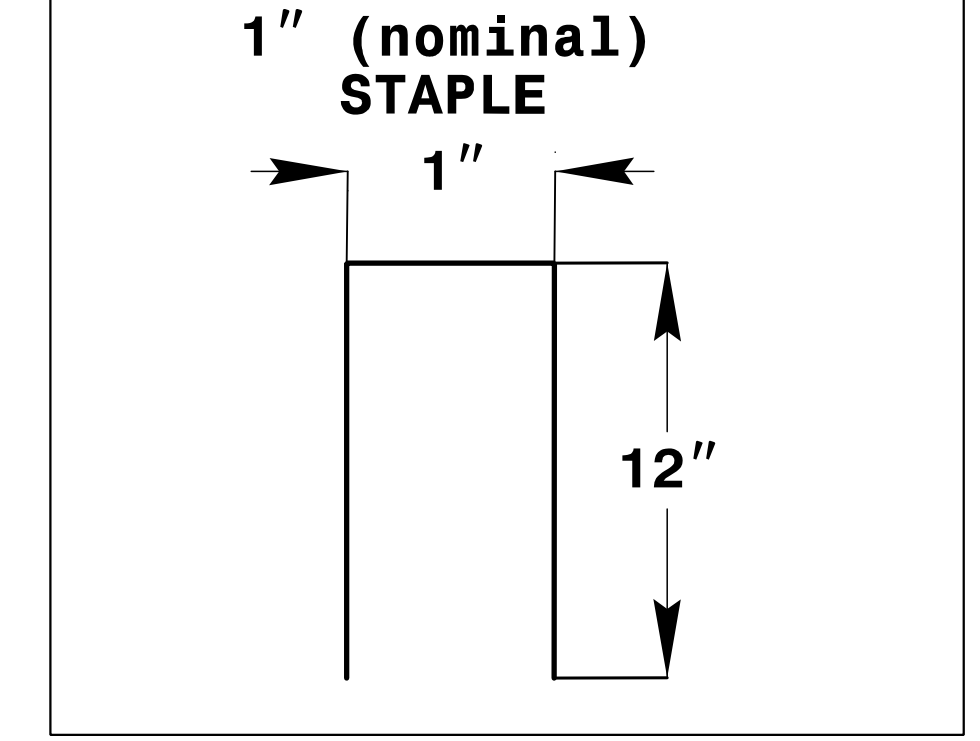
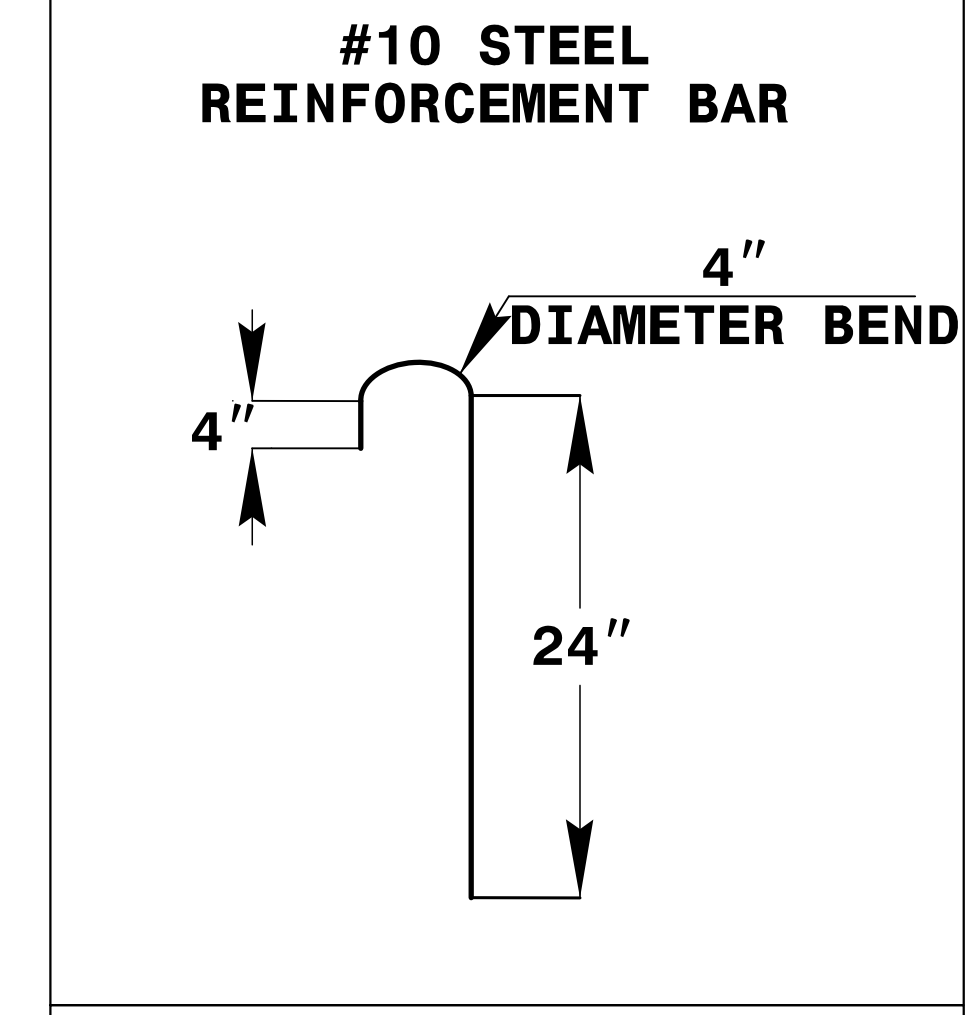
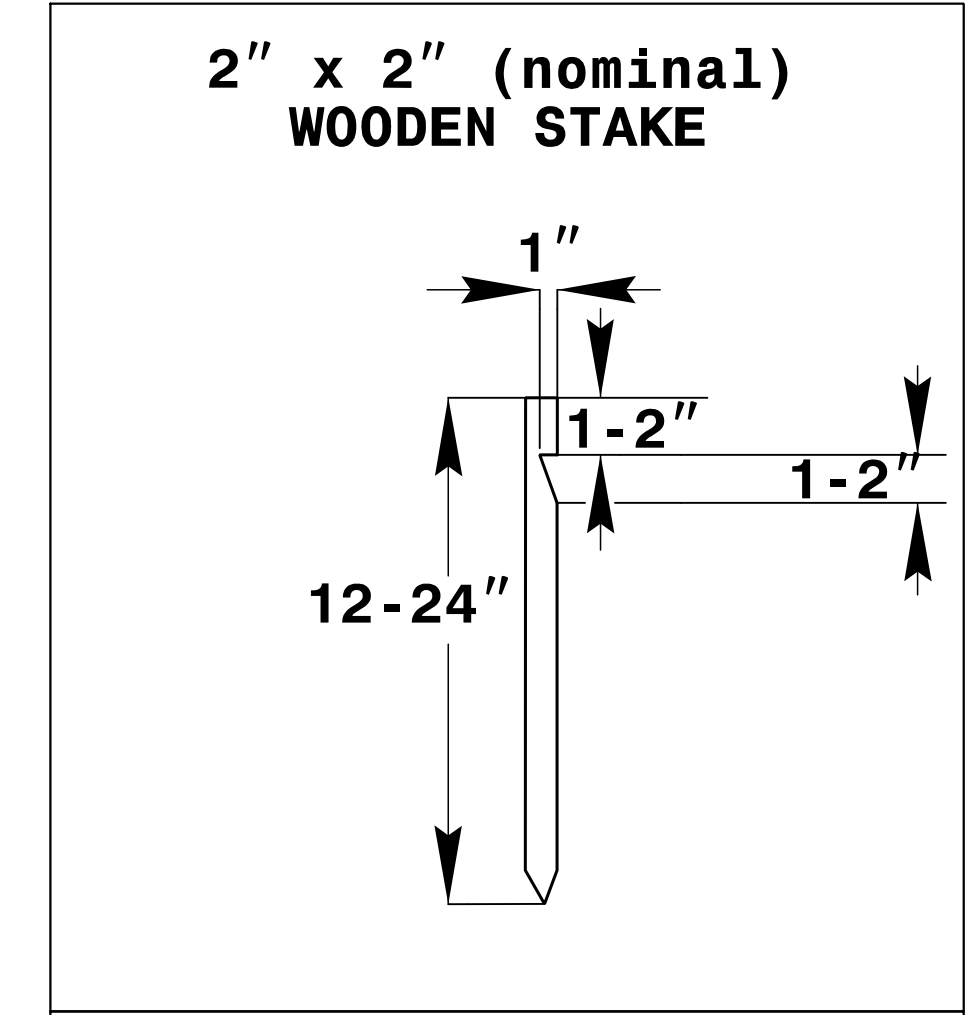
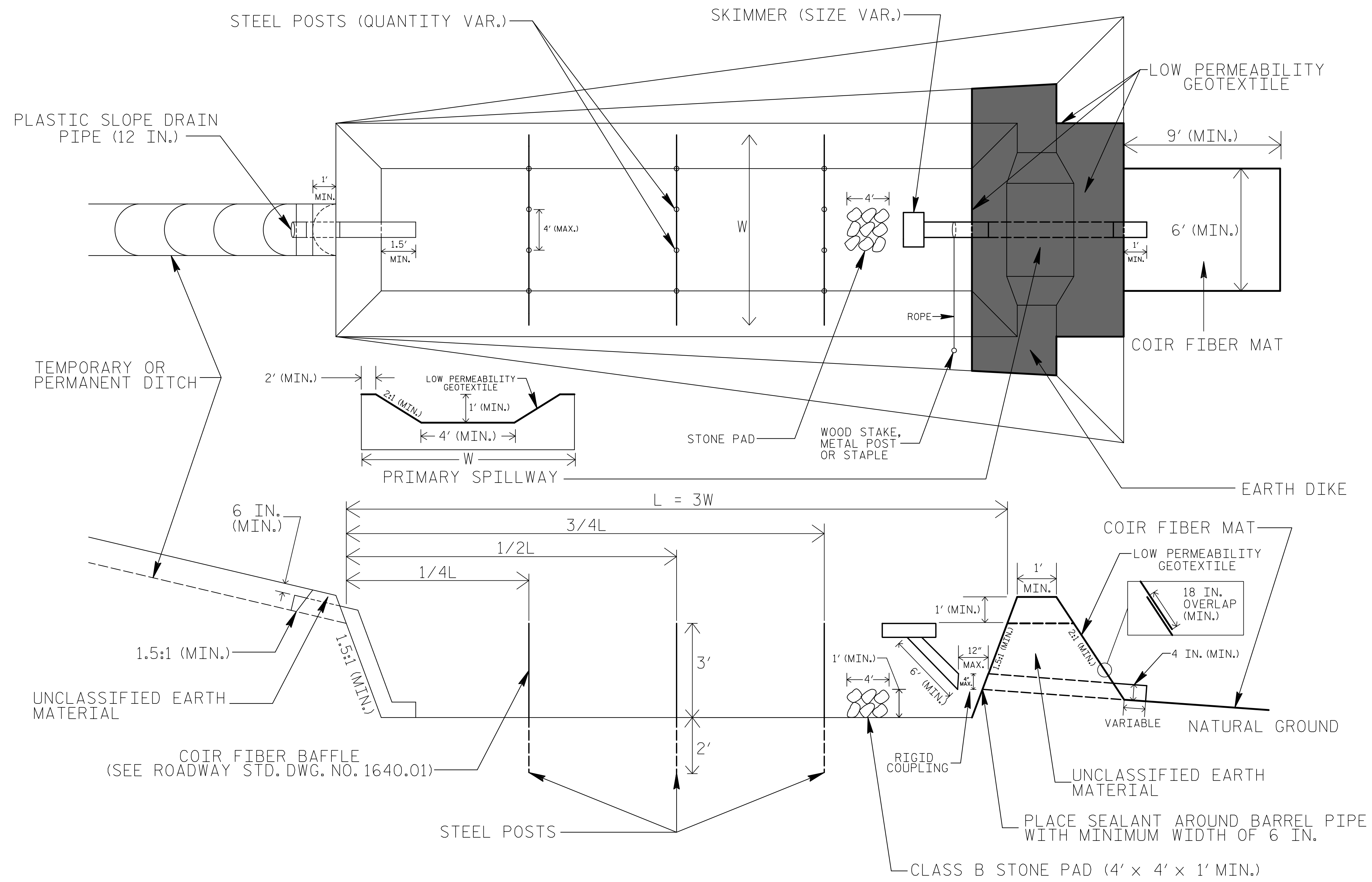


SKIMMER BASIN WITH BAFFLES DETAIL (EAST)

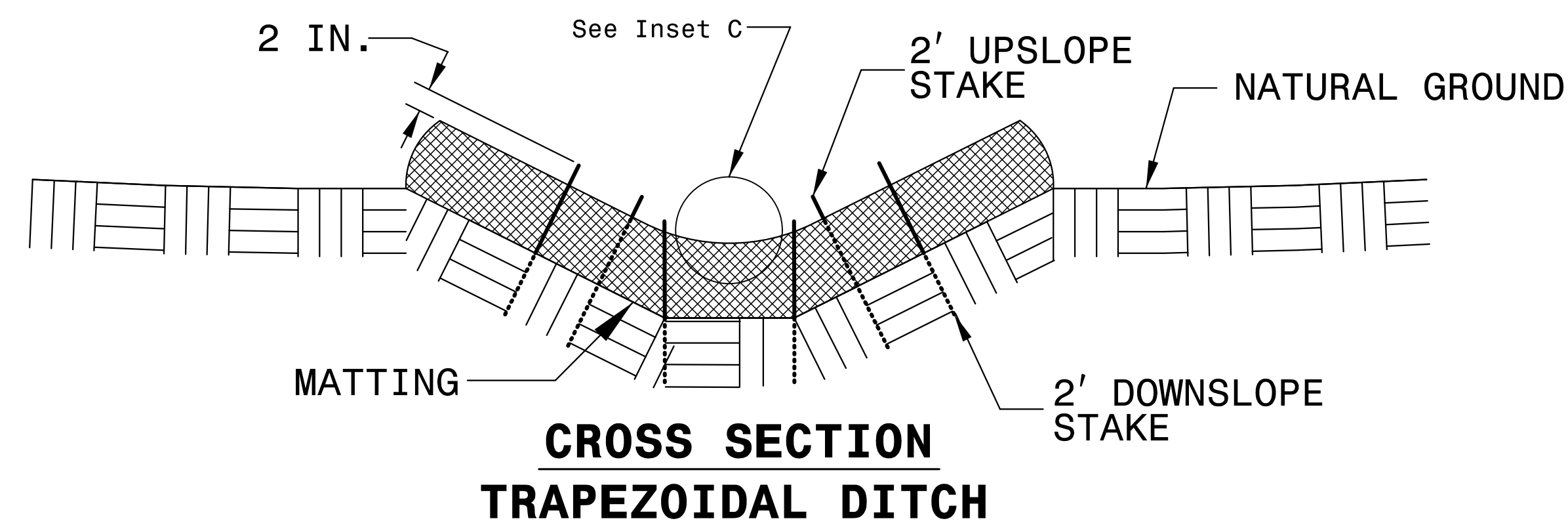
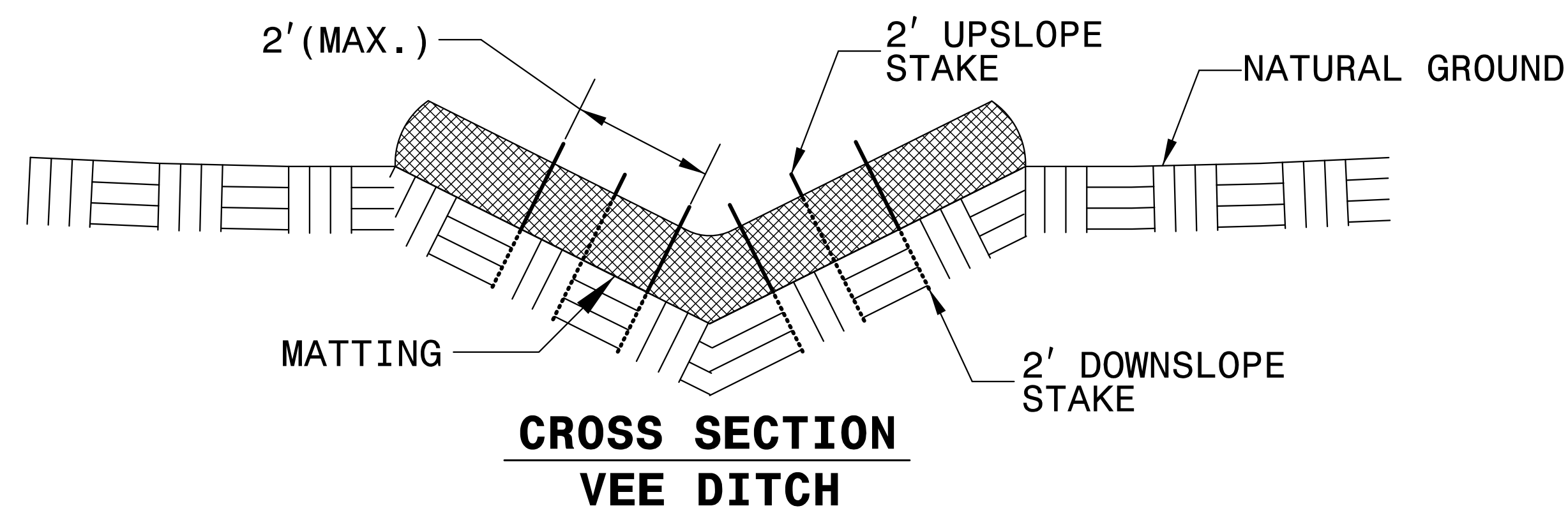
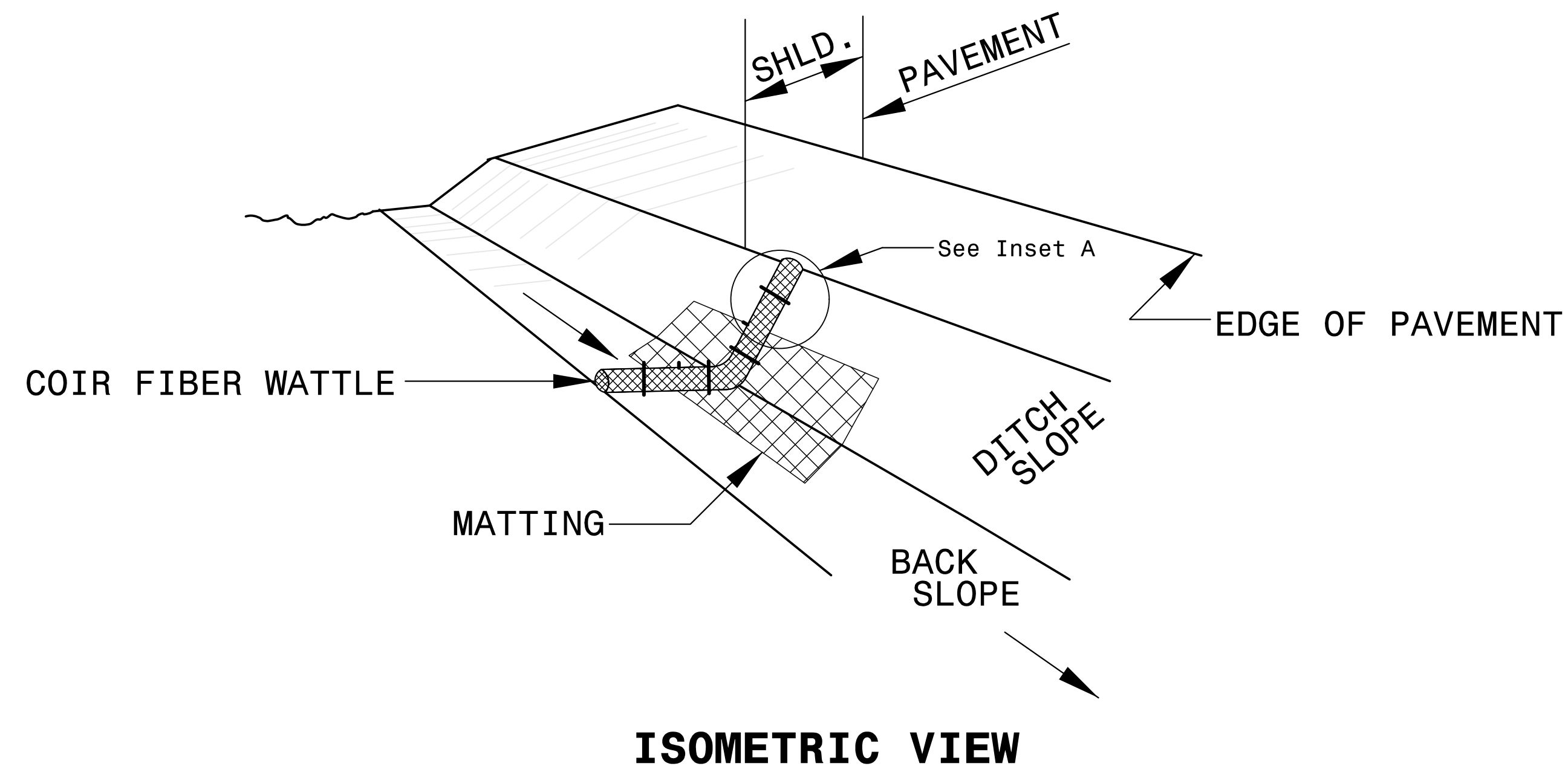


COIR FIBER MAT ANCHOR OPTIONS

NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. LOW PERMEABILITY GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

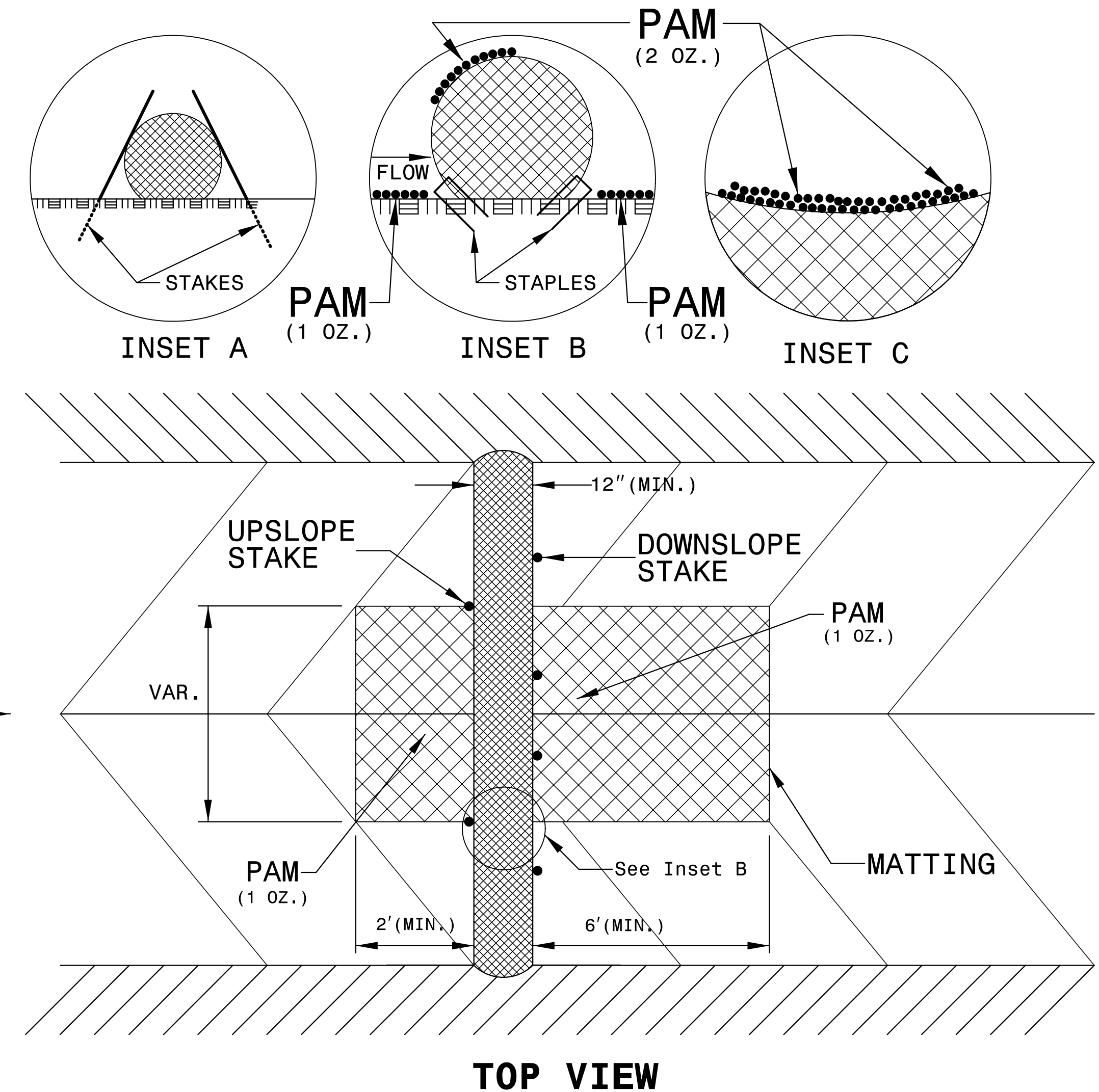
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

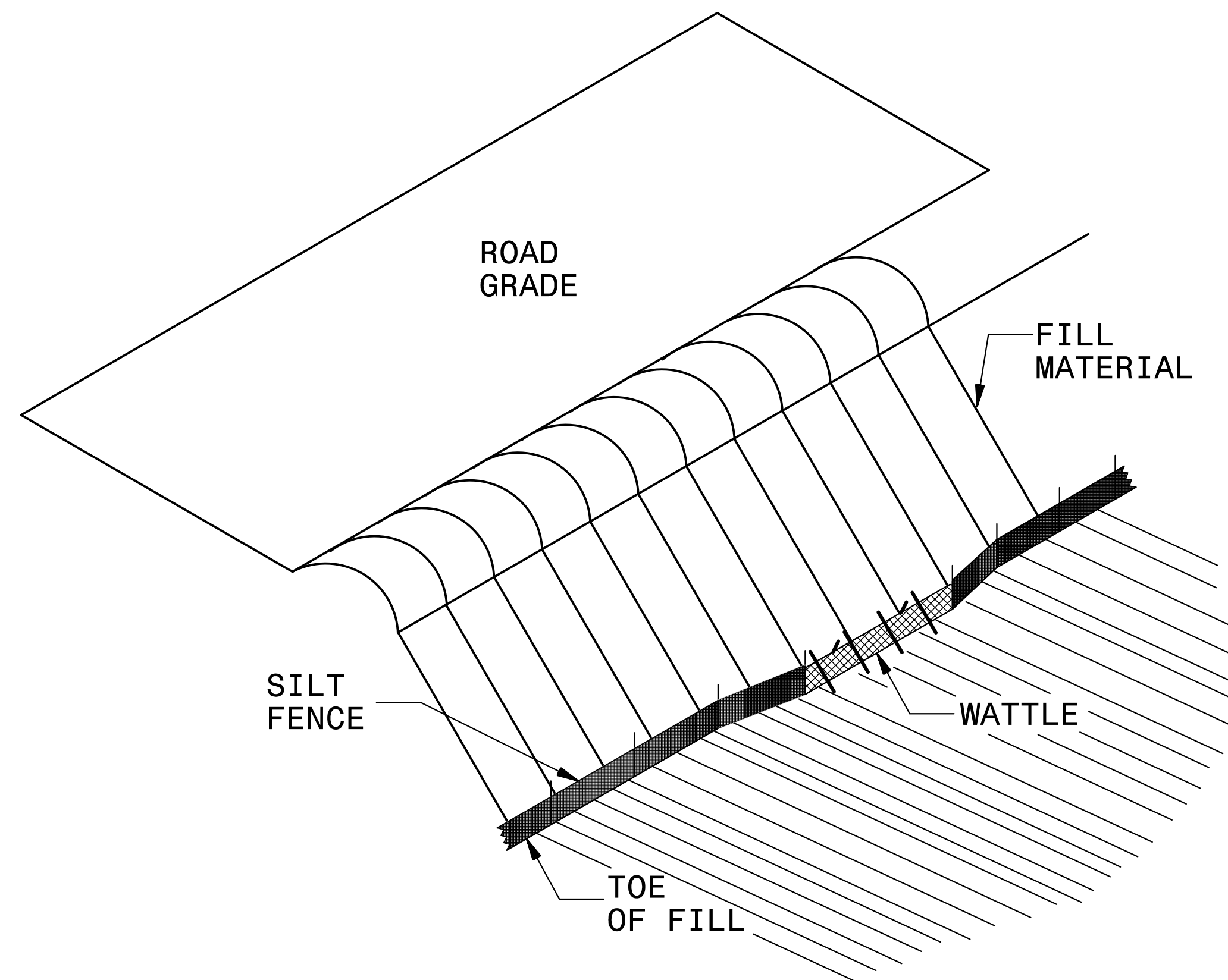
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

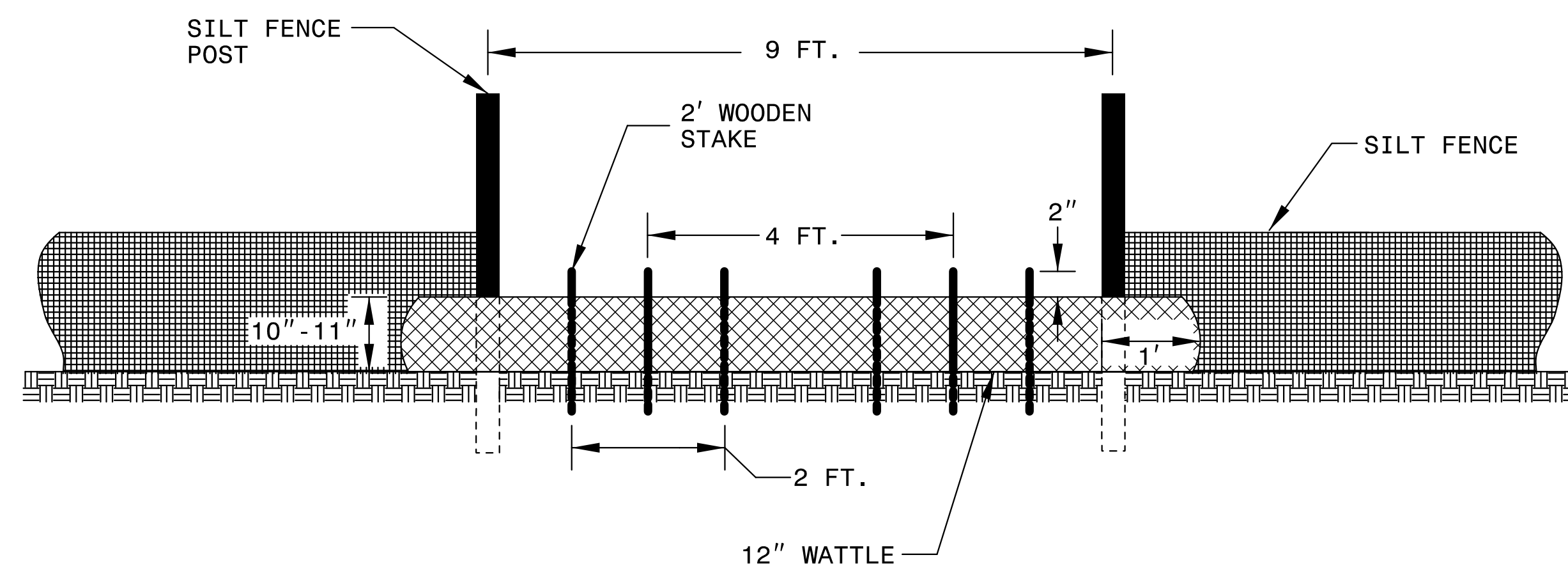
INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

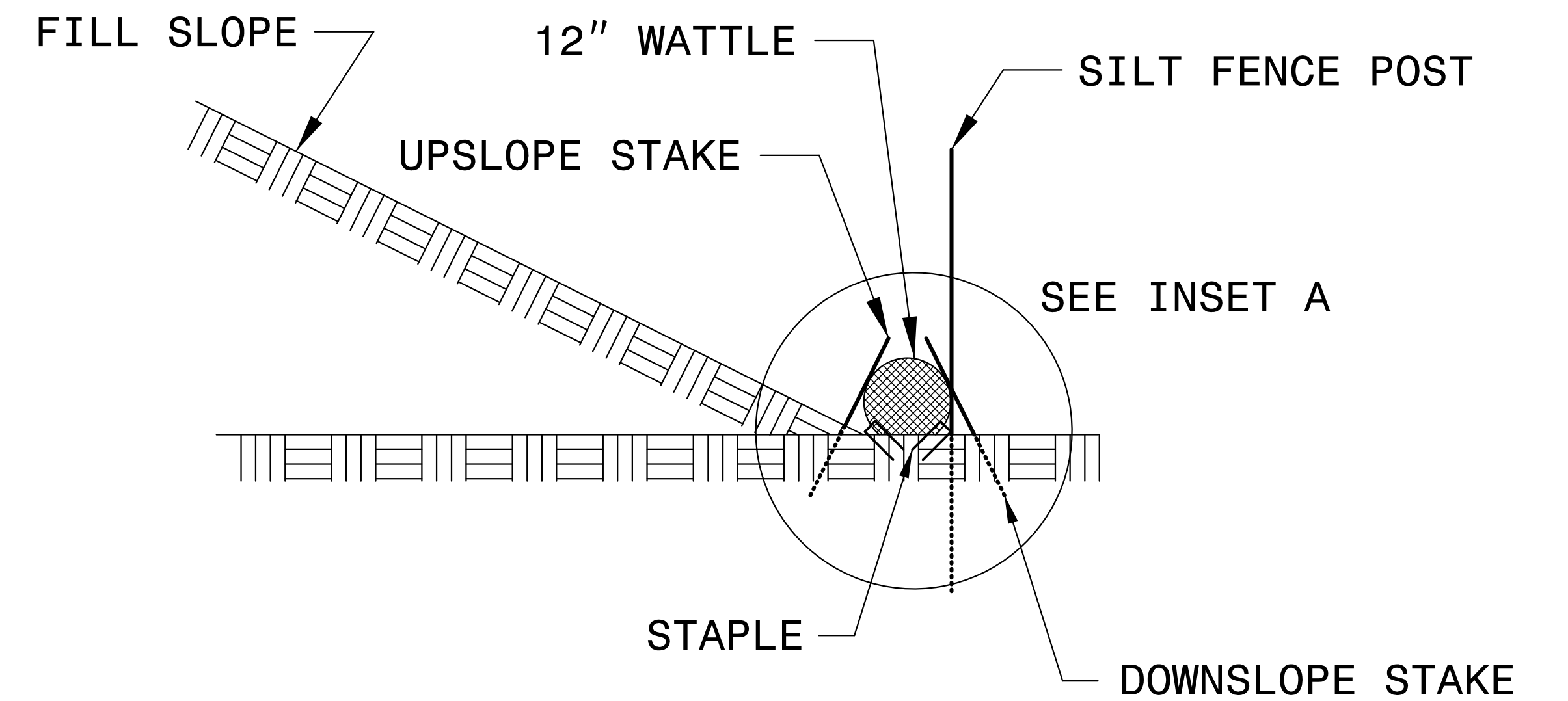
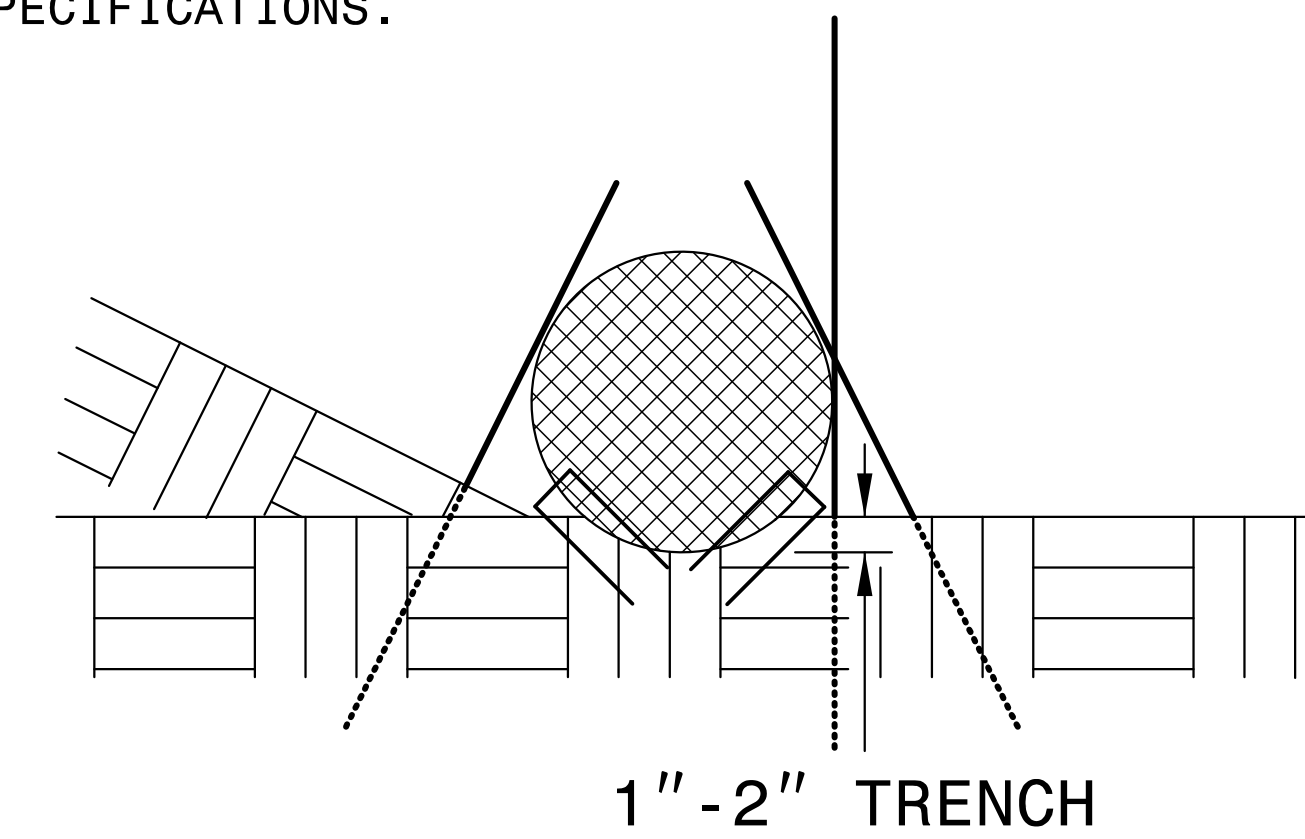
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

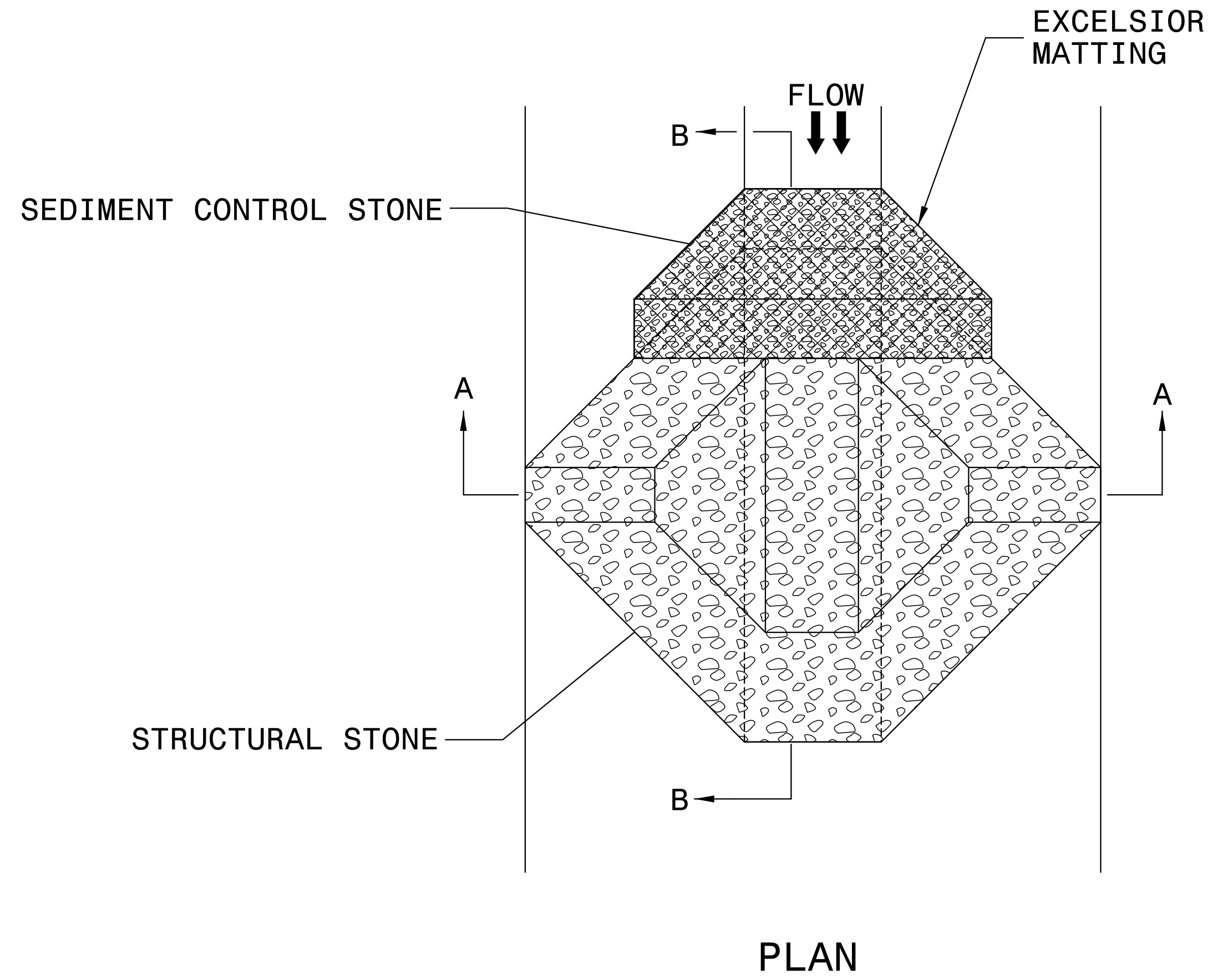
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A



SIDE VIEW

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



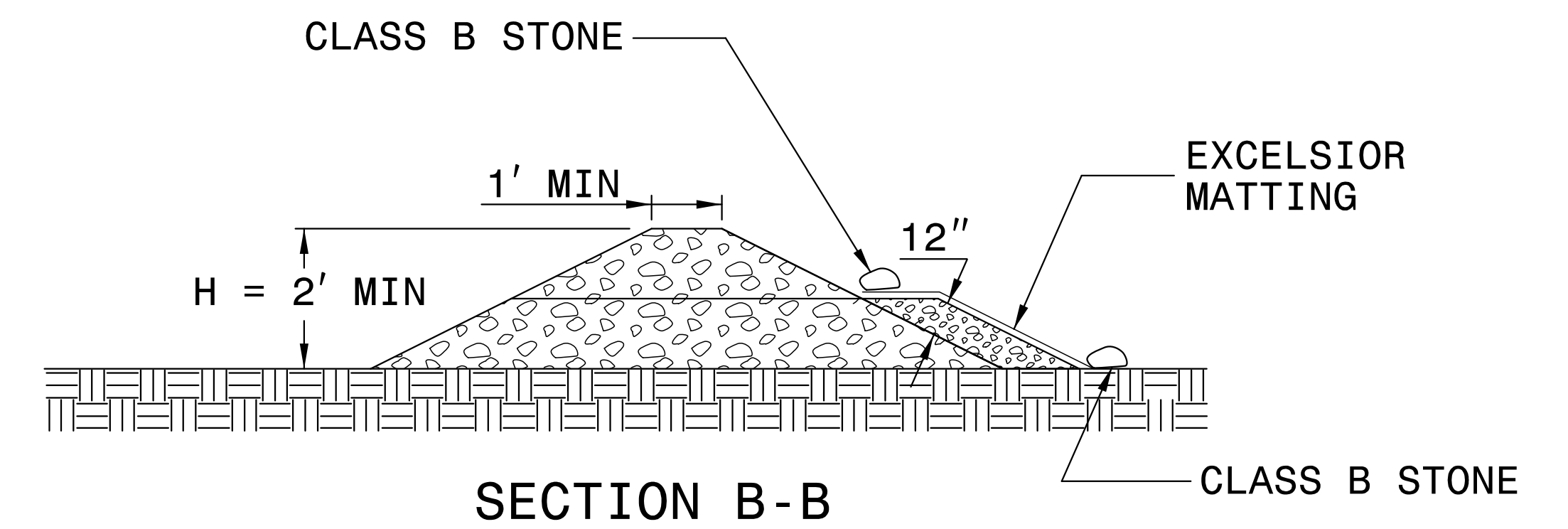
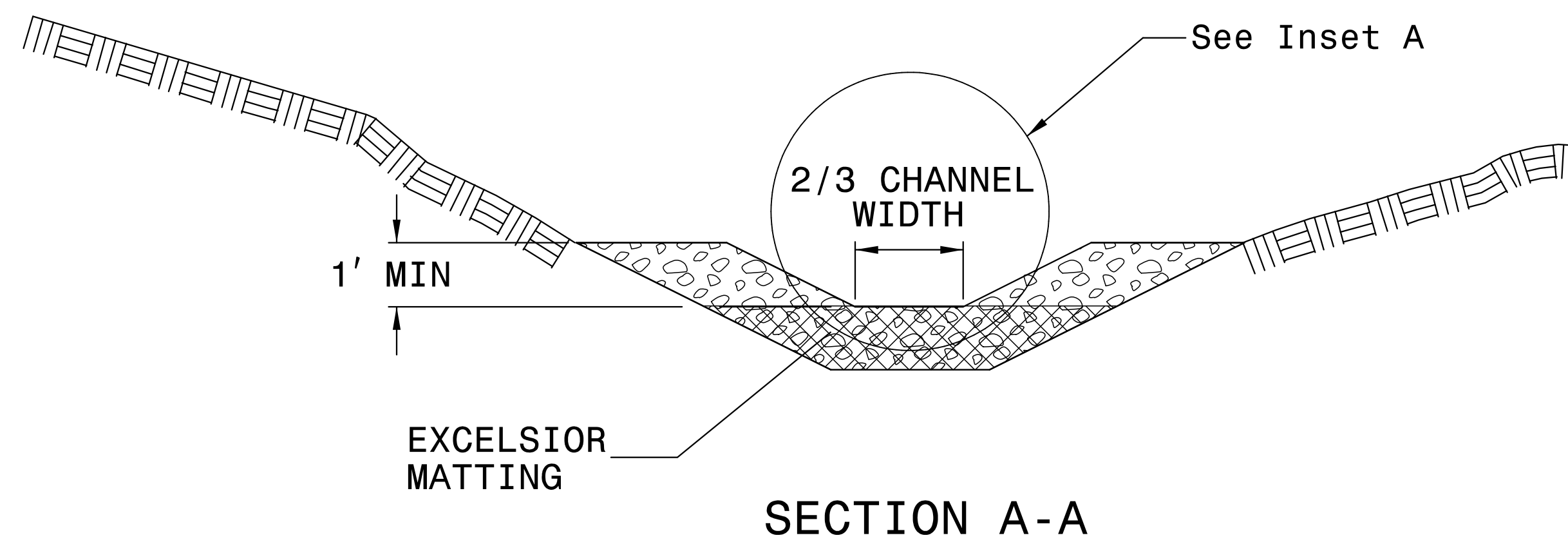
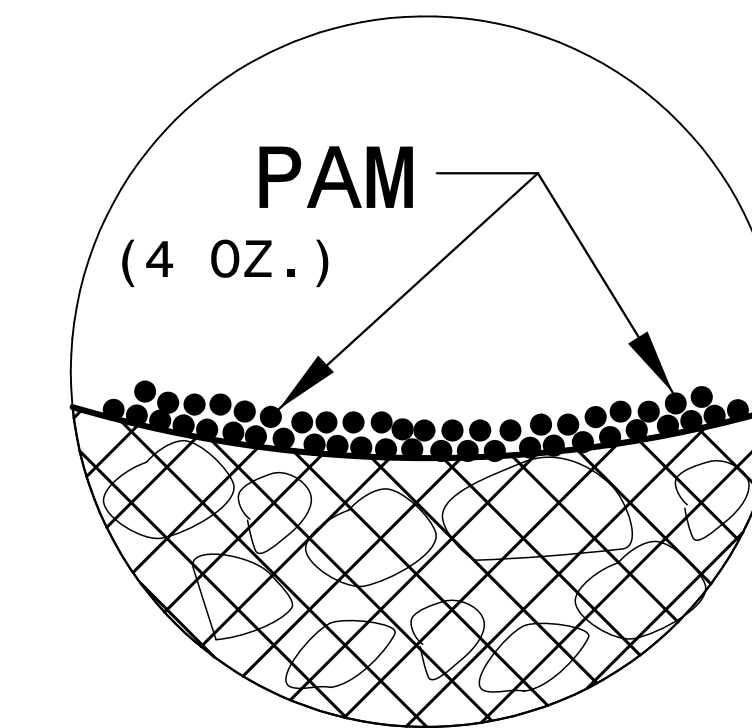
NOTES:

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

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

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.

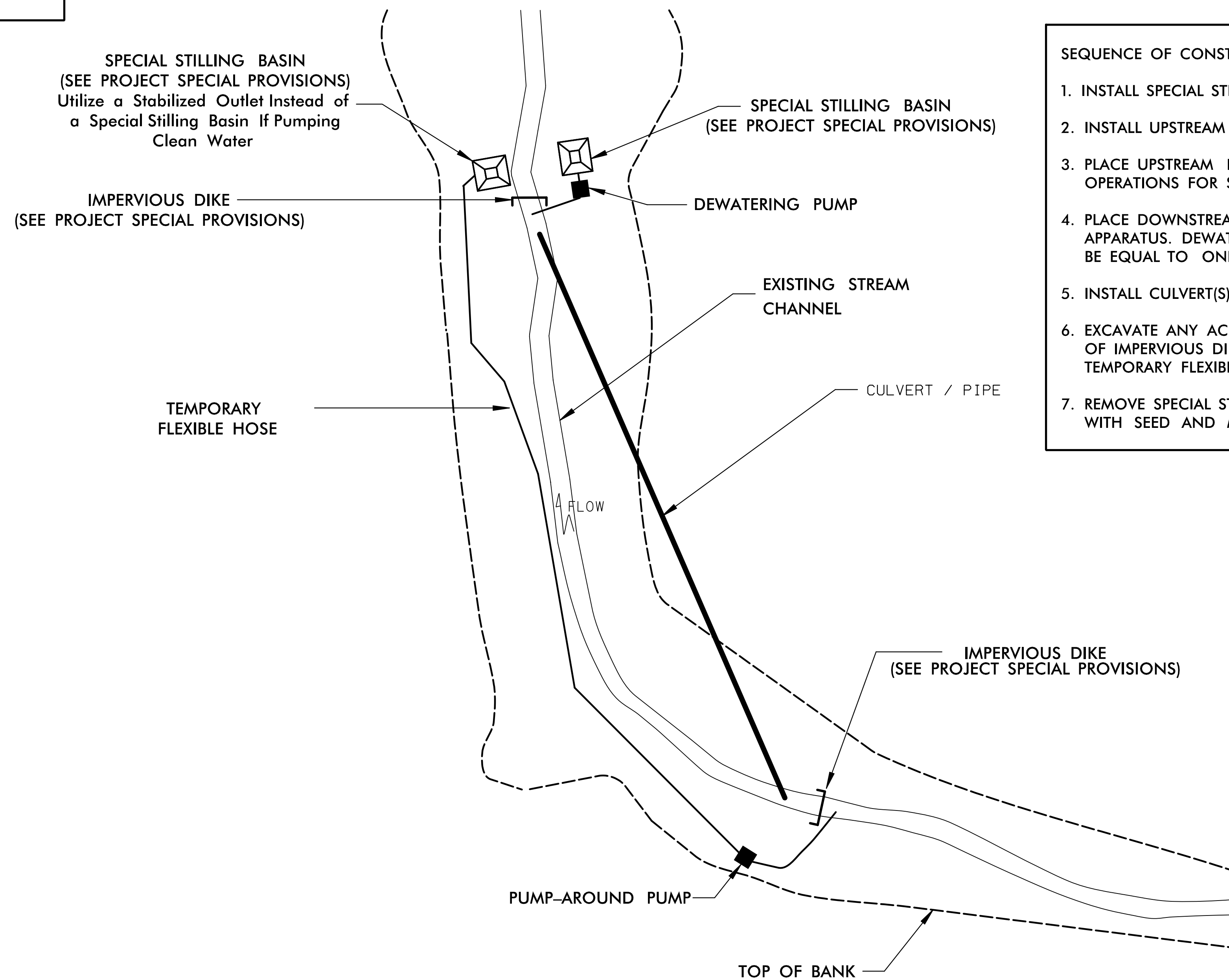


PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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) OR PIPE(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.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

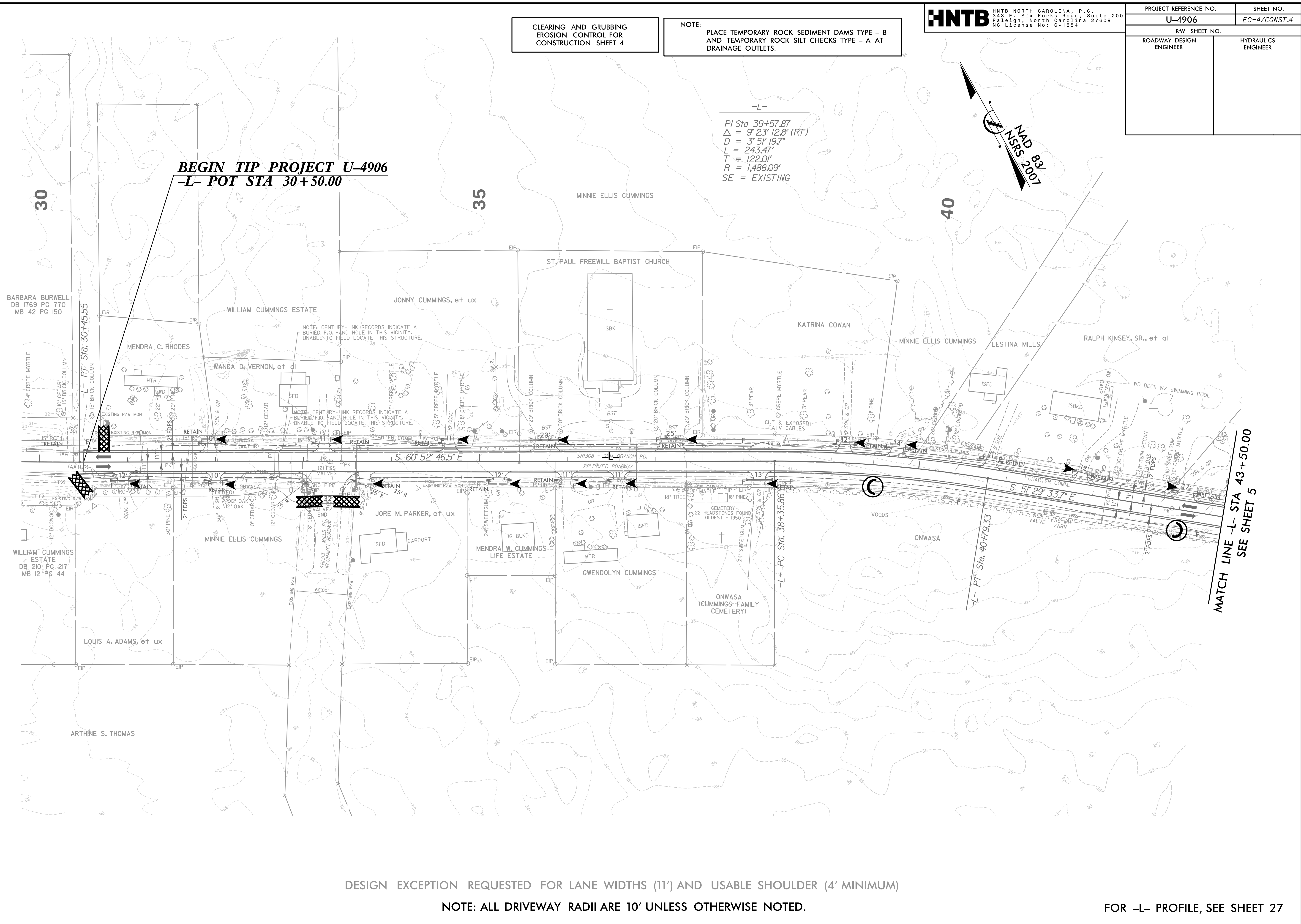
5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

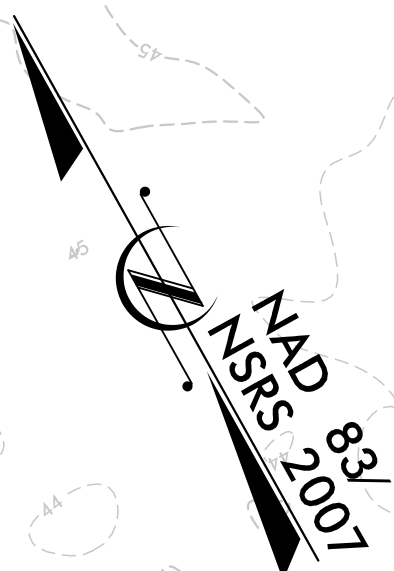
HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO. U-4906	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-

PI Sta 39+57.87
 $\Delta = 9' 23' 12.8''$ (RT)
 $D = 3' 51' 19.7''$
 $L = 243.47'$
 $T = 122.01'$
 $R = 1,486.09'$
 $SE = EXISTING$



MATCH LINE -L- STA 43+50.00
SEE SHEET 5

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

FOR -L- PROFILE, SEE SHEET 27

1/1/2008 10:06:06.EC-4_Const-4.dgn
HNTB

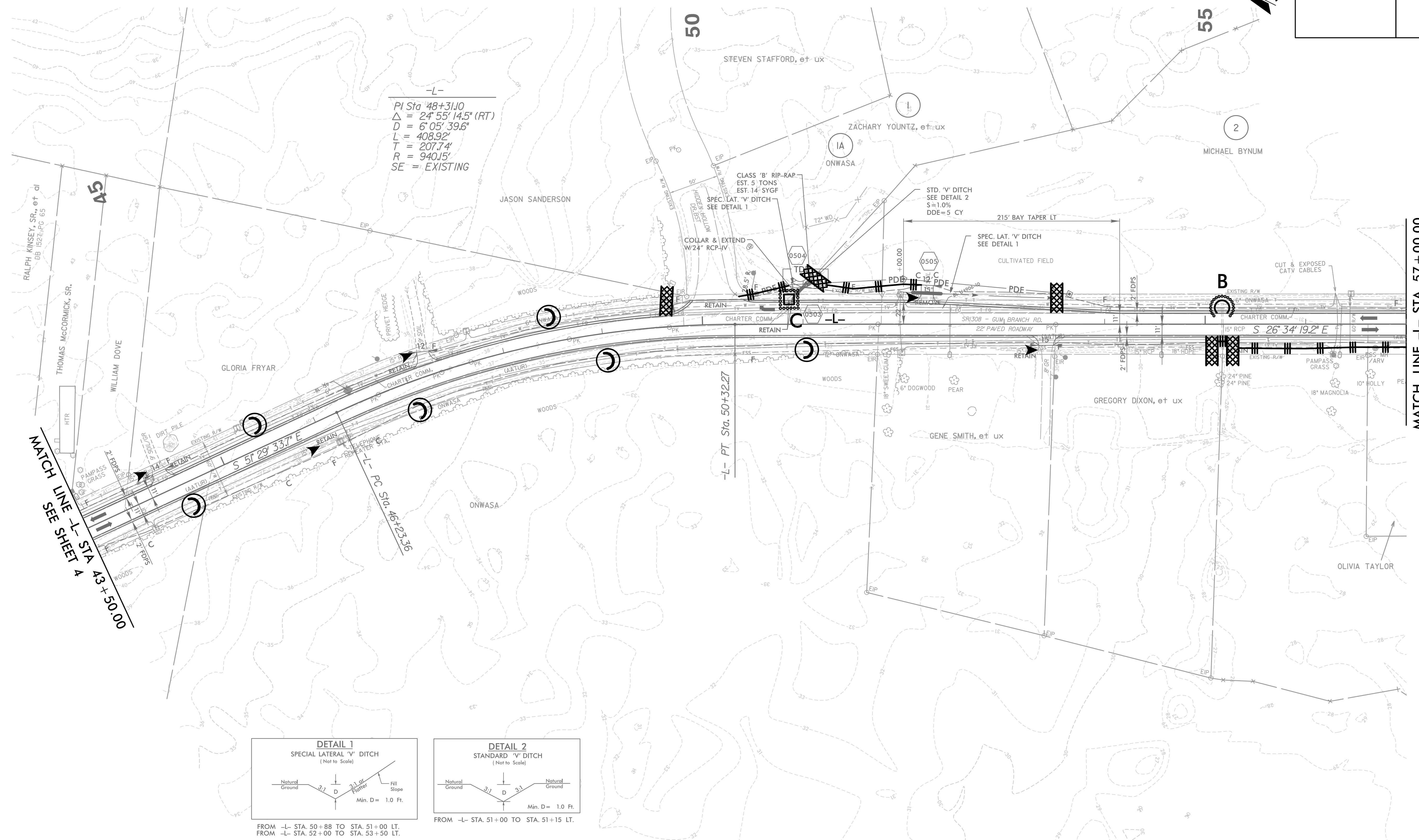
5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

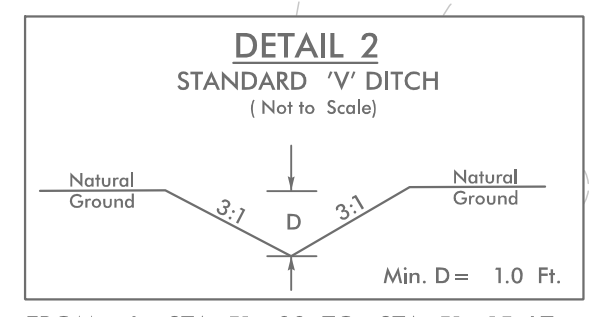
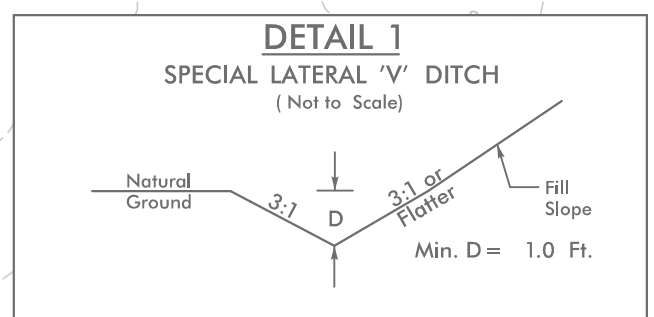
PROJECT REFERENCE NO. U-4906	SHEET NO. EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



MATCH LINE -L- STA 43+50.00
SEE SHEET 4

MATCH LINE -L- STA 57+00.00
SEE SHEET 6



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 27

1/1/2009
U-4906-EC-5_Const-5.dgn
HNTB

5/14/99

1/1/2008 10:06:06-EC-7_Const-7.dgn
HNTB

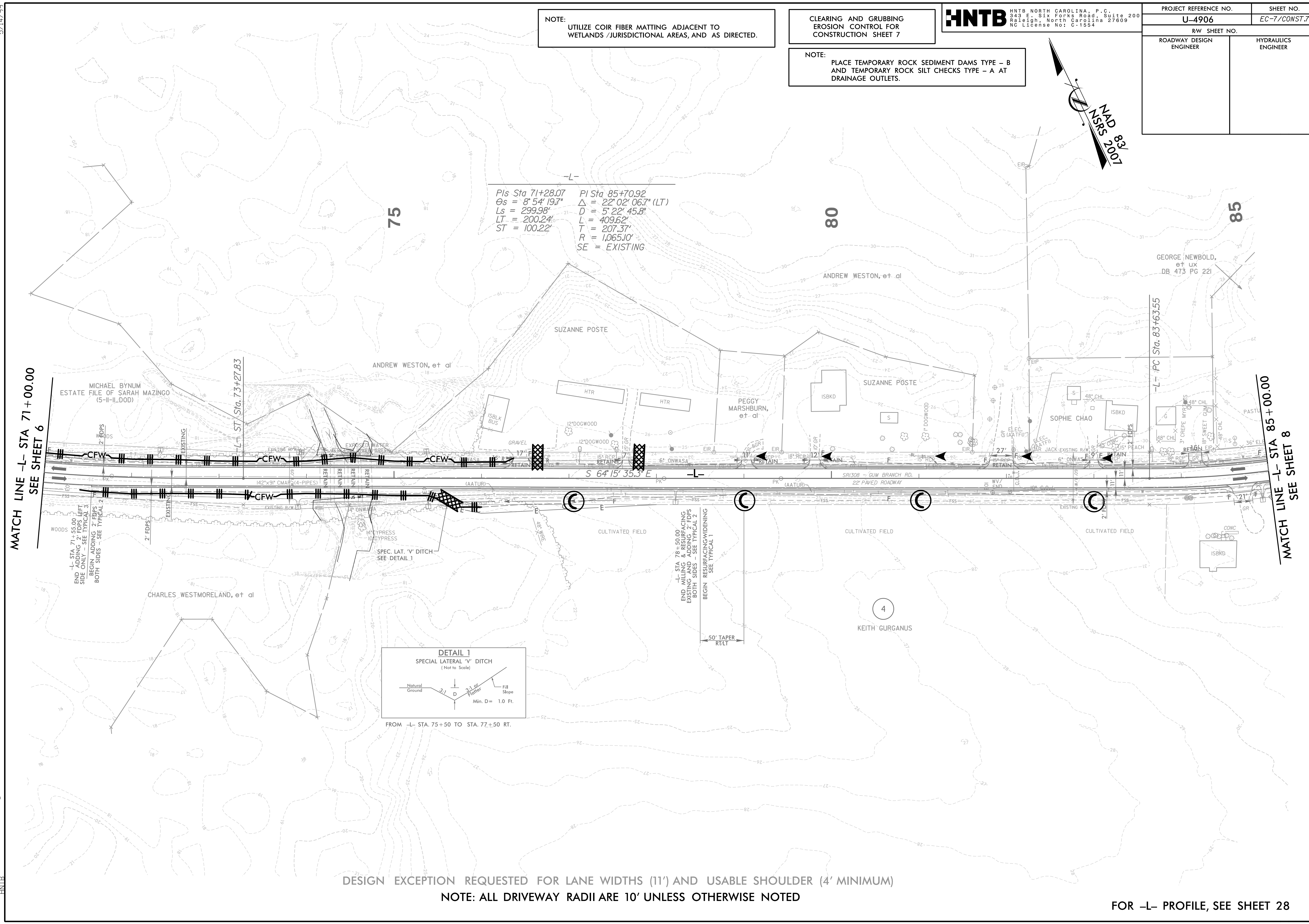
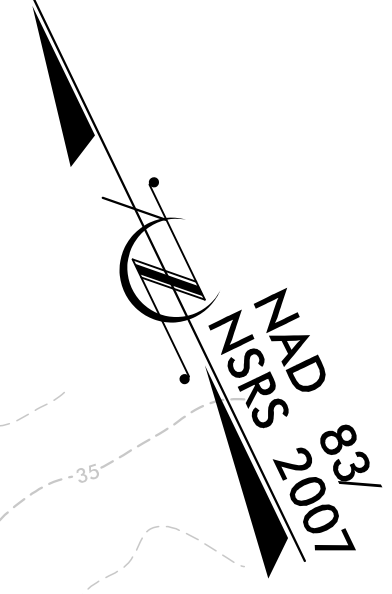
NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO
WETLANDS / JURISDICTIONAL AREAS, AND AS DIRECTED.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO. U-4906	SHEET NO. EC-7/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

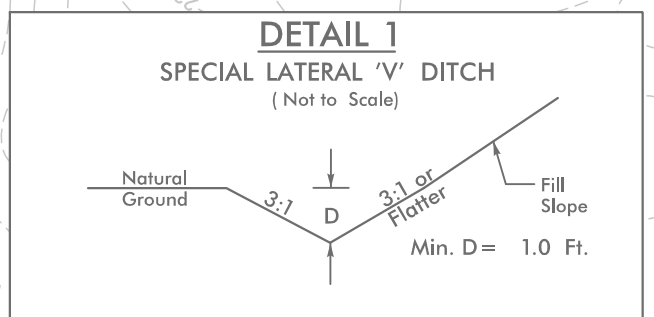


$PI\ Sta\ 71+28.07$
 $\Delta s = 8' 54' 19.7''$
 $Ls = 299.98'$
 $LT = 200.24'$
 $ST = 100.22'$

$PI\ Sta\ 85+70.92$
 $\Delta = 22' 02' 06.7'' (LT)$
 $D = 5' 22' 45.8''$
 $L = 409.62'$
 $T = 207.37'$
 $R = 1,065.10'$
 $SE = EXISTING$

MATCH LINE -L- STA 71+00.00
SEE SHEET 6

MATCH LINE -L- STA 85+00.00
SEE SHEET 8



FROM -L- STA. 75+50 TO STA. 77+50 RT.

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 28

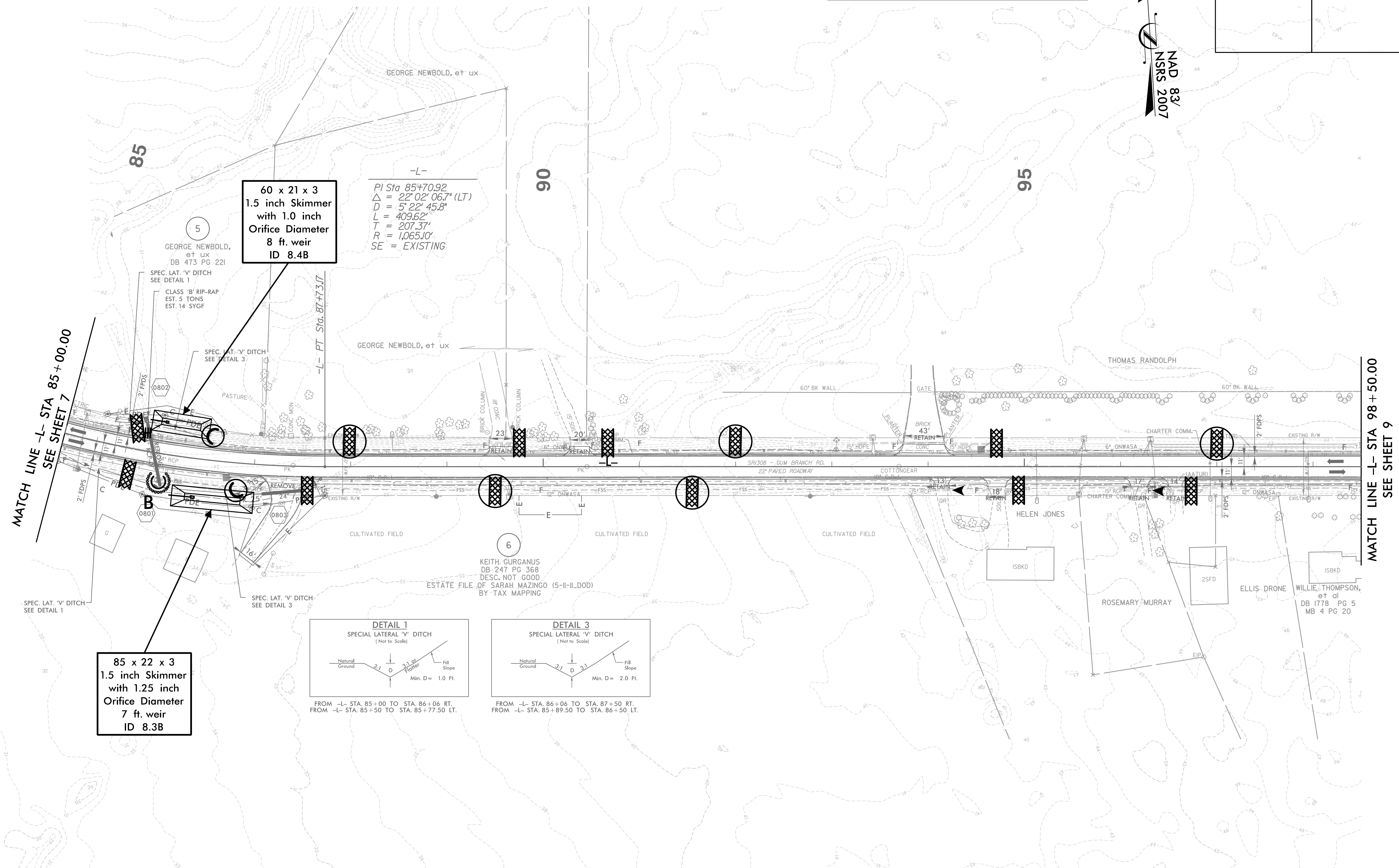
5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

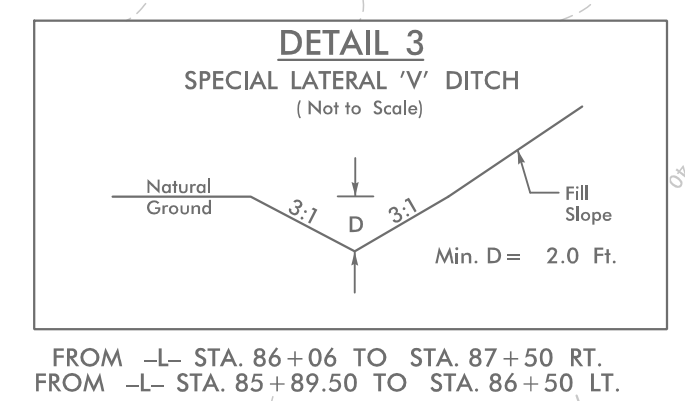
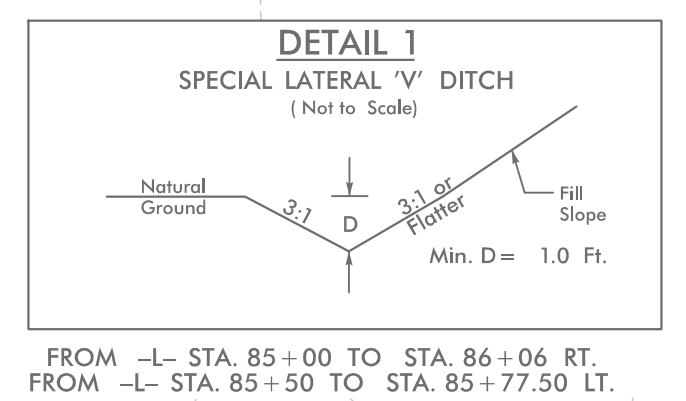
PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-8/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



85 x 22 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 8.3B

60 x 21 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
8 ft. weir
ID 8.4B



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

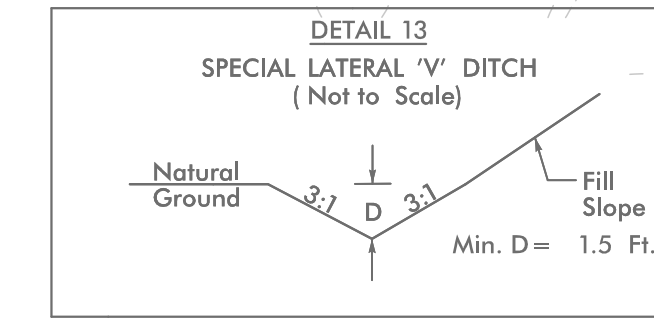
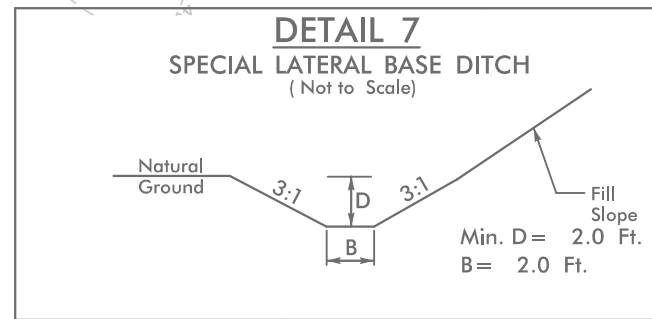
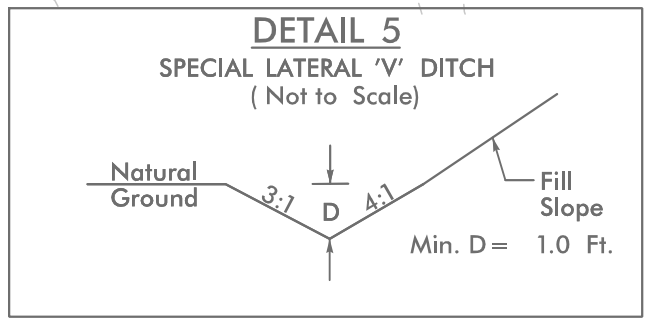
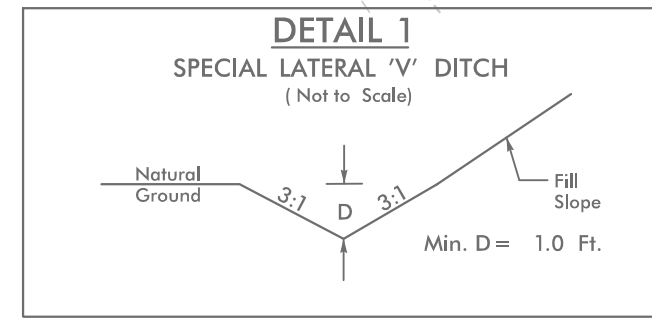
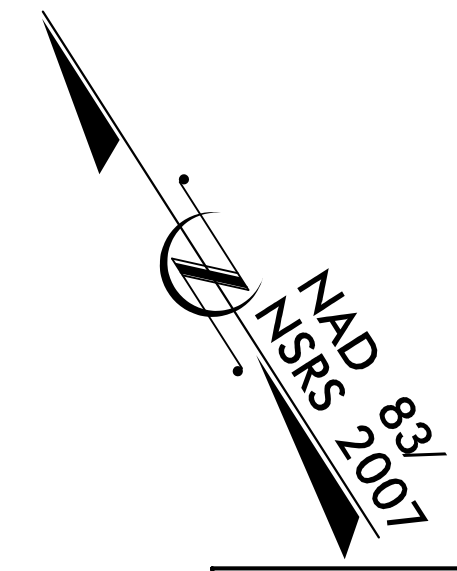
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 28 AND 29

1/1/2009 9:06:06-EC-8_Const-8.dgn
HNTB

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-10/CONST-10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



FROM -L STA. 118+10 TO STA. 119+00 LT.
 FROM -L STA. 112+00 TO STA. 113+66 RT.
 FROM -L STA. 112+00 TO STA. 114+00 LT.
 FROM -L STA. 118+10 TO STA. 119+00 LT.
 FROM -YI STA. 12+00 TO STA. 15+25 LT.
 FROM -YI STA. 12+00 TO STA. 16+50 RT.

FROM -L STA. 116+68 TO STA. 119+00 RT.
 FROM -L STA. 119+50 TO STA. 121+00 RT.
 FROM -L STA. 120+00 TO STA. 121+75 LT.
 FROM -L STA. 124+00 TO STA. 125+00 LT.
 FROM -L STA. 123+50 TO STA. 125+00 RT.

FROM -L STA. 117+44 TO STA. 118+10 LT.

FROM -L STA. 113+66 TO STA. 116+30 RT.

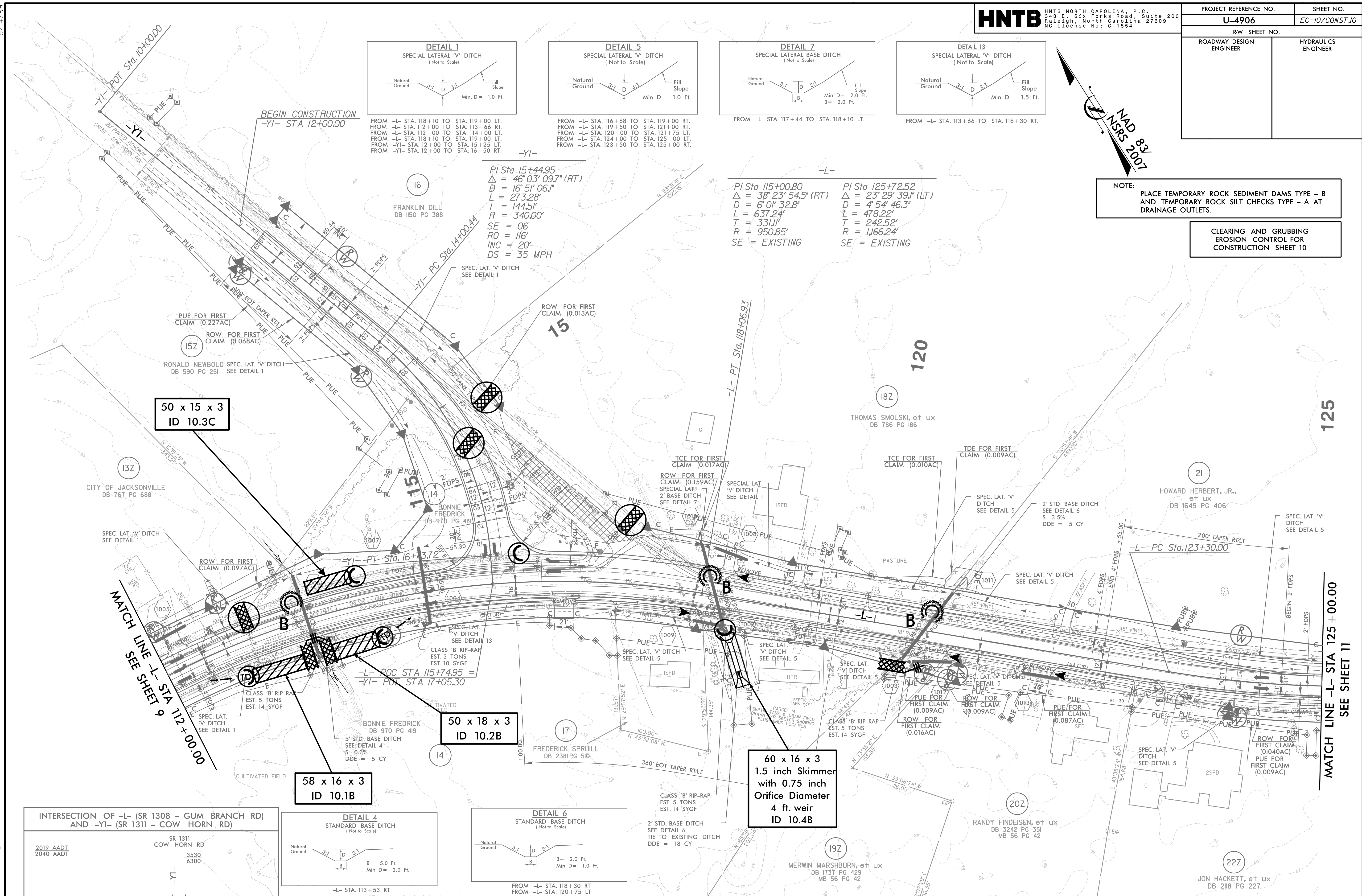
PI Sta 15+44.95
 $\Delta = 46^{\circ} 03' 09.7''$ (RT)
 $D = 16' 51' 06.1''$
 $L = 273.28'$
 $T = 144.51'$
 $R = 340.00'$
 $SE = 06$
 $RO = 116'$
 $INC = 20'$
 $DS = 35$ MPH

PI Sta 115+00.80
 $\Delta = 38^{\circ} 23' 54.5''$ (RT)
 $D = 6' 01' 32.8''$
 $L = 637.24'$
 $T = 331.11'$
 $R = 950.85'$
 $SE = EXISTING$

PI Sta 125+72.52
 $\Delta = 23^{\circ} 29' 39.1''$ (LT)
 $D = 4' 54' 46.3''$
 $L = 478.22'$
 $T = 242.52'$
 $R = 1166.24'$
 $SE = EXISTING$

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 10

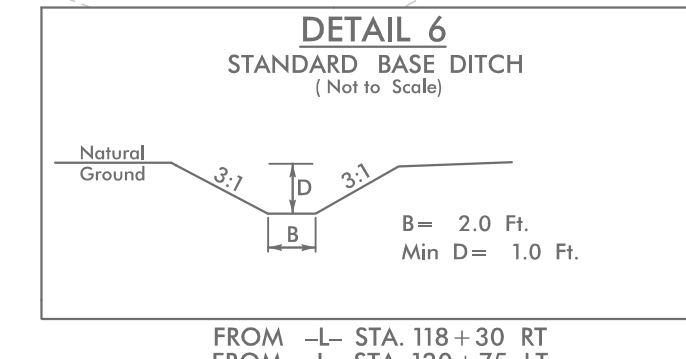
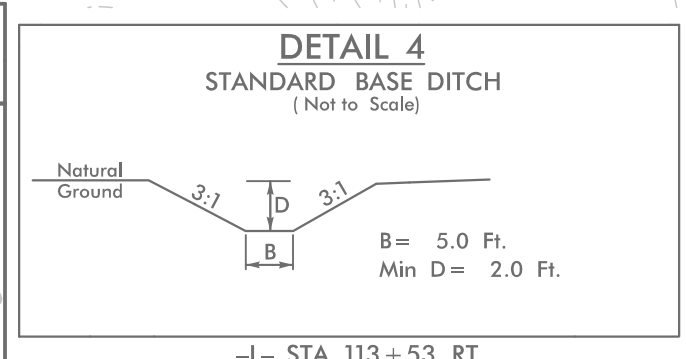
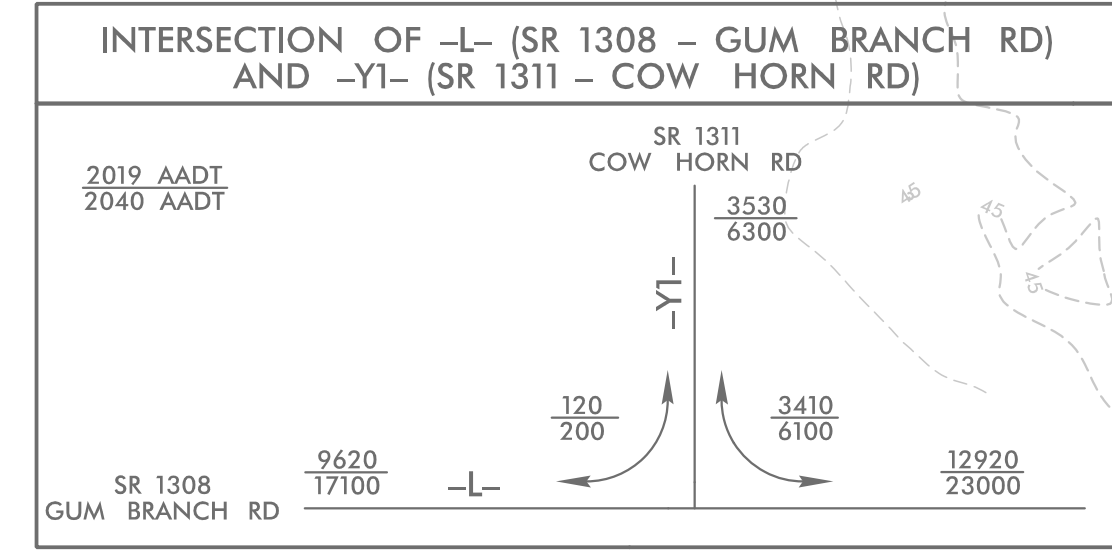


50 x 15 x 3
ID 10.3C

50 x 18 x 3
ID 10.2B

58 x 16 x 3
ID 10.1B

60 x 16 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 10.4B



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
 NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEETS 29 AND 30
 FOR -YI- PROFILE, SEE SHEET 38

5/18/2021
 EC-10_Const-10.dgn

8/17/99

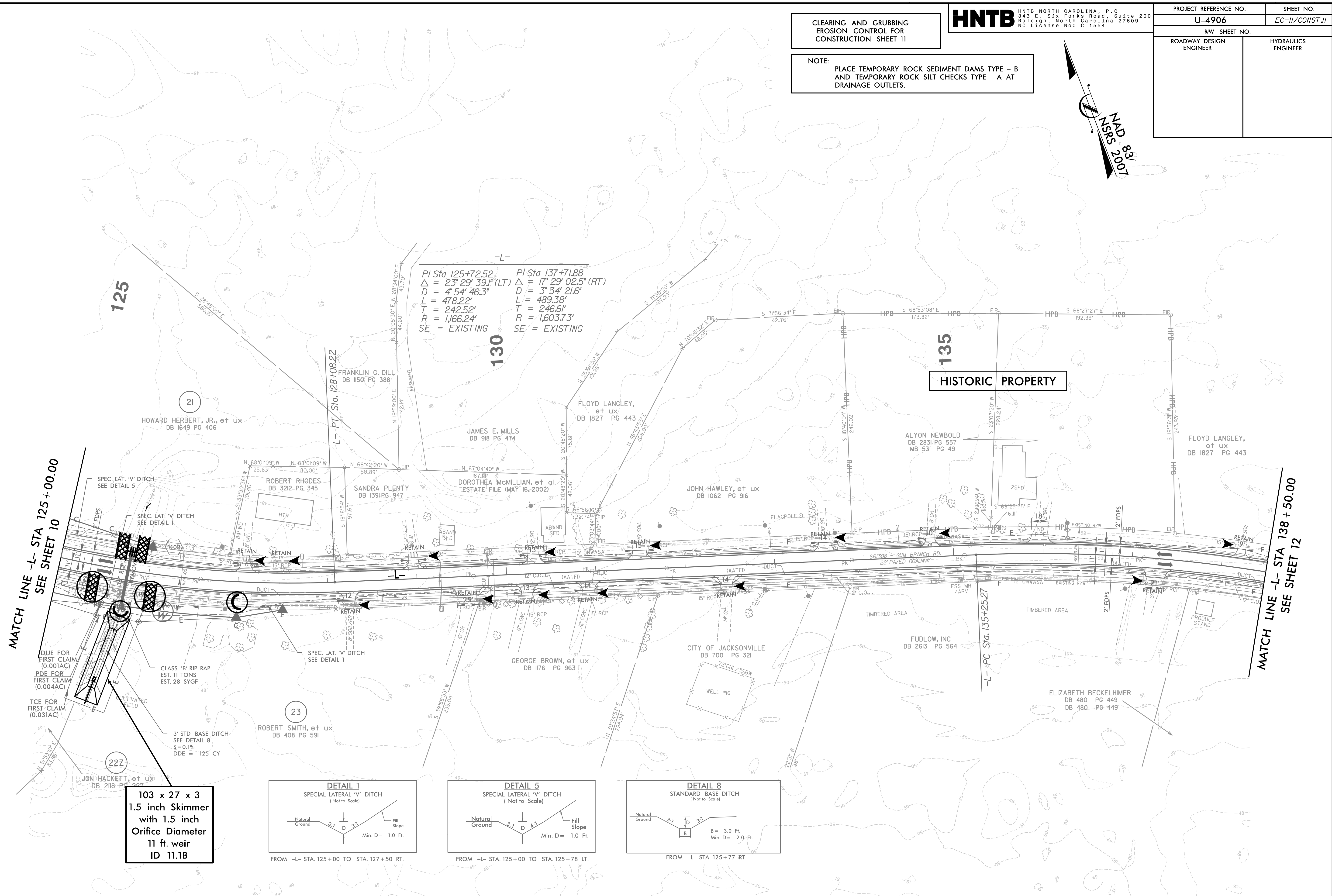
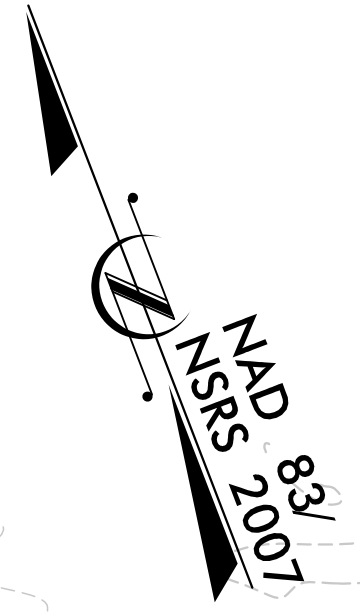
5/18/2021
106-EC-11_Const-11.dgn

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11

HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO. U-4906	SHEET NO. EC-11/CONST.11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



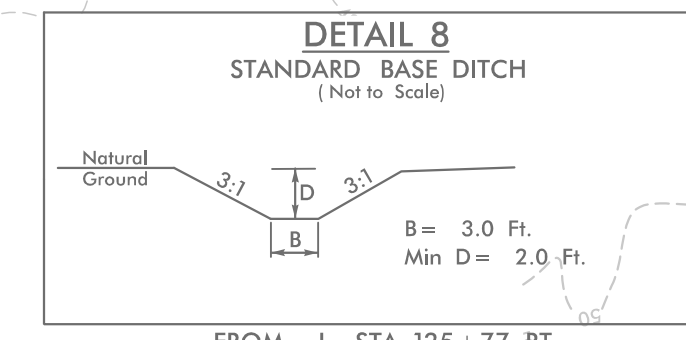
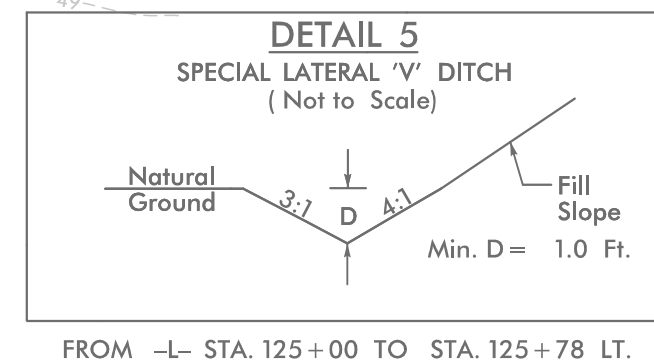
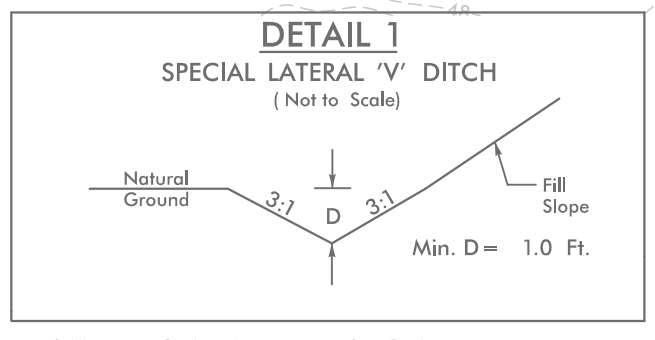
$PI\ Sta\ 125+72.52$
 $\Delta = 23^\circ 29' 39.1'' (LT)$
 $D = 4' 54' 46.3''$
 $L = 478.22'$
 $T = 242.52'$
 $R = 1,663.24'$
 $SE = EXISTING$

$PI\ Sta\ 137+71.88$
 $\Delta = 17^\circ 29' 02.5'' (RT)$
 $D = 3' 34' 21.6''$
 $L = 489.38'$
 $T = 246.61'$
 $R = 1,603.73'$
 $SE = EXISTING$

MATCH LINE -L- STA 125+00.00
SEE SHEET 10

MATCH LINE -L- STA 138+50.00
SEE SHEET 12

103 x 27 x 3
1.5 inch Skimmer
with 1.5 inch
Orifice Diameter
11 ft. weir
ID 11.1B



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 30

5/14/99

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.

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS /JURISDICTIONAL AREAS, AND AS DIRECTED

HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-13/CONST.13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

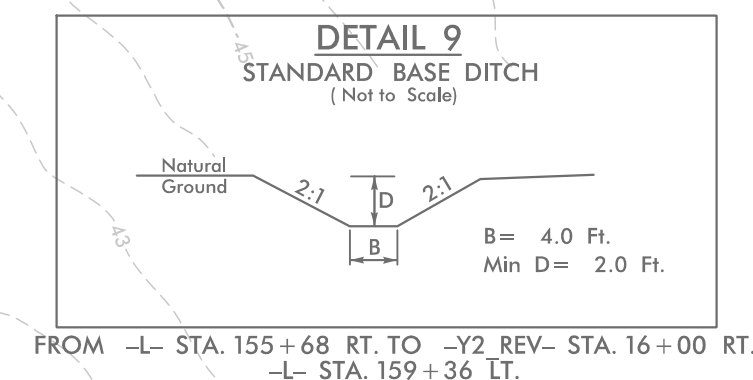
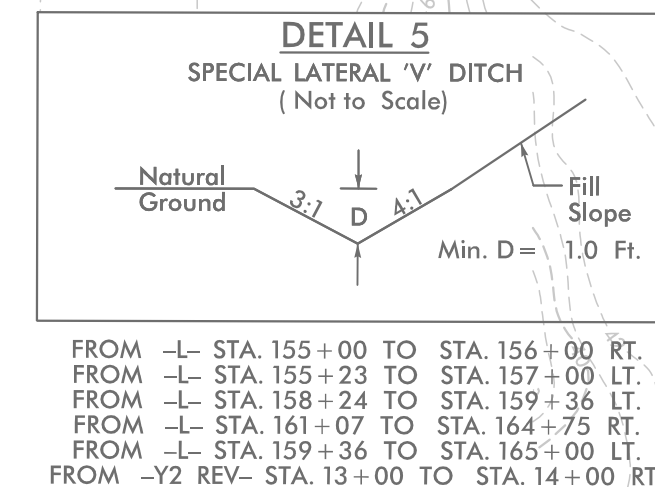
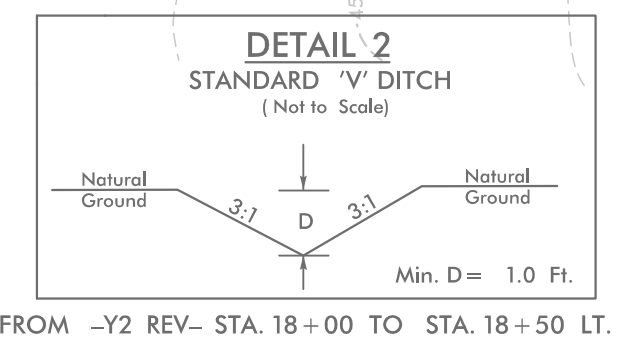
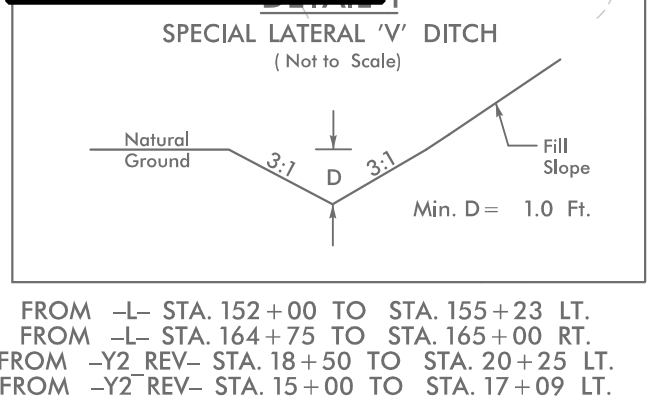
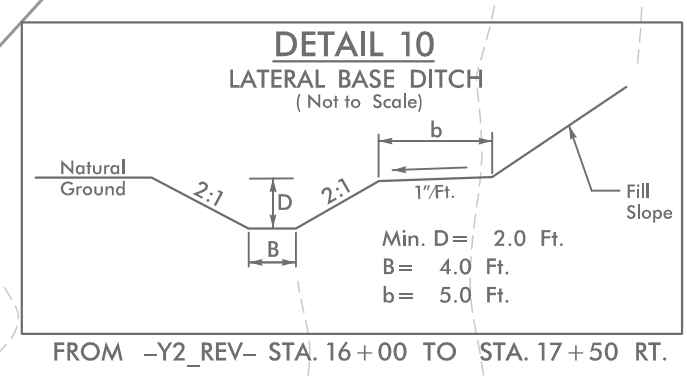
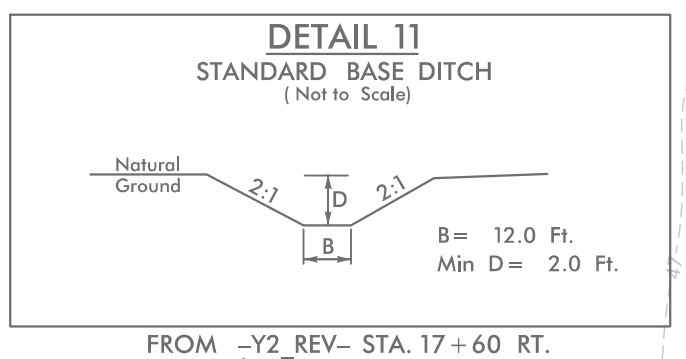
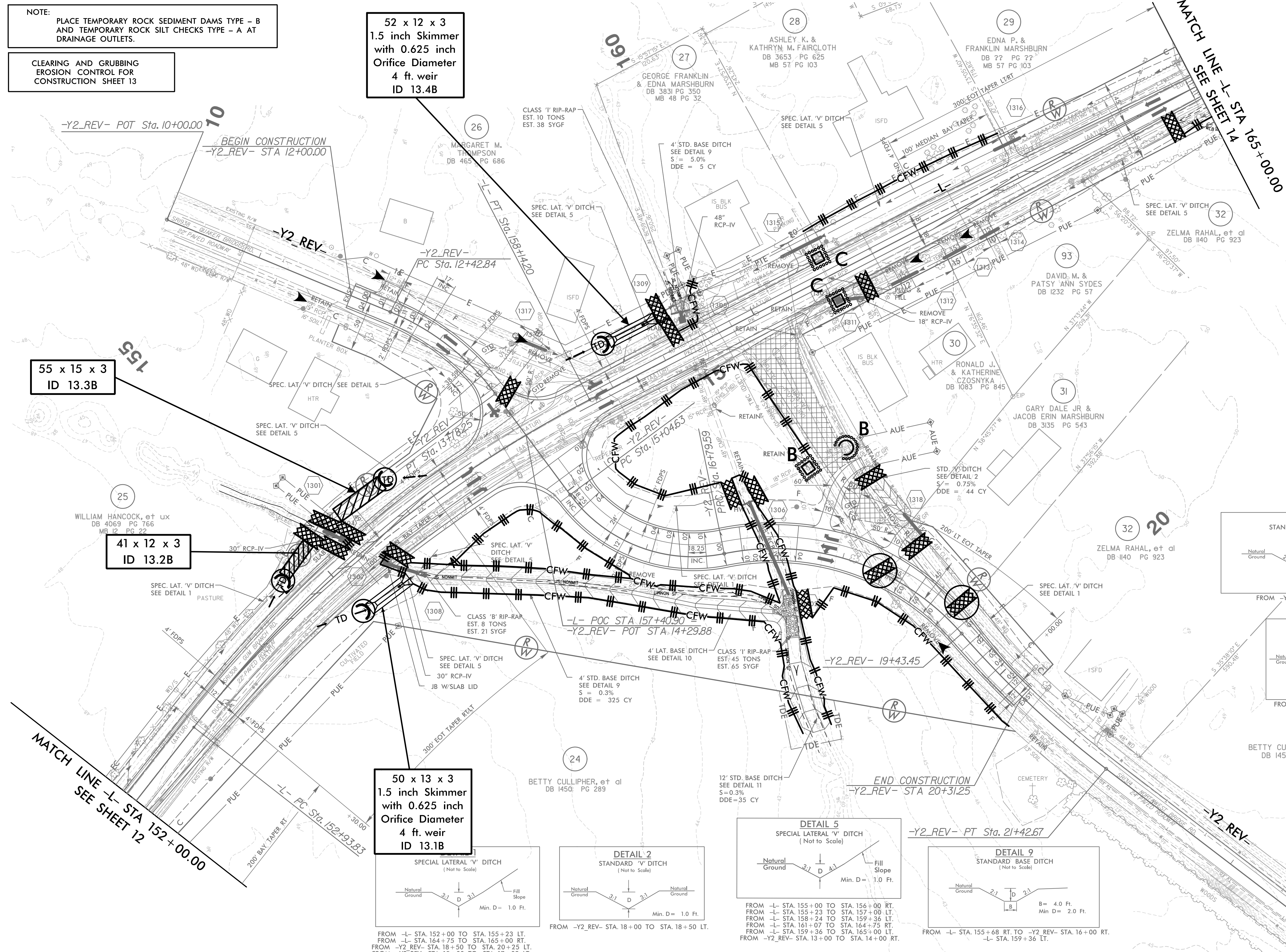
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 13

52 x 12 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 13.4B

55 x 15 x 3
ID 13.3B

41 x 12 x 3
ID 13.2B

50 x 13 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 13.1B



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 31
FOR -Y2_REV- PROFILE, SEE SHEET 38

5/18/2006 EC-13_Const-13.dgn

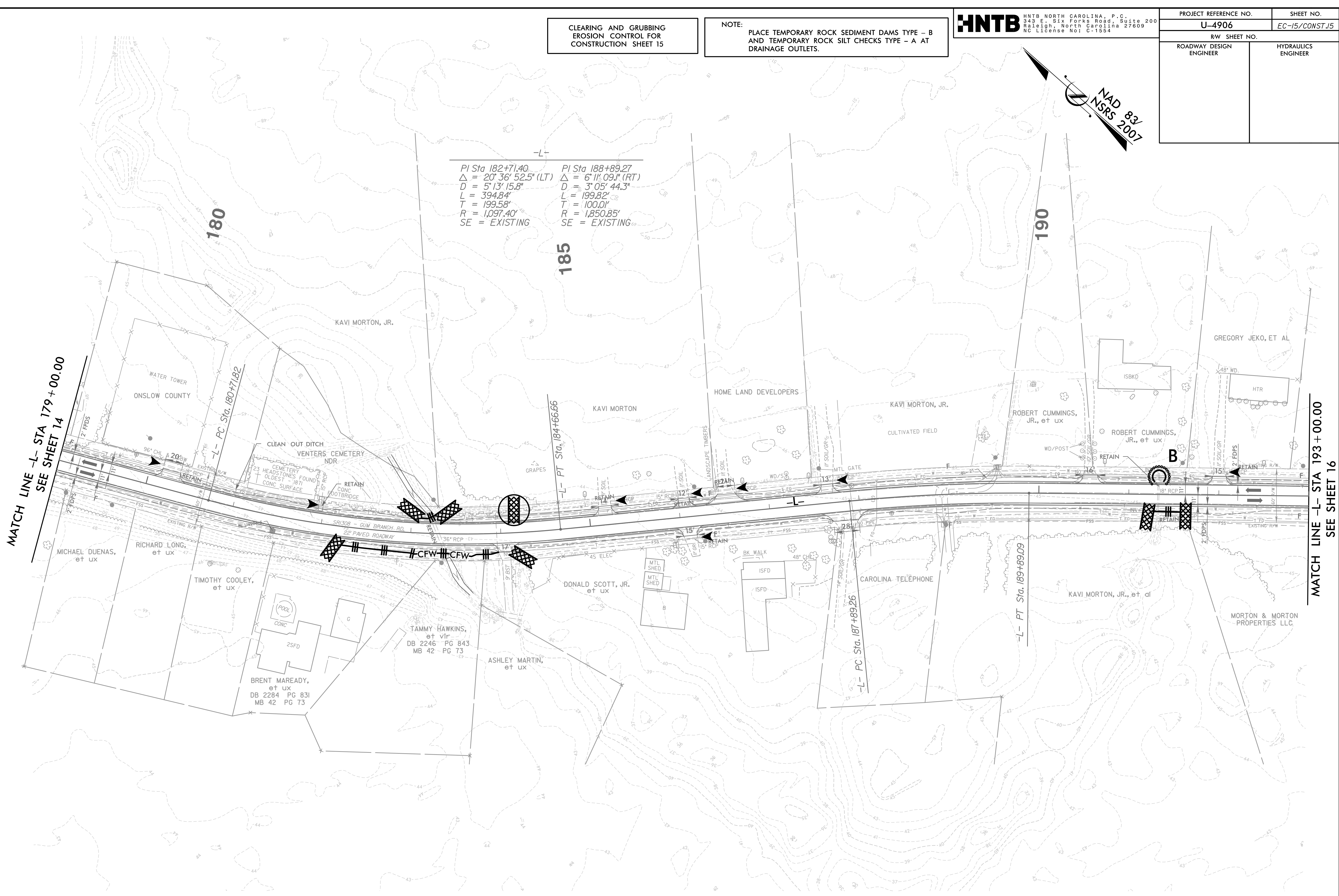
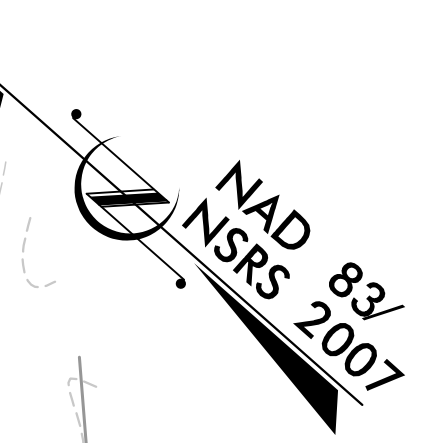
5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 15

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

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Raleigh, North Carolina 27609
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PROJECT REFERENCE NO. U-4906	SHEET NO. EC-15/CONST.15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PI Sta 182+71.40 PI Sta 188+89.27
 $\Delta = 20^\circ 36' 52.5''$ (LT) $\Delta = 6^\circ 11' 09.1''$ (RT)
 $D = 5^\circ 13' 15.8''$ $D = 3^\circ 05' 44.3''$
 $L = 394.84'$ $L = 199.82'$
 $T = 199.58'$ $T = 100.01'$
 $R = 1,097.40'$ $R = 1,850.85'$
 $SE = \text{EXISTING}$ $SE = \text{EXISTING}$

MATCH LINE -L- STA 179+00.00
SEE SHEET 14

MATCH LINE -L- STA 193+00.00
SEE SHEET 16

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

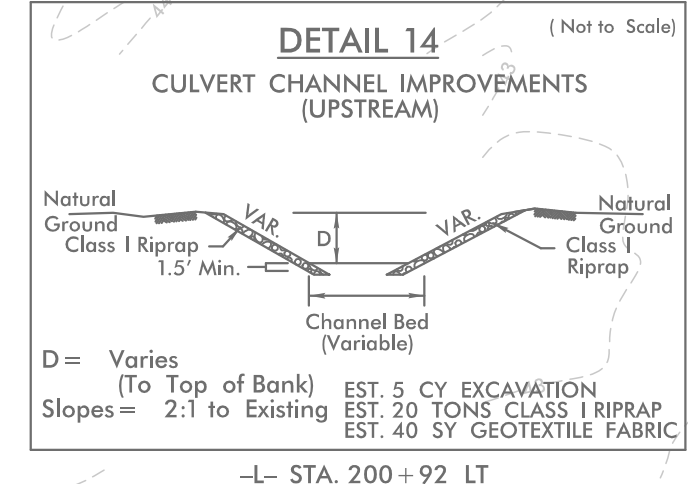
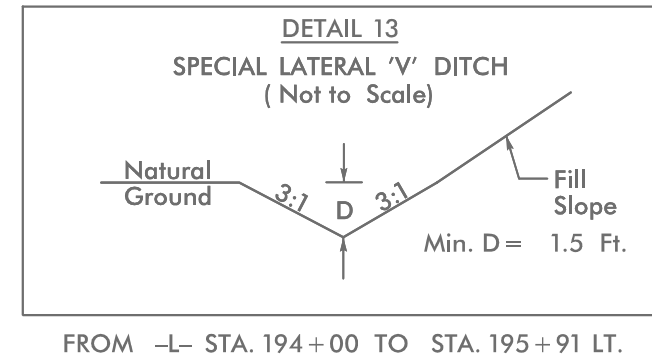
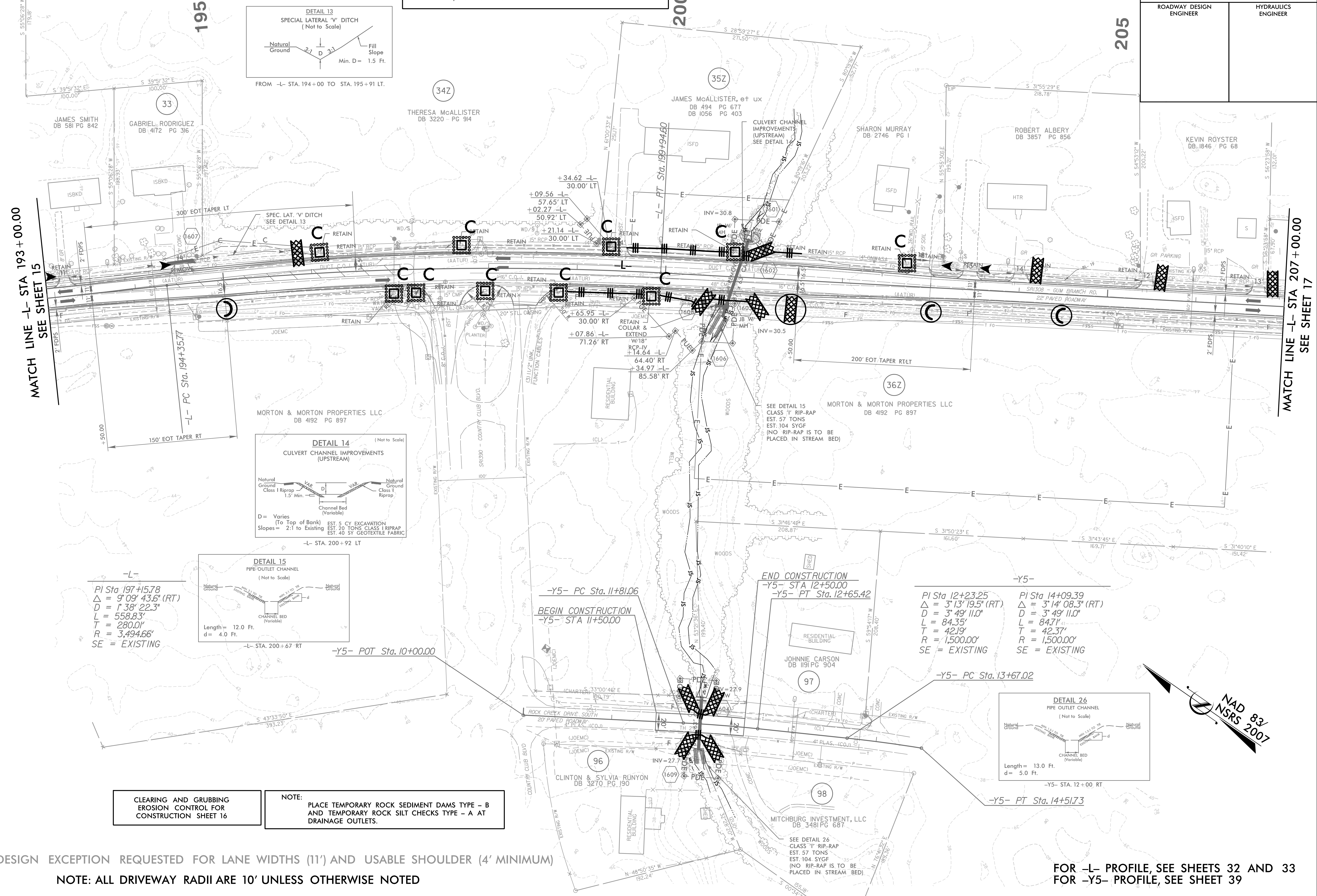
FOR -L- PROFILE, SEE SHEET 32

1/1/2008
15%
EC-15_Const-15.dgn
HNTB

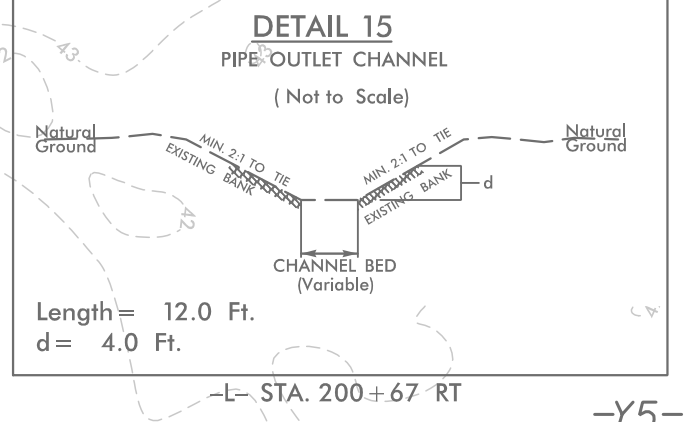
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-16/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS /JURISDICTIONAL AREAS, AND AS DIRECTED



-L-
 PI Sta 197+15.78
 $\Delta = 9^{\circ}09'43.6''$ (RT)
 D = 1'38"22.3"
 L = 558.83'
 T = 280.01'
 R = 3,494.66'
 SE = EXISTING

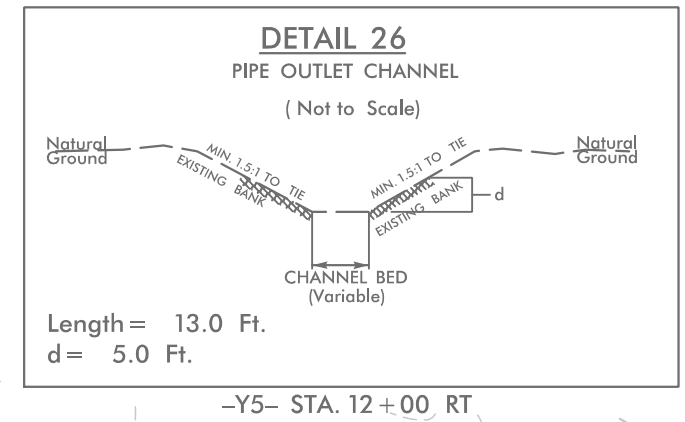


-Y5- PC Sta. 11+81.06
 BEGIN CONSTRUCTION
 -Y5- STA 11+50.00

END CONSTRUCTION
 -Y5- STA 12+50.00
 -Y5- PT Sta. 12+65.42

PI Sta 12+23.25
 $\Delta = 3^{\circ}13'19.5''$ (RT)
 D = 3'49"11.0"
 L = 84.35'
 T = 42.19'
 R = 1,500.00'
 SE = EXISTING

PI Sta 14+09.39
 $\Delta = 3^{\circ}14'08.3''$ (RT)
 D = 3'49"11.0"
 L = 84.71'
 T = 42.37'
 R = 1,500.00'
 SE = EXISTING



CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 16

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

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEETS 32 AND 33
 FOR -Y5- PROFILE, SEE SHEET 39



5/18/2006 EC-16_Const-16.dgn
 HNTB

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-16A/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

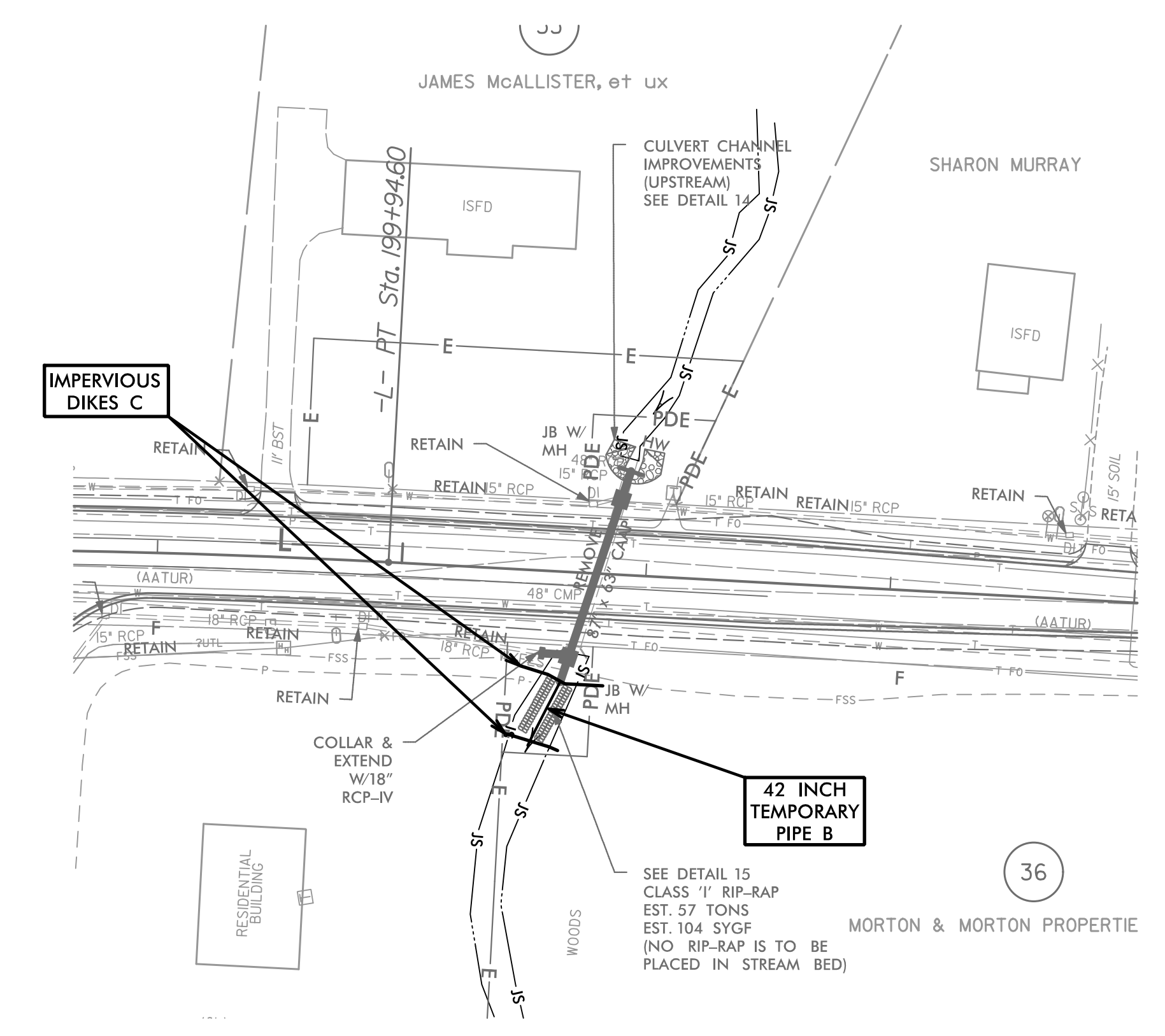
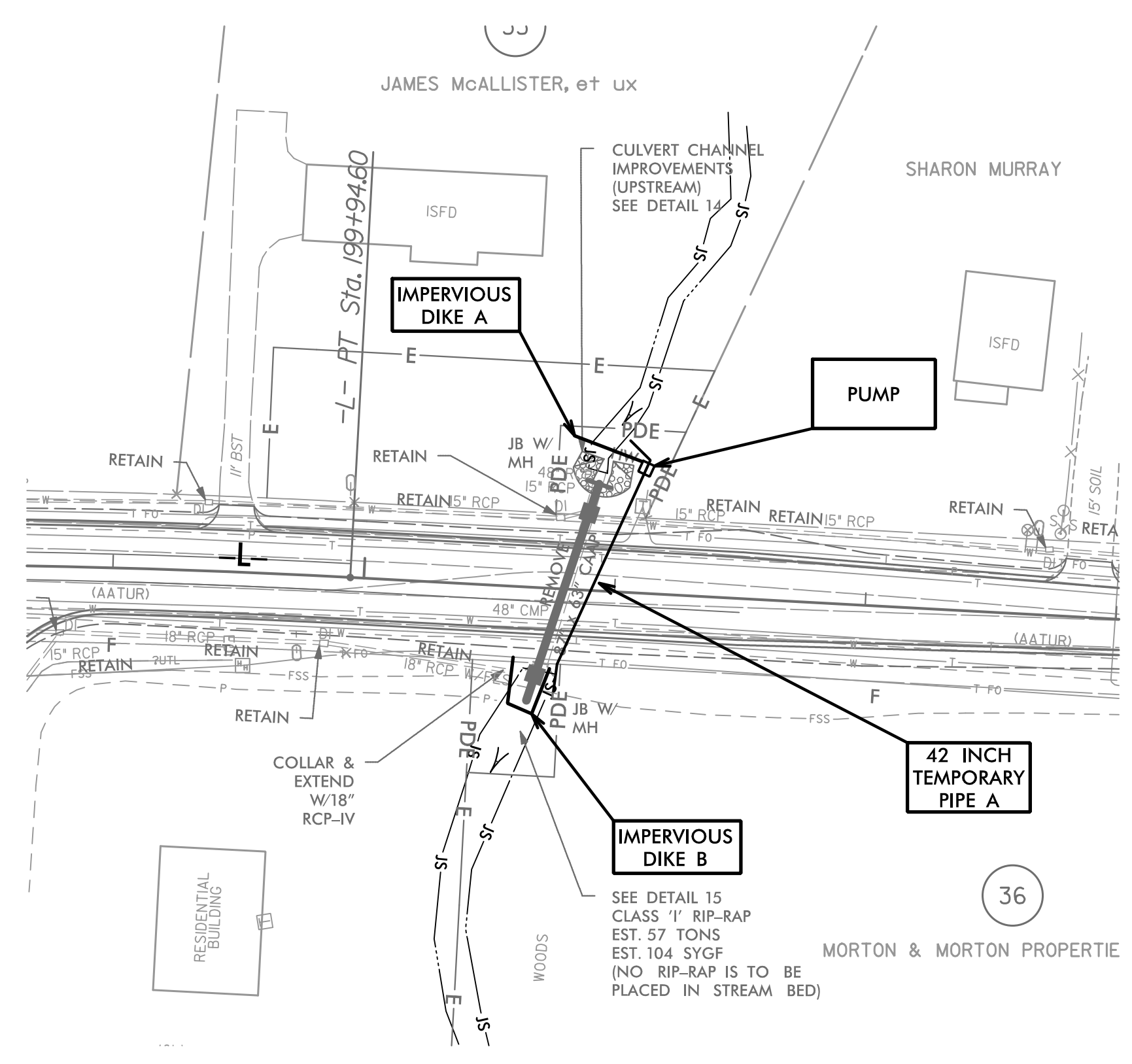
CULVERT CONSTRUCTION SEQUENCE STA. 200+80 -L-

PHASE I

1. SET UP SIGNS FOR OFF SITE DETOUR.
2. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
3. INSTALL IMPERVIOUS DIKES A AND B AS SHOWN.
4. INSTALL PUMP AND 42" TEMPORARY PIPE A AS SHOWN
5. REMOVE EXISTING 48" CMP. INSTALL 87" X 63" CAAP, UPSTREAM AND DOWNSTREAM JUNCTION BOX WITH MANHOLE.
6. INSTALL UPSTREAM HEADWALL AND UPSTREAM CULVERT CHANNEL IMPROVEMENTS.

PHASE II

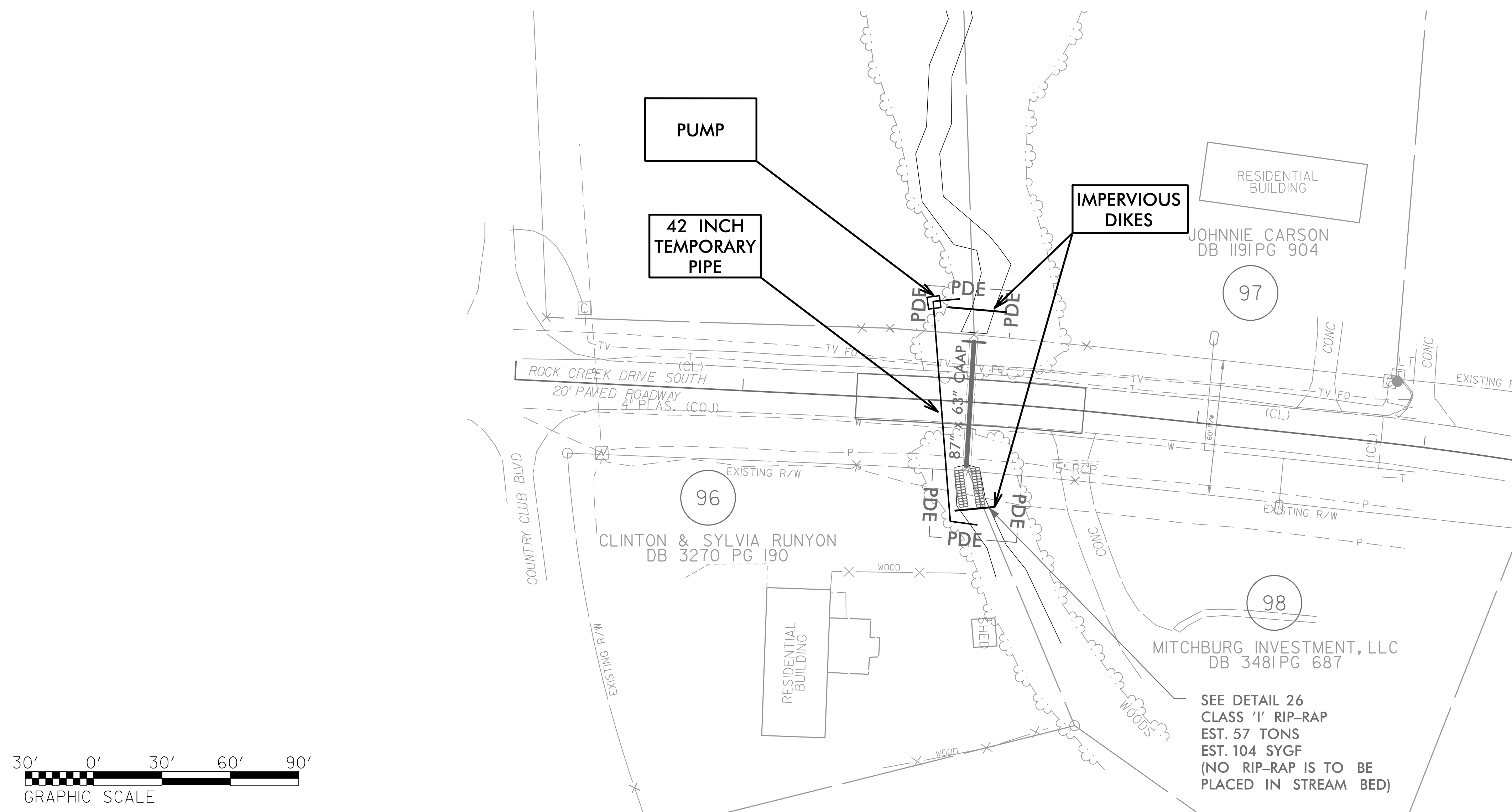
1. REMOVE IMPERVIOUS DIKES A AND B.
2. REMOVE PUMP AND 42" TEMPORARY PIPE A.
3. INSTALL IMPERVIOUS DIKES C AND TEMPORARY 42" PIPE B AS SHOWN.
4. INSTALL COLLAR AND EXTEND WITH 18" RCP-IV.
5. INSTALL DOWN STREAM CLASS 'I' RIP RAP.
6. REMOVE IMPERVIOUS DIKE C, TEMPORARY PIPE B, AND ANY REMAINING SPECIAL STILLING BASIN(S).
7. COMPLETE ROADWAY.



PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-16B/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 12 + 00 -Y5-

1. SET UP SIGNS FOR OFF SITE DETOUR.
2. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
3. INSTALL IMPERVIOUS DIKES AS SHOWN.
4. INSTALL PUMP AND 42" TEMPORARY PIPE A AS SHOWN
5. REMOVE EXISTING 42" PIPE. INSTALL 87" X 63" CAAP, UPSTREAM HEADWALL AND DOWNSTREAM CLASS 'I' RIP-RAP.
6. REMOVE IMPERVIOUS DIKES, 42" TEMPORARY PIPE, AND ANY REMAINING SPECIAL STILLING BASIN(S).
7. COMPLETE ROADWAY.



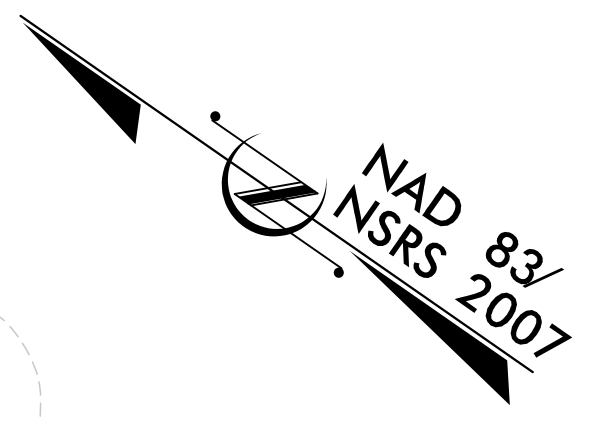
5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 17

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

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343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-17/CONST.17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCH LINE -L- STA 207+00.00
SEE SHEET 16

MATCH LINE -L- STA 221+00.00
SEE SHEET 18



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEETS 33

1/1/2008
11:50:06 AM
EC-17_Const-17.dgn
HNTB

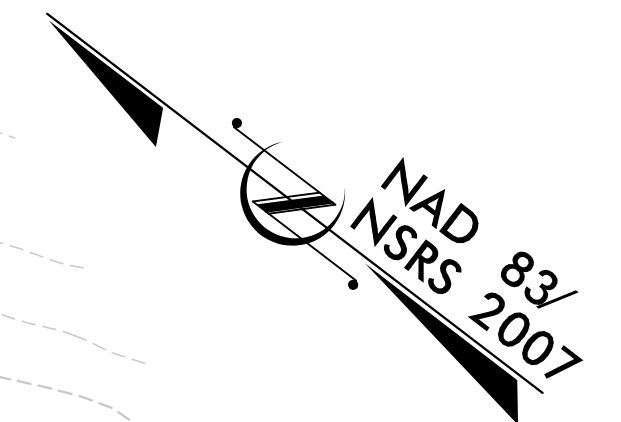
5/14/99

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.

HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

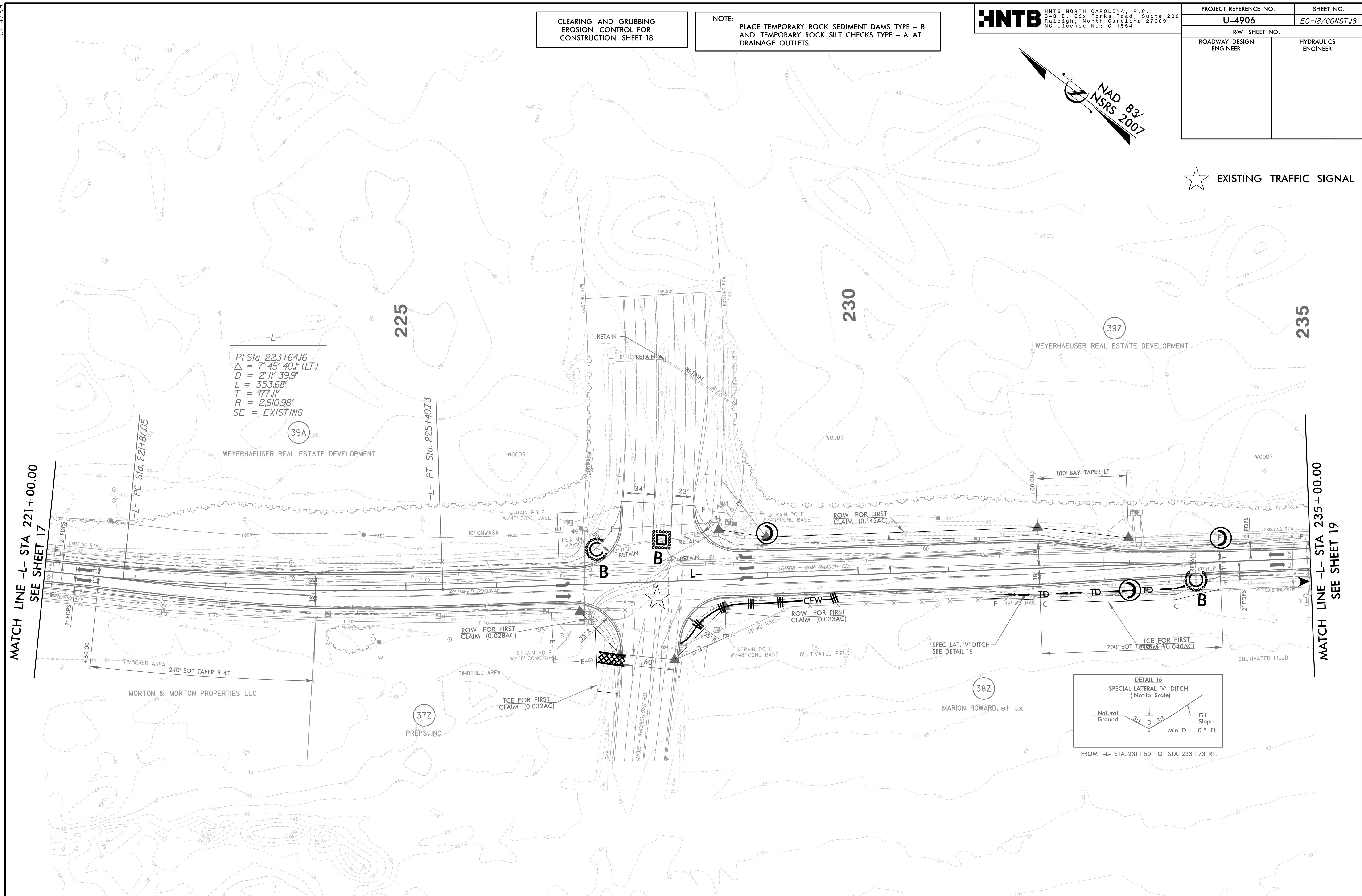
PROJECT REFERENCE NO. U-4906	SHEET NO. EC-18/CONST.18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



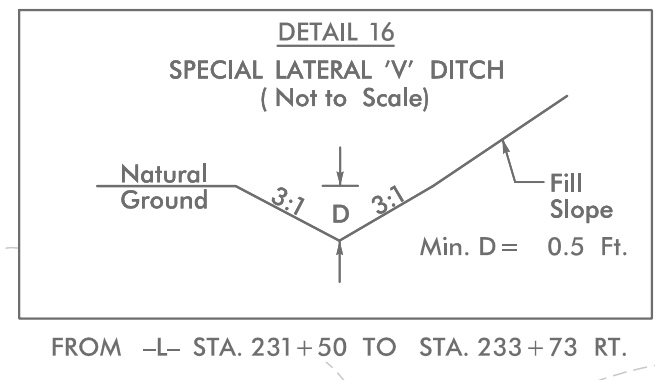
★ EXISTING TRAFFIC SIGNAL

MATCH LINE -L- STA 221+00.00
SEE SHEET 17

MATCH LINE -L- STA 235+00.00
SEE SHEET 19



$PI\ Sta\ 223+64.16$
 $\Delta = 7^\circ 45' 40.1'' (LT)$
 $D = 2' 11' 39.9''$
 $L = 353.68'$
 $T = 177.11'$
 $R = 2610.98'$
 $SE = EXISTING$



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEETS 33 AND 34

1/1/2018 10:06:18 AM EC-18_Const-18.dgn

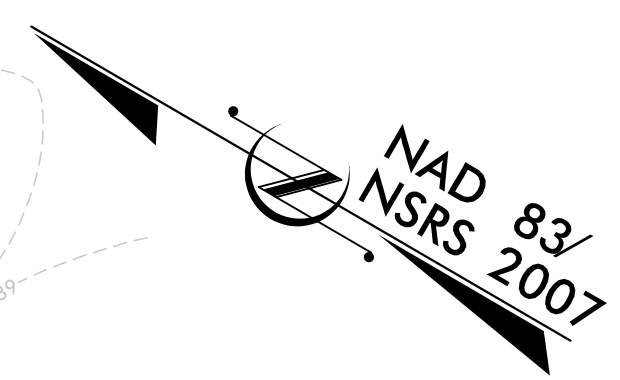
8/17/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 19

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

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343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-19/CONST.19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



235

240

245

MATCH LINE -L- STA 235 + 00.00
SEE SHEET 18

MATCH LINE -L- STA 249 + 00.00
SEE SHEET 20

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS

FOR -L- PROFILE, SEE SHEET 34

1/11/2009 10:06:56 EC-19_Const-19.dgn

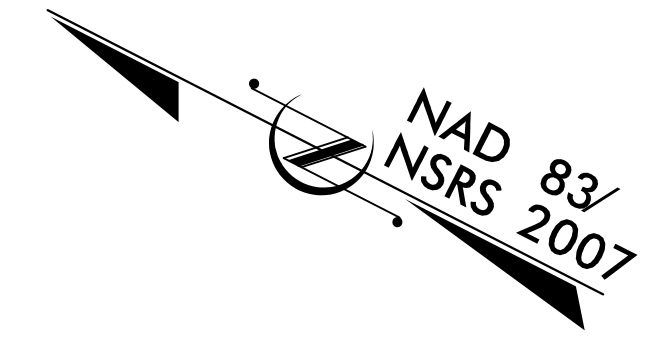
5/14/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 20

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

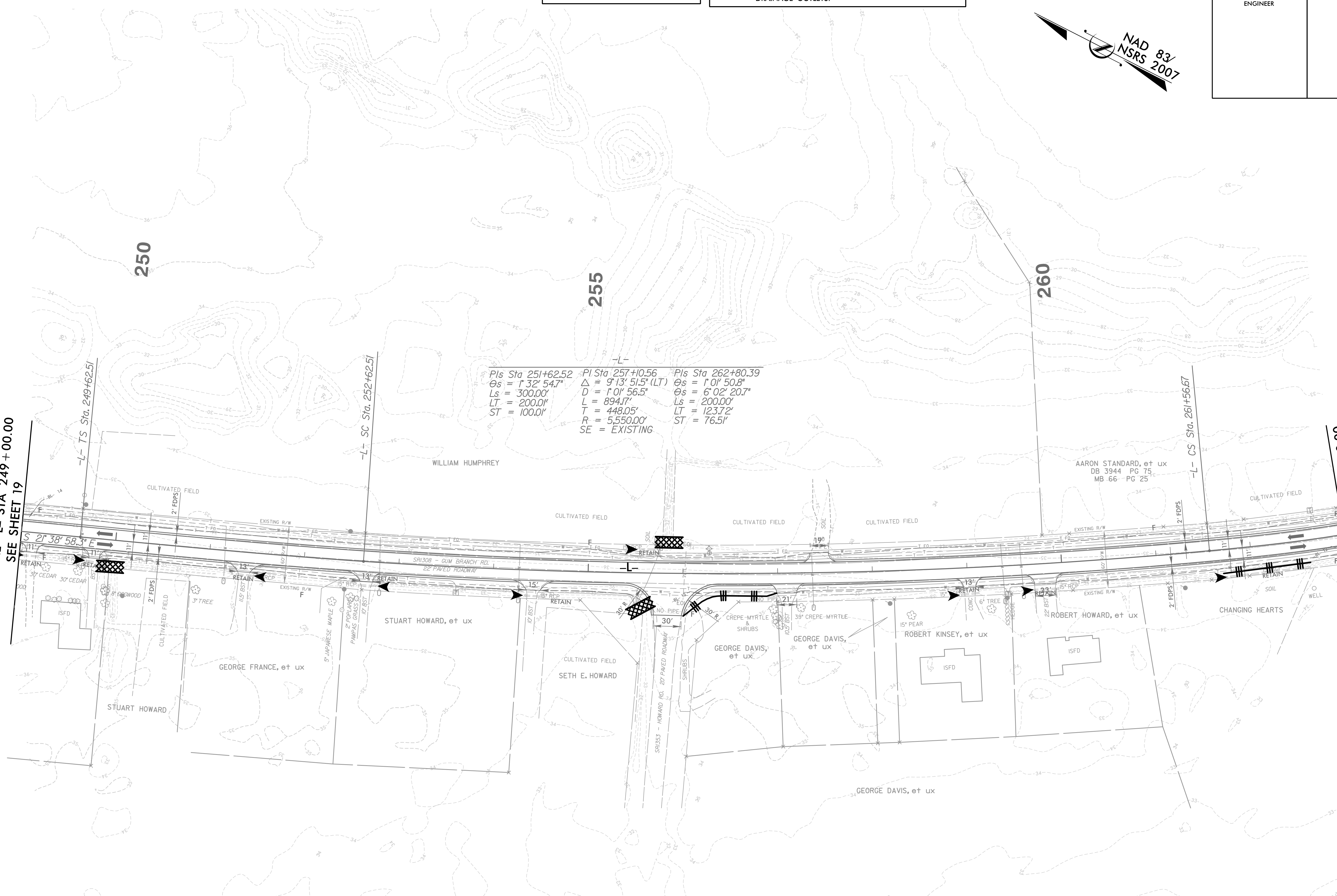
HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-20/CONST.20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCH LINE -L- STA 249+00.00
SEE SHEET 19

MATCH LINE -L- STA 263+00.00
SEE SHEET 21



Pls Sta 251+62.52 PI Sta 257+10.56 Pls Sta 262+80.39
 $\Delta = 1^\circ 32' 54.7''$ $\Delta = 9^\circ 13' 51.5''$ (LT) $\Delta = 1^\circ 01' 50.8''$
 $L_s = 300.00'$ $D = 1^\circ 01' 56.5''$ $\Delta = 6^\circ 02' 20.7''$
 $LT = 200.00'$ $L = 894.7'$ $L_s = 200.00'$
 $ST = 100.00'$ $T = 448.05'$ $LT = 123.72'$
 $R = 5,550.00'$ $ST = 76.51'$
 $SE = EXISTING$

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS

FOR -L- PROFILE, SEE SHEETS 34 AND 35

1/1/2008 10:06:56 AM EC-20_Const-20.dgn
HNTB

8/17/99

1/1/2006 EC-21 Const-21.dgn

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 21

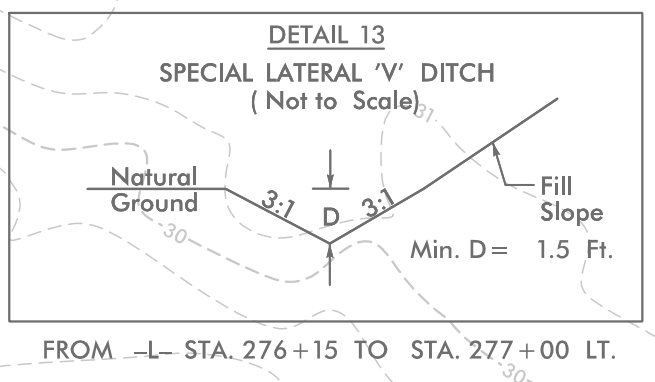
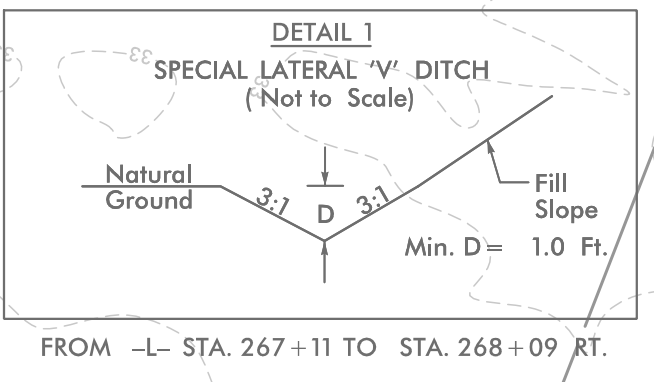
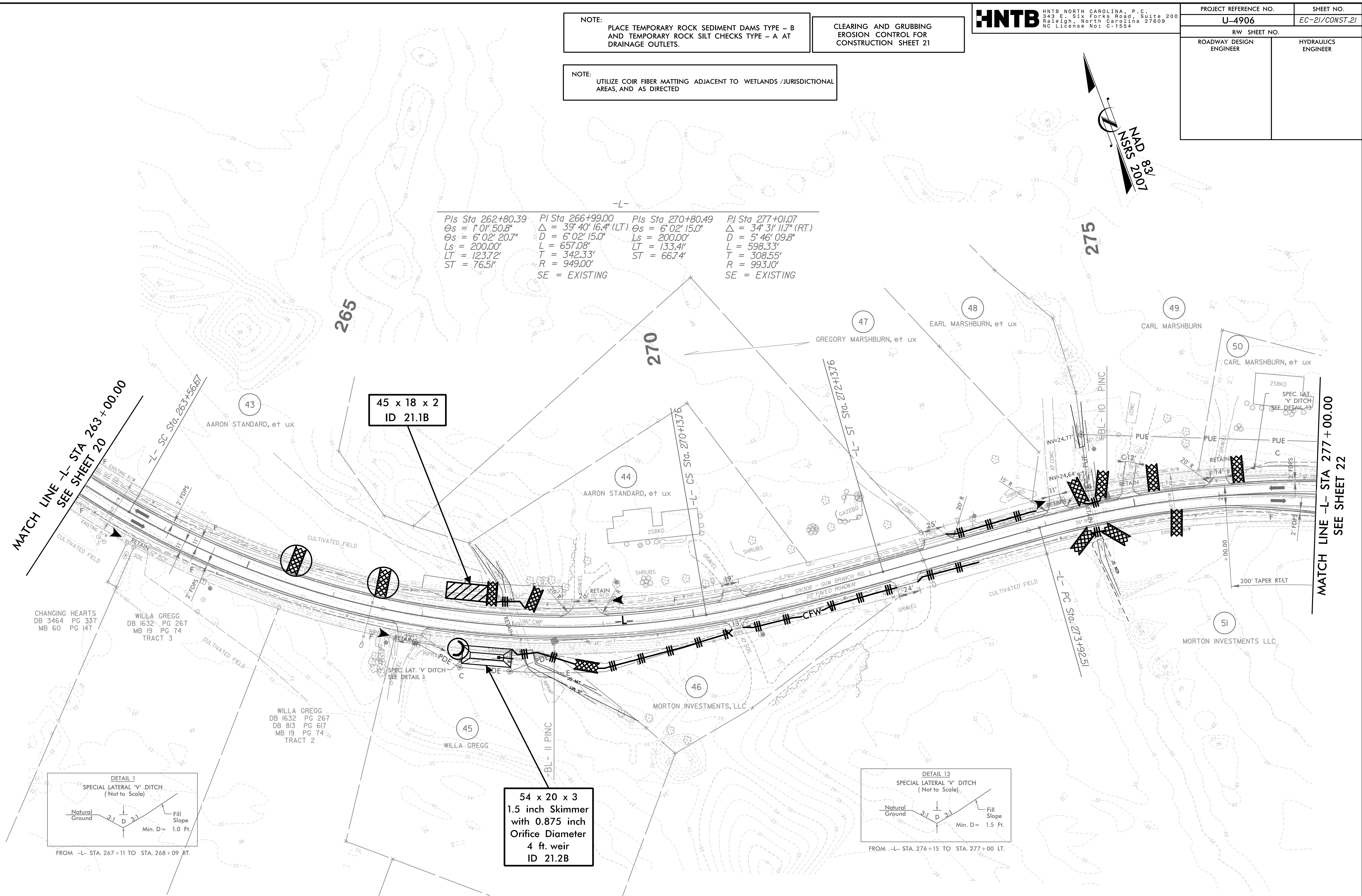
NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS /JURISDICTIONAL AREAS, AND AS DIRECTED

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343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-21/CONST.21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



Pls Sta 262+80.39 $\Theta_s = 1^{\circ}01'50.8''$ $\Theta_s = 6^{\circ}02'20.7''$ $L_s = 200.00'$ $LT = 123.72'$ $ST = 76.51'$	Pls Sta 266+99.00 $\Delta = 39^{\circ}40'16.4''$ (LT) $D = 6^{\circ}02'15.0''$ $L = 657.08'$ $T = 342.33'$ $R = 949.00'$ SE = EXISTING	Pls Sta 270+80.49 $\Theta_s = 6^{\circ}02'15.0''$ $L_s = 200.00'$ $LT = 133.41'$ $ST = 66.74'$	Pls Sta 277+01.07 $\Delta = 34^{\circ}31'11.7''$ (RT) $D = 5^{\circ}46'09.8''$ $L = 598.33'$ $T = 308.55'$ $R = 993.10'$ SE = EXISTING
---	--	--	--



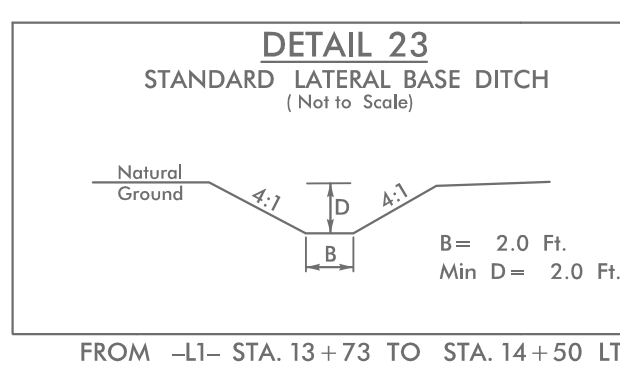
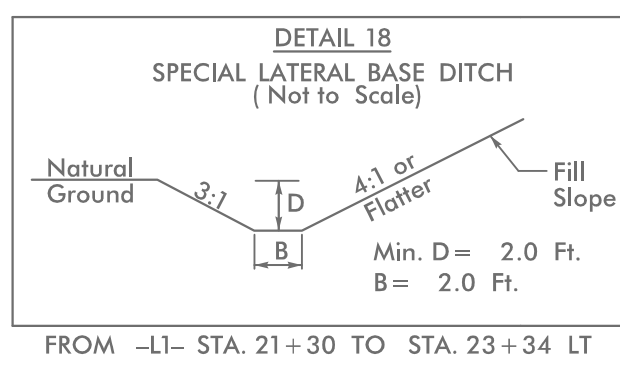
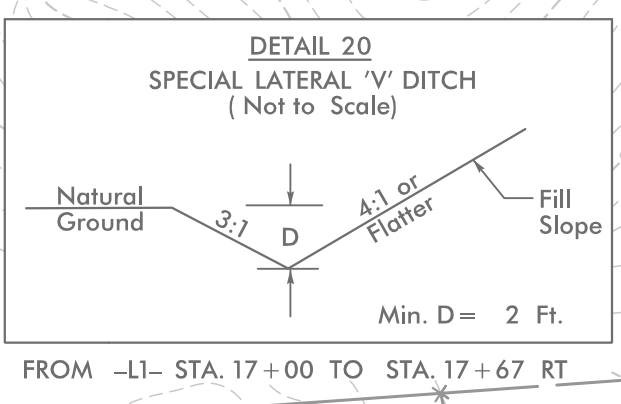
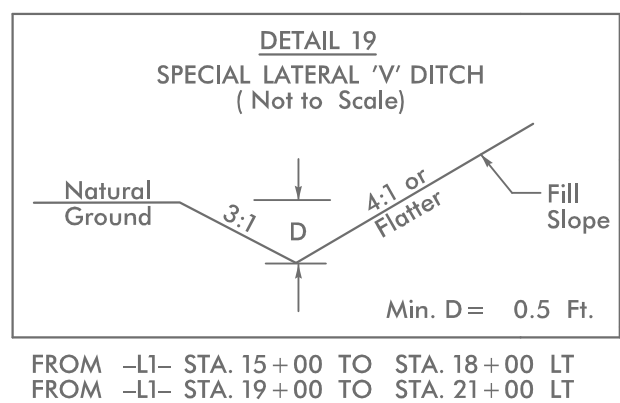
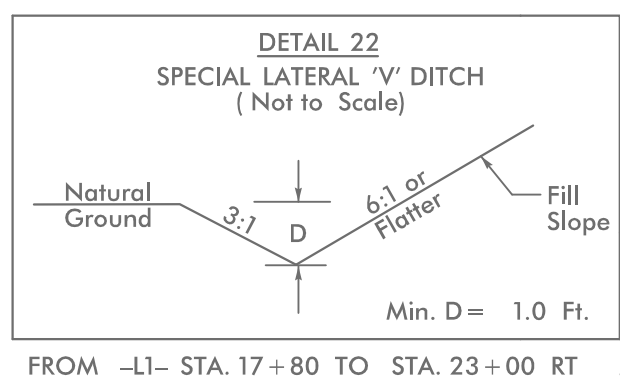
DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS

FOR -L- PROFILE, SEE SHEET 35

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-23/CONST.23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 23

BEGIN CONSTRUCTION
-L1- POT STA 13+73.34

93 x 30 x 2
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
10 ft. weir
ID 23.2B

55 x 22 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
4 ft. weir
ID 23.1B

END RESURFACING
-L1- POT STA 14+00.00

END CONSTRUCTION
-L1- POT STA 23+25.00
BEGIN RESURFACING
-L1- POT STA 23+25.00

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS

FOR -L1- PROFILE, SEE SHEET 36

I:\V\2006\EC-23_Const-23.dgn

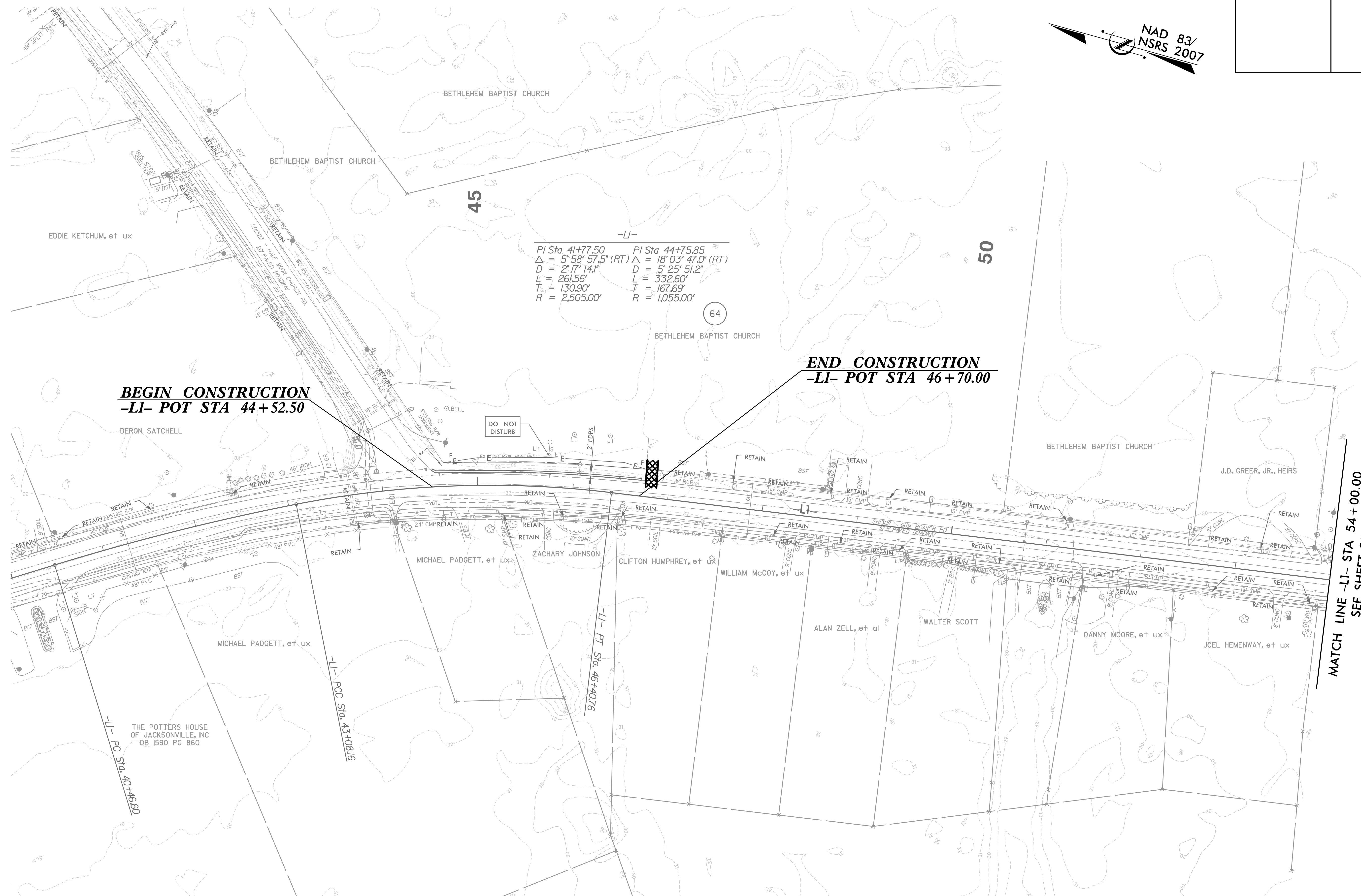
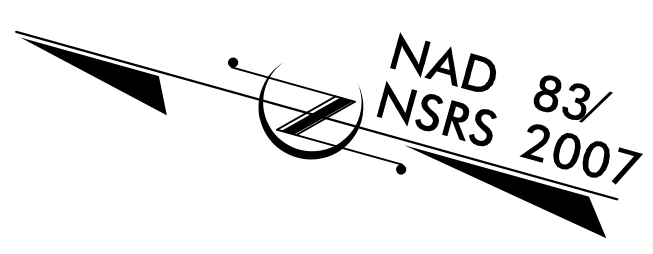
8/17/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 24

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

HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-24/CONST.24
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

FOR -LI- PROFILE, SEE SHEET 36

1/1/2009 10:06:56 AM EC-24_Const-24.dgn

8.17.99

REVISIONS

2017-09-14 RW Revision - Property Lines for Parcel 89 & 90, were Updated, Revised PUE, on Parcel 70, Revised TCE on Parcels 90, 91 & 92, Revised ROW on Parcel 92, Removed TCE from Parcels 101, 88 & 112, Added PUE, on Parcels 87, 88, 89, 90 & 92, DIM

2017-09-19 RW Revision - Revised TCE on Parcel 70, Revised ROW on Parcel 71, C&G

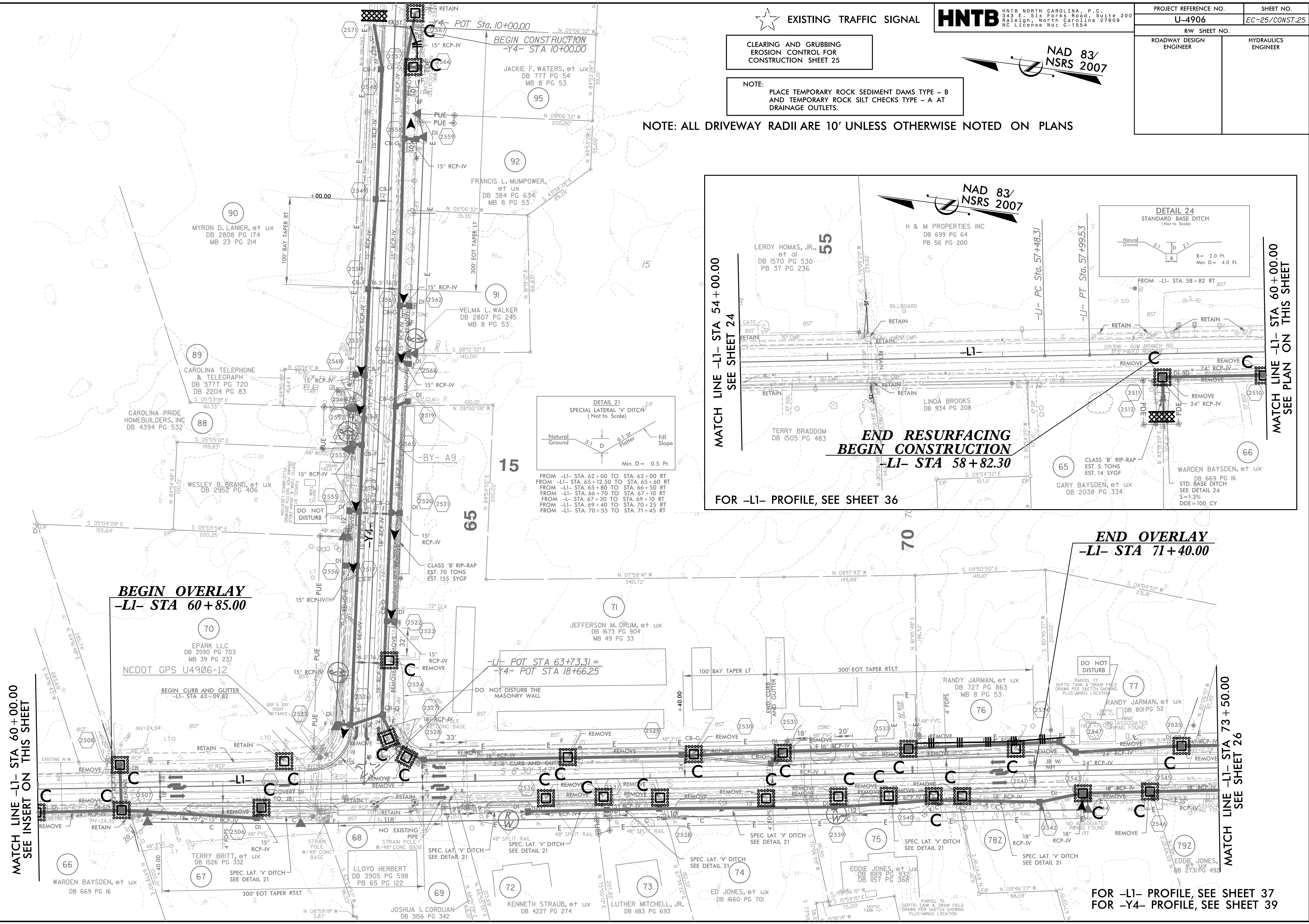
2018-04-25 RW Revision - Revised TCE on Parcel 70, Revised ROW on Parcel 71, C&G

2018-11-28 RW Revision - Changed ROW to TCE on Parcel 70, 88, 90, 91 & 92, Removed TCE on Parcel 86, 87, 91 & 92, Removed ROW on Parcel 87, 89 & 90, Revised PUE, on Parcel 89, Added Parcel 95, due to TCE around drainage structure 2566, Added TDE to Parcel 70, 87, 88, 89, 90, Removed PUE on Parcel 87, C&G

2018-12-12 RW Revision - Revised TCE to ROW on Parcel 70, 88, 91 & 92, Added PUE on Parcel 70, 88, Revised TCE on Parcel 91 and 92, C&G

2021-04-14 RW Revision - Revised TCE to ROW on Parcel 78 and 92, DIM

5/18/2021 EC-25-Const-25.dgn



EXISTING TRAFFIC SIGNAL

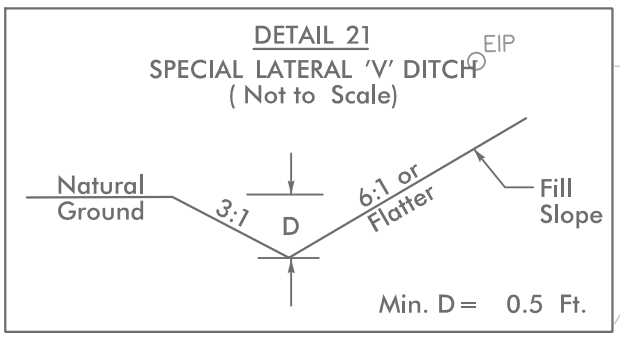
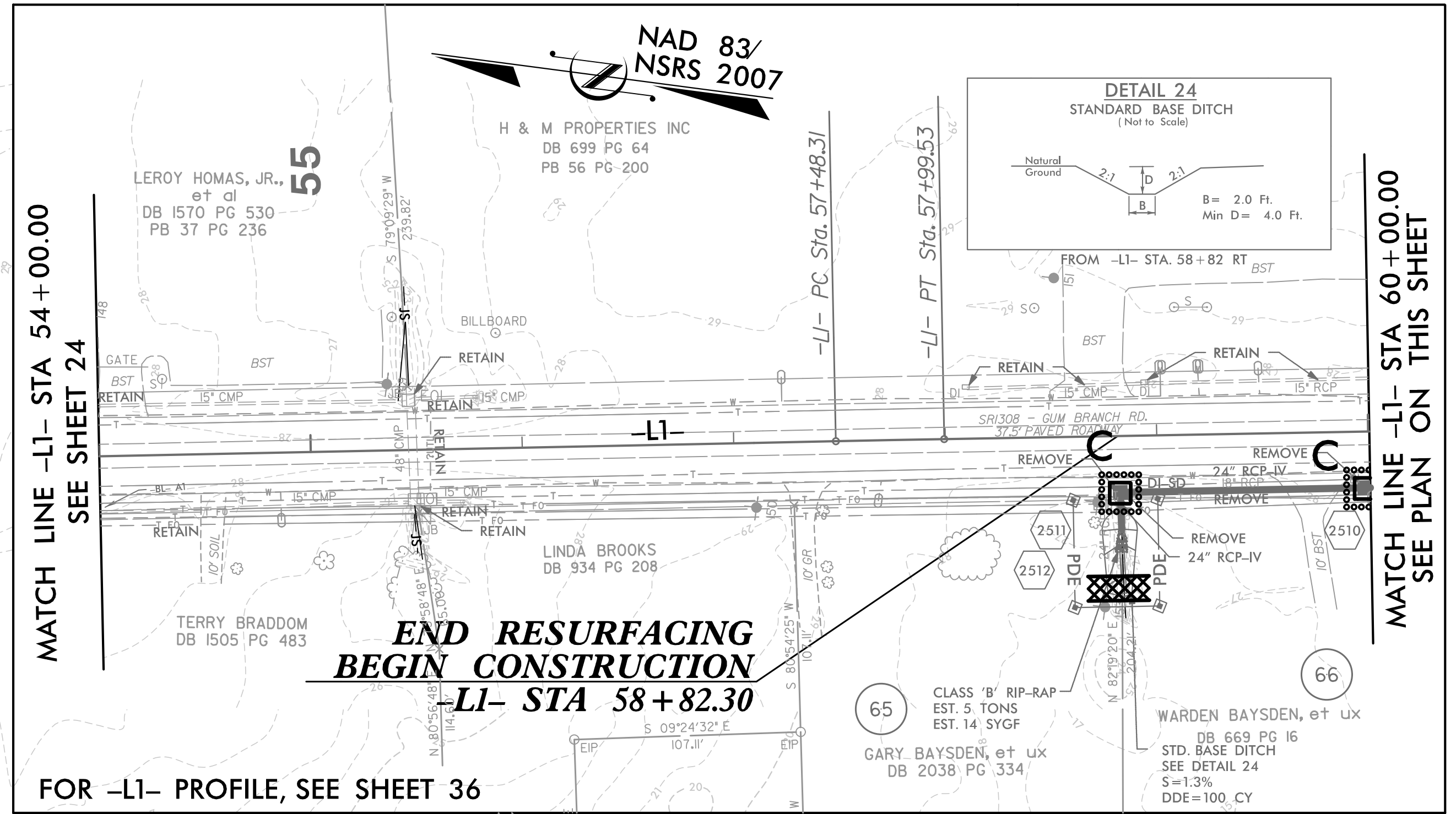
HNTB HNTB NORTH CAROLINA, P.C.
 343 E. Six Forks Road, Suite 200
 Raleigh, North Carolina 27609
 NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-25/CONST.25
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 25

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

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS



FROM -LI- STA. 62+00 TO STA. 63+00 RT
 FROM -LI- STA. 65+12.50 TO STA. 65+60 RT
 FROM -LI- STA. 65+80 TO STA. 66+50 RT
 FROM -LI- STA. 66+70 TO STA. 67+10 RT
 FROM -LI- STA. 67+30 TO STA. 69+10 RT
 FROM -LI- STA. 69+40 TO STA. 70+25 RT
 FROM -LI- STA. 70+55 TO STA. 71+45 RT

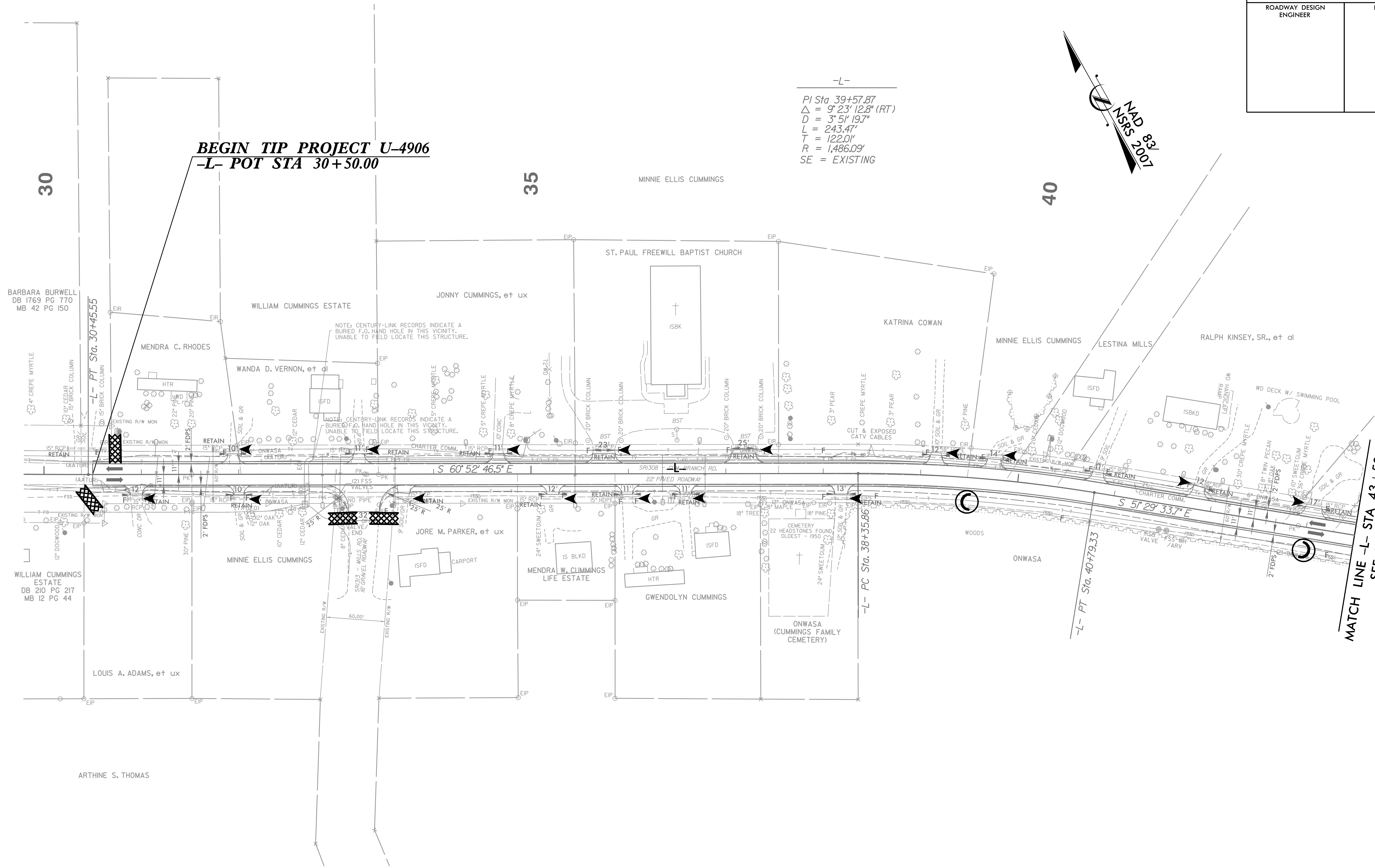
MATCH LINE -LI- STA 60+00.00
SEE INSERT ON THIS SHEET

MATCH LINE -LI- STA 73+50.00
SEE SHEET 26

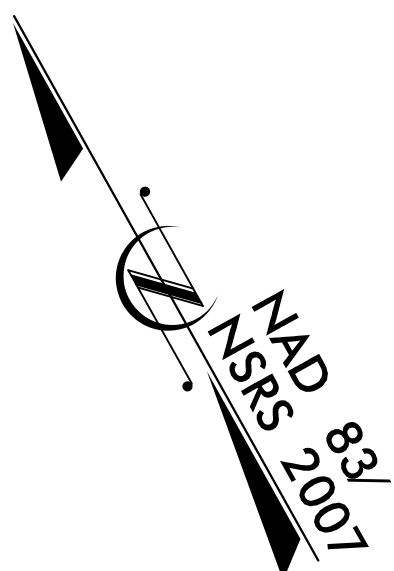
FOR -LI- PROFILE, SEE SHEET 37
 FOR -Y4- PROFILE, SEE SHEET 39

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-27/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5/14/99
 1/1/2009
 1/1/2006
 EC-4_Const-4.dgn
 HNTB



-L-
 PI Sta 39+57.87
 $\Delta = 9' 23' 12.8''$ (RT)
 $D = 3' 5' 19.7''$
 $L = 243.47'$
 $T = 122.01'$
 $R = 1,486.09'$
 SE = EXISTING



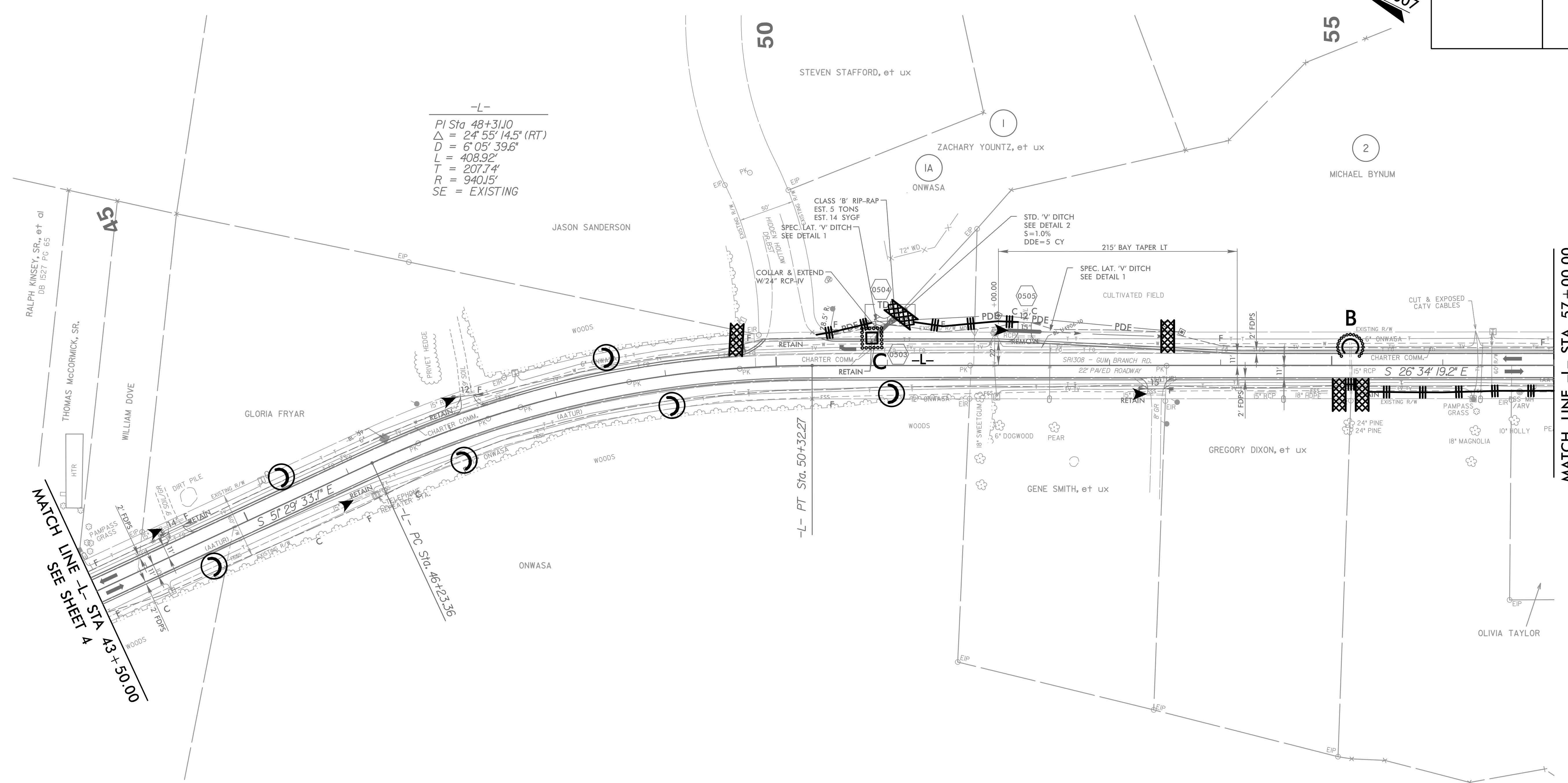
DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED.

FOR -L- PROFILE, SEE SHEET 27

5/14/99
 1/1/2009
 1/1/2006
 EC-5_Const-5.dgn
 HNTB

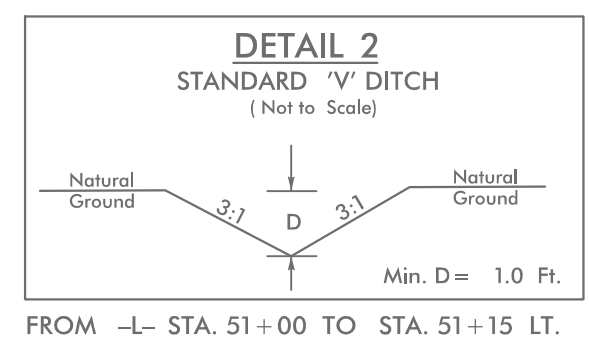
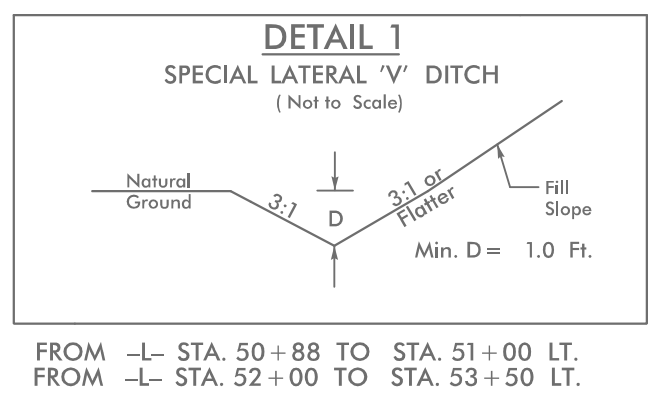
PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-28/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-
 PI Sta 48+31.10
 $\Delta = 24^\circ 55' 14.5''$ (RT)
 $D = 6' 05'' 39.6''$
 $L = 408.92'$
 $T = 207.74'$
 $R = 940.15'$
 SE = EXISTING

MATCH LINE -L- STA 43+50.00
 SEE SHEET 4

MATCH LINE -L- STA 57+00.00
 SEE SHEET 6



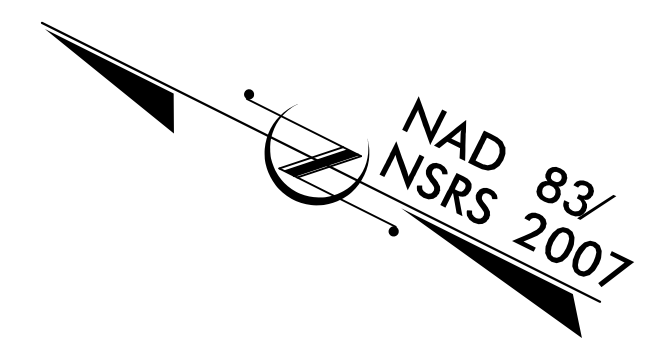
DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 27

5/14/99

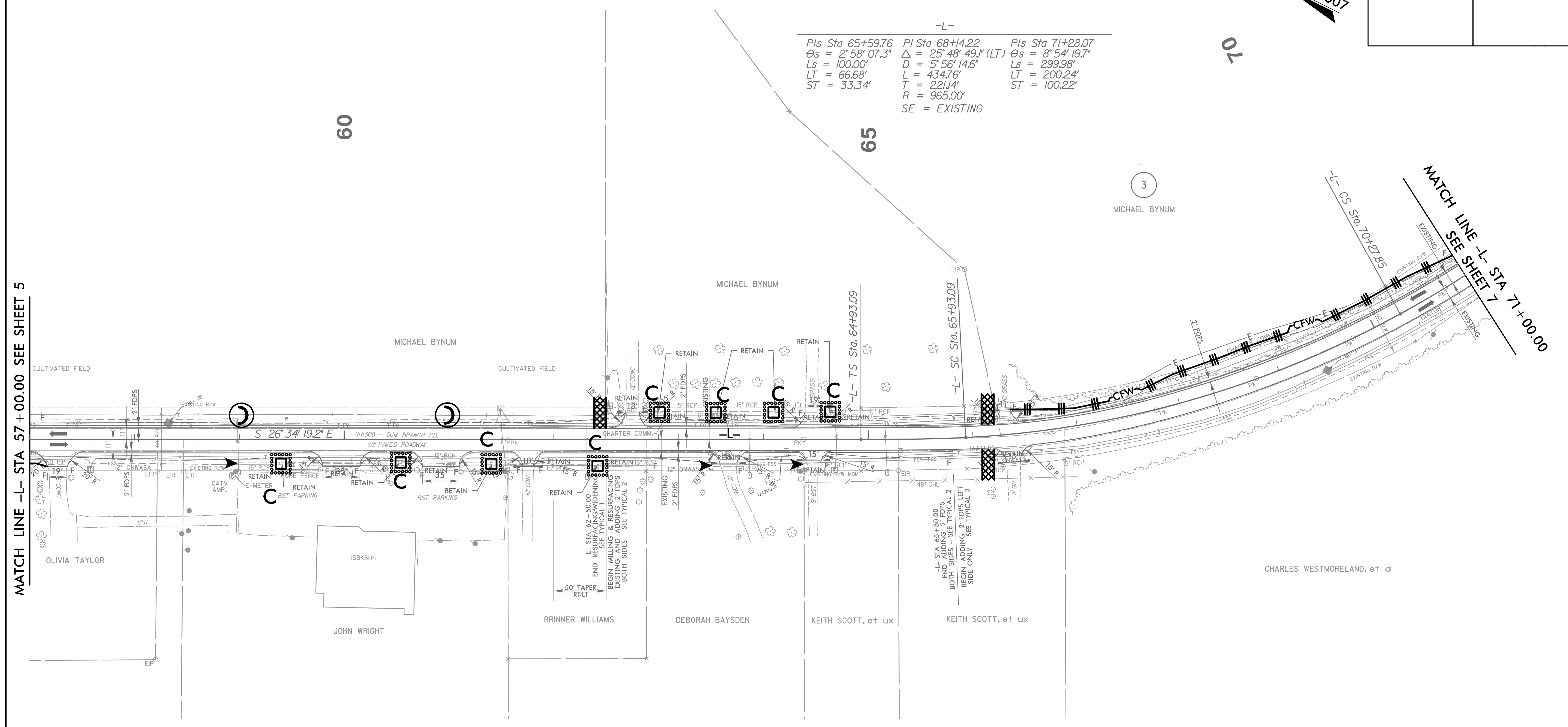
PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-29/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-

Pls Sta 65+59.76	Pl Sta 68+14.22	Pls Sta 71+28.07
$\Theta_s = 2^\circ 58' 07.3''$	$\Delta = 25^\circ 48' 49.1''$ (LT)	$\Theta_s = 8^\circ 54' 19.7''$
$L_s = 100.00'$	$D = 5^\circ 56' 14.6''$	$L_s = 299.98'$
$LT = 66.68'$	$L = 434.76'$	$LT = 200.24'$
$ST = 33.34'$	$T = 221.14'$	$ST = 100.22'$
	$R = 965.00'$	

SE = EXISTING



MATCH LINE -L- STA 57+00.00 SEE SHEET 5

MATCH LINE -L- STA 71+00.00 SEE SHEET 7

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 27 AND 28

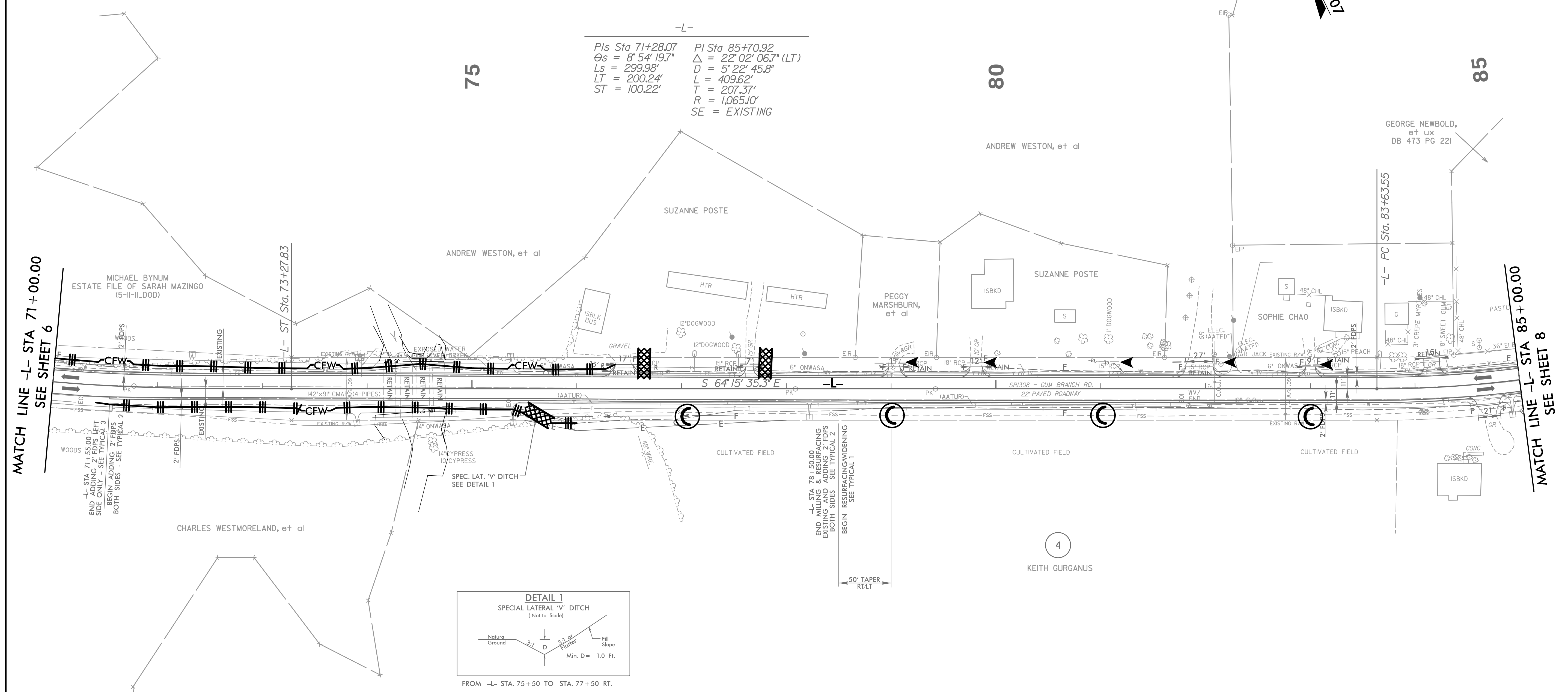
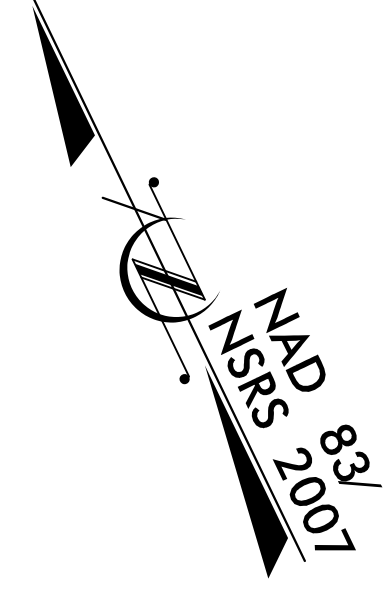
1/1/2009 10:56:06 AM EC-6_Const-6.dgn

5/14/99

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS / JURISDICTIONAL AREAS, AND AS DIRECTED.

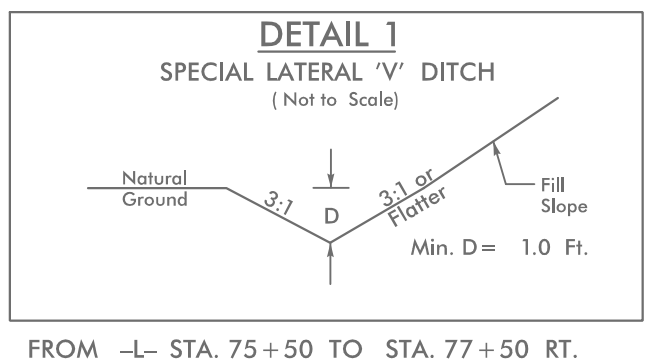
HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-30/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-

PI Sta 71+28.07	PI Sta 85+70.92
$\Delta s = 8' 54' 19.7''$	$\Delta = 22' 02' 06.7''$ (LT)
$Ls = 299.98'$	$D = 5' 22' 45.8''$
$LT = 200.24'$	$L = 409.62'$
$ST = 100.22'$	$T = 207.37'$
	$R = 1,065.10'$
	$SE = EXISTING$

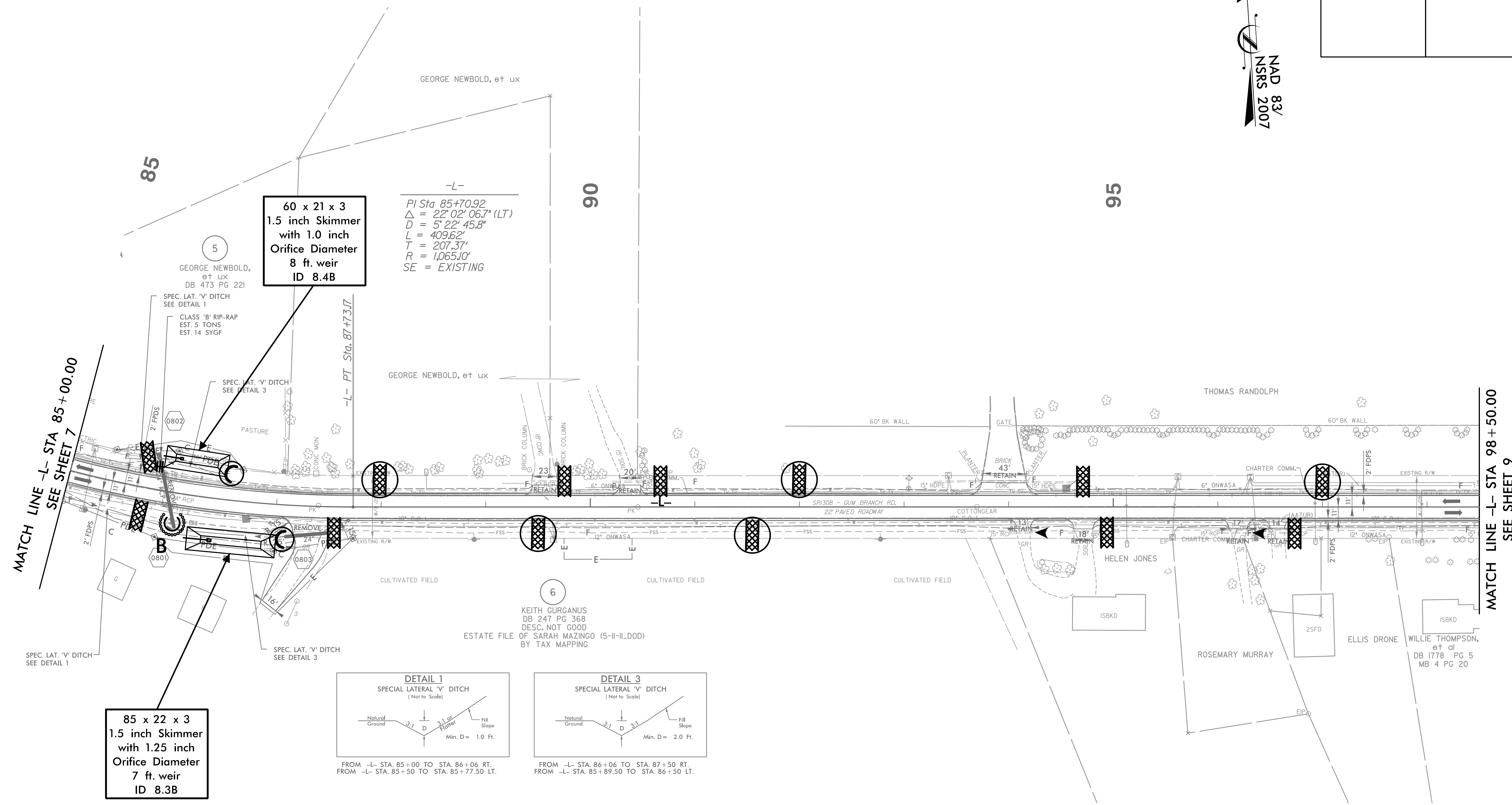


DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 28

1/1/2009 10:06:06-EC-7_Const-7.dgn
HNTB

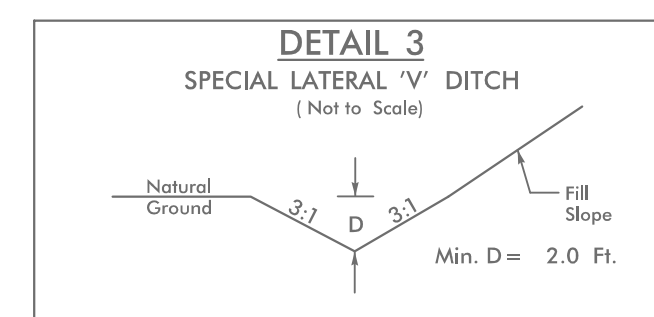
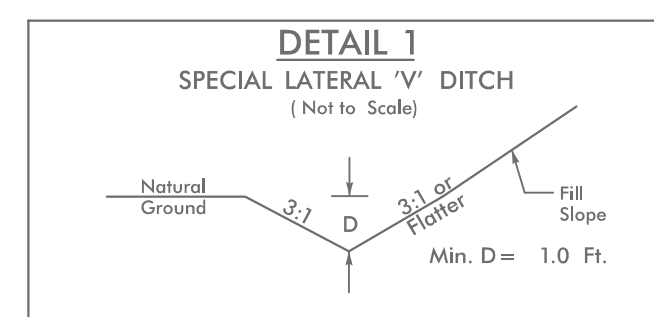
PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-31/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**60 x 21 x 3
 1.5 inch Skimmer
 with 1.0 inch
 Orifice Diameter
 8 ft. weir
 ID 8.4B**

-L-
 PI Sta 85+70.92
 $\Delta = 22^{\circ}02'06.7''$ (LT)
 $D = 5^{\circ}22'45.8''$
 $L = 409.62'$
 $T = 207.37'$
 $R = 1,065.10'$
 SE = EXISTING

**85 x 22 x 3
 1.5 inch Skimmer
 with 1.25 inch
 Orifice Diameter
 7 ft. weir
 ID 8.3B**



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
 NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

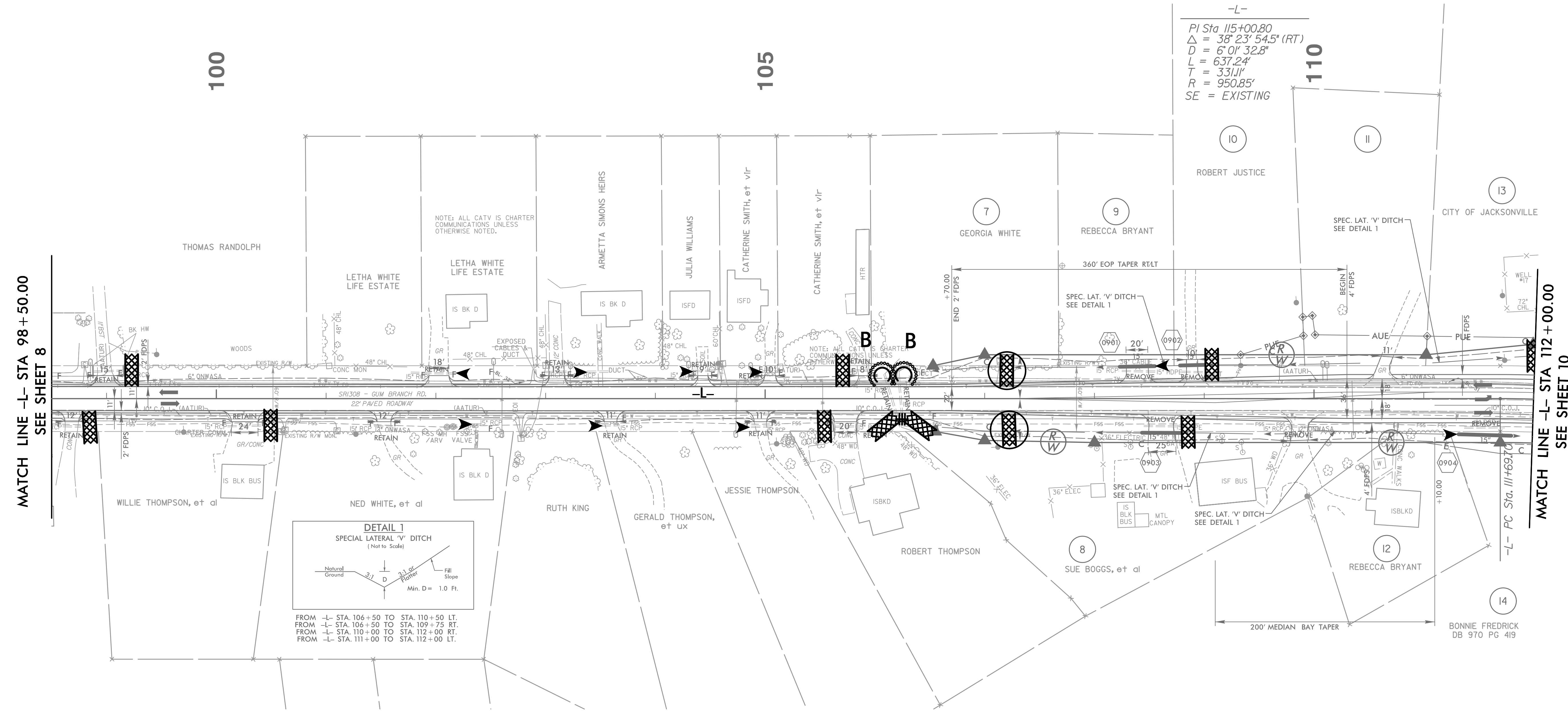
FOR -L- PROFILE, SEE SHEET 28 AND 29

5/14/99

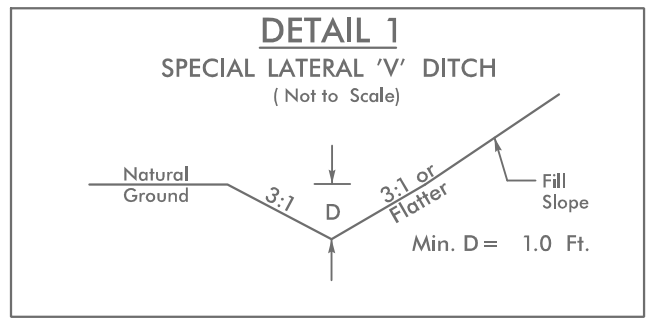
1/1/2009
 U-4906-EC-8_Const-8.dgn
 HNTB

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-32/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-
 PI Sta 115+00.80
 $\Delta = 38^{\circ} 23' 54.5''$ (RT)
 $D = 6^{\circ} 01' 32.8''$
 $L = 637.24'$
 $T = 331.11'$
 $R = 950.85'$
 SE = EXISTING



FROM -L- STA. 106+50 TO STA. 110+50 LT.
 FROM -L- STA. 106+50 TO STA. 109+75 RT.
 FROM -L- STA. 110+00 TO STA. 112+00 RT.
 FROM -L- STA. 111+00 TO STA. 112+00 LT.

MATCH LINE -L- STA 98 + 50.00
 SEE SHEET 8

MATCH LINE -L- STA 112 + 00.00
 SEE SHEET 10

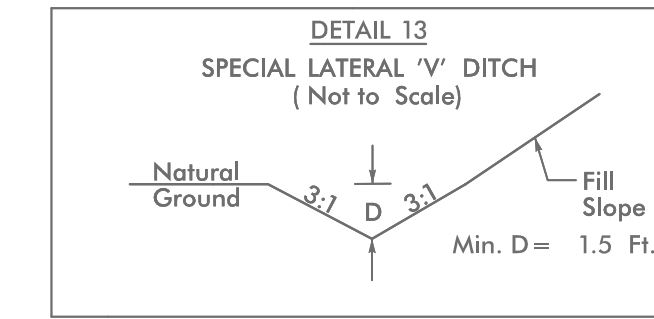
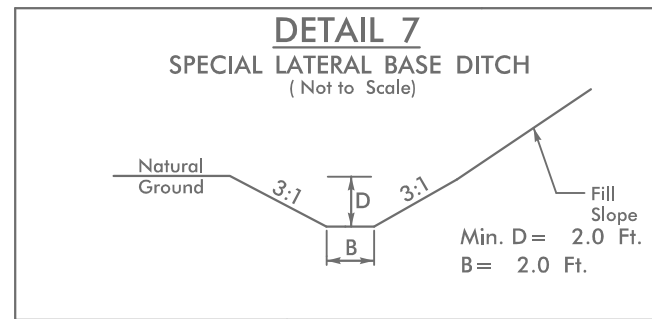
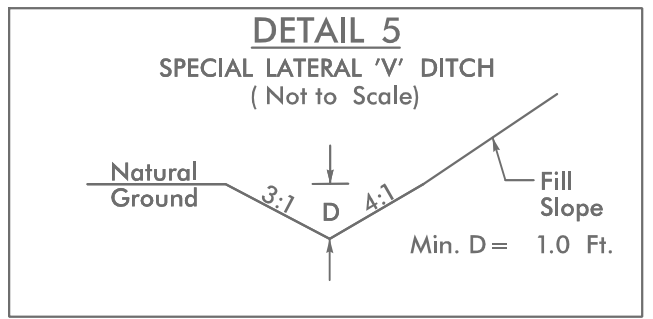
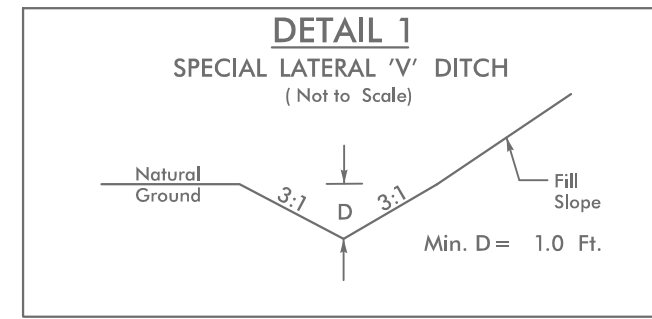
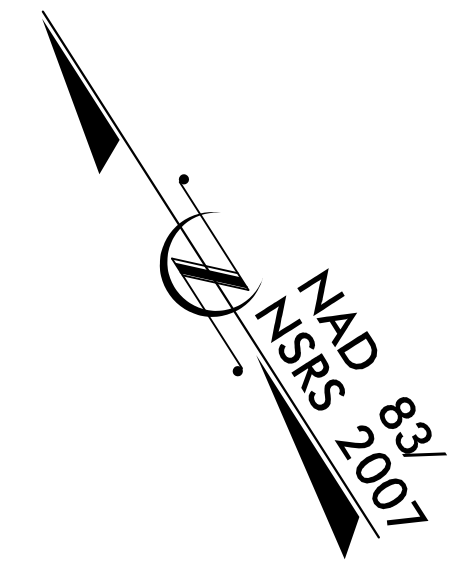
DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
 NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 29

I:\Projects\2009\0905\090505\090505.dgn
 HNTB

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-33/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



FROM -L STA. 118+10 TO STA. 119+00 LT.
 FROM -L STA. 112+00 TO STA. 113+66 RT.
 FROM -L STA. 112+00 TO STA. 114+00 LT.
 FROM -L STA. 118+10 TO STA. 119+00 LT.
 FROM -YI STA. 12+00 TO STA. 15+25 LT.
 FROM -YI STA. 12+00 TO STA. 16+50 RT.

FROM -L STA. 116+68 TO STA. 119+00 RT.
 FROM -L STA. 119+50 TO STA. 121+00 RT.
 FROM -L STA. 120+00 TO STA. 121+75 LT.
 FROM -L STA. 124+00 TO STA. 125+00 LT.
 FROM -L STA. 123+50 TO STA. 125+00 RT.

FROM -L STA. 117+44 TO STA. 118+10 LT.

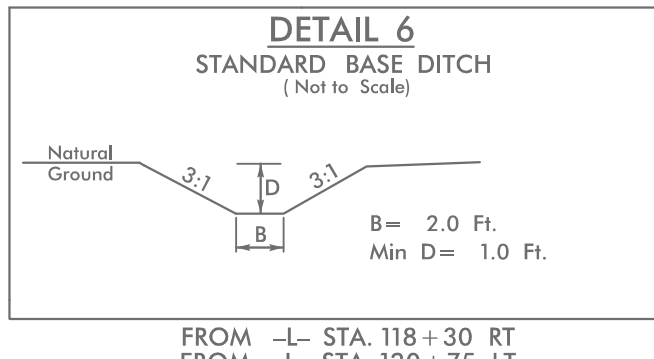
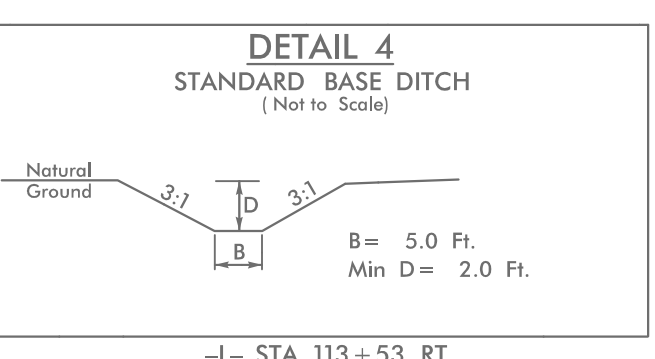
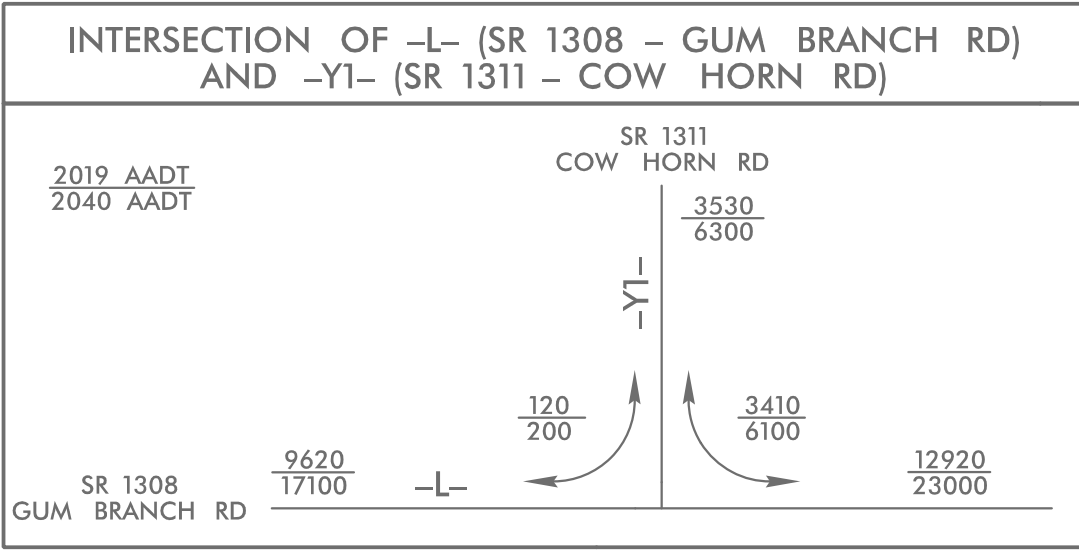
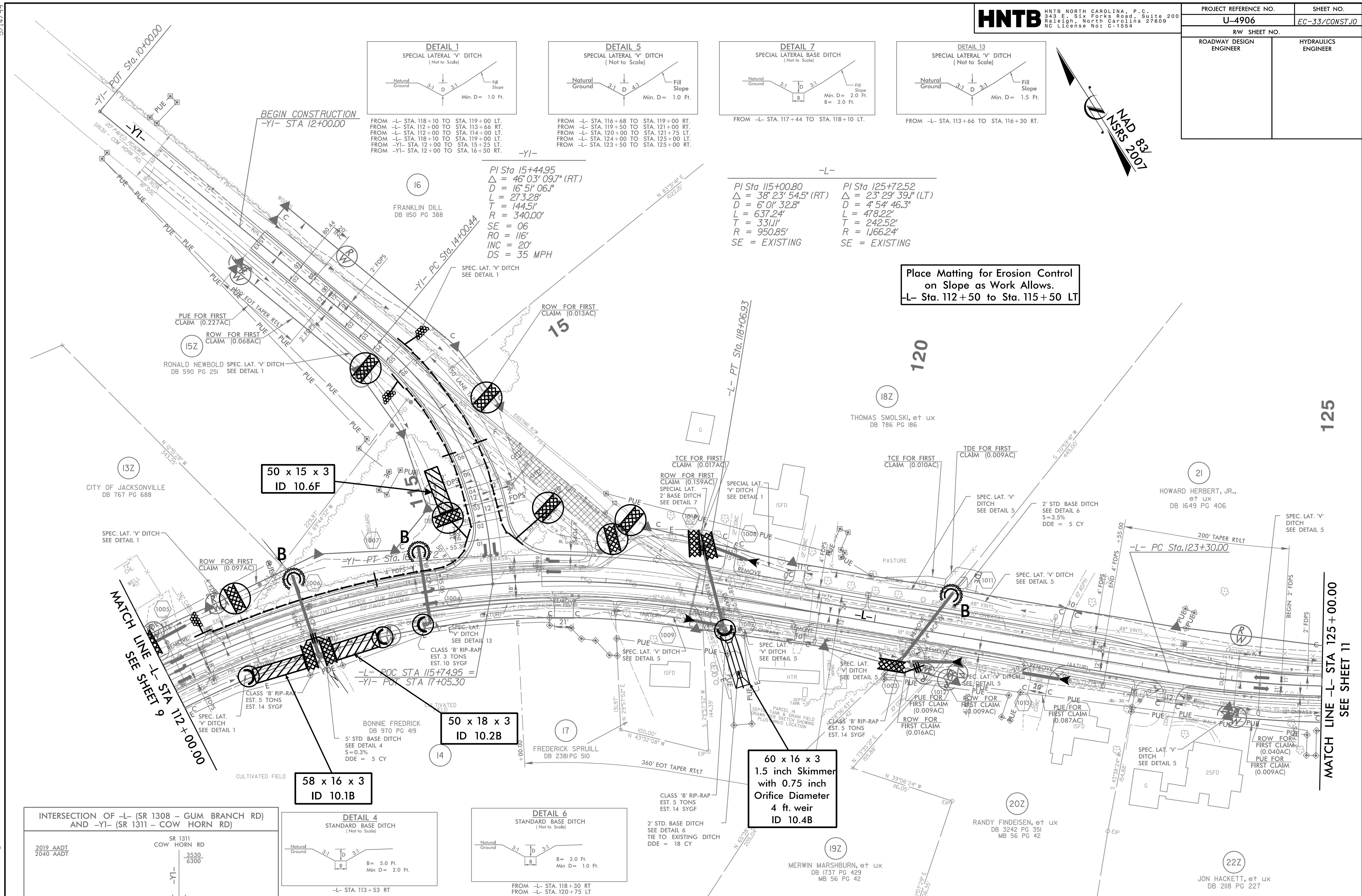
FROM -L STA. 113+66 TO STA. 116+30 RT.

PI Sta 15+44.95
 $\Delta = 46^{\circ} 03' 09.7''$ (RT)
 $D = 16' 51' 06.1''$
 $L = 273.28'$
 $T = 144.51'$
 $R = 340.00'$
 $SE = 06$
 $RO = 116'$
 $INC = 20'$
 $DS = 35$ MPH

PI Sta 115+00.80
 $\Delta = 38^{\circ} 23' 54.5''$ (RT)
 $D = 6' 01' 32.8''$
 $L = 637.24'$
 $T = 331.11'$
 $R = 950.85'$
 $SE = EXISTING$

PI Sta 125+72.52
 $\Delta = 23^{\circ} 29' 39.1''$ (LT)
 $D = 4' 54' 46.3''$
 $L = 478.22'$
 $T = 242.52'$
 $R = 1,166.24'$
 $SE = EXISTING$

Place Matting for Erosion Control
 on Slope as Work Allows.
 -L- Sta. 112+50 to Sta. 115+50 LT



60 x 16 x 3
 1.5 inch Skimmer
 with 0.75 inch
 Orifice Diameter
 4 ft. weir
 ID 10.4B

50 x 15 x 3
 ID 10.6F

50 x 18 x 3
 ID 10.2B

58 x 16 x 3
 ID 10.1B

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
 NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

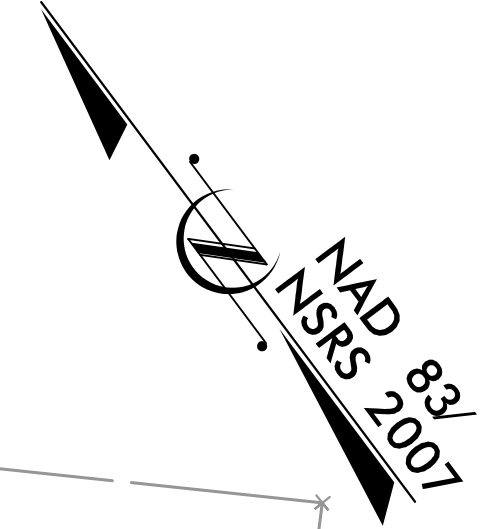
FOR -L- PROFILE, SEE SHEETS 29 AND 30
 FOR -YI- PROFILE, SEE SHEET 38

5/18/2021 EC-10_Const-10.dgn

5/14/99

HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-35/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



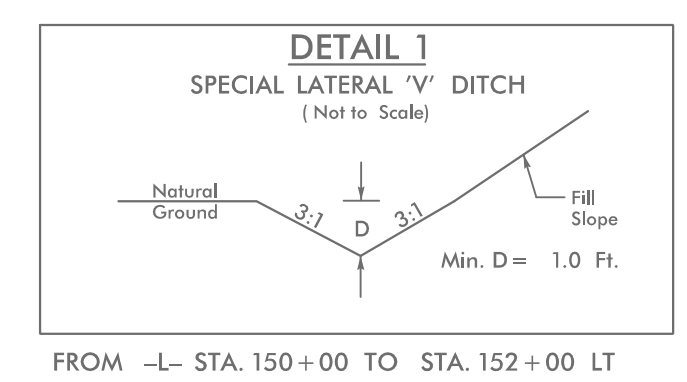
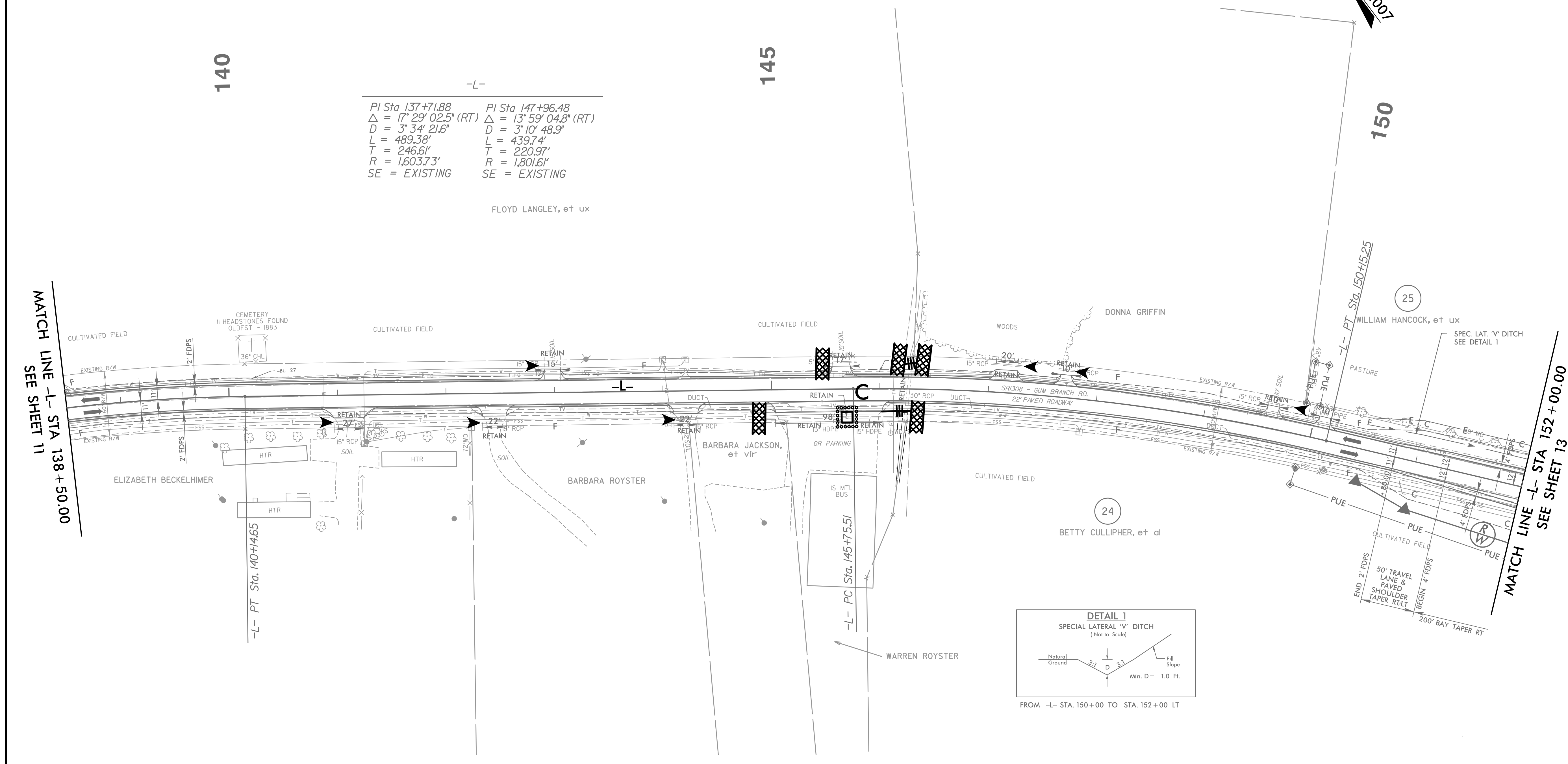
-L-

PI Sta 137+71.88	PI Sta 147+96.48
$\Delta = 17^{\circ} 29' 02.5''$ (RT)	$\Delta = 13^{\circ} 59' 04.8''$ (RT)
$D = 3^{\circ} 34' 21.6''$	$D = 3^{\circ} 10' 48.9''$
$L = 489.38'$	$L = 439.74'$
$T = 246.61'$	$T = 220.97'$
$R = 1,603.73'$	$R = 1,801.61'$
SE = EXISTING	SE = EXISTING

FLOYD LANGLEY, et ux

MATCH LINE -L- STA 138 + 50.00
SEE SHEET 11

MATCH LINE -L- STA 152 + 00.00
SEE SHEET 13



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

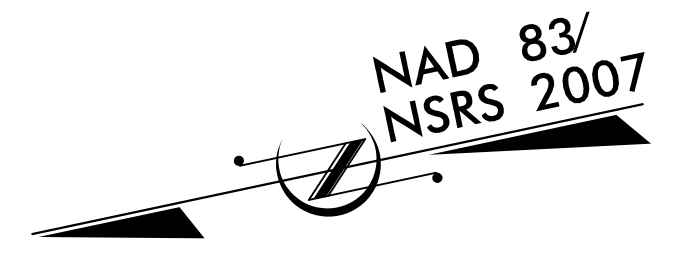
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEETS 30 AND 31

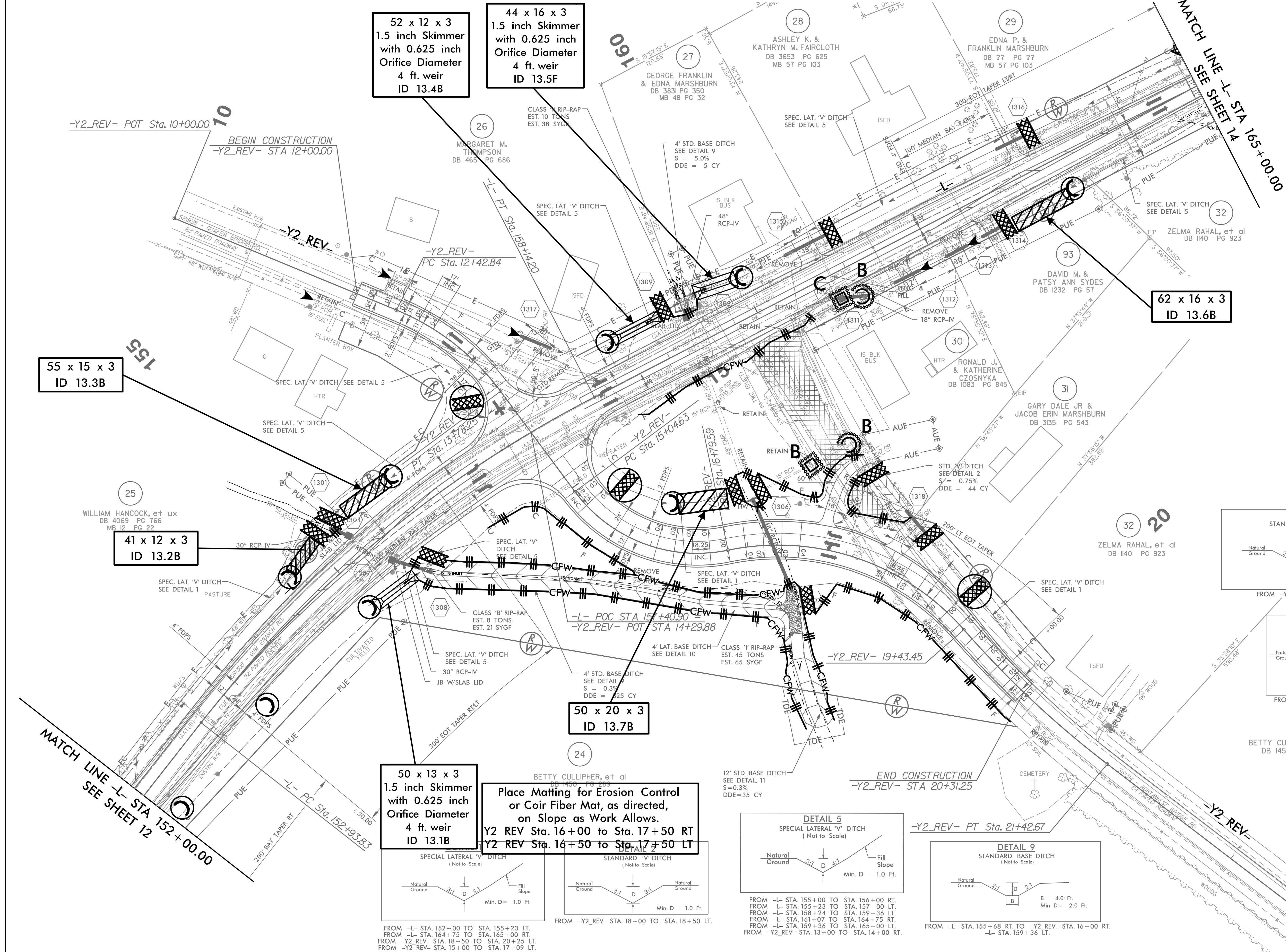
1/11/2006 12:06:56 EC-12_Const+12.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-36/CONST.13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS / JURISDICTIONAL AREAS, AND AS DIRECTED



55 x 15 x 3
ID 13.3B

41 x 12 x 3
ID 13.2B

52 x 12 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 13.4B

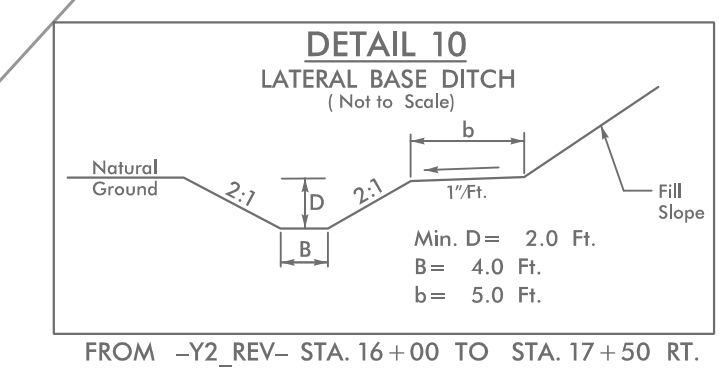
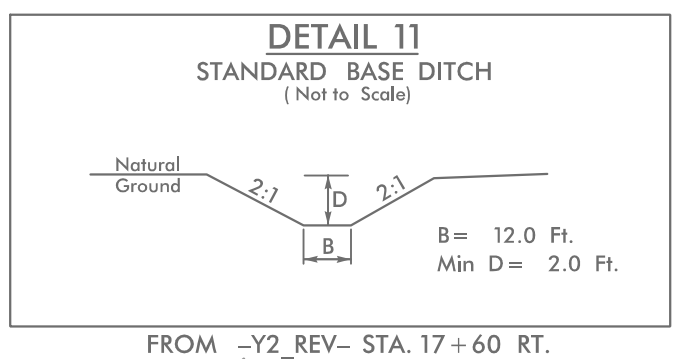
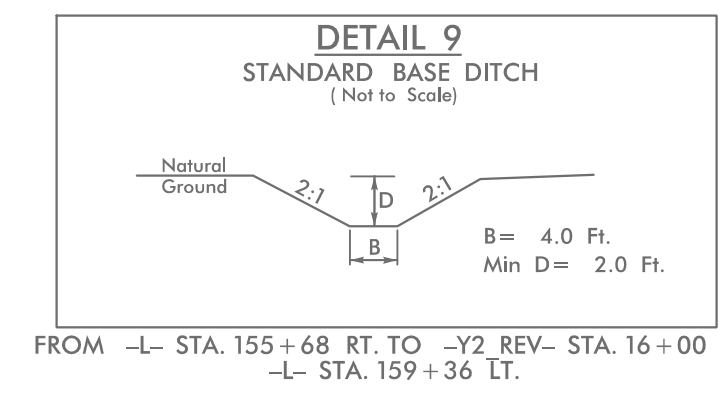
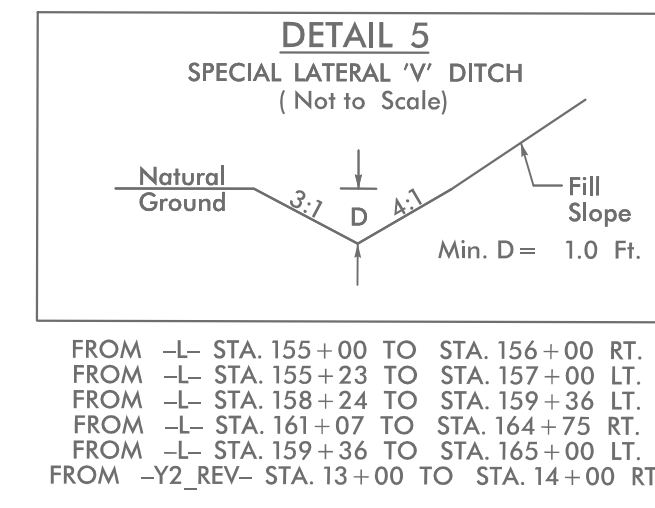
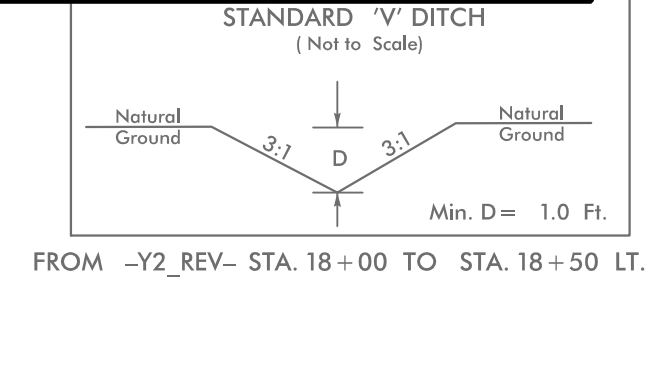
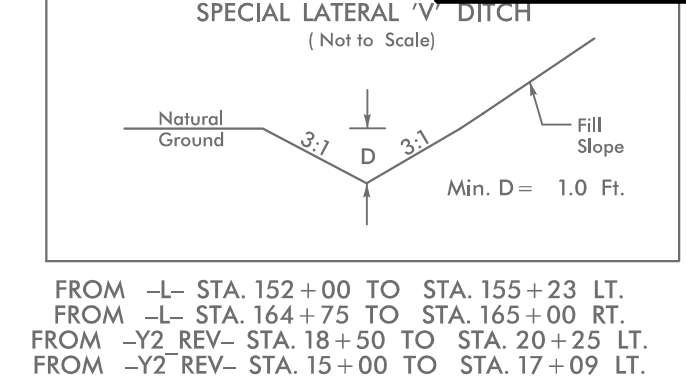
44 x 16 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 13.5F

50 x 20 x 3
ID 13.7B

50 x 13 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 13.1B

62 x 16 x 3
ID 13.6B

Place Matting for Erosion Control
or Coir Fiber Mat, as directed,
on Slope as Work Allows.
Y2 REV Sta. 16+00 to Sta. 17+50 RT
Y2 REV Sta. 16+50 to Sta. 17+50 LT



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

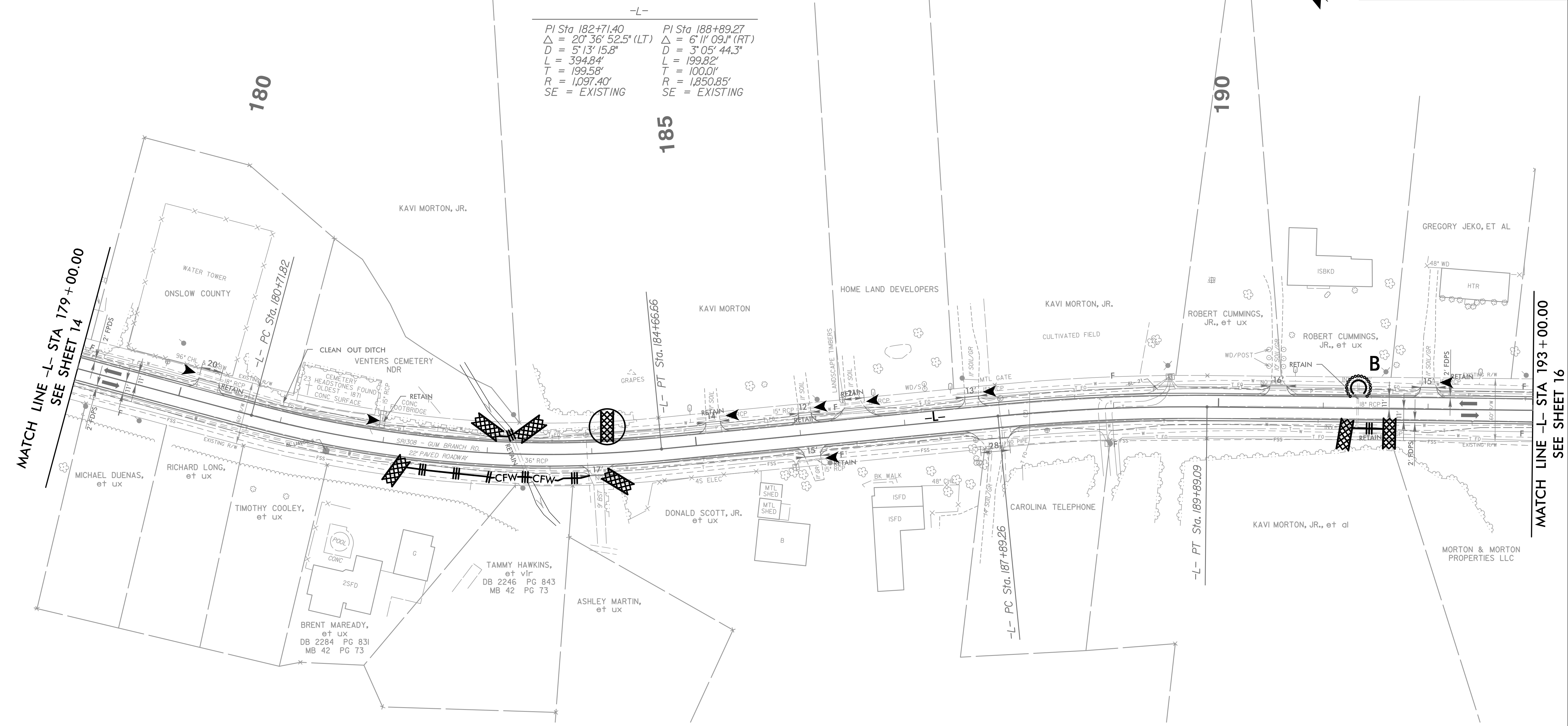
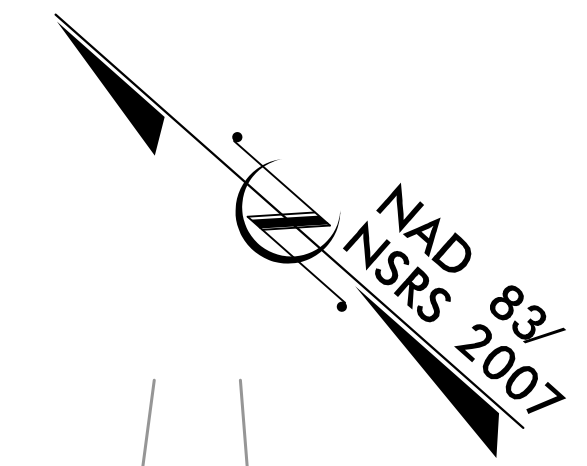
FOR -L- PROFILE, SEE SHEET 31
FOR -Y2_REV- PROFILE, SEE SHEET 38

5/18/2006-EC-13_Const-13.dgn

5/14/99

HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-38/CONST.15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-

PI Sta 182+71.40	PI Sta 188+89.27
$\Delta = 20^\circ 36' 52.5''$ (LT)	$\Delta = 6^\circ 11' 09.1''$ (RT)
$D = 5^\circ 13' 15.8''$	$D = 3^\circ 05' 44.3''$
$L = 394.84'$	$L = 199.82'$
$T = 199.58'$	$T = 100.01'$
$R = 1,097.40'$	$R = 1,850.85'$
SE = EXISTING	SE = EXISTING

MATCH LINE -L- STA 179+00.00
SEE SHEET 14

MATCH LINE -L- STA 193+00.00
SEE SHEET 16

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

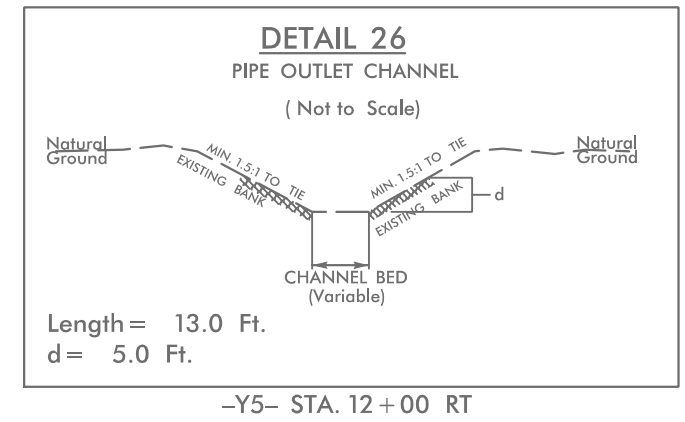
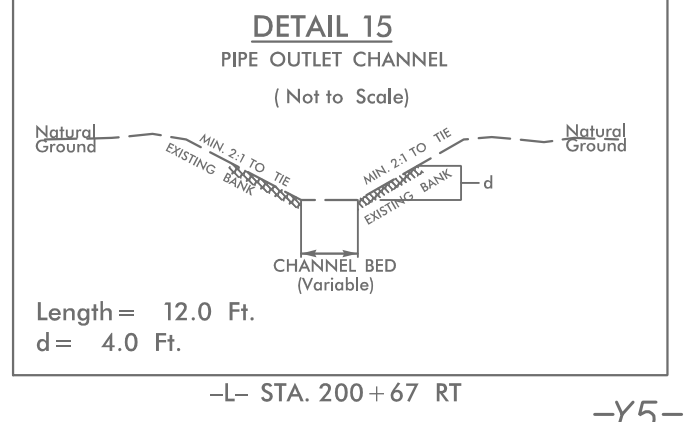
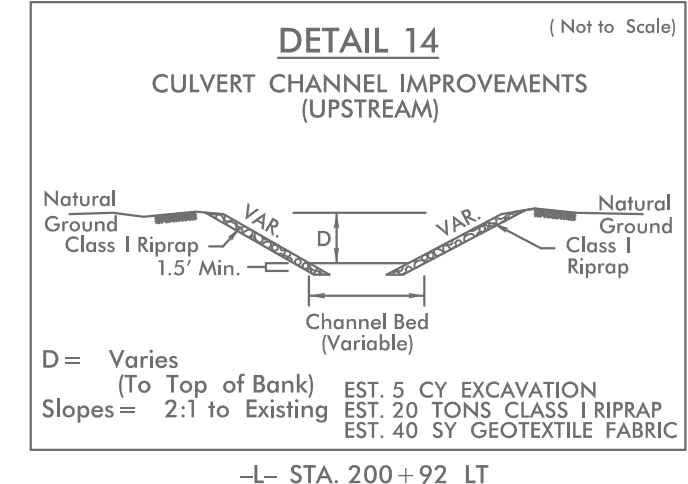
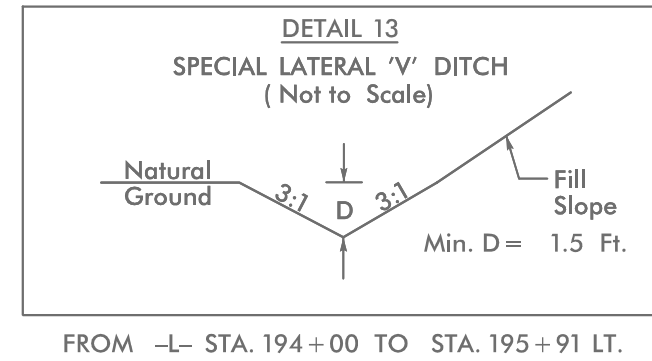
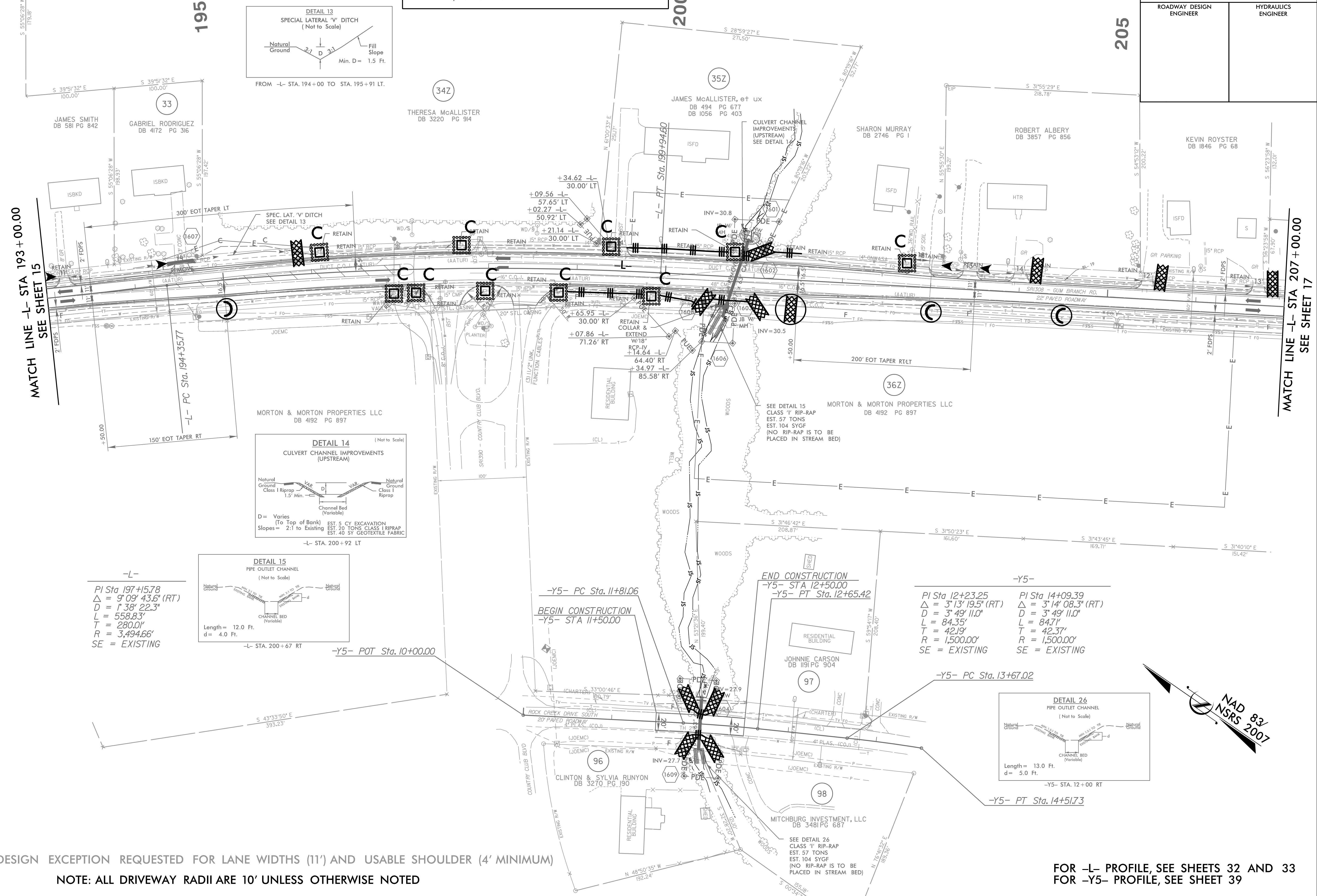
FOR -L- PROFILE, SEE SHEET 32

1/1/2008 10:06:15 AM EC-15_Const-15.dgn
HNTB

5/14/99
5/18/2006
HNTB
5/18/2006 EC-16.Const-16.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-39/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS /JURISDICTIONAL AREAS, AND AS DIRECTED



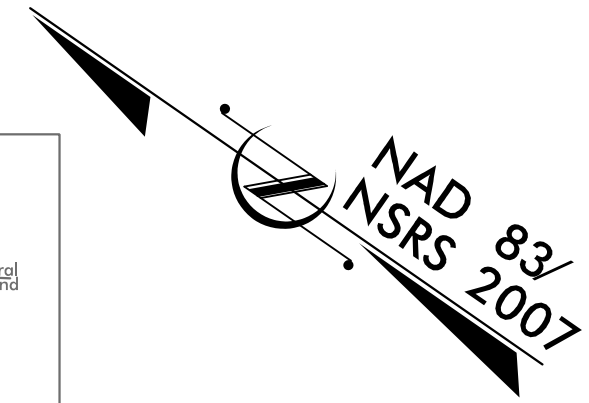
-L-
PI Sta 197+15.78
 $\Delta = 9'09''43.6''$ (RT)
D = 1'38''22.3''
L = 558.83'
T = 280.0'
R = 3,494.66'
SE = EXISTING

-Y5-
PI Sta 12+23.25
 $\Delta = 3'13''19.5''$ (RT)
D = 3'49''11.0''
L = 84.35'
T = 42.19'
R = 1,500.00'
SE = EXISTING

PI Sta 14+09.39
 $\Delta = 3'14''08.3''$ (RT)
D = 3'49''11.0''
L = 84.71'
T = 42.37'
R = 1,500.00'
SE = EXISTING

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

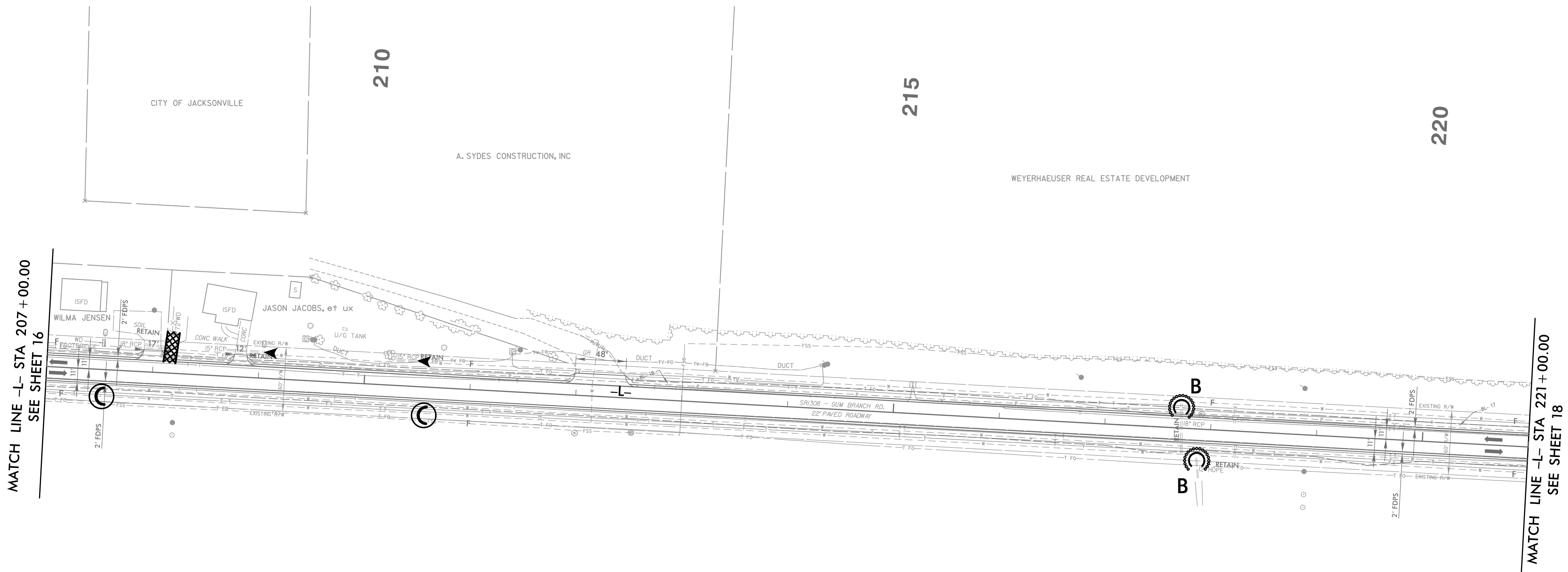
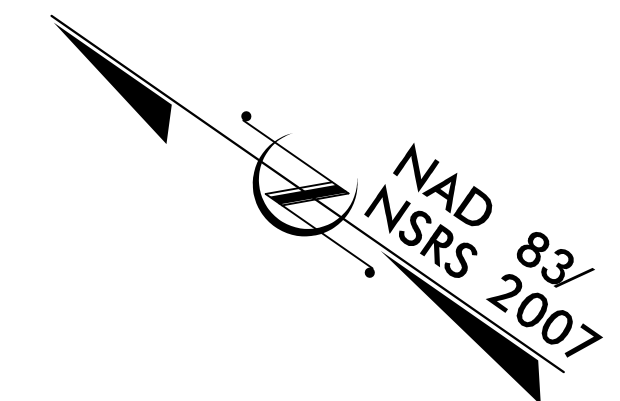
FOR -L- PROFILE, SEE SHEETS 32 AND 33
FOR -Y5- PROFILE, SEE SHEET 39



5/14/99

HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-40/CONST-17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCH LINE -L- STA 207+00.00
SEE SHEET 16

MATCH LINE -L- STA 221+00.00
SEE SHEET 18

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED

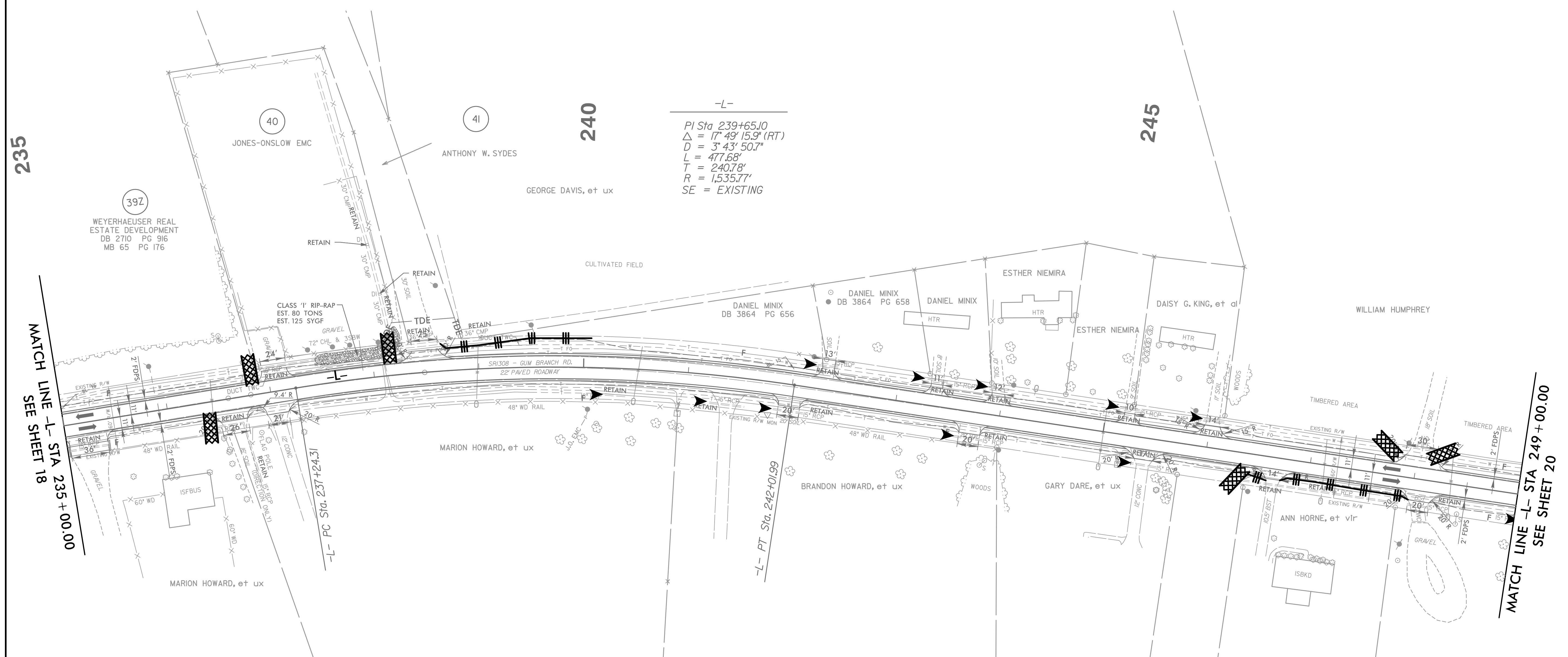
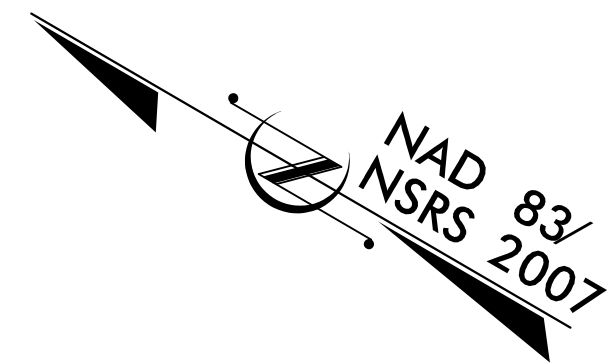
FOR -L- PROFILE, SEE SHEETS 33

1/1/2018 10:06:56 AM EC-17_Const-17.dgn
HNTB

8/17/99

HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-42/CONST.19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-
 PI Sta 239+65.10
 $\Delta = 17^\circ 49' 15.9''$ (RT)
 $D = 3^\circ 43' 50.7''$
 $L = 477.68'$
 $T = 240.78'$
 $R = 1,535.77'$
 SE = EXISTING

MATCH LINE -L- STA 235 + 00.00
SEE SHEET 18

MATCH LINE -L- STA 249 + 00.00
SEE SHEET 20

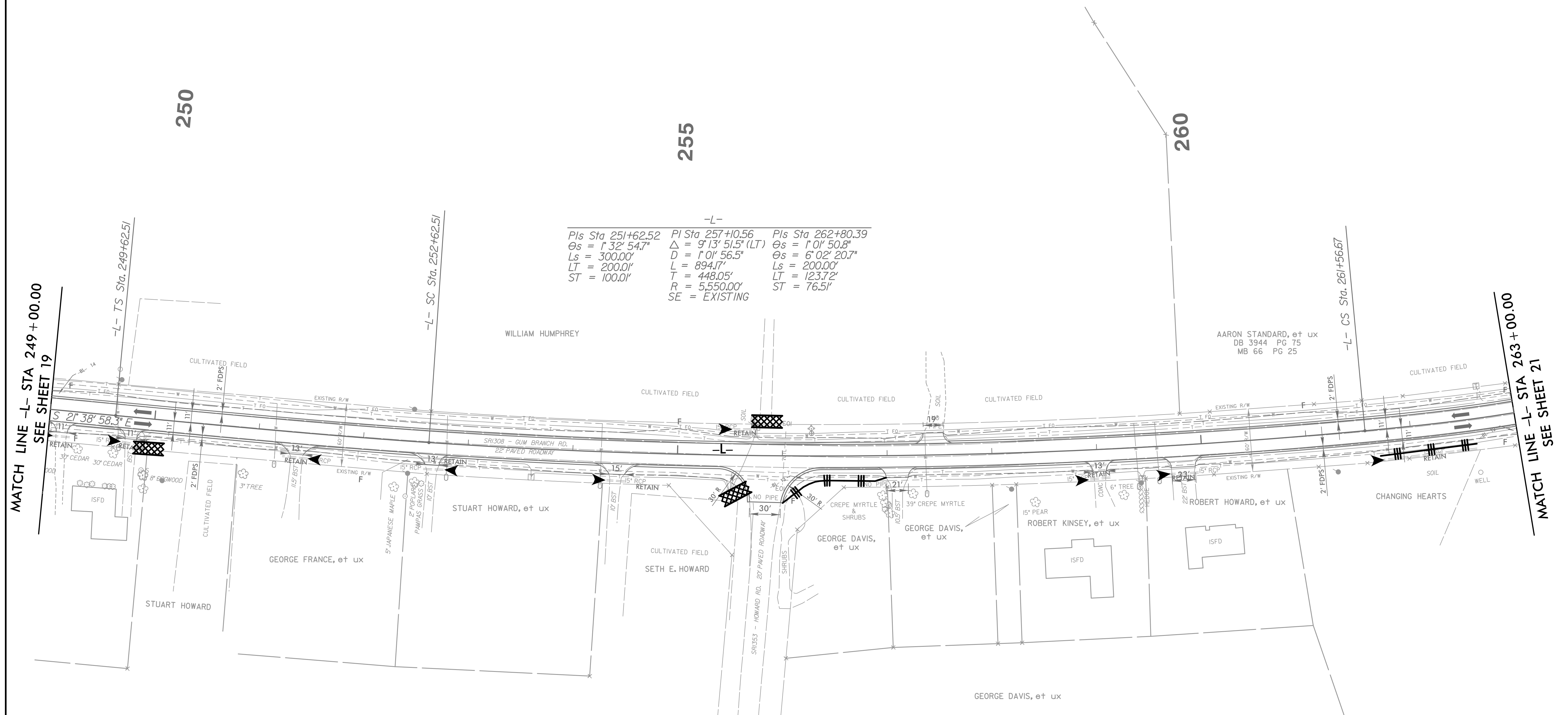
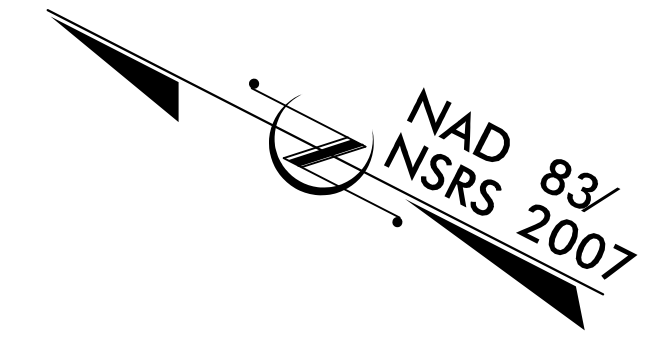
DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
 NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS

FOR -L- PROFILE, SEE SHEET 34

1/11/2009 10:06:56 EC-19_Const-19.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-43/CONST.20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-

Pls Sta 251+62.52	PI Sta 257+10.56	Pls Sta 262+80.39
$\theta_s = 1^\circ 32' 54.7''$	$\Delta = 9^\circ 13' 51.5''$ (LT)	$\theta_s = 1^\circ 01' 50.8''$
$L_s = 300.00'$	$D = 1^\circ 01' 56.5''$	$\theta_s = 6^\circ 02' 20.7''$
$LT = 200.01'$	$L = 894.7'$	$L_s = 200.00'$
$ST = 100.01'$	$T = 448.05'$	$LT = 123.72'$
	$R = 5,550.00'$	$ST = 76.51'$
	$SE = EXISTING$	

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
 NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS

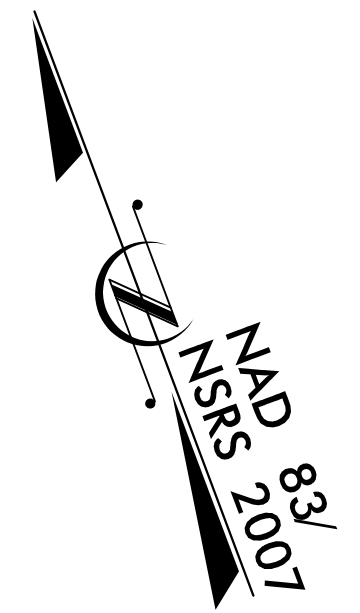
FOR -L- PROFILE, SEE SHEETS 34 AND 35

1/1/2018 10:06:56 EC-20_Const-20.dgn
 HNTB

8/17/99

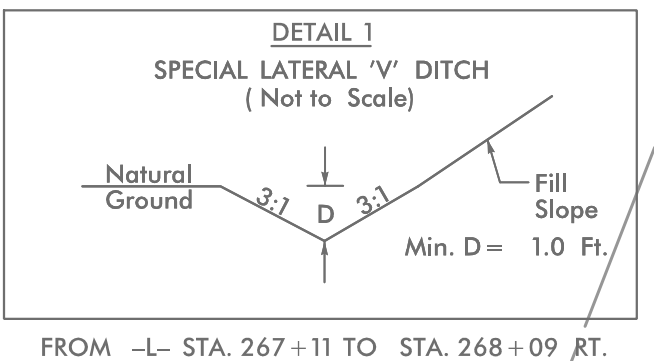
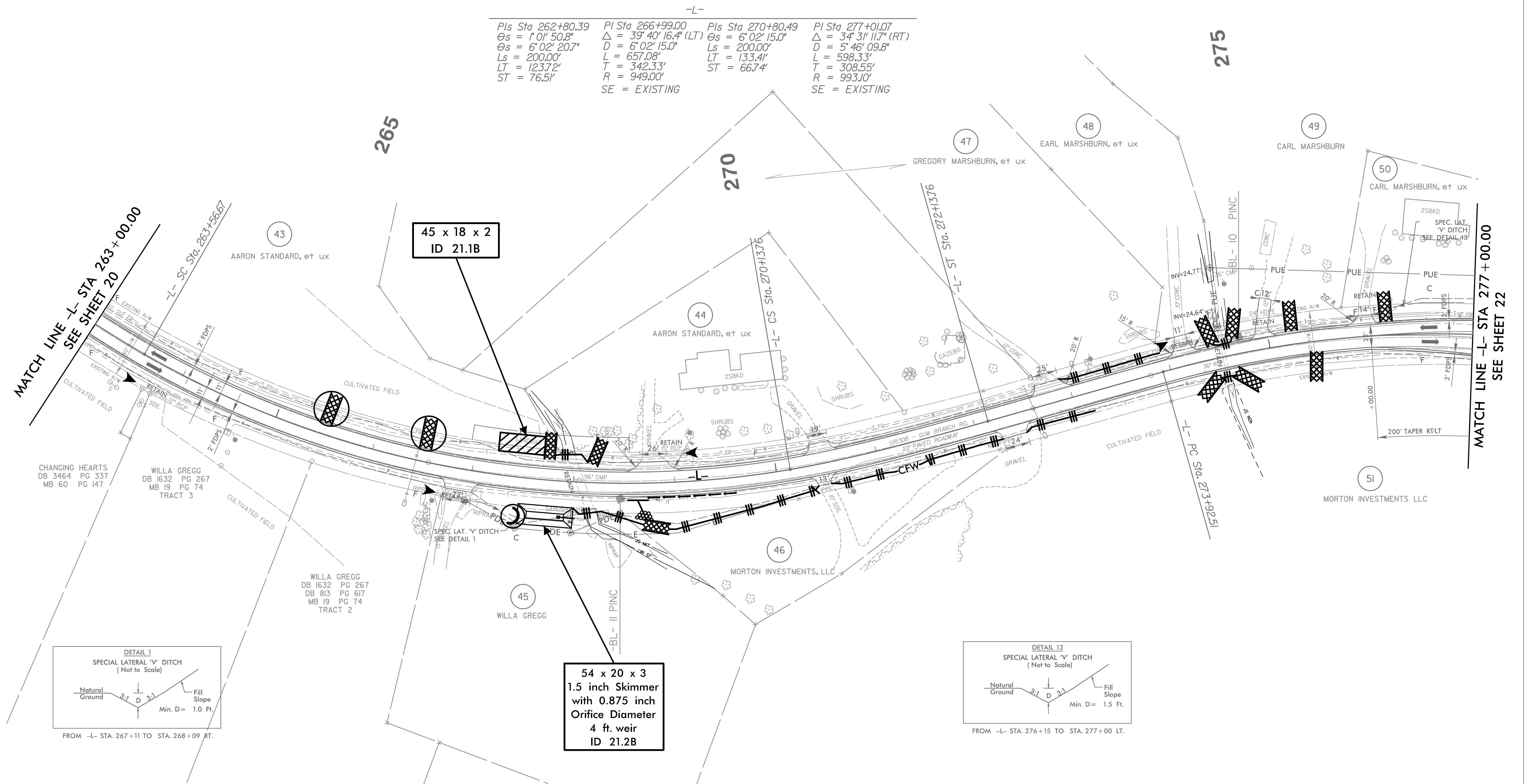
PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-44/CONST.21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE: UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS /JURISDICTIONAL AREAS, AND AS DIRECTED

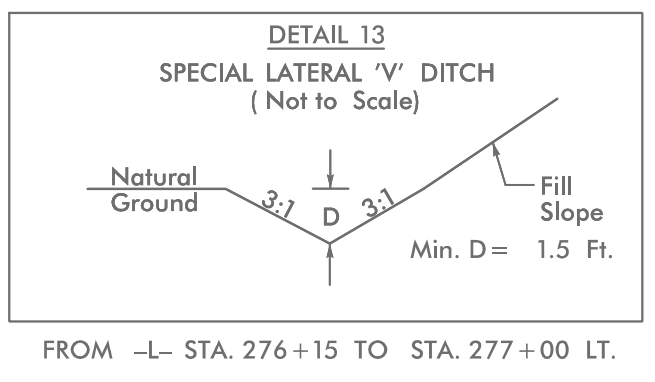


-L-

PIs Sta 262+80.39 θs = 1° 01' 50.8" θs = 6° 02' 20.7" Ls = 200.00' LT = 123.72' ST = 76.51'	PI Sta 266+99.00 Δ = 39° 40' 16.4" (LT) D = 6° 02' 15.0" L = 657.08' T = 342.33' R = 949.00' SE = EXISTING	PIs Sta 270+80.49 θs = 6° 02' 15.0" Ls = 200.00' LT = 133.41' ST = 66.74'	PI Sta 277+01.07 Δ = 34° 31' 11.7" (RT) D = 5° 46' 09.8" L = 598.33' T = 308.55' R = 993.10' SE = EXISTING
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54 x 20 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft weir
ID 21.2B



DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

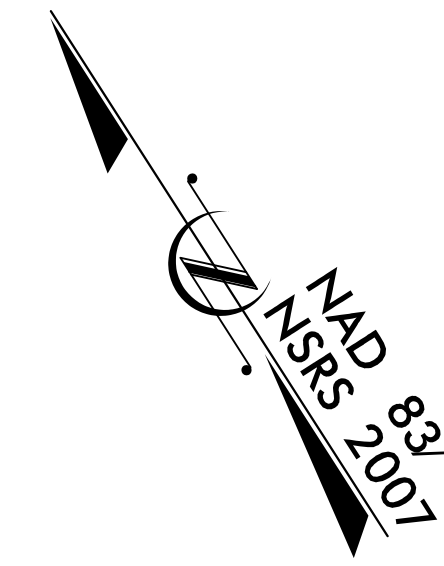
NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS

FOR -L- PROFILE, SEE SHEET 35

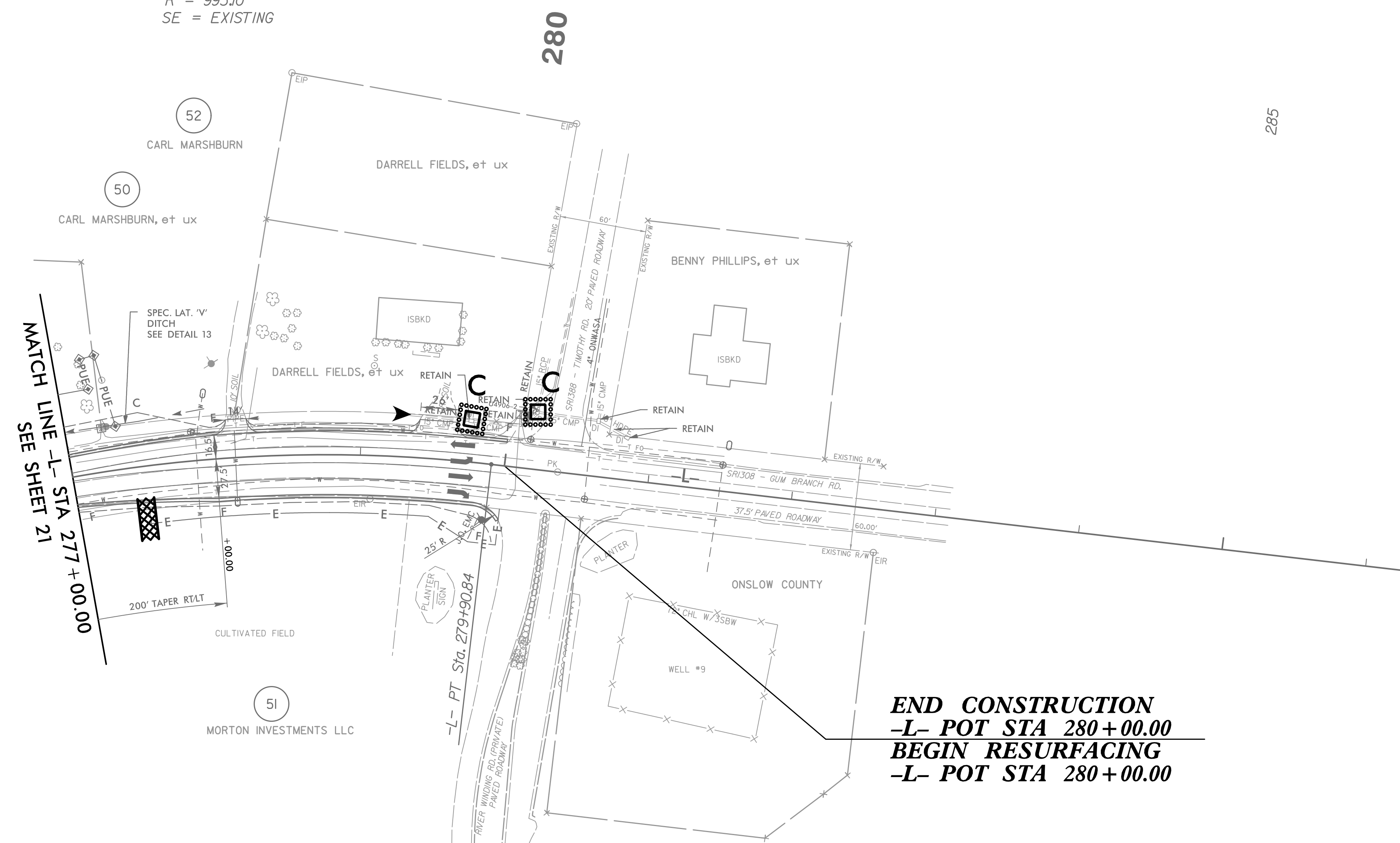
1/1/2009 10:06:56 EC-21_Const-21.dgn

8/17/99

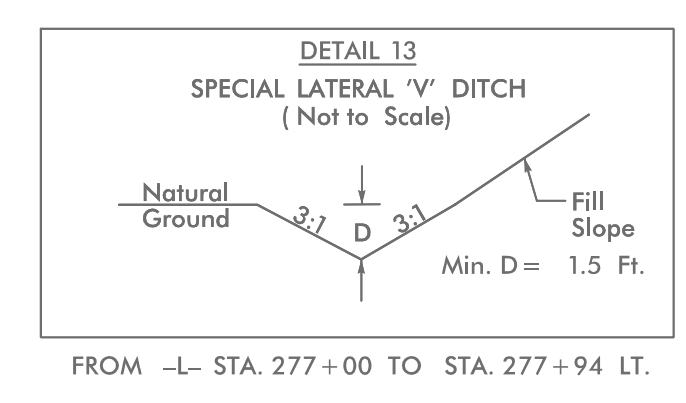
PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-45/CONST.22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-
 PI Sta 277+01.07
 $\Delta = 34' 31'' 11.7'' (RT)$
 $D = 5' 46'' 09.8''$
 $L = 598.33'$
 $T = 308.55'$
 $R = 993.10'$
 SE = EXISTING



END CONSTRUCTION
-L- POT STA 280+00.00
BEGIN RESURFACING
-L- POT STA 280+00.00



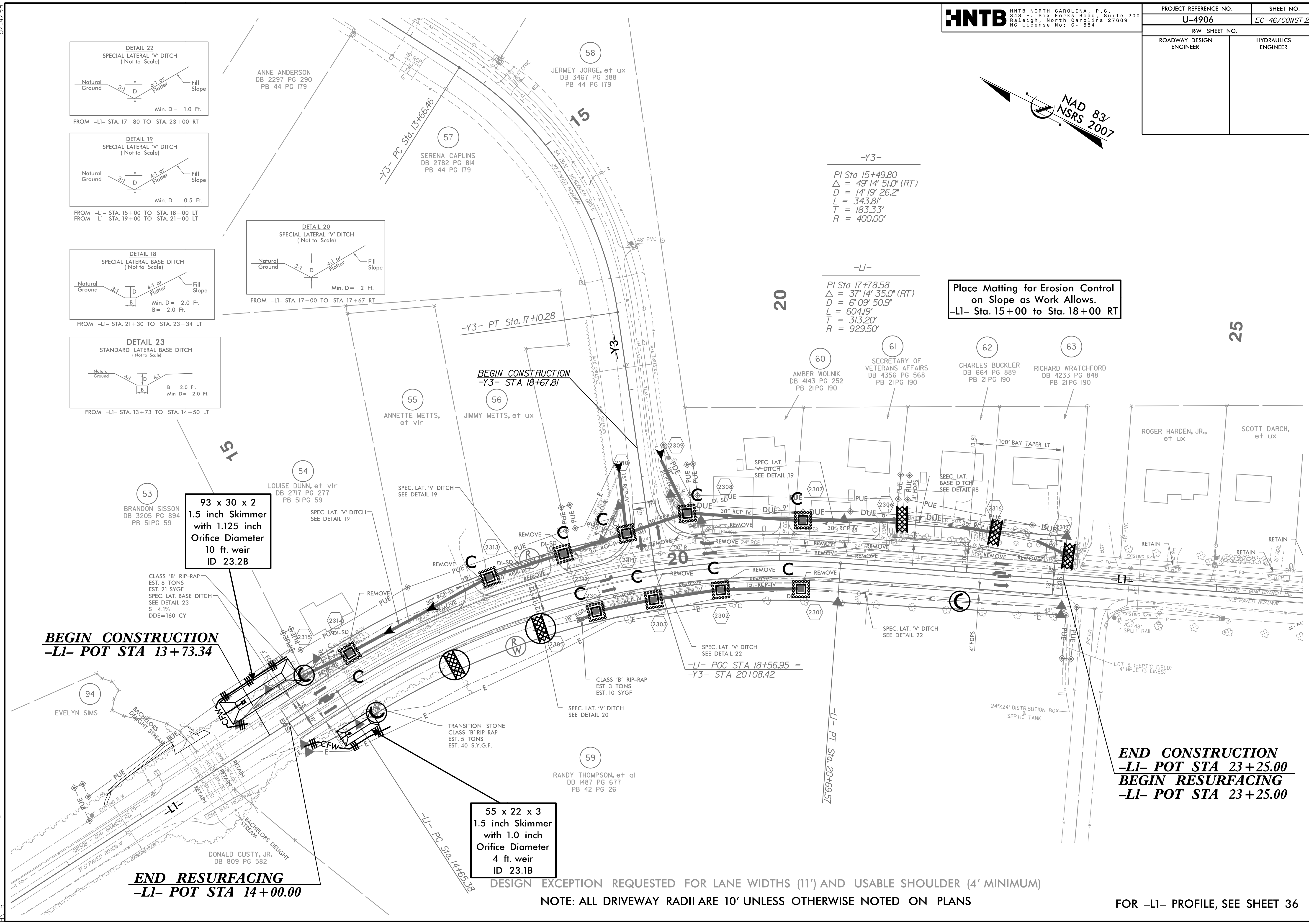
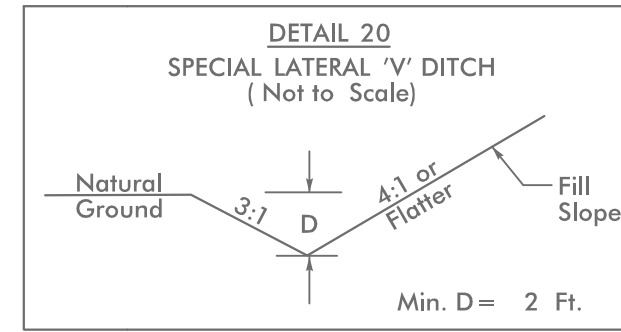
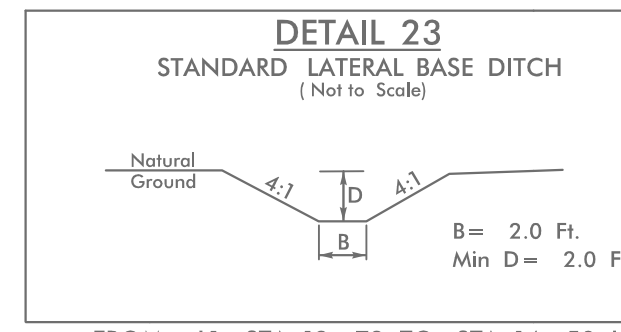
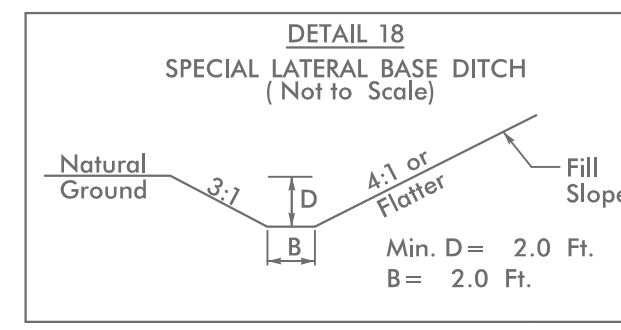
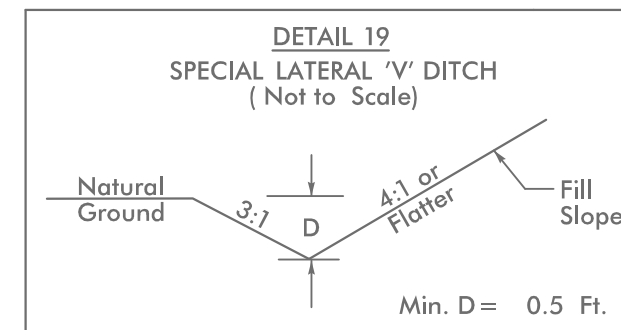
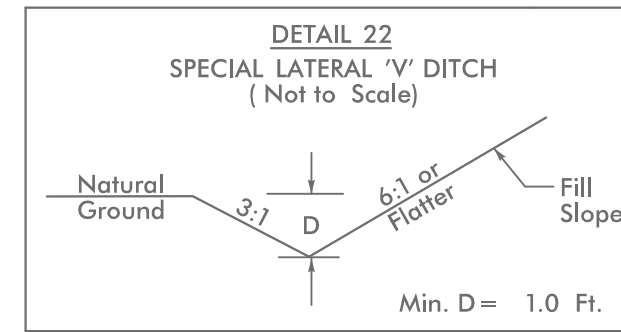
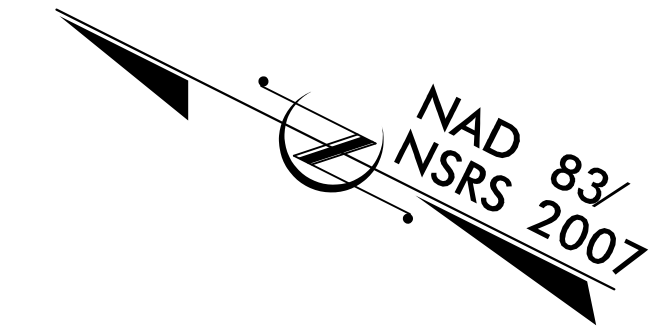
DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS

FOR -L- PROFILE, SEE SHEET 35

I:\V\2006\106-EC-22-Const-22.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-46/CONST.23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



93 x 30 x 2
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
10 ft. weir
ID 23.2B

55 x 22 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
4 ft. weir
ID 23.1B

**Place Matting for Erosion Control
on Slope as Work Allows.**
-L1- Sta. 15+00 to Sta. 18+00 RT

BEGIN CONSTRUCTION
-L1- POT STA 13+73.34

END RESURFACING
-L1- POT STA 14+00.00

END CONSTRUCTION
-L1- POT STA 23+25.00
BEGIN RESURFACING
-L1- POT STA 23+25.00

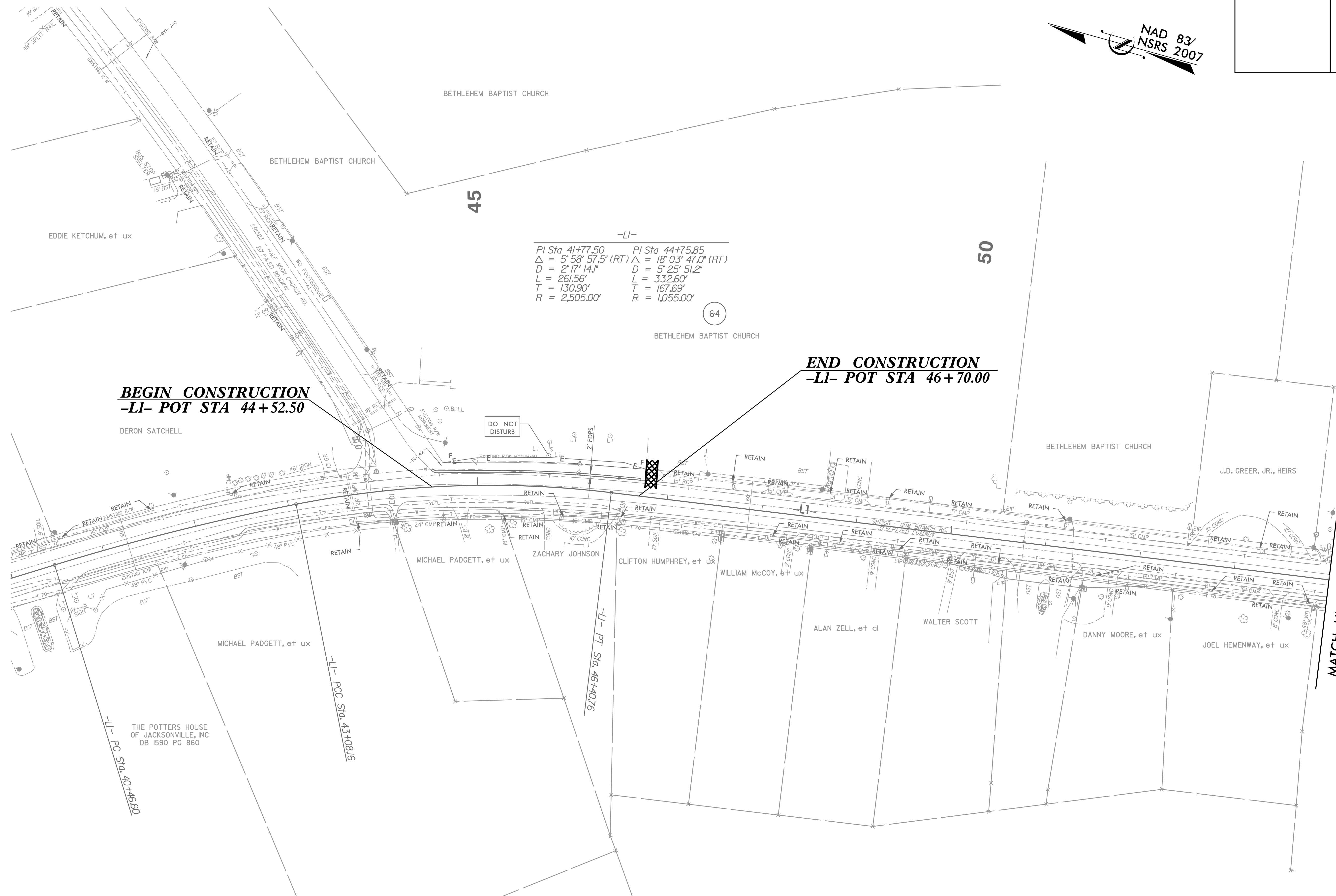
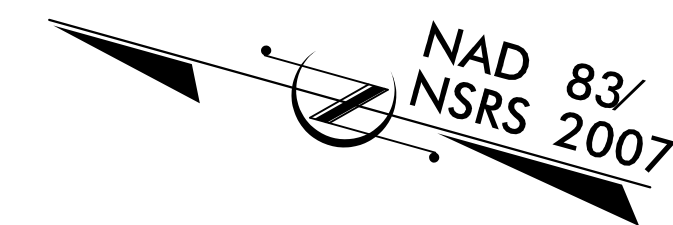
DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)
 NOTE: ALL DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED ON PLANS

FOR -L1- PROFILE, SEE SHEET 36

5/14/99
1/11/2006 EC-23_Const-23.dgn

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4906	EC-47/CONST.24
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-LI-
 PI Sta 41+77.50 PI Sta 44+75.85
 $\Delta = 5^{\circ} 58' 57.5''$ (RT) $\Delta = 18^{\circ} 03' 47.0''$ (RT)
 $D = 2^{\circ} 17' 14.1''$ $D = 5^{\circ} 25' 51.2''$
 $L = 261.56'$ $L = 332.60'$
 $T = 130.90'$ $T = 167.69'$
 $R = 2,505.00'$ $R = 1,055.00'$

BEGIN CONSTRUCTION
-LI- POT STA 44+52.50

END CONSTRUCTION
-LI- POT STA 46+70.00

MATCH LINE -LI- STA 54+00.00
SEE SHEET 25

DESIGN EXCEPTION REQUESTED FOR LANE WIDTHS (11') AND USABLE SHOULDER (4' MINIMUM)

FOR -LI- PROFILE, SEE SHEET 36

1/11/2009 10:06:56 EC-24_Const-24.dgn