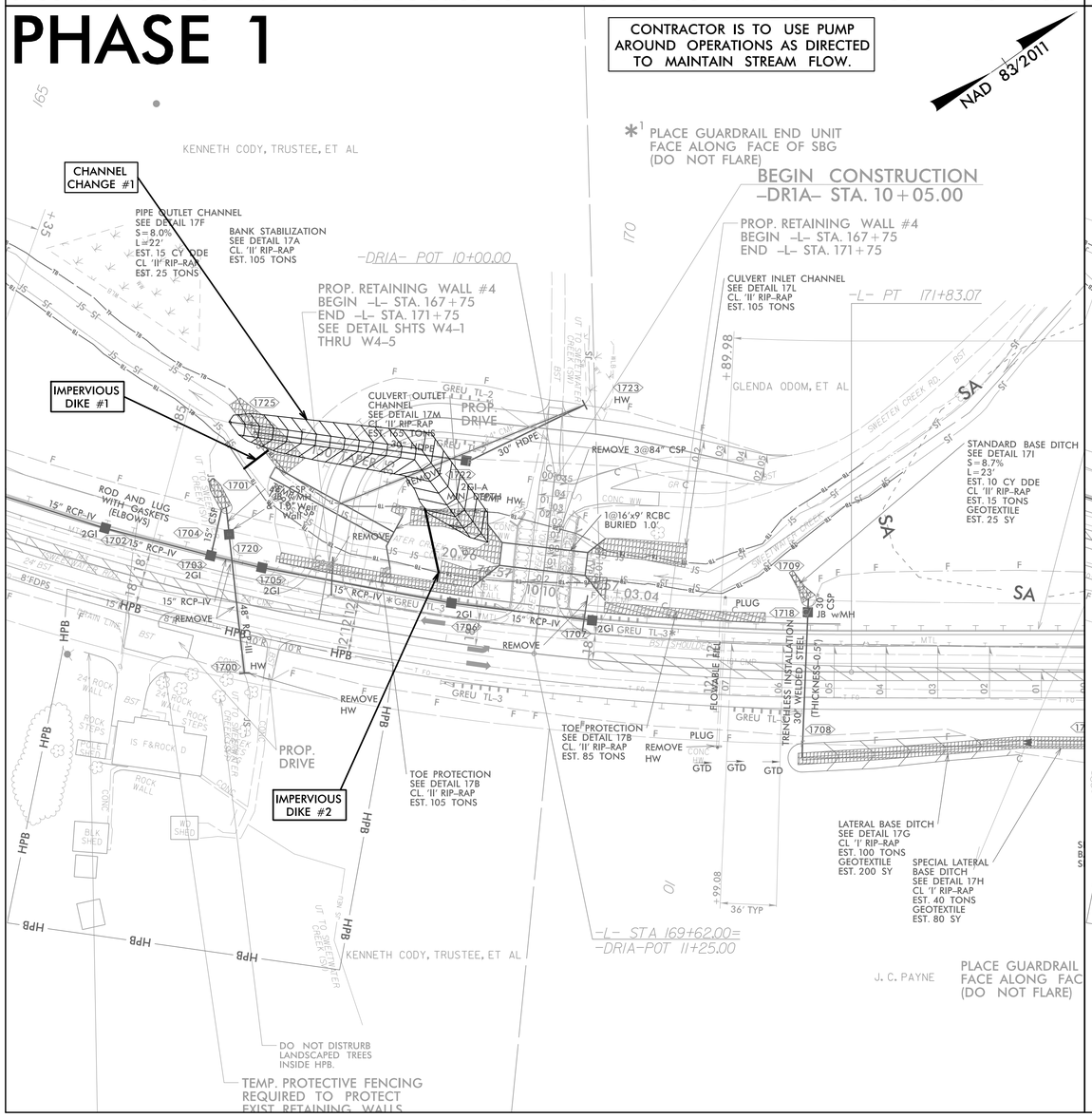
CULVERT CONSTRUCTION SEQUENCE STA. 10+59 –DR1A–

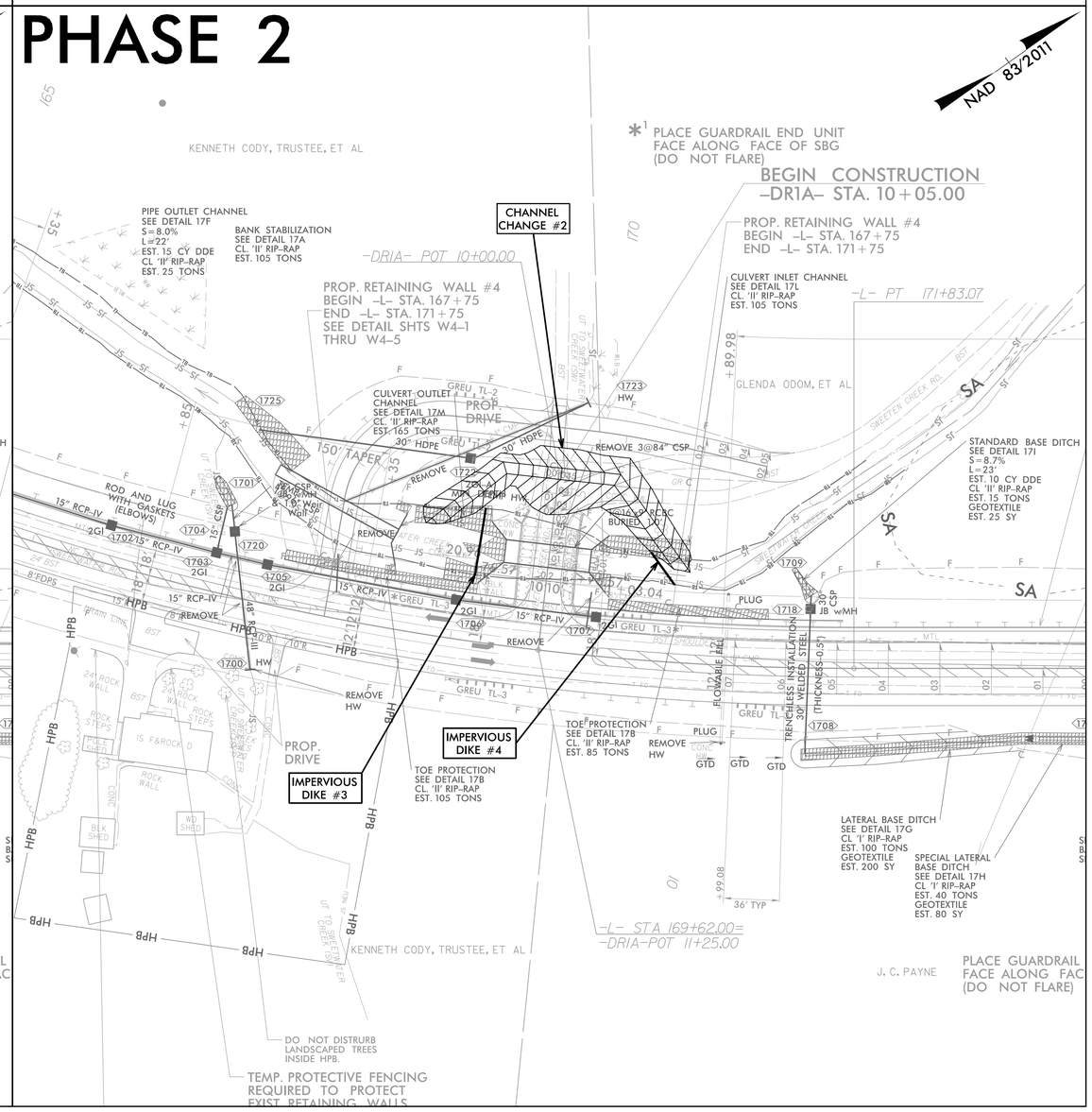
PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-17A/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

1. INSTALL IMPERVIOUS DIKES #1, #2, AND TEMPORARY CHANNEL CHANGE #1 (8' BASE, 2:1 SIDE SLOPES), DIVERTING FLOW.
2. DEWATER WORK SITE AS NEEDED INTO SPECIAL STILLING BASIN(S).
3. INSTALL TEMPORARY 96" CSP.
4. REMOVE IMPERVIOUS DIKES #1, #2, AND TEMPORARY CHANNEL CHANGE #1. RESTORE FLOW THROUGH TEMPORARY 96" CSP
5. INSTALL DROP INLET #1722, REMOVE EXISTING 24" CMP, AND INSTALL PROPOSED 30" HDPE DRAINAGE PIPES FROM #1723 TO #1725. REFER TO PUMP AROUND EXAMPLE ON EC–2E.
6. COMPLETE DETOUR DRIVEWAY. SEE EC–20/CONST 2B–1 FOR DETOUR FINAL GRADE EROSION CONTROL.
7. INSTALL IMPERVIOUS DIKES #3, #4, AND TEMPORARY CHANNEL CHANGE #2 (8' BASE, 2:1 SIDE SLOPES), DIVERTING FLOW.
8. REMOVE EXISTING 3@84" CMP.
9. CONSTRUCT PROPOSED 16'X9' RCBC BURIED 1.0' DEEP.
10 REMOVE IMPERVIOUS DIKES #3, #4, AND TEMPORARY CHANNEL CHANGE #2
11. RESTORE FLOW THROUGH NEW 16'X9' RCBC.
12. COMPLETE DRIVEWAY AND SHIFT TRAFFIC FROM DETOUR.
13. REMOVE DETOUR ROADWAY AND TEMPORARY 96" CSP.

PHASE 1



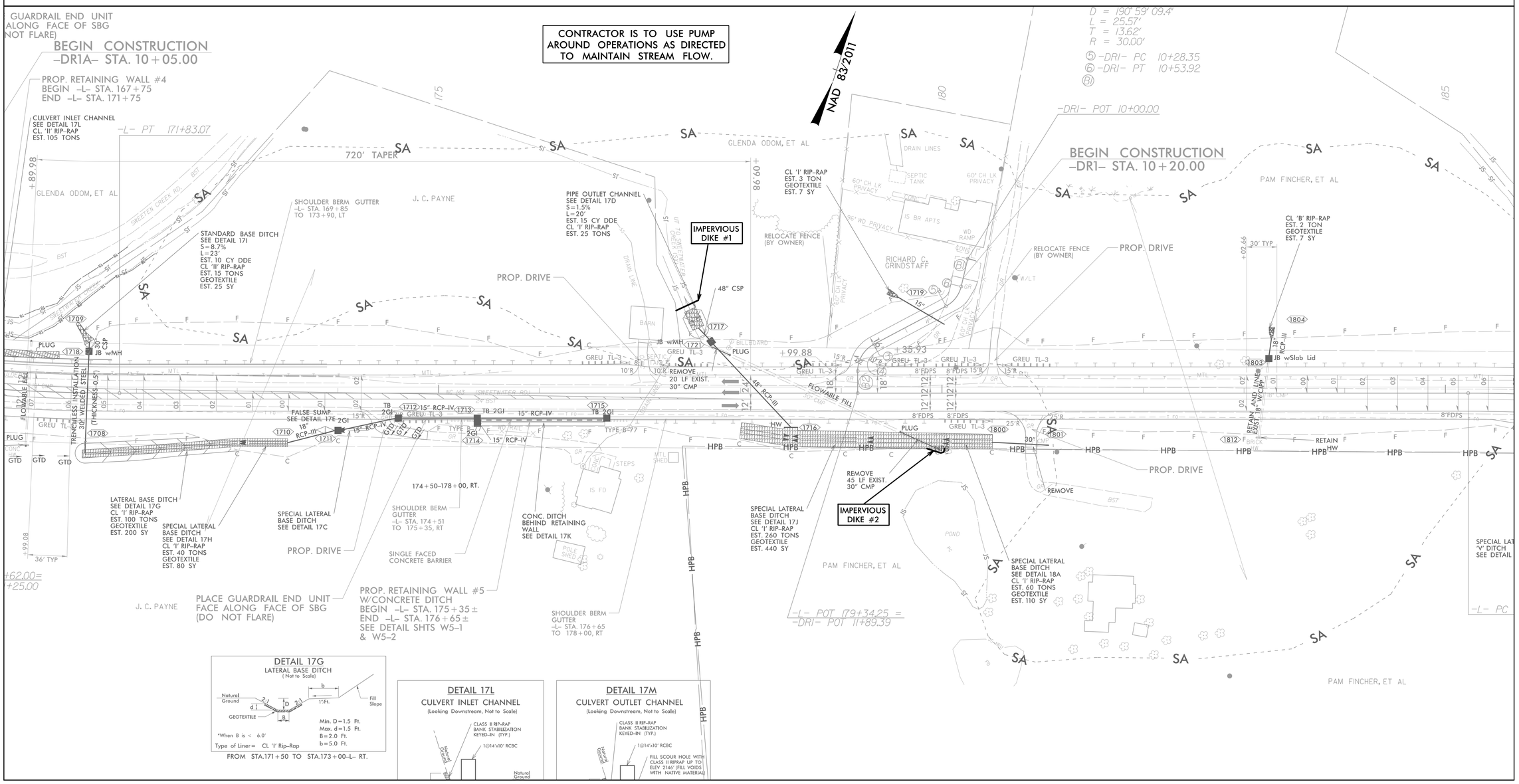
PHASE 2



PIPE CONSTRUCTION SEQUENCE STA. 178+18 –L–

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-17B/CONST J7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

1. INSTALL IMPERVIOUS DIKES #1 & #2 AND BEGIN PUMP AROUND.
2. DEWATER WORK SITE AS NEEDED INTO SPECIAL STILLING BASIN(S).
3. REMOVE UPSTREAM AND DOWNSTREAM SECTIONS OF EXISTING 30" CMP.
4. CONSTRUCT PROPOSED 48" RCP–III, SPECIAL LATERAL BASIN DETAIL (DETAIL 17J), AND PIPE OUTLET CHANNEL.
5. STOP PUMP AROUND OPERATION,REMOVE IMPERVIOUS DIKES #1 & #2 AND REESTABLISH STREAM.
6. PLUG AND FILL REMAINDER OF EXISTING 30" CMP.



PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-18/CONST J8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

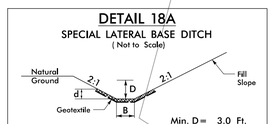
TGS ENGINEERS
201 W. MARION ST–STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

NAD 83/2011

–DR1– CURVE DATA
PI Sta. 10+41.97
Δ = 48° 49' 47.4" (RT)
D = 190° 59' 09.4"
L = 25.57'
T = 13.62'
R = 30.00'
⑤ –DR1– PC 10+28.35
⑥ –DR1– PT 10+53.92
⑧

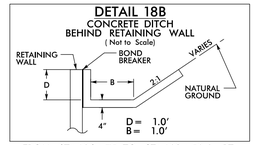
–DR1– POT 10+00.00

DETAIL 18A
SPECIAL LATERAL BASE DITCH
(Not to Scale)



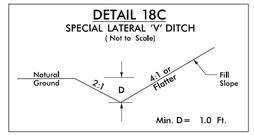
Type of Liner= CL 'I' Rip–Rap
FROM STA.180+00 TO STA.180+50–L– RT.

DETAIL 18B
CONCRETE DITCH BEHIND RETAINING WALL
(Not to Scale)



FROM STA.186+75 TO STA.192+50–L– RT.

DETAIL 18C
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA.186+00 TO STA.186+50–L– RT.
FROM STA.192+50 TO STA.194+00–L– RT.

MATCH LINE STA –L– 180+00.00
MATCH TO SHEET NO. 17

BEGIN CONSTRUCTION
–DR1– STA. 10+20.00

ORANGE SAFETY FENCE

CL 'B' RIP–RAP EST. 2 TON GEOTEXTILE EST. 7 SY

CL 'I' RIP–RAP EST. 2 TON GEOTEXTILE EST. 6 SY

RELOCATE FENCE (BY OWNER)

PROP. DRIVE

SPECIAL LATERAL BASE DITCH SEE DETAIL 18A
CL 'I' RIP–RAP EST. 60 TONS GEOTEXTILE EST. 110 SY

SPECIAL LATERAL 'V' DITCH SEE DETAIL 18C

–L– PC 185+22.66

PROP. RETAINING WALL #6
BEGIN –L– STA. 186+75±
END –L– STA. 192+05±
SEE DETAIL SHTS W6–1 & W6–2

CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 18B

REMOVE

RETAIN

TIE TO EXISTING GUARDRAIL

SPECIAL LATERAL 'V' DITCH SEE DETAIL 13

CL 'I' RIP–RAP EST. 6 TON GEOTEXTILE EST. 12 SY

SPECIAL LATERAL 'V' DITCH SEE DETAIL 18C

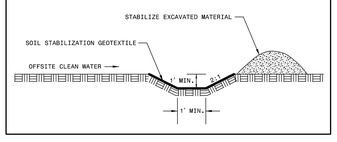
28 x 14 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 18.1

MATCH LINE STA –L– 194+00.00
MATCH TO SHEET NO. 19

CLEAN WATER DIVERSION

CWD CWD CWD CWD CWD CWD CWD

(Not to Scale)



MINIMIZE CLEARING AND GRUBBING
SAFETY FENCE

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 18

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

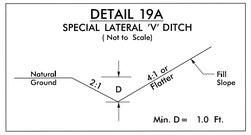
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-19/CONST J9
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

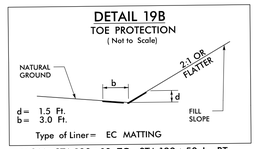
NAD 83/2011

DETAIL 19A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



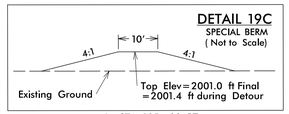
FROM STA.194+00 TO STA.194+50–L– RT.

DETAIL 19B
TOE PROTECTION
(Not to Scale)



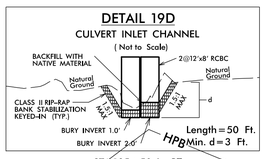
FROM STA.199+10 TO STA.199+50–L– RT.

DETAIL 19C
SPECIAL BERM
(Not to Scale)



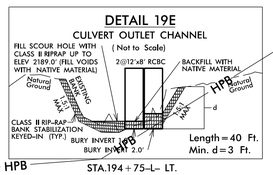
–L– STA 195+00 RT

DETAIL 19D
CULVERT INLET CHANNEL
(Not to Scale)



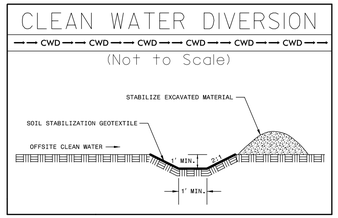
STA.195+50–L– RT.

DETAIL 19E
CULVERT OUTLET CHANNEL
(Not to Scale)



STA.194+75–L– LT.

CLEAN WATER DIVERSION
(Not to Scale)



ORANGE SAFETY FENCE

CULVERT OUTLET CHANNEL
SEE DETAIL 19E
CL 'II' RIP-RAP
EST. 172 TONS
EST. 60 CY DDE

–L– 194+00.00
MATCH LINE STA
MATCH TO SHEET NO. 18

–L– END SECTION A–0009CA

–L– BEGIN SECTION A–0009CB

CLASS 'I' RIP RAP
EST. 11 TONS
GEOTEXTILE
EST. 22 SY

CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY

SPECIAL LATERAL 'V' DITCH SEE DETAIL 19A

CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY

PROPOSED BERM TOP ELEV=2201.0' SEE DETAIL 19C

CULVERT INLET CHANNEL
SEE DETAIL 19D
CL 'II' RIP-RAP
EST. 71 TONS
EST. 50 CY DDE

TOE PROTECTION
SEE DETAIL 19B
EC MATTING
EST. 50 SY

SHOULDER BERM GUTTER
–L– STA. 194+00 TO 197+83, RT

–L– PT 195+93.35

END TIP PROJECT A–0009CA
–L– STA. 208+00.00

108 x 18 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 19.2

31 x 31 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 19.1

51 MELANIE O. CRUSE

52 CAROL R. ADAMS, ET AL

50 DELMAR HOLDER, ET AL

KEITH L. ROGERS

200' TAPER

PROP. DRIVE

SAFETY FENCE

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 19

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

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

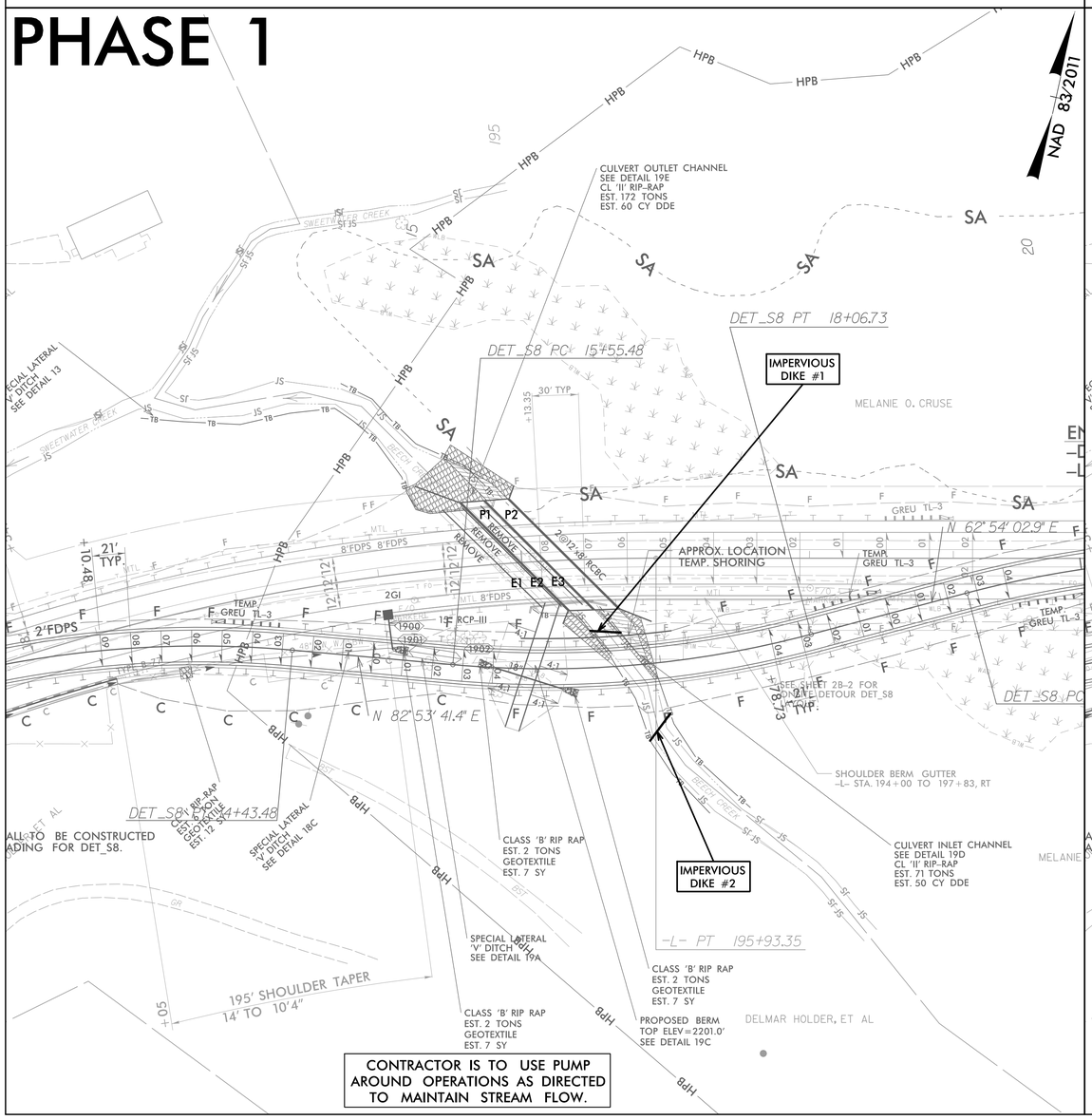
INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

CULVERT CONSTRUCTION SEQUENCE STA. 195+16 –L–

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-19A/CONST 19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

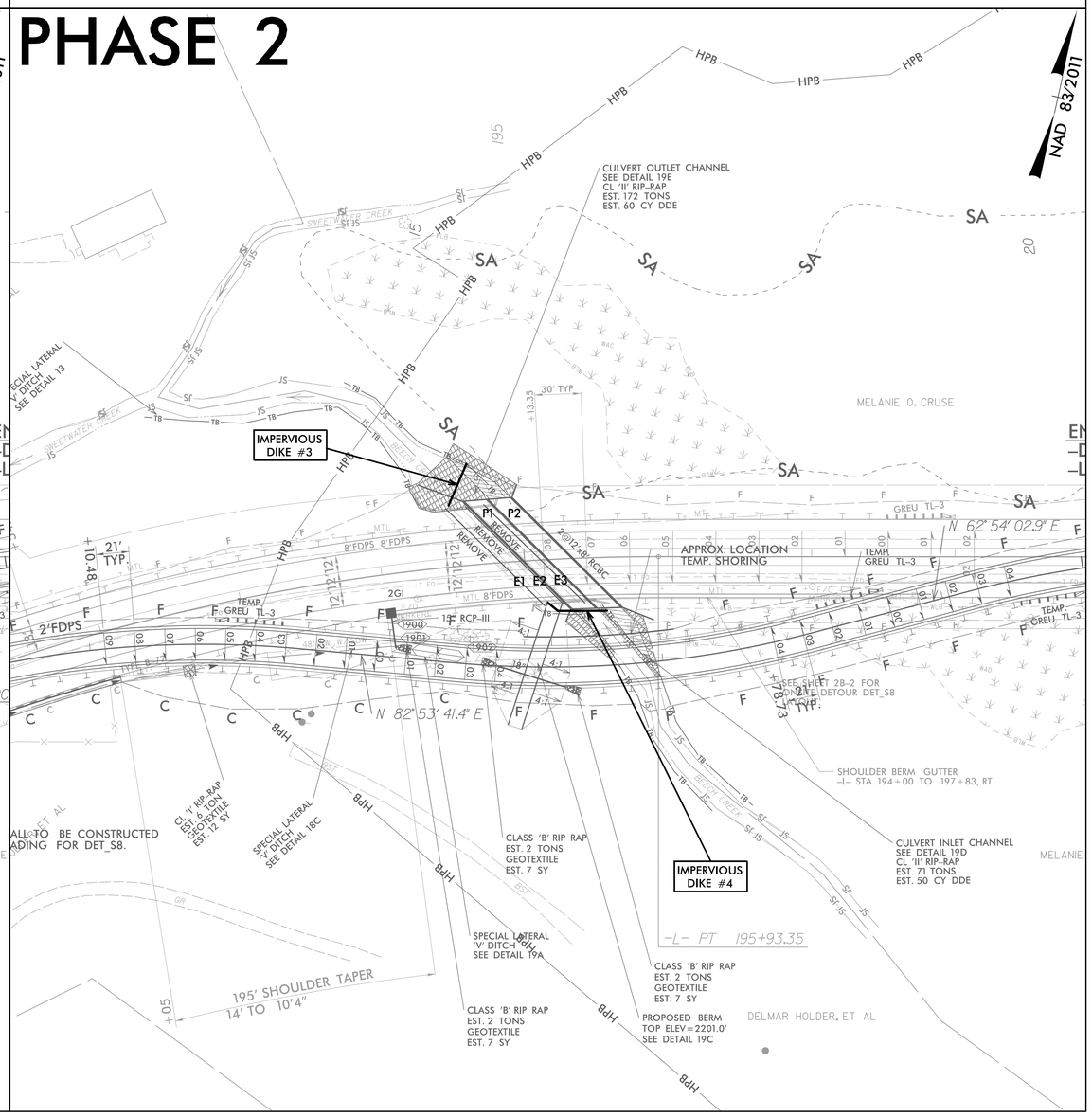
1. INSTALL IMPERVIOUS DIKES #1 & #2 AND BEGIN PUMP AROUND.
2. DEWATER WORK SITE AS NEEDED INTO SPECIAL STILLING BASIN(S).
3. INSTALL TEMPORARY 2@103"X71" CS PIPE–ARCH.
4. REMOVE IMPERVIOUS DIKES #1 & #2 AND STOP PUMP AROUND, RESTORING FLOW THROUGH TEMPORARY 2@103"X71" CS PIPE–ARCH.
5. COMPETE DETOUR ROADWAY AND DIVERT TRAFFIC. SEE EC–22/CONST 2B–3 FOR DETOUR FINAL GRADE EROSION CONTROL.
6. INSTALL IMPERVIOUS DIKES #3 & #4 AND DIVERT FLOW THROUGH EXISTING 72" CMP E1.
7. REMOVE EXISTING 72" CMP E2 & E3 AND CONSTRUCT 12'X8' RCBC P1 & P2 WITH P2 WINGWALLS.

PHASE 1



CONTRACTOR IS TO USE PUMP AROUND OPERATIONS AS DIRECTED TO MAINTAIN STREAM FLOW.

PHASE 2

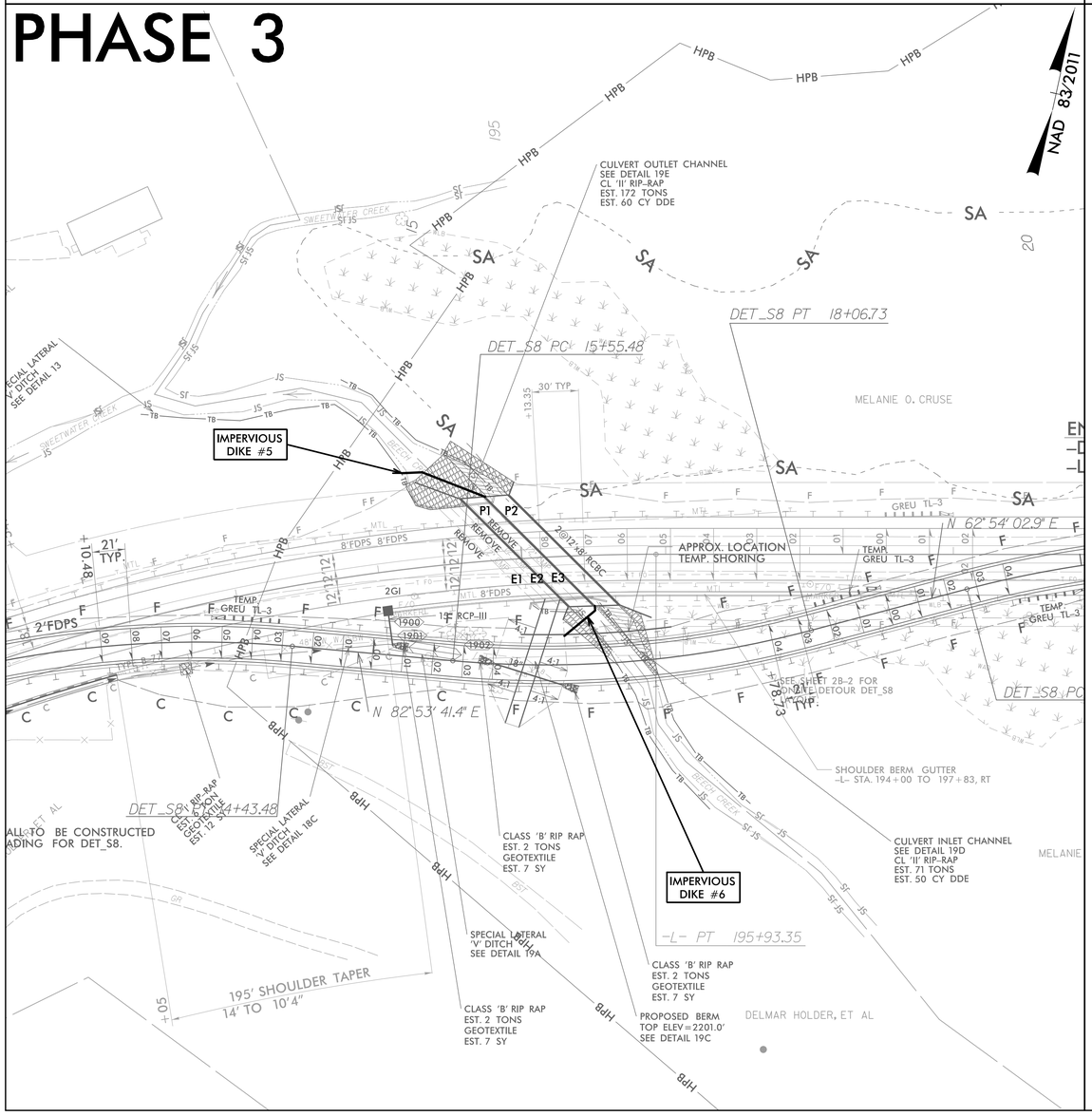


CULVERT CONSTRUCTION SEQUENCE STA. 195+16 –L–

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-19B/CONST.19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8. REMOVE IMPERVIOUS DIKES #3 & #4.
9. INSTALL IMPERVIOUS DIKES #5 & #6, DIVERTING FLOW INTO NEW 7'X8' RCBC P2.
10 REMOVE EXISTING 72" CMP E1 AND CONSTRUCT P1 WINGWALLS.
11. COMPLETE HEADWALLS AND WINGWALLS ACCORDING TO DRAINAGE AND STRUCTURE PLANS.
12. REMOVE IMPERVIOUS DIKES #5 & #6 AND RESTORE STREAM.
13. COMPLETE ROADWAY AND SHIFT TRAFFIC FROM DETOUR.
14. REMOVE DETOUR ROADWAY AND TEMPORARY 2@103"X71" CS PIPE-ARCH.
15. COMPLETE FINAL GRADING OF PROPOSED BERM.

PHASE 3



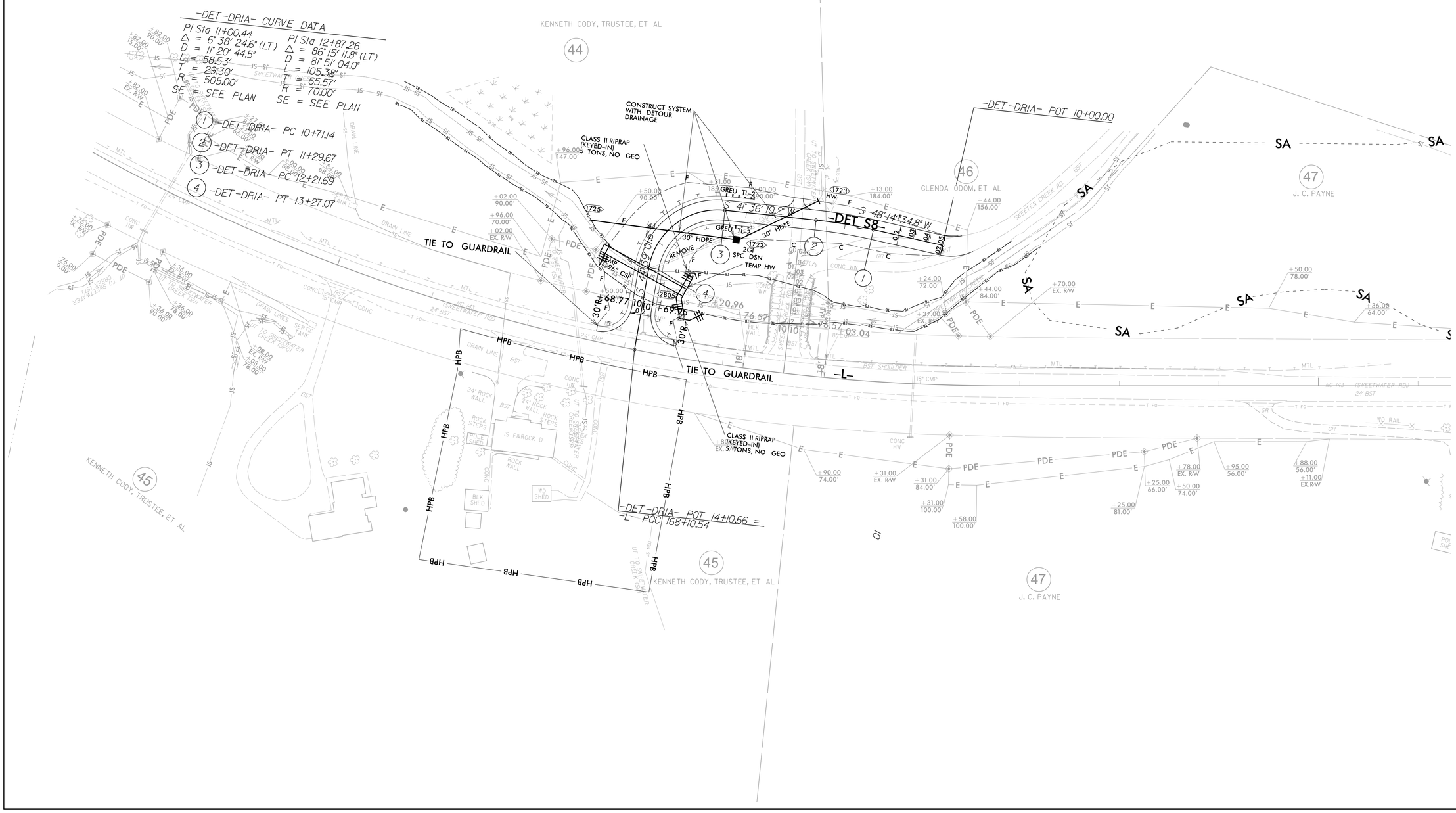
DETOUR

MAINTAIN EROSION CONTROL PERIMETER PROTECTION FROM EC–17/CONST.17 AS APPROPRIATE FOR FINAL DETOUR PHASE.

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
A–0009CA	EC–20/CONST.2B–1
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



DETOUR

MAINTAIN EROSION CONTROL PERIMETER PROTECTION
FROM EC–12/CONST.12 & EC–13/CONST.13
AS APPROPRIATE FOR FINAL DETOUR PHASE.

PROJECT REFERENCE NO.	SHEET NO.
A–0009CA	EC–21/CONST.2B–2
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

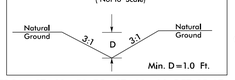
NAD 83/2011

50 x 10 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 12.3D

30 x 10 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 12.5D

MAINTAIN CWD DURING DETOUR

DETAIL 2B–1
STANDARD 'V' DITCH
(Not to Scale)

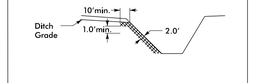


FROM STA.18+50 TO STA.19+00 DET_S5 LT.

DETAIL 2B–2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM STA.14+50 TO STA.18+20 DET_S5 LT.
FROM STA.14+50 TO STA.17+50 DET_S5 RT.
FROM STA.19+00 TO STA.20+00 DET_S5 LT.
FROM STA.19+00 TO STA.19+50 DET_S5 RT.

DETAIL 2B–3
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner=20 TONS,CL 1 Rip–Rap
FROM STA.18+20 DET_S5 LT.

DET_S5 PC 10+00.00

DET_S5 PT 13+99.03

DET_S5 PC 20+06.44

DET_S5 PT 21+93.52

DET_S5 POT 23+33.52

DET_S5 PC 15+11.03

DET_S5 PT 18+94.44

TOE PROECTION
SEE DETAIL 2B–5
EC MATTING
EST. 90 SY

DO NOT DISTURB SIGN

DO NOT DISTURB BILLBOARD

24" CSP
21' TYP.

TBJB W SLAB LID

SPECIAL LATERAL V DITCH
SEE DETAIL 2B–2

CLASS II RIP RAP
50 TONS,
NO GEO
UP TO 6'
ABOVE INVERT

RIP RAP AT EMBANKMENT
SEE DETAIL 2B–3

TEMPORARY 66"

TEMP. GREU TL–3

STANDARD V DITCH
DDE–25cuyds
SEE DETAIL 2B–1

RIP RAP AT EMBANKMENT
SEE DETAIL 2B–4

D. R. PHILLIPS, LLC

CWDG

2'FDPS

REMOVE

APPROX LOCATION
TEMP. SHORING

PLACE +/–5 TONS CL 'B'
RIP RAP IN FLOW LINE WHERE
DITCH TIES TO EXISTING DITCH

66.44' +/– 21' TYP.

RETAIN DURING DETOUR

100' TAPER TO EXIST.

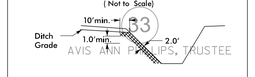
BEGIN CONSTRUCTION
DET_S5 STA 10+00.00 =
–L– STA 100+84.14, 1.56'LT

END CONSTRUCTION
DET_S5 STA 23+33.00 =
–L– STA 114+01.26, 3.34' RT

DETAIL 2B–5
TOE PROTECTION
(Not to Scale)

d= 2.0 Ft.
Type of Liner= EC MATTING
FROM STA.12+50 TO STA.13+50 DET_S5 LT.

DETAIL 2B–4
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner=30 TONS,CL 1 Rip–Rap
FROM STA.18+50 DET_S5 LT.

33
AVIS ANN PHILLIPS, TRUSTEE

SWEETWATER CREEK

SLAW BACON BRANCH

TRIPLE BARREL BOX CULVERT

DETOUR

MAINTAIN EROSION CONTROL PERIMETER PROTECTION
FROM EC–18/CONST.18 & EC–19/CONST.19
AS APPROPRIATE FOR FINAL DETOUR PHASE.

PROJECT REFERENCE NO.	SHEET NO.
A–0009CA	EC–22/CONST.2B–3
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

DETAIL 2B–5
SPECIAL BERM
(Not to Scale)
10′, 4:1, 4:1
Existing Ground
Top Elev = 2001.0 ft Finall
= 2001.4 ft during Detour
–DET_S8– STA 16+00 RT

TIE TO EXISTING GUARDRAIL
PROPOSED GUARDRAIL WILL REMOVE AND RESET FOR FINAL ALIGNMENT
100′ TAPER TO EXIST.
21′ TYP.
TEMP. GREU TL–3
2′FDPS
70′R
60′R
RETAINING WALL TO BE CONSTRUCTED PRIOR TO GRADING FOR DET_S8. (SEE PSH 18)
DET_S8 PC 10+00.00
BEGIN CONSTRUCTION
DET_S8 STA. 10+00.00 =
–L– STA. 188+91.58, 9.03′LT
DET_S8 PT 14+43.48
DET_S8 PC 15+55.48
DET_S8 PT 18+06.73
DET_S8 PC 19+18.73
DET_S8 PT 21+05.23
END CONSTRUCTION
–DET_S8– STA. 22+25.00 =
–L– STA. 211+38.45, 0.38′LT
APPROX. LOCATION TEMP. SHORING
PROPOSED BERM TOP ELEV = 2201.4′ SEE DETAIL 2B–5
TEMP 12″ TEMPORARY 2@103″x71″ CS PIPE–ARCH
CLASS II RIP RAP 65 TONS, NO GEO UP TO SHOULDER
–L–
DET_S8
50 DELMAR HOLDER, ET AL
51 MELANIE O. CRUSE
20
BARN
SWEETWATER CREEK
SR 1281

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-23/CONST.4
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

END CONSTRUCTION
–Y1– STA. 37+20.00

ORANGE SAFETY FENCE

BEGIN TIP PROJECT A–0009CA
–L– STA. 10+20.02

–L– POT 10+00.00 =
–Y1– POC 34+56.63

BEGIN CONSTRUCTION
–Y1C– STA. 11+71.27

–Y1– PC 30+68.48

–Y1C– POT 10+00.00

–Y1– PT 30+09.58

–Y1– POC 27+35.52 =
–Y1C– POT 12+40.07

–L– PC 15+85.36

NAD 83/2011

MATCH LINE STA –L– 16+00.00
MATCH TO SHEET NO.6

MATCH LINE STA –Y1– 27+00.00
MATCH TO SHEET NO.5

PROP. RETAINING WALL #2
BEGIN –L– STA. 11+79±
END –L– STA. 12+59±
SEE DETAIL SHTS W1/W2–1
& W1/W2–2

PROP. RETAINING WALL #1
BEGIN –Y1– STA. 32+55±
END –Y1– STA. 34+16±
SEE DETAIL SHTS W1/W2–1
& W1/W2–2

CL 'I' RIP-RAP
EST. 20 TONS
GEOTEXTILE
EST. 40 SY

CL 'B' RIP-RAP
EST. 5 TONS
GEOTEXTILE
EST. 10 SY

PROP. 72" BLACK VINYL COATED CHAIN LINK FENCE WITH GATE

PROP. 16' GRAVEL DRIVE
(PAVE APRON TO GATE)

2.5 inch Skimmer with 2.125 inch Orifice Diameter ID DDB

DRY DETENTION BASIN #2
SEE DETAIL SHEET 2D–9

SAFETY FENCE

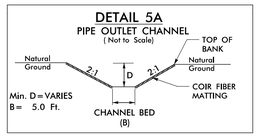
UTILIZE DRY DETENTION BASIN AS SKIMMER BASIN DURING CONSTRUCTION.

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.

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-24/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

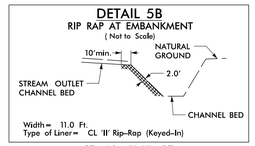
TGS ENGINEERS
201 W. MARION ST–STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

DETAIL 5A
PIPE OUTLET CHANNEL
(Not to Scale)



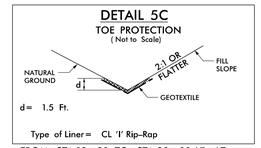
STA. 19+51–Y1– RT

DETAIL 5B
RIP RAP AT EMBANKMENT
(Not to Scale)



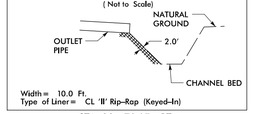
STA. 19+51–Y1– RT

DETAIL 5C
TOE PROTECTION
(Not to Scale)



FROM STA.18+80 TO STA.20+00–Y1– LT.

DETAIL 5D
RIP–RAP AT EMBANKMENT
(Not to Scale)



STA. 23+70–Y1– RT.

–Y1A– CURVE DATA
PI Sta 12+48.39
Δ = 27° 40' 40.3" (LT)
D = 10° 31' 56.3"
L = 262.79'
T = 134.01'
R = 544.00'
③ –Y1A– PC 11+14.38

–Y1– CURVE DATA
PI Sta 24+35.36
Δ = 38° 00' 53.8" (RT)
D = 3° 10' 59.2"
L = 1,194.27'
T = 620.05'
R = 1,800.00'
SE = 0.03'
DS = 45 MPH
①–Y1B– PC 13+29.06
②–Y1B– PT 13+99.35

8 EDDIE R. BROOMS, JR.
8A EARL SHULER HEIRS

NAD 83/2011

BEGIN CONSTRUCTION
–Y1– STA. 13+70.00

BEGIN CONSTRUCTION
–Y1B– STA. 13+13.92

AMOS ENTERPRISES, LLC

15+00

20+00

25+00

–Y1– PC 18+15.31

PROP. DRIVE

ORANGE SAFETY FENCE

TREE CLEARING SHALL BE LIMITED TO 5' PAST THE SLOPE STAKES WITHIN THE HPB. PLACE PROTECTION FENCING PRIOR TO CONSTRUCTION.

BURY INVERT 1.0' BELOW STREAM BED

TOE PROECTION
SEE DETAIL 5C
CL 'I' RIP–RAP
EST. 60 TONS
GEOTEXTILE
EST. 130 SY

REMOVE HW

PLUG

60" RCP–III FLOWABLE FILL

30' TYP.

15" RCP–IV

2'–6" C&G

6" PVC

12" GALV.

100' TAPER TO EXIST.

CL 'I' RIP–RAP
EST. 40 TONS
(KEYED–IN & ON BANKS ONLY)

2GI w/o APRON

PIPE OUTLET CHANNEL
SEE DETAIL 5A
S=1.0%
L=45'
EST. 150 CY DDE
EST. 90 SY COIR FIBER MATTING

BURY INVERT 1.0' BELOW STREAM BED

RIP–RAP AT EMBANKMENT
SEE DETAIL 5B
CL 'II' RIP–RAP
EST. 25 TONS

DO NOT DISTURB BILLBOARD

RIP–RAP AT EMBANKMENT
SEE DETAIL 5D
CL 'II' RIP–RAP
EST. 5 TONS

DRY DETENTION BASIN#1
SEE DETAIL SHEET 2D–5

CL 'B' RIP–RAP
EST. 5 TONS
GEOTEXTILE
EST. 10 SY

TB JB w/MH

TB 2GI

JB OUT CTL STR

–Y1– POC 23+20.33 = –Y1A– POT 10+00.00

–Y1– POC 25+54.61 = –Y1B– POT 14+16.85

–Y1B– PT 11+45.83

FIRST BAPTIST CHURCH OF ROBBINSVILLE, NORTH CAROLINA, INC.

MATCH LINE STA –Y1– 27+00.00 MATCH TO SHEET NO. 4

END CONSTRUCTION
–Y1A– STA. 10+62.95

–Y1A– PT 13+77.17

1.5 inch Skimmer with 1.375 inch Orifice Diameter ID DDB #1

PROP. 72" BLACK VINYL COATED CHAIN LINK FENCE WITH GATE

ROBBINSVILLE CITY LIMIT

ROBERT COLVARD, SR., ET AL TRUSTEES

RITA A. SAWYER

ADAMS CONTRACTING CO.

NCDOT

HERVE CODY CONTRACTOR, LLC

MILDRED F. HOOPER

EDDIE R. BROOMS, JR.

TUULA CREEK

SAFETY FENCE

UTILIZE DRY DETENTION BASIN AS SKIMMER BASIN DURING CONSTRUCTION.

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.

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-25/CONST.6
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

–Y5– CURVE DATA
PI Sta 11+51.55
Δ = 9° 49' 14.7" (RT)
D = 9° 32' 57.5"
L = 102.84'
T = 51.55'
R = 600.00'
① –Y5– PCC 12+02.84
② –Y5– PT 13+60.33

PI Sta 12+96.74
Δ = 78° 27' 45.3" (RT)
D = 49° 49' 20.7"
L = 157.48'
T = 93.90'
R = 115.00'

–DR2– CURVE DATA
PI Sta 11+03.23
Δ = 37° 57' 56.5" (LT)
D = 55° 05' 31.5"
L = 68.91'
T = 35.78'
R = 104.00'
SE = NC
③ –DR2– PC 10+67.46
④ –DR2– PT 11+36.37
⑤ S 31° 49' 15.2" E

–Y5– POT 10+00.00
–Y5– PC 11+00.00
–L– POT 26+74.83 = –Y5– POC 12+26.19
–L– PT 26+19.98
–Y5– POT 14+50.00
–Y5– POC 12+80.00 = –DR2– POT 10+00.00
–DR2– POT 12+00.00

ORANGE SAFETY FENCE

66 x 11 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 6.2

MATCH LINE STA –L– 16+00.00
MATCH TO SHEET NO. 4

MATCH LINE STA –L– 30+00.00
MATCH TO SHEET NO. 7

END CONSTRUCTION
–DR2– STA. 11+60.00

CONNECT TO EXIST. BOX CULVERT
RETAIN 4@12'x14' RCBC
RIP–RAP AT EMBAMKMENT SEE DETAIL 6A CL 'II' RIP–RAP EST. 30 TONS
PROP. HANDRAIL –L–STA. 17+10 TO 17+90, LT
PROP. HANDRAIL –L–STA. 16+75 TO 17+60, RT
HEADWALL TO BE EXTENDED SEE STRUCTURE PLANS
RELOCATE (BY OTHERS)
RELOCATE FENCE (BY OWNER)
DO NOT DISTURB
DO NOT DISTURB SIGN
TIE –L– TYP. CUT DITCH TO –DR2– DITCH S=4.1% SEE DETAIL 6C
SPECIAL LATERAL 'V' DITCH SEE DETAIL 6B

SAFETY FENCE

DETAIL 6A
RIP–RAP AT EMBANKMENT
(Not to Scale)
Width = 22.0 Ft.
Type of Liner = CL 'II' Rip–Rap (Keyed–In)
STA. 16+35–L– RT.

DETAIL 6B
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D=1.0 Ft.
FROM STA.10+42 TO STA.11+50–DR2– LT.

DETAIL 6C
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D=1.5 Ft.
FROM STA.27+00 LT TO STA.27+50–L– RT.

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-26/CONST.7
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

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

MATCH LINE STA –L– 30+00.00
MATCH TO SHEET NO. 6

MATCH LINE STA –L– 44+00.00
MATCH TO SHEET NO. 8

128 x 32 x 3
2 inch Skimmer
with 1.75 inch
Orifice Diameter
15 ft. weir
ID 7.1

ORANGE SAFETY FENCE

SHOULDER BERM GUTTER
–L– STA. 31+50 TO 33+30, LT

SHOULDER BERM GUTTER
–L– STA. 34+70 TO 36+76, LT

SHOULDER BERM GUTTER
–L– STA. 42+00 TO 47+00, LT

ROCK PLATING
–L– STA. 42+00 TO 45+64, LT
SEE DETAIL SHT 2C-4
STD DRAWING 275.01, DETAIL 2
EST. 1,430 SY

CL 'I' RIP-RAP
EST. 10 TONS
GEOTEXTILE
EST. 23 SY

TRENCHLESS INSTALLATION
36" WELDED STEEL
(THICKNESS 0.500")

CL 'B' RIP-RAP
EST. 1 TON
GEOTEXTILE
EST. 5 SY

CL 'I' RIP-RAP
EST. 2 TONS
GEOTEXTILE
EST. 8 SY

150' TAPER

150' TAPER

720' TAPER

PROP. DRIVE

PROP. DRIVE

PROP. DRIVE

PROP. DRIVE

JACK E. MILLSAPS

JACK E. MILLSAPS

JACK MILLSAPS

BETTY G. CLARK, ET AL

JAMES BURCHFIELD

JAMES HALL

EXPRESSWAY GUTTER
–L– STA. 36+00 TO 43+70, RT

RELOCATE FENCE
(BY OWNER)

RELOCATE FENCE
(BY OWNER)

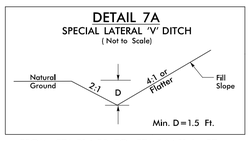
DO NOT
DISTURB SEPTIC

DO NOT
DISTURB SEPTIC

SPECIAL LATERAL
'V' DITCH
SEE DETAIL 7A

PLUG
JB w/SLAB LID
36" CMP
18" CMP
REMOVE
FLOWABLE FILL
ROD AND LUG
WITH GASKETS
(ELBOWS)
18" RCP-IV
15" RCP-IV
2GI
8'FDPS
PDE
SA
TSD
GTD
GREU TL-3
SWEETWATER CREEK
SWEETWATER CREEK ROAD
NC 143 (SWEETWATER RD)
IS MTL BUS
IS F BUS
F BARN
SILO
SEPTIC TANK
MH
CHICKEN COOP
GRAPES
DRAIN LINES
FORD
FENCE
BORDER
SR 1213 (MOUNTAIN CREEK RD)
WD POSTS
BILLBOARD
72" CHLK W/3 SBW

DETAIL 7A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA.31+50 TO STA.34+11–L– RT.

SAFETY FENCE

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-27/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

NAD 83/2011

-L- CURVE DATA
PI Sta 59+31.02
△ = 49° 37' 23.2" (LT)
D = 5° 58' 05.9"
L = 831.44'
T = 443.82'
R = 960.00'
SE = 0.08
DS = 55 MPH

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

MATCH LINE STA –L– 44+00.00
MATCH TO SHEET NO. 7

MATCH LINE STA –L– 56+00.00
MATCH TO SHEET NO. 9

ROCK PLATING
–L– STA. 42+00 TO 45+64, LT
SEE DETAIL SHT 2C–4
STD DRAWING 275.01, DETAIL 2
EST. 1,430 SY

TRENCHLESS INSTALLATION 30" WELDED STEEL (THICKNESS 0.500")

PIPE OUTLET CHANNEL SEE DETAIL 8B CL 'I' RIP–RAP EST. 25 TONS EST. 25 CY DDE L=8 FT S=5.0%

CULVERT OUTLET CHANNEL SEE DETAIL 8D CL 'II' RIP–RAP EST. 100 TONS EST. 90 CY DDE

15" CSP ROD AND LUG WITH GASKETS (ELBOWS)

CONNECTION TO PROP. RCBC EXT.

ROD AND LUG WITH GASKETS (ELBOWS) 30" CSP

SHOULDER BERM GUTTER
–L– STA. 42+00 TO 47+00, LT

CL 'I' RIP–RAP EST. 6 TONS GEOTEXTILE EST. 14 SY

DO NOT DISTURB BILLBOARD

PROP. DRIVE

SPECIAL LATERAL 'V' DITCH SEE DETAIL 8A

CL 'B' RIP–RAP EST. 2 TONS GEOTEXTILE EST. 7 SY

EXPRESSWAY GUTTER
–L– STA. 53+25 TO 55+50, LT

-L- PC 54+87.20

3@12'x9' RCBC EXTENSION

RETAIN AND EXTEND

15" RCP–IV

18" REMOVE

15" RCP–IV REMOVE

CL 'I' RIP–RAP EST. 25 TONS

CL 'B' RIP–RAP EST. 2 TONS GEOTEXTILE EST. 7 SY

FLOWABLE FILL

RETAIN

DO NOT DISTURB SIGN

DO NOT DISTURB SEPTIC

720' TAPER

DO NOT DISTURB REMAINING BUILDING.

ROCK PLATING
–L– STA. 44+50 TO 45+00, RT
SEE DETAIL SHT 2C–4
STD DRAWING 275.01, DETAIL 2
EST. 180 SY

ROCK PLATING
–L– STA. 47+14 TO 48+00, RT
SEE DETAIL SHT 2C–4
STD DRAWING 275.01, DETAIL 2
EST. 410 SY

EXPRESSWAY GUTTER
–L– STA. 49+00 TO 52+33, RT

CULVERT INLET CHANNEL
SEE DETAIL 8C
CL 'II' RIP–RAP
EST. 140 TONS
EST. 80 CY DDE

BAY #1 TO BE REMOVED BY OTHERS.

PROP. CONCRETE DRIVE

LOVIN MANAGEMENT COMPANY, LLC

ERIC FORD, ET AL

DANA J. SMITH

JACK E. MILLSAPS

WILMA CRISP

BARRY L. QUEEN

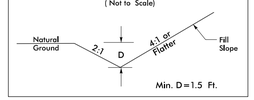
SWEETWATER CREEK

UT TO SWEETWATER CREEK (SH)

TOMMY QUEEN RD.

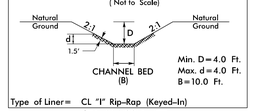
NC 143 (SWEETWATER RD.)

DETAIL 8A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



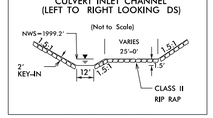
FROM STA.52+00 TO STA.53+00–L– LT.

DETAIL 8B
PIPE OUTLET CHANNEL
(Not to Scale)



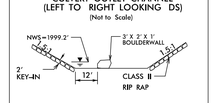
Type of Liner= CL "I" Rip–Rap (Keyed–In)
STA.44+88–L– RT.

DETAIL 8C
CULVERT INLET CHANNEL
(LEFT TO RIGHT LOOKING DS)
(Not to Scale)



STA.47+20–L– RT.

DETAIL 8D
CULVERT OUTLET CHANNEL
(LEFT TO RIGHT LOOKING DS)
(Not to Scale)



STA.46+00–L– LT.

For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-28/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

NAD 83/2011

MATCH LINE STA –L– 56+00.00 MATCH TO SHEET NO. 8

MATCH LINE STA –L– 68+00.00 MATCH TO SHEET NO. 10

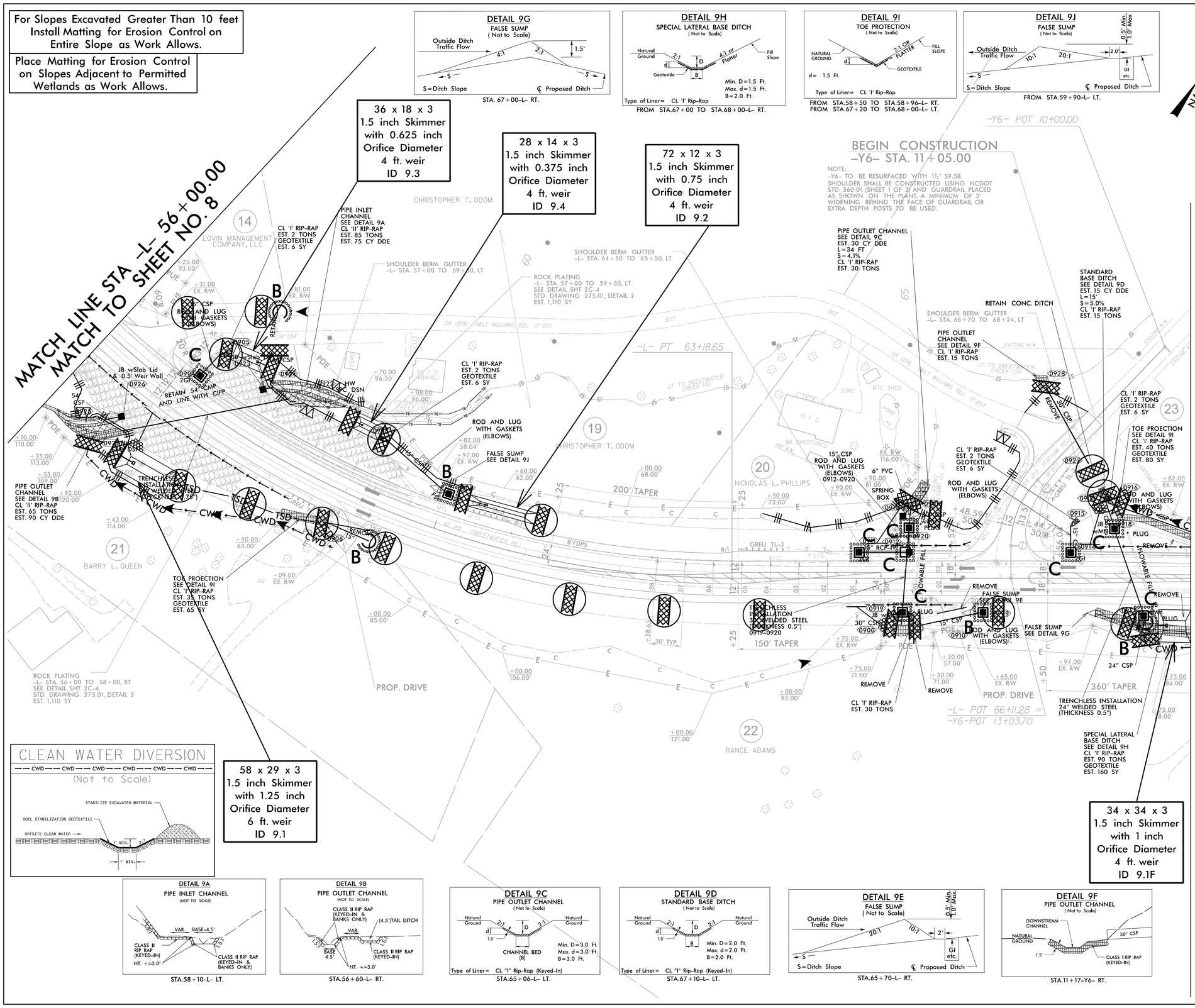
36 x 18 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 9.3

28 x 14 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 9.4

72 x 12 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 9.2

58 x 29 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
6 ft. weir
ID 9.1

34 x 34 x 3
1.5 inch Skimmer
with 1 inch
Orifice Diameter
4 ft. weir
ID 9.1F



CLEAN WATER DIVERSION

(Not to Scale)

DETAIL 9A
PIPE INLET CHANNEL
(NOT TO SCALE)

STA.58+10–L– LT.

DETAIL 9B
PIPE OUTLET CHANNEL
(NOT TO SCALE)

STA.56+60–L– RT.

DETAIL 9C
PIPE OUTLET CHANNEL
(Not to Scale)

Type of Liner= CL "I" Rip-Rap (Keyed–In)

STA.65+06–L– LT.

DETAIL 9D
STANDARD BASE DITCH
(Not to Scale)

Type of Liner= CL "I" Rip-Rap (Keyed–In)

STA.67+10–L– LT.

DETAIL 9E
FALSE SUMP
(Not to Scale)

STA.65+70–L– RT.

DETAIL 9F
PIPE OUTLET CHANNEL
(Not to Scale)

STA.11+17–Y6– RT.

DETAIL 9G
FALSE SUMP
(Not to Scale)

STA. 67+00–L– RT.

DETAIL 9H
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Type of Liner= CL 'I' Rip-Rap

FROM STA.67+00 TO STA.68+00–L– RT.

DETAIL 9I
TOE PROTECTION
(Not to Scale)

Type of Liner= CL 'I' Rip-Rap

FROM STA.58+50 TO STA.58+96–L– RT.
FROM STA.67+20 TO STA.68+00–L– LT.

DETAIL 9J
FALSE SUMP
(Not to Scale)

FROM STA.59+90–L– LT.

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-29/CONST JO
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

–L– CURVE DATA
PI Sta 78+21.51
Δ = 38° 02' 00.5" (RT)
D = 4° 46' 28.7"
L = 796.57'
T = 413.59'
R = 1,200.00'
SE = 0.08
DS = 60 MPH

NAD 83/2011

DETAIL 10A
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D = 1.0 Ft.
FROM STA.68+50 TO STA.70+50–L– LT.

DETAIL 10B
TOE PROTECTION
(Not to Scale)
NATURAL GROUND, d, HPB, 2:1 OR FLATTER, FILL SLOPE, GEOTEXTILE, 1.5 Ft.
Type of Liner = CL 'I' Rip–Rap
FROM STA.71+50 TO STA.72+00–L– RT.
FROM STA.79+00 TO STA.80+26–L– RT.

DETAIL 10C
STANDARD BASE DITCH
(Not to Scale)
Natural Ground, HPB, d, 1.5', D, 2:1, B
Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 3.0 Ft.
Type of Liner = CL 'I' Rip–Rap (Keyed–In)
STA.71+51–L– LT.

DETAIL 10D
FALSE SUMP
(Not to Scale)
0.5' Min. 1.0' Max, Outside Ditch Traffic Flow, 10:1, 20:1, 2.0', S, GI etc.
S = Ditch Slope
℄ Proposed Ditch
STA.68+40–L– LT.
STA.72+90–L– LT.

DETAIL 10E
FALSE SUMP
(Not to Scale)
0.5' Min. 1.0' Max, Outside Ditch Traffic Flow, 20:1, 10:1, 2', S, GI etc.
S = Ditch Slope
℄ Proposed Ditch
STA.68+90–L– RT.
STA.81+40–L– RT.

76 x 38 x 3
1.5 inch Skimmer
with 1.5 inch
Orifice Diameter
11 ft. weir
ID 10.1

26 x 13 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 10.5

Modified Silt Basin
Type 'B'
26 x 13 x 3
4 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 10.5

64 x 16 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 10.2F

78 x 13 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
5 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 10.2

Modified Silt Basin
Type 'B'
78 x 13 x 3
5 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 10.2

84 x 14 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 10.1F

MATCH LINE STA –L– 68+00.00
MATCH TO SHEET NO. 9

MATCH LINE STA –L– 82+00.00
MATCH TO SHEET NO. 11

CLEAN WATER DIVERSION
(Not to Scale)
CWD
STABILIZE EXCAVATED MATERIAL
SOIL STABILIZATION GEOTEXTILE
OFFSITE CLEAN WATER
6" MIN.
1' MIN.

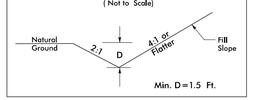
For Slopes Excavated Greater Than 10 feet
Install Matting for Erosion Control on
Entire Slope as Work Allows.

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-30/CONST.II
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

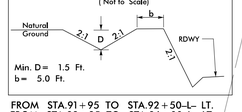
NAD 83/2011

DETAIL 11A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



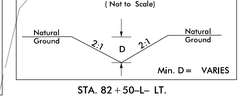
FROM STA.87+00 TO STA.87+50–L– LT.
FROM STA.88+62 TO STA.89+50–L– LT.

DETAIL 11B
BERM 'V' DITCH
(Not to Scale)



FROM STA.91+95 TO STA.92+50–L– LT.
FROM STA.93+85 TO STA.96+00–L– LT.

DETAIL 11C
STANDARD 'V' DITCH
(Not to Scale)



STA. 82+50–L– LT.

For Slopes Excavated Greater Than 10 feet
Install Matting for Erosion Control on
Entire Slope as Work Allows.

75 x 15 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 11.1F

90 x 15 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 11.2

Modified Silt Basin
Type 'B'
90 x 15 x 3
7 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 11.2

MATCH LINE STA –L– 82+00.00
MATCH TO SHEET NO. 10

MATCH LINE STA –L– 96+00.00
MATCH TO SHEET NO. 12

–L– PT 82+04.49

–L– PC 92+71.62

STANDARD 'V' DITCH
SEE DETAIL 11C
EST. 5 CY DDE
L=10'
S=6.0%
720' TAPER

CL 'B' RIP-RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY

SPECIAL LATERAL
'V' DITCH
SEE DETAIL 11A

BERM 'V' DITCH
SEE DETAIL 11B

PROP. DRIVE

EXPRESSWAY GUTTER
–L– 89+60 TO 91+60, LT

SHOULDER BERM GUTTER
–L– STA. 88+50 TO 91+16, RT

24" CSP
ROD AND LUG
WITH GASKETS
(ELBOWS)

15" CSP
ROD AND LUG
WITH GASKETS
(ELBOWS)

REMOVE EXIST.

REMOVE +/–40' 15" HDPE

30" RCP–III

18" RCP–III

15" RCP–IV

30" RCP–IV

FLOWABLE FILL

PLUG

RETAIN

REMOVE

TSD

TD

CL 'I' RIP-RAP
EST. 11 TON'S
GEOTEXTILE
EST. 22 SY

84 x 14 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 11.1

24 WILLIAM SCOTT MILLSAPS AND WIFE CAROL MILLSAPS
DAVID CRAIG MILLSAPS AND WIFE CONNIE MILLSAPS
FRED CARROLL MILLSAPS

27 LOVIN MANAGEMENT COMPANY, LLC

28 STEPHEN M. HALL

29 LOVIN REAL PROPERTY MANAGEMENT, LLC

30 MIDWAY BAPTIST CHURCH

32 ROBERT P. WEHR, TRUSTEE

JEANNE C. PHILLIPS

EDNA SHELNUTT

KAREN M. HILL, ET AL

SR 1179 (GEORGE MILLSAPS RD)

NC 143 (SWEETWATER RD)

For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

MATCH LINE STA –L– 96+00.00 MATCH TO SHEET NO. 11

MATCH LINE STA –L– 110+00.00 MATCH TO SHEET NO. 13

50 x 10 x 3 1.5 inch Skimmer with 0.5 inch Orifice Diameter 4 ft. weir ID 12.7

35 x 175 x 3 2.5 inch Skimmer with 2.125 inch Orifice Diameter 22 ft. weir ID 12.1

50 x 10 x 3 1.5 inch Skimmer with 0.5 inch Orifice Diameter 4 ft. weir ID 12.4

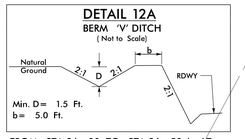
40 x 10 x 3 1.5 inch Skimmer with 0.375 inch Orifice Diameter 4 ft. weir ID 12.1F

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-3I/CONST12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

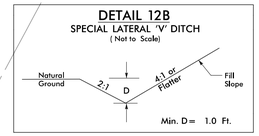
TGS ENGINEERS
201 W. MARION ST–STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

DETAIL 12A
BERM 'V' DITCH
(Not to Scale)



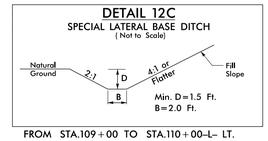
FROM STA.96+00 TO STA.96+50–L– LT
FROM STA.96+66 TO STA.99+00–L– LT

DETAIL 12B
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



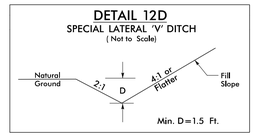
FROM STA.104+50 TO STA.108+00–L– LT.

DETAIL 12C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



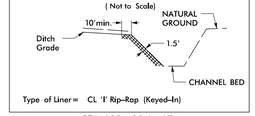
FROM STA.109+00 TO STA.110+00–L– LT.

DETAIL 12D
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA.96+50 TO STA.99+20–L– RT.

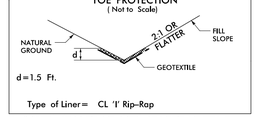
DETAIL 12E
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= CL 'I' Rip–Rap (Keyed–In)

STA. 108+95–L– LT.

DETAIL 12F
TOE PROTECTION
(Not to Scale)

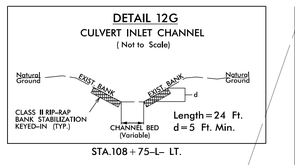


d=1.5 Ft.

Type of Liner= CL 'I' Rip–Rap

FROM STA.103+70 TO STA.104+50–L– LT.

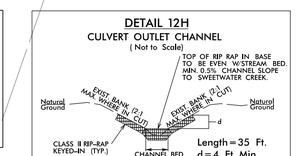
DETAIL 12G
CULVERT INLET CHANNEL
(Not to Scale)



Length=24 Ft.
d=5 Ft. Min.

STA.108+75–L– LT.

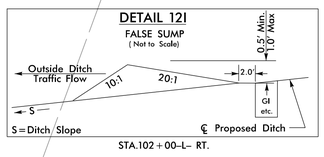
DETAIL 12H
CULVERT OUTLET CHANNEL
(Not to Scale)



Length=35 Ft.
d=4 Ft. Min.

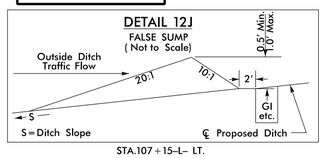
STA.107+85–L– RT.

DETAIL 12I
FALSE SUMP
(Not to Scale)



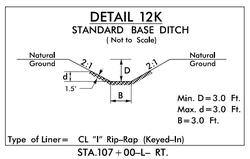
STA.102+00–L– RT.

DETAIL 12J
FALSE SUMP
(Not to Scale)



STA.107+15–L– LT.

DETAIL 12K
STANDARD BASE DITCH
(Not to Scale)

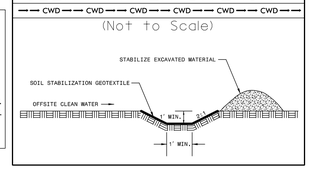


Min. D=3.0 Ft.
Max. d=3.0 Ft.
B=3.0 Ft.

Type of Liner= CL "I" Rip–Rap (Keyed–In)

STA.107+00–L– RT.

CLEAN WATER DIVERSION
CWD CWD CWD CWD CWD CWD
(Not to Scale)



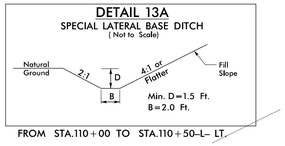
PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-32/CONST13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

MATCH LINE STA –L– 110+00.00
MATCH TO SHEET NO. 12

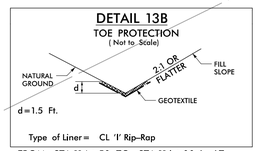
–L– CURVE DATA
PI Sta 117+87.67
Δ = 39° 02' 13.1" (RT)
D = 5° 30' 33.2"
L = 708.58'
T = 368.66'
R = 1,040.00'
SE = 0.08
DS = 55 MPH

DETAIL 13A
SPECIAL LATERAL BASE DITCH
(Not to Scale)



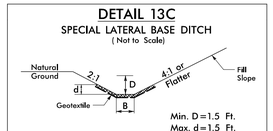
FROM STA.110+00 TO STA.110+50–L– LT.

DETAIL 13B
TOE PROTECTION
(Not to Scale)



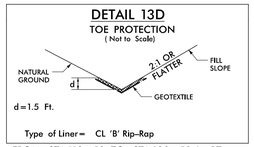
Type of Liner= CL 'I' Rip–Rap
FROM STA.114+50 TO STA.116+00–L– LT.

DETAIL 13C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



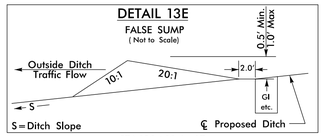
Type of Liner= CL 'I' Rip–Rap
FROM STA.118+50 TO STA.119+50–L– RT.

DETAIL 13D
TOE PROTECTION
(Not to Scale)



Type of Liner= CL 'B' Rip–Rap
FROM STA.119+50 TO STA.120+50–L– RT.

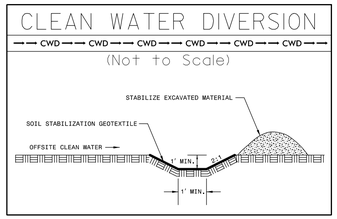
DETAIL 13E
FALSE SUMP
(Not to Scale)



STA.120+10–L– LT.

NAD 83/2011

CLEAN WATER DIVERSION
(Not to Scale)



For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

SAFETY FENCE

40 x 10 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 13.2

TOE PROECTION
SEE DETAIL 13B
CL 'I' RIP–RAP
EST. 75 TONS
GEOTEXTILE
EST. 165 SY

CULVERT INLET CHANNEL
SEE DETAIL 13F
CL 'II' RIP–RAP
EST. 90 TONS
EST. 15 CY DDE

3@11'x9' RCBC EXTENSION

SPECIAL LATERAL BASE DITCH SEE DETAIL 13A

RETAIN AND EXTEND 3@11'x9' RCBC AT INLET

ORANGE SAFETY FENCE

CL 'B' RIP–RAP
EST. 1 TON
GEOTEXTILE
EST. 5 SY

CULVERT OUTLET CHANNEL
SEE DETAIL 13G
CL 'II' RIP–RAP
EST. 50 TONS
EST. 90 CY DDE

CL 'I' RIP–RAP
EST. 11 TONS
GEOTEXTILE
EST. 21 SY

REMOVE

RETAIN EXIST. CONC. DITCH

SPECIAL LATERAL BASE DITCH
SEE DETAIL 13C
CL 'I' RIP–RAP
EST. 80 TONS
GEOTEXTILE
EST. 120 SY

TOE PROECTION
SEE DETAIL 13D
CL 'B' RIP–RAP
EST. 30 TONS
GEOTEXTILE
EST. 90 SY

ROD AND LUG WITH GASKETS (ELBOWS)
15" CSP
FALSE SUMP SEE DETAIL 13E

FLOWABLE FILL

PLUG

34 D. R. PHILLIPS, LLC

33 AVIS ANN PHILLIPS, TRUSTEE

36 GILBERT D. LANCE, ET AL

PROP. DRIVE

–L– PC 114+19.01

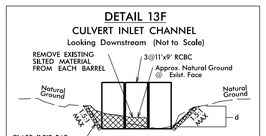
–L– PT 121+27.59

24 x 24 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
7 ft. weir
ID 13.1

72 x 12 x 2
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 13.3

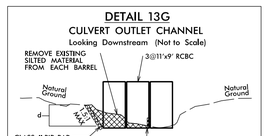
Modified Silt Basin
Type 'B'
72 x 12 x 2
4 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 13.3

DETAIL 13F
CULVERT INLET CHANNEL
Looking Downstream (Not to Scale)



STA.114+10–L– LT.

DETAIL 13G
CULVERT OUTLET CHANNEL
Looking Downstream (Not to Scale)



STA.113+45–L– RT.

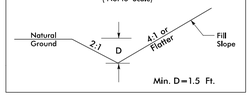
MATCH LINE STA –L– 124+00.00
MATCH TO SHEET NO. 14

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-33/CONST.J4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/2011

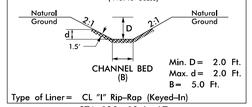
TGS ENGINEERS
201 W. MARION ST–STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

DETAIL 14A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



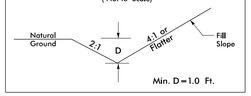
FROM STA.127+00 TO STA.127+25–L– LT.
FROM STA.127+80 TO STA.128+00–L– LT.

DETAIL 14B
PIPE OUTLET CHANNEL
(Not to Scale)



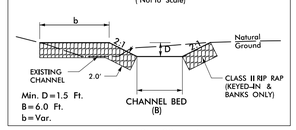
Type of Liner= CL 'I' Rip–Rap (Keyed–In)
STA. 129+13–L– LT.

DETAIL 14C
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



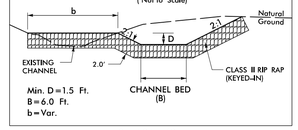
FROM STA.129+50 TO STA.130+70–L– LT.
FROM STA.131+50 TO STA.132+00–L– LT.
FROM STA.130+00 TO STA.131+00–L– RT.

DETAIL 14D
PIPE INLET CHANNEL
(Not to Scale)



STA.135+20–L– RT.

DETAIL 14E
PIPE OUTLET CHANNEL
(Not to Scale)



STA.134+40–L– LT.

MATCH LINE STA –L– 124+00.00
MATCH TO SHEET NO. 13

32 x 16 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 14.4

26 x 13 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 14.5

60 x 10 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 14.3

For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

PIPE OUTLET CHANNEL
SEE DETAIL 14B
S=1.0%
L=12'
EST. 15 CY DDE
CL 'I' RIP–RAP
EST. 15 TONS

BURY INVERT 1.0' BELOW STREAM BED

TRANSITION STONE
CL 'B' RIP–RAP
EST. 5 TONS
GEOTEXTILE
EST. 10 SY

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 14C

TIE –L– TYP. CUT DITCH TO EXISTING DITCH
S=1.7%
SEE DETAIL 14A

TIE –L– TYP. CUT DITCH TO EXISTING DITCH
S=3.6%
SEE DETAIL 14A

RETAIN

RETAIN

PIPE OUTLET CHANNEL
SEE DETAIL 14E
S=1.8%
L=40'
EST. 90 CY DDE
CL 'II' RIP–RAP
EST. 100 TONS

SHOULDER BERM GUTTER
–L– STA. 137+25 TO 141+50, LT

CL 'I' RIP–RAP
EST. 2 TON
GEOTEXTILE
EST. 6 SY

BURY INVERT 1.0' BELOW STREAM BED

ROD AND LUG WITH GASKETS (ELBOWS)

TRENCHLESS INSTALLATION 48" WELDED STEEL (THICKNESS 0.375")

FLOWABLE FILL

SPRING BOX

REMOVE

REMOVE EX. R/W

TRANSITION STONE
CL 'B' RIP–RAP
EST. 5 TONS
GEOTEXTILE
EST. 10 SY

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 14C

BURY INVERT 1.0' BELOW STREAM BED

SHOULDER BERM GUTTER
–L– STA. 133+90 TO 142+00, RT

CL 'I' RIP–RAP
EST. 2 TON
GEOTEXTILE
EST. 6 SY

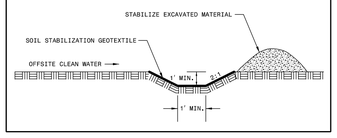
BURY INVERT 1.0' BELOW STREAM BED

PIPE INLET CHANNEL
SEE DETAIL 14D
S=1.8%
L=40'
EST. 30 CY DDE
CL 'II' RIP–RAP
EST. 50 TONS

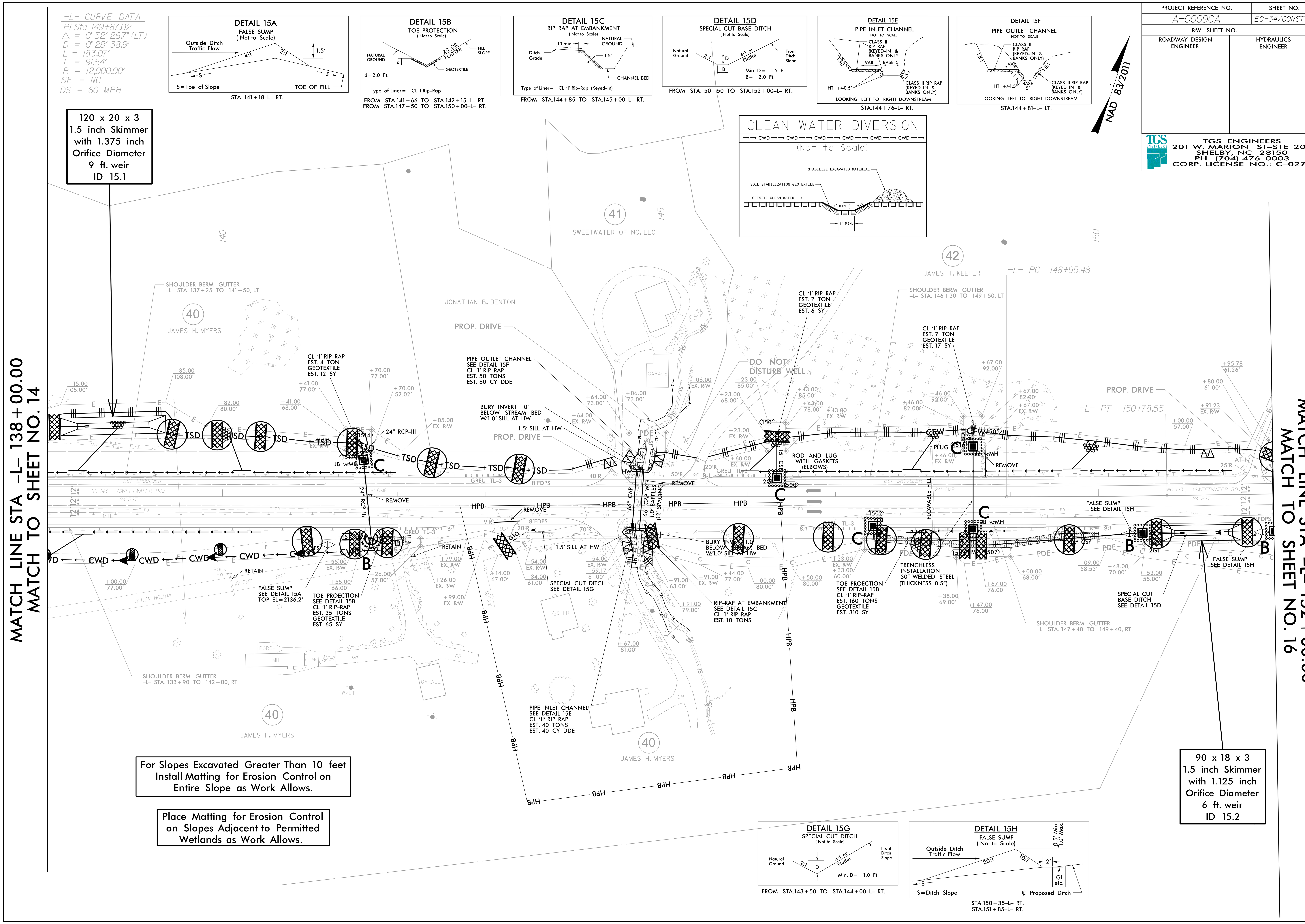
360' SHIFTING TAPER

66 x 11 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 14.1

CLEAN WATER DIVERSION
CWD CWD CWD CWD CWD CWD
(Not to Scale)



MATCH LINE STA –L– 138+00.00
MATCH TO SHEET NO. 15

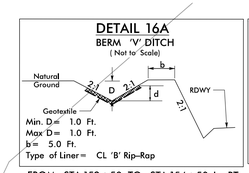


PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-35/CONST.J6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

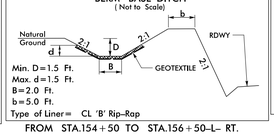
NAD 83/2011

DETAIL 16A
BERM 'V' DITCH
(Not to Scale)



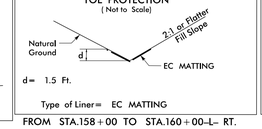
Min. D= 1.0 Ft.
Max. D= 1.0 Ft.
b= 5.0 Ft.
Type of Liner= CL 'B' Rip–Rap
FROM STA.152+50 TO STA.154+50–L– RT

DETAIL 16B
BERM BASE DITCH
(Not to Scale)



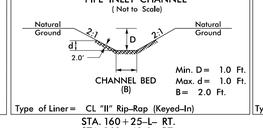
Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.
Type of Liner= CL 'B' Rip–Rap
FROM STA.154+50 TO STA.156+50–L– RT.

DETAIL 16C
TOE PROTECTION
(Not to Scale)



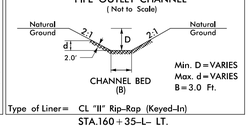
d= 1.5 Ft.
Type of Liner= EC MATTING
FROM STA.158+00 TO STA.160+00–L– RT.

DETAIL 16D
PIPE INLET CHANNEL
(Not to Scale)



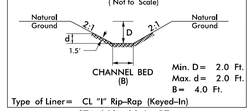
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
B= 2.0 Ft.
Type of Liner= CL "II" Rip–Rap (Keyed–In)
STA. 160+25–L– RT.
STA. 160+40–L– RT.

DETAIL 16E
PIPE OUTLET CHANNEL
(Not to Scale)



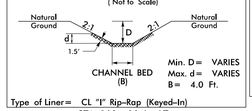
Min. D=VARIES
Max. d=VARIES
B=3.0 Ft.
Type of Liner= CL "II" Rip–Rap (Keyed–In)
STA.160+35–L– LT.

DETAIL 16F
PIPE INLET CHANNEL
(Not to Scale)



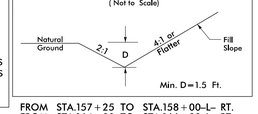
Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 4.0 Ft.
Type of Liner= CL "I" Rip–Rap (Keyed–In)
STA. 163+00–L– RT.

DETAIL 16G
PIPE OUTLET CHANNEL
(Not to Scale)



Min. D= VARIES
Max. d= VARIES
B= 4.0 Ft.
Type of Liner= CL "I" Rip–Rap (Keyed–In)
STA. 163+00–L– LT.

DETAIL 16H
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D=1.5 Ft.
FROM STA.157+25 TO STA.158+00–L– RT.
FROM STA.164+00 TO STA.166+00–L– RT.

SAFETY FENCE

MATCH LINE STA –L– 152+00.00
MATCH TO SHEET NO. 15

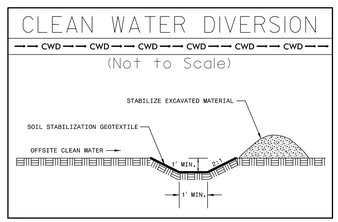
MATCH LINE STA –L– 166+00.00
MATCH TO SHEET NO. 17

99 x 33 x 3
2 inch Skimmer
with 1.625 inch
Orifice Diameter
12 ft. weir
ID 16.1

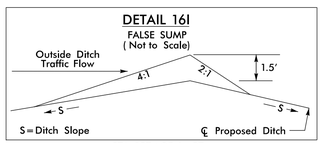
120 x 20 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
9 ft. weir
ID 16.4

72 x 20 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
5 ft. weir
ID 16.3

CLEAN WATER DIVERSION
CWD CWD CWD CWD CWD CWD
(Not to Scale)

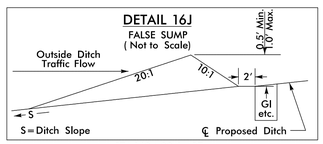


DETAIL 16I
FALSE SUMP
(Not to Scale)



STA. 157+25–L– RT.

DETAIL 16J
FALSE SUMP
(Not to Scale)



STA.160+00–L– RT.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

For Slopes Excavated Greater Than 10 feet Install Matting for Erosion Control on Entire Slope as Work Allows.

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-36/CONST.17
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

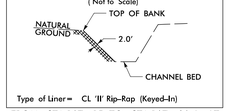
IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

SAFETY FENCE

MATCH LINE STA –L– 166+00.00
MATCH TO SHEET NO. 16

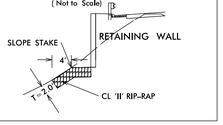
MATCH LINE STA –L– 180+00.00
MATCH TO SHEET NO. 18

DETAIL 17A
BANK STABILIZATION
(Not to Scale)



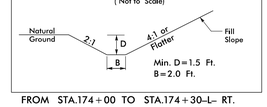
Type of Liner= CL 'II' Rip-Rap (Keyed-In)
FROM STA.167+15 TO STA.167+80–L– LT

DETAIL 17B
TOE PROTECTION
(Not to Scale)



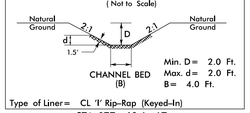
FROM STA.167+75 TO STA.169+15–L– LT
FROM STA.170+10 TO STA.171+20–L– LT

DETAIL 17C
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 2.0 Ft.
FROM STA.174+00 TO STA.174+30–L– RT.

DETAIL 17D
PIPE OUTLET CHANNEL
(Not to Scale)



Min. D= 2.0 Ft.
Max. d= 2.0 Ft.
B= 4.0 Ft.
Type of Liner= CL 'I' Rip-Rap (Keyed-In)
STA. 177+60–L– LT.

15 x 24 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 17.3

150 x 25 x 3
2 inch Skimmer
with 1.75 inch
Orifice Diameter
14 ft. weir
ID 17.2

78 x 13 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 17.1

84 x 14 x 2
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 17.1F

*1 PLACE GUARDRAIL END UNIT FACE ALONG FACE OF SBG (DO NOT FLARE)

BEGIN CONSTRUCTION –DR1A– STA. 10+05.00

PROP. RETAINING WALL #4
BEGIN –L– STA. 167+75
END –L– STA. 171+75

PROP. RETAINING WALL #4
BEGIN –L– STA. 167+75
END –L– STA. 171+75
SEE DETAIL SHTS W4–1 THRU W4–5

–DR1A– POT 10+00.00

–L– PT 171+83.07

–L– STA 169+62.00=
–DR1A–POT 11+25.00

–L– POT 179+34.25 =
–DR1– POT 11+89.35

PIPE OUTLET CHANNEL
SEE DETAIL 17F
S=8.0%
L=22'
EST. 15 CY DDE
CL 'II' RIP-RAP
EST. 25 TONS

BANK STABILIZATION
SEE DETAIL 17A
CL. 'II' RIP-RAP
EST. 105 TONS

CULVERT INLET CHANNEL
SEE DETAIL 17L
CL 'II' RIP-RAP
EST. 105 TONS

CULVERT OUTLET CHANNEL
SEE DETAIL 17M
CL 'II' RIP-RAP
EST. 165 TONS

STANDARD BASE DITCH
SEE DETAIL 17I
S=8.7%
L=23'
EST. 10 CY DDE
CL 'II' RIP-RAP
EST. 15 TONS
GEOTEXTILE
EST. 25 SY

PIPE OUTLET CHANNEL
SEE DETAIL 17D
S=1.5%
L=20'
EST. 15 CY DDE
CL 'I' RIP-RAP
EST. 25 TONS

CL 'I' RIP-RAP
EST. 3 TON
GEOTEXTILE
EST. 7 SY

TOE PROTECTION
SEE DETAIL 17B
CL 'II' RIP-RAP
EST. 105 TONS

LATERAL BASE DITCH
SEE DETAIL 17G
CL 'I' RIP-RAP
EST. 100 TONS
GEOTEXTILE
EST. 200 SY

SPECIAL LATERAL BASE DITCH
SEE DETAIL 17H
CL 'I' RIP-RAP
EST. 40 TONS
GEOTEXTILE
EST. 80 SY

SPECIAL LATERAL BASE DITCH
SEE DETAIL 17C

SPECIAL LATERAL BASE DITCH
SEE DETAIL 17J
CL 'I' RIP-RAP
EST. 260 TONS
GEOTEXTILE
EST. 440 SY

CONC. DITCH BEHIND RETAINING WALL
SEE DETAIL 17K

FALSE SUMP
SEE DETAIL 17E

SHOULDER BERM GUTTER
–L– STA. 169+85
TO 173+90, LT

SHOULDER BERM GUTTER
–L– STA. 174+51
TO 175+35, RT

SHOULDER BERM GUTTER
–L– STA. 176+65
TO 178+00, RT

SINGLE FACED CONCRETE BARRIER

PROP. RETAINING WALL #5 W/CONCRETE DITCH
BEGIN –L– STA. 175+35±
END –L– STA. 176+65±
SEE DETAIL SHTS W5–1 & W5–2

720' TAPER

150' TAPER

ORANGE SAFETY FENCE

ORANGE SAFETY FENCE

TEMP. PROTECTIVE FENCING REQUIRED TO PROTECT EXIST. RETAINING WALLS DURING CONSTRUCTION

TEMP. PROTECTIVE FENCING REQUIRED TO PROTECT EXIST. RETAINING WALLS DURING CONSTRUCTION

DO NOT DISTRURB LANDSCAPED TREES INSIDE HPB.

REMOVE 3@84" CSP

REMOVE 20 LF EXIST. 30" CMP

RELOCATE FENCE (BY OWNER)

1@16'x9' RCBC BURIED 1.0'

KENNETH CODY, TRUSTEE, ET AL

GLENDA ODOM, ET AL

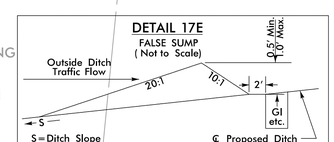
J. C. PAYNE

RICHARD C. GRINDSTAFF

PAM FINCHER, ET AL

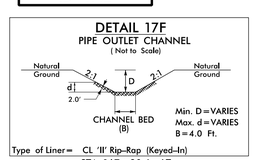
PROP. DRIVE

DETAIL 17E
FALSE SUMP
(Not to Scale)



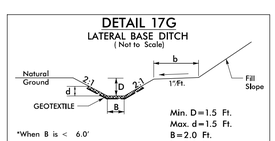
STA.173+88–L– RT.

DETAIL 17F
PIPE OUTLET CHANNEL
(Not to Scale)



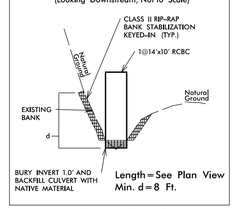
Min. D=VARIES
Max. d=VARIES
B=4.0 Ft.
Type of Liner= CL 'II' Rip-Rap (Keyed-In)
STA. 167+30–L– LT.

DETAIL 17G
LATERAL BASE DITCH
(Not to Scale)



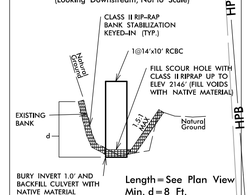
Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.
Type of Liner= CL 'I' Rip-Rap
FROM STA.171+50 TO STA.173+00–L– RT.

DETAIL 17L
CULVERT INLET CHANNEL
(Looking Downstream, Not to Scale)



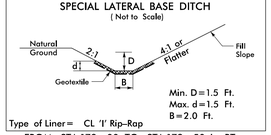
Length=See Plan View
Min. d=8 Ft.
STA.169+00–L– LT.

DETAIL 17M
CULVERT OUTLET CHANNEL
(Looking Downstream, Not to Scale)



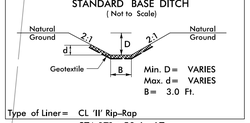
Length=See Plan View
Min. d=8 Ft.
STA.170+00–L– LT.

DETAIL 17H
SPECIAL LATERAL BASE DITCH
(Not to Scale)



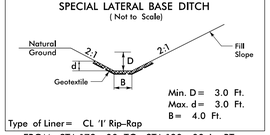
Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=2.0 Ft.
Type of Liner= CL 'I' Rip-Rap
FROM STA.173+00 TO STA.173+50–L– RT.

DETAIL 17I
STANDARD BASE DITCH
(Not to Scale)



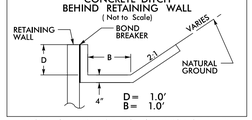
Min. D= VARIES
Max. d= VARIES
B= 3.0 Ft.
Type of Liner= CL 'II' Rip-Rap
STA.171+50–L– LT.

DETAIL 17J
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D= 3.0 Ft.
Max. d= 3.0 Ft.
B= 4.0 Ft.
Type of Liner= CL 'I' Rip-Rap
FROM STA.178+00 TO STA.180+00–L– RT.

DETAIL 17K
CONCRETE DITCH
BEHIND RETAINING WALL
(Not to Scale)



D= 1.0'
B= 1.0'
FROM STA.175+35 TO STA.176+65–L– RT

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-37/CONST J8
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

-DRI- CURVE DATA
PI Sta. 10+41.97
△ = 48° 49' 47.4" (RT)
D = 190° 59' 09.4"
L = 25.57'
T = 13.62'
R = 30.00'
⑤ -DRI- PC 10+28.35
⑥ -DRI- PT 10+53.92

-DRI- POT 10+00.00

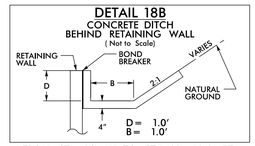
BEGIN CONSTRUCTION
-DR1- STA. 10+20.00

MATCH LINE STA -L- 180+00.00
MATCH TO SHEET NO. 17

DETAIL 18A
SPECIAL LATERAL BASE DITCH
(Not to Scale)

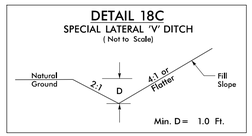
Type of Liner= CL 'I' Rip-Rap
FROM STA.180+00 TO STA.180+50-L- RT.

DETAIL 18B
CONCRETE DITCH
BEHIND RETAINING WALL
(Not to Scale)



FROM STA.186+75 TO STA.192+50-L- RT.

DETAIL 18C
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA.186+00 TO STA.186+50-L- RT.
FROM STA.192+50 TO STA.194+00-L- RT.

28 x 14 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 18.1

ORANGE SAFETY FENCE

CL 'B' RIP-RAP EST. 2 TON GEOTEXTILE EST. 7 SY

CL 'I' RIP-RAP EST. 2 TON GEOTEXTILE EST. 6 SY

RELOCATE FENCE (BY OWNER)

PROP. DRIVE

SPECIAL LATERAL BASE DITCH SEE DETAIL 18A CL 'I' RIP-RAP EST. 60 TONS GEOTEXTILE EST. 110 SY

SPECIAL LATERAL 'V' DITCH SEE DETAIL 18C

-L- PC 185+22.66

CONC. DITCH BEHIND RETAINING WALL SEE DETAIL 18B

PROP. RETAINING WALL #6
BEGIN -L- STA. 186+75±
END -L- STA. 192+05±
SEE DETAIL SHTS W6-1 & W6-2

TIE TO EXISTING GUARDRAIL

RETAIN

SPECIAL LATERAL 'V' DITCH SEE DETAIL 13

CL 'I' RIP-RAP EST. 6 TON GEOTEXTILE EST. 12 SY

SPECIAL LATERAL 'V' DITCH SEE DETAIL 18C

48 60" CH LK PRIVACY

49 PAM FINCHER, ET AL

50 DELMAR HOLDER, ET AL

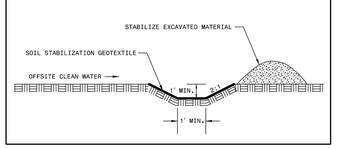
51

R. L. CRISP

CLEAN WATER DIVERSION

CWD — CWD — CWD — CWD — CWD — CWD

(Not to Scale)



MINIMIZE CLEARING AND GRUBBING
SAFETY FENCE

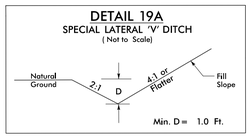
MATCH LINE STA -L- 194+00.00
MATCH TO SHEET NO. 19

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	EC-38/CONST J9
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

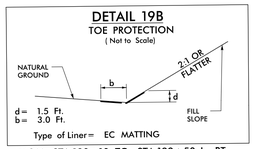
NAD 83/2011

DETAIL 19A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA.194+00 TO STA.194+50–L– RT.

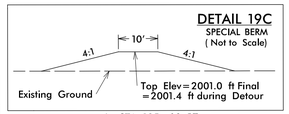
DETAIL 19B
TOE PROTECTION
(Not to Scale)



d = 1.5 Ft.
b = 3.0 Ft.
Type of Liner = EC MATTING

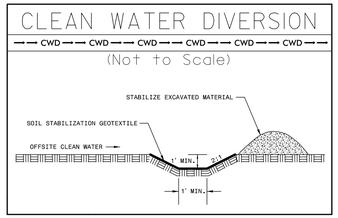
FROM STA.199+10 TO STA.199+50–L– RT.

DETAIL 19C
SPECIAL BERM
(Not to Scale)

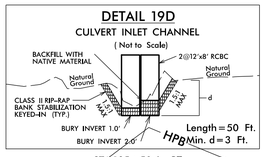


–L– STA 195+00 RT

CLEAN WATER DIVERSION
(Not to Scale)

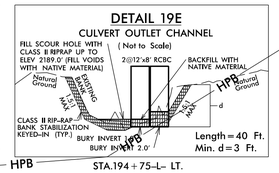


DETAIL 19D
CULVERT INLET CHANNEL
(Not to Scale)



STA.195+50–L– RT.

DETAIL 19E
CULVERT OUTLET CHANNEL
(Not to Scale)



STA.194+75–L– LT.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

ORANGE SAFETY FENCE

CULVERT OUTLET CHANNEL
SEE DETAIL 19E
CL 'II' RIP–RAP
EST. 172 TONS
EST. 60 CY DDE

60 x 10 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 19.2F

MATCH LINE STA –L– 194+00.00
MATCH TO SHEET NO. 18

–L– PT 195+93.35

BEGIN SECTION A–0009CA

END SECTION A–0009CA

END TIP PROJECT A–0009CA
–L– STA. 208+00.00

CLASS 'I' RIP RAP
EST. 11 TONS
GEOTEXTILE
EST. 22 SY

CLASS 'B' RIP RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 19A

PROPOSED BERM
TOP ELEV=2201.0'
SEE DETAIL 19C

TOE PROTECTION
SEE DETAIL 19B
EC MATTING
EST. 50 SY

CULVERT INLET CHANNEL
SEE DETAIL 19D
CL 'II' RIP–RAP
EST. 71 TONS
EST. 50 CY DDE

SHOULDER BERM GUTTER
–L– STA. 194+00 TO 197+83, RT

200' TAPER

PROP. DRIVE

CAROL R. ADAMS, ET AL (52)

MELANIE O. CRUSE (51)

DELMAR HOLDER, ET AL (50)

KEITH L. ROGERS

54 x 27 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
5 ft. weir
ID 19.1F

31 x 31 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 19.1

108 x 18 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 19.2

ORANGE SAFETY FENCE

ORANGE SAFETY FENCE

SAFETY FENCE