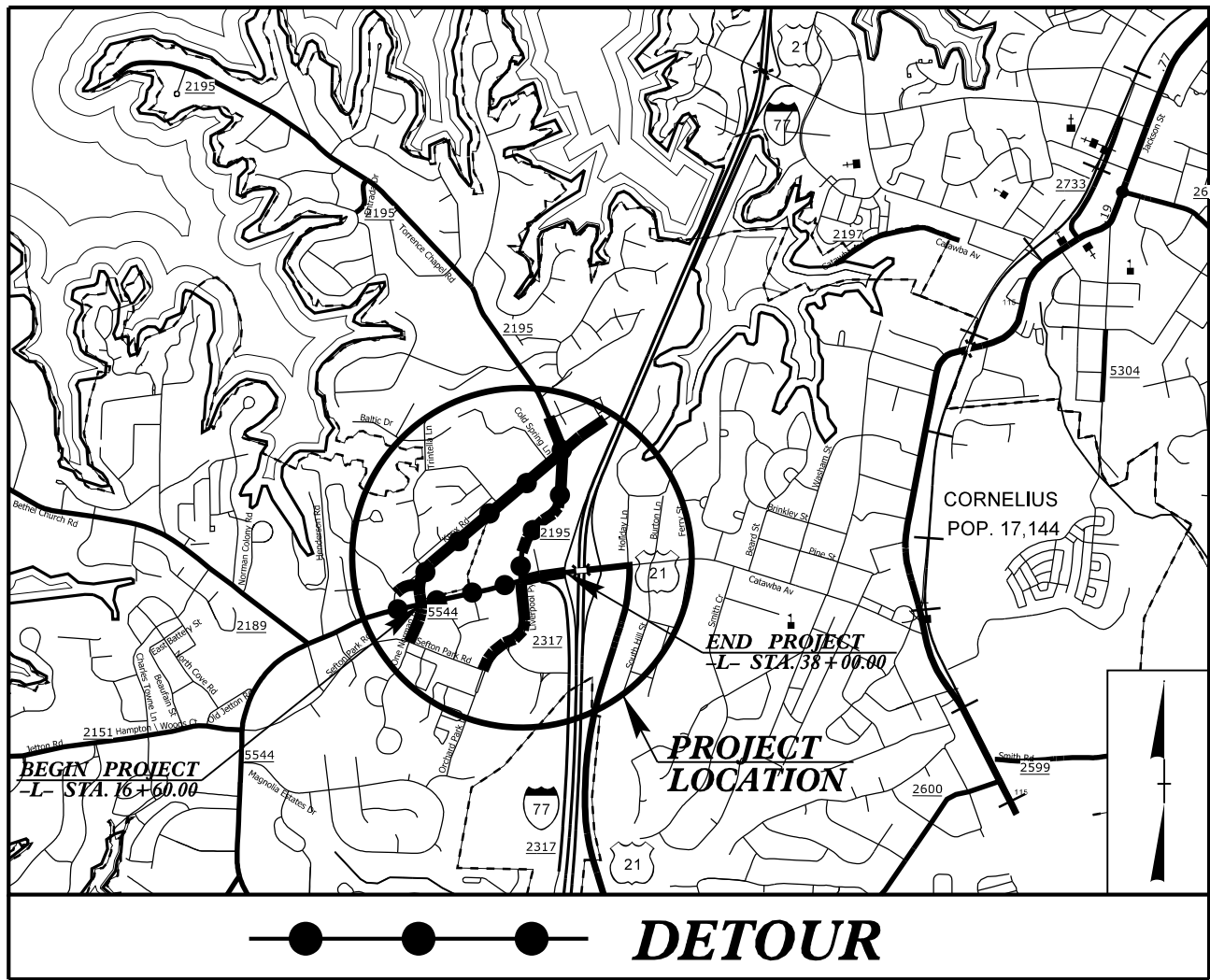


08-MAY-2025 15:53
Environment
McKinney

TIP PROJECT: U-5906



VICINITY MAP
NOT TO SCALE

THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.

HIGH QUALITY WATER(S) EXIST
ON THIS PROJECT

High Quality Water Zone(s) Exist
From Sta. 16+60 -L-
to Sta. 38+00 -L-
Refer To E. C. Special Provisions
for Special Considerations.

ENVIRONMENTALLY
SENSITIVE AREA(S) EXIST
ON THIS PROJECT

Refer To E. C. Special Provisions
for Special Considerations.

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
STORMWATER CONSTRUCTION PERMIT ISSUED BY THE NORTH
CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION
OF ENERGY, MINERAL, AND LAND RESOURCES.

RS&H

Prepared In the Office of:
RS&H
8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

Designed by:

LILY MCKINNEY
NAME

4559
LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C.
Department of Transportation - Raleigh, N. C., dated January 2024
and the latest revision thereto are applicable to this project and by
reference hereby are considered a part of these plans.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

MECKLENBURG COUNTY

LOCATION: TORRENCE CHAPEL ROAD (SR 2195)/WEST CATAWBA
AVENUE (SR 5544) INTERSECTION AND SURROUNDING
AREA IMPROVEMENTS

TYPE OF WORK: GRADING, DRAINAGE, PAVING, RETAINING WALLS,
SIGNING AND SIGNALS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5906	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

BEGIN TIP PROJECT U-5906
-L- STA. 16+60.00

END CONSTRUCTION
-L- STA. 17+88.34

BEGIN CONSTRUCTION
-YI- STA. 12+50.00

BEGIN CONSTRUCTION
-L- STA. 31+65.00

END CONSTRUCTION
-DRIVE1- STA. 11+55.00

BEGIN CONSTRUCTION
-Y4A- STA. 11+95.00

-RA3- CENTER OF CIRCLE =
-Y4A- STA. 15+63.89
-Y4B- STA. 10+00.00
-Y5- STA. 10+18.00 (O/S 65')
-DRIVE1- STA. 10+18.01 (O/S 65')

END CONSTRUCTION
-Y5- STA. 12+55.00

BEGIN CONSTRUCTION
-Y2A- STA. 9+60.00

BEGIN CONSTRUCTION
-DRIVE3- STA. 10+20.00

BEGIN CONSTRUCTION
-Y6A- STA. 11+48.86

END CONSTRUCTION
-Y3B- STA. 14+81.98

-RA1- CENTER OF CIRCLE =
-Y1A- STA. 41+08.61 (O/S 15.00')
-Y1B- STA. 10+00.00 (O/S 15.00')
-Y3A- STA. 14+93.25 (O/S 15.00')
-Y3B- STA. 10+00.00 (O/S 15.00')

END CONSTRUCTION
-Y1B- STA. 14+46.00

BEGIN CONSTRUCTION
-Y3A- STA. 11+61.63

END CONSTRUCTION
-Y6B- STA. 14+70.00

-RA2- CENTER OF CIRCLE =
-Y6A- STA. 17+74.36
-Y6B- STA. 10+00.00
-DRIVE3- STA. 12+37.63 (O/S 65')
-DRIVE4- STA. 10+18.04 (O/S 65')

END CONSTRUCTION
-DRIVE4- STA. 11+20.00

END CONSTRUCTION
-DRIVE2- STA. 11+55.00

END CONSTRUCTION
-L- STA. 38+27.30

END TIP PROJECT U-5906
-L- STA. 38+00.00

END CONSTRUCTION
-RPC- STA. 13+09.00

★ EXISTING SIGNAL

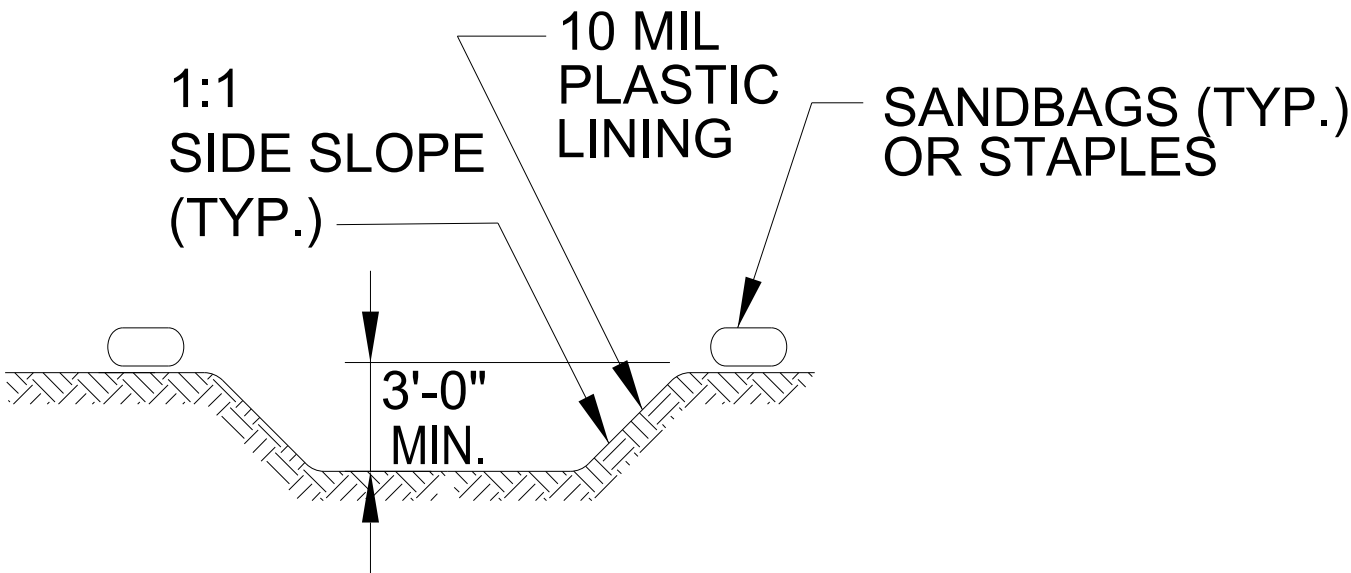
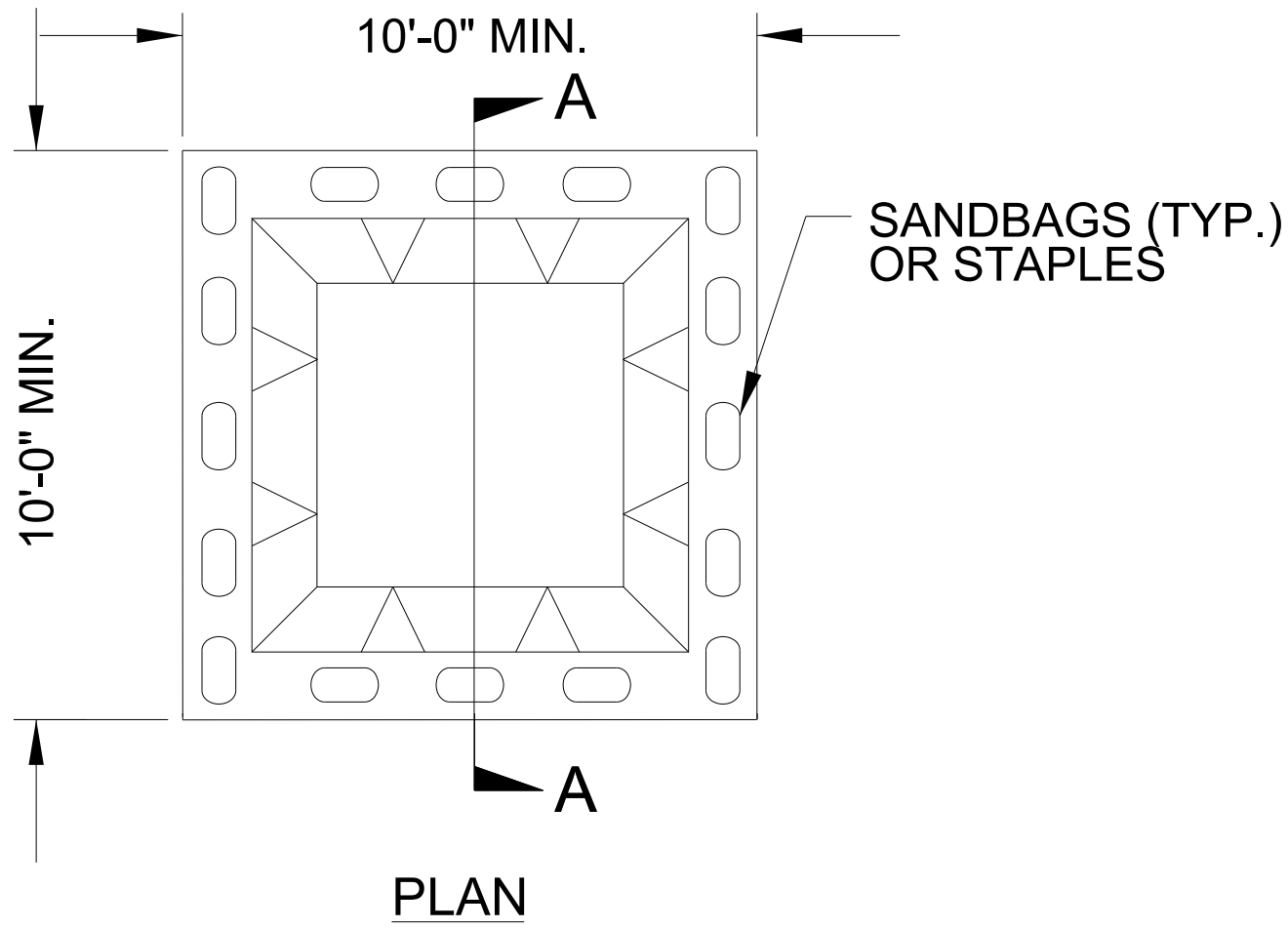
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

EROSION & SEDIMENT CONTROL LEGEND

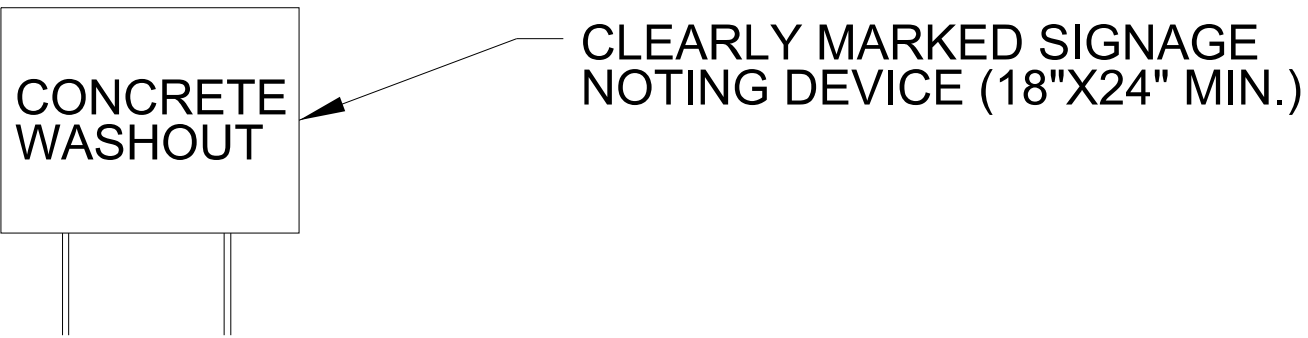
Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	
1630.04	Stilling Basin	
1630.05	Temporary Diversion	
1630.06	Special Stilling Basin	
1630.07	Skimmer Basin	
1630.08	Tiered Skimmer Basin	
1630.09	Earthen Dam with Skimmer	
	Infiltration Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	
1632.02	Type B	
1632.03	Type C	

Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
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	
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	
	Silt Fence Coir Fiber Wattle Break	
1636.03	Excelsior Wattle Barrier	
1636.03	Coir Fiber Wattle Barrier	

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

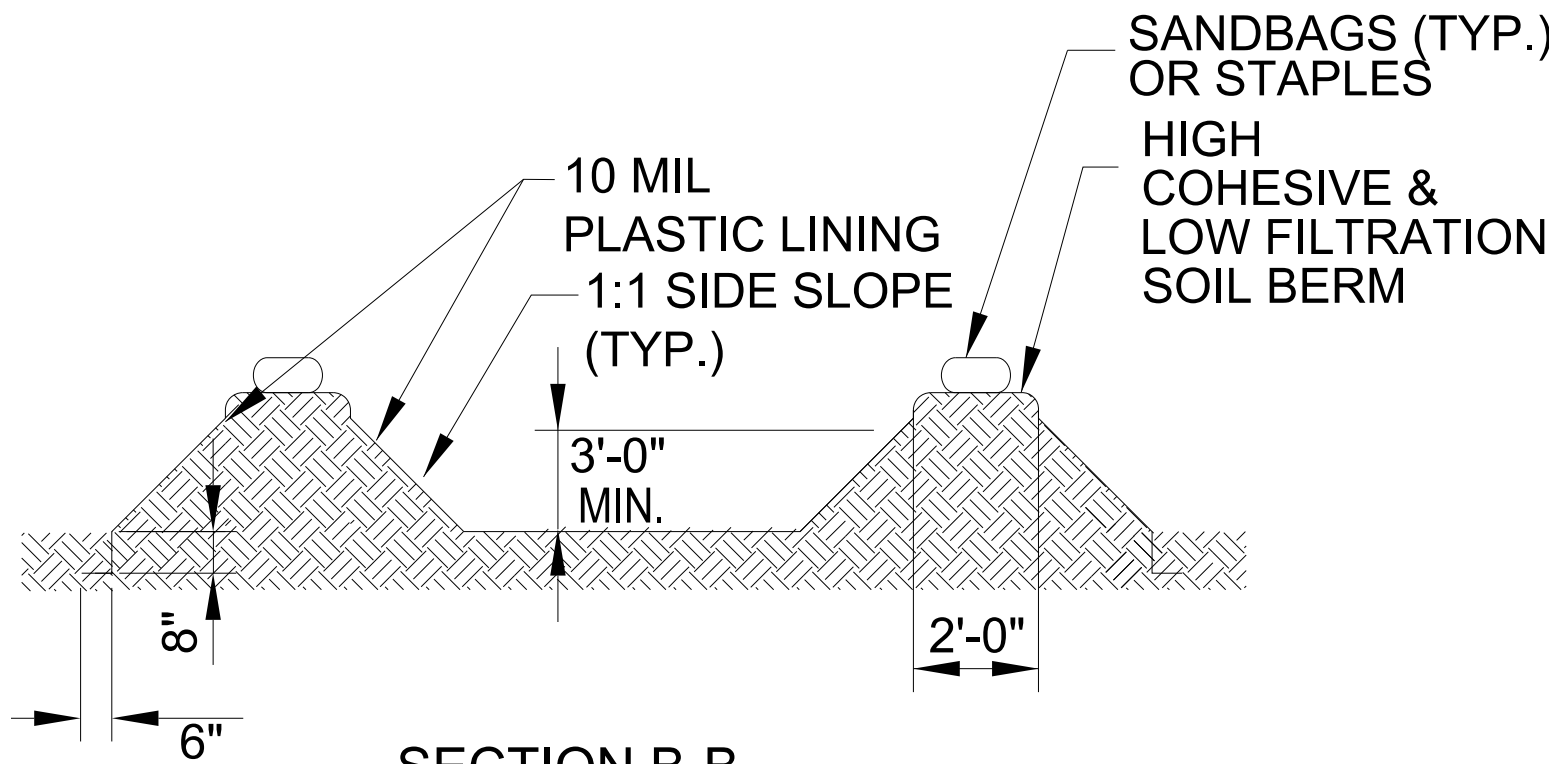
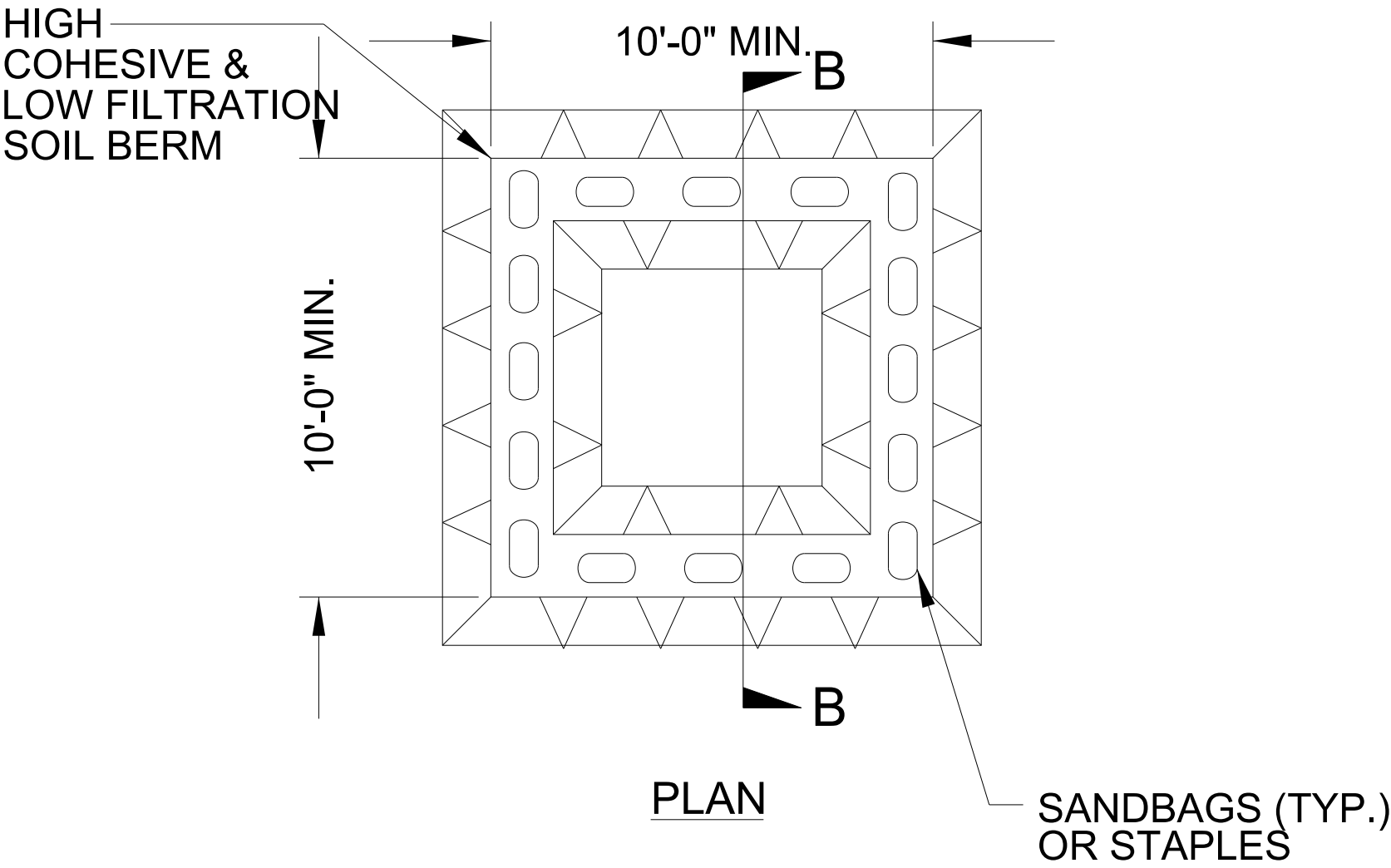


SECTION A-A



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



SECTION B-B



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

RS&H
NC FIRM LICENSE No: F-0493

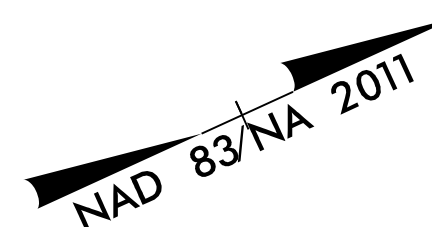
[illegible]



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50’ IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES



NOTE:
EXISTING 15" RCP DRAINS
TO LAKE NORMAN.

$\frac{-Y2A- PC Sta. II+05.78}{-Y2A- PT Sta. II+30.33}$

-YIA- PT Sta. 15+52.26

~~-Y2A- 10~~

NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.

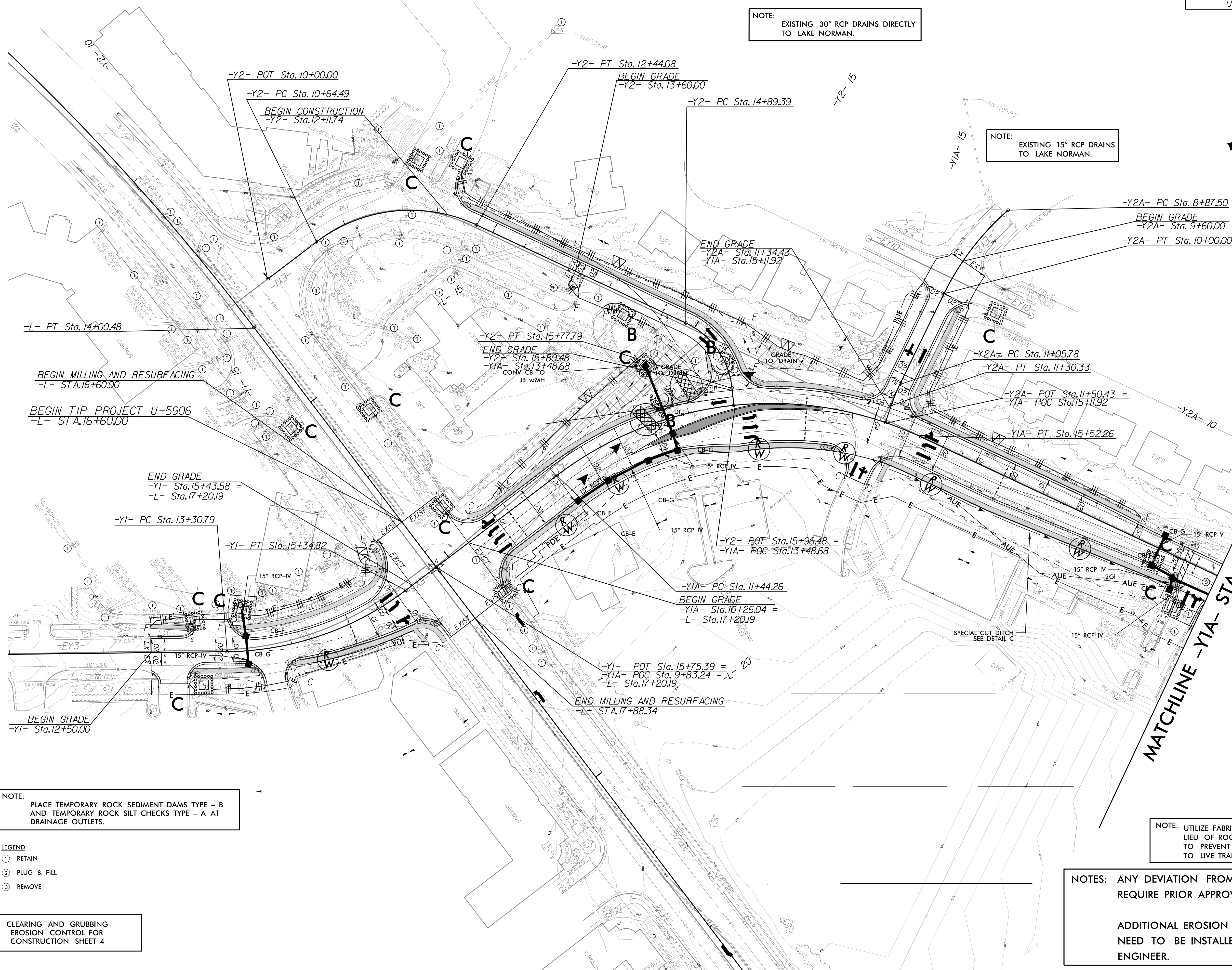
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

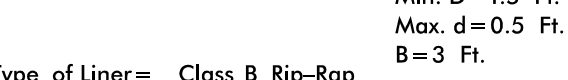
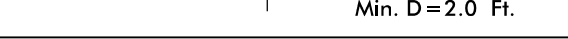
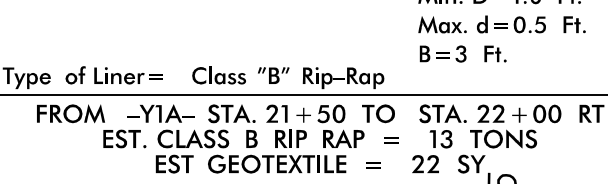
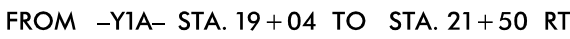
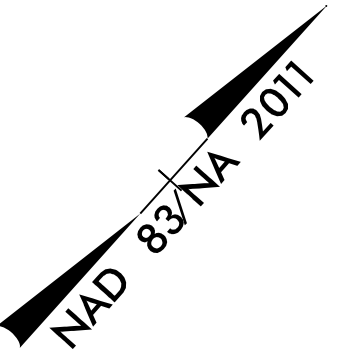
ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

LEGEND

- ① RETAIN
- ② PLUG & FILL
- ③ REMOVE

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4





MATCHLINE -Y1A- STA. 19+00 SHEET 4

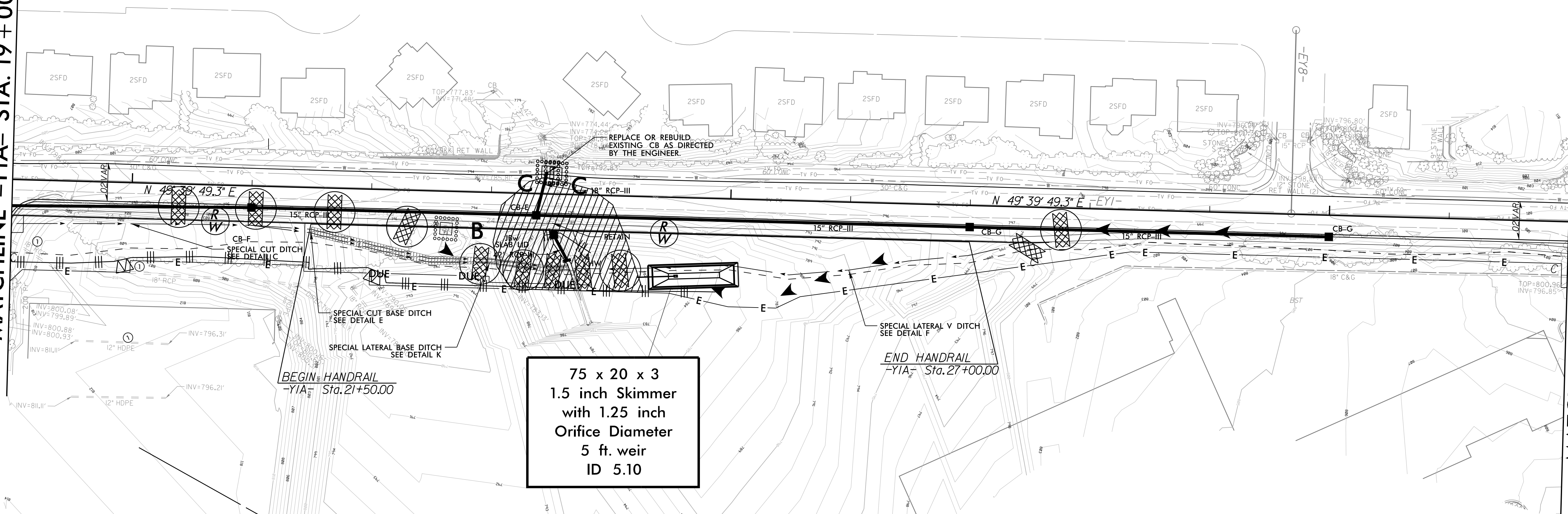
-Y/A- 20

LEGEND

① RETAIN

② PLUG & FILL

③ REMOVE



LEGEND

① RETAIN

② **PLUG & FILL**

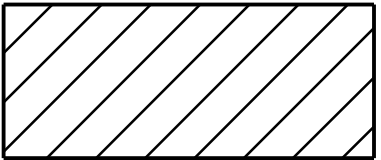
③ REMOVE

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

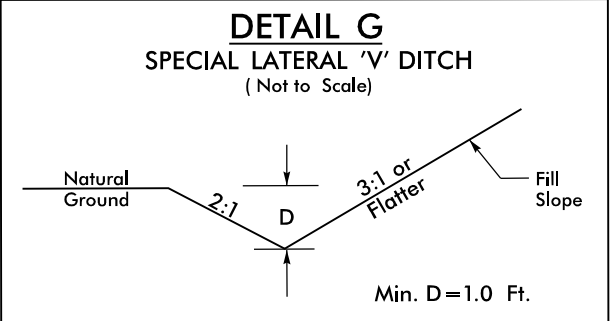
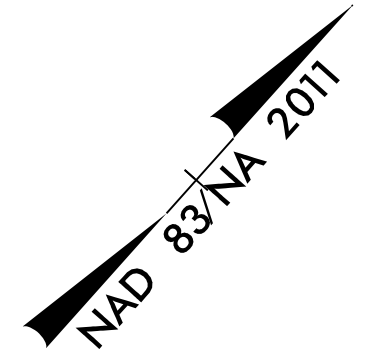
NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.



FROM -Y1A- STA. 35+75 TO STA. 36+86 RT
FROM -Y1A- STA. 36+86 TO STA. 38+50 RT

NOTE:
EXISTING 24" RCP DRAINS
DIRECTLY TO LAKE NORMAN.

EXISTING 24" RCP IS
IN GOOD CONDITION.

EXISTING 24" HDPE IS
IN GOOD CONDITION. TOP=805.11'
SCOUR EXISTS AROUND
THE FES. INV=796.34'

MATCHLINE -Y1A- STA. 32+00 SHEET 5

- LEGEND
- ① RETAIN
 - ② PLUG & FILL
 - ③ REMOVE

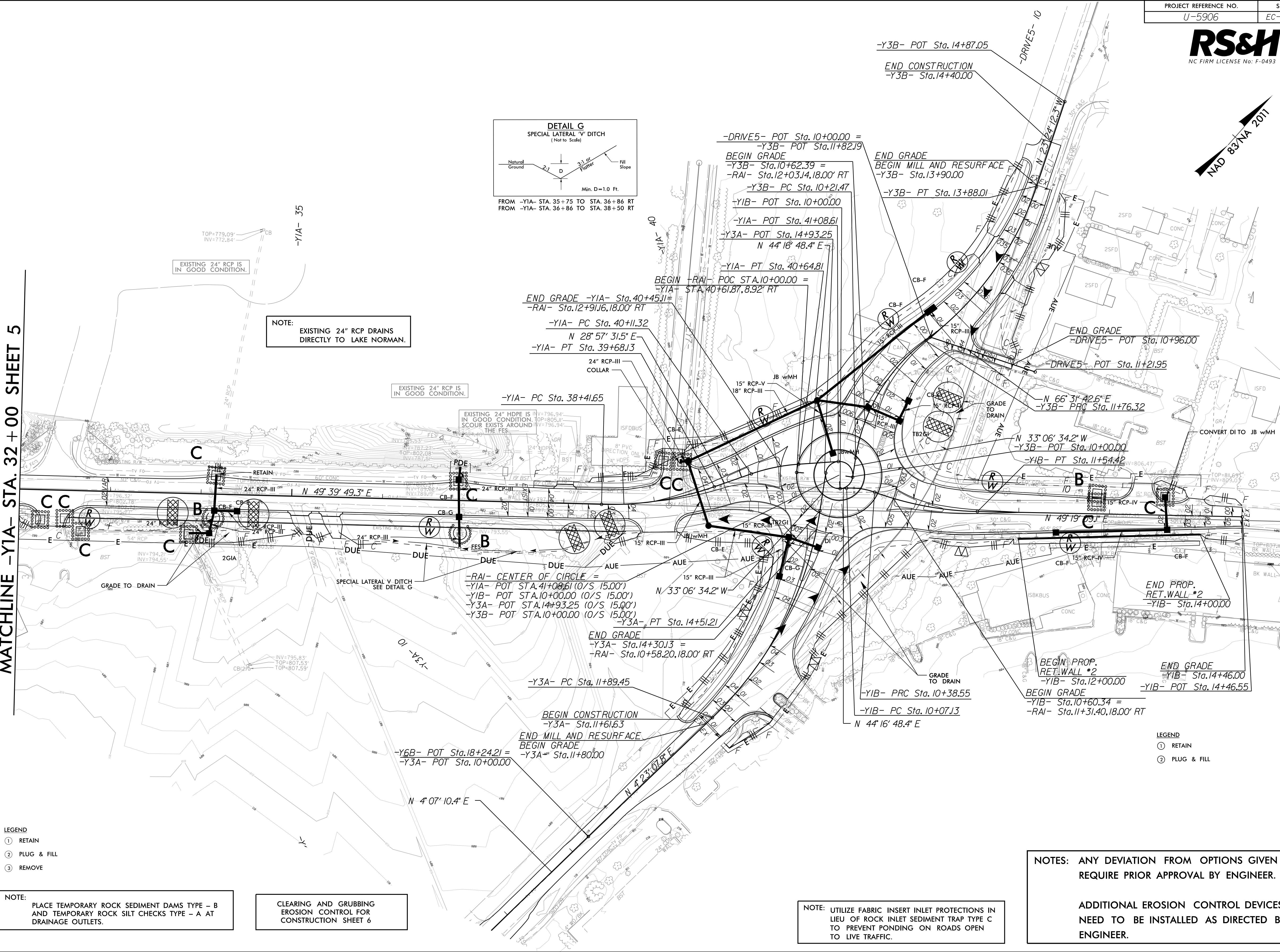
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN
LIEU OF ROCK INLET SEDIMENT TRAP TYPE C
TO PREVENT PONDING ON ROADS OPEN
TO LIVE TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

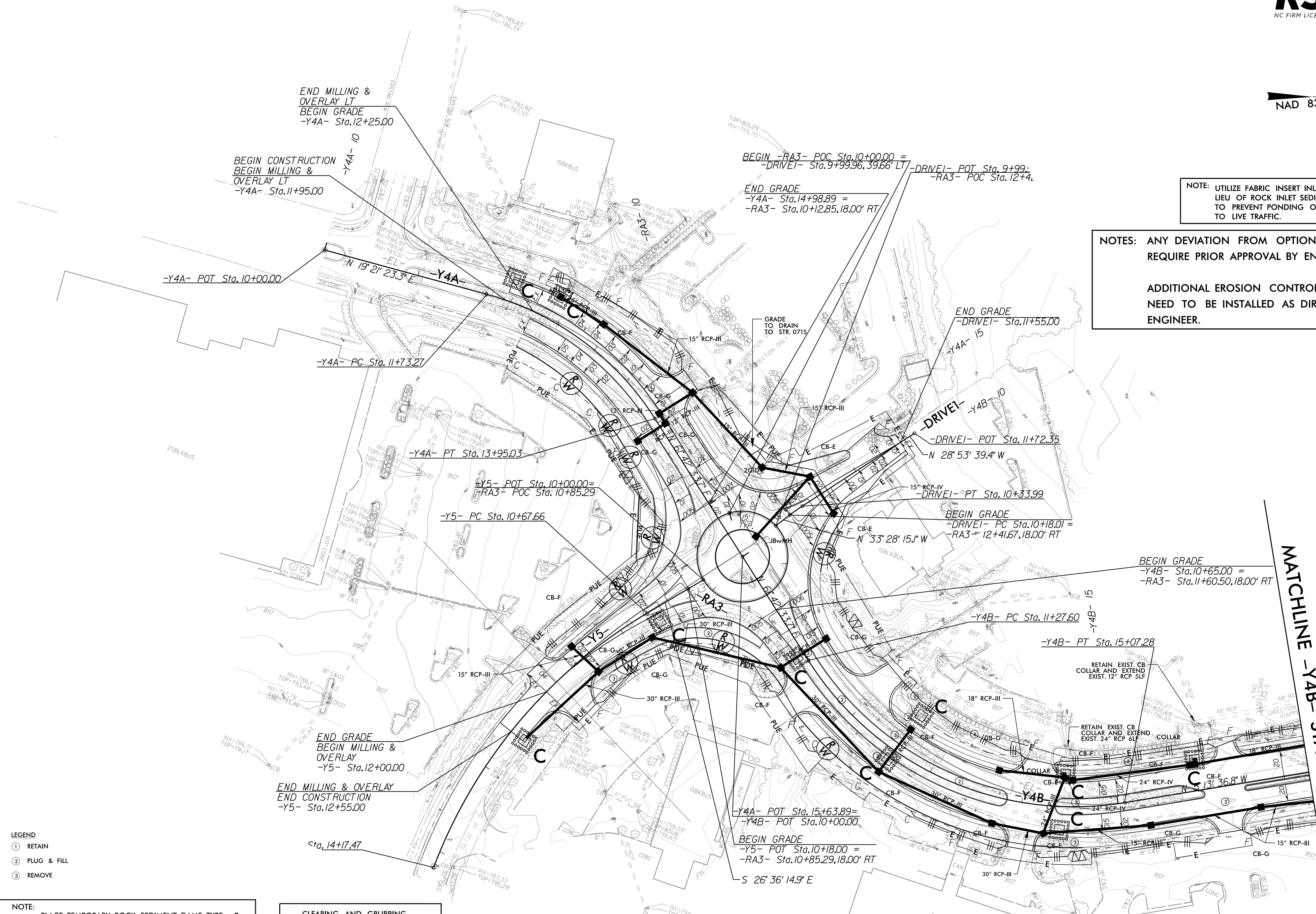
ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.





ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

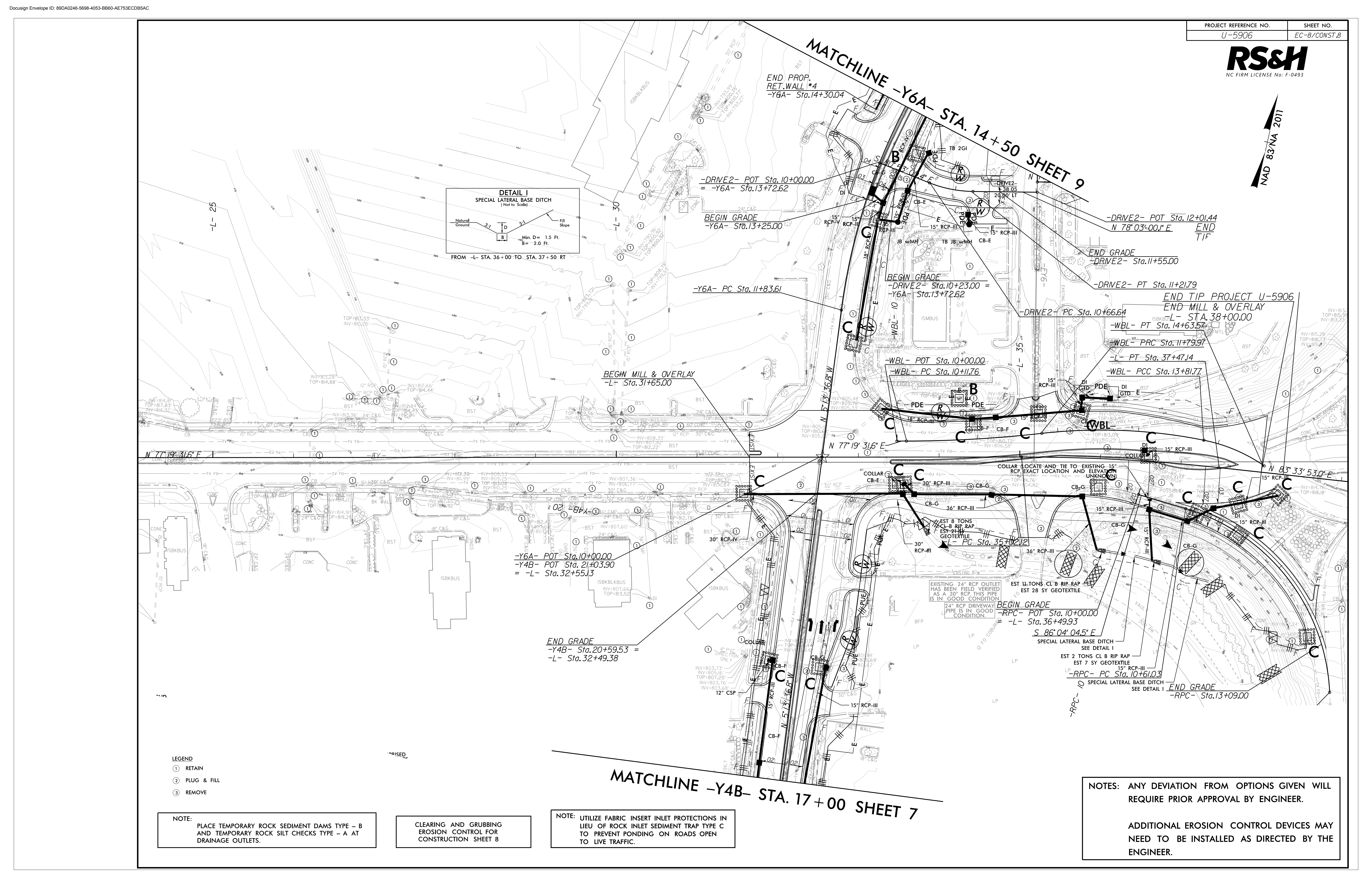
MATCHLINE -YAB- STA. 17+00 SHEET 3



- LEGEND**
- ① RETAIN
 - ② PLUG & FILL
 - ③ REMOVE

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 7



- LEGEND
- ① RETAIN
 - ② PLUG & FILL
 - ③ REMOVE

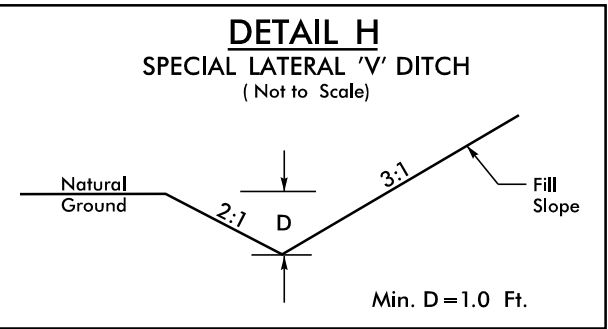
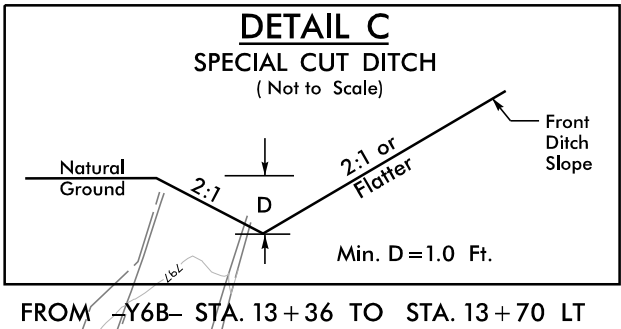
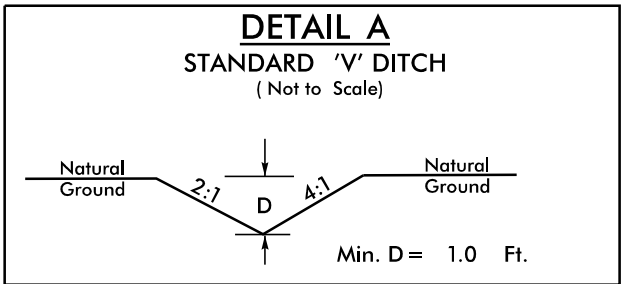
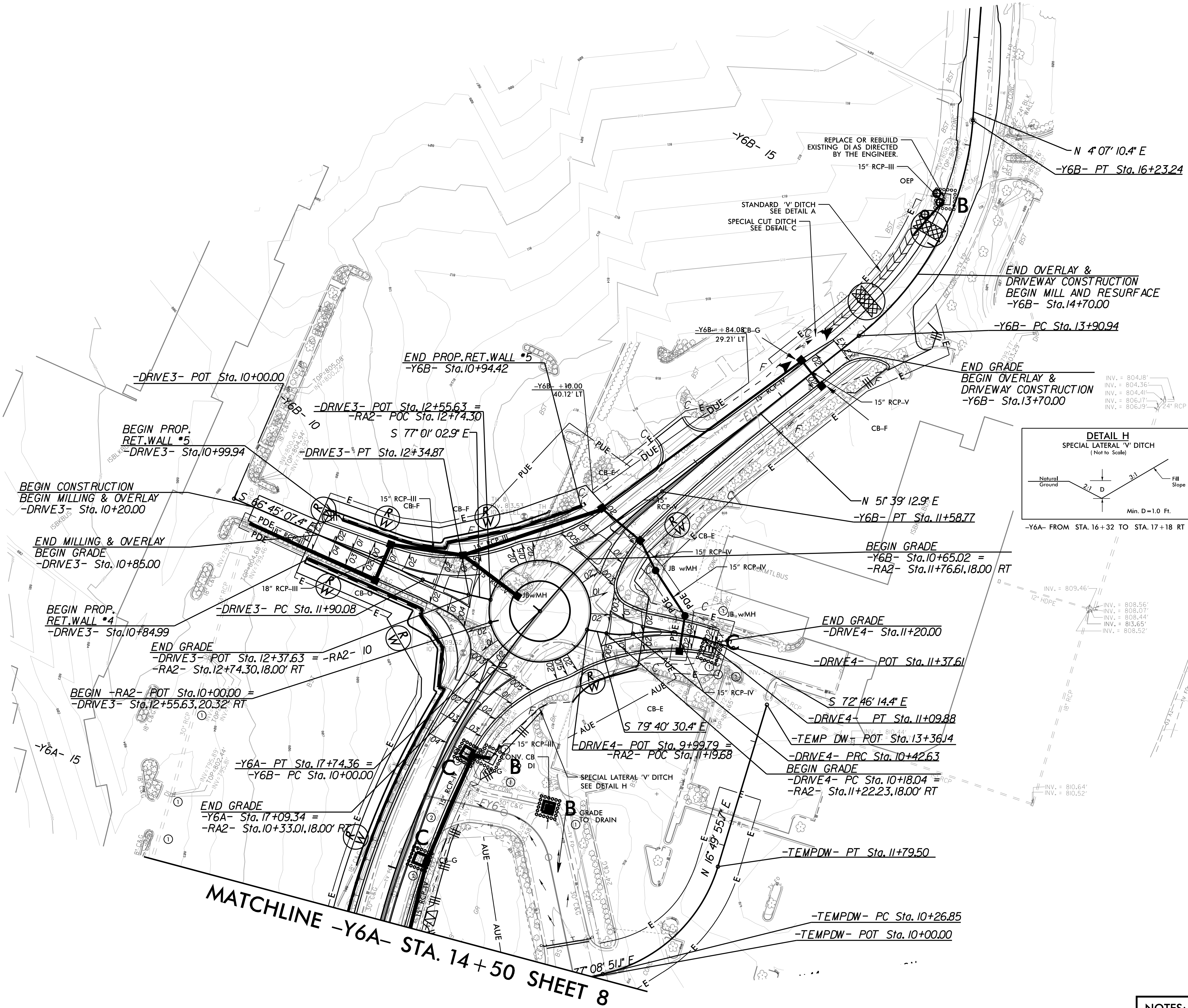
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9

NOTE:
UTILIZE FABRIC INSERT INLET PROTECTIONS IN
LIEU OF ROCK INLET SEDIMENT TRAP TYPE C
TO PREVENT PONDING ON ROADS OPEN
TO LIVE TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.





NOTE: EXISTING 15" RCP DRAINS
TO LAKE NORMAN.

NAD 83/NA 2011

~~-Y2A- PC Sta. 8+87.50~~
~~BEGIN GRADE~~
~~-Y2A- Sta. 9+60.00~~
~~-Y2A- PT Sta. 10+00.00~~
~~-S 39° 27' 58.0" E~~

$-Y2A-PCSta.11+05.78$
 $-Y2A-PTSta.11+30.33$
 $S46^{\circ}29'59.0"E$
 $-Y2A-POTSta.11+50.43=$
 $-Y1A-PQCSta.15+11.92$

$$\frac{-Y2 - POT \text{ Sta. } 15+96.48}{-Y1A - POC \text{ Sta. } 13+48.68}$$

-YIA- PC Sta. 11+44.26
BEGIN GRADE
 -YIA- Sta. 10+26.04 =
 -L- Sta. 17+20.19

INSTALL 556 SY. MATTING
ALONG BACK SLOPE OF DITCH

-Y1A- STA. 16+50 to STA. 18+50 RT

<u>-L- CURVE DATA</u>	<u>-YI- CURVE DATA</u>
Δ Sta 12+00.69	Δ Sta 14+36.41
Δ = 9' 21" 56.4" (RT)	Δ = 36' 31" 50.8" (LT)
D = 2' 20" 19.0"	D = 17' 54" 17.8"
L = 400.48'	L = 204.03'
T = 200.69'	T = 105.62'
R = 2,450.00'	R = 320.00'
SE = MATCH EXIST	SE = 0'
RO = MATCH EXIST	RO = 19'

-YIA- CURVE DATA
 PI Sta 13+71.09
 $\Delta = 62^{\circ} 20' 17.6''$ (RT)
 $D = 15^{\circ} 16' 43.9''$
 $L = 408.00'$
 $T = 226.83'$
 $R = 375.00'$
 $SE = 04$
 $RO = 156'$

-Y2- CURVE DATA
 PI Sta 11+64.34
 $\Delta = 62^{\circ} 21' 39.0''$ (RT)
 $D = 34^{\circ} 43' 29.0''$
 $L = 179.59'$
 $T = 99.85'$
 $R = 165.00'$
 SE = MATCH EXIST
 RO = MATCH EXIST

-Y2- CURVE DATA
 PI Sta 15+37.94
 $\Delta = 58^{\circ} 53' 40.6''$ (RT)
 $D = 66^{\circ} 37' 22.8''$
 $L = 88.40'$
 $T = 48.55'$
 $R = 86.00'$
 $SE = 02$
 $RO = 28'$

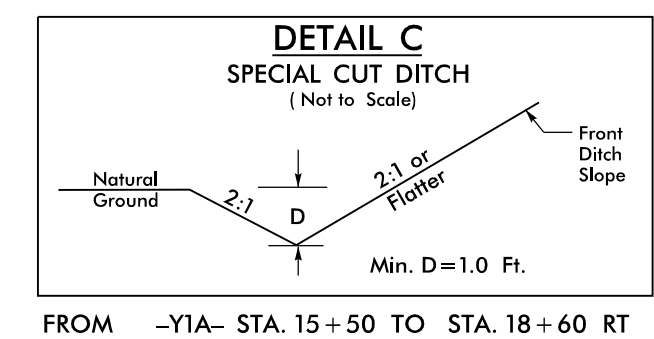
NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.

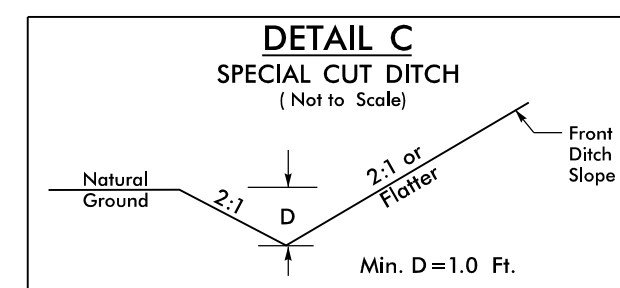
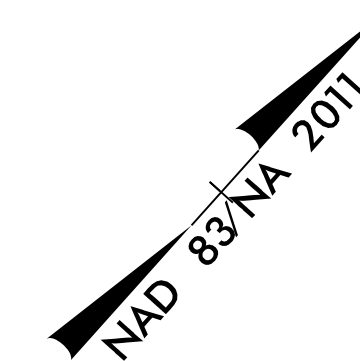
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

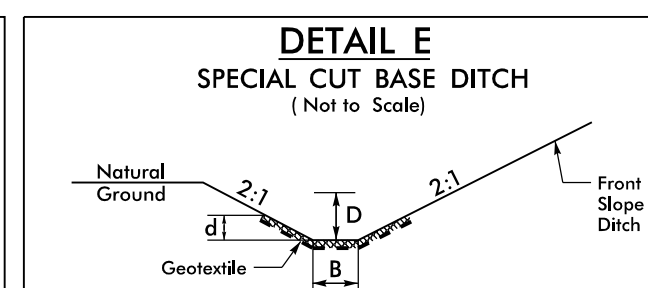
LEGEND

- ① RETAIN
- ② PLUG & FILL
- ③ REMOVE



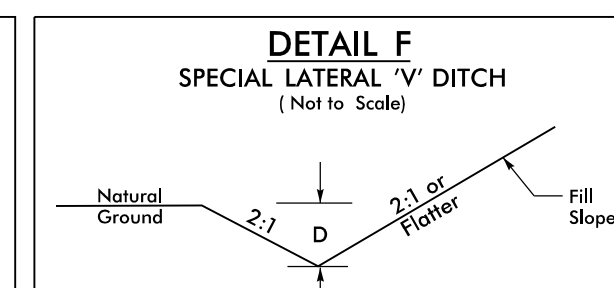


FROM -Y1A- STA. 19+04 TO STA. 21+50 RT

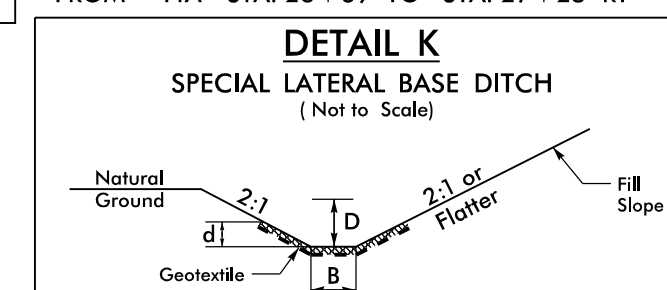


Min. $D = 1.0$ Ft.
Max. $d = 0.5$ Ft.
 $B = 3$ Ft.

FROM -Y1A- STA. 21+50 TO STA. 22+00 R
EST. CLASS B RIP RAP = 13 TONS
EST GEOTEXTILE = 22 SY

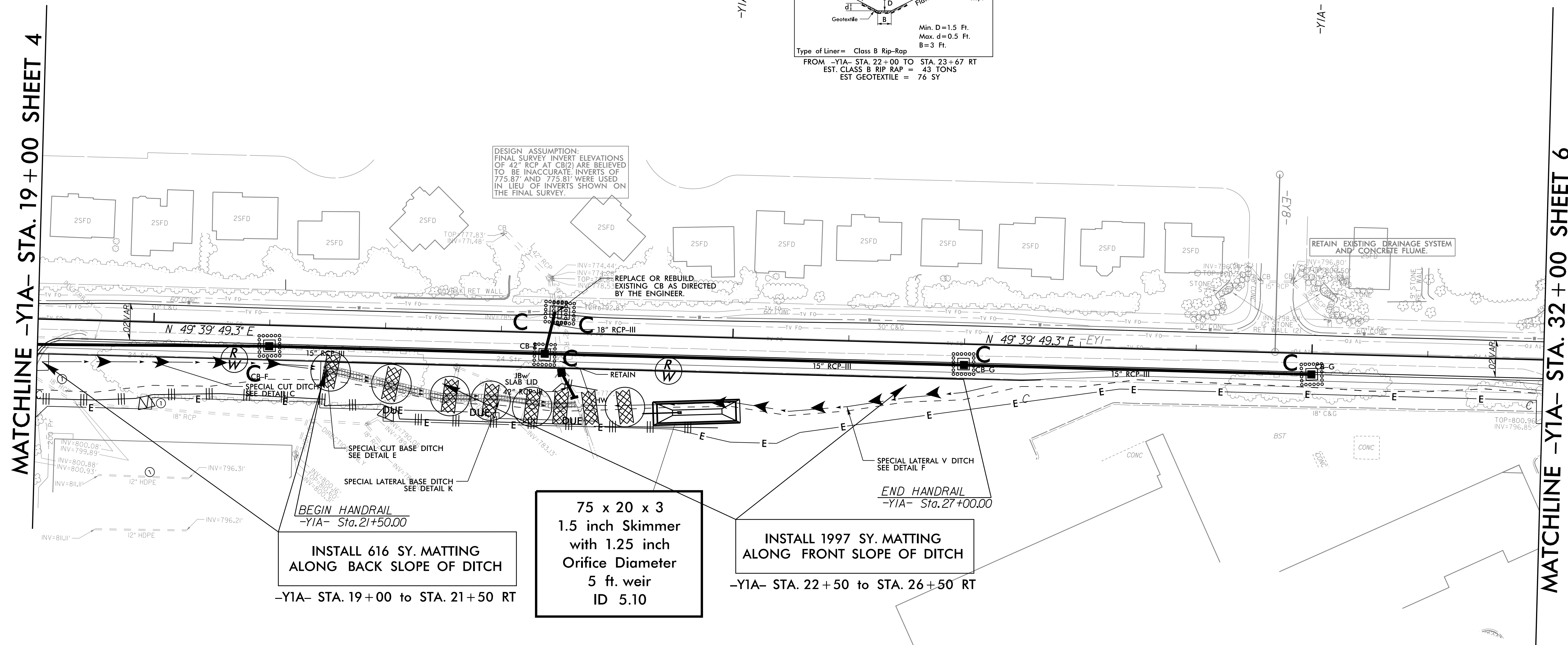


Min. D=2.0 Ft.



Min. D=1.5 Ft.
Max. d=0.5 Ft.
B=3 Ft.

FROM -Y1A- STA. 22+00 TO STA. 23+67 F
EST. CLASS B RIP RAP = 43 TONS
EST GEOTEXTILE = 76 SY



- LEGEND**
- ① RETAIN
 - ② PLUG & FILL
 - ③ REMOVE

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

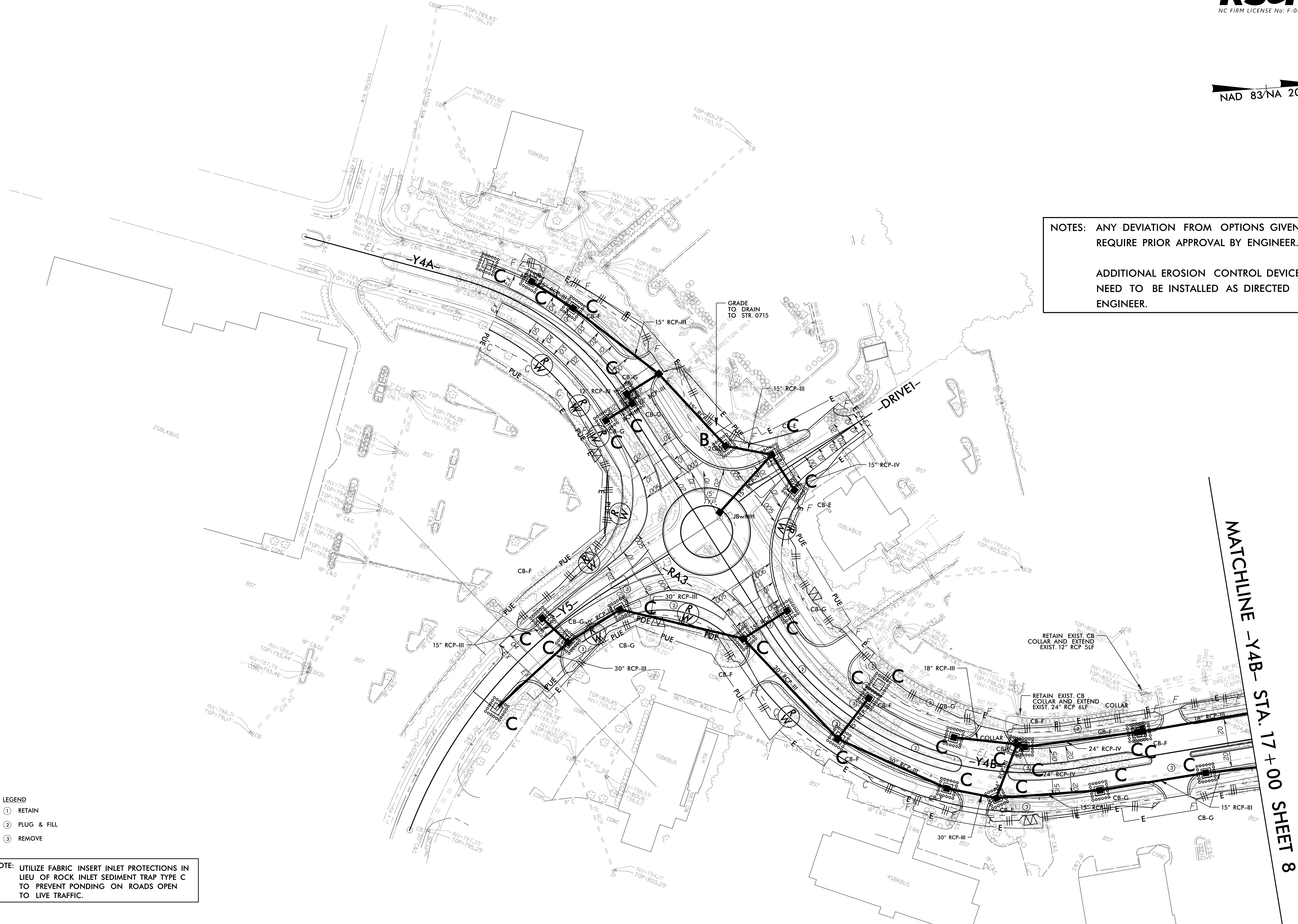
NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.



NAD 83/NA 2011

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.



- LEGEND
- ① RETAIN
 - ② PLUG & FILL
 - ③ REMOVE

NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.



DETAIL I
SPECIAL LATERAL SCALE DITCH
 (Not to Scale)

Natural Ground

3:1

D

B

3:1

Fill Slope

Min. D = 1.5 Ft.
 B = 2.0 Ft.

FROM -L- STA. 36+00 TO STA. 37+50 RT

BEGIN GRADE
-Y6A- Sta.13+25.00

-Y6A- PC Sta. 11+83.61

-DRIVE2- POT Sta. 12+01.4
N 78° 03' 00.1" E FN

END GRADE
-DRIVE2- Sta.11+55.00

-DRIVE2- PT Sta. 11+21.79

END TIP PROJECT U-5906
END MILL & OVERLAY
- STA 38+00.00

-WBL- PT Sta. 14+63.57

-1- PT Sta 37+47.14

-WBI - PCC Sta 13+81.7

-WBL- POT Sta. 10+00.00
-WBL- PC Sta. 10+11.76

-WBL- PC Sta. 10+11.76

BEGIN MILL & OVERLAY
-1- Sta. 31+65.00

$$\begin{array}{r} -Y6A- POT Sta. 10+00.00 \\ -Y4B- POT Sta. 21+03.90 \\ = -L- Sta. 32+55.13 \end{array}$$

END GRADE
-Y4B- Sta. 20+59.53 =
-1- Sta. 32+49.38

INSTALL 1458 SY. MATTING
ALONG FRONT SLOPE OF DITCH
AND FILL SLOPE

NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

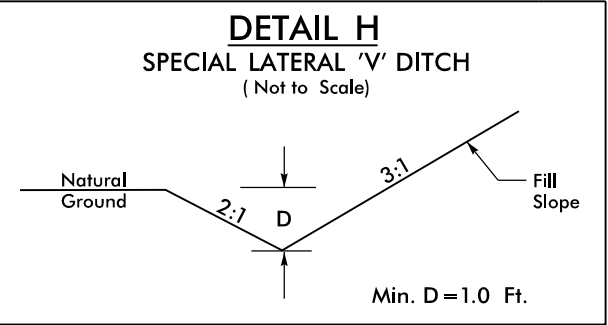
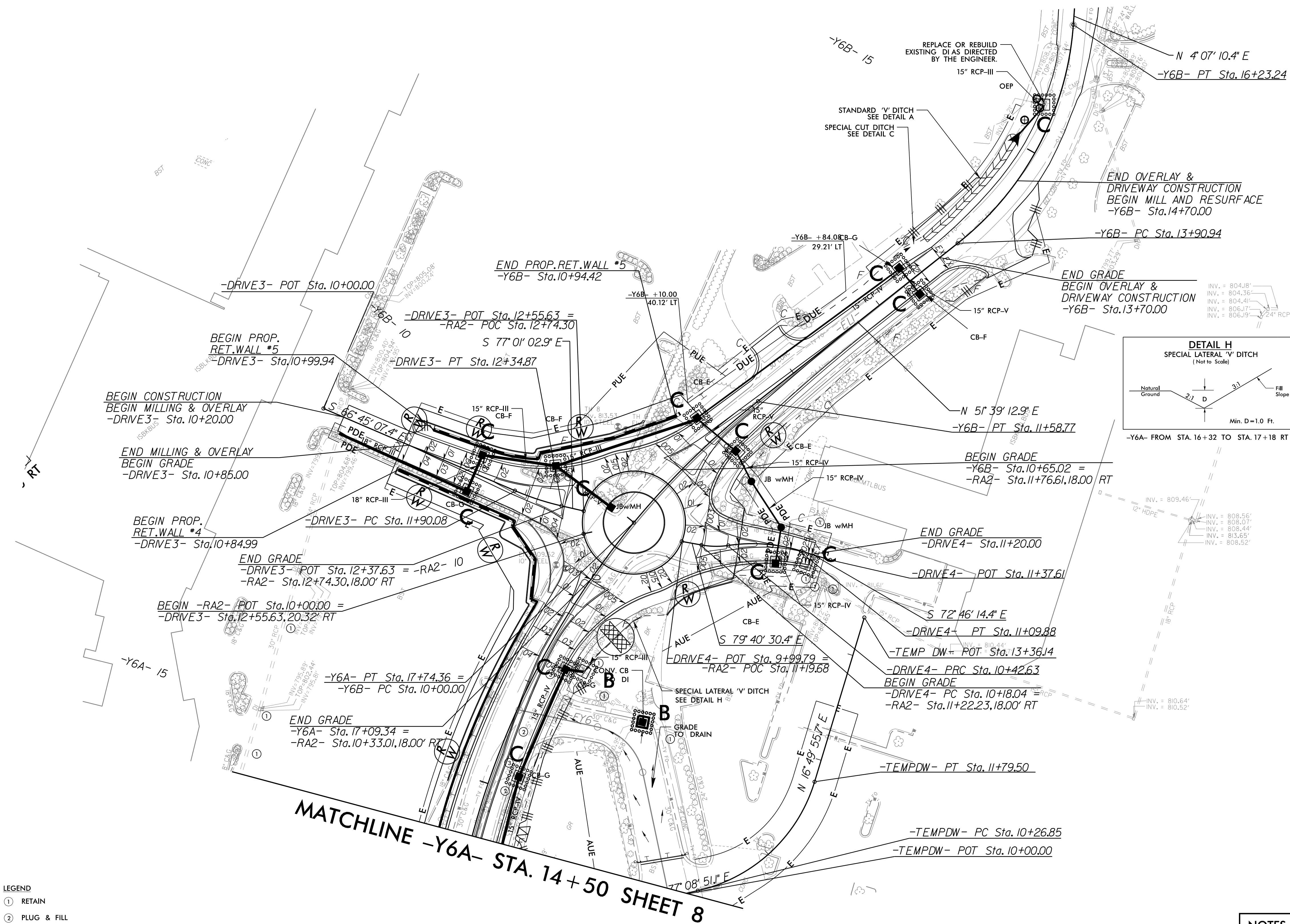
ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

LEGEND

- ① RETAIN
- ② PLUG & FILE
- ③ REMOVE

MATCHLINE -Y4B- STA. 17+00 SHEET 7

- RPC- STA. 10+00 to STA. 12+50 RT



NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.