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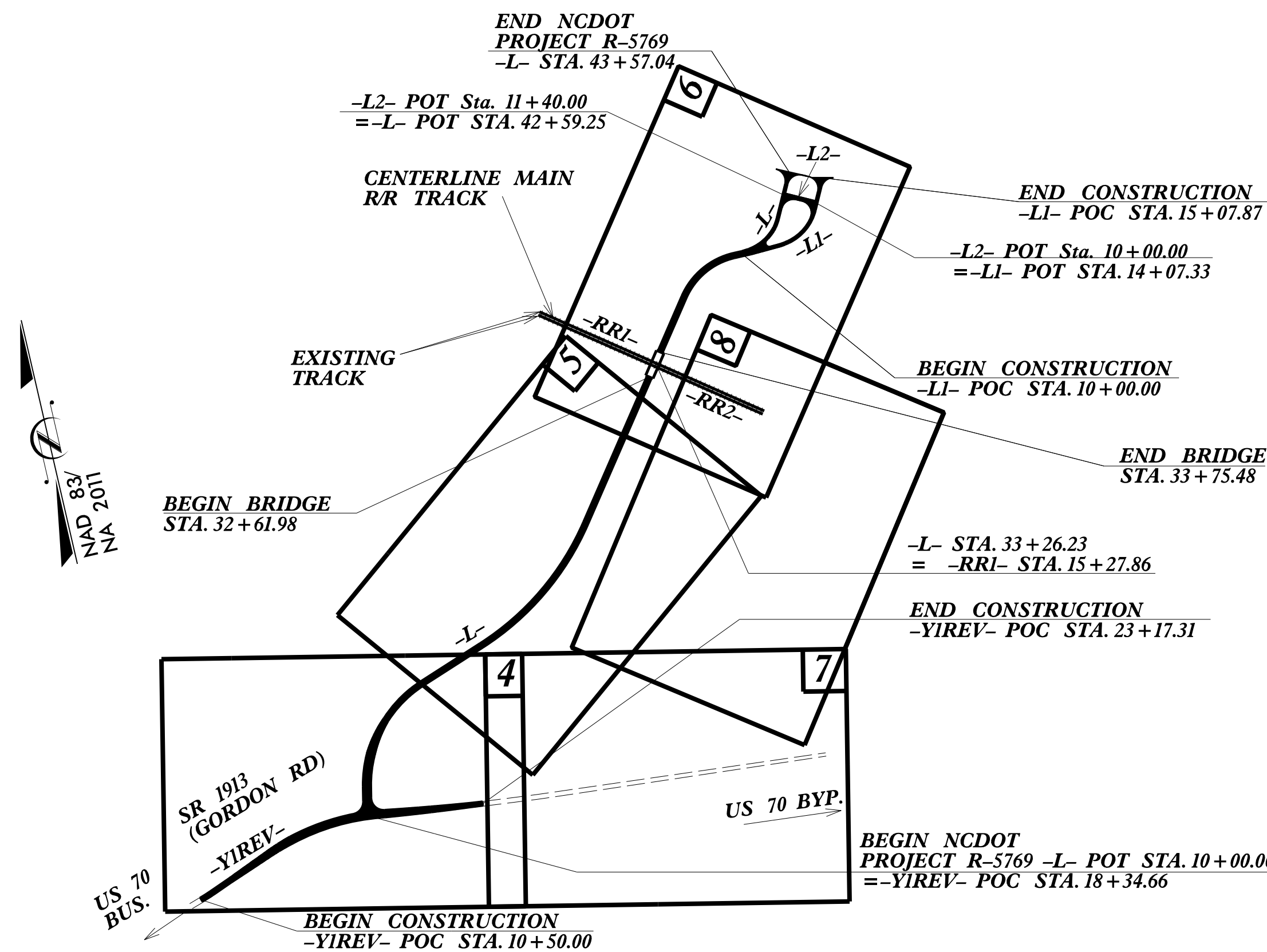
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**TIP PROJECT: R-5769**

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

**LOCATION: NOVO NORDISK ACCESS ROAD FROM  
SR 1913 (GORDON RD.) TO PROPOSED NOVO NORDISK SITE**  
**TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE**



STATE N.C.	STATE PROJECT REFERENCE NO. R-5769	SHEET NO. EC-1	TOTAL SHEETS
STATE PROJ. NO. 46448.1.1	F.A. PROJ. NO.	DESCRIPTION PE, UTIL., R/W CONST.	

**EROSION AND SEDIMENT CONTROL MEASURES**

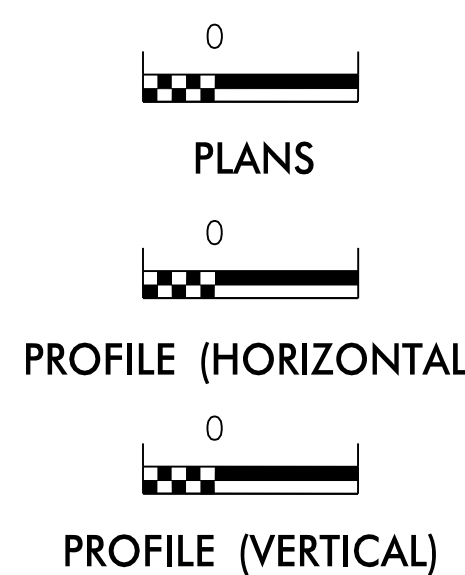
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with 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	
1632.02	Type B	
1632.03	Type 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.*

**GRAPHIC SCALE**



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared in the Office of:  
  
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

Designed by:  
**KEVIN ALFORD** 3531  
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611  
**2012 STANDARD SPECIFICATIONS**

Reviewed by:  
**JEFF WALSTON**

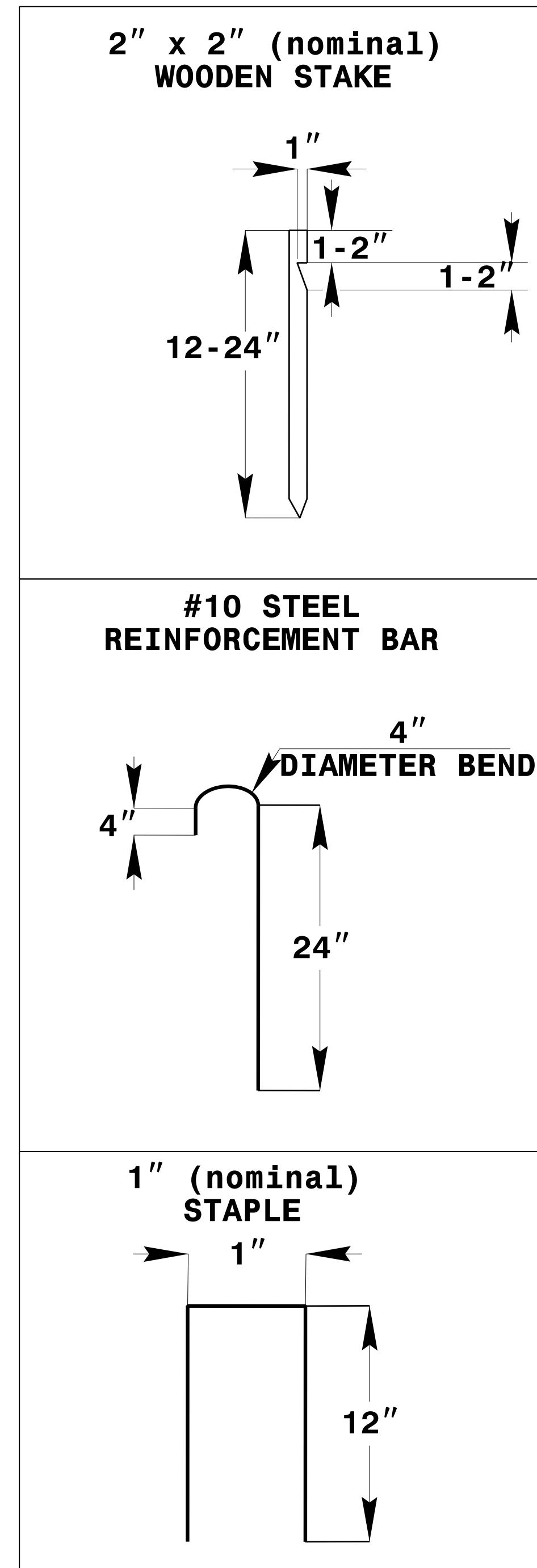
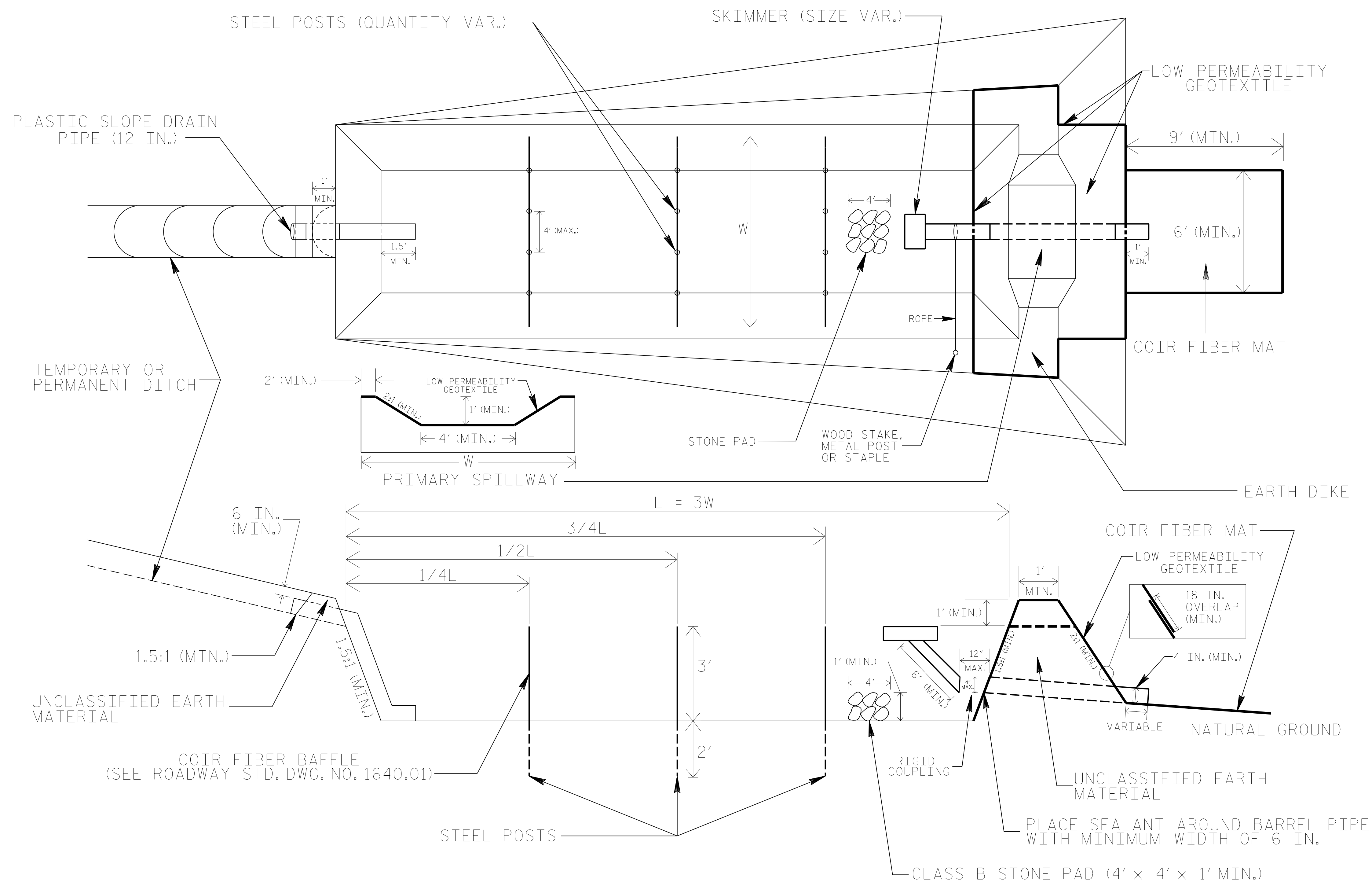
Roadway Standard Drawings

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

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

PROJECT REFERENCE NO. R-5769	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SKIMMER BASIN WITH BAFFLES DETAIL (EAST)



## 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. R-5769	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 (FT<sup>3</sup>), 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.

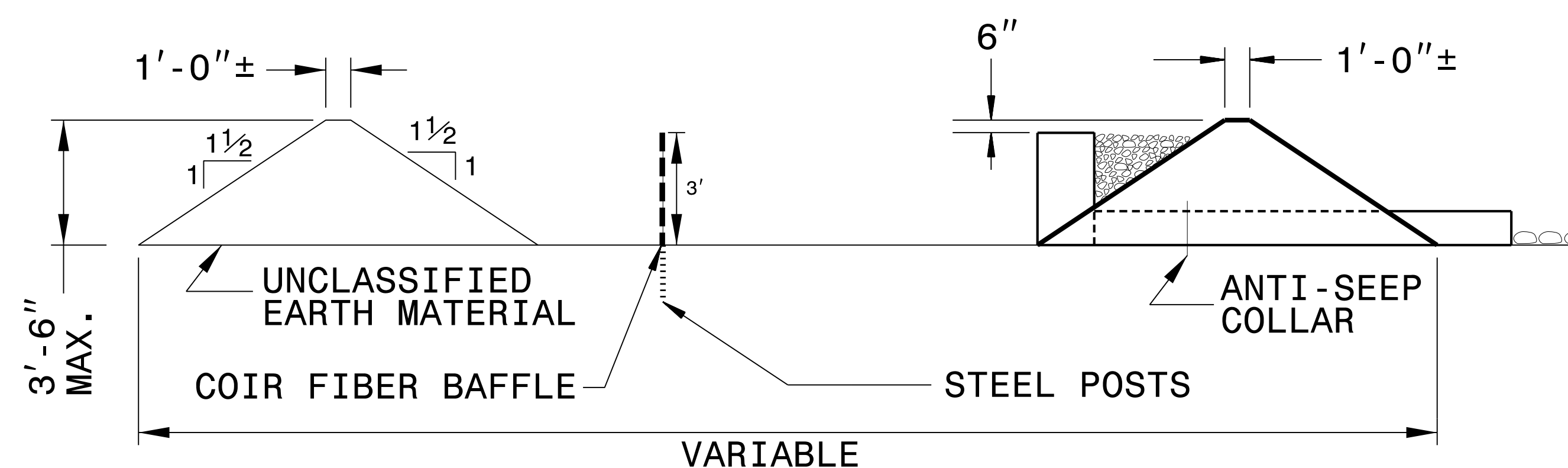
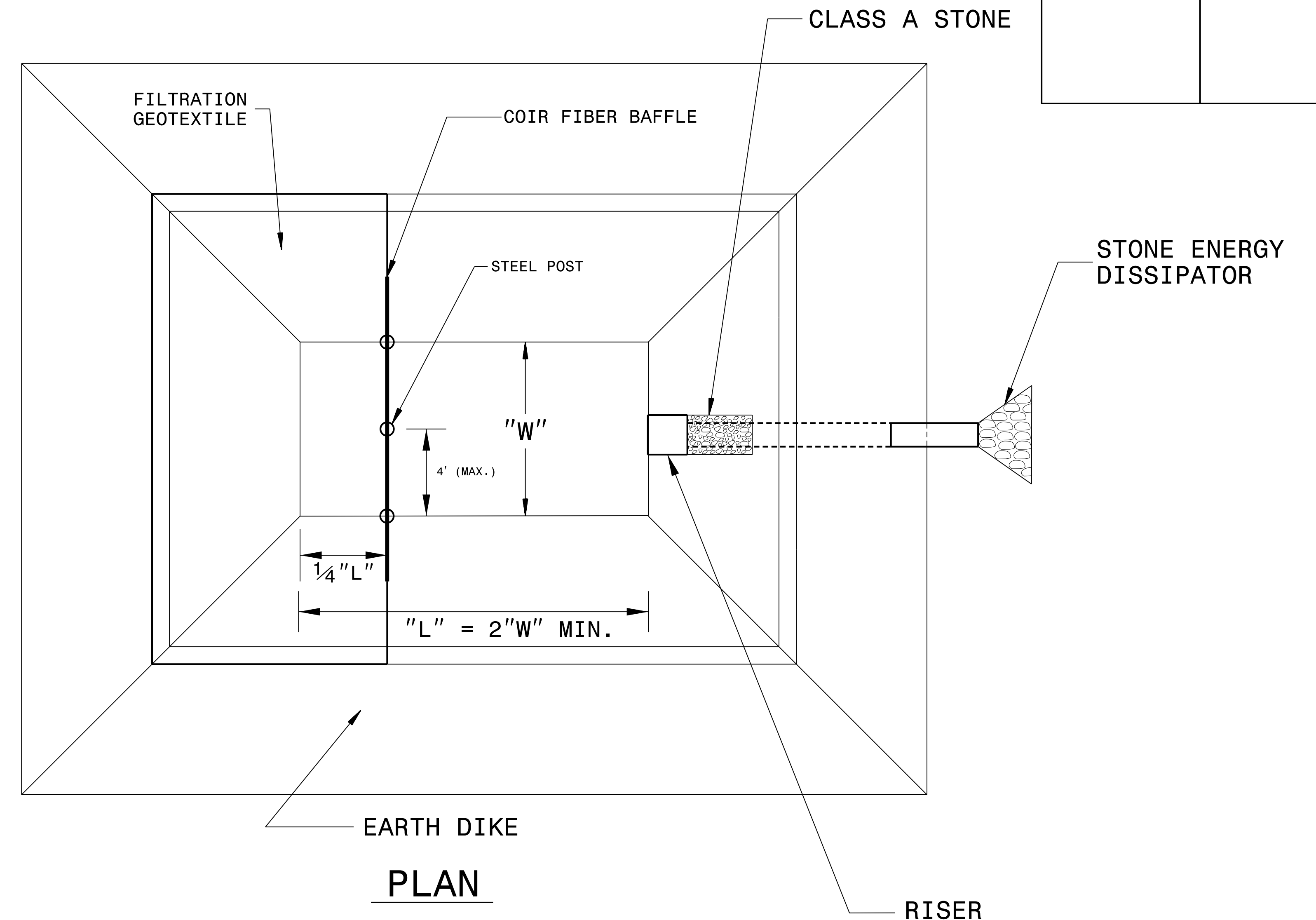
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

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.

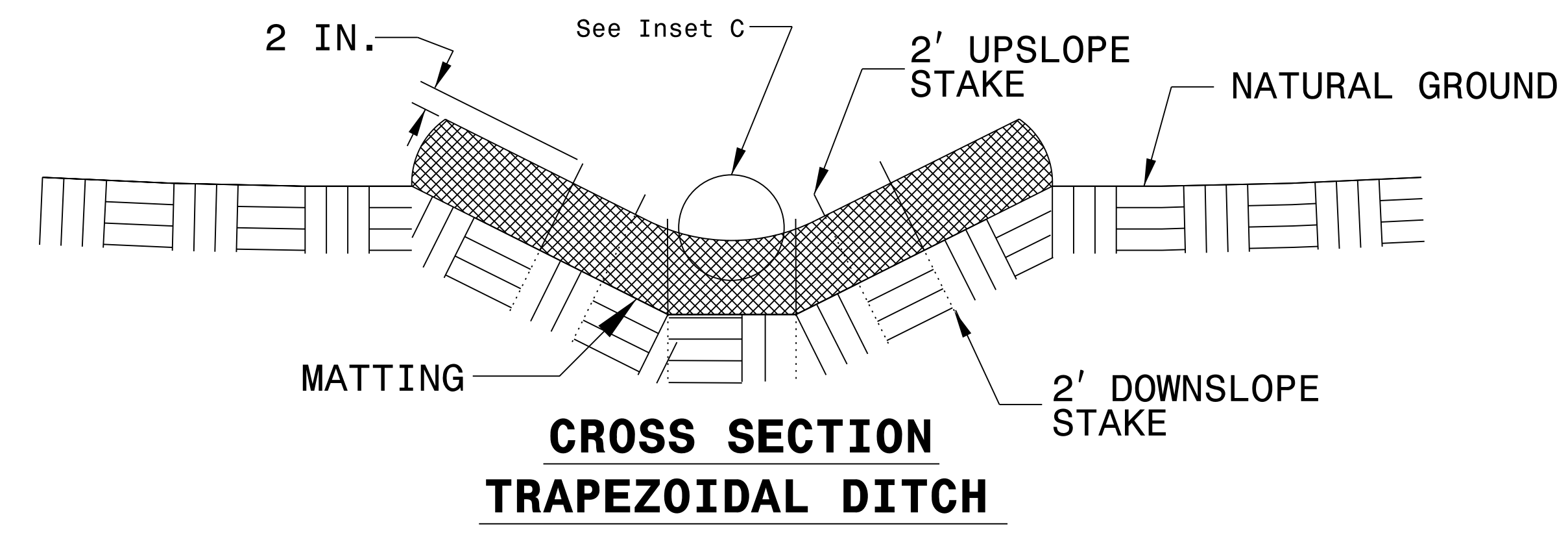
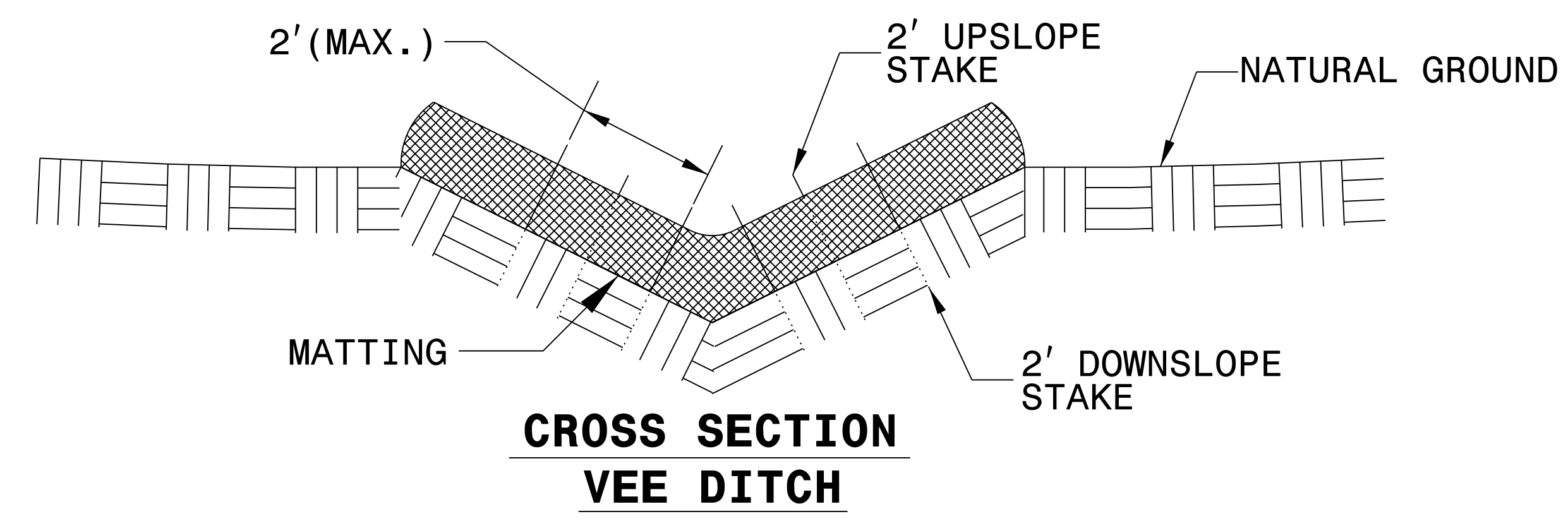
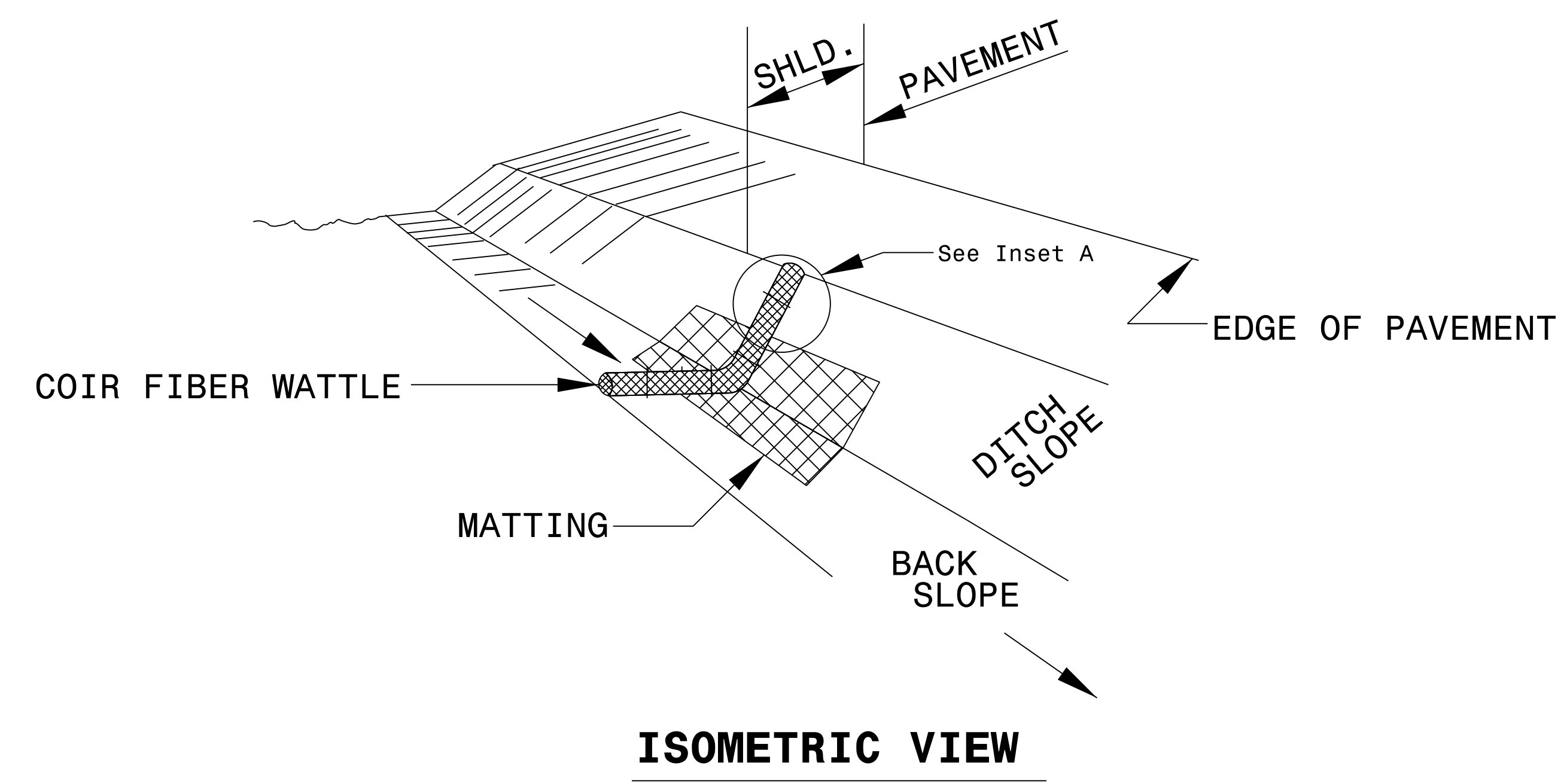


TYPICAL SECTION VIEW

NOT TO SCALE

PROJECT REFERENCE NO. <i>R-5769</i>	SHEET NO. <i>EC-2B</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

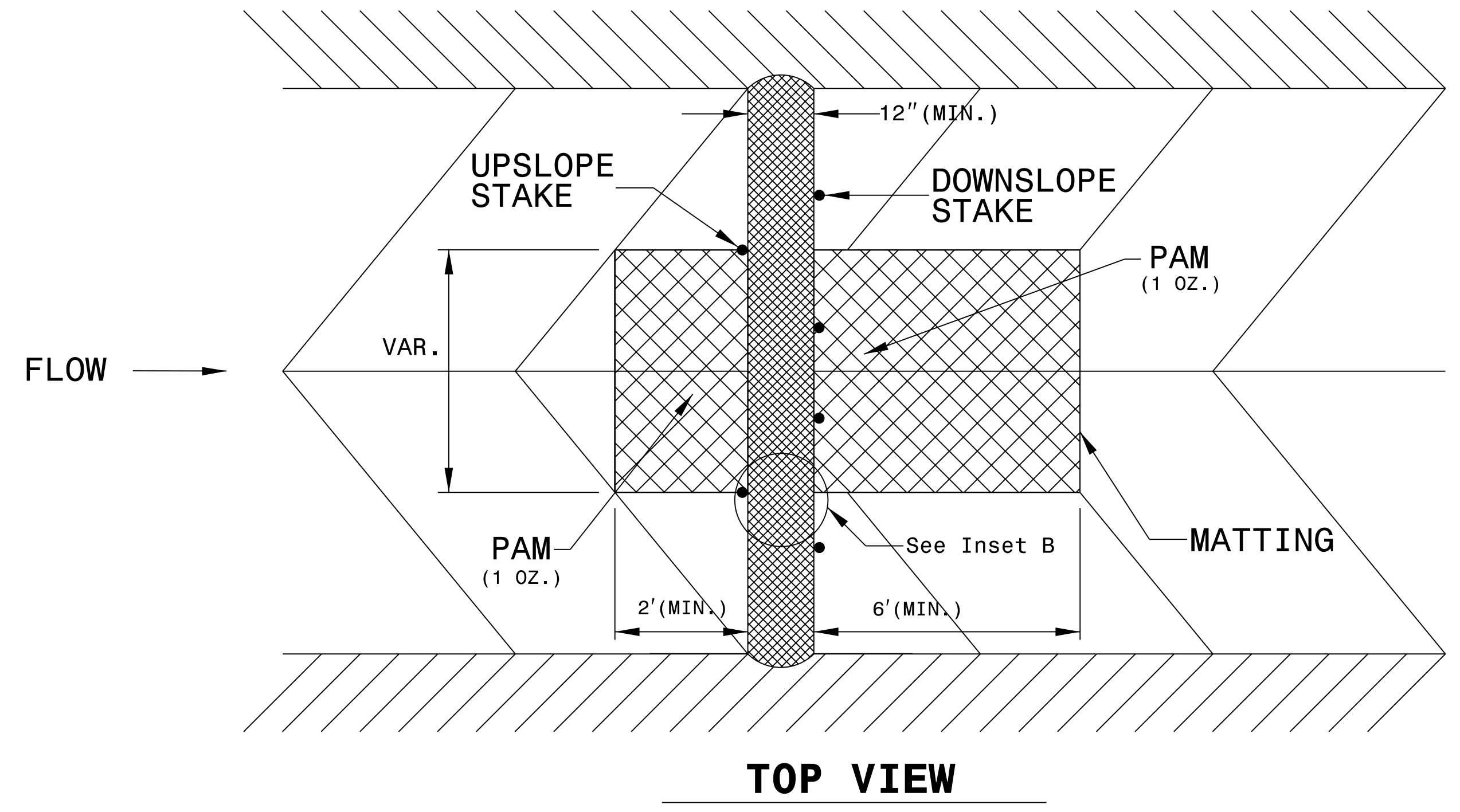
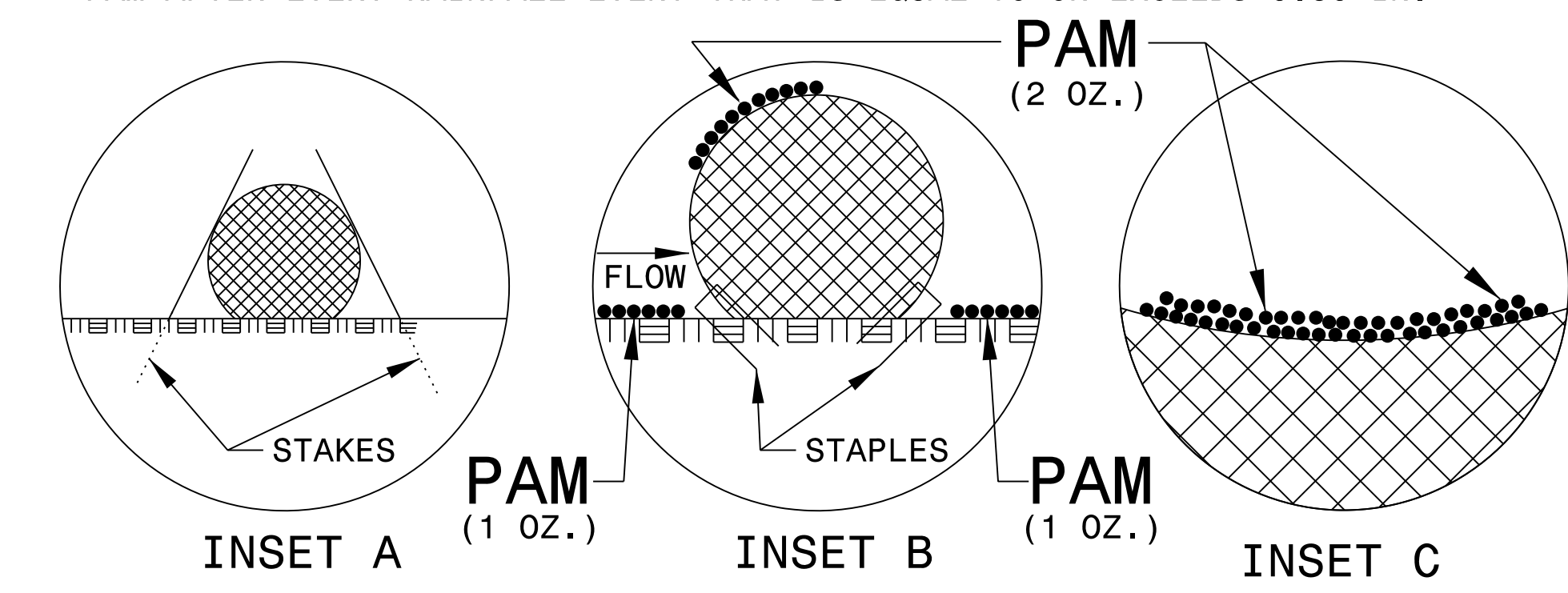
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

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

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

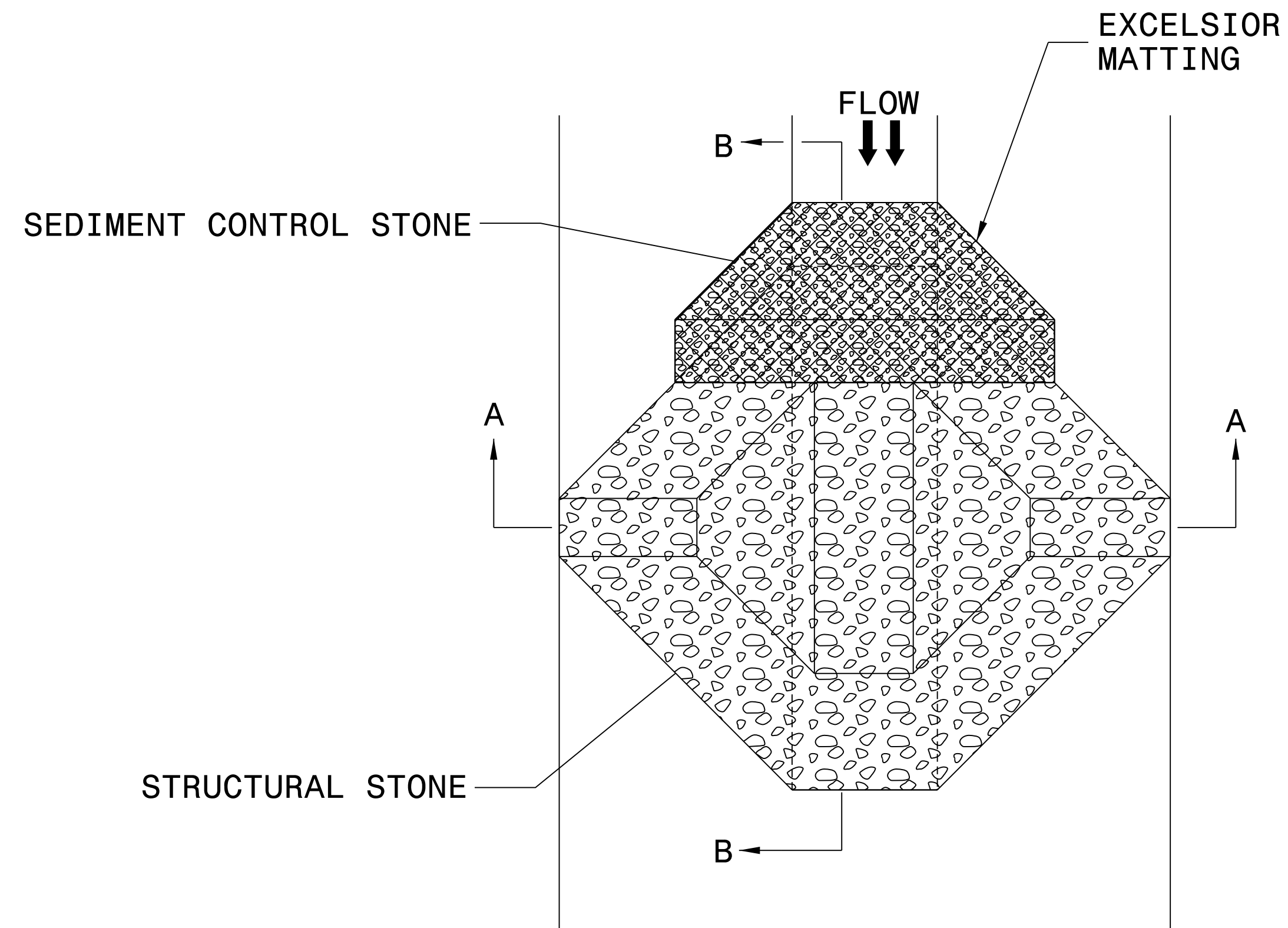
INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



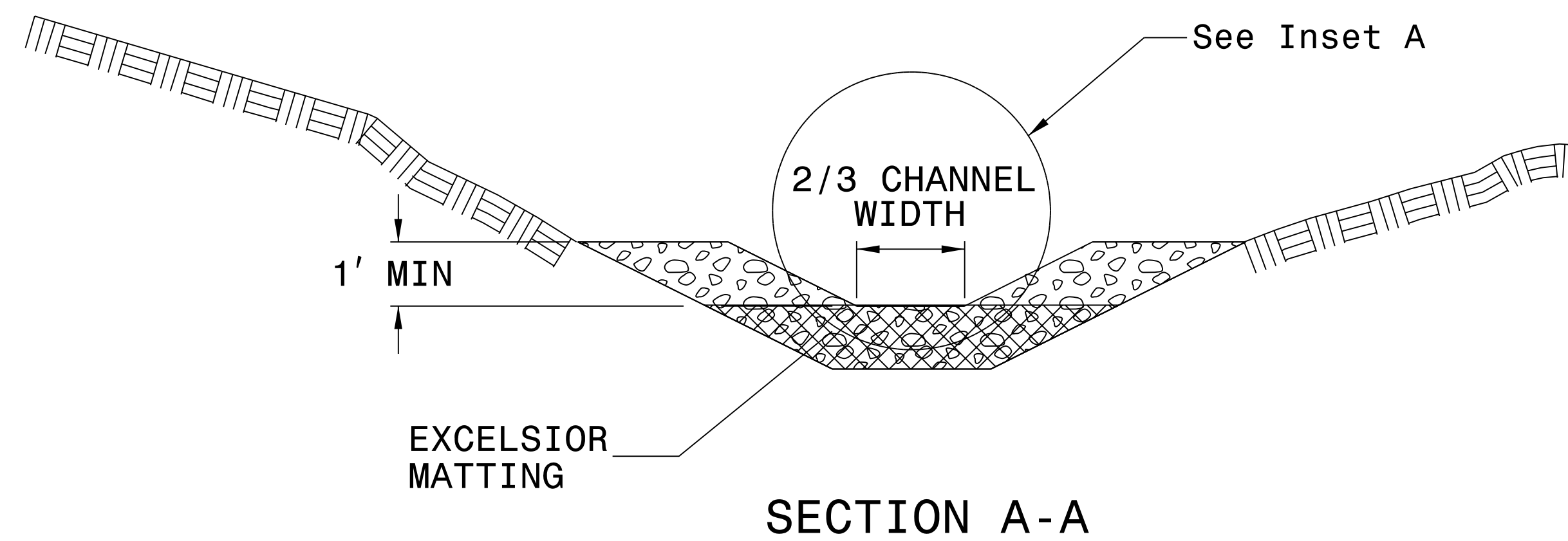


PROJECT REFERENCE NO. <i>R-5769</i>	SHEET NO. <i>EC-2C</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

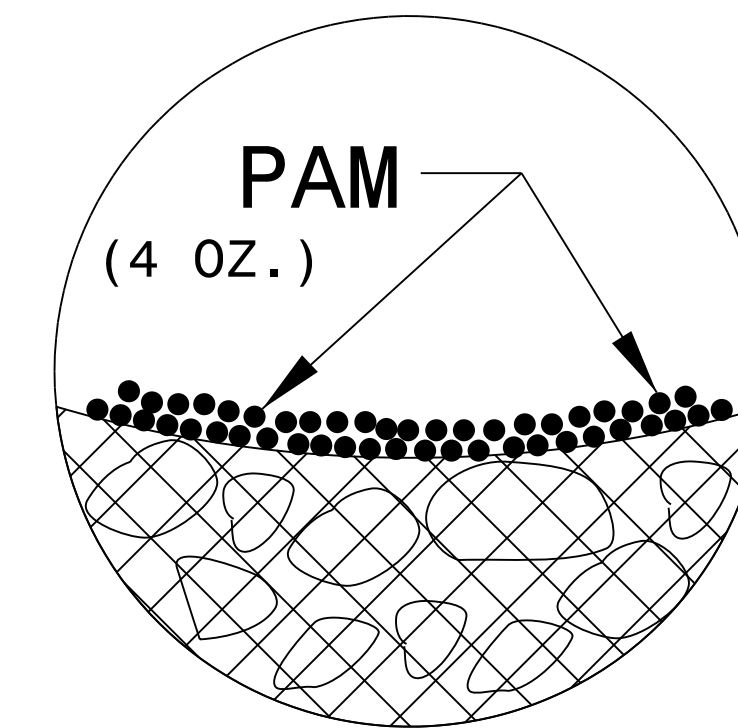
NOTES:

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

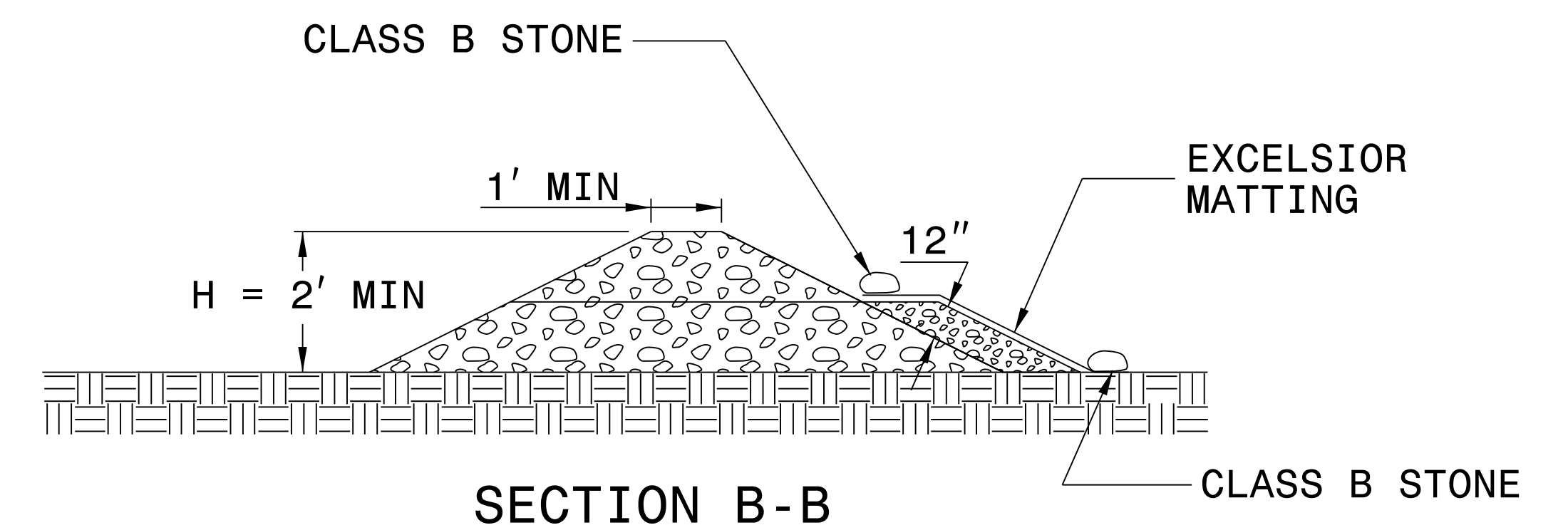
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

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



INSET A



SECTION B-B

NOT TO SCALE

# RAILROAD EROSION CONTROL DETAIL

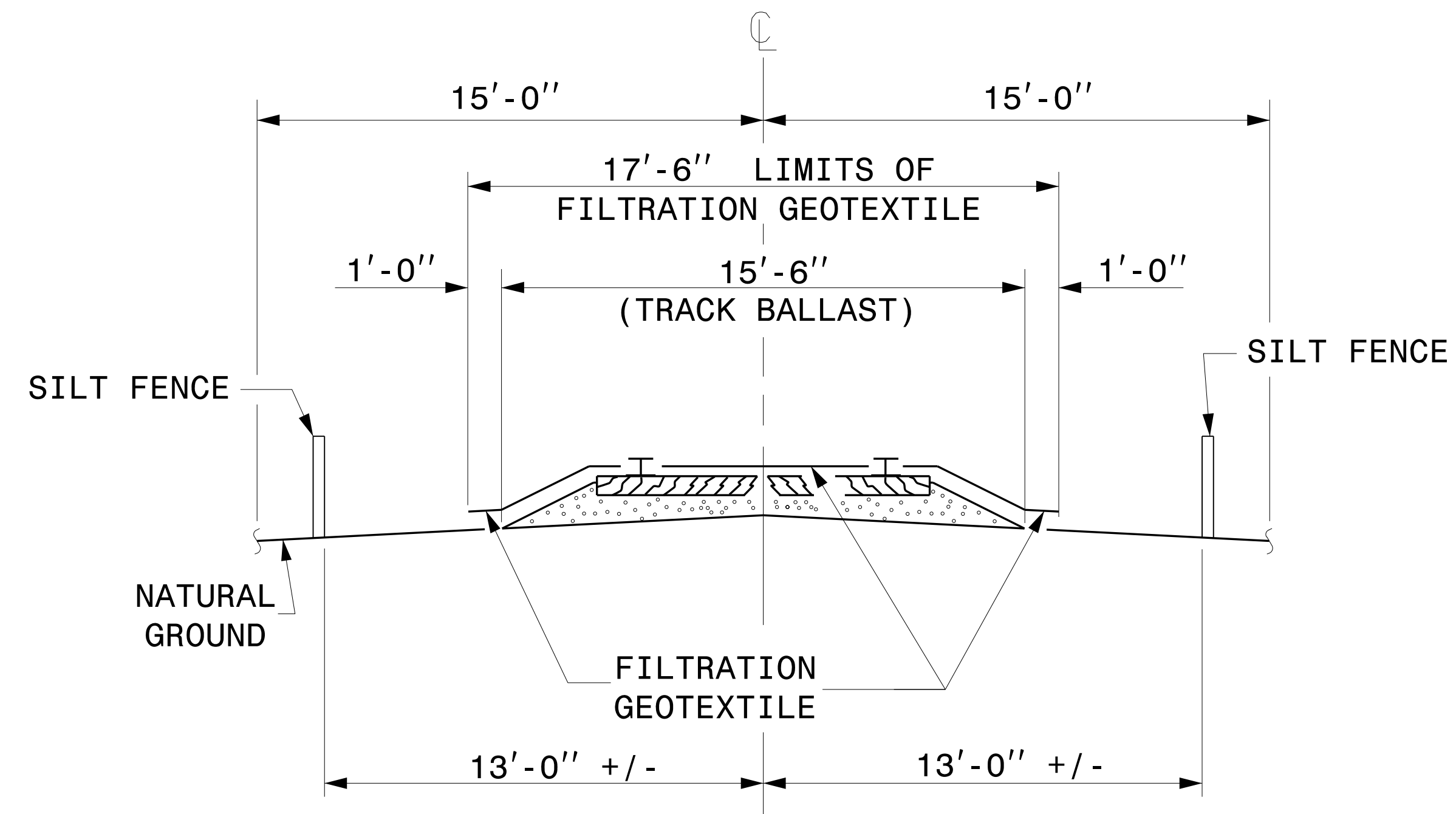
PROJECT REFERENCE NO. R-5769	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR  
**RAILROAD EROSION CONTROL DETAIL**

SHEET 1 OF 1  
**1604.01**



NOTES

INSTALL RAILROAD EROSION CONTROL MEASURES PRIOR TO PERFORMING ANY WORK IN THE RAILROAD RIGHT-OF-WAY.

ADDITIONAL EROSION CONTROL MEASURES FOR PROTECTION OF RAILROAD DITCHES MAY BE REQUIRED AS DIRECTED.

MAKE NO SEPARATE PAYMENT FOR RAILROAD EROSION CONTROL MEASURES.

EXTEND LIMITS OF SILT FENCE AND FILTRATION GEOTEXTILE PARALLEL TO RAILROAD A MINIMUM OF 10'-0" OUTSIDE EDGE OF SUPERSTRUCTURE OR TOE OF SLOPE ON CONSTRUCTION. A GREATER LENGTH OF SILT FENCE OR FILTRATION GEOTEXTILE MAY BE REQUIRED AS DIRECTED.

NAIL FILTRATION GEOTEXTILE TO TIMBER RAIL TIES WITH PRIME SOURCE "GRIP CAP" OR EQUIVALENT. SECURE FILTRATION GEOTEXTILE ON SHOULDER AS DIRECTED BY THE RAILROAD AND NCDOT.

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR  
**RAILROAD EROSION CONTROL DETAIL**

SHEET 1 OF 1  
**1604.01**





DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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PROJECT REFERENCE NO. <i>R-5769</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. R-5769	SHEET NO. EC-4/CONST.4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION	
SEE SHEET 9 FOR -YIREV- PROFILE SEE SHEET 9 FOR -L- PROFILE	

NOTE: CONTRACTOR WILL BE REQUIRED TO FOLLOW NCDOT RECLAMATION PROCEDURES FOR BORROW/WASTESTAGING AREAS FOR CONSTRUCTION IF LAND DISTURBING ACTIVITIES OCCUR WITHIN THE CONTRACTOR LAYDOWN AREA

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 4

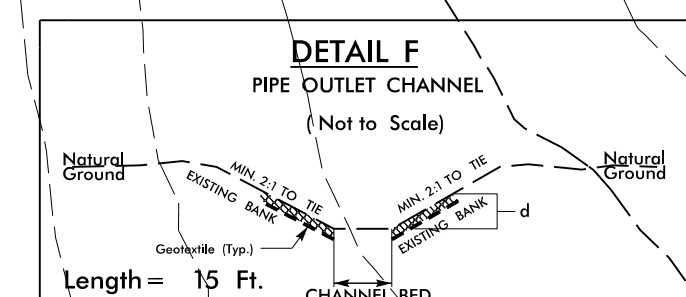
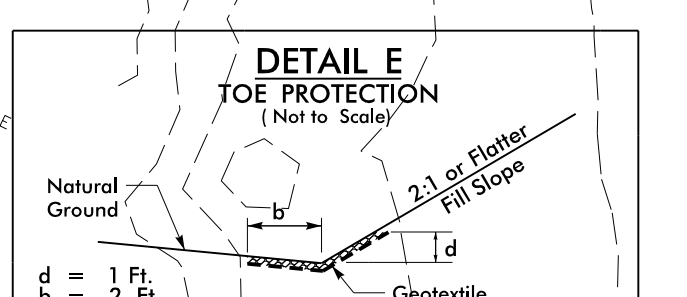
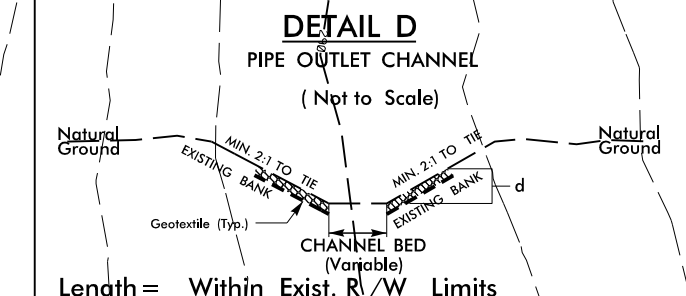
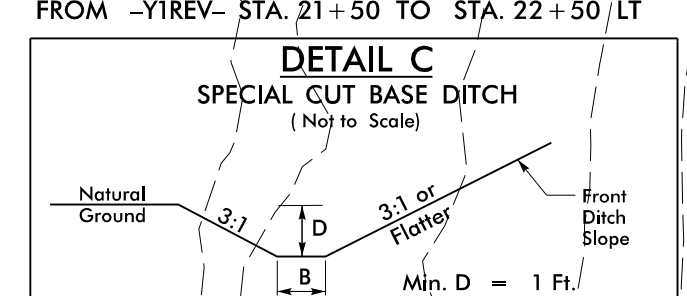
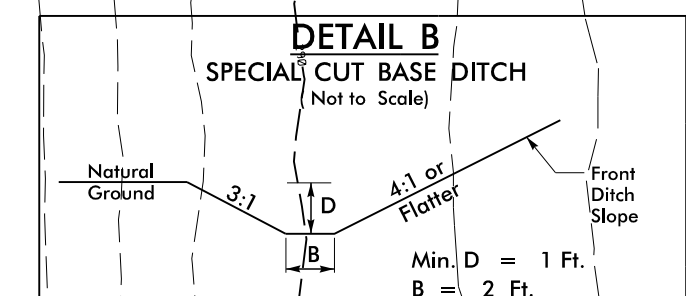
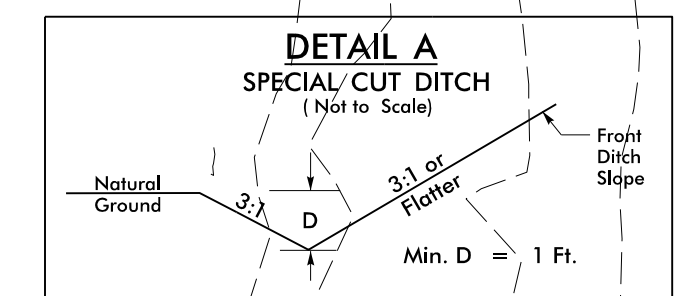
ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

40 x 12 x 3  
1.5 inch Skimmer  
with 0.5 inch  
Orifice Diameter  
4 ft. weir  
ID 4.4

36 x 12 x 3  
1.5 inch Skimmer  
with 0.5 inch  
Orifice Diameter  
4 ft. weir  
ID 4.3

35 x 12 x 3  
1.5 inch Skimmer  
with 0.375 inch  
Orifice Diameter  
4 ft. weir  
ID 4.2

40 x 14 x 3  
4 ft. weir  
ID 4.1

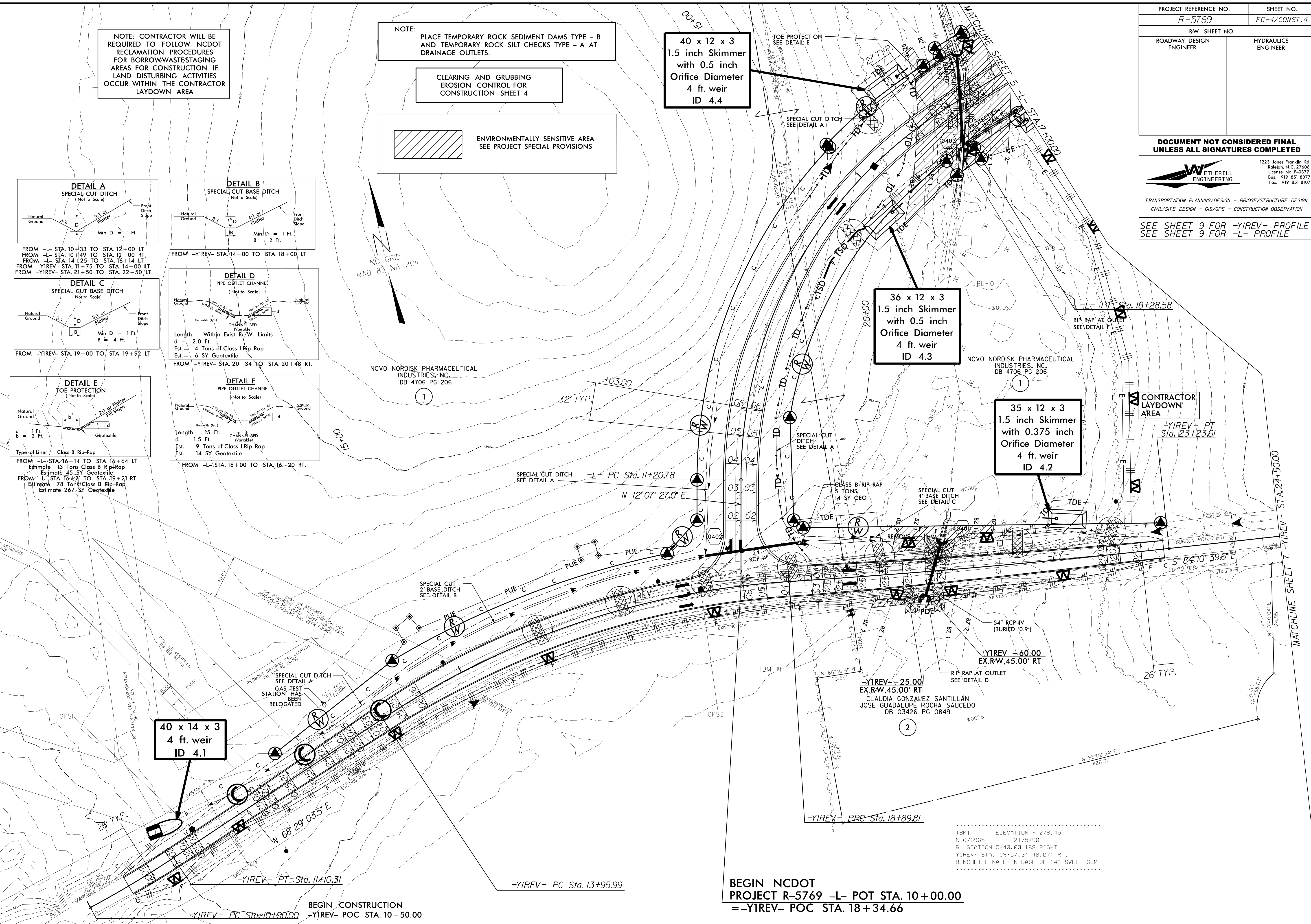


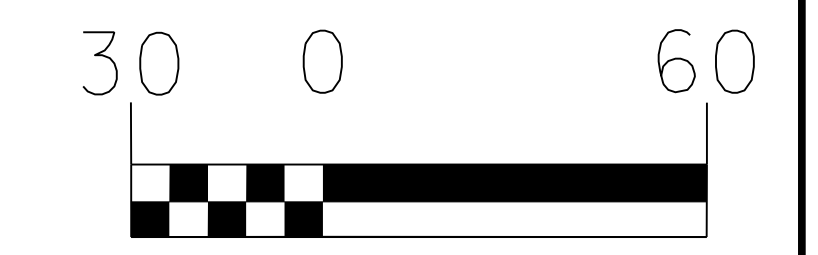
REVISIONS

SYSTEMS DESIGN/CONSTRUCTION/OPERATION/MAINTENANCE

BEGIN NCDOT PROJECT R-5769 -L- POT STA. 10+00.00  
=-YIREV- POC STA. 18+34.66

TBM1 ELEVATION - 278.45  
N 678965 E 2175790  
BL STATION 5+40.00 168 RIGHT  
YIREV- STA. 19+57.34 40.07' RT.  
BENCHMARK NAIL IN BASE OF 14" SWEET GUM



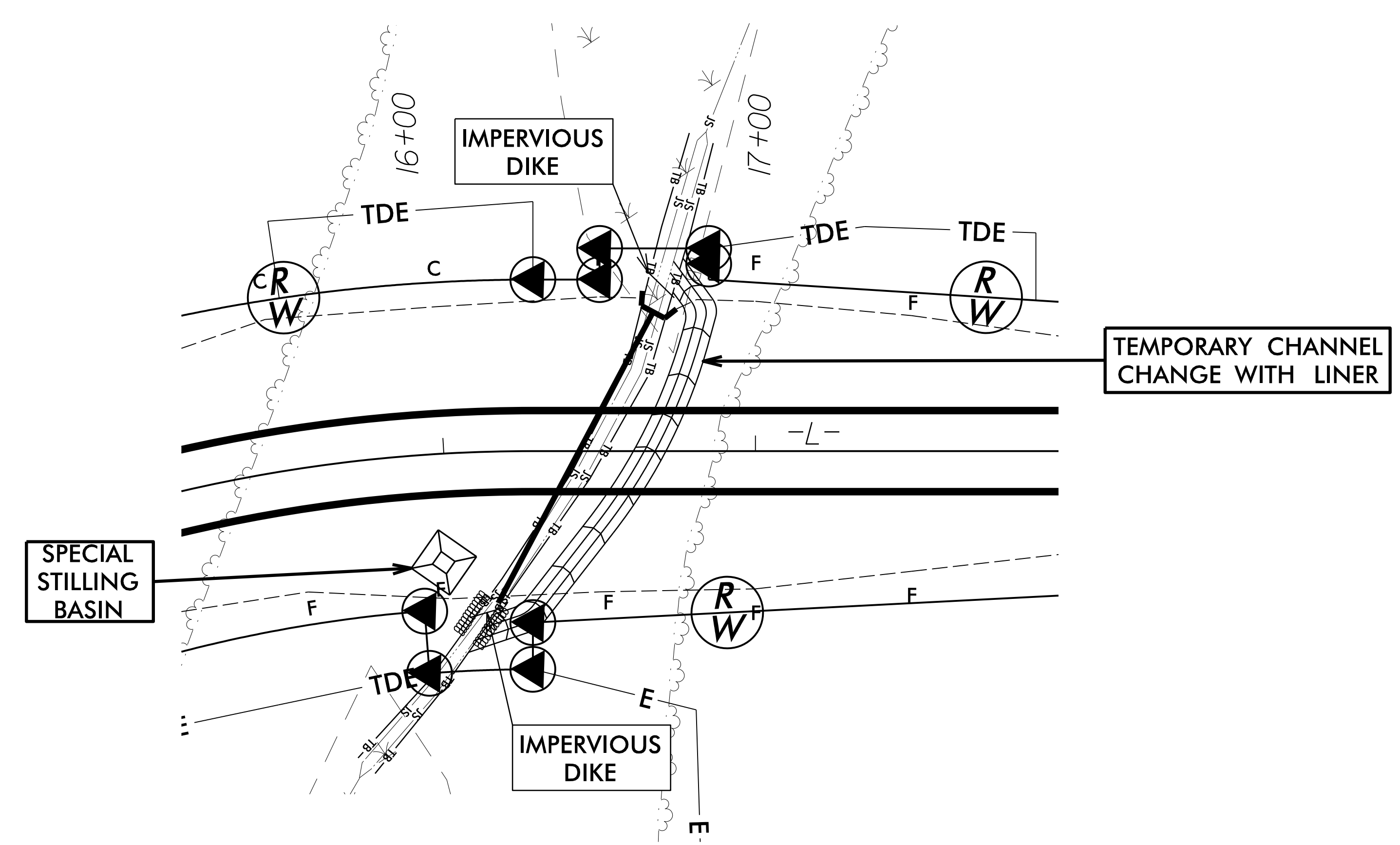
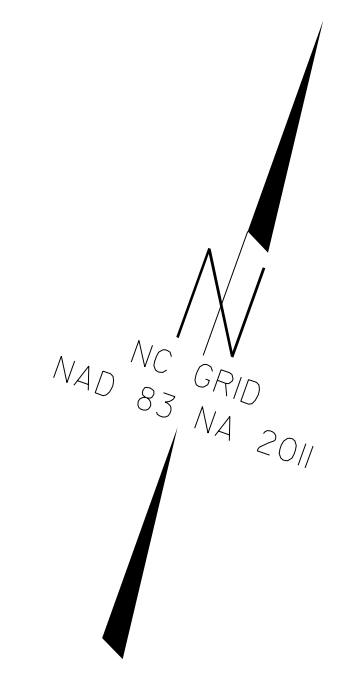


# CULVERT CONSTRUCTION SEQUENCE

## STA. 16+43 -L-

1. INSTALL PROPOSED EROSION CONTROL MEASURES
2. INSTALL SPECIAL STILLING BASIN FOR PUMPED EFFLUENT (MIN. VOLUME = 37 CY)
3. CONSTRUCT IMPERVIOUS DIKES AND INSTALL TEMPORARY CHANNEL CHANGE WITH LINER (3 FT. BASE, 1.5 FT. DEEP, 2:1 SIDE SLOPES)
4. INSTALL PROPOSED PIPE AND PORTION OF INLET/OUTLET CHANNEL IMPROVEMENTS
5. REMOVE IMPERVIOUS DIKES AND DIVERT FLOW THROUGH PIPE
6. CONSTRUCT REMAINDER OF INLET/OUTLET CHANNEL IMPROVEMENTS
7. REMOVE SPECIAL STILLING BASIN AND COMPLETE ROADWAY IMPROVEMENTS

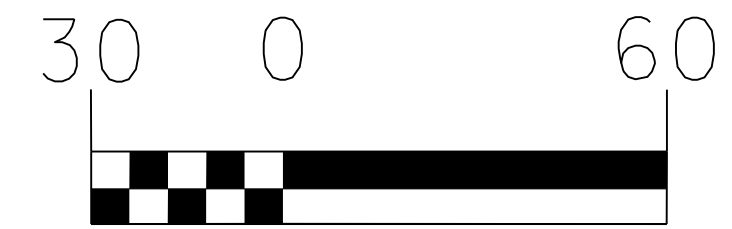
REVISIONS



\$\$\$SYTIME\$\$\$  
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 \$\$\$COURSE\$\$\$  
 \$\$\$PROJECT\$\$\$  
 \$\$\$SHEET\$\$\$  
 \$\$\$TITLE\$\$\$

8/17/99

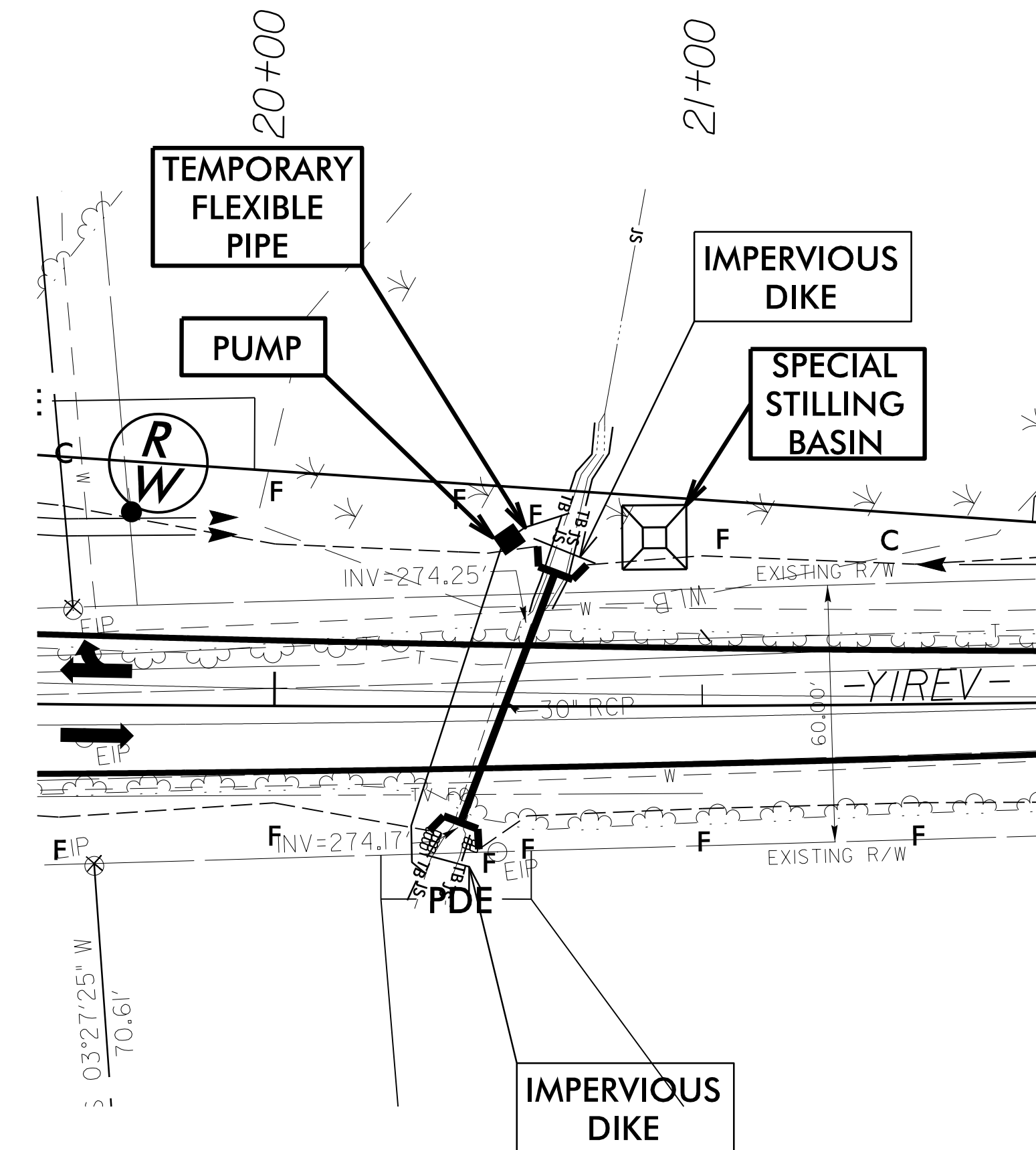
REVISIONS



# CULVERT CONSTRUCTION SEQUENCE


## STA. 20+52 -YIREV-

1. INSTALL PROPOSED EROSION CONTROL MEASURES
2. INSTALL SPECIAL STILLING BASIN FOR PUMPED EFFLUENT (MIN. VOLUME = 23 CY)
3. INSTALL PUMP AND TEMPORARY FLEXIBLE PIPE
4. CONSTRUCT IMPERVIOUS DIKES
5. INSTALL PROPOSED PIPE AND PORTION OF INLET/OUTLET CHANNEL IMPROVEMENTS
6. REMOVE IMPERVIOUS DIKES AND DIVERT FLOW THROUGH PIPE
7. REMOVE PUMP AND TEMPORARY FLEXIBLE PIPE
8. CONSTRUCT REMAINDER OF INLET/OUTLET CHANNEL IMPROVEMENTS
9. REMOVE SPECIAL STILLING BASIN AND COMPLETE ROADWAY IMPROVEMENTS



\$\$\$\$\$\$SYTIME\$\$\$\$\$\$  
 \$\$\$\$\$\$UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MDTCD STANDARD SPECIFICATIONS FOR  
 \$\$\$\$\$\$CONSTRUCTION, SECOND EDITION, 2002, AND THE 2003 EDITIONS OF THE NORTH CAROLINA STANDARD SPECIFICATIONS FOR  
 \$\$\$\$\$\$CONSTRUCTION, 2003 EDITION.

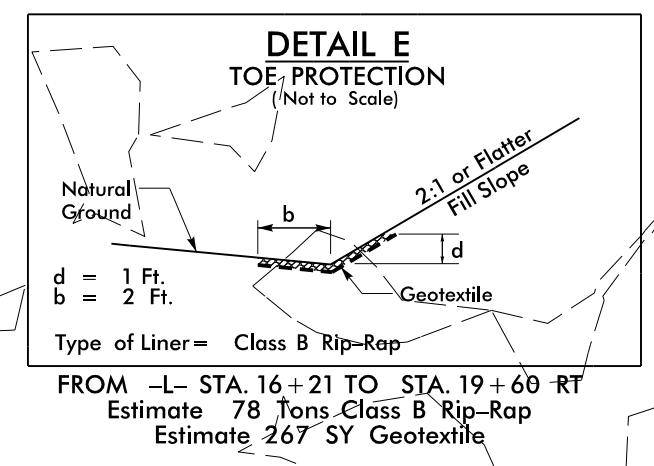


PROJECT REFERENCE NO. R-5769	SHEET NO. EC-7/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
<small>1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. E-49377 Bus: 919 851 8077 Fax: 919 851 8107</small>	
<small>TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION</small>	

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 5

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

NOTE: CONTRACTOR WILL BE  
REQUIRED TO FOLLOW NCDOT  
RECLAMATION PROCEDURES  
FOR BORROWWASTESTAGING  
AREAS FOR CONSTRUCTION IF  
LAND DISTURBING ACTIVITIES  
OCCUR WITHIN THE CONTRACTOR  
LAYDOWN AREA



36 x 12 x 3  
1.5 inch Skimmer  
with 0.5 inch  
Orifice Diameter  
4 ft. weir  
ID 5.2


61x 15 x 3  
4 ft. weir  
ID 5.3

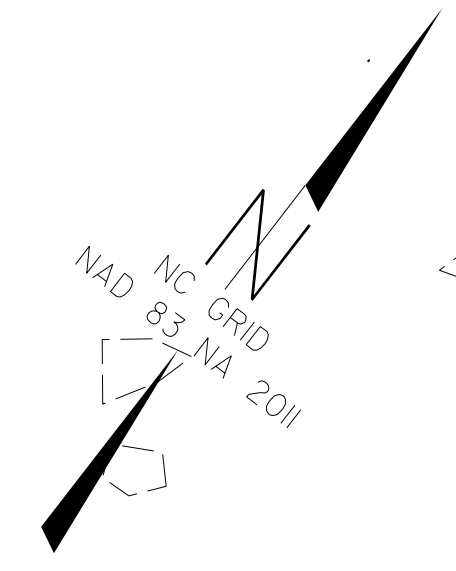
48 x 17 x 3  
4 ft. weir  
ID 5.5

48 x 17 x 3  
4 ft. weir  
ID 5.6

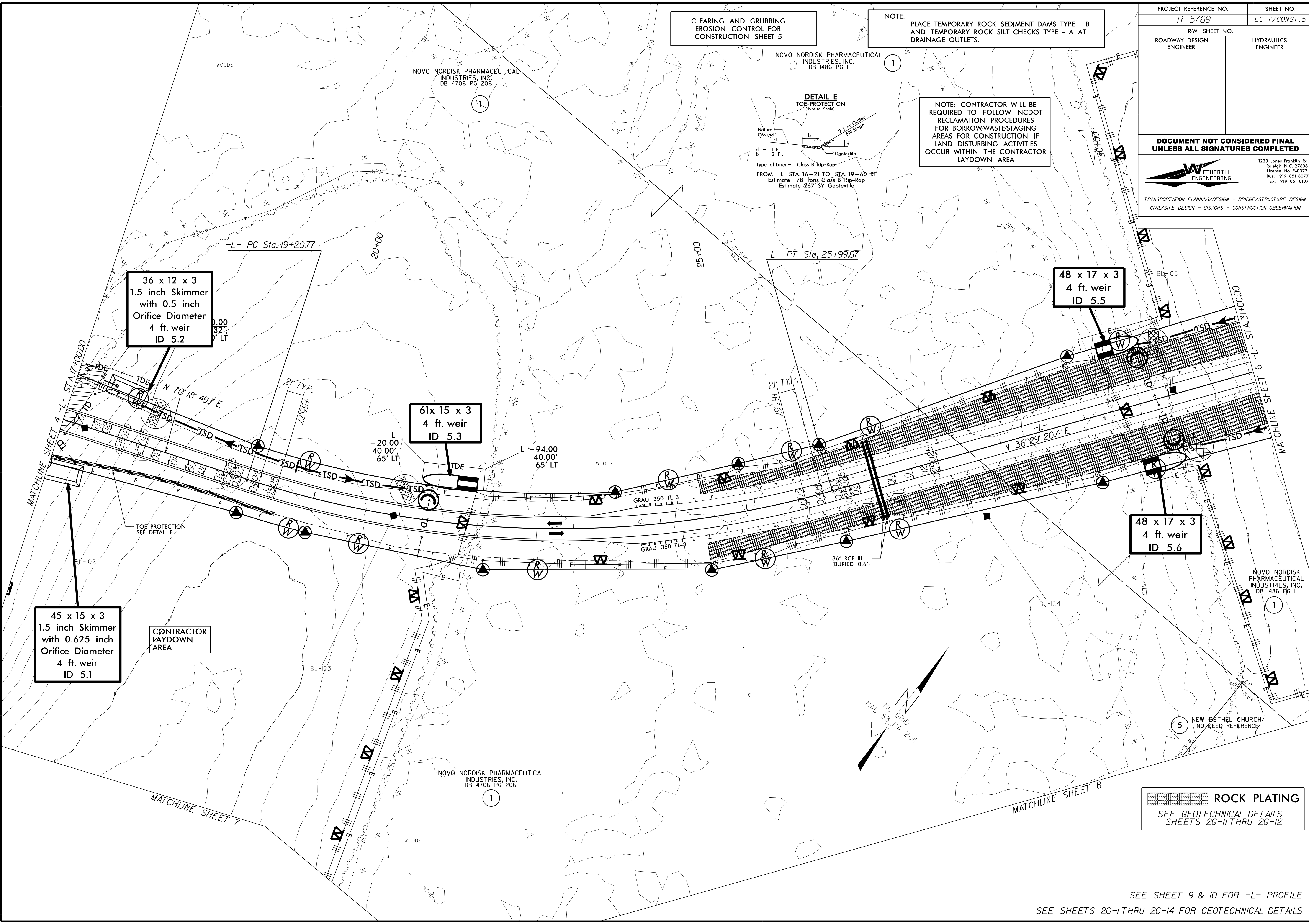
45 x 15 x 3  
1.5 inch Skimmer  
with 0.625 inch  
Orifice Diameter  
4 ft. weir  
ID 5.1

CONTRACTOR  
LAYDOWN  
AREA

 **ROCK PLATING**  
SEE GEOTECHNICAL DETAILS  
SHEETS 26-11 THRU 26-12




8/17/99  
REVISIONS  
SYTIME  
CON  
DESIGN  
CONSTRUCTION



SEE SHEET 9 & 10 FOR -L- PROFILE  
SEE SHEETS 26-1 THRU 26-14 FOR GEOTECHNICAL DETAILS



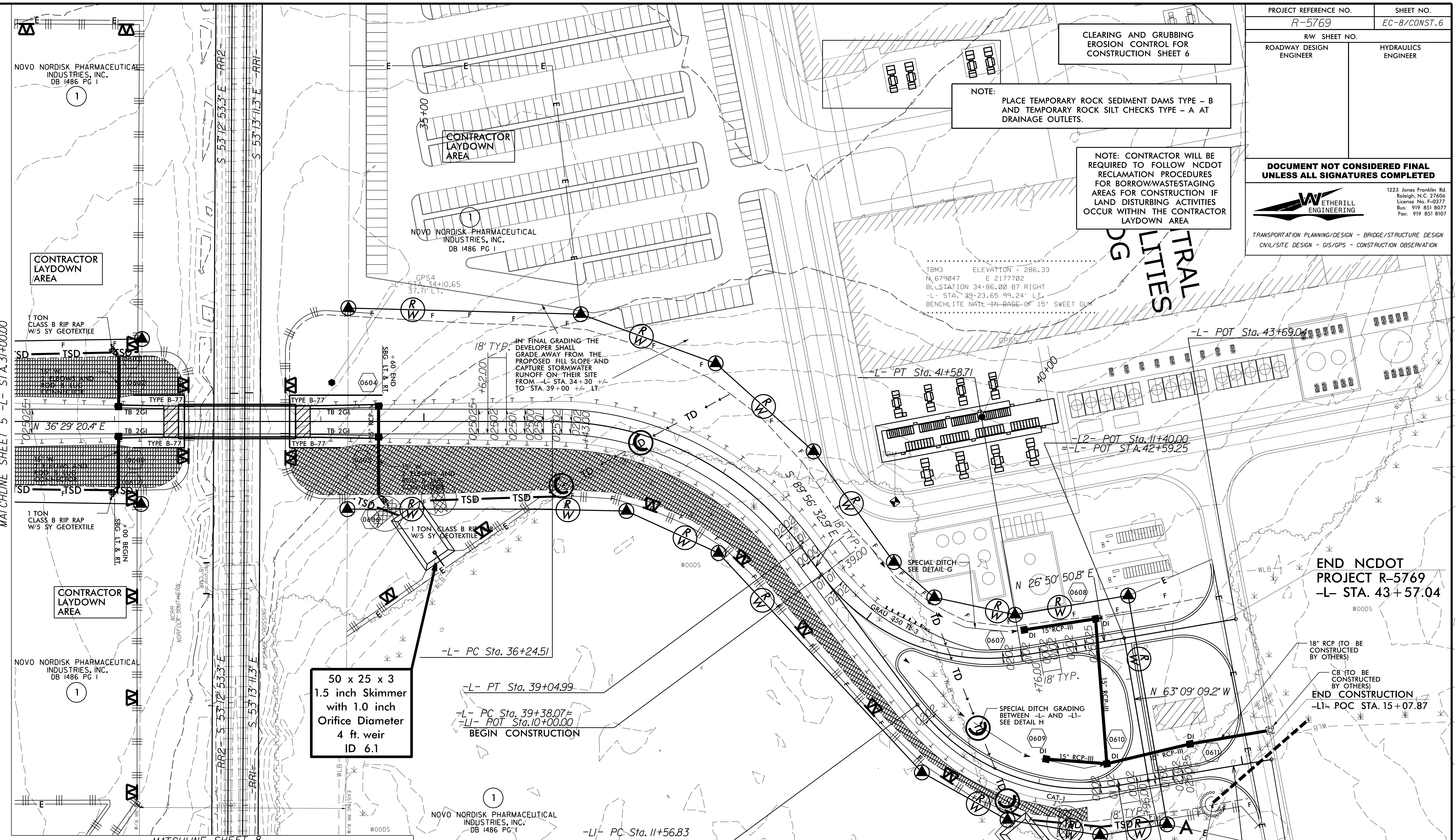
PROJECT REFERENCE NO.	SHEET NO.
R-5769	EC-8/CONST.6
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
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<small>TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION</small>	

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.

NOTE: CONTRACTOR WILL BE  
REQUIRED TO FOLLOW NCDOT  
RECLAMATION PROCEDURES  
FOR BORROW/WASTESTAGING  
AREAS FOR CONSTRUCTION IF  
LAND DISTURBING ACTIVITIES  
OCCUR WITHIN THE CONTRACTOR  
LAYDOWN AREA

TBM3 ELEVATION = 286.33  
N 67°04'7" E 2177702  
BL STATION 34+86.00 87 RIGHT  
-L- STA. 29+23.65 99.24' LT  
BENCHLITE NAT'L IN-BASE-OF 15" SWEET GUM



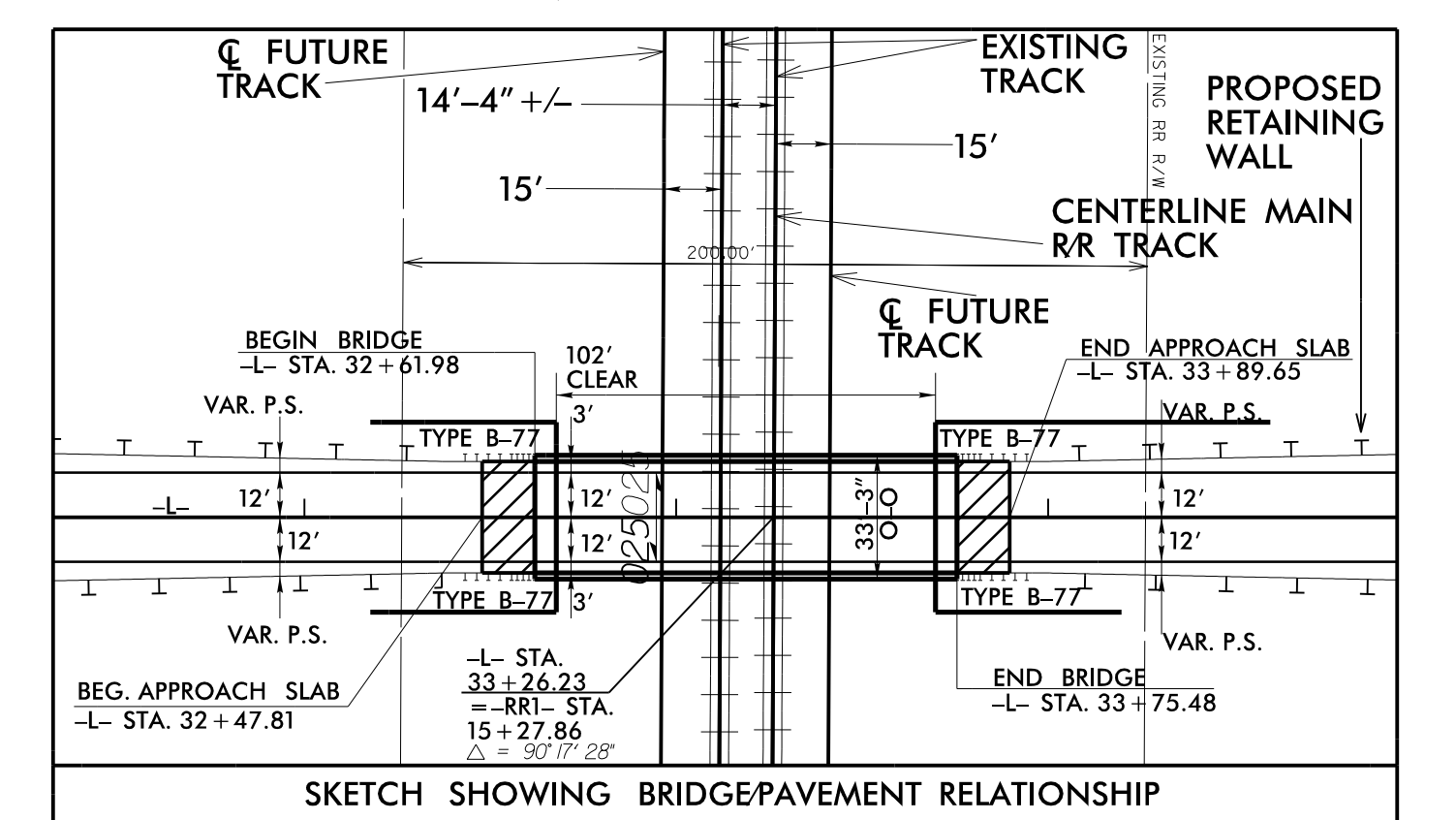
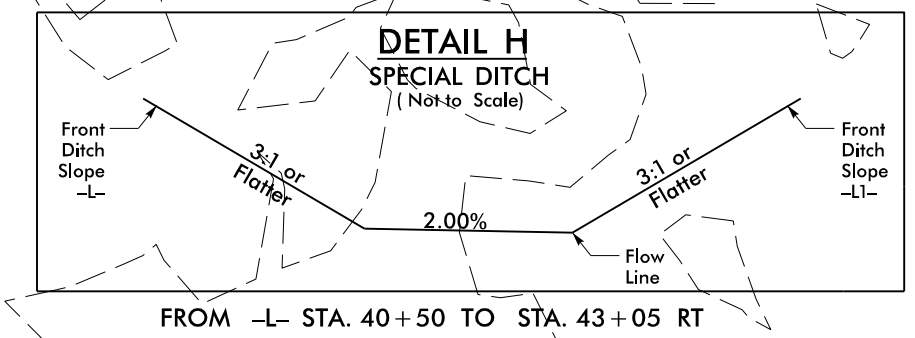
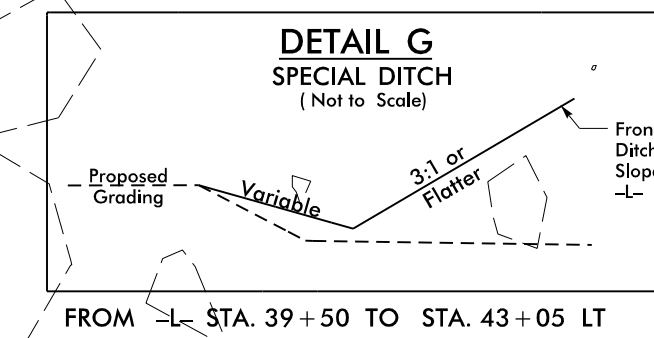
END NCDOT  
PROJECT R-5769  
-L- STA. 43+57.04

END CONSTRUCTION  
-L- POC STA. 15+07.87

-L- POT Sta. 15+28.38

**ROCK PLATING**  
SEE GEOTECHNICAL DETAILS  
SHEETS 26-11 THRU 26-12

**48 x 24 x 3  
1.5 inch Skimmer  
with 0.875 inch  
Orifice Diameter  
4 ft. weir  
ID 6.2**




SEE SHEET 10 FOR -L-, -LI-, & -L2- PROFILE  
SEE SHEETS 26-1 THRU 26-14 FOR GEOTECHNICAL DETAILS  
SEE SHEETS S-1 THRU S-23 FOR STRUCTURE PLANS  
SEE SHEETS W-1 THRU W-6 FOR WALL PLANS

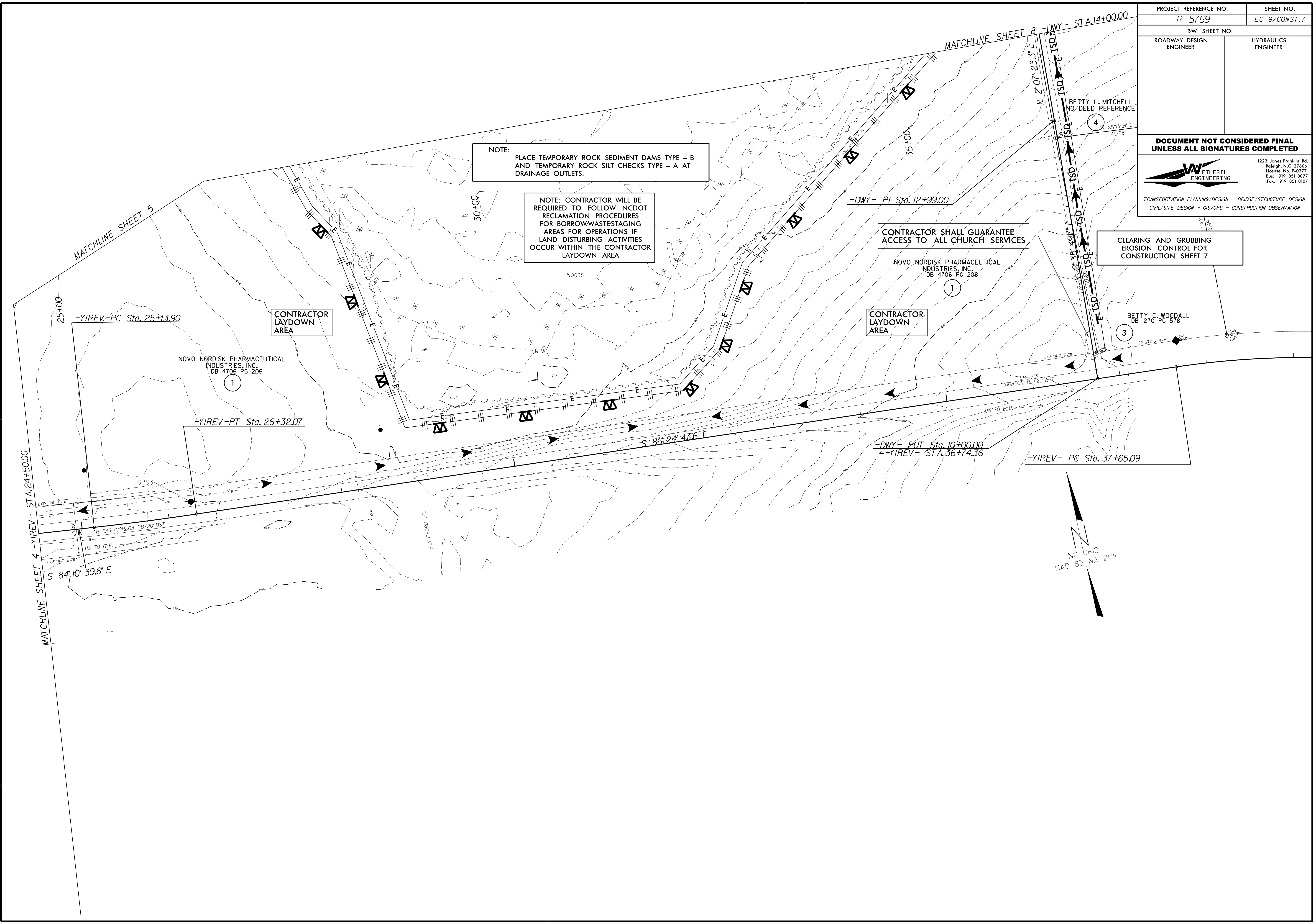
REVISIONS

8/17/99

8/17/99

PROJECT REFERENCE NO. R-5769	SHEET NO. EC-9/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
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<small>TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION</small>	


REVISIONS



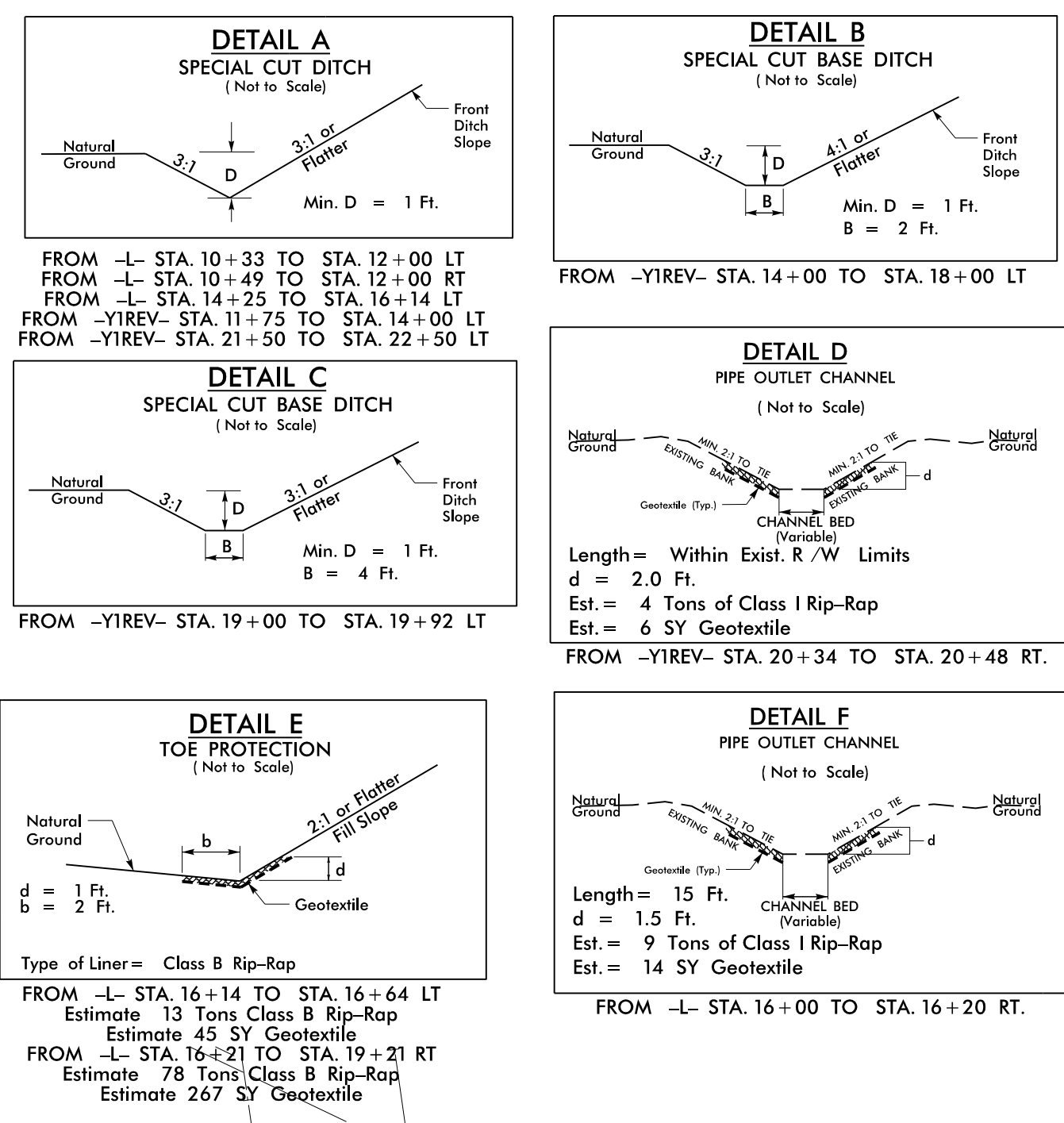
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 \$\$\$\$\$\$DATE\$\$\$\$\$





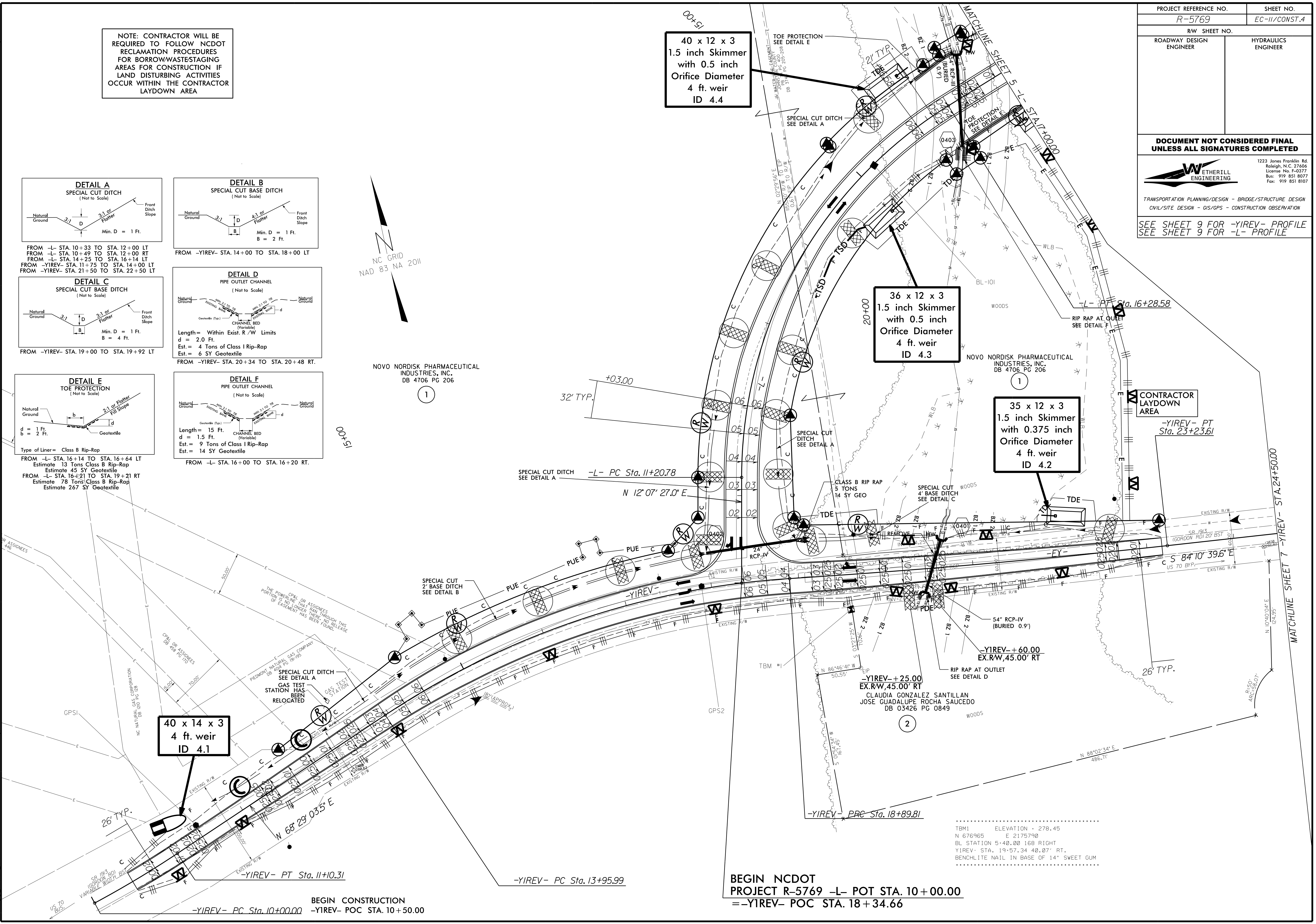
PROJECT REFERENCE NO.	SHEET NO.
R-5769	EC-II/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
<small>TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION</small>	
<small>1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. E-02377 Bus: 919 851 8077 Fax: 919 851 8107</small>	
<small>SEE SHEET 9 FOR -YIREV- PROFILE SEE SHEET 9 FOR -L- PROFILE</small>	

NOTE: CONTRACTOR WILL BE REQUIRED TO FOLLOW NCDOT RECLAMATION PROCEDURES FOR BORROW/WASTESTAGING AREAS FOR CONSTRUCTION IF LAND DISTURBING ACTIVITIES OCCUR WITHIN THE CONTRACTOR LAYDOWN AREA



NOVO NORDISK PHARMACEUTICAL INDUSTRIES, INC. DB 4706 PG 206

REVISIONS




BEGIN NCDOT PROJECT R-5769 -L- POT STA. 10+00.00 = -YIREV- POC STA. 18+34.66

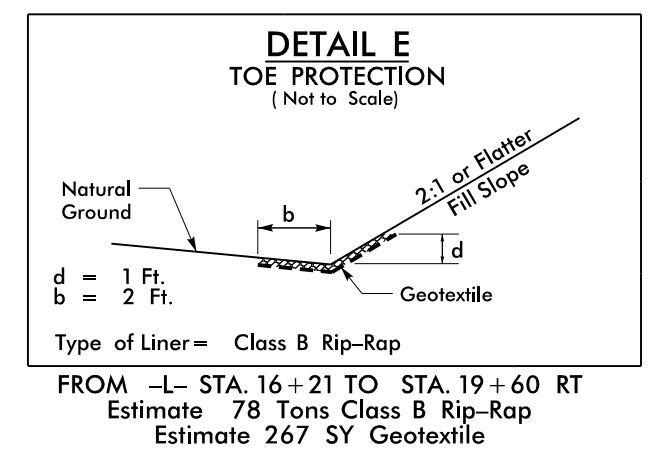
TBM1 ELEVATION = 278.45  
N 676965 E 2175790  
BL STATION 5+40.00 168 RIGHT  
YIREV- STA. 19+57.34 40.07' RT.  
BENCHLITE NAIL IN BASE OF 14' SWEET GUM

BEGIN CONSTRUCTION  
-YIREV- PC STA. 10+00.00 -YIREV- POC STA. 10+50.00

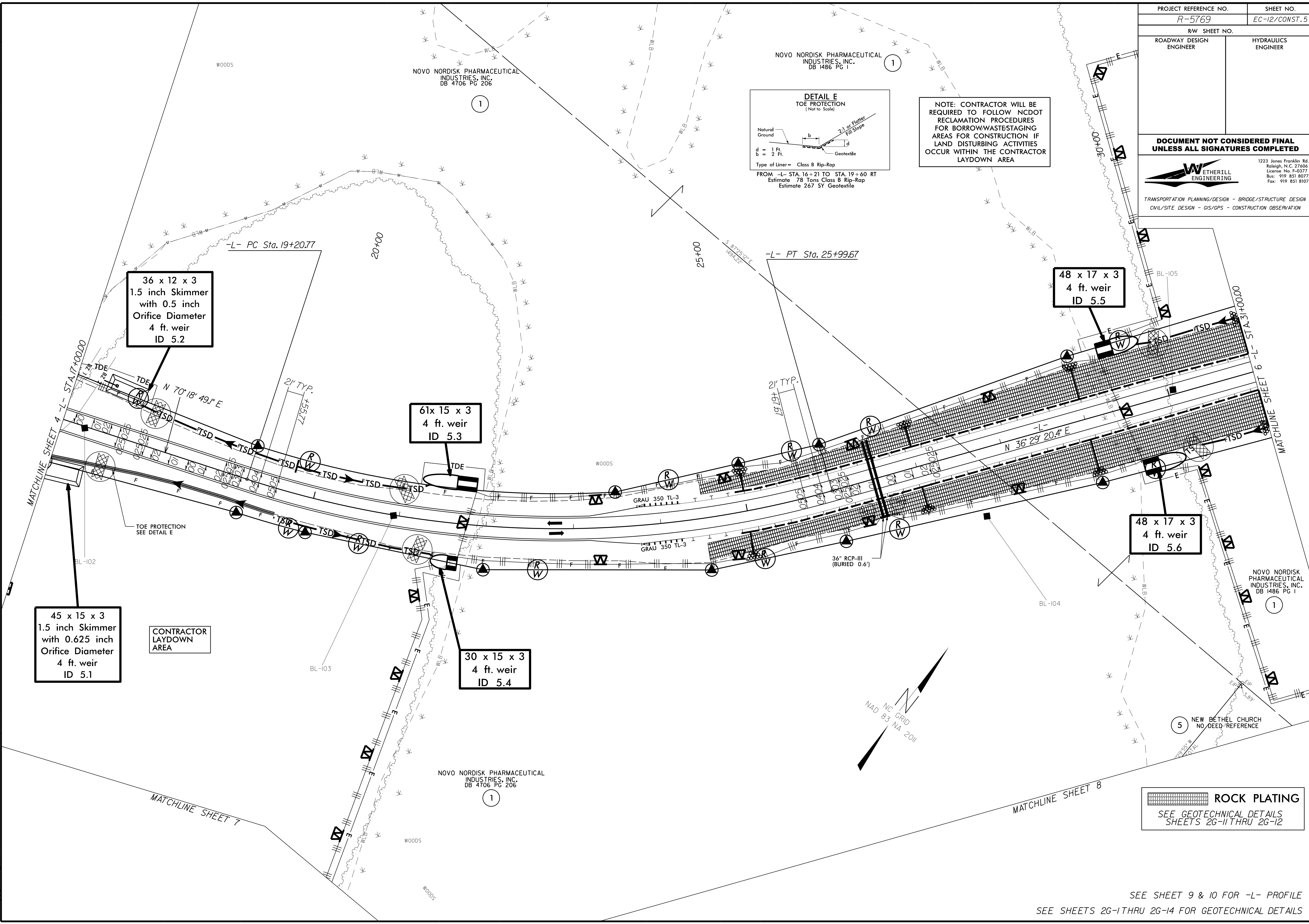
8/17/99




PROJECT REFERENCE NO.	SHEET NO.
R-5769	EC-12/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
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<small>TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION</small>	



NOTE: CONTRACTOR WILL BE REQUIRED TO FOLLOW NCDOT RECLAMATION PROCEDURES FOR BORROWWASTESTAGING AREAS FOR CONSTRUCTION IF LAND DISTURBING ACTIVITIES OCCUR WITHIN THE CONTRACTOR LAYDOWN AREA



 **ROCK PLATING**  
SEE GEOTECHNICAL DETAILS SHEETS 26-11 THRU 26-12


SEE SHEET 9 & 10 FOR -L- PROFILE  
SEE SHEETS 26-1 THRU 26-14 FOR GEOTECHNICAL DETAILS

REVISIONS

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SYSTEMS TIME DESIGN



PROJECT REFERENCE NO.	SHEET NO.
R-5769	EC-13/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	
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<small>TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION</small>	

NOTE: CONTRACTOR WILL BE REQUIRED TO FOLLOW NCDOT RECLAMATION PROCEDURES FOR BORROW/WASTESTAGING AREAS FOR CONSTRUCTION IF LAND DISTURBING ACTIVITIES OCCUR WITHIN THE CONTRACTOR LAYDOWN AREA

TBM3 ELEVATION + 286.33  
N 67°04' E 2177702  
BL STATION 34+86.00 87 RIGHT  
-L- STA. 39+23.65 99.24' LT.  
BENCHLITE NAIL IN BASE OF 15" SWEET GUM

END NCDOT PROJECT R-5769  
-L- STA. 43+57.04

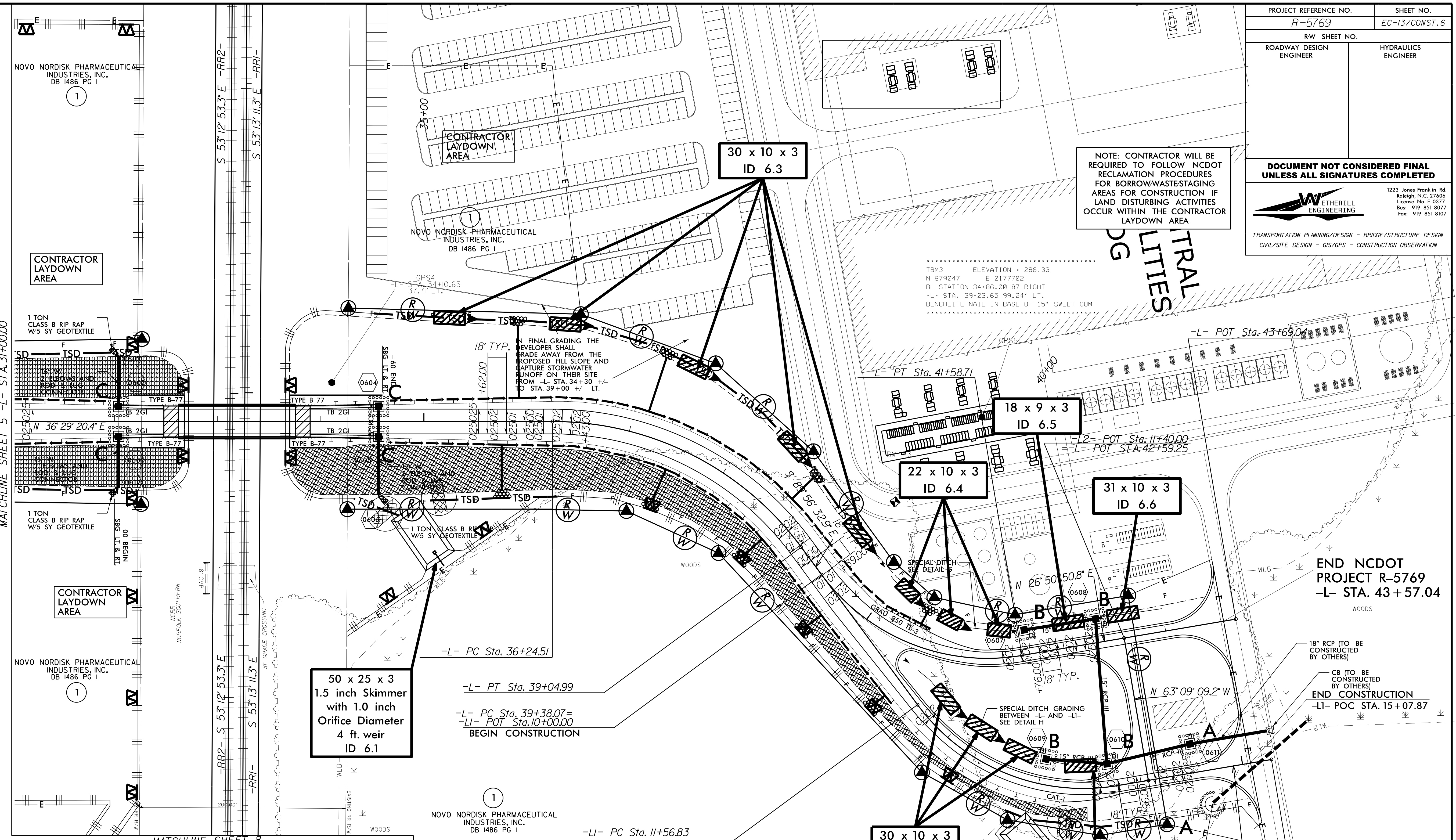
END CONSTRUCTION  
-LI- POC STA. 15+07.87

-LI- POT STA. 15+28.38

-LI- PT STA. 13+77.48  
-L2- POT STA. 10+00.00  
=-LI- POT STA. 14+07.33

**ROCK PLATING**  
SEE GEOTECHNICAL DETAILS SHEETS 26-11 THRU 26-12

SEE SHEET 10 FOR -L-, -LI-, & -L2- PROFILE  
SEE SHEETS 26-1 THRU 26-14 FOR GEOTECHNICAL DETAILS  
SEE SHEETS S-1 THRU S-23 FOR STRUCTURE PLANS  
SEE SHEETS W-1 THRU W-6 FOR WALL PLANS



50 x 25 x 3  
1.5 inch Skimmer  
with 1.0 inch  
Orifice Diameter  
4 ft. weir  
ID 6.1

30 x 10 x 3  
ID 6.3

22 x 10 x 3  
ID 6.4

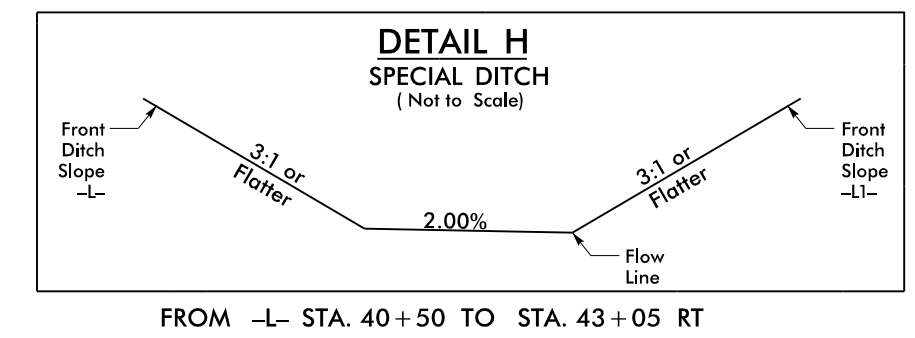
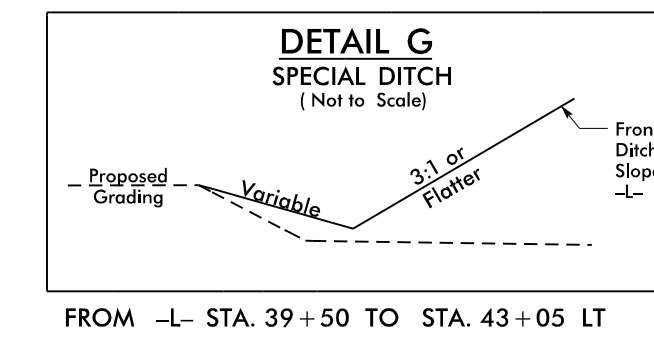
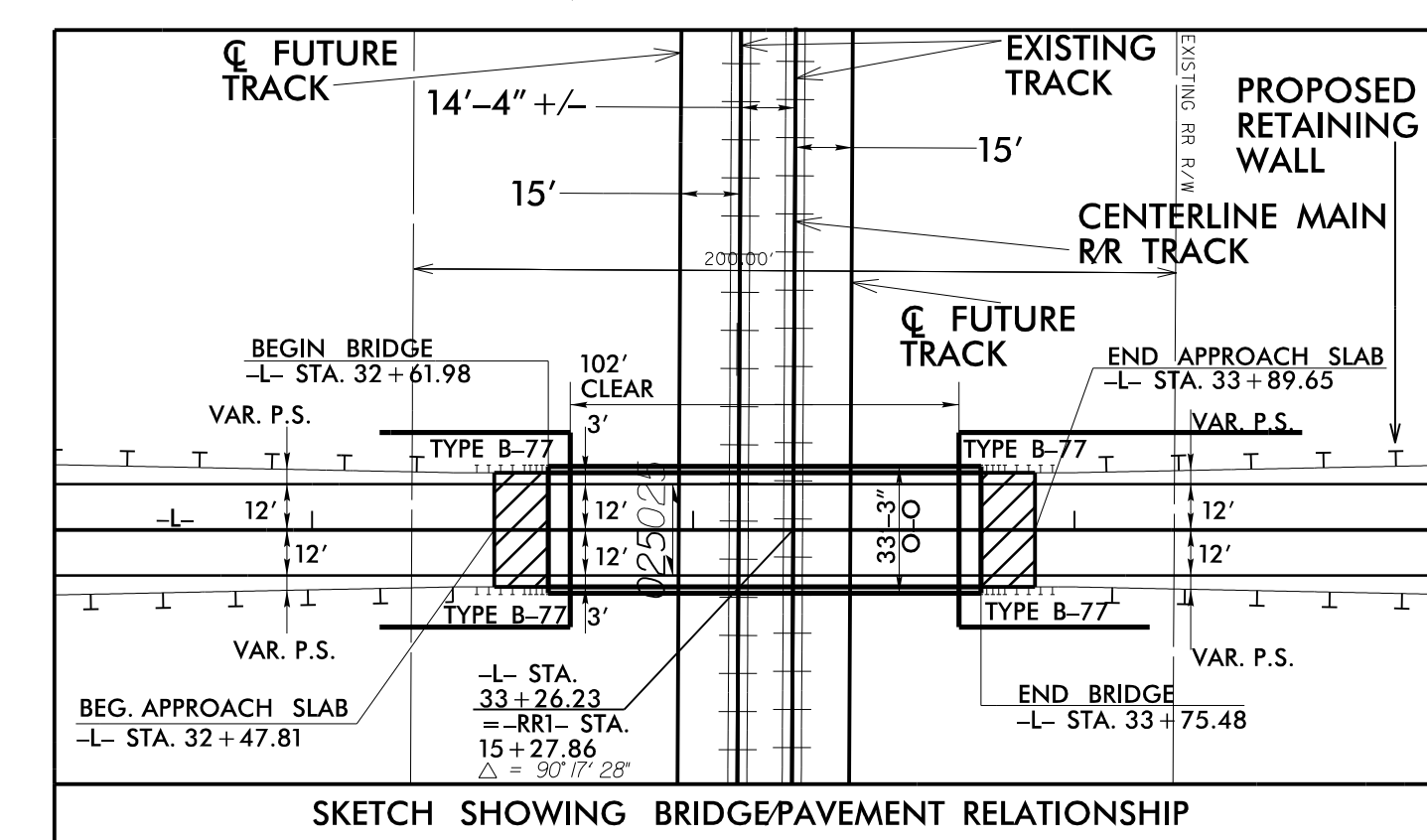
18 x 9 x 3  
ID 6.5

31 x 10 x 3  
ID 6.6

30 x 10 x 3  
ID 6.7

48 x 24 x 3  
1.5 inch Skimmer  
with 0.875 inch  
Orifice Diameter  
4 ft. weir  
ID 6.2

30 x 12 x 3  
ID 6.8




REVISIONS

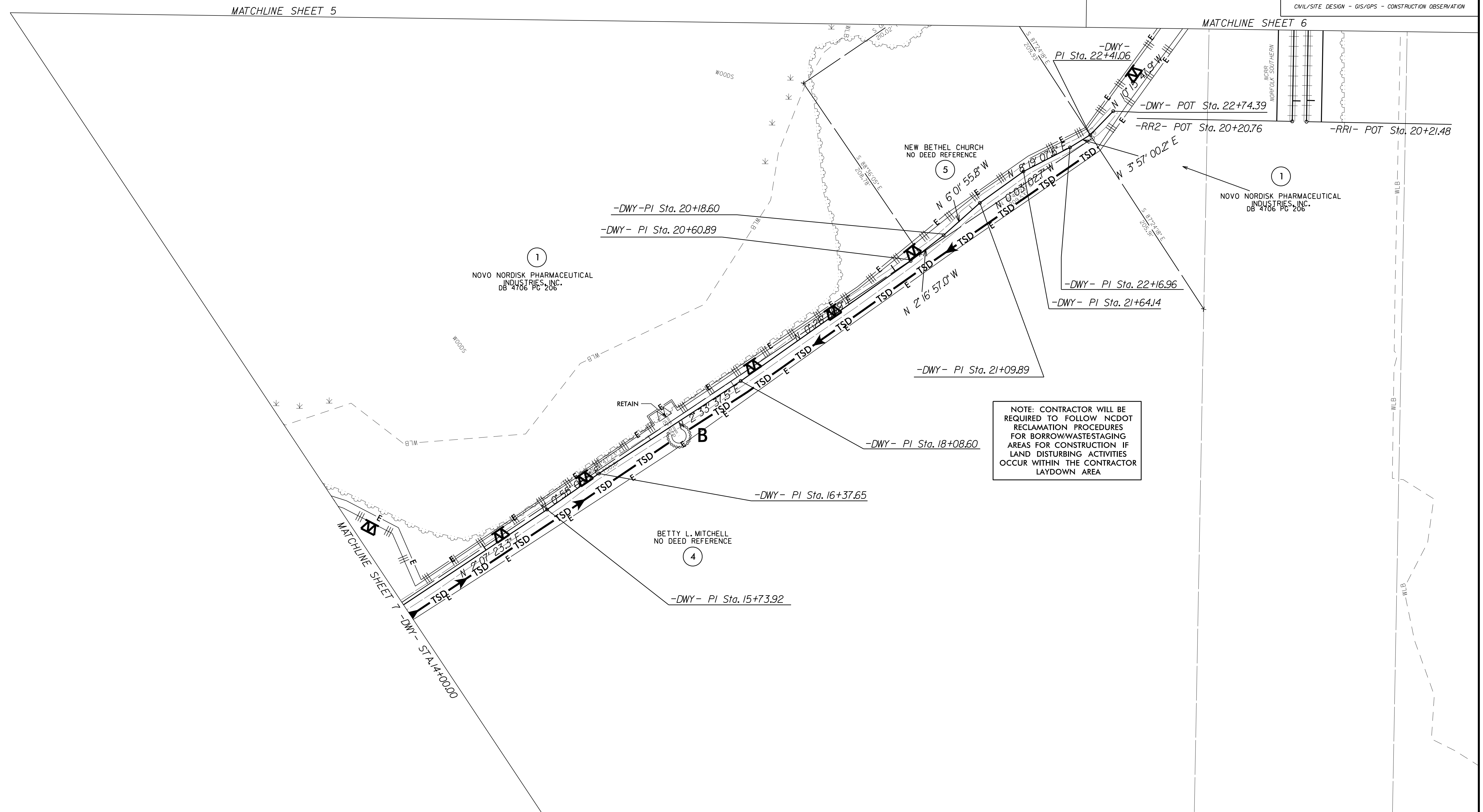
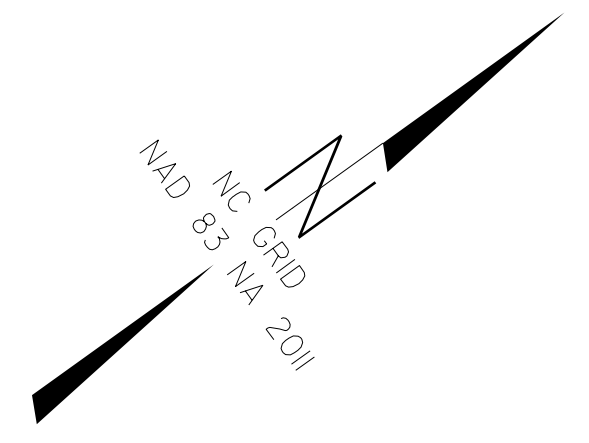
8/17/99



8/17/99

REVISIONS

PROJECT REFERENCE NO. <i>R-5769</i>		SHEET NO. <i>EC-15/CONST.8</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			
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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION			



NOTE: CONTRACTOR WILL BE REQUIRED TO FOLLOW NCDOT RECLAMATION PROCEDURES FOR BORROWWASTESTAGING AREAS FOR CONSTRUCTION IF LAND DISTURBING ACTIVITIES OCCUR WITHIN THE CONTRACTOR LAYDOWN AREA

\*\*\*\*\*SYTIME\*\*\*\*\*  
 \*\*\*\*\*L\*\*\*\*\*  
 \*\*\*\*\*\*\*\*\*\*