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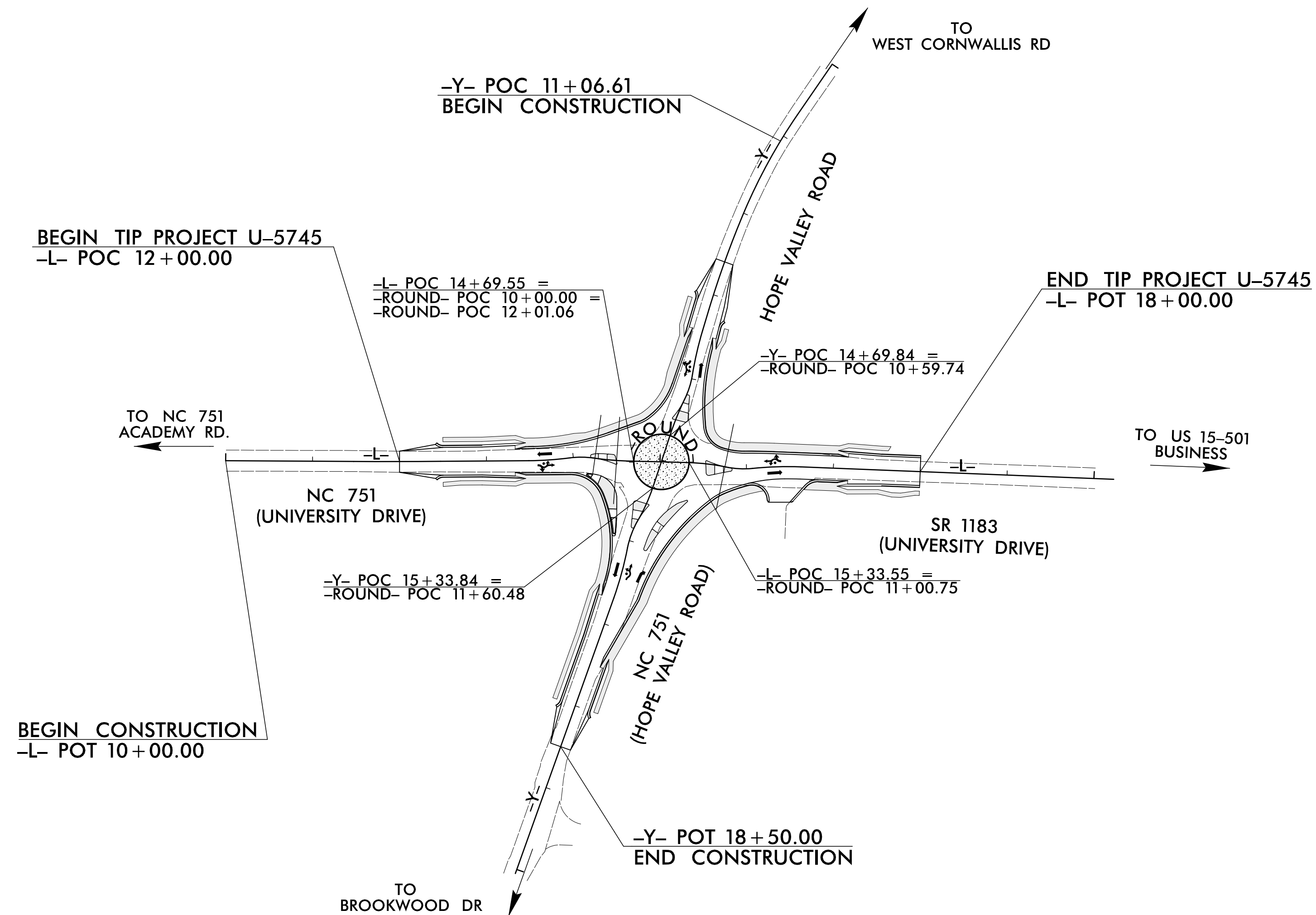
TIP PROJECT: U-5745

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

DURHAM COUNTY

**INTERSECTION IMPROVEMENTS (ROUNDAABOUT) AT NC 751
(HOPE VALLEY ROAD) AND SR 1183 (UNIVERSITY DRIVE) IN DURHAM**

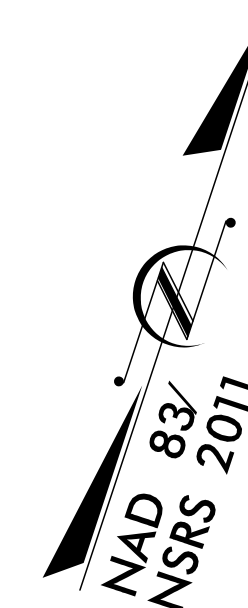


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5745	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

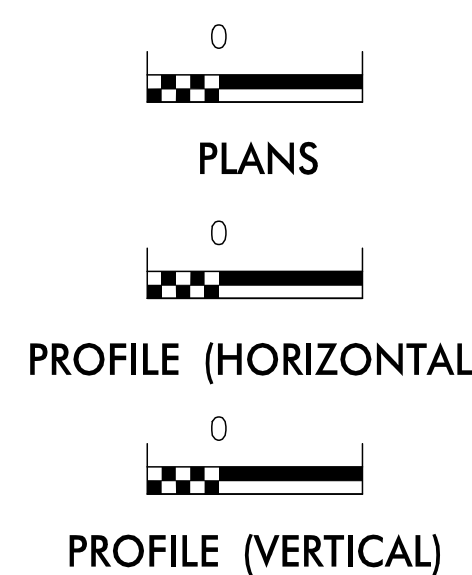
EROSION AND SEDIMENT CONTROL MEASURES

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	W
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	W
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.**



GRAPHIC SCALE



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

Prepared in the Office of:



HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-01116

Designed by:

ALEXANDER D. SNIDER, PE **3064**
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:

ROADSIDE ENVIRONMENTAL UNIT

1 South Wilmington St.
Raleigh, NC 27611

2018 STANDARD SPECIFICATIONS

Reviewed by:

DONALD R. PEARSON, JR. EI, CPESC

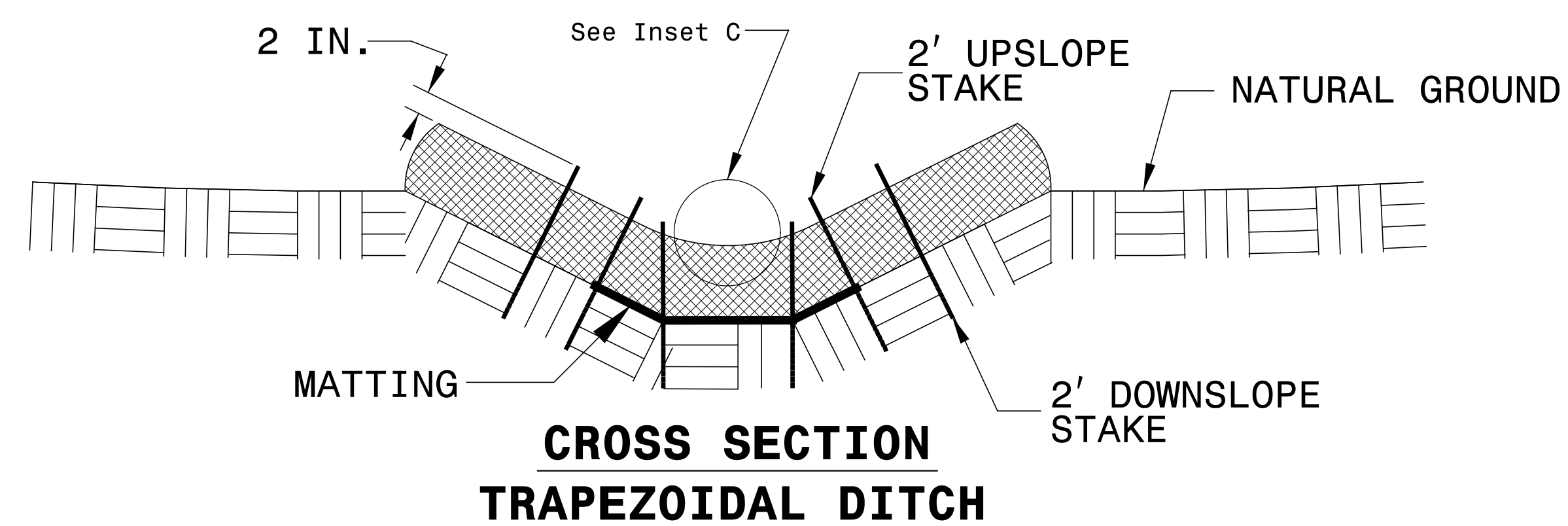
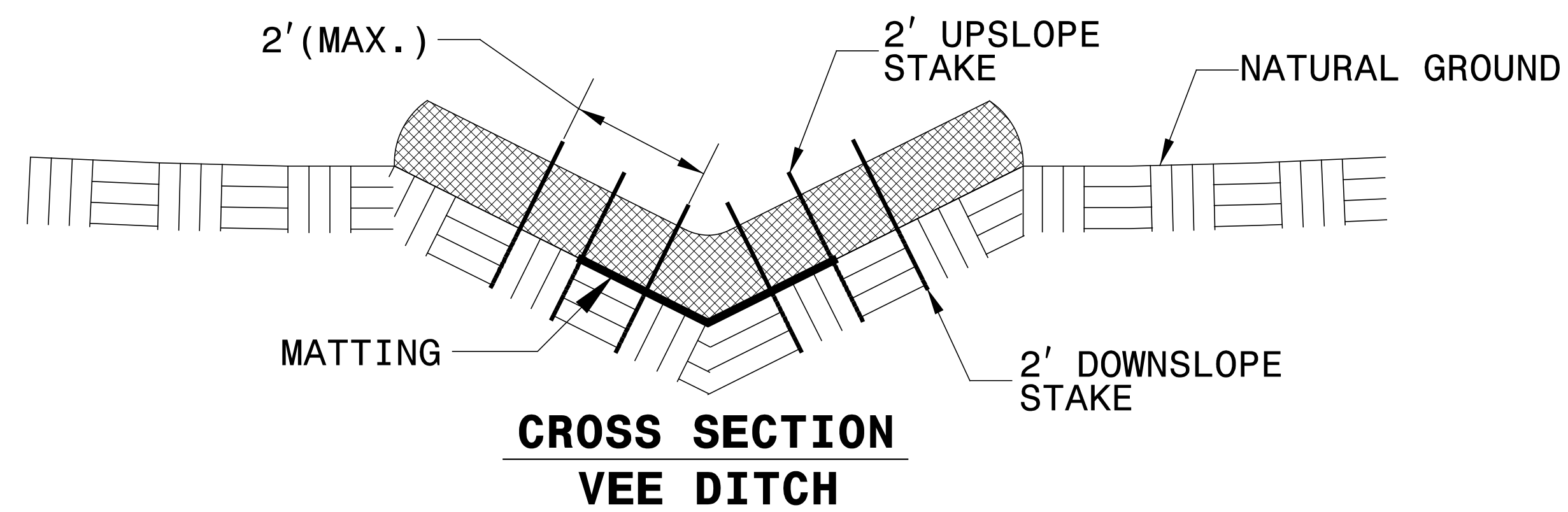
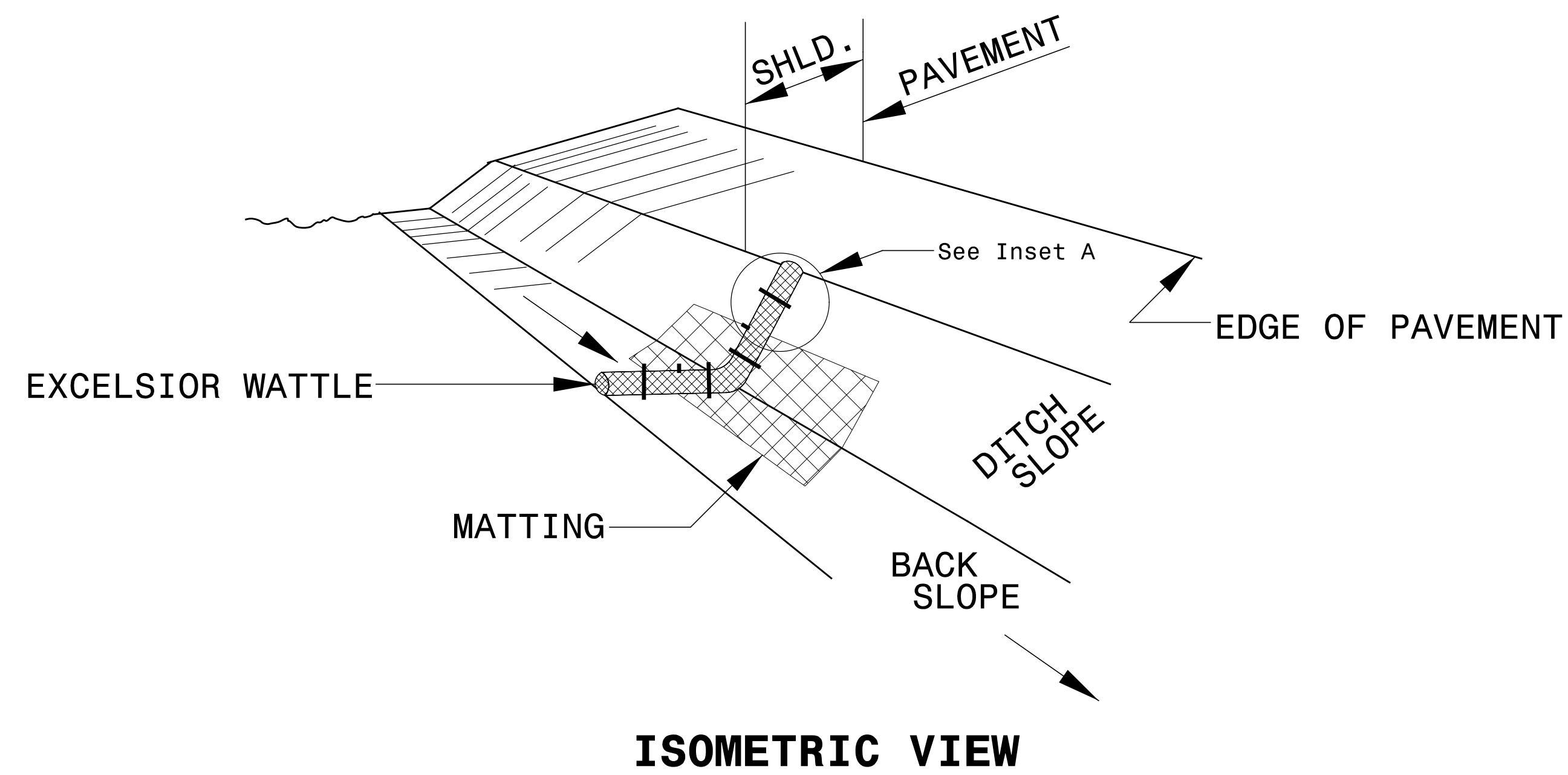
Roadway Standard Drawings

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	

\$\$\$ SYSTEM \$\$\$
\$\$\$ DGN \$\$\$
\$\$\$ USERNAME \$\$\$

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.

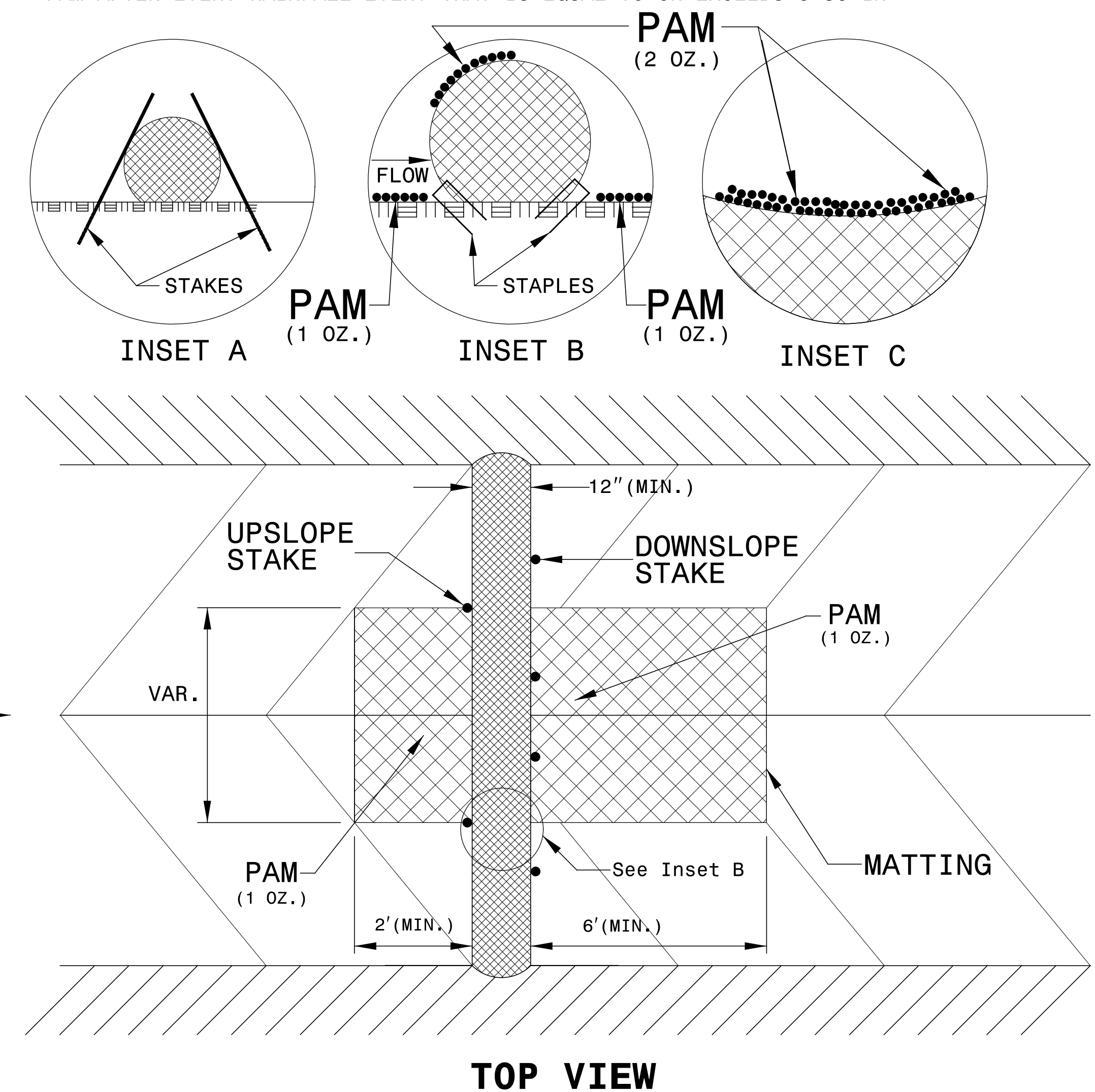
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

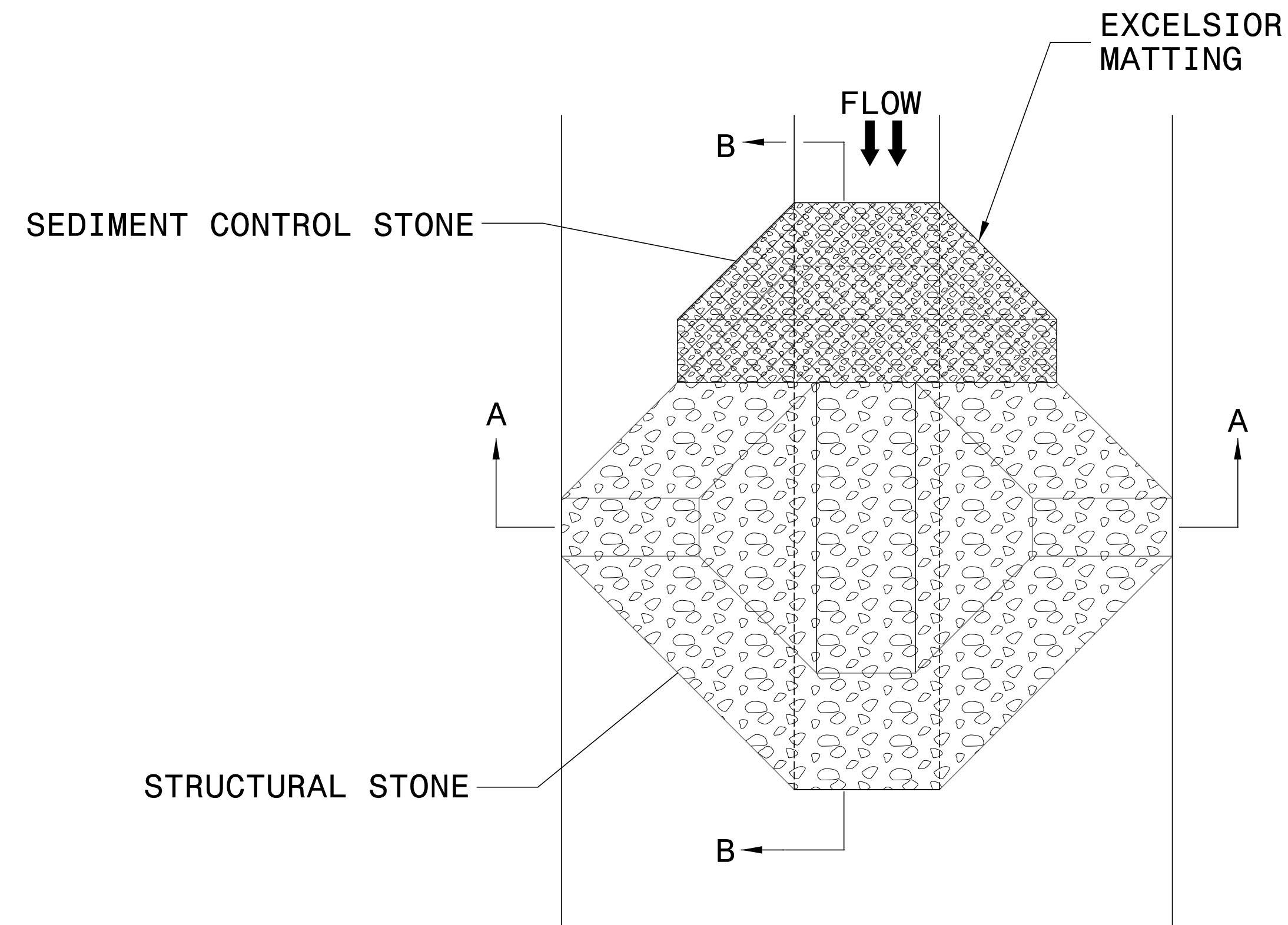
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

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.

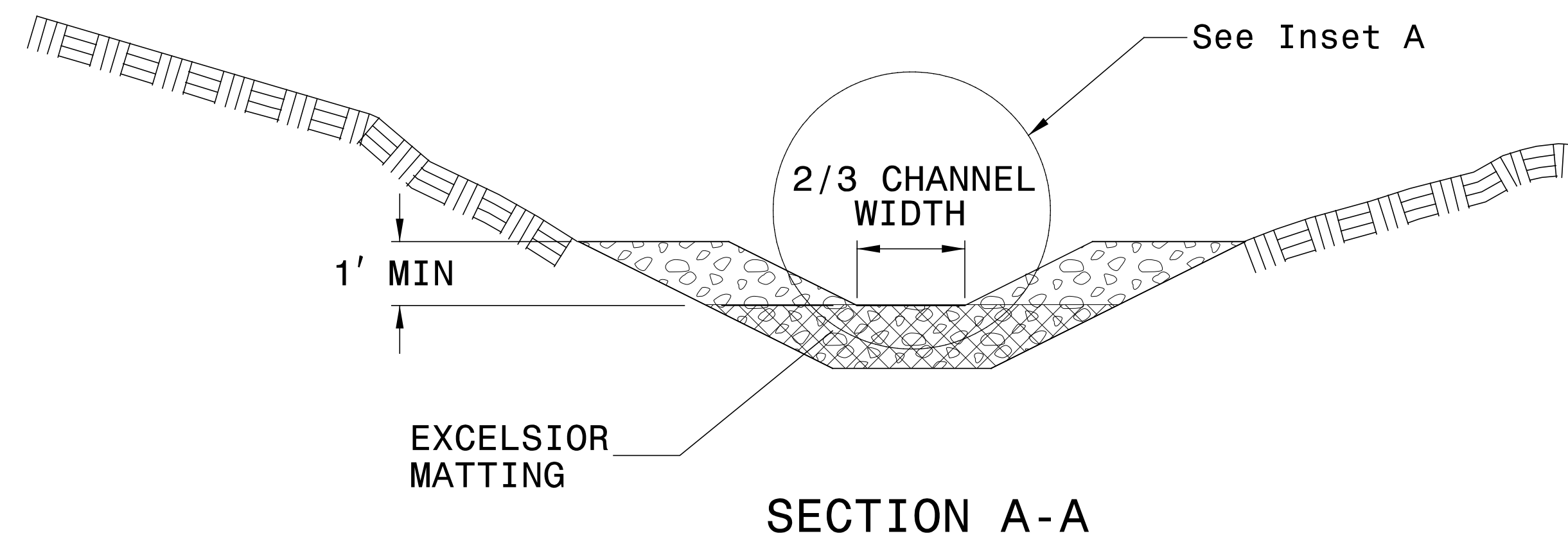
INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



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



PLAN



SECTION A-A

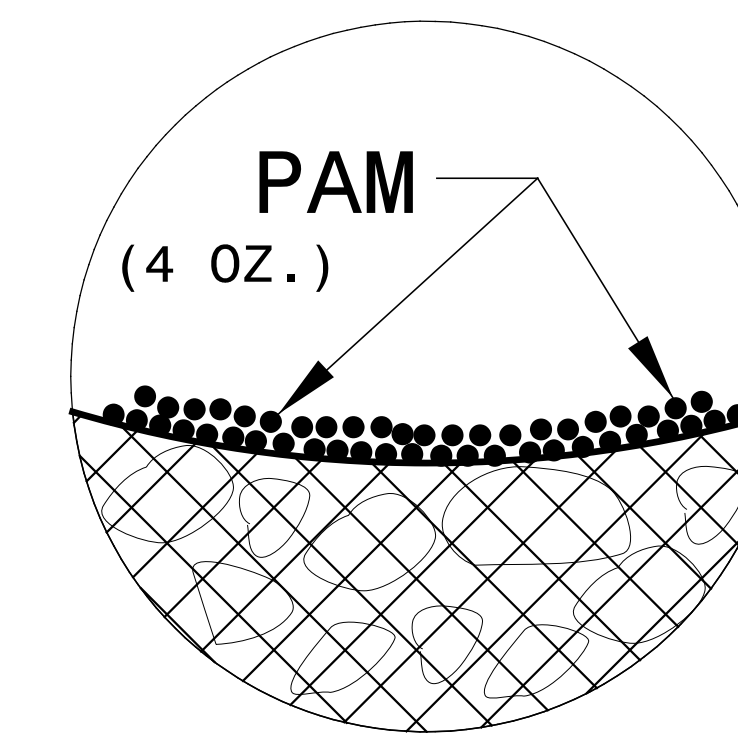
NOTES:

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

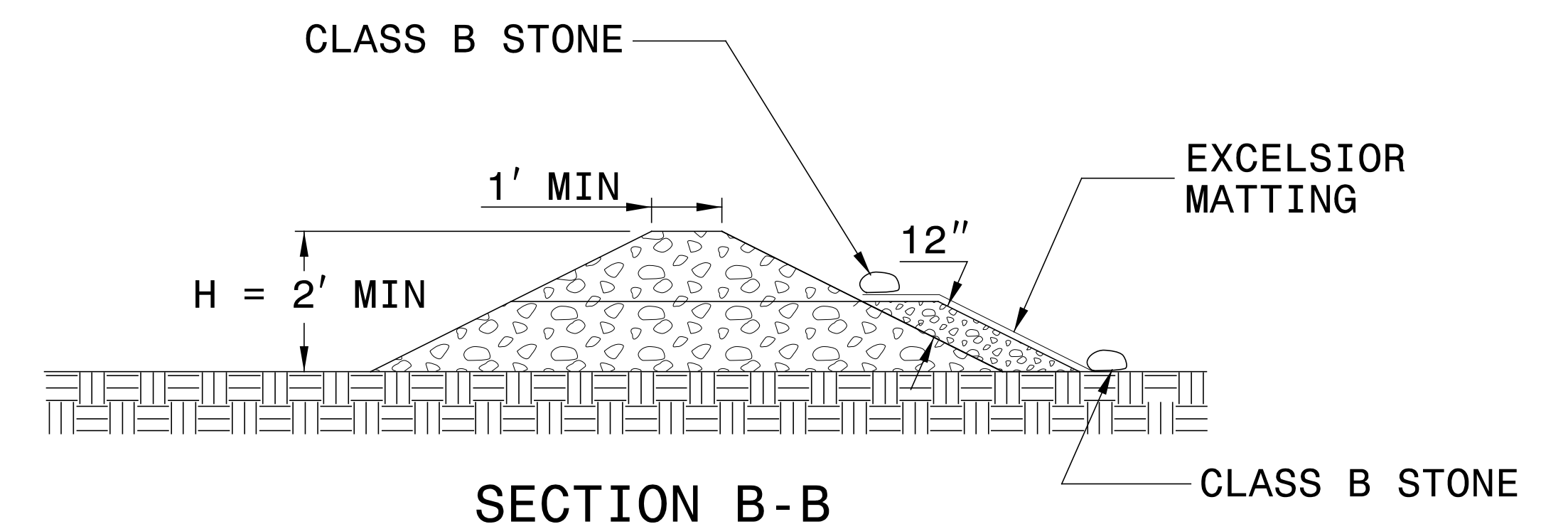
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

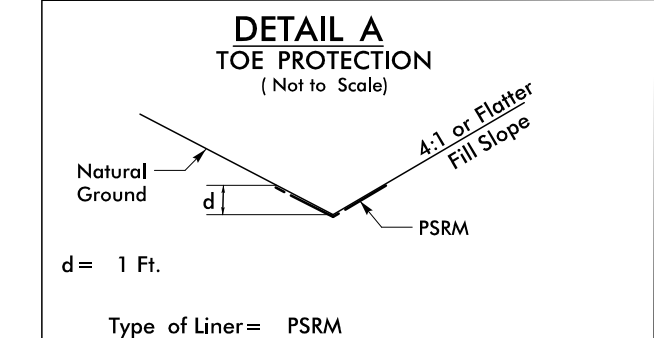
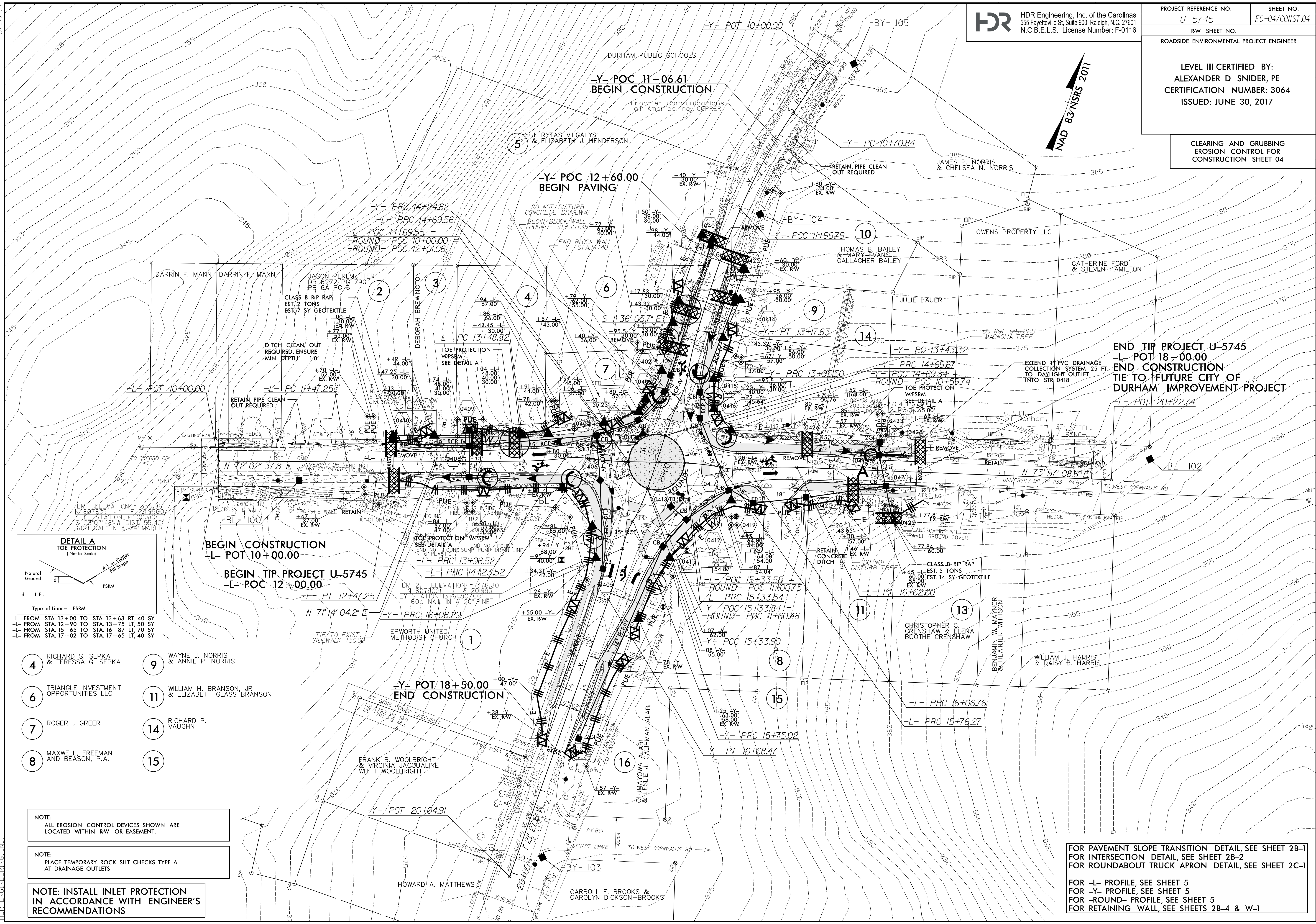
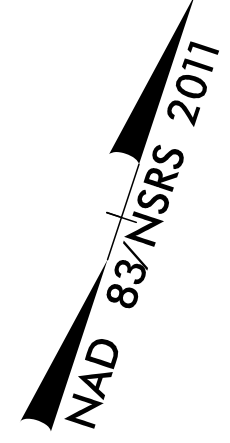
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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.

LEVEL III CERTIFIED BY:
 ALEXANDER D SNIDER, PE
 CERTIFICATION NUMBER: 3064
 ISSUED: JUNE 30, 2017

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 04



FROM STA. 13+00 TO STA. 13+63 RT. 40 SY
 FROM STA. 12+90 TO STA. 13+75 LT. 50 SY
 FROM STA. 15+65 TO STA. 16+87 LT. 70 SY
 FROM STA. 17+02 TO STA. 17+65 LT. 40 SY

- | | |
|-----------------------------------------|-----------------------------------------------------|
| 4 RICHARD S. SEPKA & TERESSA G. SEPKA | 9 WAYNE J. NORRIS & ANNIE P. NORRIS |
| 6 TRIANGLE INVESTMENT OPPORTUNITIES LLC | 11 WILLIAM H. BRANSON, JR & ELIZABETH GLASS BRANSON |
| 7 ROGER J. GREER | 14 RICHARD P. VAUGHN |
| 8 MAXWELL, FREEMAN AND SEASON, P.A. | 15 |

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

NOTE:
 PLACE TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS

NOTE: INSTALL INLET PROTECTION IN ACCORDANCE WITH ENGINEER'S RECOMMENDATIONS

END TIP PROJECT U-5745
 -L- POT 18+00.00
 END CONSTRUCTION
 TIE TO FUTURE CITY OF DURHAM IMPROVEMENT PROJECT
 -L- POT 20+22.74

FOR PAVEMENT SLOPE TRANSITION DETAIL, SEE SHEET 2B-1
 FOR INTERSECTION DETAIL, SEE SHEET 2B-2
 FOR ROUNDABOUT TRUCK APRON DETAIL, SEE SHEET 2C-1

FOR -L- PROFILE, SEE SHEET 5
 FOR -Y- PROFILE, SEE SHEET 5
 FOR -ROUND- PROFILE, SEE SHEET 5
 FOR RETAINING WALL, SEE SHEETS 2B-4 & W-1

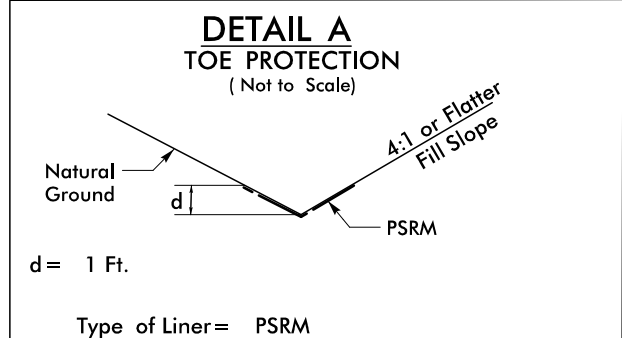
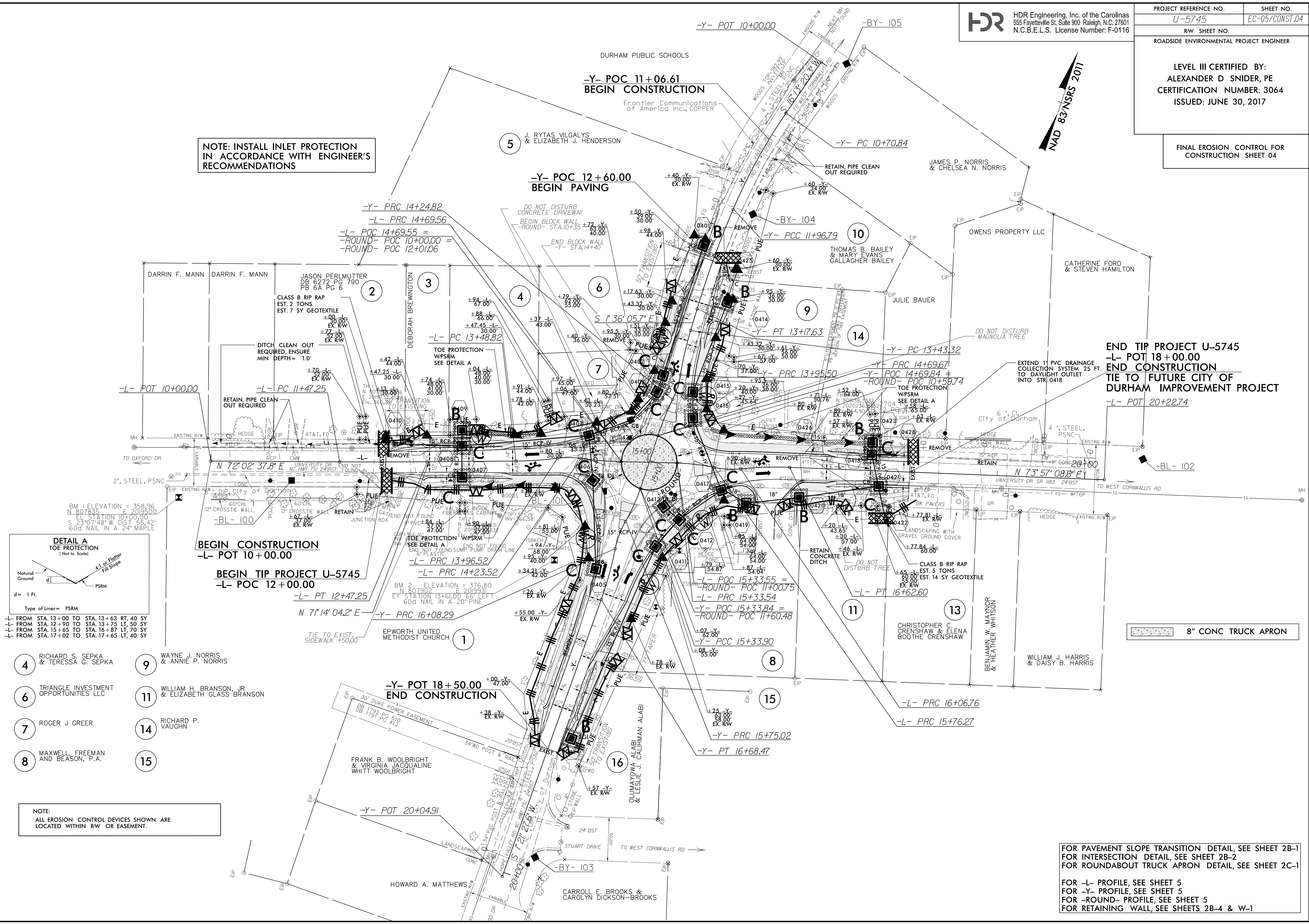
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LEVEL III CERTIFIED BY:
ALEXANDER D SNIDER, PE
CERTIFICATION NUMBER: 3064
ISSUED: JUNE 30, 2017

FINAL EROSION CONTROL FOR
CONSTRUCTION SHEET 04

NOTE: INSTALL INLET PROTECTION
IN ACCORDANCE WITH ENGINEER'S
RECOMMENDATIONS



FROM STA. 13+00 TO STA. 13+63 RT. 40 SY
FROM STA. 12+90 TO STA. 13+75 LT. 50 SY
FROM STA. 15+65 TO STA. 16+87 LT. 70 SY
FROM STA. 17+02 TO STA. 17+65 LT. 40 SY

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

FOR PAYEMENT SLOPE TRANSITION DETAIL, SEE SHEET 2B-1
FOR INTERSECTION DETAIL, SEE SHEET 2B-2
FOR ROUNDABOUT TRUCK APRON DETAIL, SEE SHEET 2C-1
FOR -L- PROFILE, SEE SHEET 5
FOR -Y- PROFILE, SEE SHEET 5
FOR -ROUND- PROFILE, SEE SHEET 5
FOR RETAINING WALL, SEE SHEETS 2B-4 & W-1

8" CONC TRUCK APRON