

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

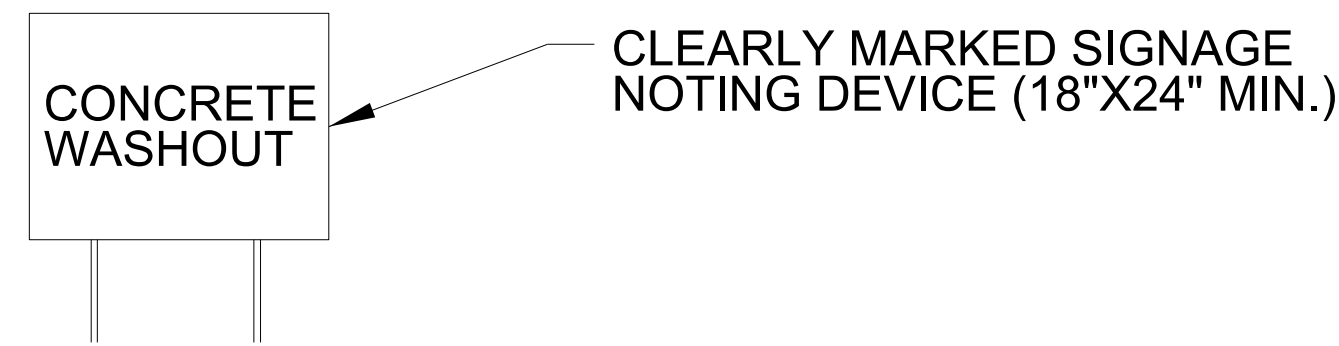
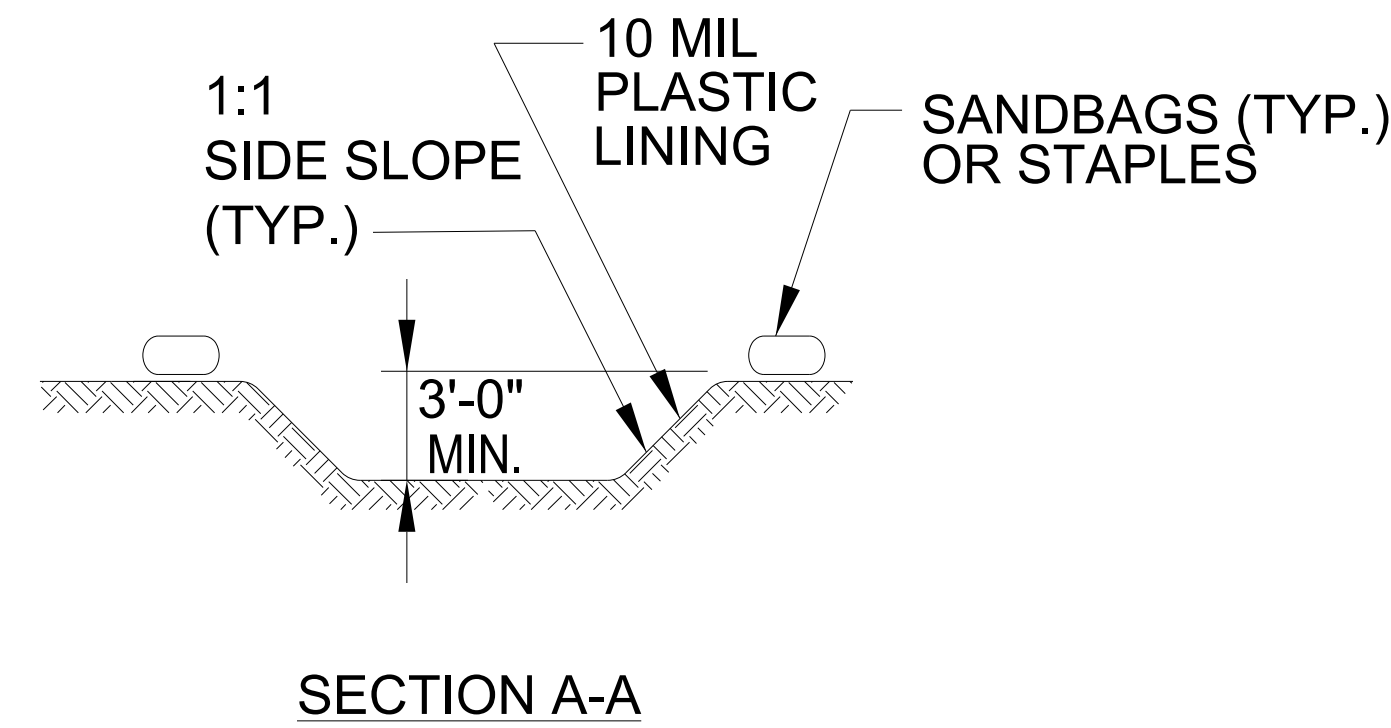
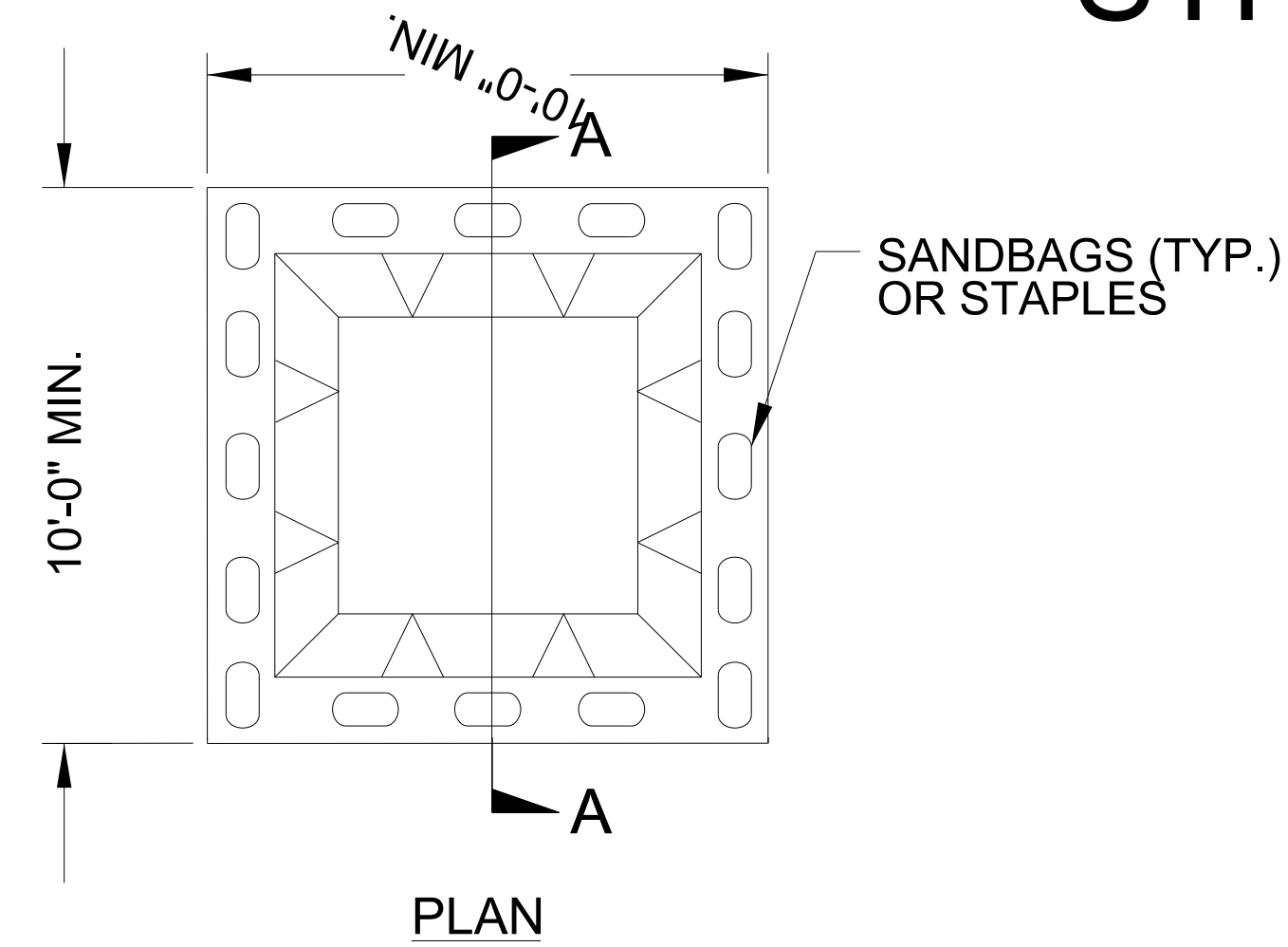
PROJECT REFERENCE NO. B-5833	SHEET NO. EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol	Std. #	Description	Symbol
1605.01	Temporary Silt Fence		1633.01	Temporary Rock Silt Check Type A	
1606.01	Special Sediment Control Fence		1633.02	Temporary Rock Silt Check Type B	
1622.01	Temporary Berms and Slope Drains		1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1630.02	Silt Basin Type B		1634.01	Temporary Rock Sediment Dam Type A	
1630.03	Temporary Silt Ditch		1634.02	Temporary Rock Sediment Dam Type B	
1630.04	Stilling Basin		1635.01	Rock Pipe Inlet Sediment Trap Type A	
1630.05	Temporary Diversion		1635.02	Rock Pipe Inlet Sediment Trap Type B	
1630.06	Special Stilling Basin		1636.01	Excelsior Wattle Check	
1630.07	Skimmer Basin		1636.01	Excelsior Wattle Check with Flocculant	
1630.08	Tiered Skimmer Basin		1636.01	Coir Fiber Wattle Check	
1630.09	Earthen Dam with Skimmer		1636.01	Coir Fiber Wattle Check with Flocculant	
	Infiltration Basin		1636.02	Silt Fence Excelsior Wattle Break	
	Rock Inlet Sediment Trap:			Silt Fence Coir Fiber Wattle Break	
1632.01	Type A		1636.03	Excelsior Wattle Barrier	
1632.02	Type B		1636.03	Coir Fiber Wattle Barrier	
1632.03	Type C				

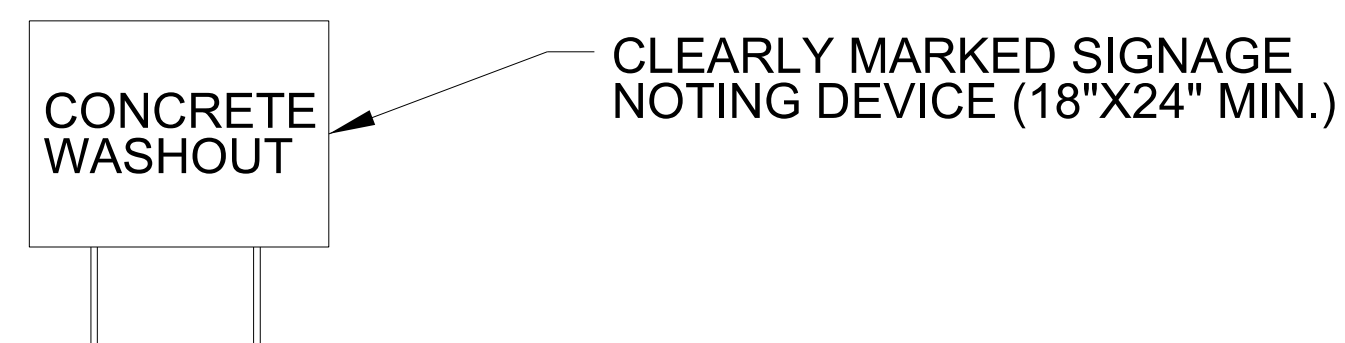
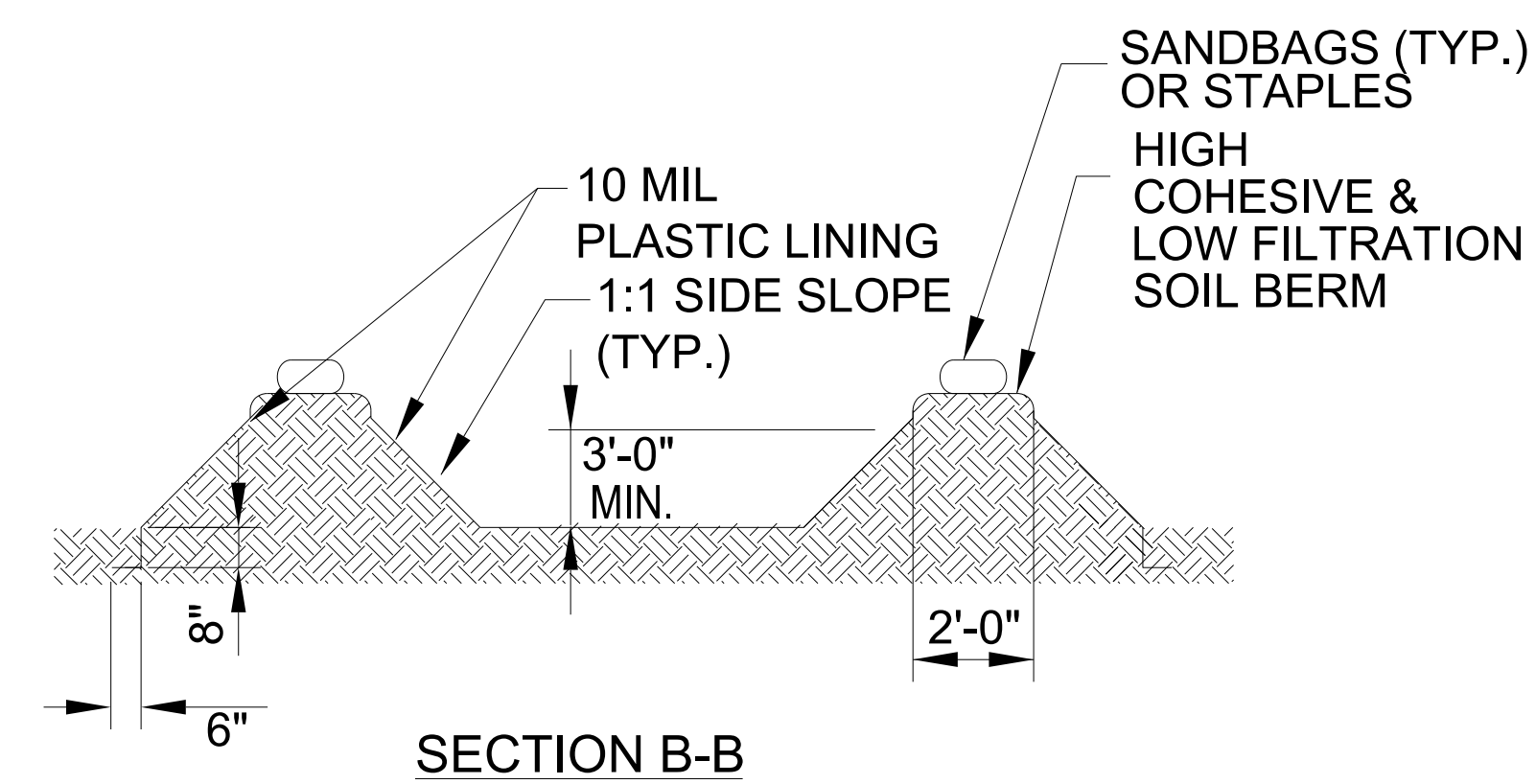
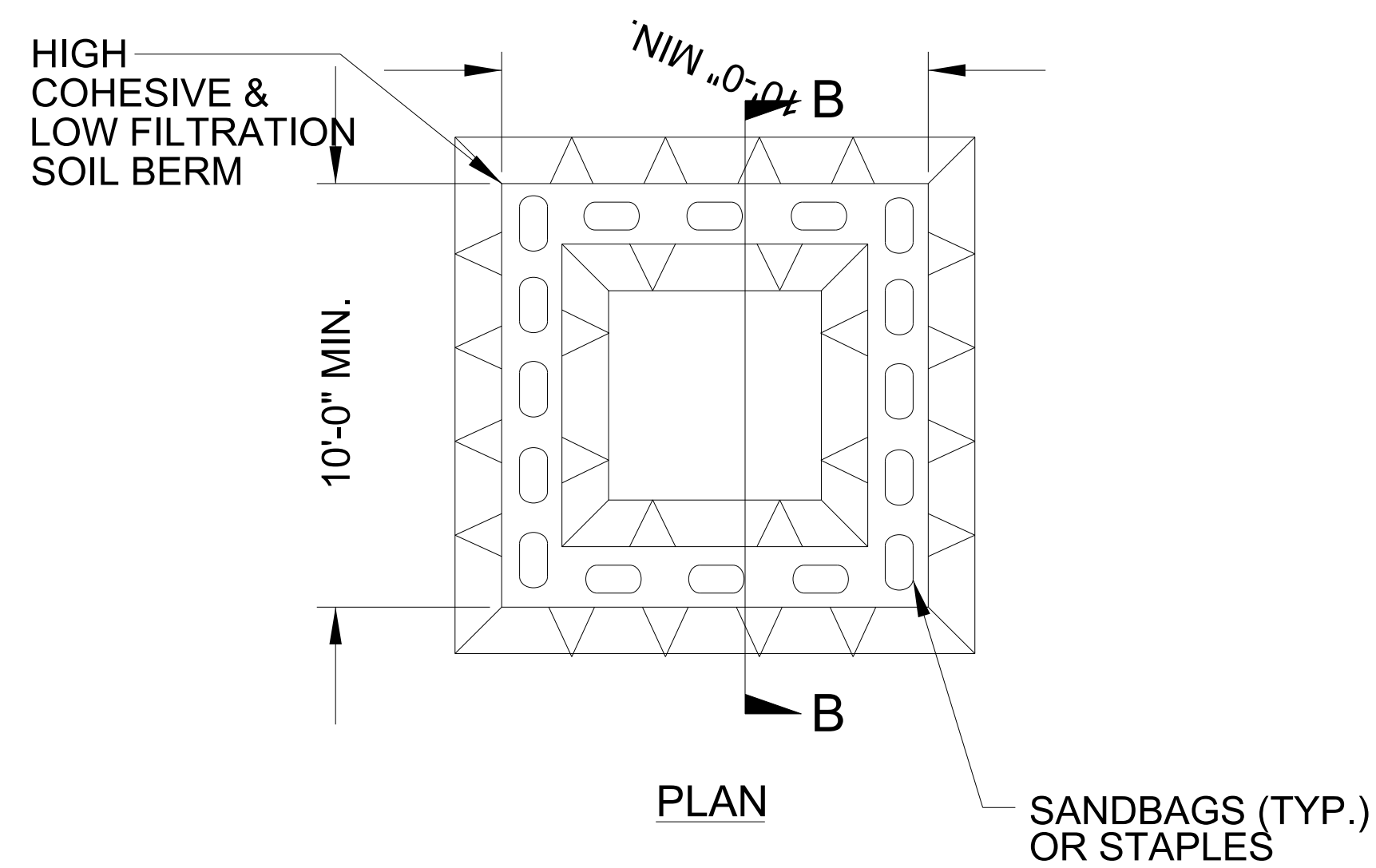
PROJECT REFERENCE NO.	SHEET NO.
B-5833	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



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.



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.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>B-5833</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

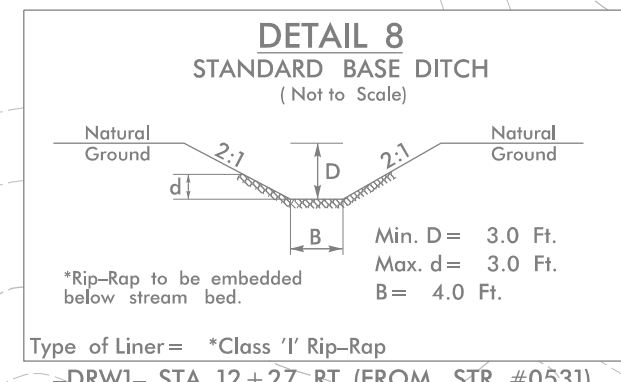
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING
BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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

PI Sta 17+87.66 PI Sta 22+16.73
 $\Delta = 6' 34" 02.4" (LT)$ $\Delta = 13' 17" 34.0" (RT)$
 $D = 3' 47" 39.9"$ $D = 3' 47" 39.9"$
 $L = 173.08'$ $L = 350.32'$
 $T = 86.63'$ $T = 175.95'$
 $R = 1,510.00'$ $R = 1,510.00'$
 $SE = 0.05$ $SE = 0.05$
 $Lr = 125'$ $Lr = 125'$

PI Sta 10+91.08 PI Sta 12+09.78
 $\Delta = 18' 34" 00.1" (RT)$ $\Delta = 48' 13" 26.2" (LT)$
 $D = 17' 37" 46.1"$ $D = 25' 48" 32.1"$
 $L = 105.32'$ $L = 186.85'$
 $T = 53.12'$ $T = 99.36'$
 $R = 325.00'$ $R = 222.00'$

① = -L- POC Sta. 18+61.28=
 -Y1- POT Sta. 12+06.74
 ② = -L- POC Sta. 18+64.39=
 -Y2- POT Sta. 10+00.00
 ③ = -L- PT Sta. 18+74.11



⑧ RYAN D. BLEDSOE
ASHLEY BLEDSOE
⑩ KENNETH WARD CARTER
JESSE CONNIE CARTER

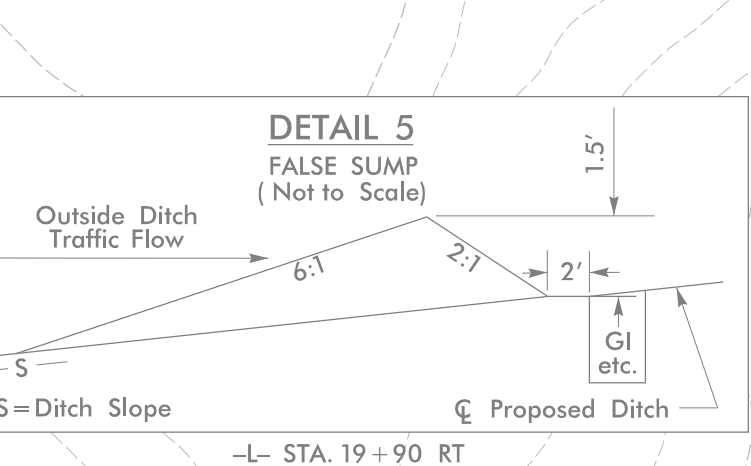
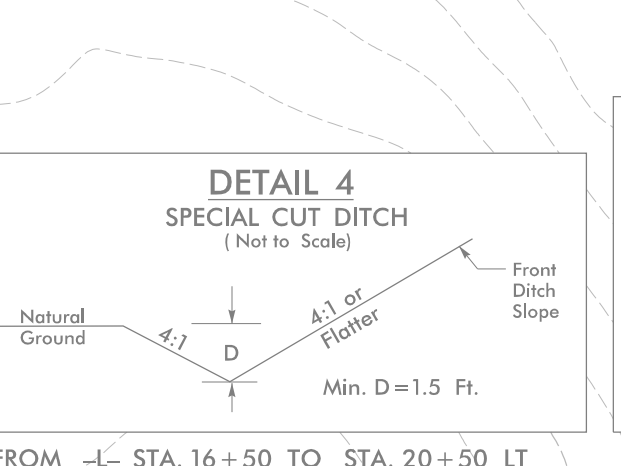
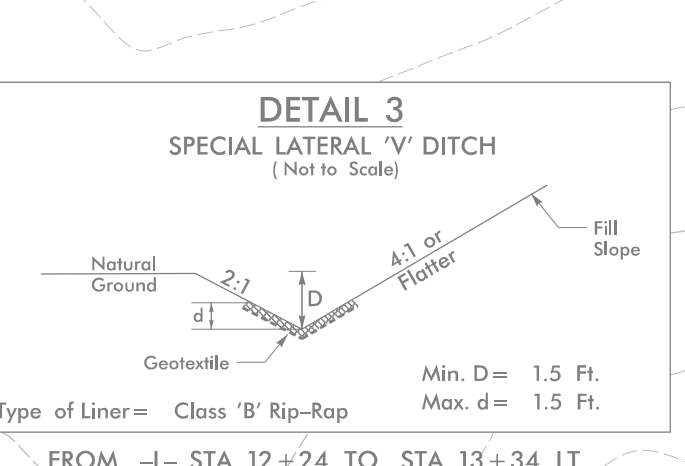
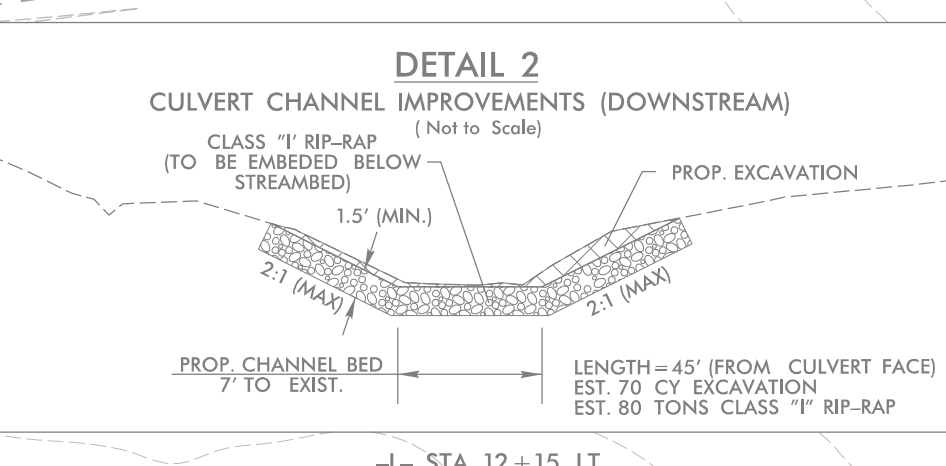
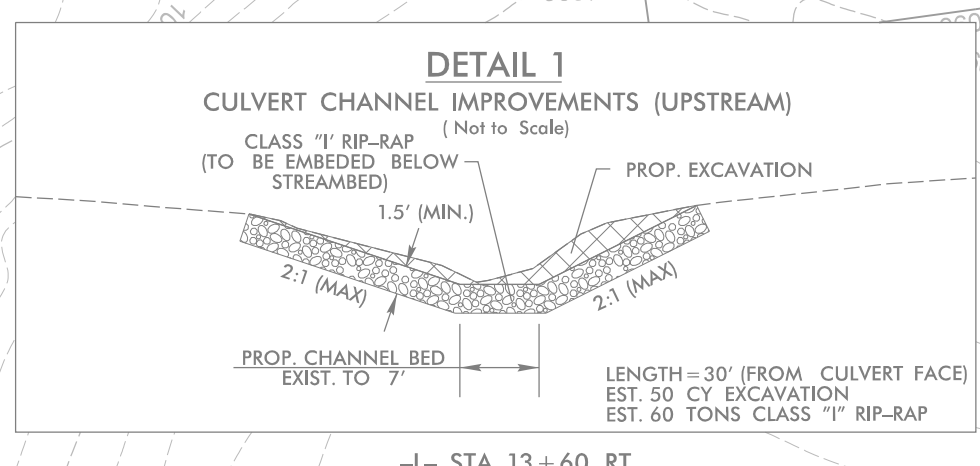
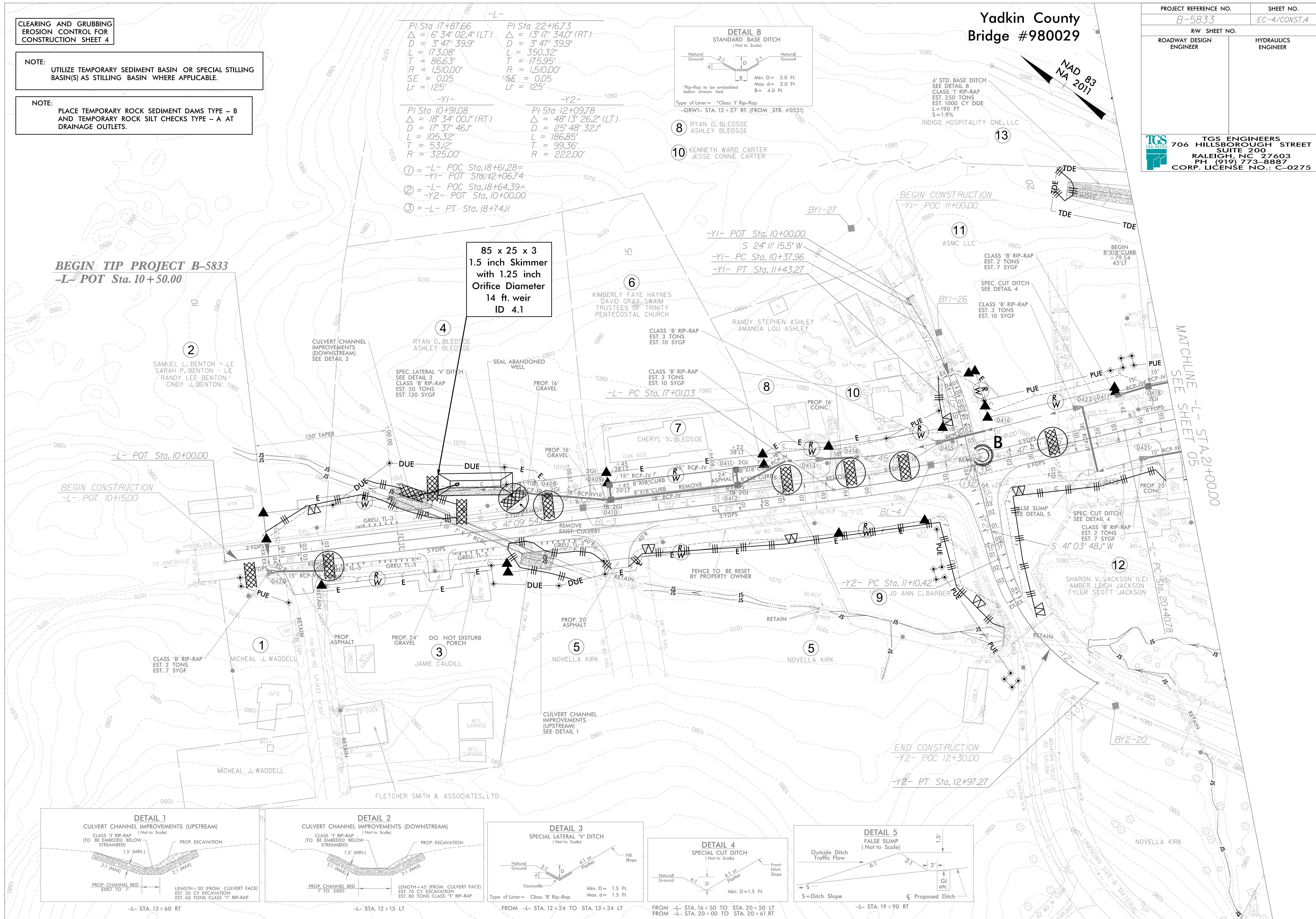
Yadkin County
Bridge #980029

PROJECT REFERENCE NO. B-5833	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH STREET
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

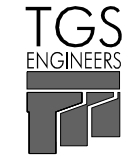
BEGIN TIP PROJECT B-5833
-L- POT Sta. 10+50.00

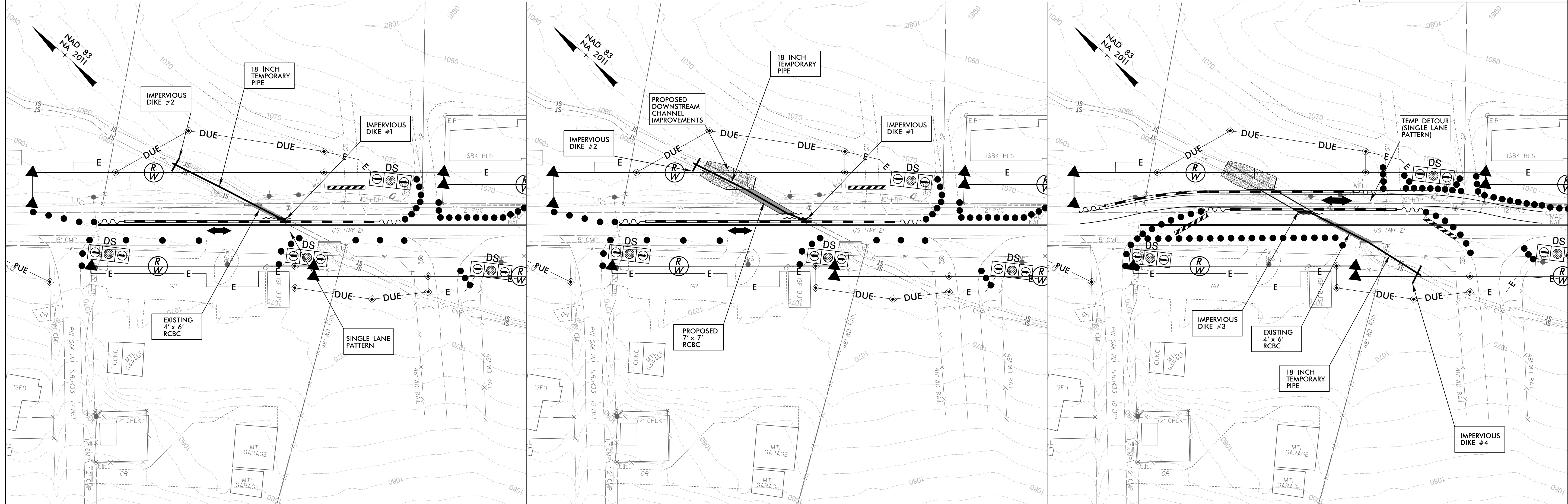
85 x 25 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
14 ft. weir
ID 4.1



MATCHLINE -L- STA. 21+00.00
SEE SHEET 05

**B-5833 PROP. 1 @ 7' X 7' RCBC PHASING -L- 12+93
US 21 BUS OVER UT TO SANDYBERRY CREEK
YADKIN COUNTY**

PROJECT REFERENCE NO. B-5833	SHEET NO. EC-4A/CONST.4
RW SHEET NO.	
 TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	



PHASE 1

1. INSTALL SINGLE LANE PATTERN ON THE EASTBOUND LANE OF EXISTING US 21.
2. INSTALL IMPERVIOUS DIKES #1 & #2, 18-INCH TEMPORARY PIPE, AND SPECIAL STILLING BASIN(S).
3. DEWATER CONSTRUCTION AREAS INTO SPECIAL STILLING BASIN(S) AS REQUIRED.
4. REMOVE 30 FT (DOWNSTREAM) OF THE EXISTING 4' X 6' RCBC, HEADWALL, AND WINGWALLS.


PHASE 2

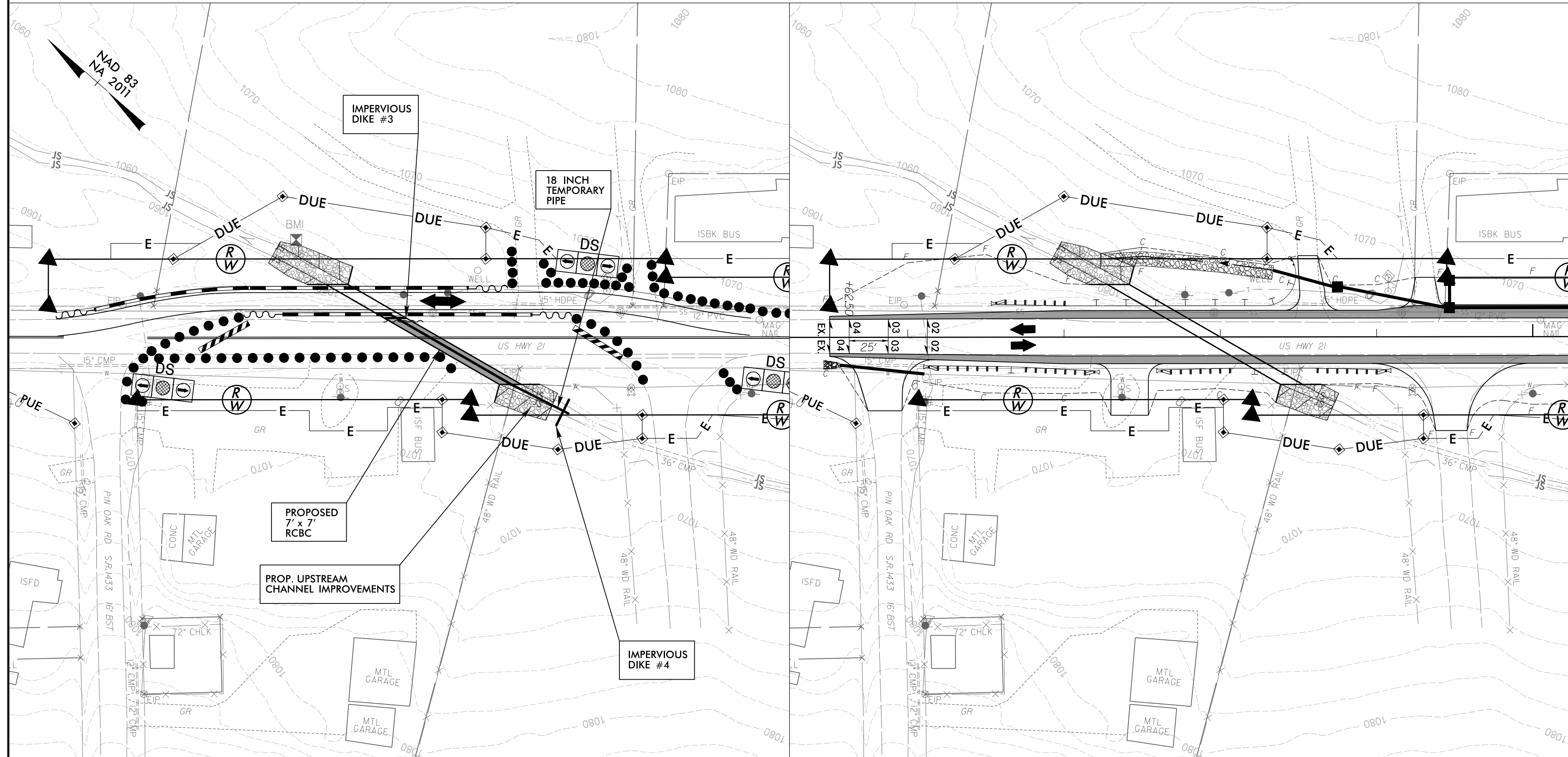
1. CONSTRUCT 46 FT (DOWNSTREAM) OF PROPOSED 1 @ 7' X 7' RCBC, HEADWALL, WINGWALLS, AND PROPOSED DOWNSTREAM CHANNEL IMPROVEMENTS.
2. REMOVE IMPERVIOUS DIKES #1 & #2, 18-INCH TEMPORARY PIPE, AND SPECIAL STILLING BASIN(S).
3. ALLOW FLOW THROUGH NEWLY CONSTRUCTED CULVERT.
4. CONSTRUCT TEMPORARY DETOUR AS SHOWN ON ROADWAY SHEET 2B-1.

PHASE 3

1. SHIFT SINGLE LANE PATTERN ONTO TEMPORARY DETOUR.
2. INSTALL IMPERVIOUS DIKES #3 & #4, 18-INCH TEMPORARY PIPE, AND SPECIAL STILLING BASIN(S).
3. DEWATER CONSTRUCTION AREAS INTO SPECIAL STILLING BASIN(S) AS REQUIRED.
4. REMOVE REMAINDER OF THE EXISTING 4' X 6' RCBC, HEADWALL, AND WINGWALLS.

**B-5833 PROP. 1 @ 7' X 7' RCBC PHASING -L- 12+93
US 21 BUS OVER UT TO SANDYBERRY CREEK
YADKIN COUNTY**

PROJECT REFERENCE NO. B-5833	SHEET NO. EC-4B/CONST.4
RW SHEET NO.	
 TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	




PHASE 4

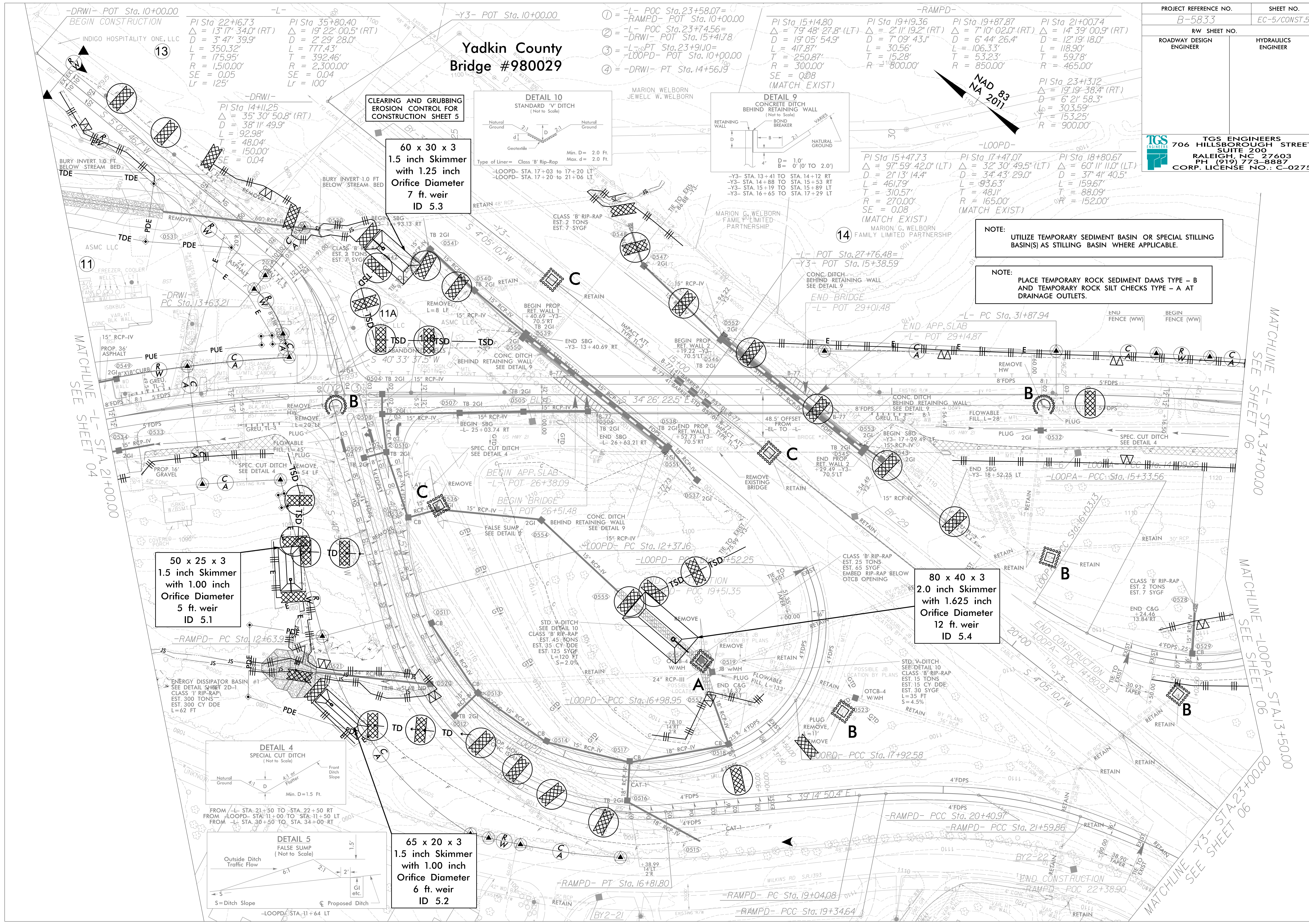
1. CONSTRUCT REMAINDER OF PROPOSED 1 @ 7' X 7' RCBC, HEADWALL, WINGWALLS, AND PROPOSED UPSTREAM CHANNEL IMPROVEMENTS.
2. REMOVE IMPERVIOUS DIKES #3 & #4, 18-INCH TEMPORARY PIPE, AND SPECIAL STILLING BASIN(S).
3. ALLOW FLOW THROUGH NEWLY CONSTRUCTED CULVERT.

PHASE 5

1. REMOVE TEMPORARY DETOUR.
2. CONSTRUCT REMAINDER OF PROPOSED ROADWAY & DRAINAGE IMPROVEMENTS.

PROJECT REFERENCE NO.	SHEET NO.
B-5833	EC-5/CONST.5
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
 TGS ENGINEERS 706 HILLSBOROUGH STREET SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

Yadkin County Bridge #980029



PI Sta 22+67.3
 $\Delta = 13' 17'' 34.0''$ (RT)
 $D = 3' 47'' 39.9''$
 $L = 350.32'$
 $T = 175.95'$
 $R = 1510.00'$
 $SE = 0.05$
 $Lr = 125'$

PI Sta 35+80.40
 $\Delta = 19' 22'' 00.5''$ (RT)
 $D = 2' 29'' 28.0''$
 $L = 777.43'$
 $T = 392.46'$
 $R = 2300.00'$
 $SE = 0.04$
 $Lr = 100'$

- ① = -L- POC Sta.23+58.07=
- ② = -L- POC Sta.23+74.56=
- ③ = -L- POC Sta.23+91.0=
- ④ = -DRWI- PT Sta.14+56.19

PI Sta 15+14.80
 $\Delta = 79' 48'' 27.8''$ (LT)
 $D = 19' 05'' 54.9''$
 $L = 417.87'$
 $T = 250.87'$
 $R = 3000.00'$
 $SE = 0.08$
 (MATCH EXIST)

PI Sta 19+19.36
 $\Delta = 2' 11'' 19.2''$ (RT)
 $D = 7' 09'' 43.1''$
 $L = 30.56'$
 $T = 15.28'$
 $R = 800.00'$
 (MATCH EXIST)

PI Sta 19+87.87
 $\Delta = 7' 10'' 02.0''$ (RT)
 $D = 6' 44'' 26.4''$
 $L = 106.33'$
 $T = 53.23'$
 $R = 850.00'$
 (MATCH EXIST)

PI Sta 21+00.74
 $\Delta = 14' 39'' 00.9''$ (RT)
 $D = 12' 19'' 18.0''$
 $L = 118.90'$
 $T = 59.78'$
 $R = 465.00'$
 (MATCH EXIST)

PI Sta 23+33.12
 $\Delta = 19' 19'' 38.4''$ (RT)
 $D = 6' 21'' 58.3''$
 $L = 303.59'$
 $T = 153.25'$
 $R = 900.00'$
 (MATCH EXIST)

PI Sta 15+47.73
 $\Delta = 97' 59'' 42.0''$ (LT)
 $D = 21' 13'' 14.4''$
 $L = 461.79'$
 $T = 310.57'$
 $R = 270.00'$
 $SE = 0.08$
 (MATCH EXIST)

PI Sta 17+47.07
 $\Delta = 32' 30'' 49.5''$ (LT)
 $D = 37' 41'' 40.5''$
 $L = 93.63'$
 $T = 48.11'$
 $R = 165.00'$
 (MATCH EXIST)

PI Sta 18+80.67
 $\Delta = 60' 11'' 11.0''$ (LT)
 $D = 37' 41'' 40.5''$
 $L = 159.67'$
 $T = 88.09'$
 $R = 152.00'$
 (MATCH EXIST)

NOTE: UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

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

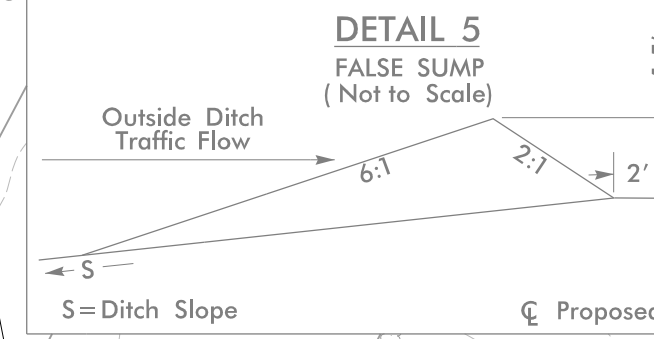
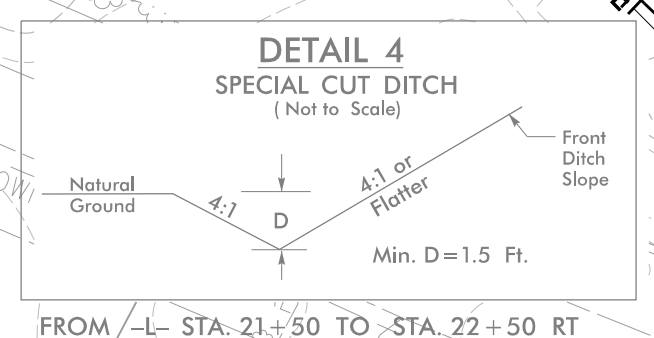
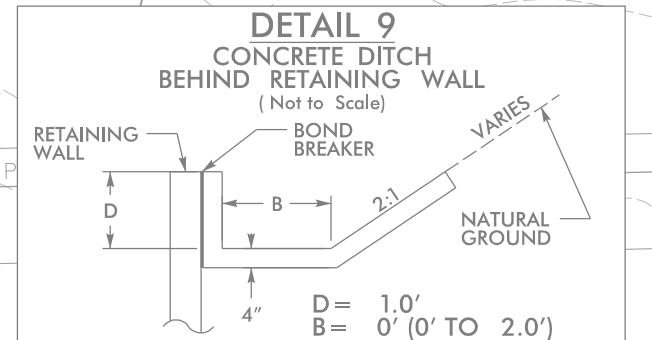
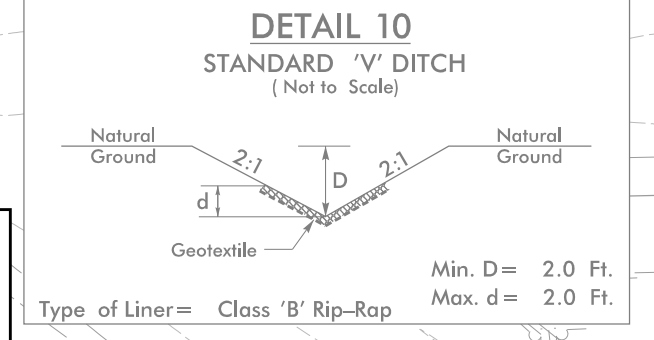
**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5**

**60 x 30 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 5.3**

**50 x 25 x 3
1.5 inch Skimmer
with 1.00 inch
Orifice Diameter
5 ft. weir
ID 5.1**

**80 x 40 x 3
2.0 inch Skimmer
with 1.625 inch
Orifice Diameter
12 ft. weir
ID 5.4**

**65 x 20 x 3
1.5 inch Skimmer
with 1.00 inch
Orifice Diameter
6 ft. weir
ID 5.2**



MATCHLINE -L- STA.34+00.00
 SEE SHEET 06
 MATCHLINE -LOPA- STA.13+50.00
 SEE SHEET 06
 MATCHLINE -Y3- STA.23+00.00
 SEE SHEET 06

PROJECT REFERENCE NO. B-5833	SHEET NO. EC-6/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Yadkin County Bridge #980029



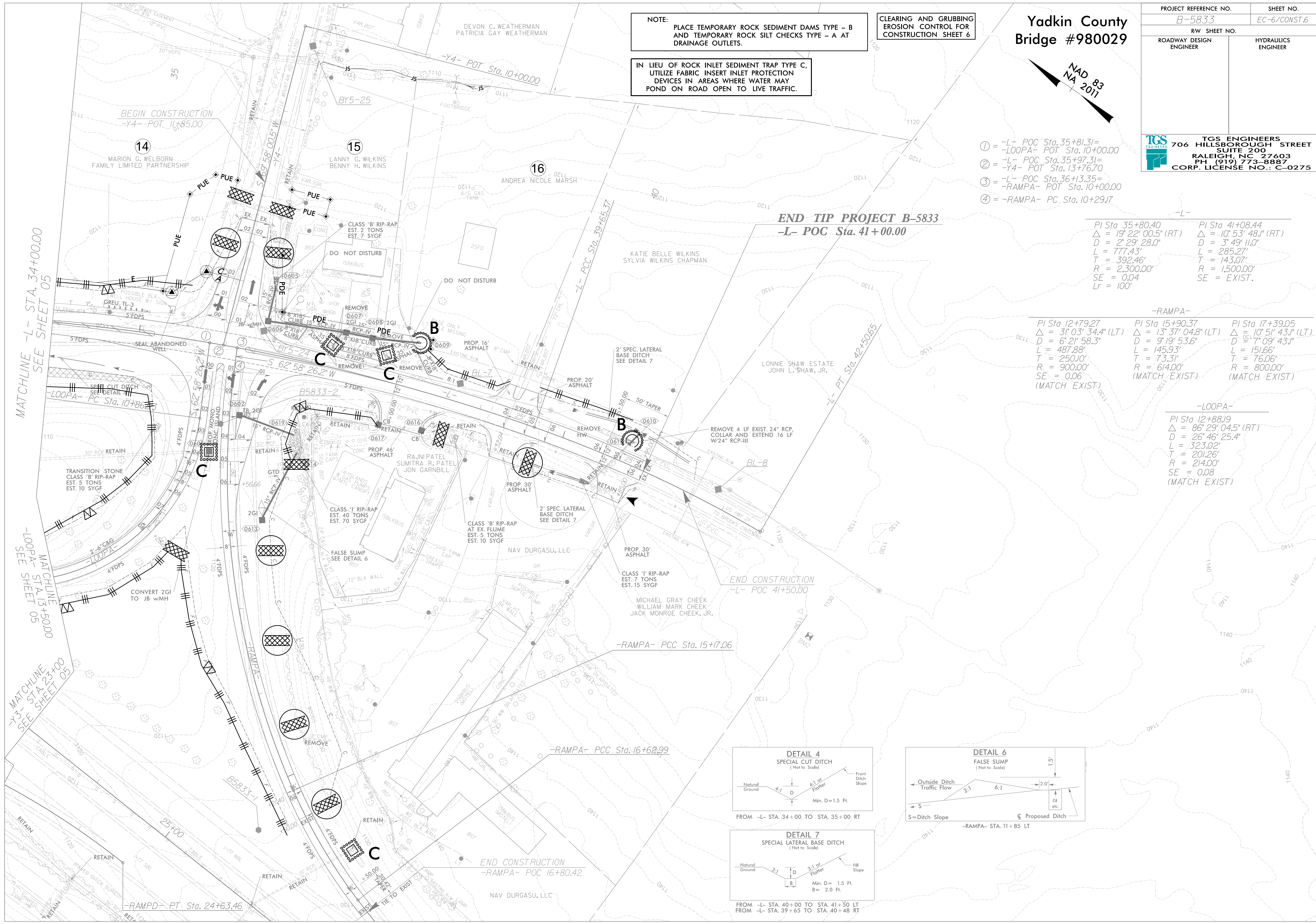
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

- ① = -L- POC Sta. 35+81.31 = -LOOPA- POT. Sta. 10+00.00
- ② = -L- POC Sta. 35+97.31 = -Y4- POT. Sta. 13+76.70
- ③ = -L- POC Sta. 36+13.35 = -RAMPA- POT. Sta. 10+00.00
- ④ = -RAMPA- PC. Sta. 10+29.17

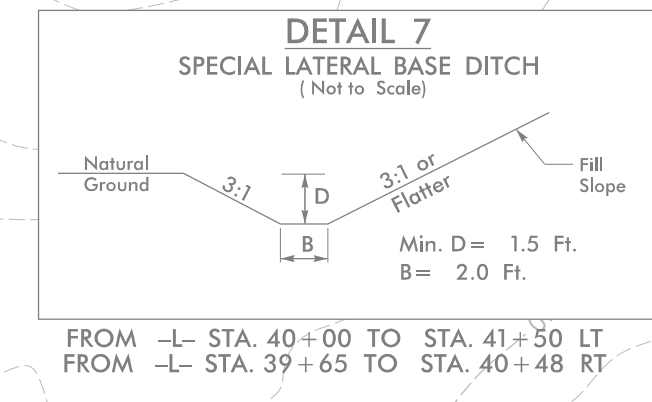
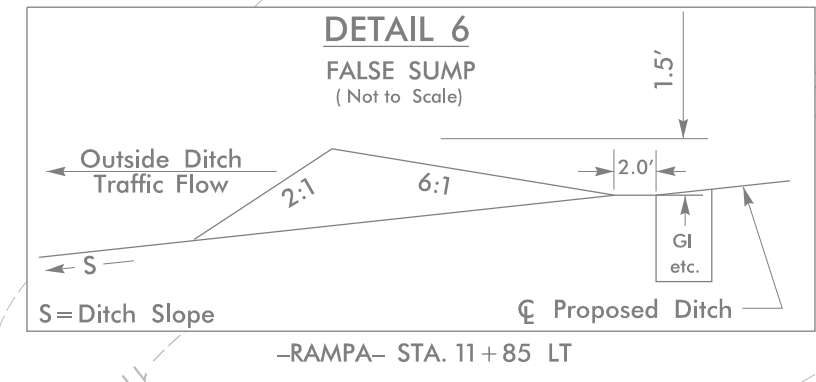
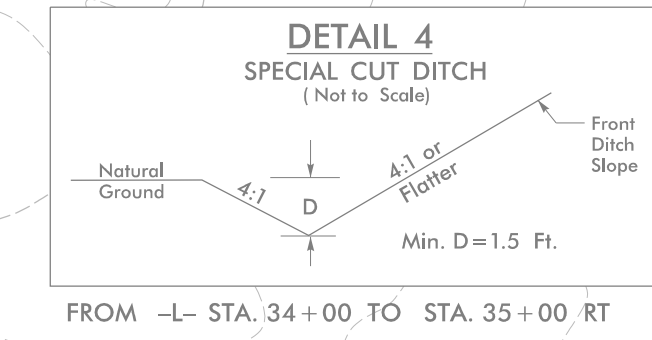
TGS ENGINEERS
706 HILLSBOROUGH STREET
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275



PI Sta 35+80.40 Δ = 19° 22' 00.5" (RT) D = 2' 29' 28.0" L = 777.43' T = 392.46' R = 2,300.00' SE = 0.04 Lr = 100'	PI Sta 41+08.44 Δ = 10° 53' 48.1" (RT) D = 3' 49' 11.0" L = 285.27' T = 143.07' R = 1,500.00' SE = EXIST.
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-RAMPA-		
PI Sta 12+79.27 Δ = 3° 03' 34.4" (LT) D = 6' 21' 58.3" L = 487.88' T = 250.10' R = 900.00' SE = 0.06 (MATCH EXIST)	PI Sta 15+90.37 Δ = 13° 37' 04.8" (LT) D = 9' 19' 53.6" L = 145.93' T = 73.31' R = 614.00' (MATCH EXIST)	PI Sta 17+39.05 Δ = 10° 51' 43.1" (LT) D = 7' 09' 43.1" L = 151.66' T = 76.06' R = 800.00' (MATCH EXIST)

-LOOPA-	
PI Sta 12+88.19 Δ = 86° 29' 04.5" (RT) D = 26' 46' 25.4" L = 323.02' T = 201.26' R = 214.00' SE = 0.08 (MATCH EXIST)	



**Yadkin County
Bridge #980029**

PROJECT REFERENCE NO. B-5833	SHEET NO. EC-7/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH STREET
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

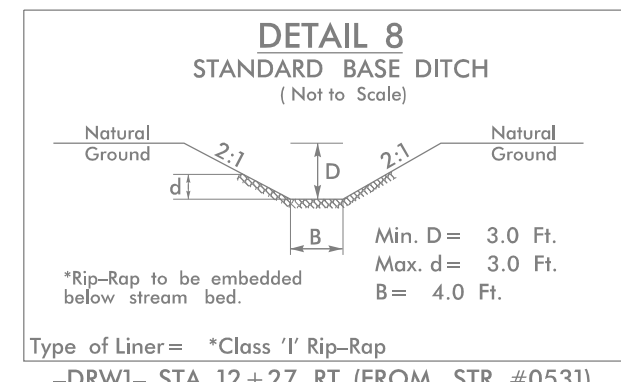
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

-L-
PI Sta. 17+87.66 PI Sta. 22+16.73
 $\Delta = 6' 34" 02.4" (LT)$ $\Delta = 13' 17" 34.0" (RT)$
 $D = 3' 47" 39.9"$ $D = 3' 47" 39.9"$
 $L = 173.08'$ $L = 350.32'$
 $T = 86.63'$ $T = 175.95'$
 $R = 1,510.00'$ $R = 1,510.00'$
 $SE = 0.05$ $SE = 0.05$
 $Lr = 125'$ $Lr = 125'$

-Y1- **-Y2-**
PI Sta. 10+91.08 PI Sta. 12+09.78
 $\Delta = 18' 34" 00.1" (RT)$ $\Delta = 48' 13" 26.2" (LT)$
 $D = 17' 37" 46.1"$ $D = 25' 48" 32.1"$
 $L = 105.32'$ $L = 186.85'$
 $T = 53.12'$ $T = 99.36'$
 $R = 325.00'$ $R = 222.00'$

- ① = -L- POC Sta. 18+61.28 = -Y1- POT Sta. 12+06.74
- ② = -L- POC Sta. 18+64.39 = -Y2- POT Sta. 10+00.00
- ③ = -L- PT Sta. 18+74.11



- ⑧ RYAN D. BLEDSOE
ASHLEY BLEDSOE
- ⑩ KENNETH WARD CARTER
JESSE CONNIE CARTER

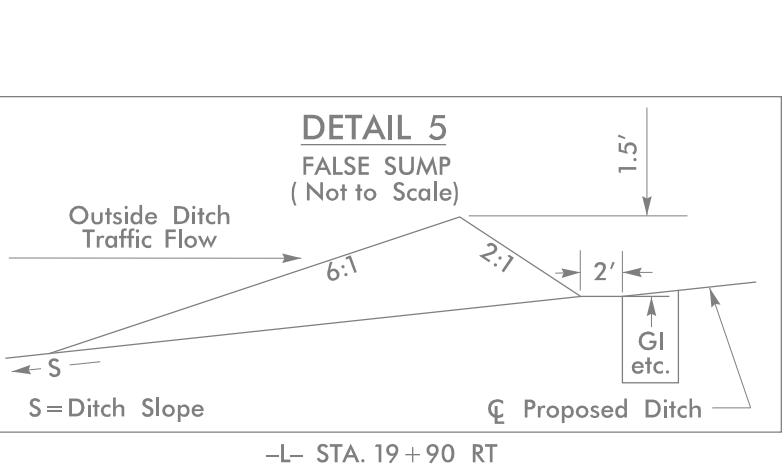
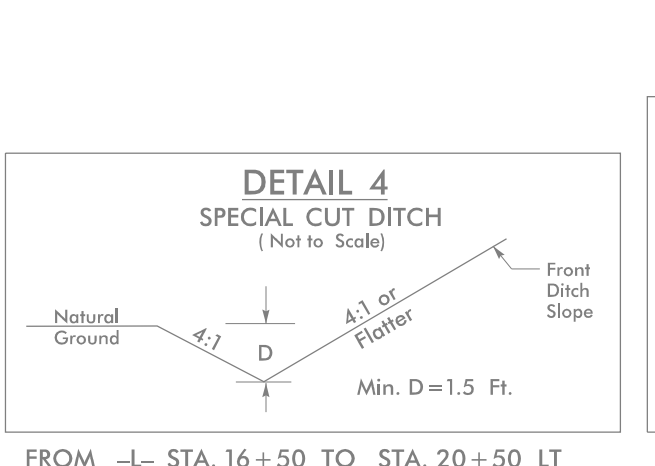
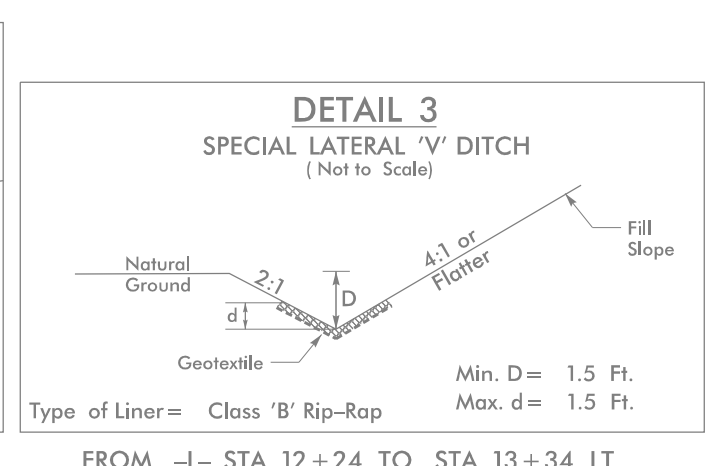
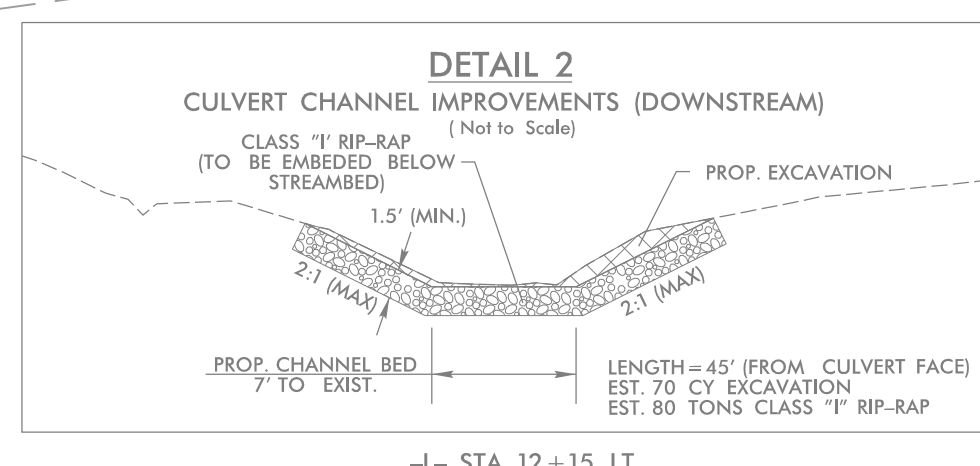
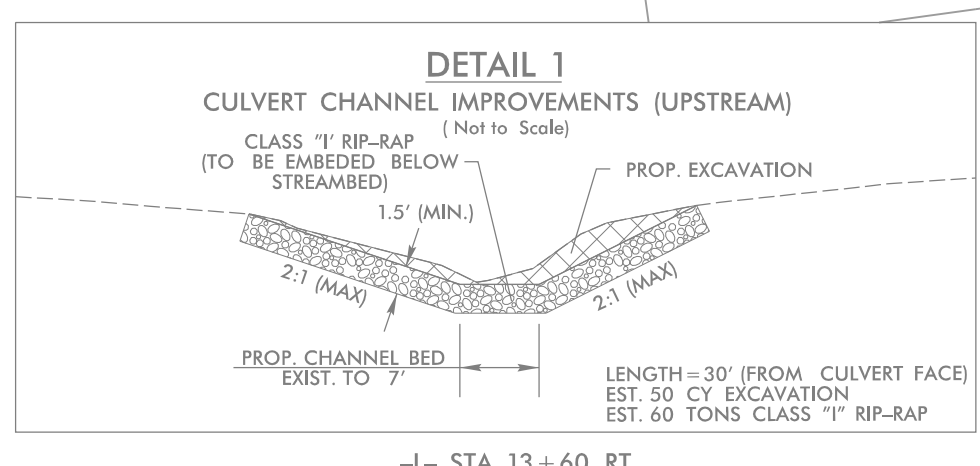
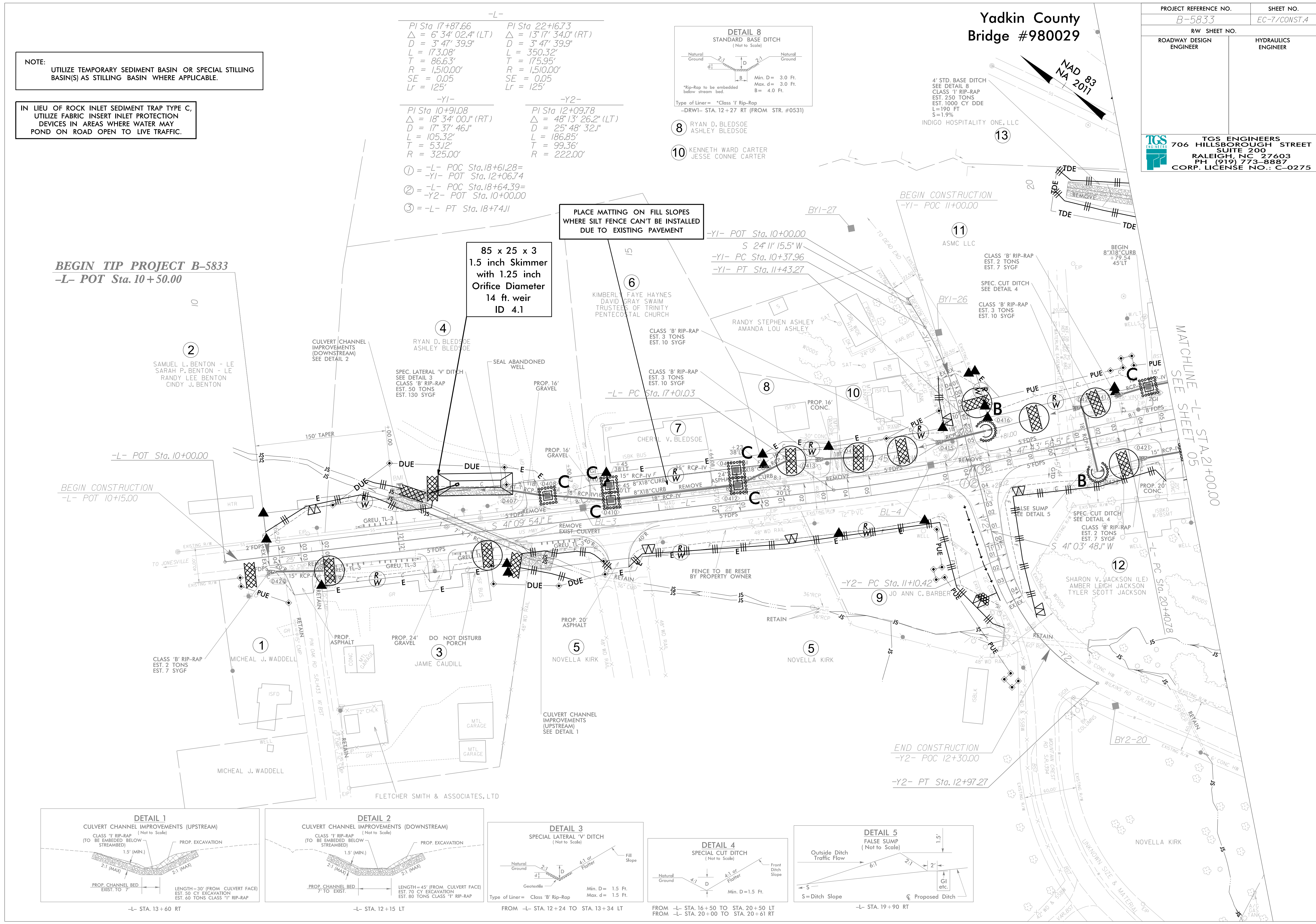
4' STD. BASE DITCH
SEE DETAIL 8
CLASS '1' RIP-RAP
EST. 250 TONS
EST. 1000 CY DDE
L=190 FT
S=1.9%

INDIGO HOSPITALITY ONE, LLC

BEGIN TIP PROJECT B-5833
-L- POT Sta. 10+50.00

**85 x 25 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
14 ft. weir
ID 4.1**

**PLACE MATTING ON FILL SLOPES
WHERE SILT FENCE CAN'T BE INSTALLED
DUE TO EXISTING PAVEMENT**



-L- STA. 13+60 RT

-L- STA. 12+15 LT

FROM -L- STA. 12+24 TO STA. 13+34 LT

FROM -L- STA. 16+50 TO STA. 20+50 LT
FROM -L- STA. 20+00 TO STA. 20+61 RT

-L- STA. 19+90 RT

**Yadkin County
Bridge #980029**



PROJECT REFERENCE NO. B-5833	SHEET NO. EC-9/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
706 HILLSBOROUGH STREET
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C,
UTILIZE FABRIC INSERT INLET PROTECTION
DEVICES IN AREAS WHERE WATER MAY
POND ON ROAD OPEN TO LIVE TRAFFIC.

PLACE MATTING ON FILL SLOPES
WHERE SILT FENCE CAN'T BE INSTALLED
DUE TO EXISTING PAVEMENT

- ① = -L- POC Sta. 35+81.31 =
-LOOPA- POT Sta. 10+00.00
- ② = -L- POC Sta. 35+97.31 =
-Y4- POT Sta. 13+76.70
- ③ = -L- POC Sta. 36+13.35 =
-RAMPA- POT Sta. 10+00.00
- ④ = -RAMPA- PC Sta. 10+29.17

END TIP PROJECT B-5833
-L- POC Sta. 41+00.00

-L- PI Sta 35+80.40 Δ = 19° 22' 00.5" (RT) D = 2' 29' 28.0" L = 777.43' T = 392.46' R = 2,300.00' SE = 0.04 Lr = 100'	-L- PI Sta 41+08.44 Δ = 10° 53' 48.1" (RT) D = 3' 49' 11.0" L = 285.27' T = 143.07' R = 1,500.00' SE = EXIST.
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-RAMPA- PI Sta 12+79.27 Δ = 3° 03' 34.4" (LT) D = 6' 21' 58.3" L = 487.88' T = 250.10' R = 900.00' SE = 0.06 (MATCH EXIST)	-RAMPA- PI Sta 15+90.37 Δ = 13° 37' 04.8" (LT) D = 9' 19' 53.6" L = 145.93' T = 73.31' R = 614.00' (MATCH EXIST)	-RAMPA- PI Sta 17+39.05 Δ = 10° 51' 43.1" (LT) D = 7' 09' 43.1" L = 151.66' T = 76.06' R = 800.00' (MATCH EXIST)
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-LOOPA- PI Sta 12+88.19 Δ = 86° 29' 04.5" (RT) D = 26' 46' 25.4" L = 323.02' T = 201.26' R = 214.00' SE = 0.08 (MATCH EXIST)
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