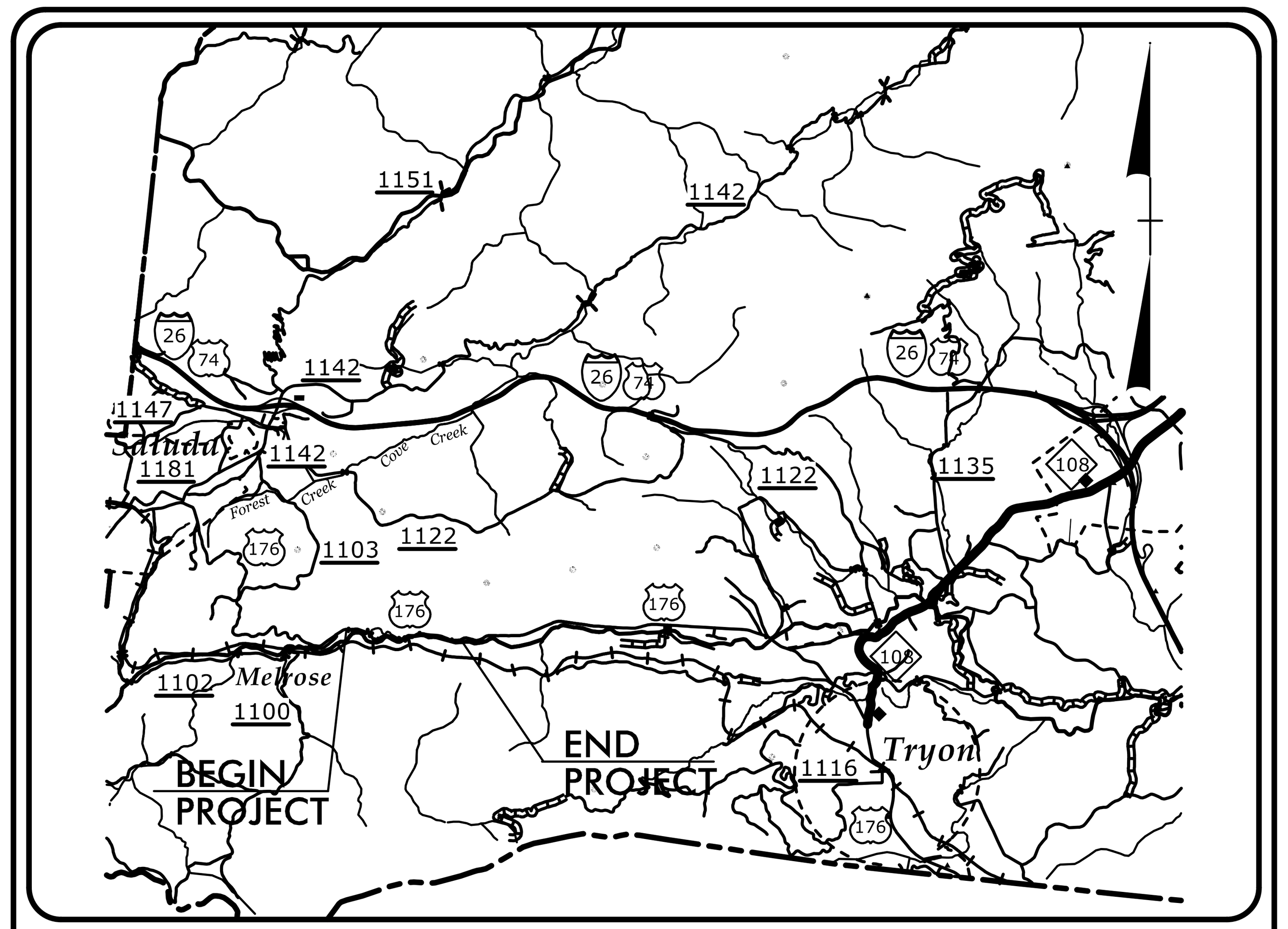
PROJECT: W03293

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W03293	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
SEE	ROADWAY	TITLESHEET



VICINITY MAP

NOT TO SCALE

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

PLAN FOR PROPOSED

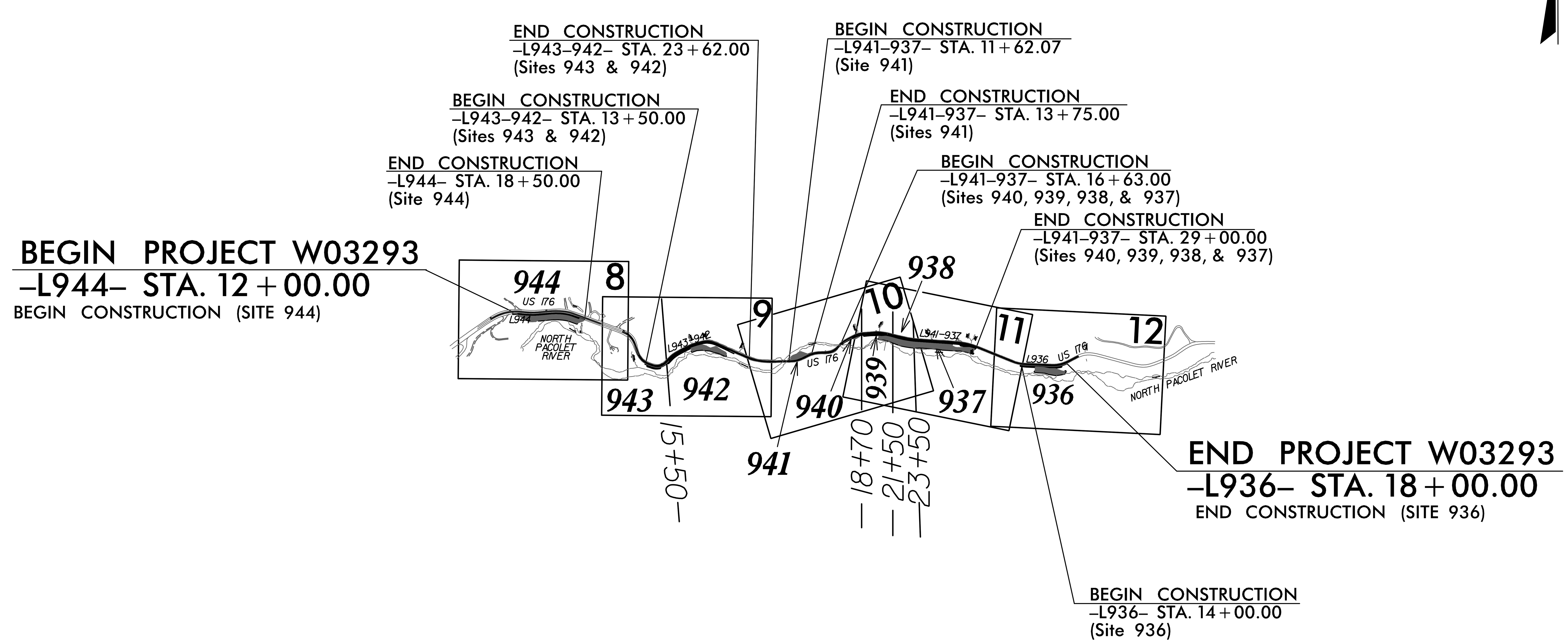
HIGHWAY EROSION CONTROL

POLK COUNTY

LOCATION: US 176

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

NAD 83/2011



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

50 25 0 50 100

PLANS

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.

TGS ENGINEERS

Prepared In the Office of:

TGS ENGINEERS

201 W. MARION ST-STE 200
SHELBY, NC 28150

Designed by:

Andrew H. Cochrane, PE 3015

NAME 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 revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

CONTRACT:

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

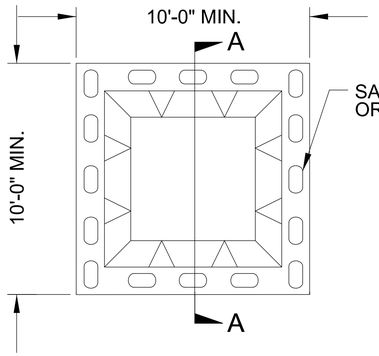
EROSION & SEDIMENT CONTROL LEGEND

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	TSD
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
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	A
1632.02	Type B	B
1632.03	Type C	C

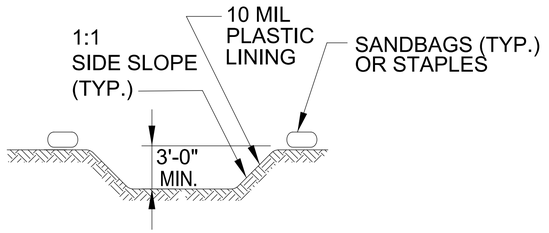
Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet Sediment Trap Type A	A
1635.02	Rock Pipe Inlet Sediment Trap Type B	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	EW
	Silt Fence Coir Fiber Wattle Break	CFW
1636.03	Excelsior Wattle Barrier	EW EW EW
1636.03	Coir Fiber Wattle Barrier	CFW CFW CFW

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A

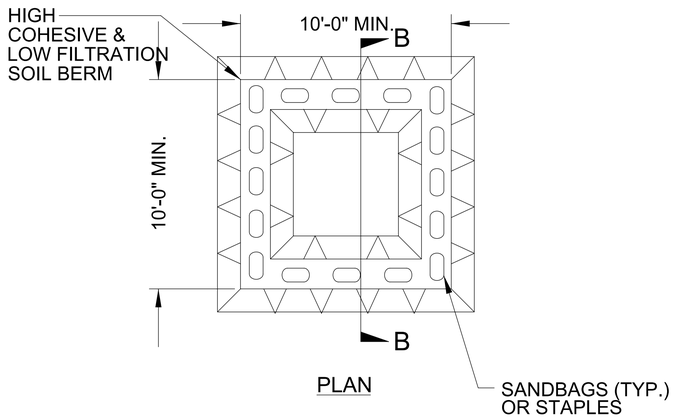
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

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.

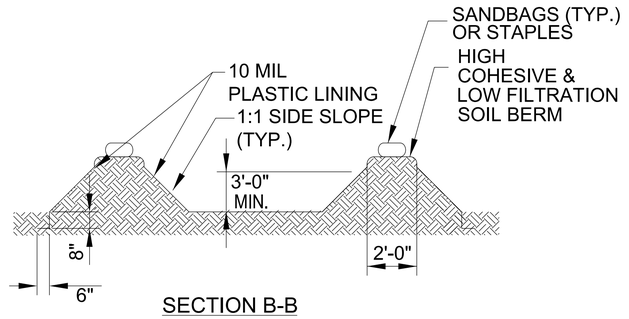
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

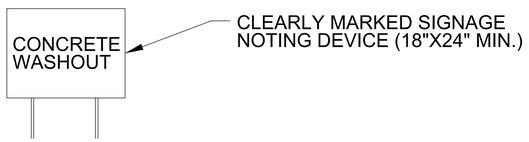
NOT TO SCALE



PLAN



SECTION B-B



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 CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

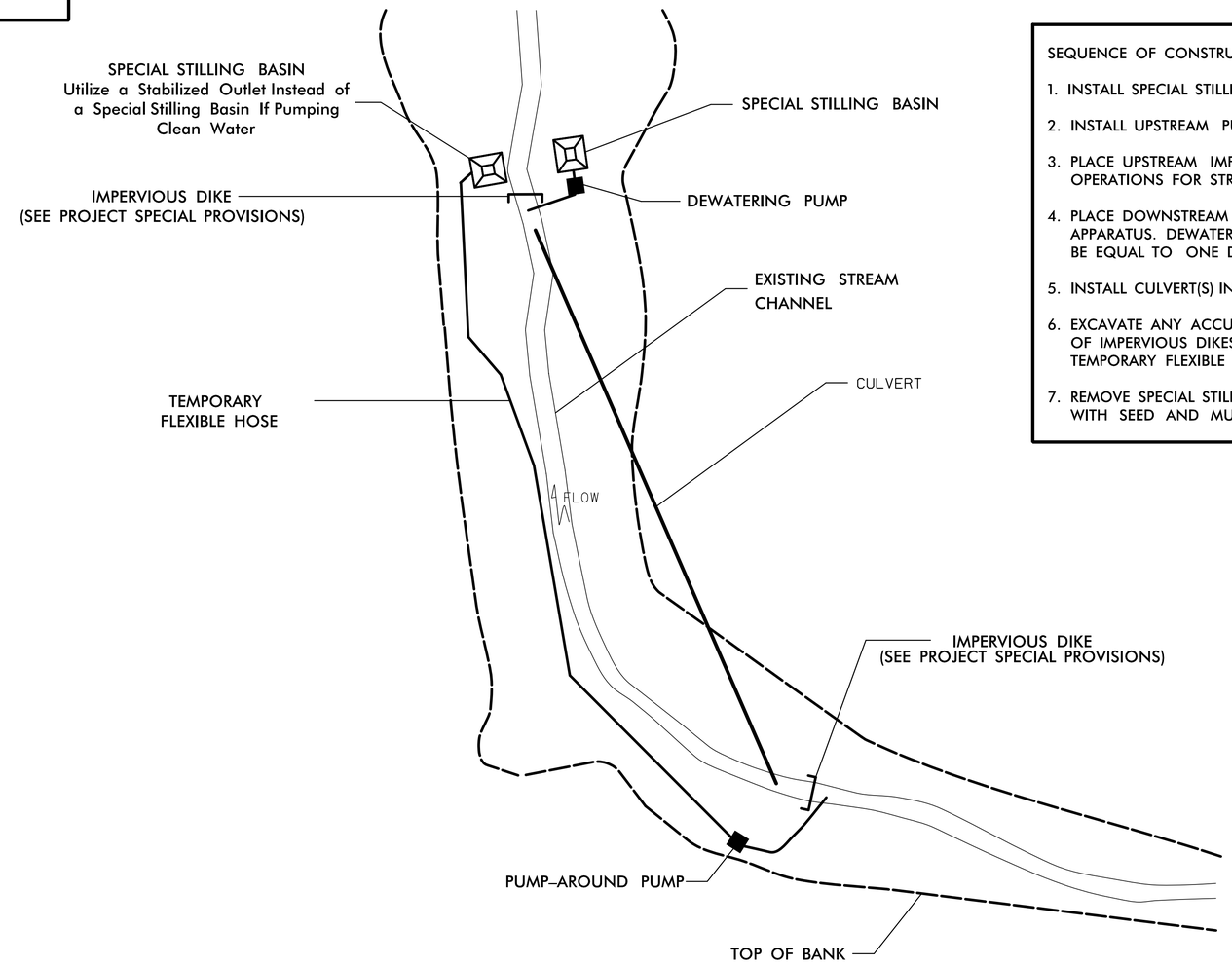
ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXAMPLE OF PUMP–AROUND OPERATION

NOTES:
1) All excavation shall be performed in only dry or isolated areas of the work zone.
2) Impervious dikes are to be used to isolate work from stream flow when necessary.
3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
4) Pumps and hoses shall be of sufficient size to dewater the work area.



SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-3

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

US 176
900 Series

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-04/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
201 W. MARION ST–STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

BEGIN PROJECT W–03293 (PART 2)
–L944– STA 12+00.00
BEGIN CONSTRUCTION SITE 944

–L944– PC 12+98.08

–L944– PT 14+41.26

END CONSTRUCTION
SITE 944
–L944– STA 18+50.00

–L944– POT 19+95.06

SAWCUT EXISTING PAVEMENT AT CENTERLINE

DAVID P. CAREY
PATRICIA C. CAREY
DB 374 PG 1202
PB D PG 179

MAGNOLIA PARK INVESTMENTS, LLC
DB 465 PG 1718
PB E PG 931

GEORGE H. DERWORT
MARGIE M. DERWORT
DB 200 PG 147
PB D PG 416

S 83°59'47.3" E

N 84°06'48.3" E

S 40°18'51.3" E

CLEAN DEBRIS FROM INLET

RETAIN

TB 2GI

0800

15" RCP-IV

0801

TB 2GI

ELBOWS W/ROD AND LUG AND SLEEVE GASKETS

APPROX. LOCATION OF EXISTING 2@6'x10' RCBC

+50.00 50.00 RT

+00 TIE TO EXIST

–L944– PT 12+75.94

+47.00 77.00 RT

+55.00 90.00 RT

+73.00 90.00 RT

+33.00 90.00 RT

+08.00 90.00 RT

+40.00 50.00 RT

+50 TIE TO EXIST

STABILIZE SLOPE

CLASS I RIP RAP EST.–2 TONS GEOTEXT.– 6sqyds

1 LARRY C. ECKSTEIN
DB 388 PG 659
PB E PG 644

–L944– PC 10+00.00

–L944– PC 15+29.64

–L944– PCC 16+70.09

–L944– PT 17+42.99

2 STEVEN K. STAIRES
MARIE DAESCHEL
DB 465 PG 1463
PB G PG 77

3 ROBERT A. BARBER, II
STACIM. BARBER
DB 463 PG 426
PB E PG 1178

4 BENJAMIN C. TAYLOR
CHRISTINE M. TAYLOR
DB 461 PG 1702
PB E PG 1178

PARTIALLY GROUTED ROCK EMBANKMENT
–L944– 12+50 TO 18+50, RT
SEE SHEETS W–1 THRU W–5

PROP. SHOULDER BERM GUTTER
–L944– STA. 12+50.00 TO 18+00.00 RT

ROCK EMBANKMENT WITH MICROPILE KNEE WALL
–L944– 14+25 TO 18+00, RT
SEE SHEETS W–1 THRU W–5

FSQUARE, LLC
DB 481 PG 1241
PB B PG 862

SARA FRYE
AMANDA FRYE
DB 474 PG 1248
PB A251 PG 952

FSQUARE, LLC
DB 464 PG 1752
PB E PG 1178

GEORGE H. DERWORT
MARGIE M. DERWORT
DB 200 PG 147
PB D PG 416

ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

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 8

INSTALL LARGE PIPES VIA PUMP AROUND. REFER TO PUMP AROUND DETAIL ON EC-02B.

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

US 176
900 Series

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-05/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
201 W. MARION ST-STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

JOSEPH C. ZEIGLER
DONNA C. ZEIGLER
DB 345 PG 335
DB 371 PG 294
PB A399 PG 887
PB E PG 1456

SARA FRYE
AMANDA FRYE
DB 474 PG 248
PB A251 PG 952

CONSERVING CAROLINA
DB 484 PG 357

PACOLET AREA CONSERVANCY
DB 264 PG 239
DB 333 PG 1459
PB A PG 224
PB B PG 22
PB D PG 90

-L943-942- PC 10+00.00
-L943-942- PT 11+44.11
-L943-942- PC 12+29.65
-L943-942- PT 13+85.15
-L943-942- PC 14+15.15
-L943-942- PT 15+42.48
-L943-942- PC 18+99.74
-L943-942- PT 20+48.42
-L943-942- PC 21+61.68
-L943-942- PT 21+95.18
-L943-942- PT 25+54.29 BK = -L941-937- POT 10+00.00 AH
-L943-942- PC 23+29.65

END CONSTRUCTION SITE 942
-L943-942- STA 23+62.00

BEGIN CONSTRUCTION SITE 943
-L943-942- STA 13+50.00

END CONSTRUCTION SITE 943
BEGIN CONSTRUCTION SITE 942
-L943-942- STA 15+50.00

APPROX. LOCATION OF EXISTING 18" CMP

APPROX. LOCATION OF EXISTING 30" RCP

SAWCUT EXISTING PAVEMENT & REPLACE/WIDEN EASTBOUND LANE (10')

HW/D50-1.09

HW/D50-1.12

REMOVE

GRADE TO

STABILIZE SLOPE

TIE TO EXIST. GUARDRAIL

50' TAPER TO EXIST.

70' TAPER TO EXIST.

PROP. RETAINING WALL -L943- STA 13+75 TO 14+75 RT SES SHEETS W-6 THRU W-7

PROP. SHOULDER BERM GUTTER -L943-942- 15+75.00 TO 21+70.00 RT

PROP. RETAINING WALL #942-1 -L943-942-STA 15+50 TO 18+75 RT SEE SHEETS W-8 THRU W-11

ROCK EMBANKMENT WITH MICROPILE KNEE WALL -L943- 19+00 TO 21+65 RT SEE SHEETS W-8 THRU W-11

PARTIALLY GROUTED ROCK DETAILS SEE SHEETS W-24 AND W-25

CLASS I RIP RAP EST.- 7 TONS GEOTEXT.- 17syds

OUTLET DISCHARGES ONTO ROCK BELOW

ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

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

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

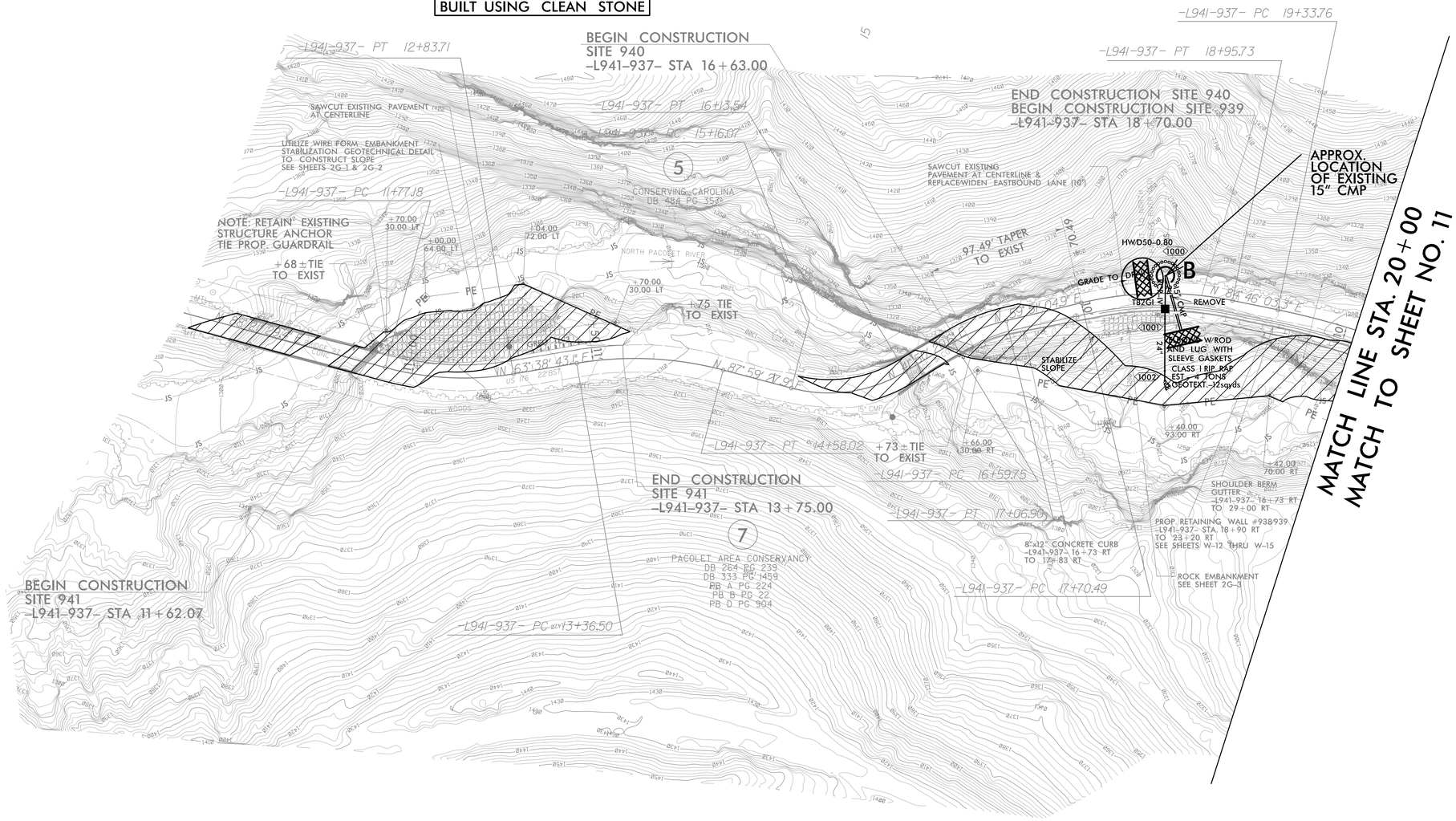
STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

US 176
900 Series

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-06/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
201 W. MARION ST–STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

NAD 83/2011



ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS	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 10

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

INSTALL LARGE PIPES VIA PUMP AROUND. REFER TO PUMP AROUND DETAIL ON EC–02B.

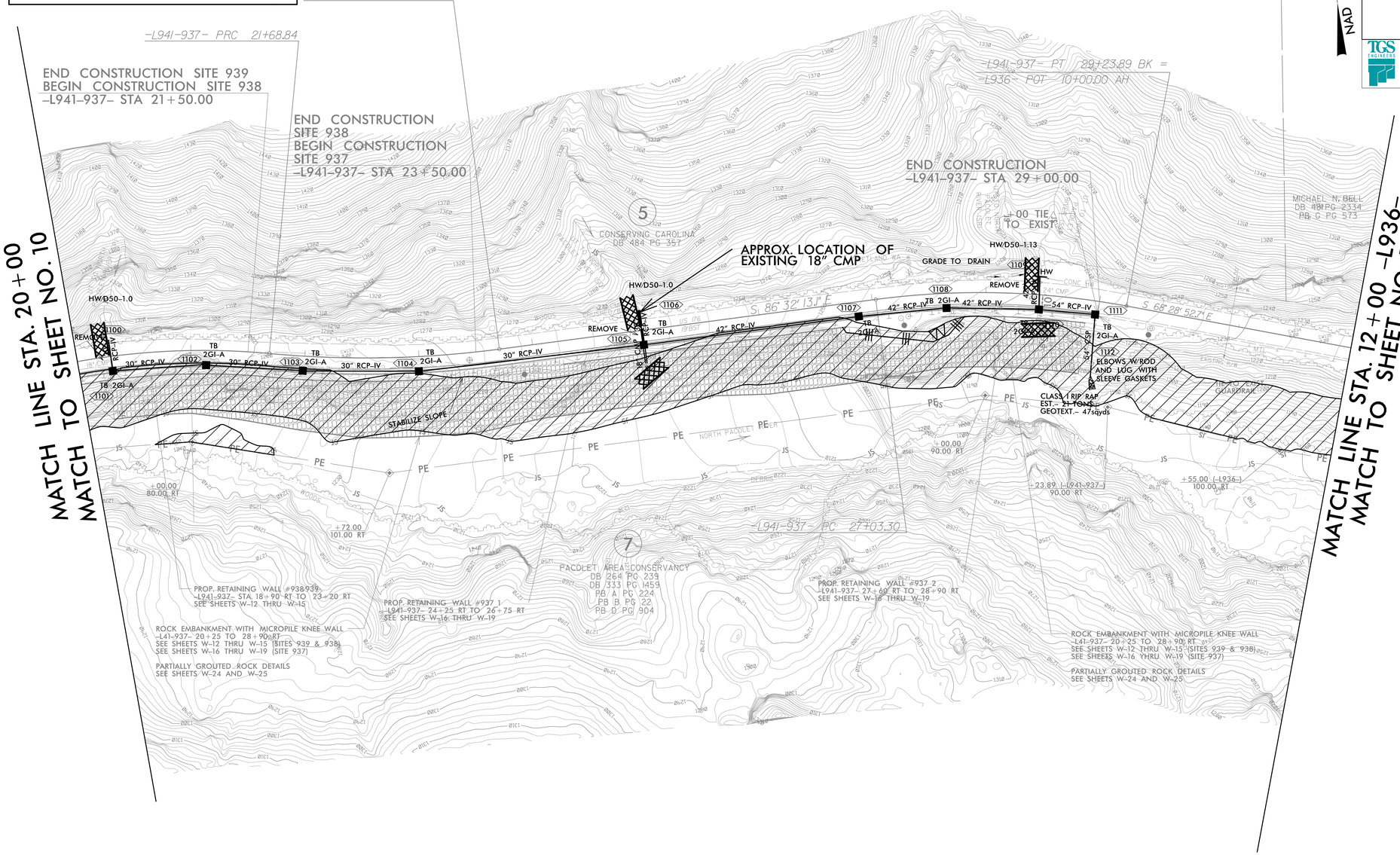
STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

US 176
900 Series

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-07/CONST.JI
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
201 W. MARION ST–STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11

ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

US 176
900 Series

NAD 83/2011

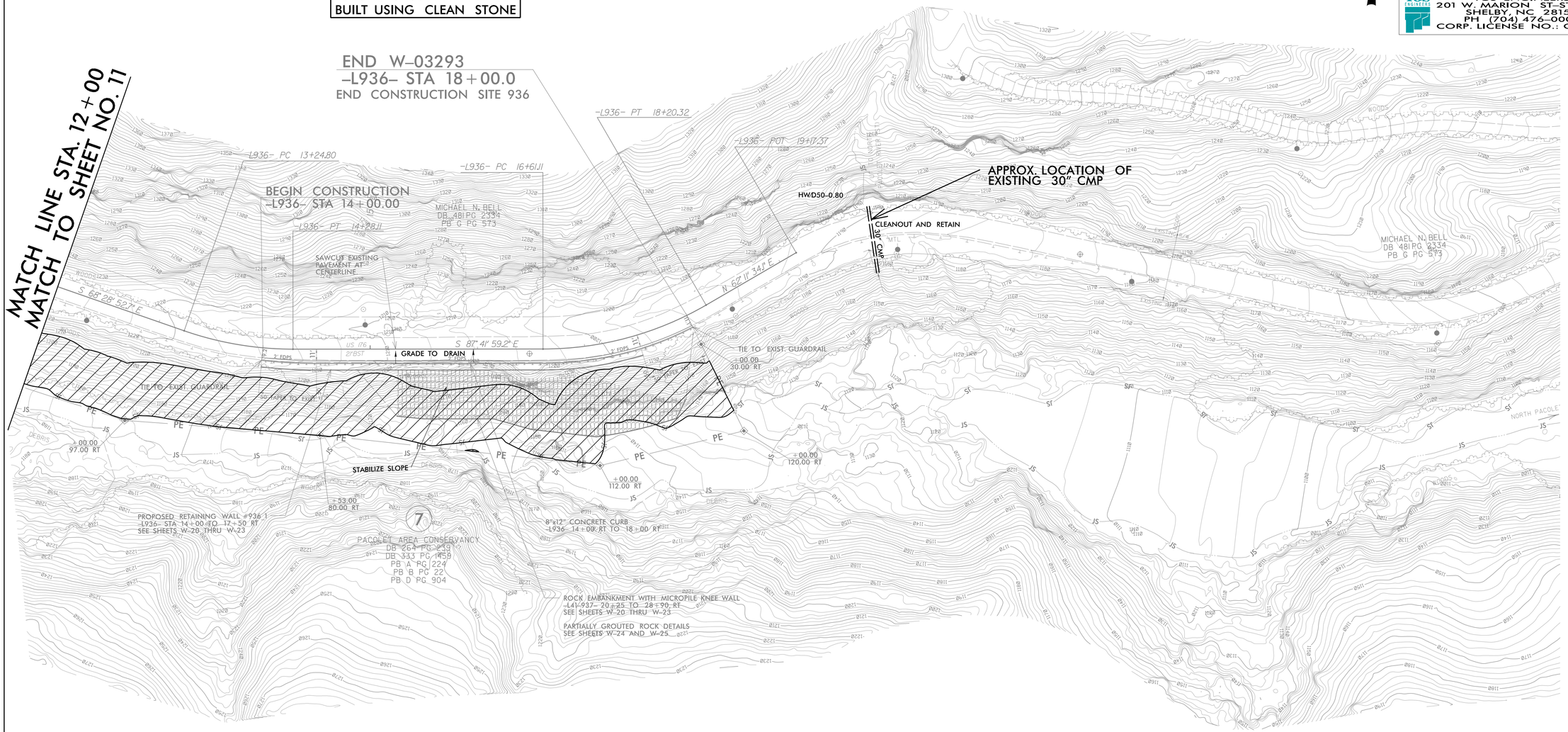
PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-08/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
201 W. MARION ST–STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE



ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

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 12

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

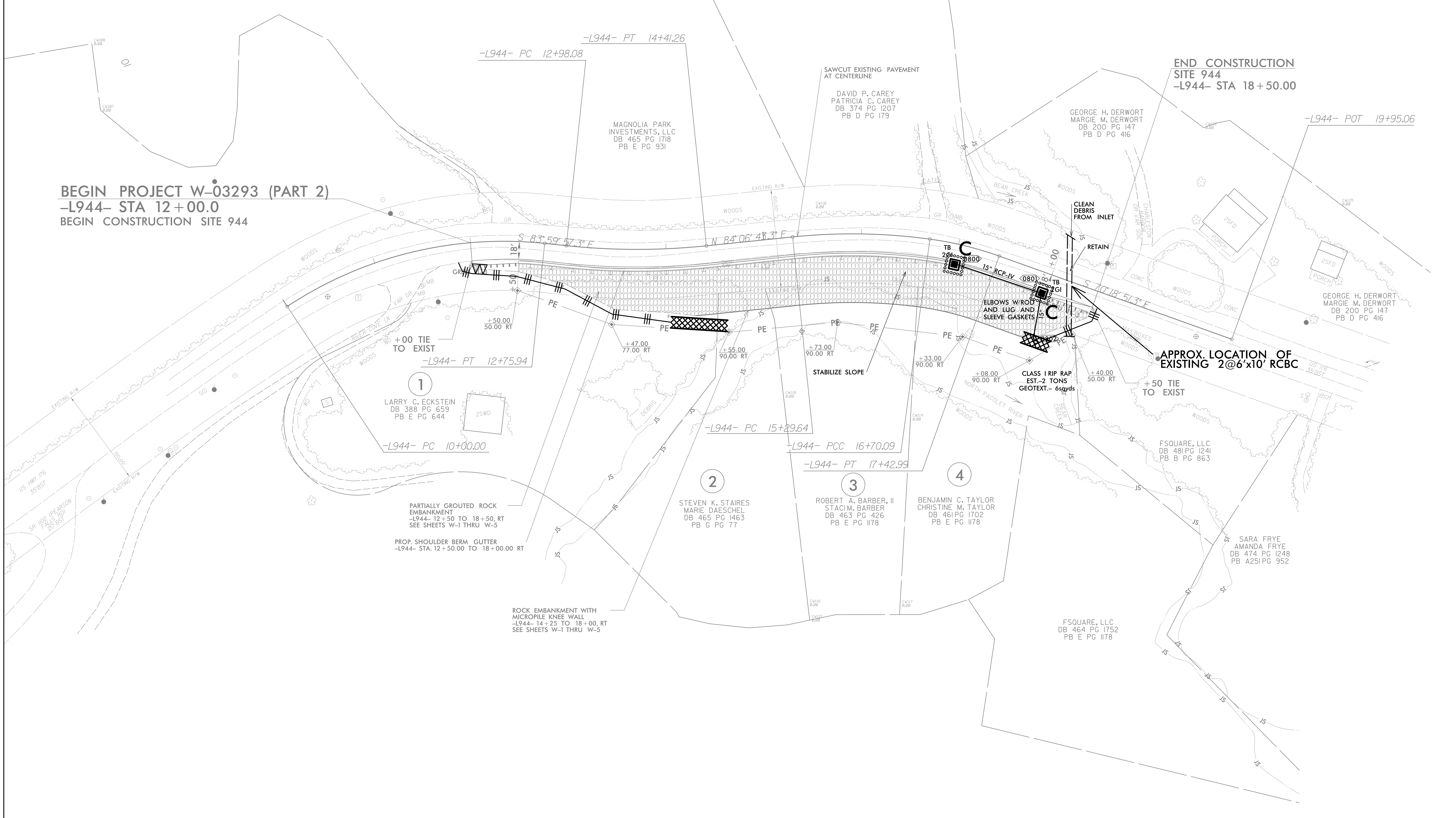
IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

US 176
900 Series

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-09/CONST.B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
201 W. MARION ST-STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275


BEGIN PROJECT W-03293 (PART 2)
-L944- STA 12+00.0
BEGIN CONSTRUCTION SITE 944
-L944- PC 12+98.08
-L944- PT 14+41.26
S 83°59' 57.3" E
N 84°06' 46.3" E
S 70°18' 51.3" E
MAGNOLIA PARK INVESTMENTS, LLC
DB 465 PG 1718
PB E PG 931
SAWCUT EXISTING PAVEMENT AT CENTERLINE
DAVID P. CAREY
PATRICIA C. CAREY
DB 374 PG 1207
PB D PG 179
END CONSTRUCTION
SITE 944
-L944- STA 18+50.00
GEORGE H. DERWORT
MARGIE M. DERWORT
DB 200 PG 147
PB D PG 416
-L944- POT 19+95.06
CLEAN DEBRIS FROM INLET
RETAIN
15" RCP-IV
ELBOWS W/ROD AND LUG AND SLEEVE GASKETS
APPROX. LOCATION OF EXISTING 2@6'x10' RCBC
+50 TIE TO EXIST
+00 TIE TO EXIST
+50.00
50.00 RT
+47.00
77.00 RT
+55.00
90.00 RT
+73.00
90.00 RT
+33.00
90.00 RT
+08.00
90.00 RT
+40.00
50.00 RT
STABILIZE SLOPE
CLASS I RIP RAP
EST.-2 TONS
GEOTEXT.- 6sqyds
-L944- PT 12+75.94
-L944- PC 10+00.00
-L944- PC 15+29.64
-L944- PCC 16+70.09
-L944- PT 17+42.99
LARRY C. ECKSTEIN
DB 388 PG 659
PB E PG 644
STEVEN K. STAIRES
MARIE DAESCHEL
DB 465 PG 1463
PB G PG 77
ROBERT A. BARBER, II
STACI M. BARBER
DB 463 PG 426
PB E PG 1178
BENJAMIN C. TAYLOR
CHRISTINE M. TAYLOR
DB 461 PG 1702
PB E PG 1178
FSQUARE, LLC
DB 481 PG 1241
PB B PG 863
SARA FRYE
AMANDA FRYE
DB 474 PG 1248
PB A251 PG 952
FSQUARE, LLC
DB 464 PG 1752
PB E PG 1178
PARTIALLY GROUTED ROCK EMBANKMENT
-L944- 12+50 TO 18+50, RT
SEE SHEETS W-1 THRU W-5
PROP. SHOULDER BERM GUTTER
-L944- STA. 12+50.00 TO 18+00.00 RT
ROCK EMBANKMENT WITH MICROPILE KNEE WALL
-L944- 14+25 TO 18+00, RT
SEE SHEETS W-1 THRU W-5
NORTH PACOLET RIVER
BEAR CREEK

INSTALL LARGE PIPES VIA PUMP AROUND. REFER TO PUMP AROUND DETAIL ON EC-02B.

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

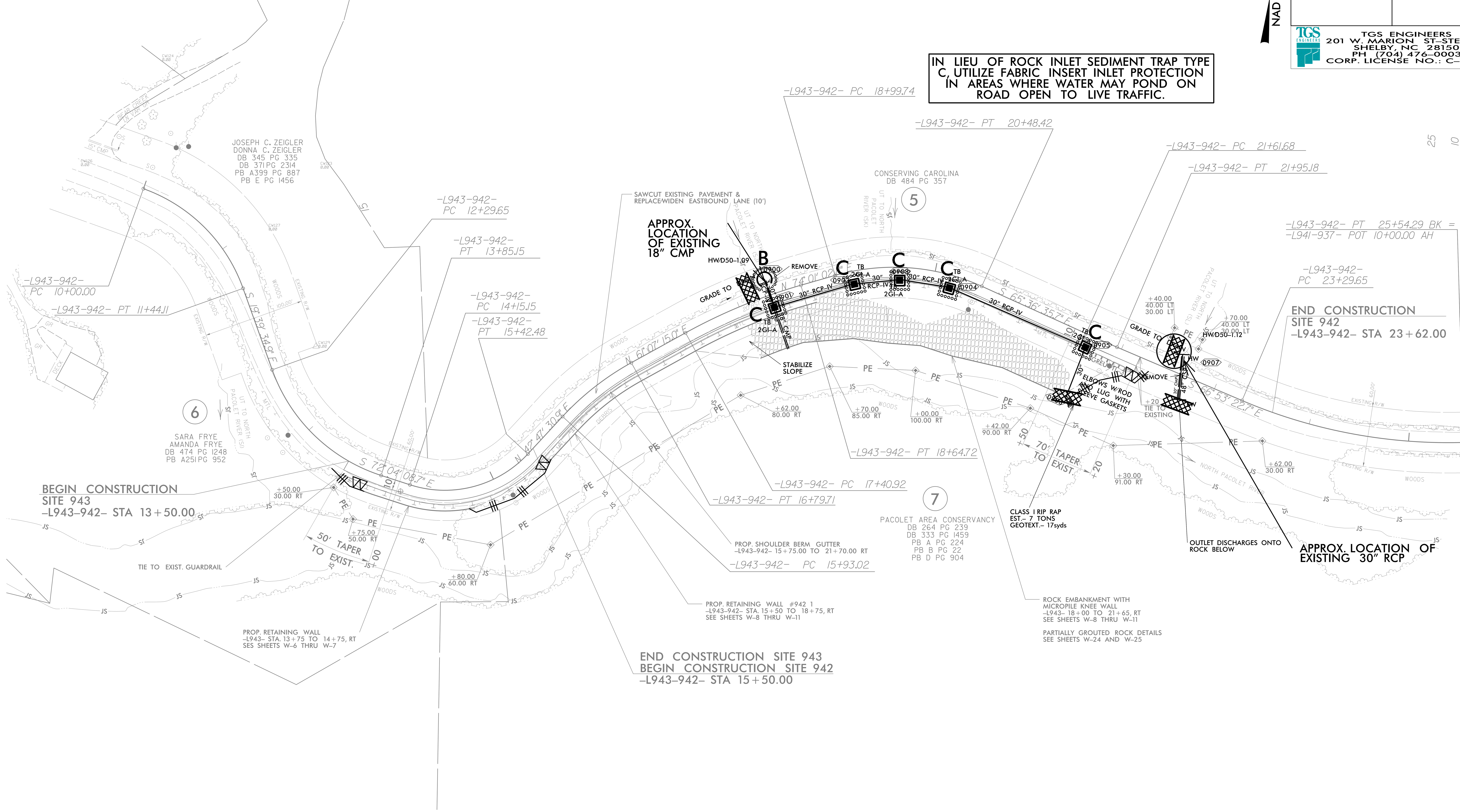
IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

US 176
900 Series

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-10/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
201 W. MARION ST-STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275


JOSEPH C. ZEIGLER
DONNA C. ZEIGLER
DB 345 PG 335
DB 371 PG 2314
PB A399 PG 887
PB E PG 1456
-L943-942- PC 12+29.65
-L943-942- PT 13+85.15
-L943-942- PC 14+15.15
-L943-942- PT 15+42.48
-L943-942- PC 10+00.00
-L943-942- PT 11+44.11
SARA FRYE
AMANDA FRYE
DB 474 PG 1248
PB A251 PG 952
BEGIN CONSTRUCTION
SITE 943
-L943-942- STA 13+50.00
TIE TO EXIST. GUARDRAIL
50' TAPER TO EXIST.
PROP. RETAINING WALL
-L943- STA. 13+75 TO 14+75, RT
SES SHEETS W-6 THRU W-7
END CONSTRUCTION SITE 943
BEGIN CONSTRUCTION SITE 942
-L943-942- STA 15+50.00
SAWCUT EXISTING PAVEMENT &
REPLACE/WIDEN EASTBOUND LANE (10')
APPROX. LOCATION OF EXISTING 18" CMP
GRADE TO
REMOVE
STABILIZE SLOPE
-L943-942- PC 18+99.74
-L943-942- PT 20+48.42
CONSERVING CAROLINA
DB 484 PG 357
-L943-942- PT 18+64.72
-L943-942- PC 17+40.92
-L943-942- PT 16+79.71
-L943-942- PC 15+93.02
PROP. SHOULDER BERM GUTTER
-L943-942- 15+75.00 TO 21+70.00 RT
PROP. RETAINING WALL #942 1
-L943-942- STA. 15+50 TO 18+75, RT
SEE SHEETS W-8 THRU W-11
PACOLET AREA CONSERVANCY
DB 264 PG 239
DB 333 PG 1459
PB A PG 224
PB B PG 22
PB D PG 904
ROCK EMBANKMENT WITH
MICROPILE KNEE WALL
-L943- 18+00 TO 21+65, RT
SEE SHEETS W-8 THRU W-11
PARTIALLY GROUTED ROCK DETAILS
SEE SHEETS W-24 AND W-25
CLASS I RIP RAP
EST.- 7 TONS
GEOTEXT.- 17syds
70' TAPER TO EXIST.
30" ELBOWS W/ROD AND LUG WITH SLEEVE GASKETS
TIE TO EXISTING
-L943-942- PC 21+61.68
-L943-942- PT 21+95.18
-L943-942- PT 25+54.29 BK =
-L941-937- POT 10+00.00 AH
-L943-942- PC 23+29.65
END CONSTRUCTION
SITE 942
-L943-942- STA 23+62.00
OUTLET DISCHARGES ONTO ROCK BELOW
APPROX. LOCATION OF EXISTING 30" RCP

US 176
900 Series

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-11/CONST10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

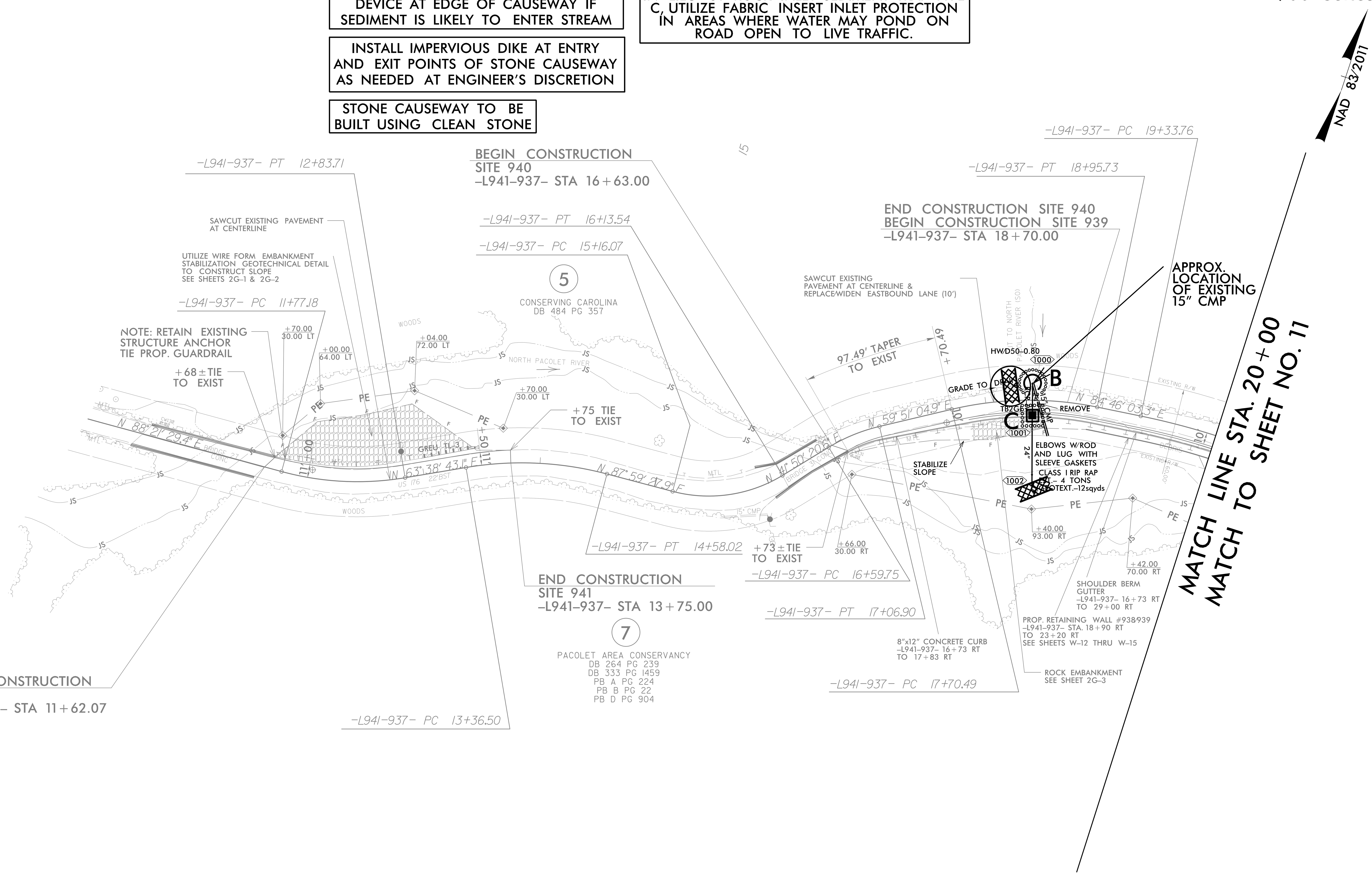
TGS ENGINEERS
201 W. MARION ST-STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

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


NAD 83/2011
-L941-937- PT 12+83.71
BEGIN CONSTRUCTION
SITE 940
-L941-937- STA 16+63.00
-L941-937- PC 19+33.76
-L941-937- PT 18+95.73
END CONSTRUCTION SITE 940
BEGIN CONSTRUCTION SITE 939
-L941-937- STA 18+70.00
SAWCUT EXISTING PAVEMENT AT CENTERLINE
-L941-937- PT 16+13.54
-L941-937- PC 15+16.07
UTILIZE WIRE FORM EMBANKMENT STABILIZATION GEOTECHNICAL DETAIL TO CONSTRUCT SLOPE SEE SHEETS 2G-1 & 2G-2
5
CONSERVING CAROLINA
DB 484 PG 357
-L941-937- PC 11+77.18
NOTE: RETAIN EXISTING STRUCTURE ANCHOR TIE PROP. GUARDRAIL
+68±TIE TO EXIST
+70.00 30.00 LT
+00.00 64.00 LT
+04.00 72.00 LT
+70.00 30.00 LT
+75 TIE TO EXIST
NORTH PACOLET RIVER
SAWCUT EXISTING PAVEMENT AT CENTERLINE & REPLACE/WIDEN EASTBOUND LANE (10')
97.49' TAPER TO EXIST
+70.49
HWD50-0.80
GRADE TO DRAIN
B
C
REMOVE
APPROX. LOCATION OF EXISTING 15" CMP
N 88°21'29.4" E
N 63°38'43.1" E
N 87°59'27.9" E
N 41°50'20.6" E
N 59°51'04.9" E
N 84°46'03.3" E
GREU TL-3
ELBOWS W/ROD AND LUG WITH SLEEVE GASKETS
CLASS I RIP RAP
STABILIZE SLOPE
1000
1001
1002
+40.00 93.00 RT
+42.00 70.00 RT
MATCH LINE STA. 20+00
MATCH TO SHEET NO. 11
-L941-937- PT 14+58.02
+73±TIE TO EXIST
+66.00 30.00 RT
-L941-937- PC 16+59.75
END CONSTRUCTION
SITE 941
-L941-937- STA 13+75.00
-L941-937- PT 17+06.90
SHOULDER BERM GUTTER
-L941-937- 16+73 RT TO 29+00 RT
PROP. RETAINING WALL #938939
-L941-937- STA. 18+90 RT TO 23+20 RT
SEE SHEETS W-12 THRU W-15
8"x12" CONCRETE CURB
-L941-937- 16+73 RT TO 17+83 RT
7
PACOLET AREA CONSERVANCY
DB 264 PG 239
DB 333 PG 1459
PB A PG 224
PB B PG 22
PB D PG 904
ROCK EMBANKMENT SEE SHEET 2G-3
-L941-937- PC 17+70.49
BEGIN CONSTRUCTION
SITE 941
-L941-937- STA 11+62.07
-L941-937- PC 13+36.50
WOODS

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

INSTALL LARGE PIPES VIA PUMP AROUND. REFER TO PUMP AROUND DETAIL ON EC-02B.

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

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

US 176
900 Series

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-12/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
201 W. MARION ST-STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

MATCH LINE STA. 20+00
MATCH TO SHEET NO. 10

MATCH LINE STA. 12+00 -L936-
MATCH TO SHEET NO. 12

-L941-937- PT 23+70.77

-L941-937- PRC 21+68.84

END CONSTRUCTION SITE 939
BEGIN CONSTRUCTION SITE 938
-L941-937- STA 21+50.00

END CONSTRUCTION
SITE 938
BEGIN CONSTRUCTION
SITE 937
-L941-937- STA 23+50.00

-L941-937- PT 29+23.89 BK =
-L936- POT 10+00.00 AH

END CONSTRUCTION
-L941-937- STA 29+00.00

+00 TIE TO EXIST.

APPROX. LOCATION OF EXISTING 18" CMP

5
CONSERVING CAROLINA
DB 484 PG 357

7
PACOLET AREA CONSERVANCY
DB 264 PG 239
DB 333 PG 1459
PB A PG 224
PB B PG 22
PB D PG 904

MICHAEL N. BELL
DB 481PG 2334
PB G PG 573

HW/D50-1.0
HW/D50-1.13
REMOVE
GRADE TO DRAIN
30" RCP-IV
42" RCP-IV
54" RCP
54" CSP
TB 2GI-A
ELBOWS W/ROD AND LUG WITH SLEEVE GASKETS
CLASS I RIP RAP
EST.- 21 TONS
GEOTEXT.- 47sqyds
STABILIZE SLOPE
TIE TO EXIST. GUARDRAIL
S 86°32'13.1" E
S 68°28'52.7" E
NORTH PACOLET RIVER
UT TO NORTH PACOLET RIVER (SP)
UT TO NORTH PACOLET RIVER (SR)
WOODS
DEBRIS
+00.00 80.00 RT
+72.00 101.00 RT
+00.00 90.00 RT
+23.89 (-L941-937-) 90.00 RT
+55.00 (-L936-) 100.00 RT
-L941-937- PC 27+03.30

PROP. RETAINING WALL #938/939
-L941-937- STA. 18+90 RT TO 23+20 RT
SEE SHEETS W-12 THRU W-15

PROP. RETAINING WALL #937_1
-L941-937- 24+25 RT TO 26+75 RT
SEE SHEETS W-16 THRU W-19

PROP. RETAINING WALL #937_2
-L941-937- 27+60 RT TO 28+90 RT
SEE SHEETS W-16 THRU W-19

ROCK EMBANKMENT WITH MICROPILE KNEE WALL
-L41-937- 20+25 TO 28+90, RT
SEE SHEETS W-12 THRU W-15 (SITES 939 & 938)
SEE SHEETS W-16 THRU W-19 (SITE 937)

PARTIALLY GROUTED ROCK DETAILS
SEE SHEETS W-24 AND W-25

ROCK EMBANKMENT WITH MICROPILE KNEE WALL
-L41-937- 20+25 TO 28+90, RT
SEE SHEETS W-12 THRU W-15 (SITES 939 & 938)
SEE SHEETS W-16 YHRU W-19 (SITE 937)

PARTIALLY GROUTED ROCK DETAILS
SEE SHEETS W-24 AND W-25

US 176
900 Series

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
W03293	EC-13/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
201 W. MARION ST–STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

INSTALL TEMPORARY EARTH BERM AND APPROPRIATE EROSION CONTROL OUTLET DEVICE AT EDGE OF CAUSEWAY IF SEDIMENT IS LIKELY TO ENTER STREAM

INSTALL IMPERVIOUS DIKE AT ENTRY AND EXIT POINTS OF STONE CAUSEWAY AS NEEDED AT ENGINEER'S DISCRETION

STONE CAUSEWAY TO BE BUILT USING CLEAN STONE

MATCH LINE STA. 12+00
MATCH TO SHEET NO. 11

END W–03293
–L936– STA 18+00.0
END CONSTRUCTION SITE 936

–L936– PT 18+20.32

–L936– POT 19+17.37

–L936– PC 13+24.80

–L936– PC 16+61.11

BEGIN CONSTRUCTION
–L936– STA 14+00.00

–L936– PT 14+28.11

MICHAEL N. BELL
DB 481 PG 2334
PB G PG 573

SAWCUT EXISTING PAVEMENT AT CENTERLINE.

S 68° 28' 52.7" E

N 62° 11' 34.1" E

S 87° 41' 59.2" E

US 176
2%BST

2' EDPS

GRADE TO DRAIN

HW/D50–0.80

APPROX. LOCATION OF EXISTING 30" CMP

CLEANOUT AND RETAIN

30" CMP

UT TO NORTH PACOLET RIVER (ST)

EXISTING R/W

TIE TO EXIST. GUARDRAIL
+00.00
30.00 RT

TIE TO EXIST. GUARDRAIL

50' TAPER TO EXIST.

+00.00
97.00 RT

+53.00
80.00 RT

+00.00
112.00 RT

+00.00
120.00 RT

STABILIZE SLOPE

PROPOSED RETAINING WALL #936_1
–L936– STA 14+00 TO 17+50 RT
SEE SHEETS W–20 THRU W–23

8"x12" CONCRETE CURB
–L936– 14+00 RT TO 18+00 RT

ROCK EMBANKMENT WITH MICROPILE KNEE WALL
–L41–937– 20+25 TO 28+90 RT
SEE SHEETS W–20 THRU W–23

PARTIALLY GROUTED ROCK DETAILS
SEE SHEETS W–24 AND W–25

7
PACOLET AREA CONSERVANCY
DB 264 PG 239
DB 333 PG 1459
PB A PG 224
PB B PG 22
PB D PG 904

NORTH PACOLET

WOODS

DEBRIS

JS

Sr

PE