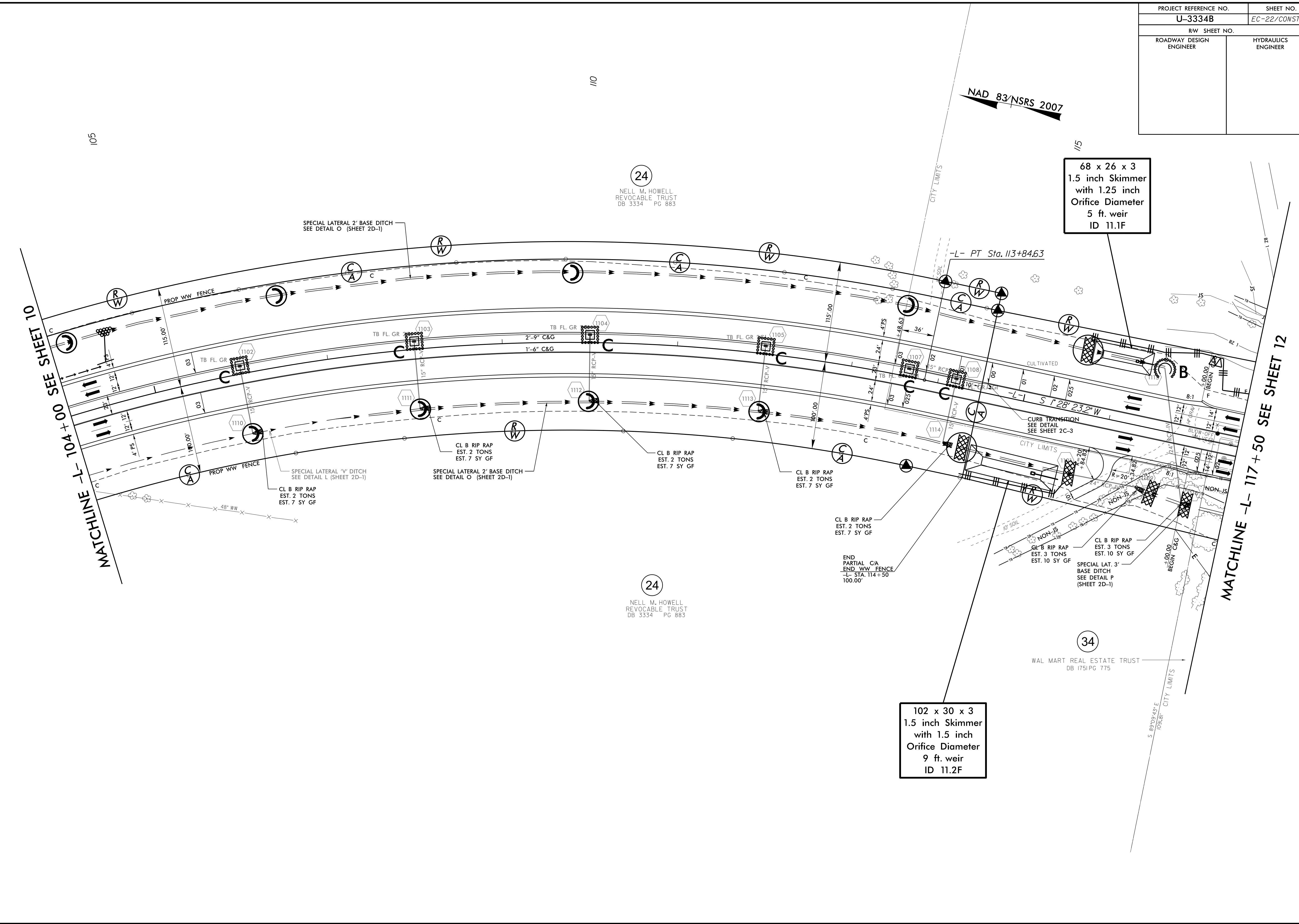
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REVISION 116

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-22/CONST.II
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

68 x 26 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
5 ft. weir
ID 11.1F

102 x 30 x 3
1.5 inch Skimmer
with 1.5 inch
Orifice Diameter
9 ft. weir
ID 11.2F



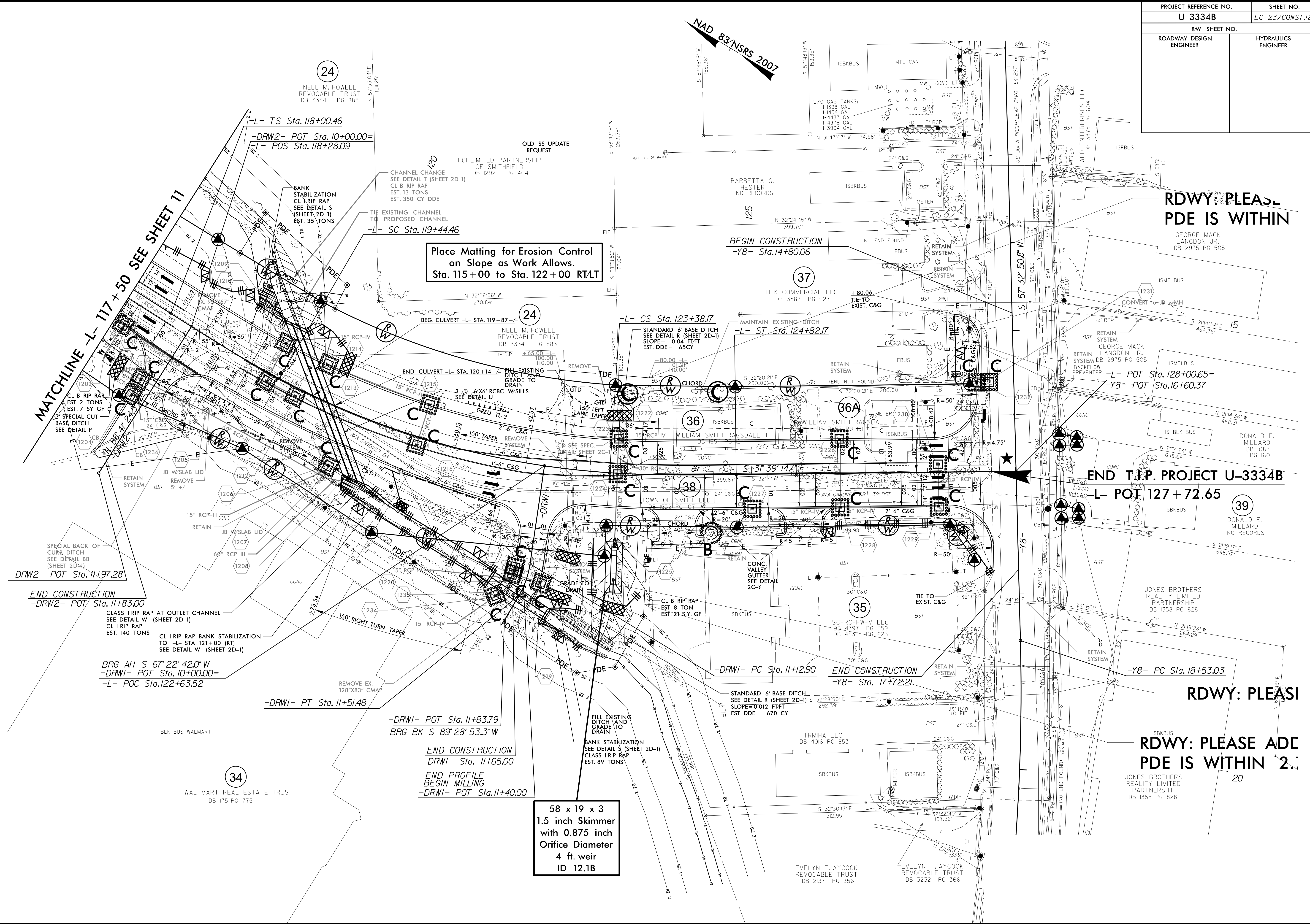
MATCHLINE -L- 104+00 SEE SHEET 10

MATCHLINE -L- 117+50 SEE SHEET 12

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REVISIONS
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PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-23/CONST.2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



Place Matting for Erosion Control on Slope as Work Allows. Sta. 115+00 to Sta. 122+00 RT/LT

RDWY: PLEASE PDE IS WITHIN

END T.I.P. PROJECT U-3334B -L- POT 127+72.65

RDWY: PLEASE

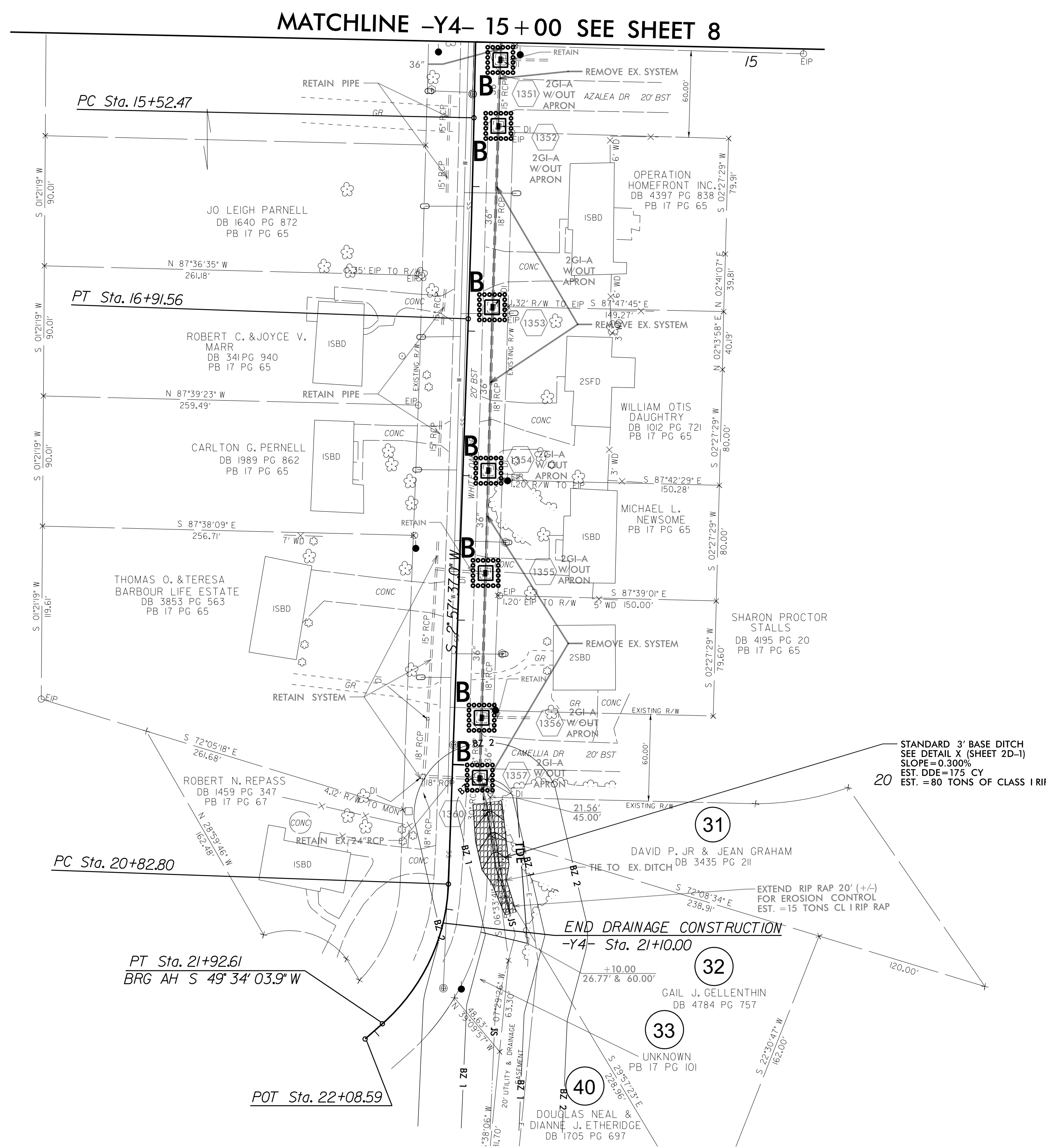
RDWY: PLEASE ADD PDE IS WITHIN 2.0'

58 x 19 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 12.1B

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PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-24/CONST.3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



STANDARD 3' BASE DITCH
SEE DETAIL X (SHEET 2D-1)
SLOPE=0.300%
EST. DDE=17.5 CY
EST. =80 TONS OF CLASS 1 RIP R/

31

32

33

40

POT Sta. 22+08.59

PT Sta. 21+92.61
BRG AH S 49° 34' 03.9" W

PC Sta. 20+82.80

THOMAS O. & TERESA
BARBOUR LIFE ESTATE
DB 3853 PG 563
PB 17 PG 65

CARLTON G. PARNELL
DB 1989 PG 862
PB 17 PG 65

ROBERT C. & JOYCE V.
MARR
DB 341 PG 940
PB 17 PG 65

JO LEIGH PARNELL
DB 1640 PG 872
PB 17 PG 65

PC Sta. 15+52.47

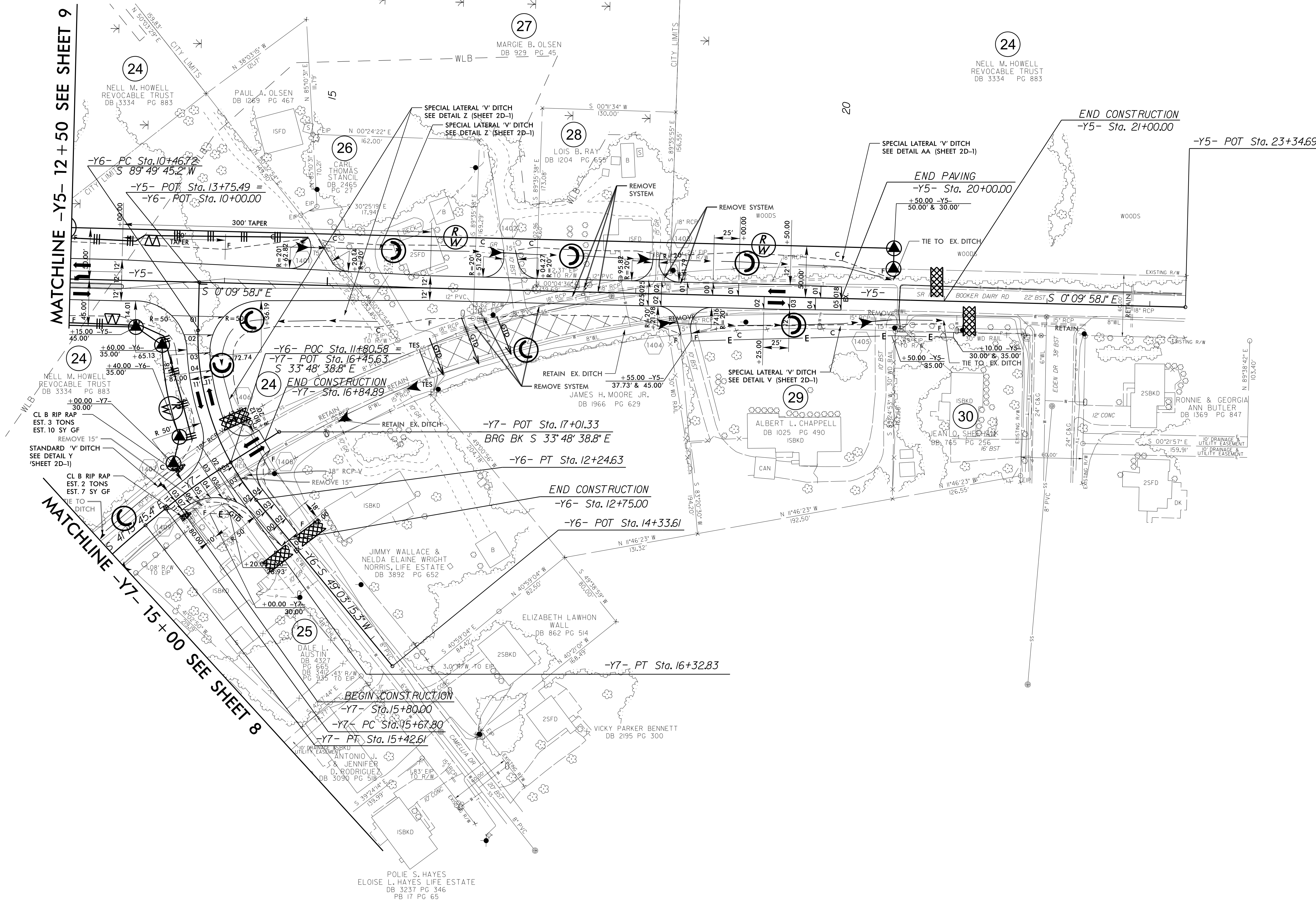
MATCHLINE -Y4- 15+00 SEE SHEET 8

PROJECT REFERENCE NO.	SHEET NO.
U-3334B	EC-25/CONST.14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007

MATCHLINE -Y5- 12 + 50 SEE SHEET 9

MATCHLINE -Y7- 15 + 00 SEE SHEET 8



8/17/99

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 REVISION 1416