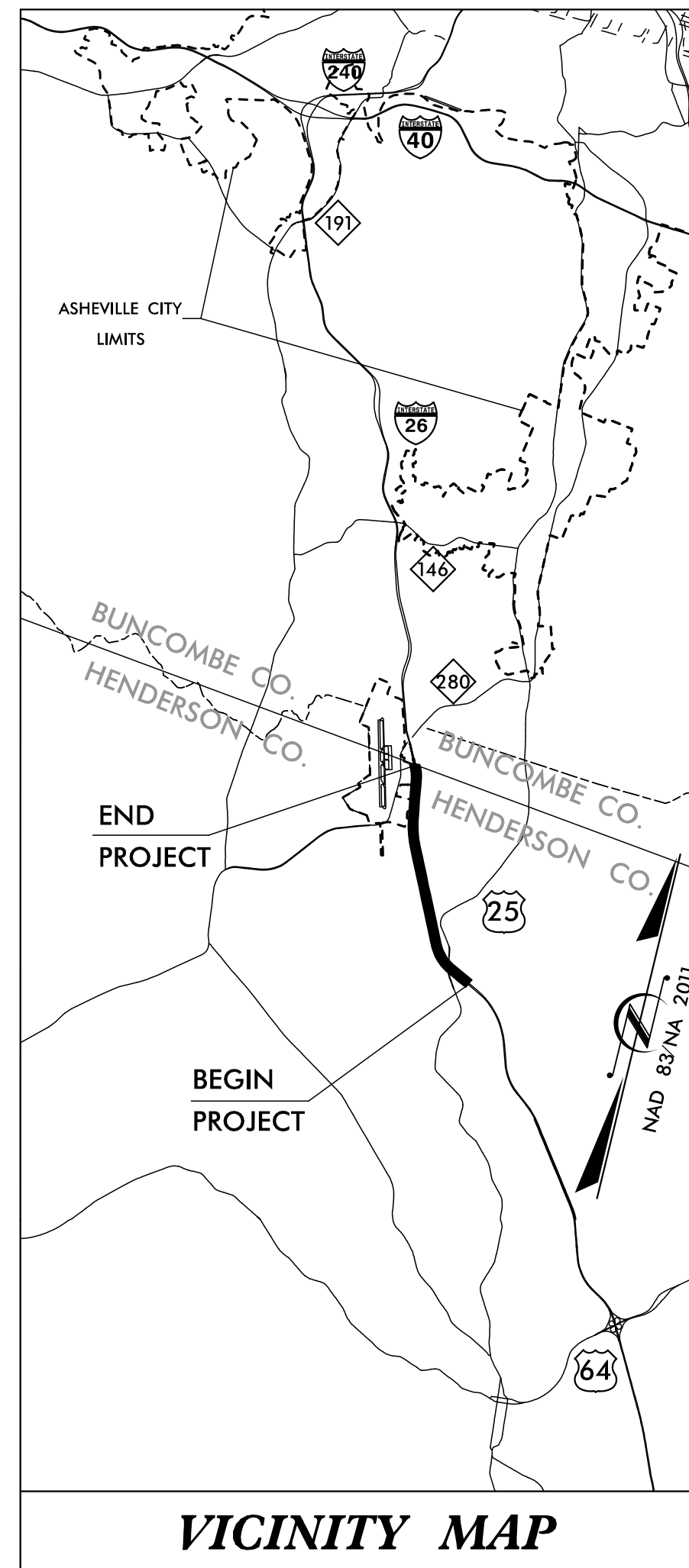


**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

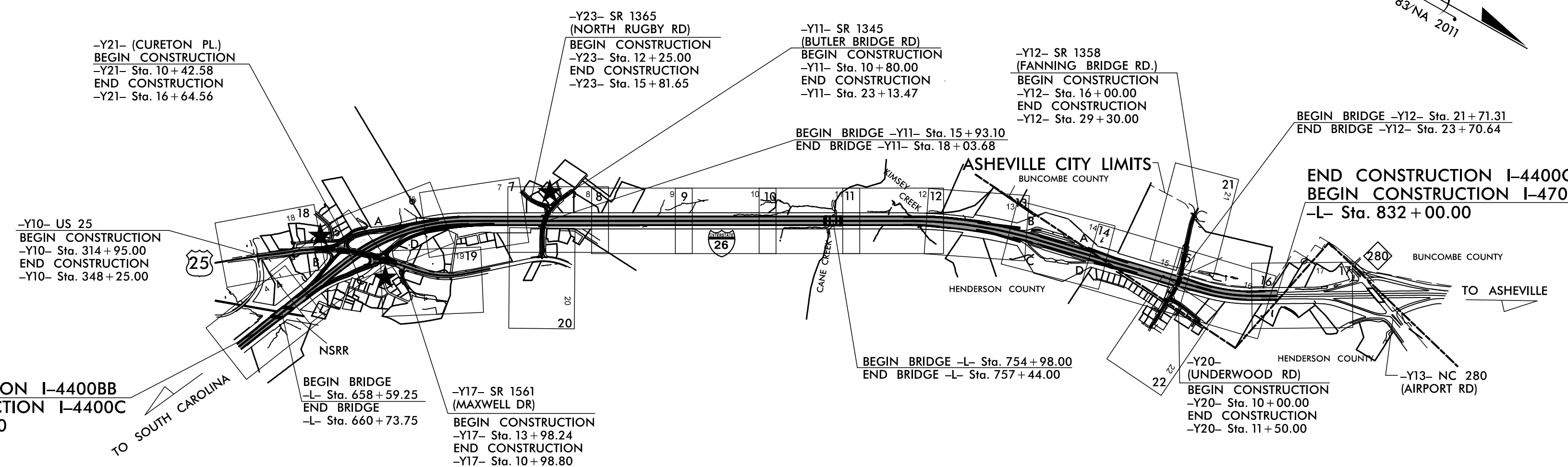
**This file or an individual page  
shall not be considered a certified document.**

**TIP PROJECT: I-4400C**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL  
**BUNCOMBE &  
HENDERSON COUNTIES**

**LOCATION: I-26 BETWEEN US 25 (ASHEVILLE HIGHWAY) TO SOUTH OF NC 280**  
**TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES, CULVERTS,  
RETAINING WALLS, SOUND WALLS, SIGNALS, AND SIGNING**



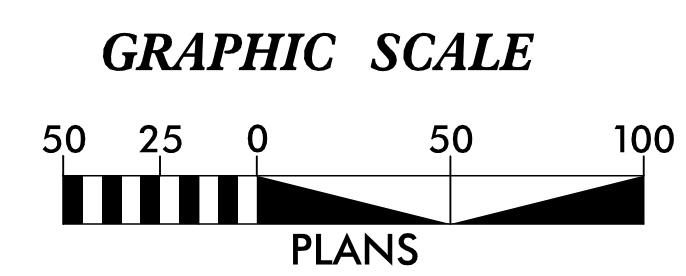
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-4400C	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SSCF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle/Coir Fiber Wattle	W/CFW
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	W/CFW-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDA-B
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISTRA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISTRA-B
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SKB
	Tiered Skimmer Basin	TSKB
	Infiltration Basin	IB

**THIS PROJECT CONTAINS  
EROSION CONTROL PLANS  
FOR CLEARING AND  
GRUBBING PHASE OF  
CONSTRUCTION.**

**THIS PROJECT HAS  
BEEN DESIGNED TO  
SENSITIVE WATERSHED  
STANDARDS.**



**THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH  
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000  
GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019  
AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.**

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

Prepared In the Office of:

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

Designed by:

**NATALIE CHAN, P.E.** **3444**  
NAME LEVEL III CERTIFICATION NO.

**Roadway Standard Drawings**

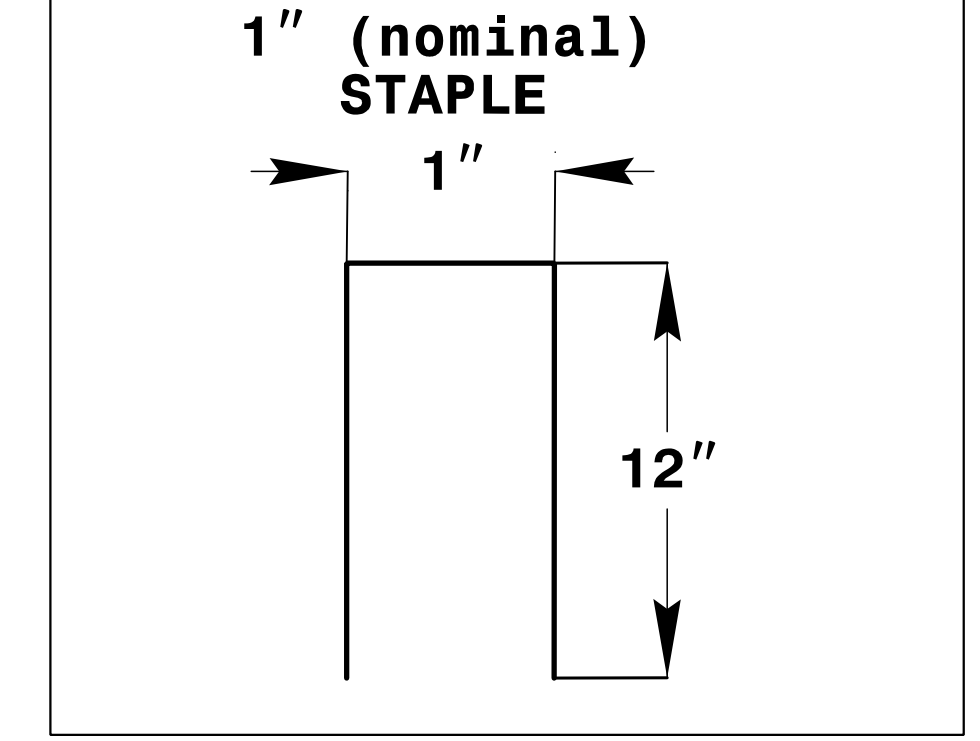
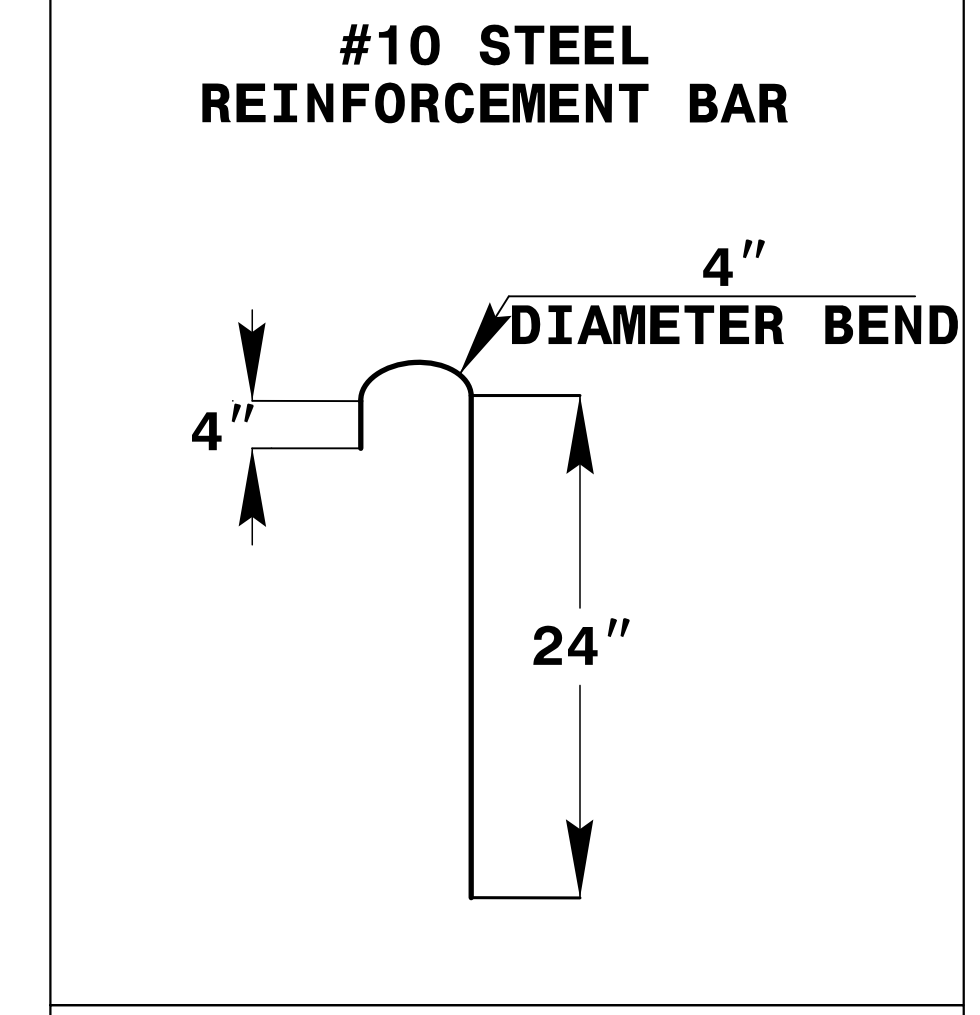
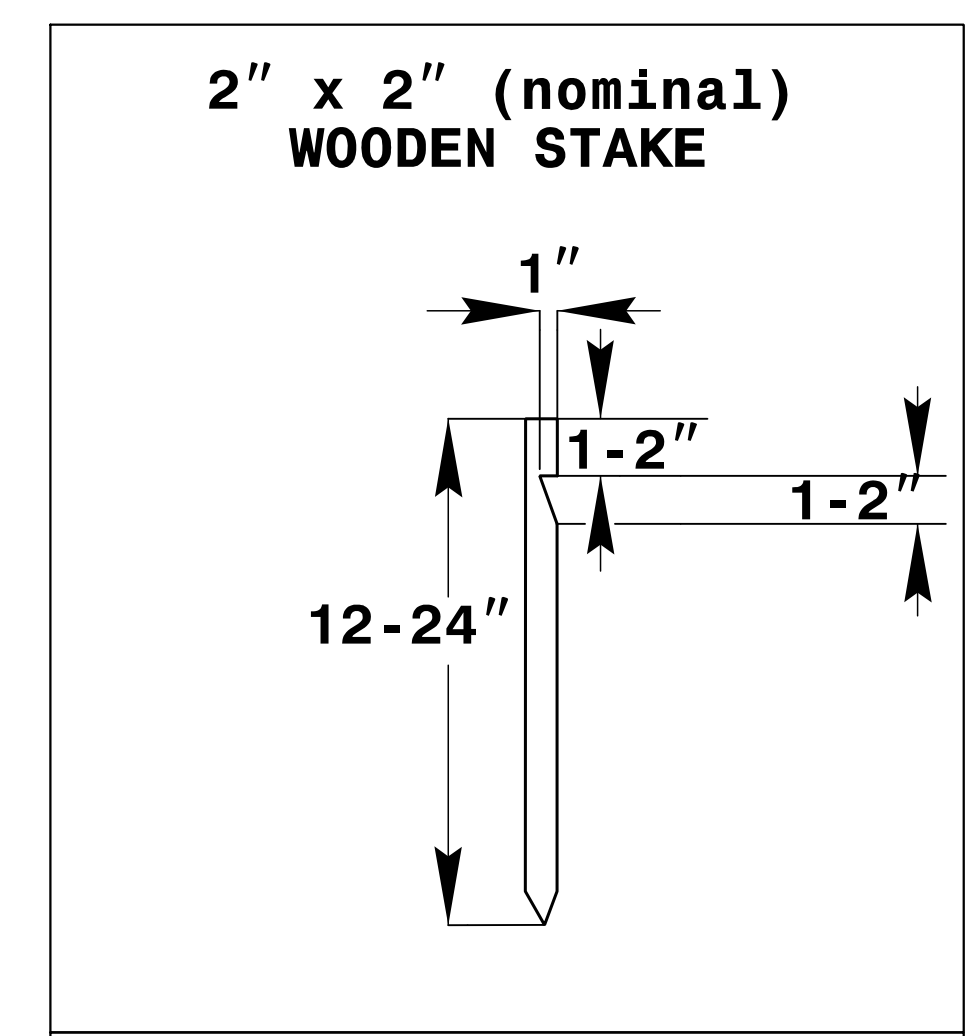
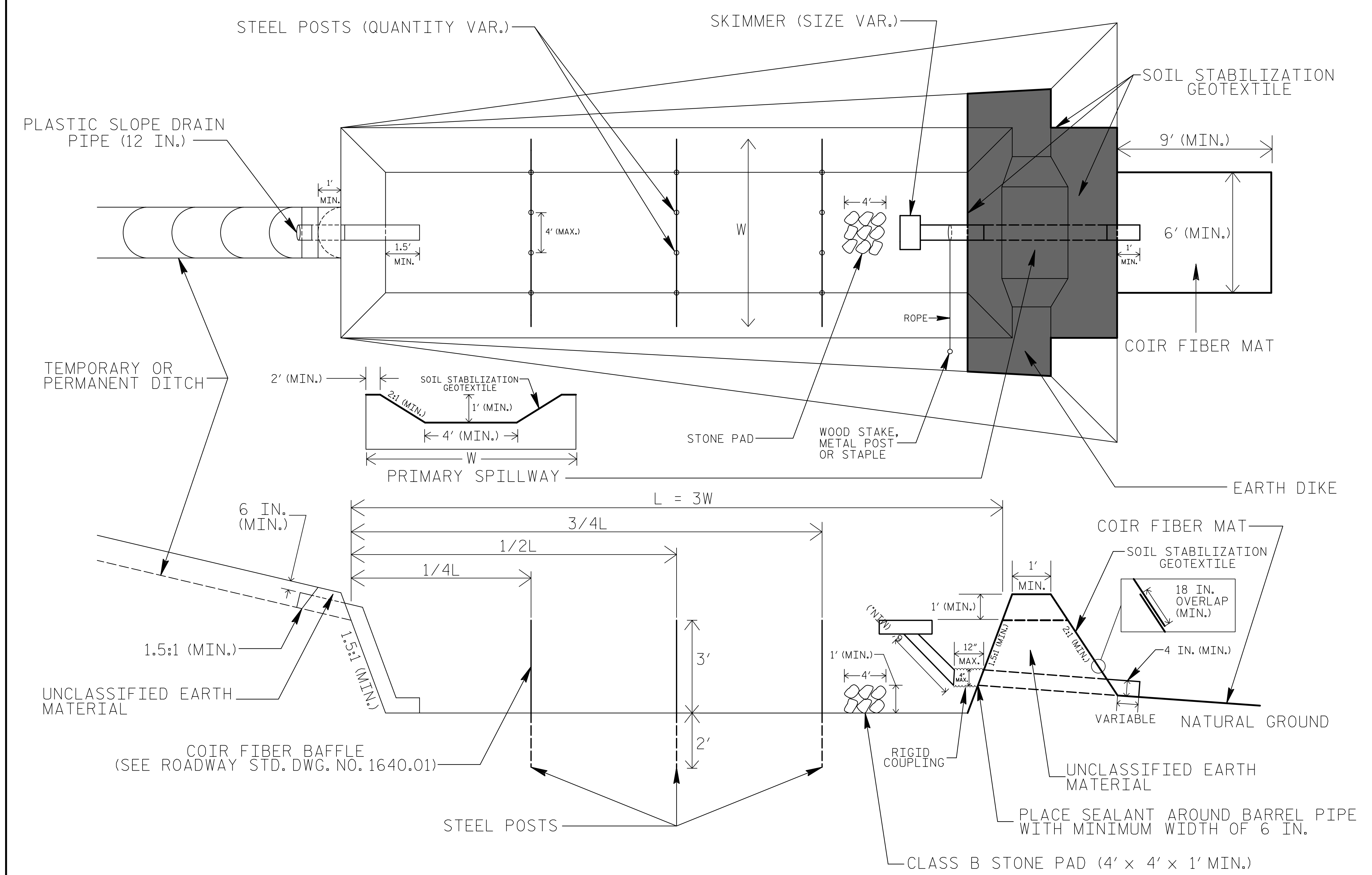
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

4/8/2019...HNTB...PSH...TSH.dgn

PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SKIMMER BASIN WITH BAFFLES DETAIL



## COIR FIBER MAT ANCHOR OPTIONS

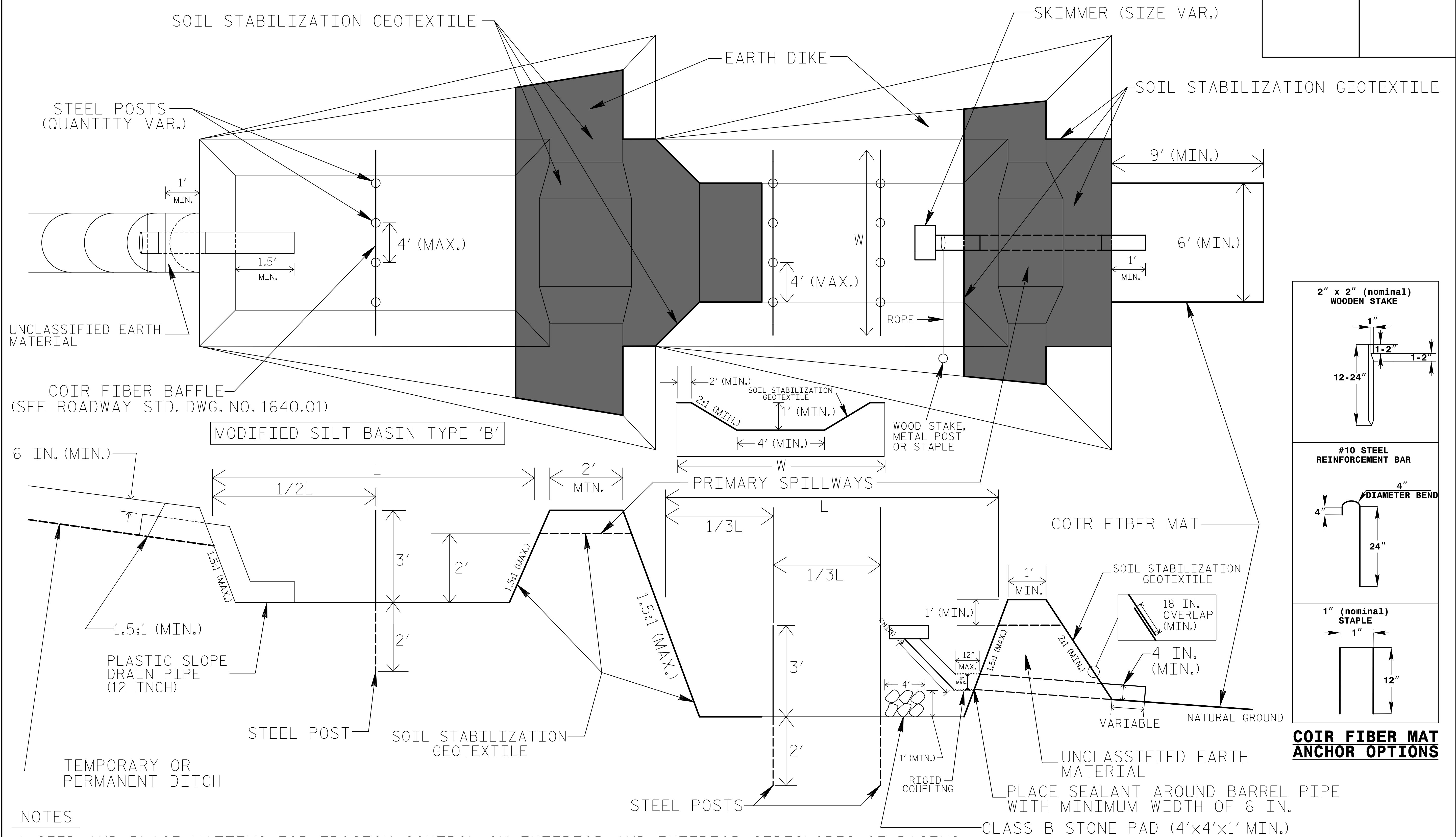
### NOTES

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. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

# TIERED SKIMMER BASIN DETAIL

PROJECT REFERENCE NO. 1-4400C	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



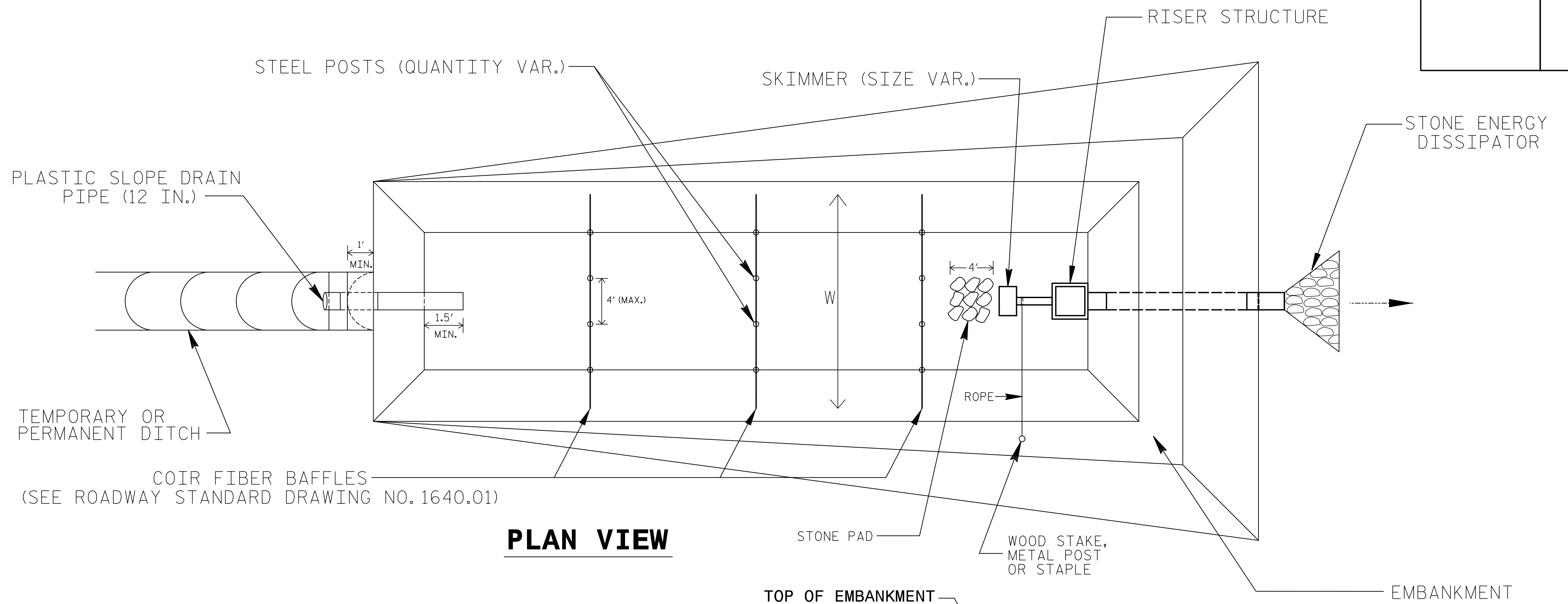
## NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. FOR BASIN DEPTHS OF 3FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE PRIMARY SPILLWAY WEIR LENGTHS (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

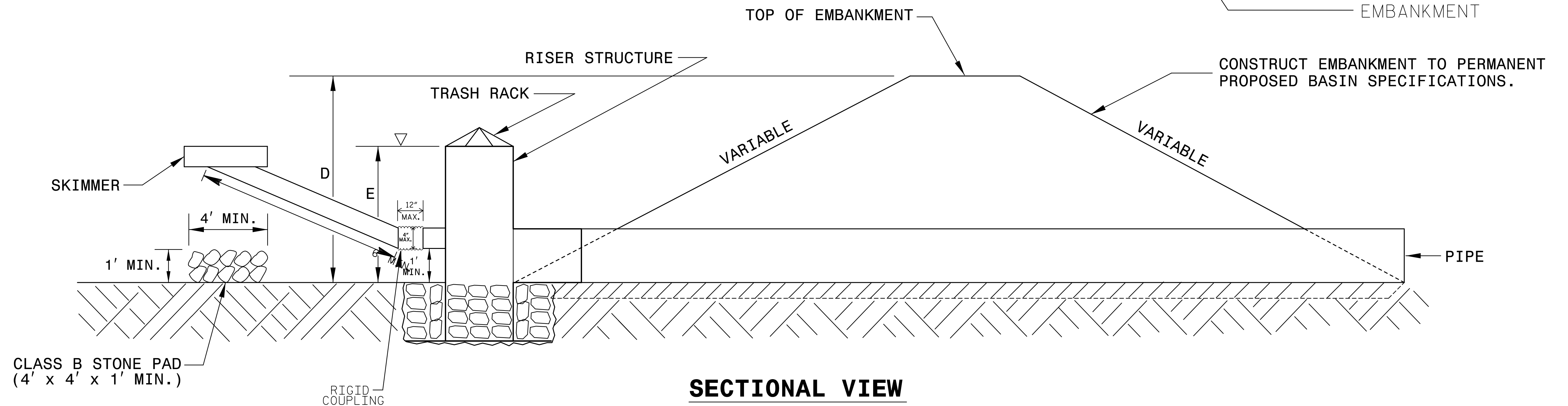
NOT TO SCALE

PROJECT REFERENCE NO. 1-4400C	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# STORMWATER BASIN WITH SKIMMER



**PLAN VIEW**



**SECTIONAL VIEW**

**NOTES**

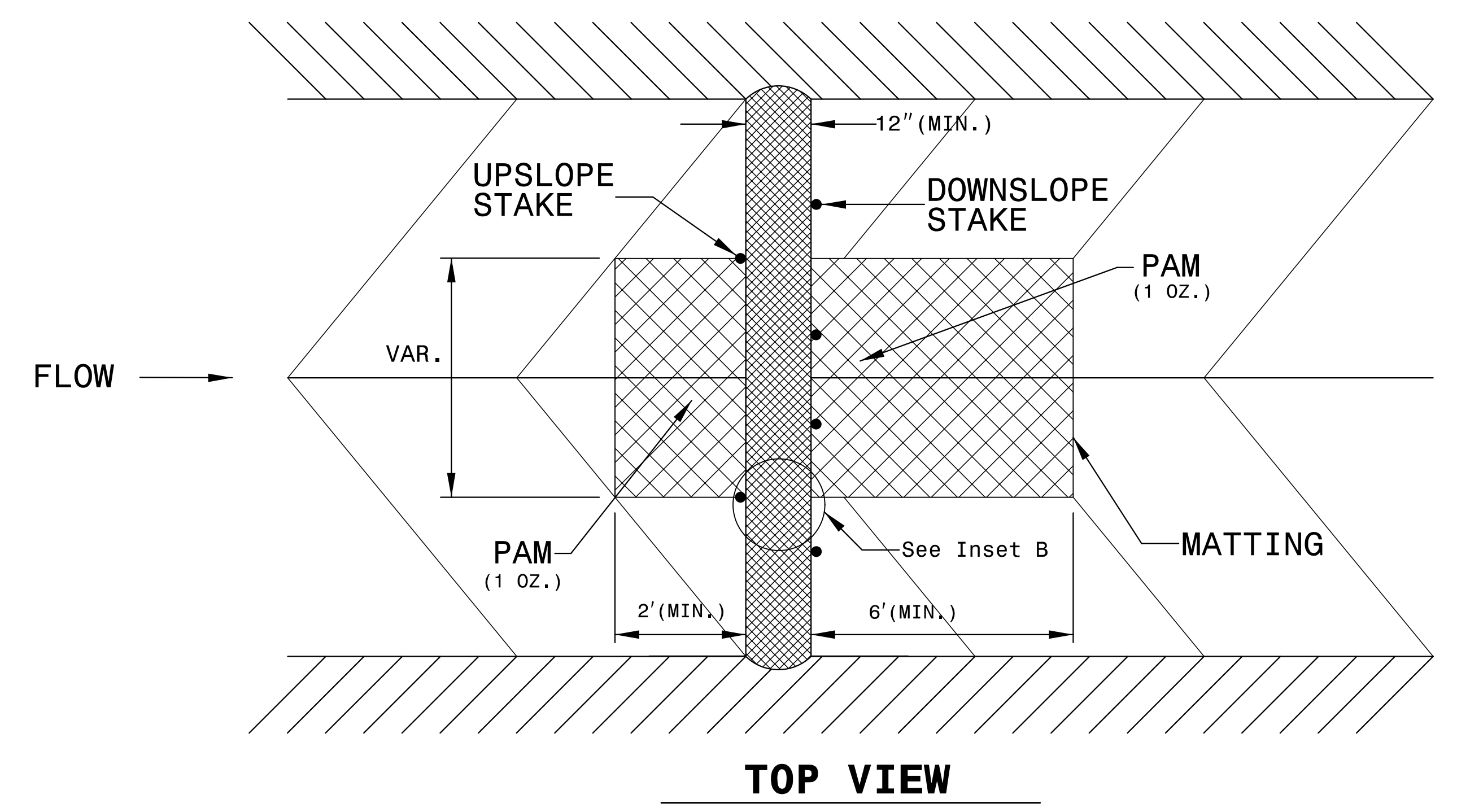
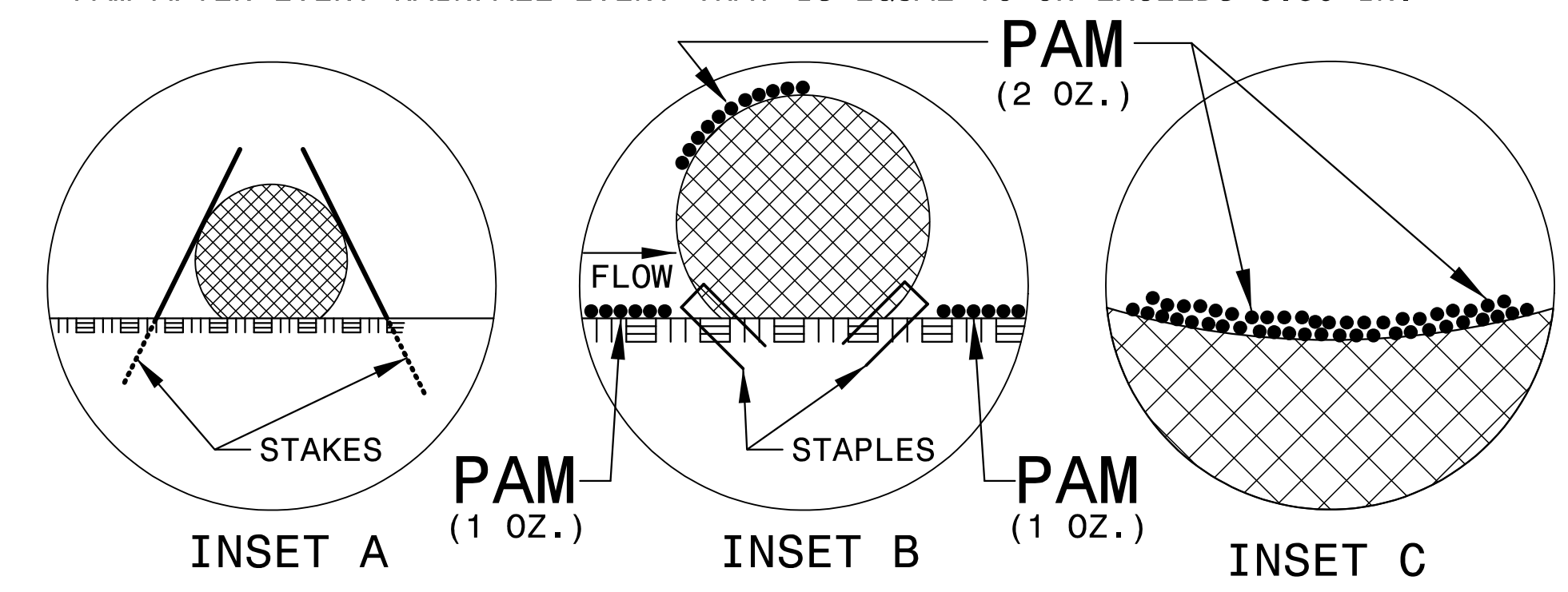
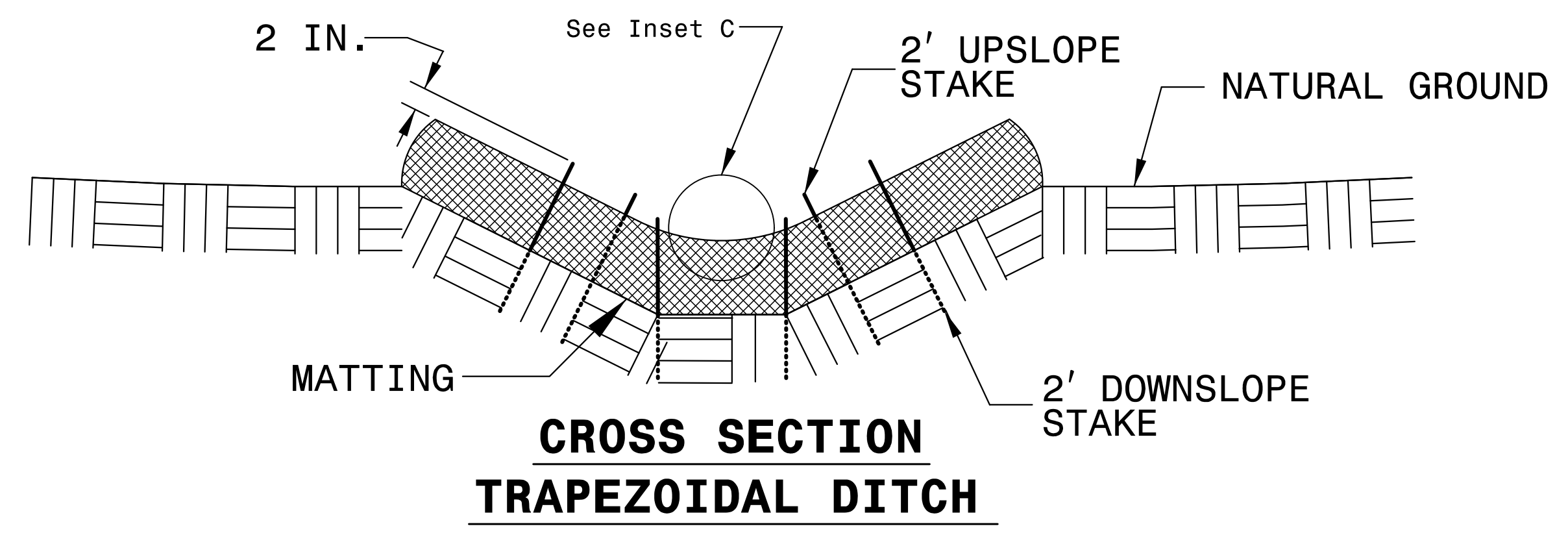
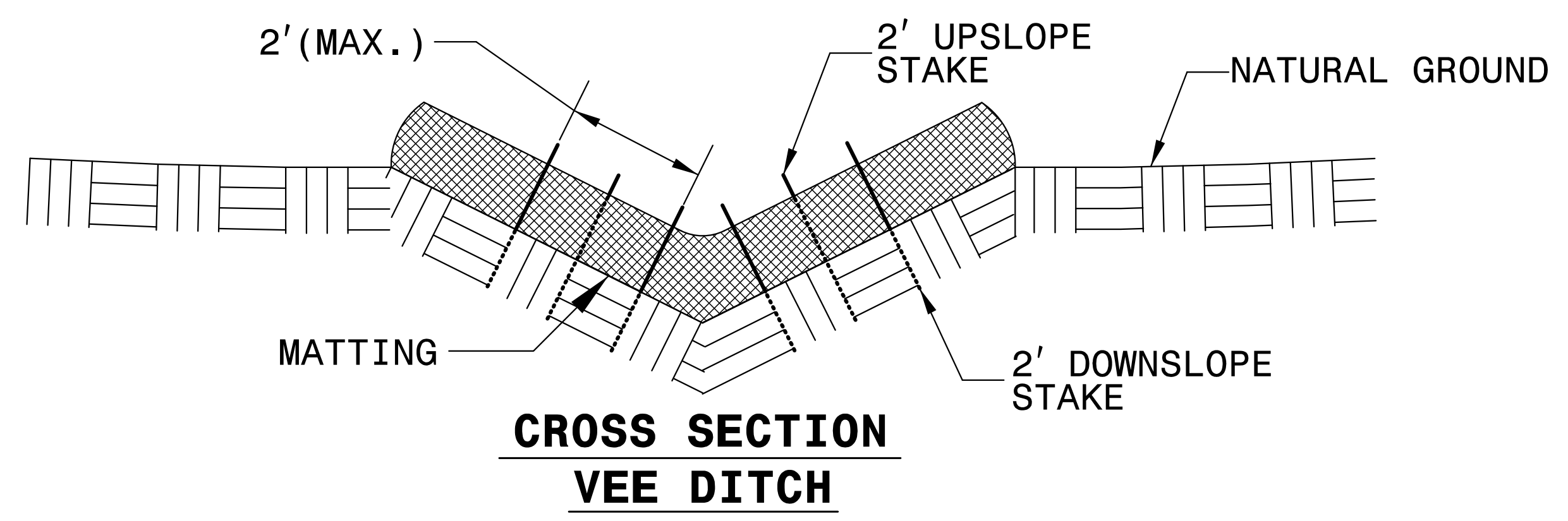
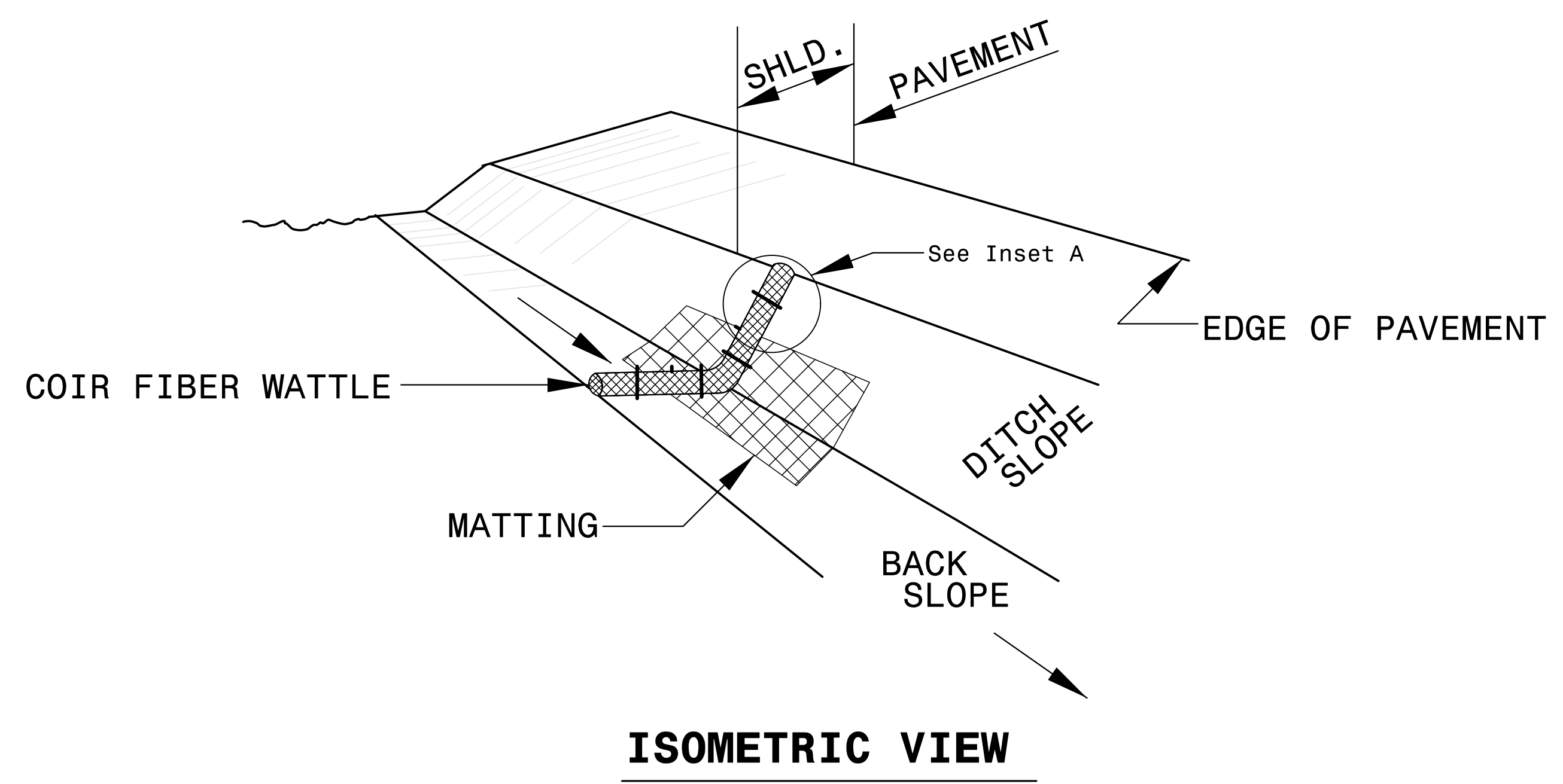
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. INSTALL A MINIMUM OF 3 COIR FIBER BAFFLES IN ACCORDANCE WITH ROADWAY STD. DRAWING 1640.01.
3. INSTALL SKIMMER AND COUPLING TO RISER STRUCTURE OR DIRECTLY INTO EMBANKMENT 1 FT. FROM BOTTOM OF BASIN.
4. THE ARM PIPE SHALL HAVE A MINIMUM LENGTH OF 6 FT. BETWEEN THE SKIMMER AND COUPLING.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
6. THE DIFFERENCE BETWEEN LENGTHS "D" AND "E" REPRESENT THE FREEBOARD AND SHOULD BE 1 FT. MINIMUM.

NOT TO SCALE

PROJECT REFERENCE NO. 1-4400C	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

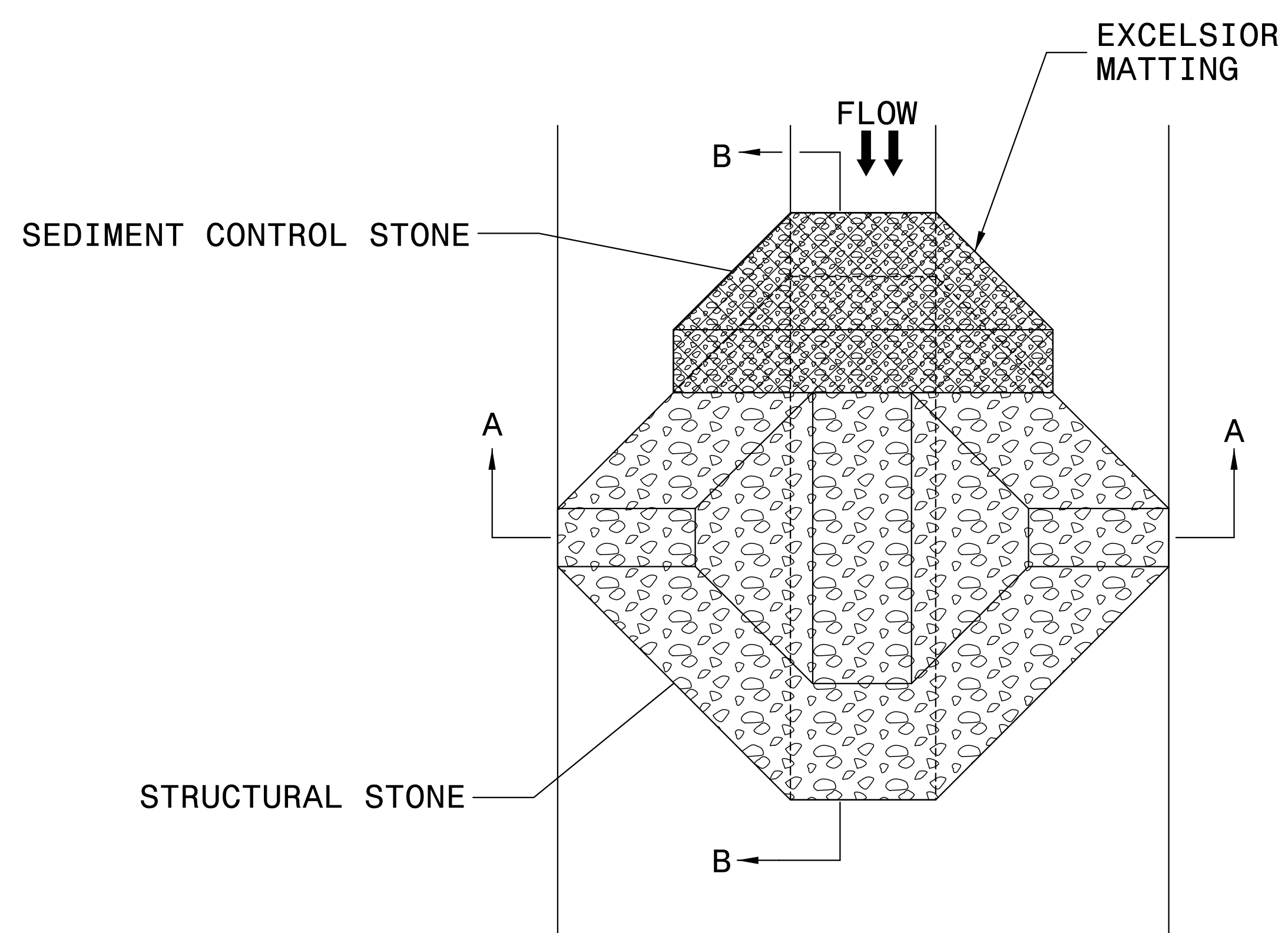
# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

- 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 EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



PROJECT REFERENCE NO. 1-4400C	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN

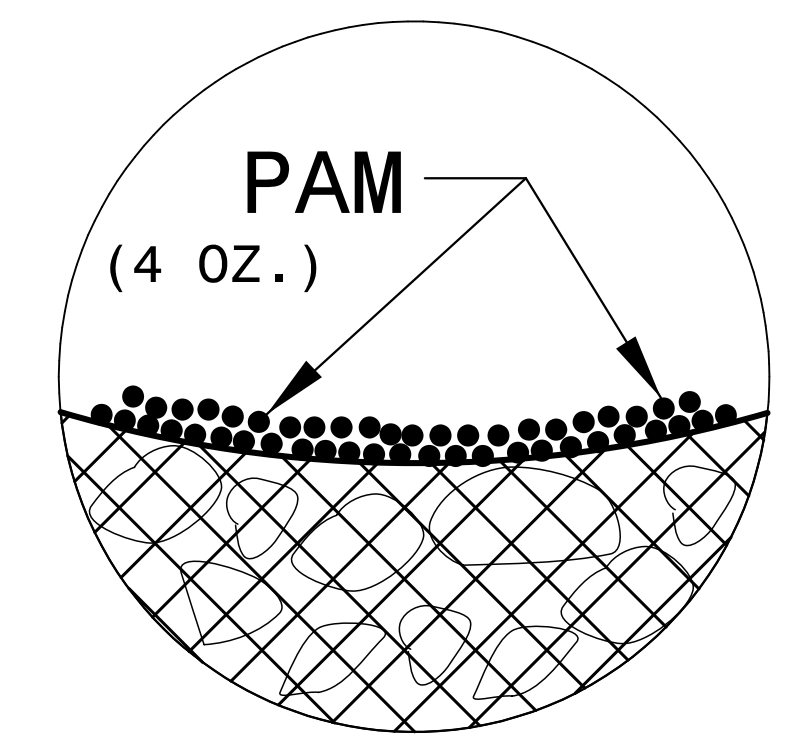
NOTES:

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

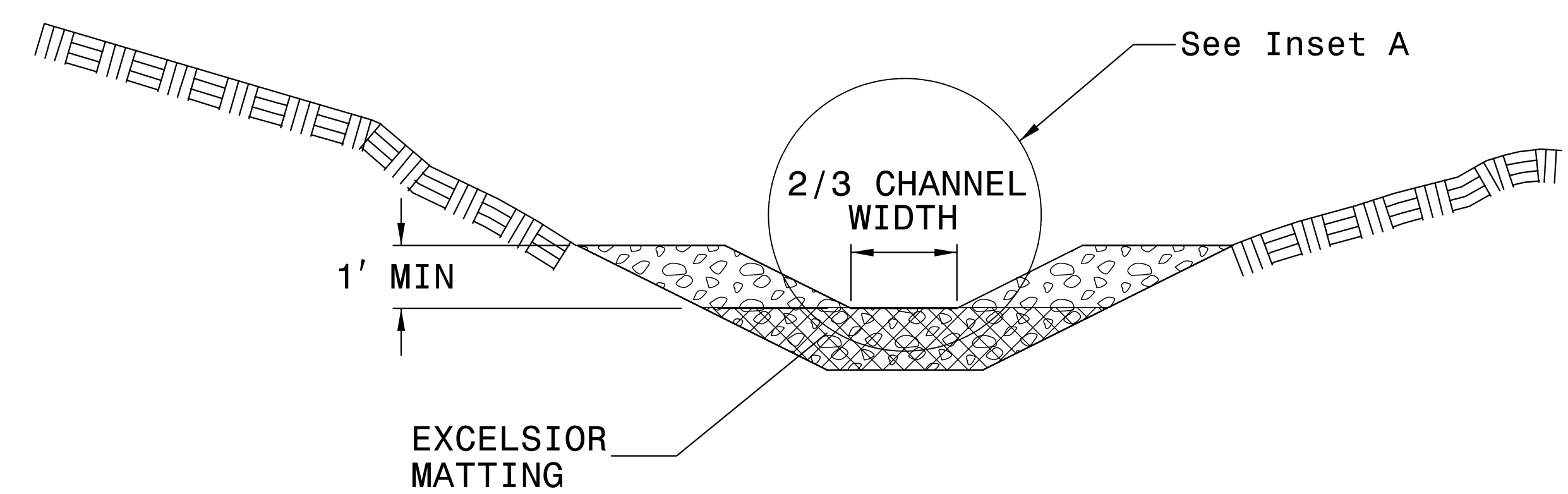
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

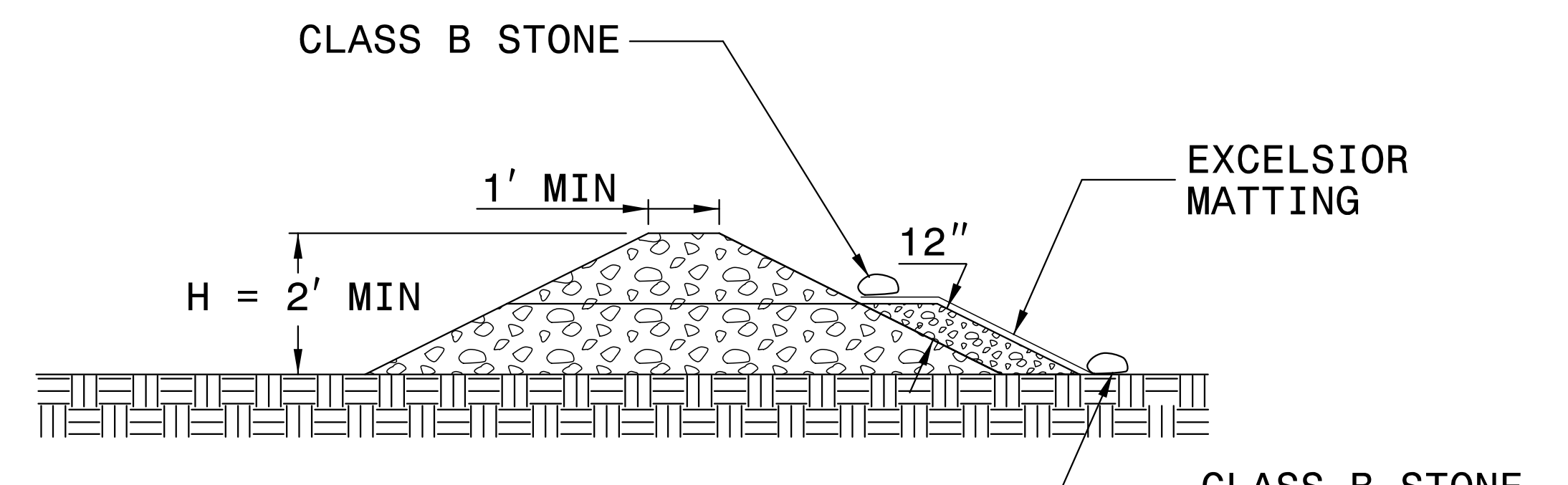
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE







DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

---



---

PROJECT REFERENCE NO. <i>I-4400C</i>	SHEET NO. <i>EC-3B</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ***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.

7/19/2017

PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-4/CONST.4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN	

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.

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:  
 FOR WATTLES AT INLETS, ADD HEAVY  
 OBJECTS AT EACH END AND MID-SECTION TO  
 SECURE IN PLACE.

36 x 18 x 3  
 1.5 inch Skimmer  
 with 0.625 inch  
 Orifice Diameter  
 4 ft. weir  
 ID 4.3B

Modified Silt Basin  
 Type 'B'  
 52 x 33 x 3  
 20 ft. weir  
 (See Tiered Skimmer  
 Basin Detail)  
 ID 4.2B

52 x 33 x 3  
 2.0 inch Skimmer  
 with 1.625 inch  
 Orifice Diameter  
 20 ft. weir  
 (See Tiered Skimmer  
 Basin Detail)  
 ID 4.2B

42 x 12 x 3  
 ID 4.5B

35 x 13 x 3  
 ID 4.4B

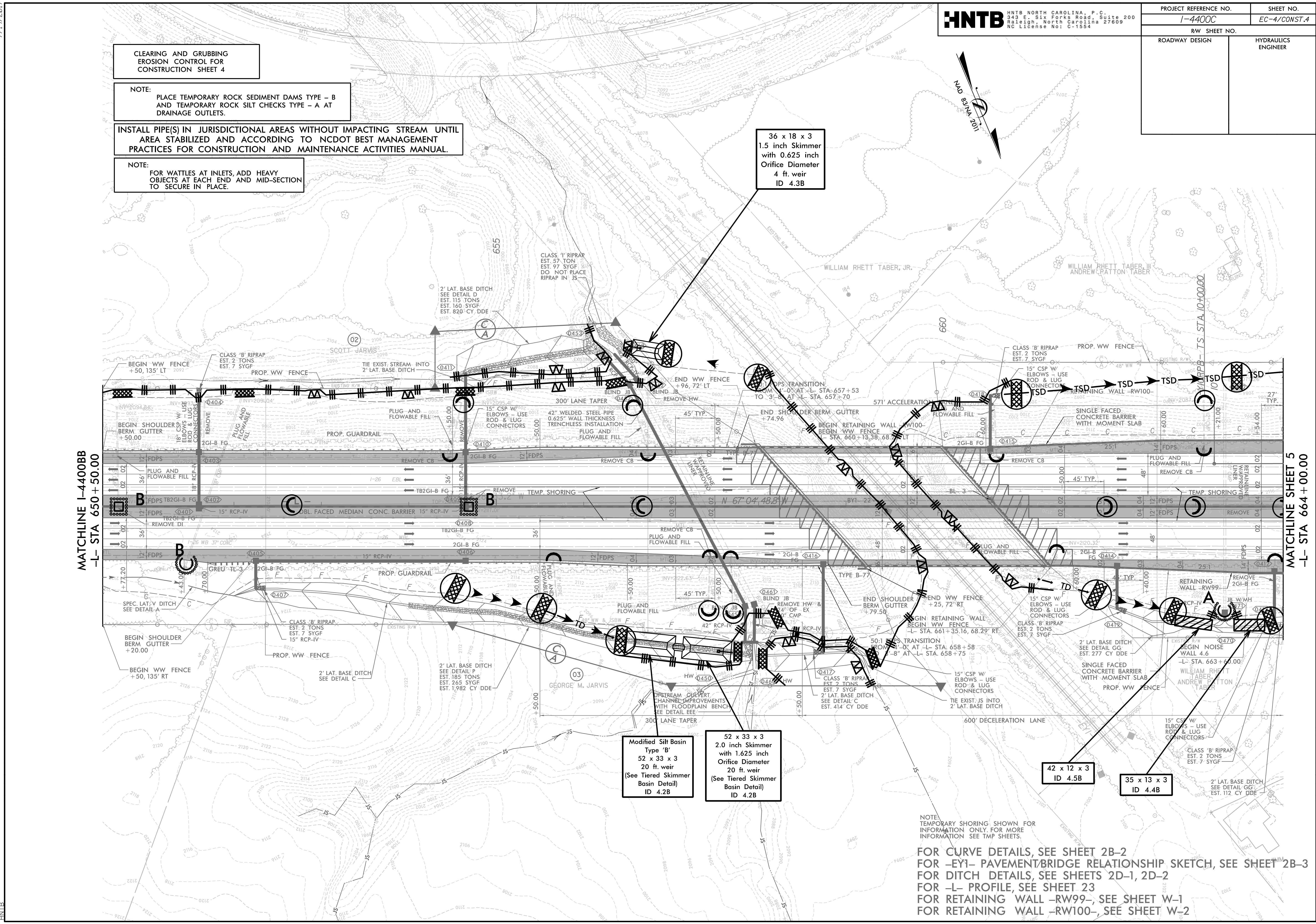
NOTE:  
 TEMPORARY SHORING SHOWN FOR  
 INFORMATION ONLY. FOR MORE  
 INFORMATION SEE TMP SHEETS.

FOR CURVE DETAILS, SEE SHEET 2B-2  
 FOR -EY1- PAVEMENT/BRIDGE RELATIONSHIP SKETCH, SEE SHEET 2B-3  
 FOR DITCH DETAILS, SEE SHEETS 2D-1, 2D-2  
 FOR -L- PROFILE, SEE SHEET 23  
 FOR RETAINING WALL -RW99-, SEE SHEET W-1  
 FOR RETAINING WALL -RW100-, SEE SHEET W-2

4/8/2016  
 4400C-HYD-EC-PSH4.dgn  
 HNTB

MATCHLINE I-4400BB  
 -L- STA 650 + 50.00

MATCHLINE SHEET 5  
 -L- STA 664 + 00.00

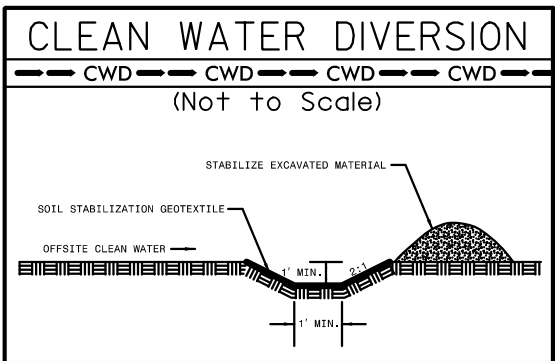


PROJECT REFERENCE NO.	SHEET NO.
I-4400C	EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 5

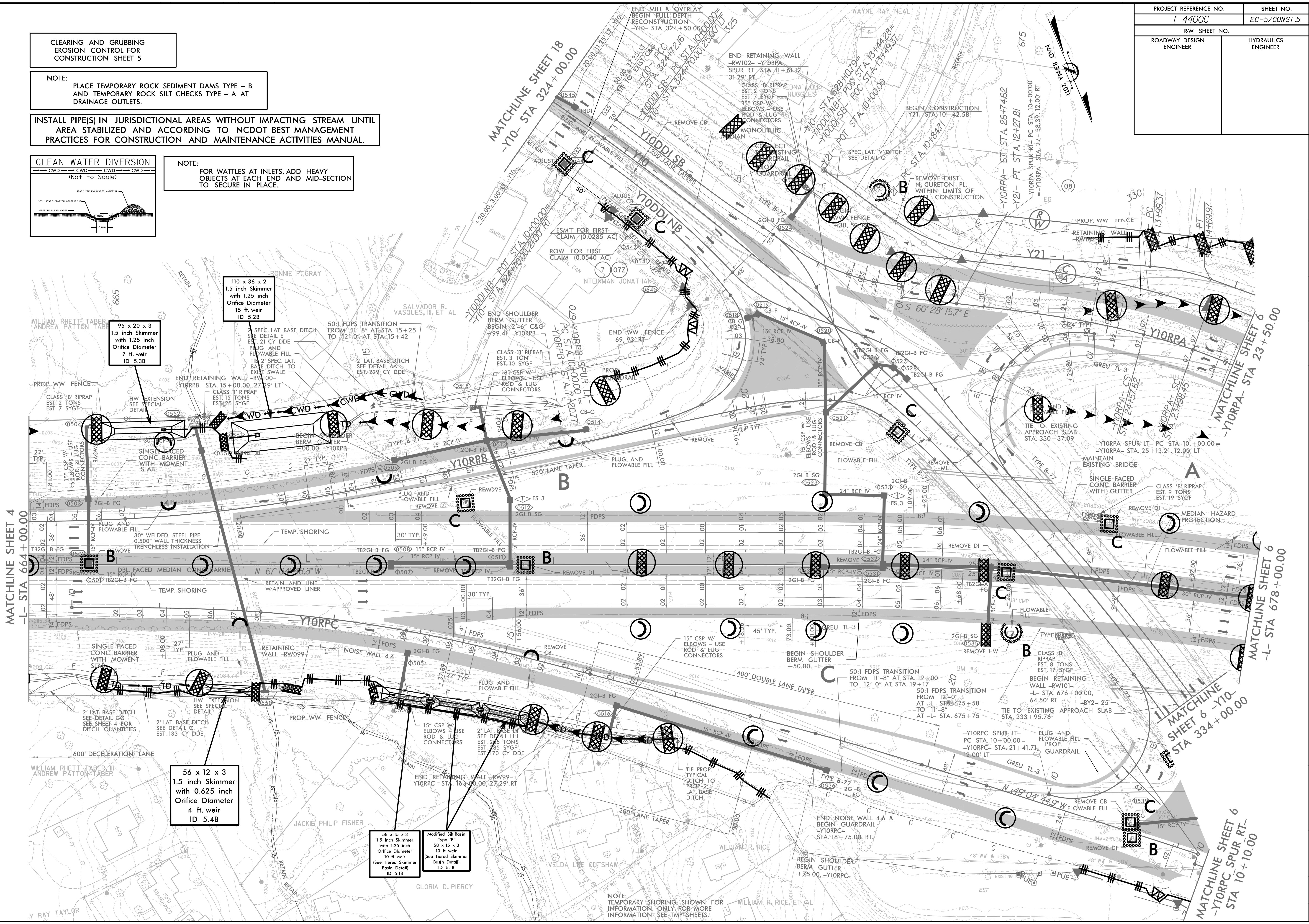
NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

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:  
FOR WATTLES IN INLETS, ADD HEAVY  
OBJECTS AT EACH END AND MID-SECTION  
TO SECURE IN PLACE.

8/17/99  
4/8/2019  
C:\p01\99\14400C\_HYD\_EC\_PSH5.dgn



95 x 20 x 3  
1.5 inch Skimmer  
with 1.25 inch  
Orifice Diameter  
7 ft. weir  
ID 5.3B

110 x 36 x 2  
1.5 inch Skimmer  
with 1.25 inch  
Orifice Diameter  
15 ft. weir  
ID 5.2B

56 x 12 x 3  
1.5 inch Skimmer  
with 0.625 inch  
Orifice Diameter  
4 ft. weir  
ID 5.4B

58 x 15 x 3  
1.5 inch Skimmer  
with 1.25 inch  
Orifice Diameter  
10 ft. weir  
(See Tiered Skimmer  
Basin Detail)  
ID 5.1B

Modified Silt Basin  
Type 'B'  
58 x 15 x 3  
10 ft. weir  
(See Tiered Skimmer  
Basin Detail)  
ID 5.1B

NOTE:  
TEMPORARY SHORING SHOWN FOR  
INFORMATION, ONLY FOR MORE  
INFORMATION, SEE TMP SHEETS.

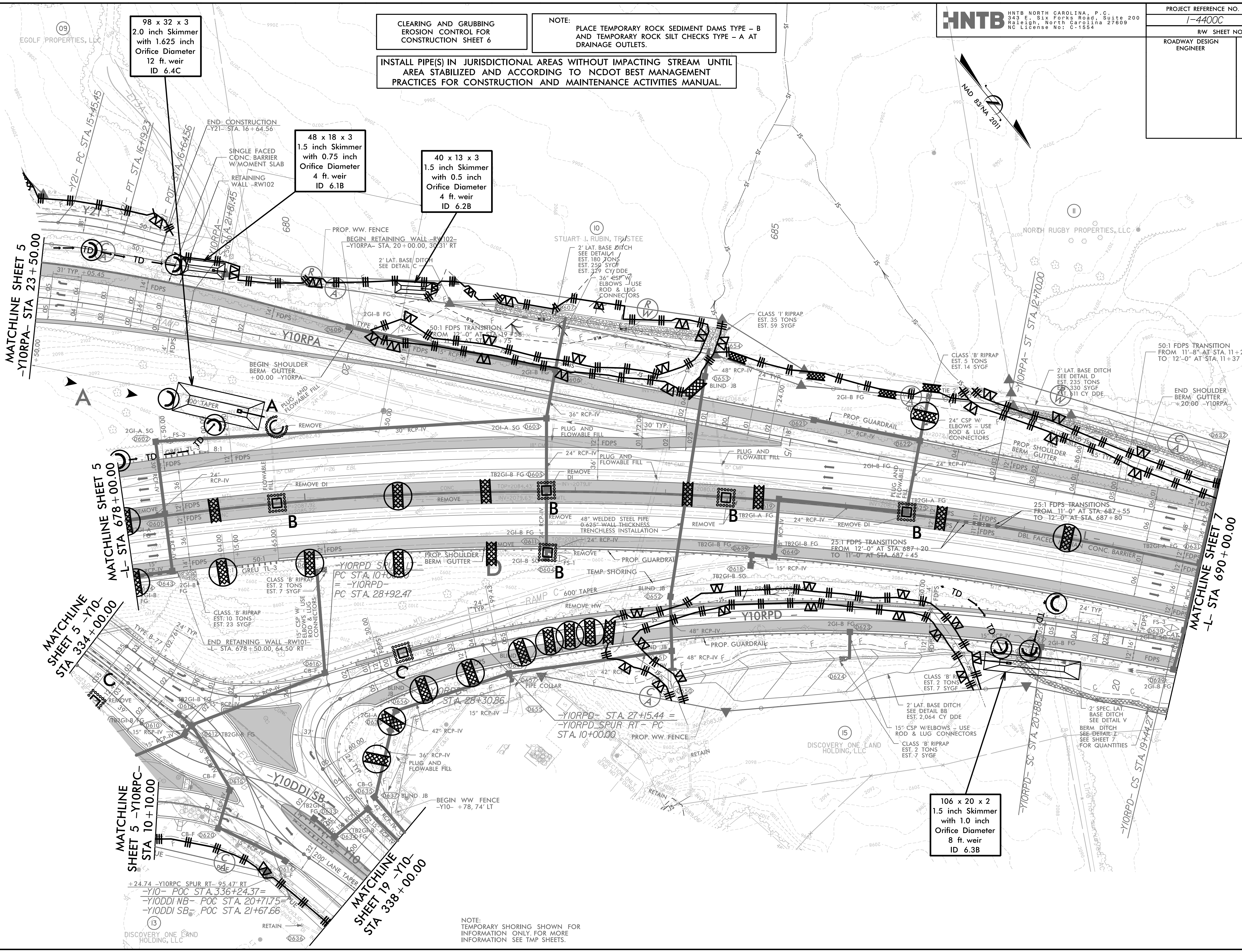
7/19/2017

PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-6/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

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

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.



+24.74 -YIORPC SPUR RT- 95.47' RT  
 -YIO- POC STA. 336+24.37=  
 -YIODI NB- POC STA. 20+71.75=  
 -YIODI SB- POC STA. 21+67.66

NOTE: TEMPORARY SHORING SHOWN FOR INFORMATION ONLY. FOR MORE INFORMATION SEE TMP SHEETS.

3/28/2018  
 3:45 PM  
 1-4400C-HYD-EC-PSH6.dgn  
 HNTB

7/19/2017

PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-7/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
 EROSION CONTROL FOR  
 CONSTRUCTION SHEET 7

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

INSTALL TSD TO PROPOSED  
 DITCH DEPTH AND DIMENSIONS.

PLUG EXIST. PIPE  
 DURING CLEARING &  
 GRUBBING

PLUG EXIST. PIPE  
 DURING CLEARING &  
 GRUBBING

124 x 33 x 3  
 2.0 inch Skimmer  
 with 1.75 inch  
 Orifice Diameter  
 15 ft. weir  
 ID 7.1B

82 x 15 x 3  
 ID 7.3C

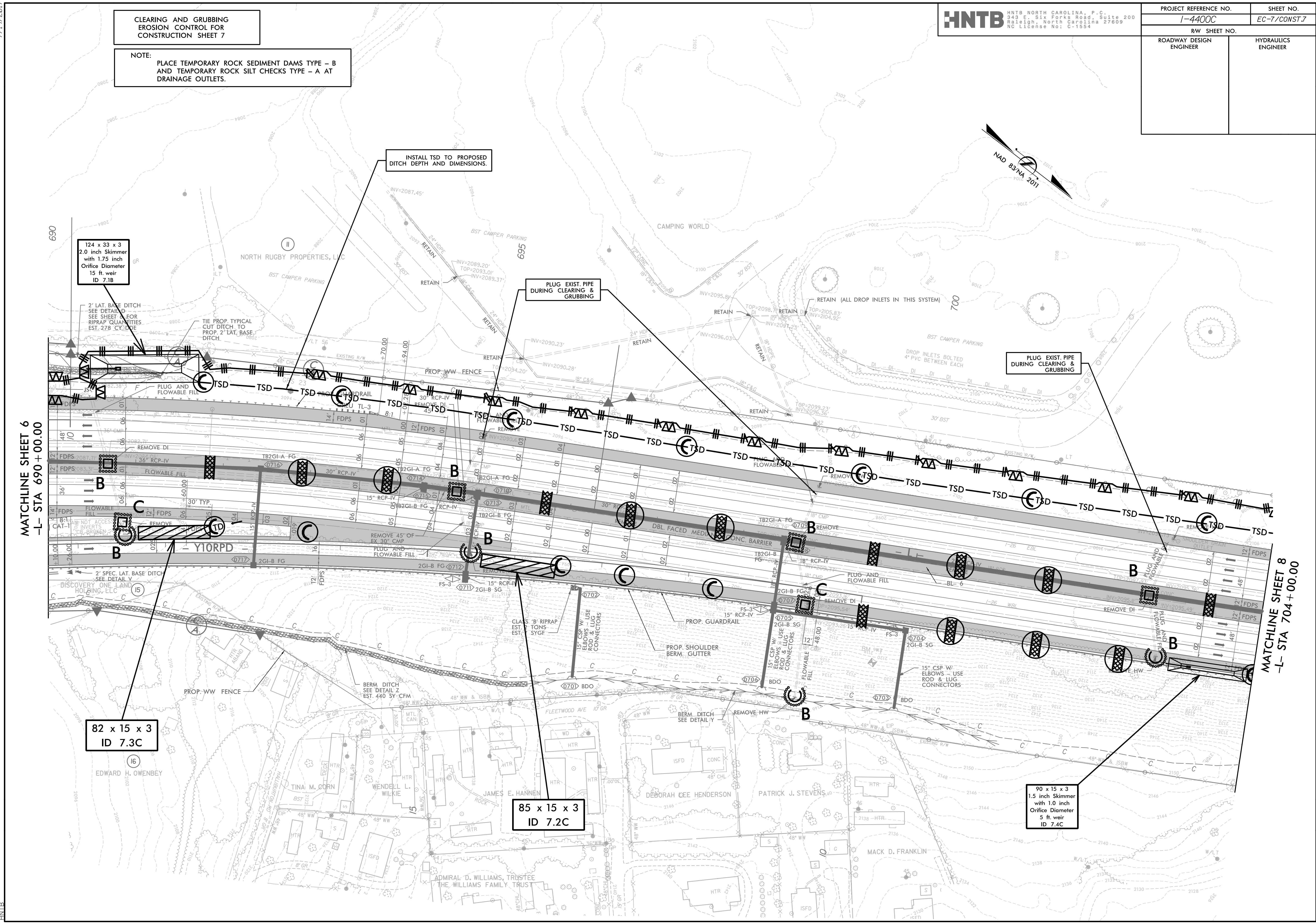
85 x 15 x 3  
 ID 7.2C

90 x 15 x 3  
 1.5 inch Skimmer  
 with 1.0 inch  
 Orifice Diameter  
 5 ft. weir  
 ID 7.4C

MATCHLINE SHEET 6  
 -L- STA 690 + 00.00

MATCHLINE SHEET 8  
 -L- STA 704 + 00.00

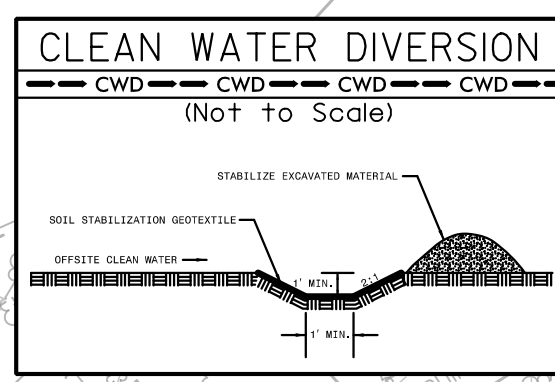
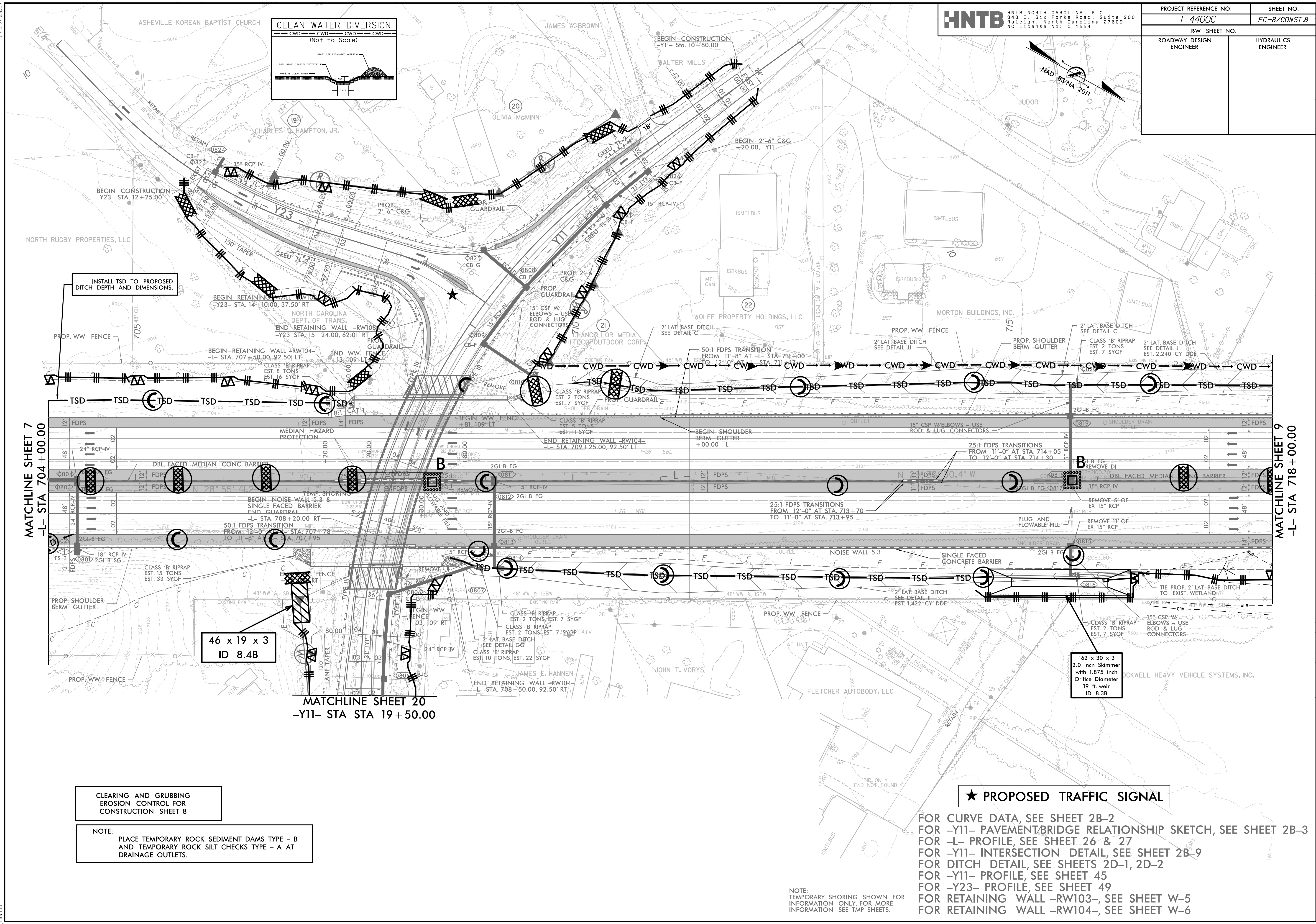
4/14/2016  
 4400C.HYD.EC.PSH7.dgn



7/19/2017

**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.
1-4400C	EC-8/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



INSTALL TSD TO PROPOSED DITCH DEPTH AND DIMENSIONS.

46 x 19 x 3  
ID 8.4B

162 x 30 x 3  
2.0 inch Skimmer  
with 1.875 inch  
Orifice Diameter  
19 ft. weir  
ID 8.3B

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 8

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

★ PROPOSED TRAFFIC SIGNAL

FOR CURVE DATA, SEE SHEET 2B-2  
FOR -Y11- PAVEMENT/BRIDGE RELATIONSHIP SKETCH, SEE SHEET 2B-3  
FOR -L- PROFILE, SEE SHEET 26 & 27  
FOR -Y11- INTERSECTION DETAIL, SEE SHEET 2B-9  
FOR DITCH DETAIL, SEE SHEETS 2D-1, 2D-2  
FOR -Y11- PROFILE, SEE SHEET 45  
FOR -Y23- PROFILE, SEE SHEET 49  
FOR RETAINING WALL -RW103-, SEE SHEET W-5  
FOR RETAINING WALL -RW104-, SEE SHEET W-6

NOTE:  
TEMPORARY SHORING SHOWN FOR  
INFORMATION ONLY. FOR MORE  
INFORMATION SEE TMP SHEETS.

4/8/2019  
design\14400C\_HYO\_EC\_PSH8.dgn  
HNTB

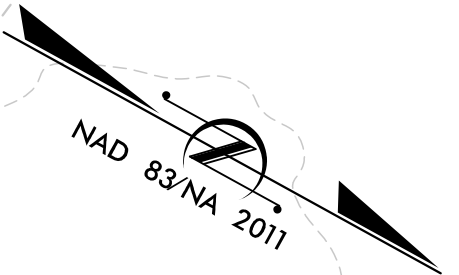
7/19/2017

**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.
1-4400C	EC-9/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

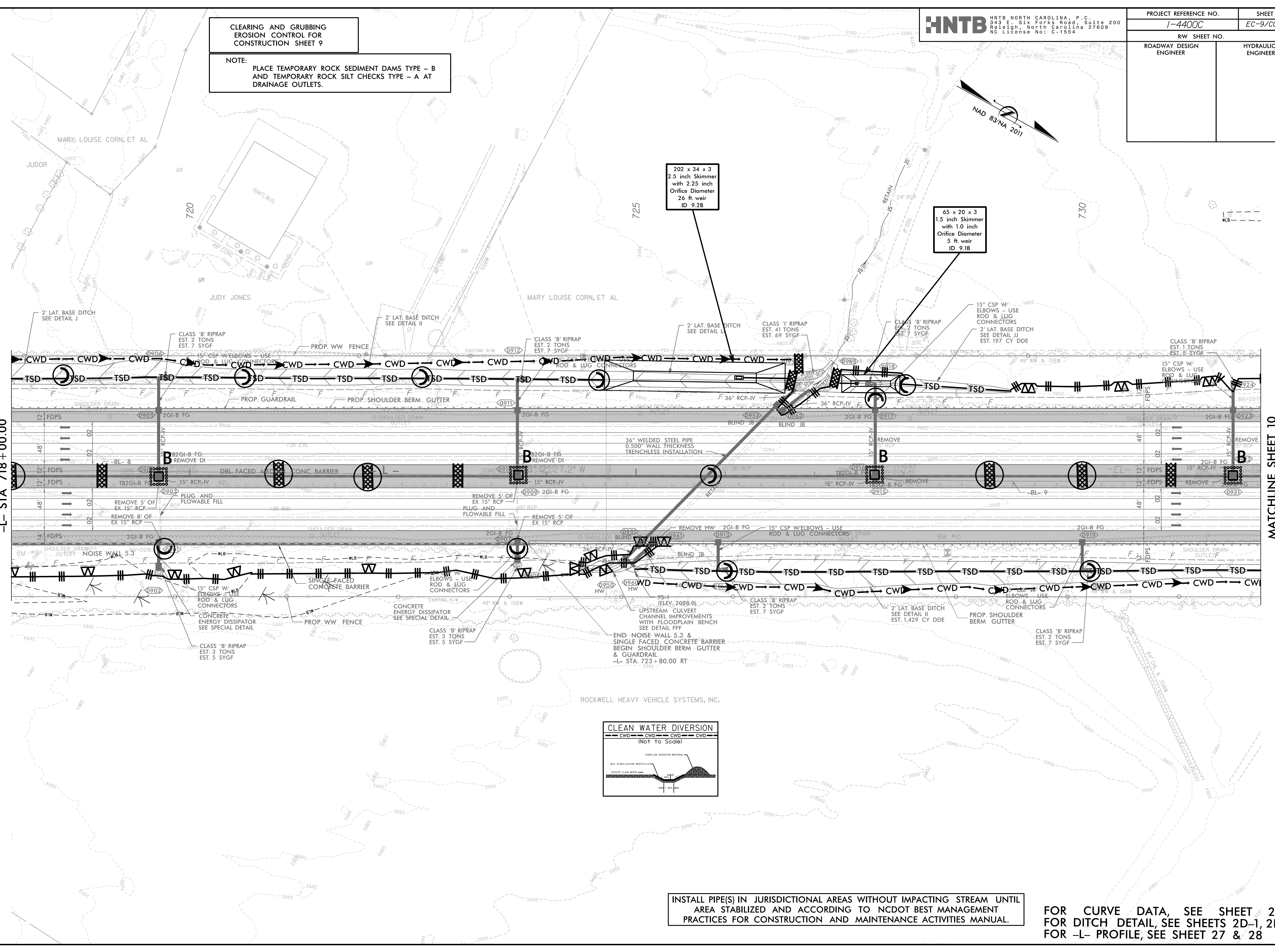
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 9

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



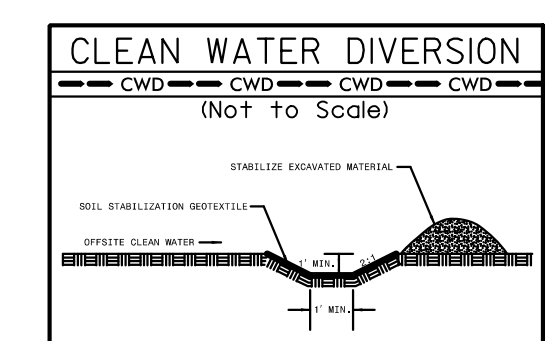
MATCHLINE SHEET 8  
-L- STA 718 + 00.00

MATCHLINE SHEET 10  
-L- STA 732 + 00.00



202 x 34 x 3  
2.5 inch Skimmer  
with 2.25 inch  
Orifice Diameter  
26 ft. weir  
ID 9.2B

65 x 20 x 3  
1.5 inch Skimmer  
with 1.0 inch  
Orifice Diameter  
5 ft. weir  
ID 9.1B



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.

FOR CURVE DATA, SEE SHEET 2B-2  
FOR DITCH DETAIL, SEE SHEETS 2D-1, 2D-2  
FOR -L- PROFILE, SEE SHEET 27 & 28

3/28/2019  
3:28:20 PM  
Design\14400C\_HYD\_EC\_PSH9.dgn  
HNTB





7/19/2017

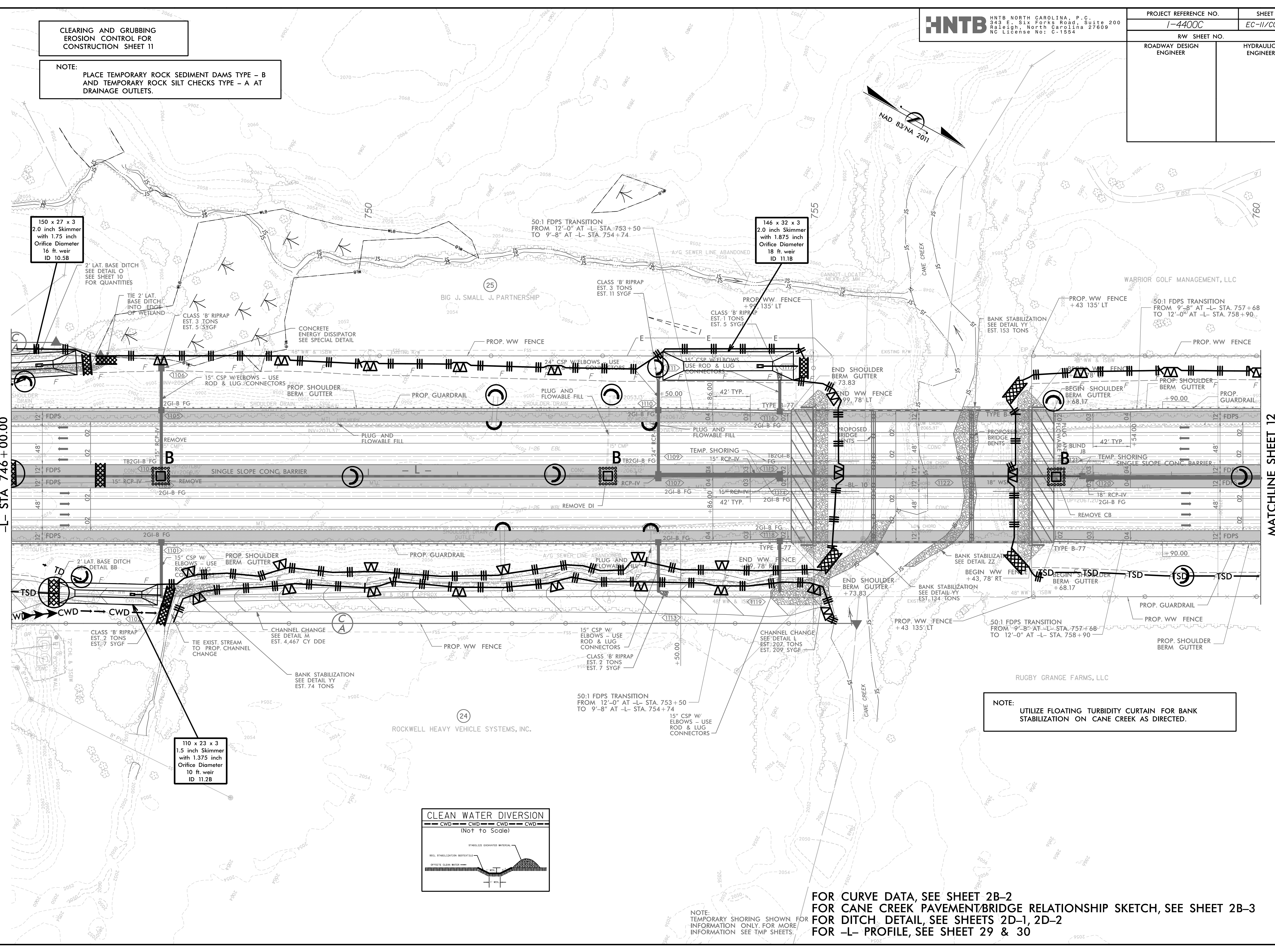
PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-11/CONST.11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
 EROSION CONTROL FOR  
 CONSTRUCTION SHEET 11

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

MATCHLINE SHEET 10  
 -L- STA 746 + 00.00

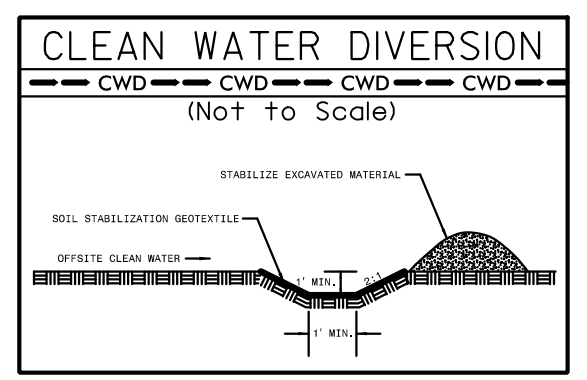
MATCHLINE SHEET 12  
 -L- STA 760 + 00.00



150 x 27 x 3  
 2.0 inch Skimmer  
 with 1.75 inch  
 Orifice Diameter  
 16 ft. weir  
 ID 10.5B

146 x 32 x 3  
 2.0 inch Skimmer  
 with 1.875 inch  
 Orifice Diameter  
 18 ft. weir  
 ID 11.1B

110 x 23 x 3  
 1.5 inch Skimmer  
 with 1.375 inch  
 Orifice Diameter  
 10 ft. weir  
 ID 11.2B



NOTE:  
 UTILIZE FLOATING TURBIDITY CURTAIN FOR BANK  
 STABILIZATION ON CANE CREEK AS DIRECTED.

NOTE:  
 TEMPORARY SHORING SHOWN FOR  
 INFORMATION ONLY. FOR MORE  
 INFORMATION SEE TMP SHEETS.

FOR CURVE DATA, SEE SHEET 2B-2  
 FOR CANE CREEK PAVEMENT/BRIDGE RELATIONSHIP SKETCH, SEE SHEET 2B-3  
 FOR DITCH DETAIL, SEE SHEETS 2D-1, 2D-2  
 FOR -L- PROFILE, SEE SHEET 29 & 30

7/19/2017

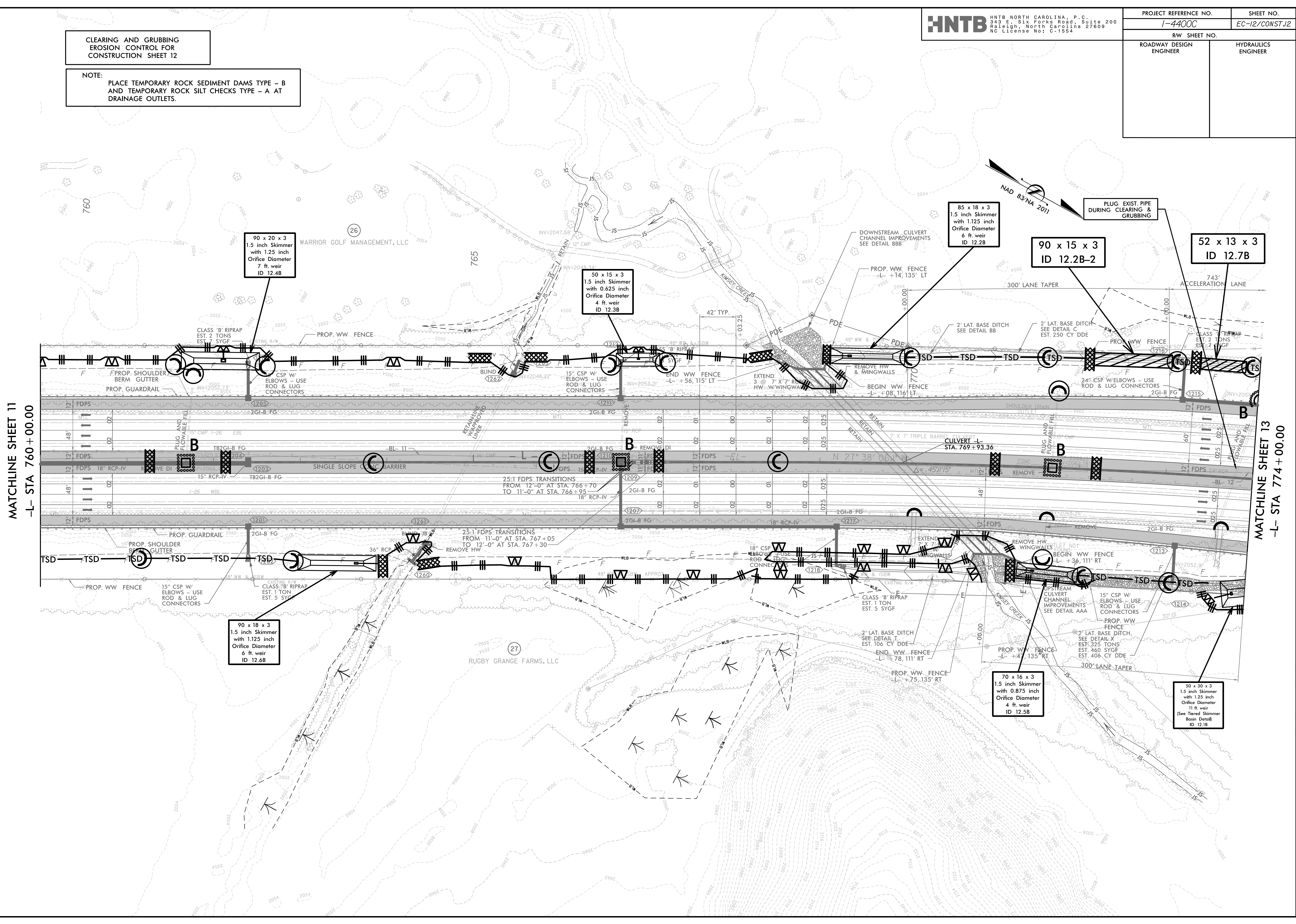
PROJECT REFERENCE NO.	SHEET NO.
I-4400C	EC-12/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
 EROSION CONTROL FOR  
 CONSTRUCTION SHEET 12

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

MATCHLINE SHEET 11  
 -L- STA 760+00.00

MATCHLINE SHEET 13  
 -L- STA 774+00.00

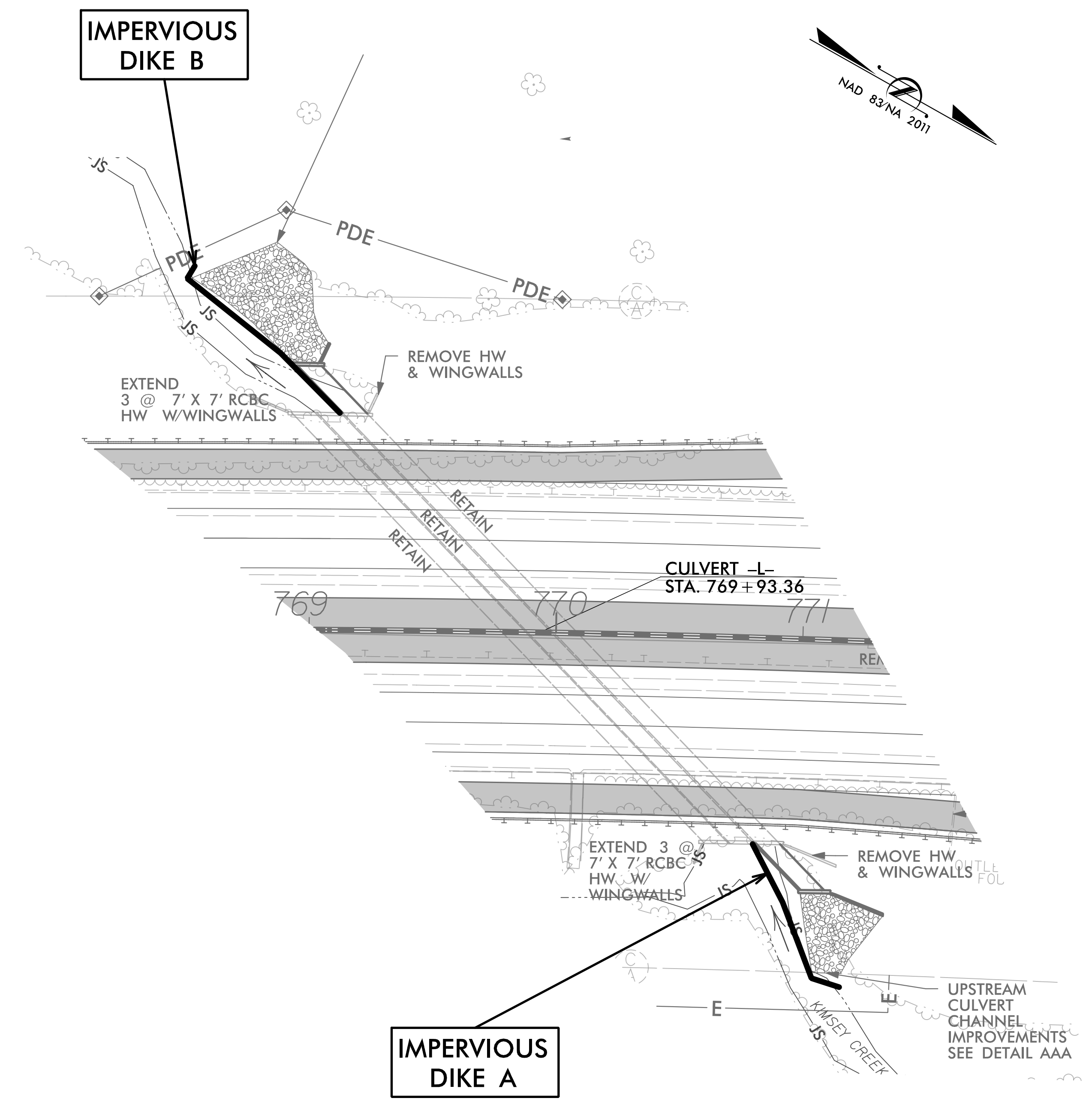


PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-12A/CONST.2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE STA. 769+93 -L-

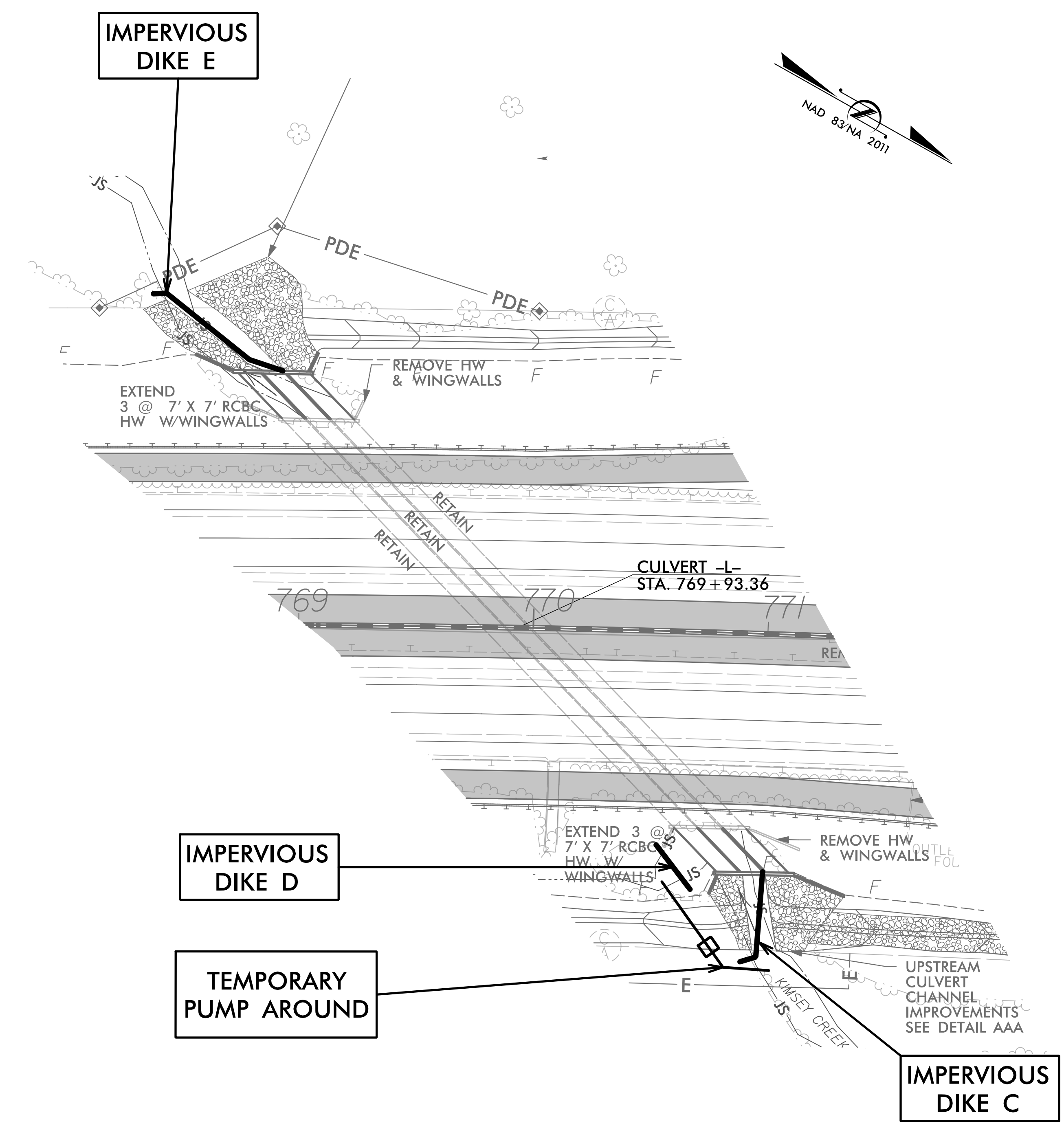
## PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING CULVERT CONSTRUCTION.
2. INSTALL IMPERVIOUS DIKES A AND B AS SHOWN.
3. INSTALL PROPOSED NORTHERN BARREL AND WING WALL.
4. INSTALL PORTION OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS.



## PHASE II

1. REMOVE IMPERVIOUS DIKES A AND B.
2. INSTALL IMPERVIOUS DIKES C, D, E AND PUMP AROUND AS SHOWN.
3. DIVERT FLOW INTO NEWLY CONSTRUCTED NORTHERN BARREL.
4. INSTALL PROPOSED SOUTHERN TWO BARRELS AND WING WALL.
5. INSTALL REST OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS.
6. REMOVE IMPERVIOUS DIKES AND ANY REMAINING SPECIAL STILLING BASIN(S).
7. COMPLETE FILL SLOPE AND 2' LAT. BASE DITCHES.

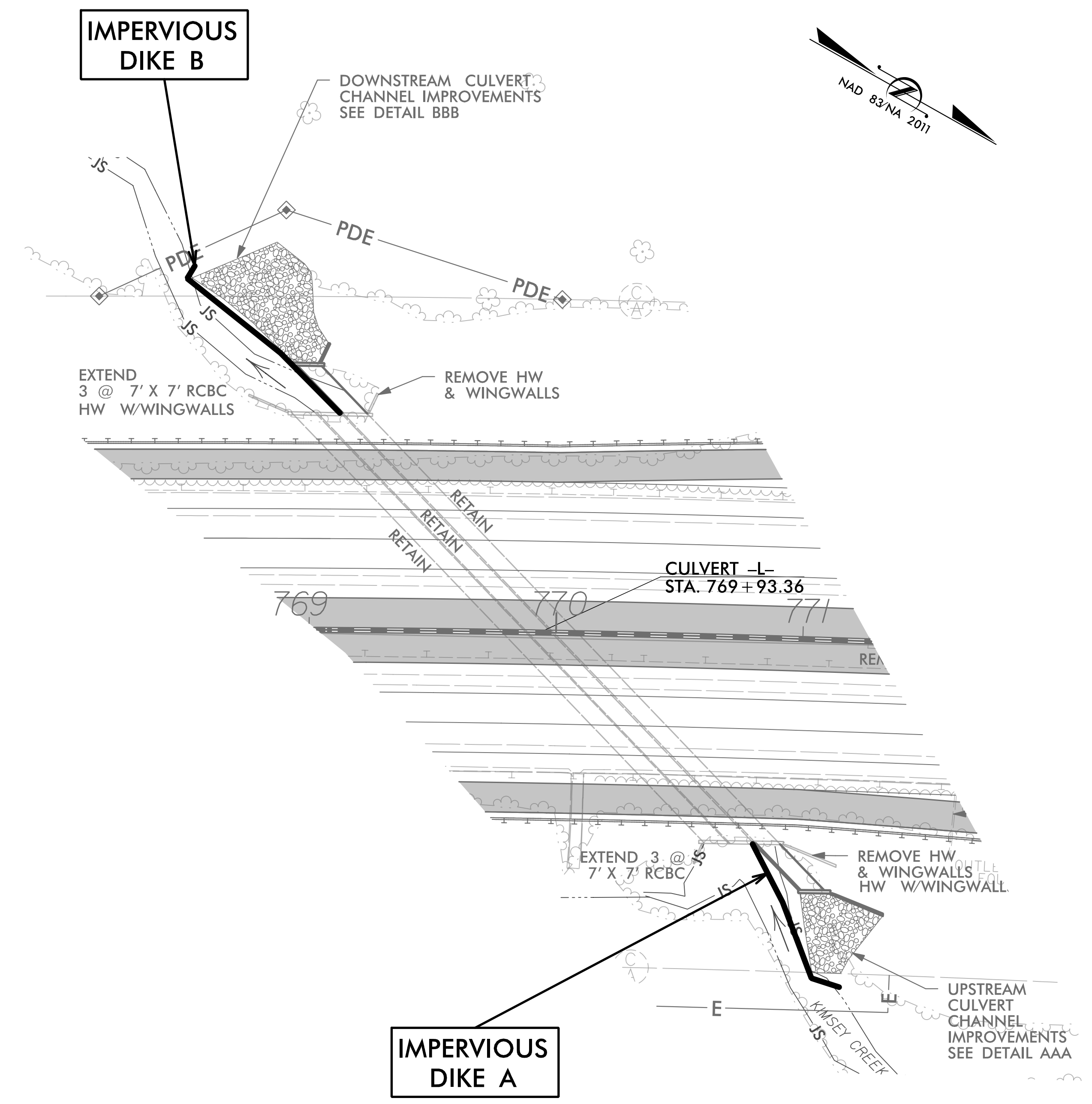


PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-12B/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE STA. 769+93 -L-

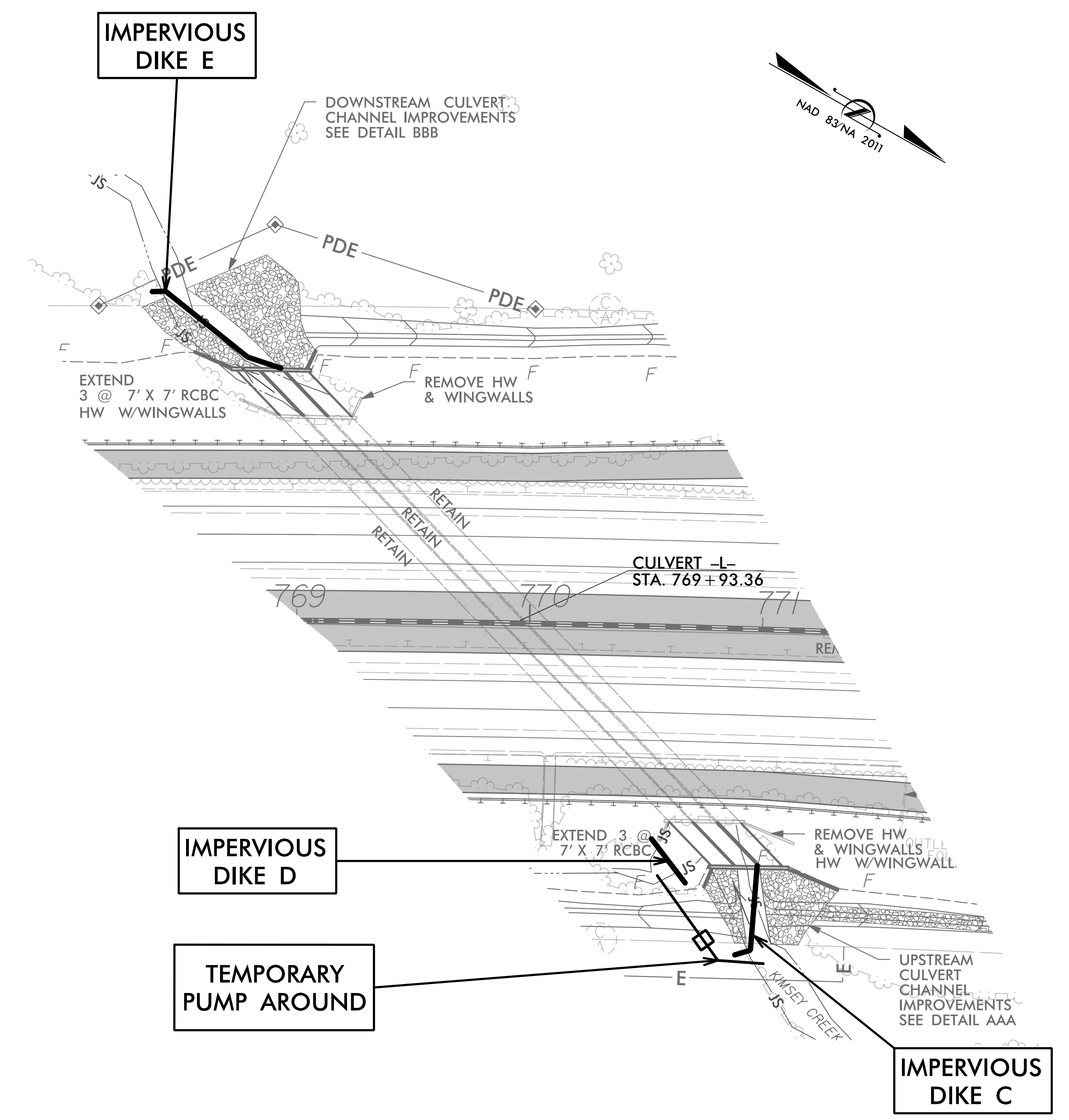
## PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING CULVERT CONSTRUCTION.
2. INSTALL IMPERVIOUS DIKES A AND B AS SHOWN.
3. INSTALL PROPOSED NORTHERN BARREL AND WING WALL.
4. INSTALL PORTION OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS.



## PHASE II

1. REMOVE IMPERVIOUS DIKES A AND B.
2. INSTALL IMPERVIOUS DIKES C, D, E AND PUMP AROUND AS SHOWN.
3. DIVERT FLOW INTO NEWLY CONSTRUCTED NORTHERN BARREL.
4. INSTALL PROPOSED SOUTHERN TWO BARRELS AND WING WALL.
5. INSTALL REST OF UPSTREAM AND DOWNSTREAM CULVERT CHANNEL IMPROVEMENTS.
6. REMOVE IMPERVIOUS DIKES AND ANY REMAINING SPECIAL STILLING BASIN(S).
7. COMPLETE FILL SLOPE AND 2' LAT. BASE DITCHES.



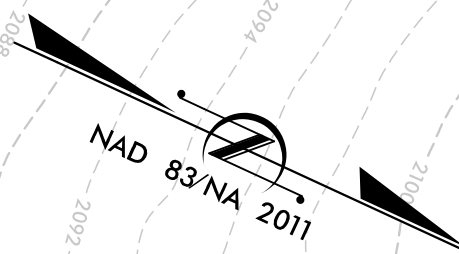
PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-13/CONST.13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 13

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

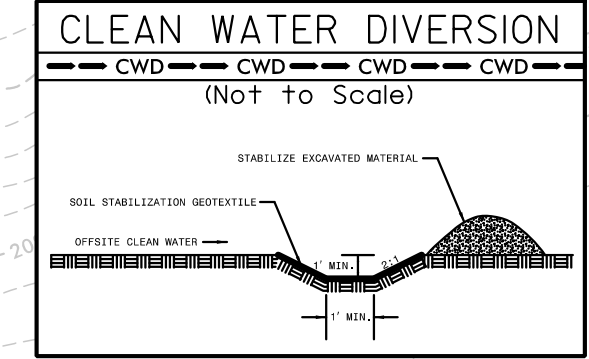
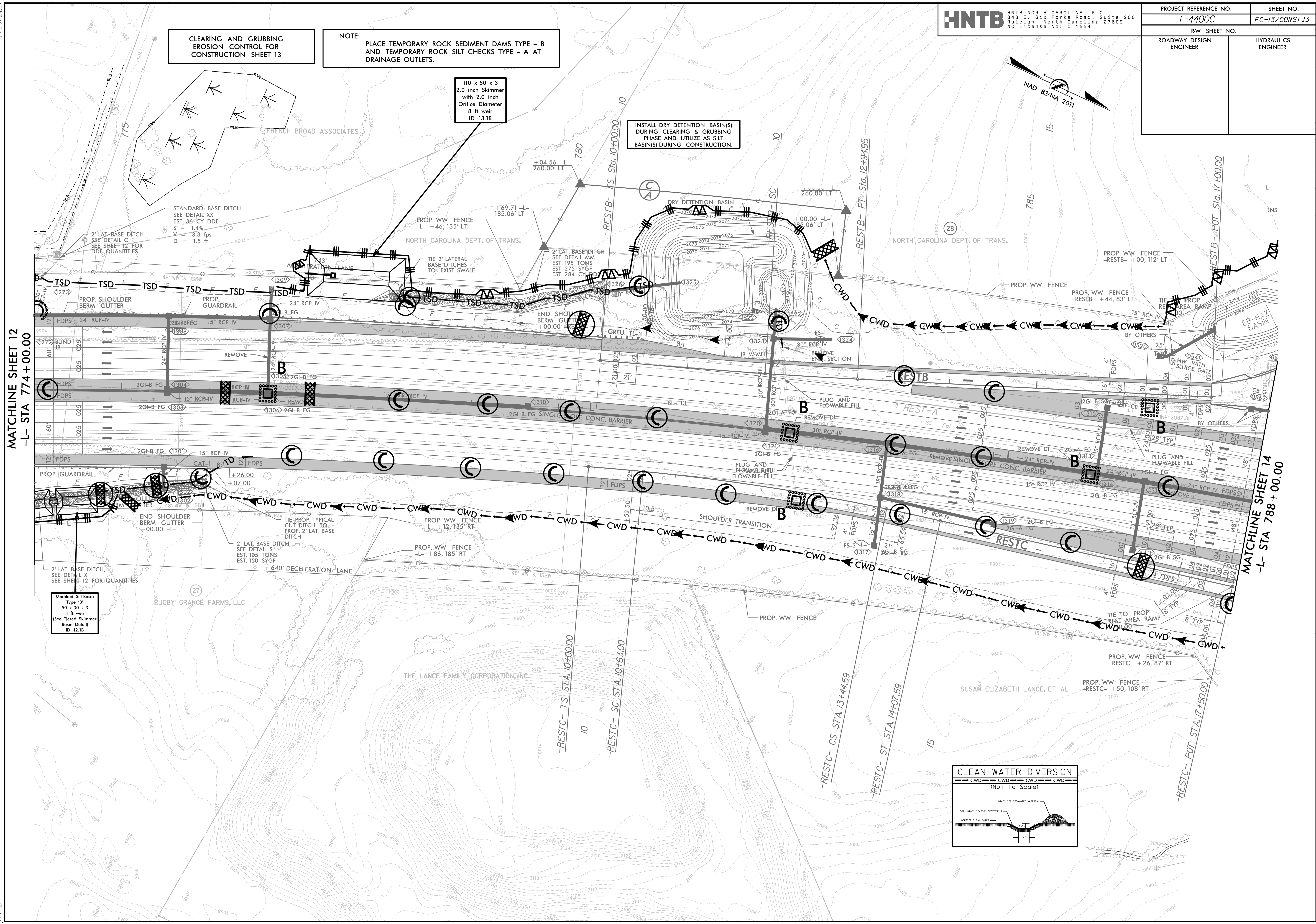
110 x 50 x 3  
2.0 inch Skimmer  
with 2.0 inch  
Orifice Diameter  
8 ft. weir  
ID 13.1B

INSTALL DRY DETENTION BASIN(S) DURING CLEARING & GRUBBING PHASE AND UTILIZE AS SILT BASIN(S) DURING CONSTRUCTION.



MATCHLINE SHEET 12  
-L- STA 774+00.00

MATCHLINE SHEET 14  
-L- STA 788+00.00



PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-14/CONST.14
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.

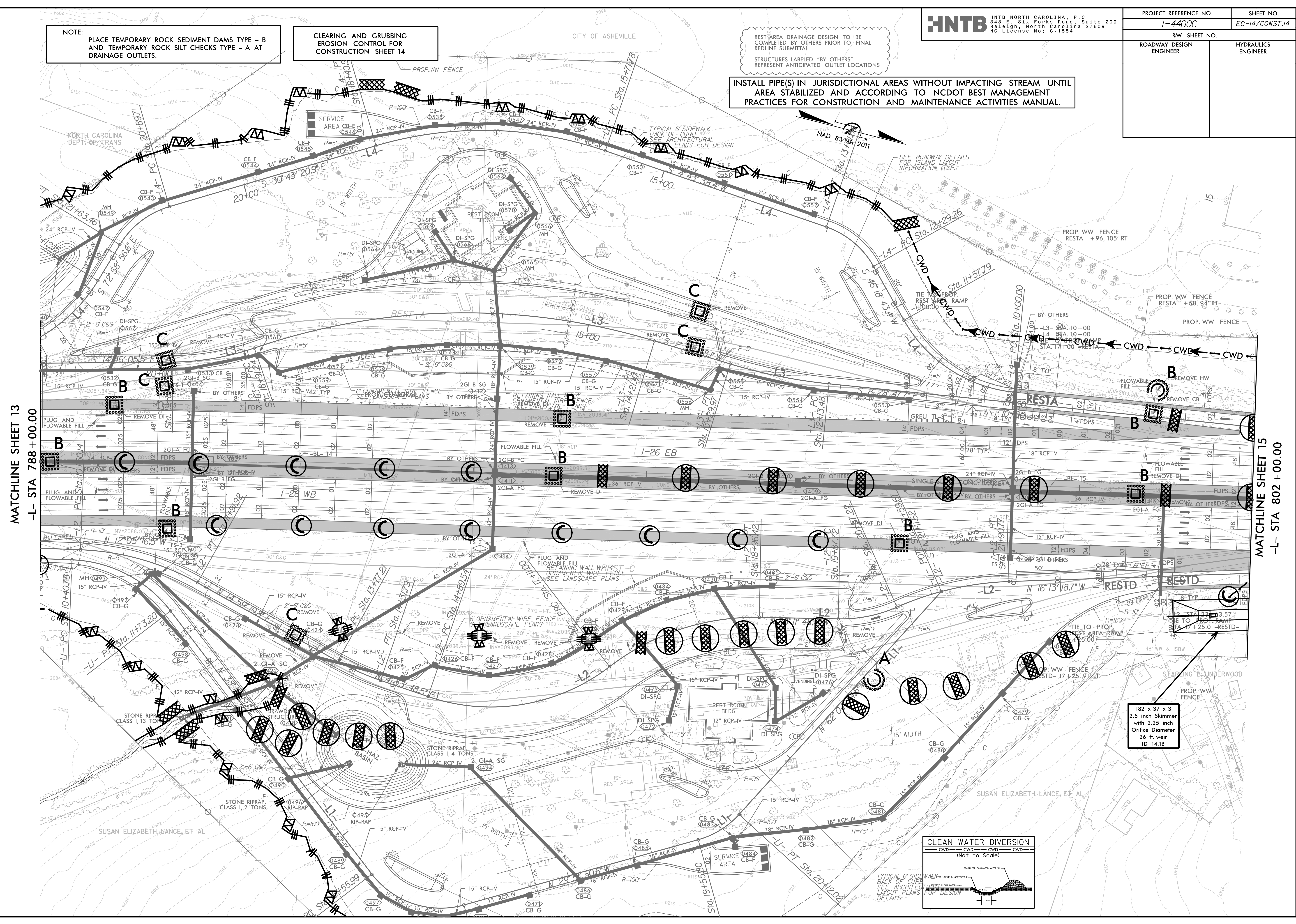
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 14

REST AREA DRAINAGE DESIGN TO BE COMPLETED BY OTHERS PRIOR TO FINAL REDLINE SUBMITTAL  
 STRUCTURES LABELED "BY OTHERS" REPRESENT ANTICIPATED OUTLET LOCATIONS

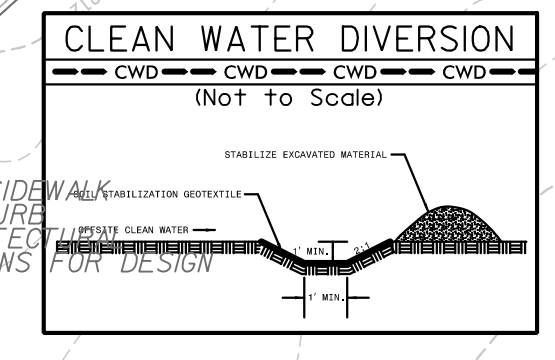
INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

MATCHLINE SHEET 13  
 -L- STA 788 + 00.00

MATCHLINE SHEET 15  
 -L- STA 802 + 00.00



182 x 37 x 3  
 2.5 inch Skimmer  
 with 2.25 inch  
 Orifice Diameter  
 26 ft. weir  
 ID 14.1B





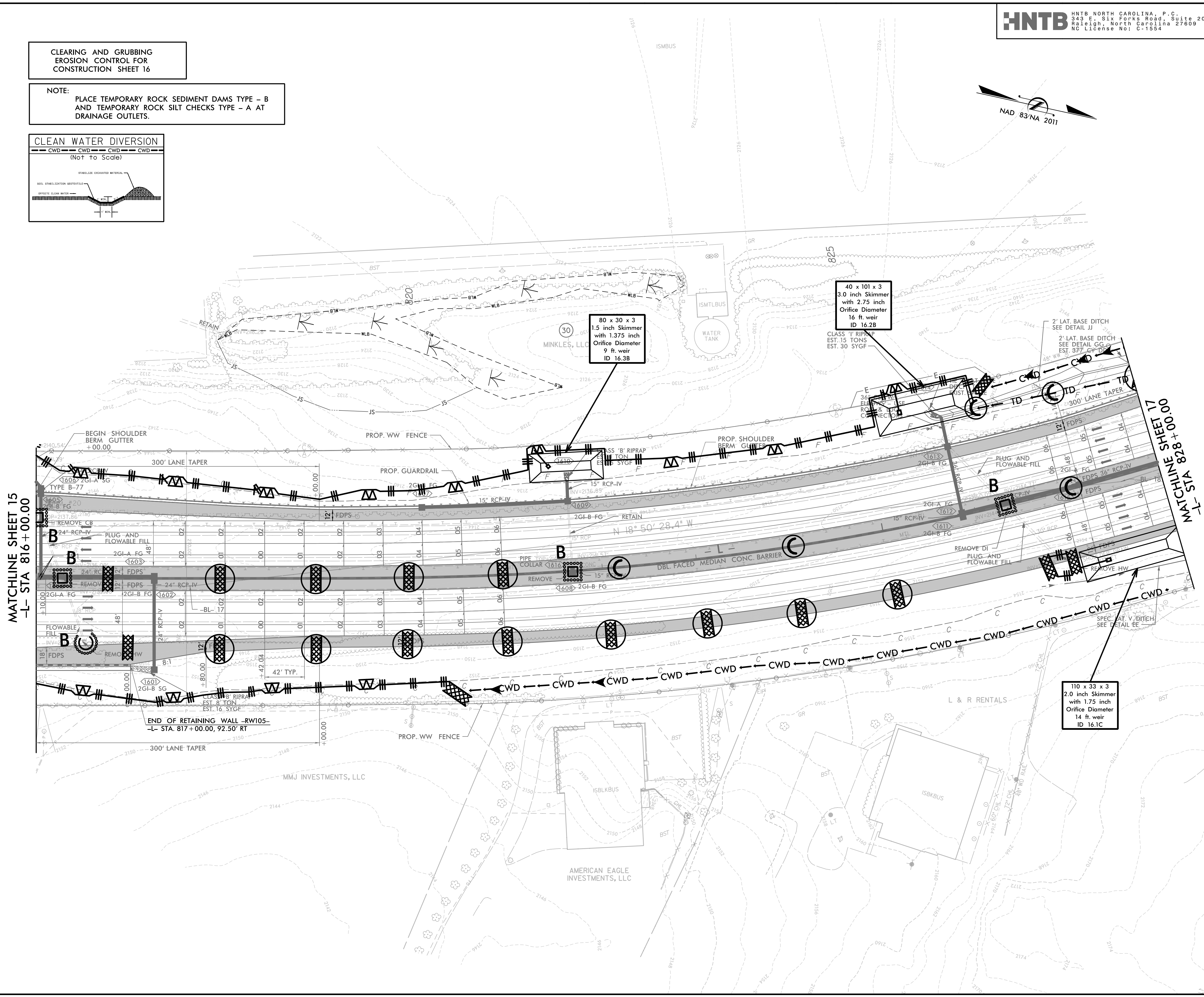
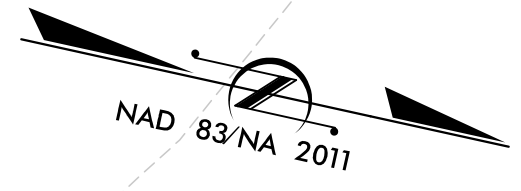
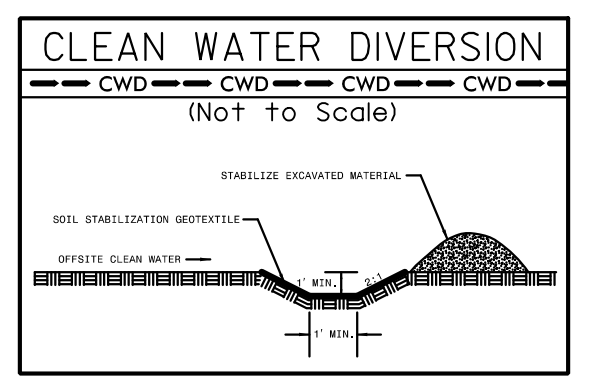


7/19/2017

PROJECT REFERENCE NO.	SHEET NO.
I-4400C	EC-16/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.



80 x 30 x 3  
1.5 inch Skimmer  
with 1.375 inch  
Orifice Diameter  
9 ft weir  
ID 16.3B

40 x 101 x 3  
3.0 inch Skimmer  
with 2.75 inch  
Orifice Diameter  
16 ft weir  
ID 16.2B

110 x 33 x 3  
2.0 inch Skimmer  
with 1.75 inch  
Orifice Diameter  
14 ft weir  
ID 16.1C

MATCHLINE SHEET 15  
-L- STA 816+00.00

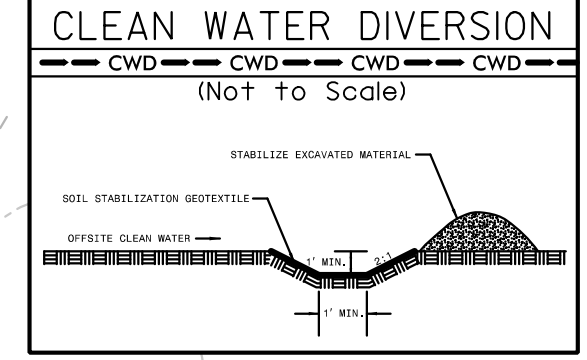
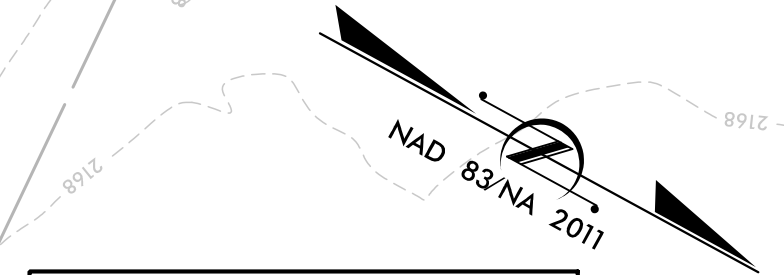
MATCHLINE SHEET 17  
-L- STA 828+00.00

8.17/199

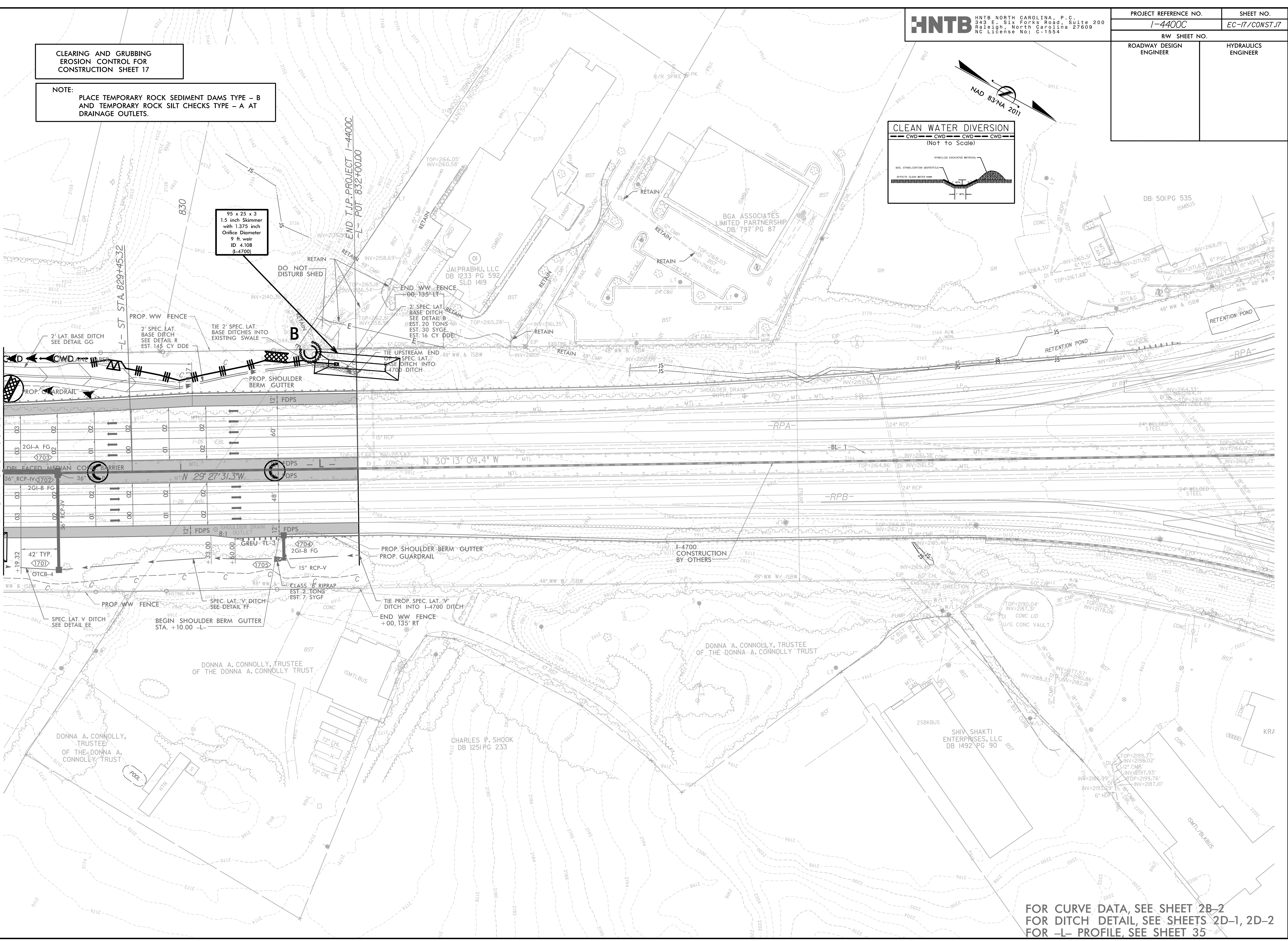
PROJECT REFERENCE NO.	SHEET NO.
I-4400C	EC-17/CONST.17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.



MATCHLINE SHEET 16  
 -L- STA 828 +00.00



FOR CURVE DATA, SEE SHEET 2B-2  
 FOR DITCH DETAIL, SEE SHEETS 2D-1, 2D-2  
 FOR -L- PROFILE, SEE SHEET 35

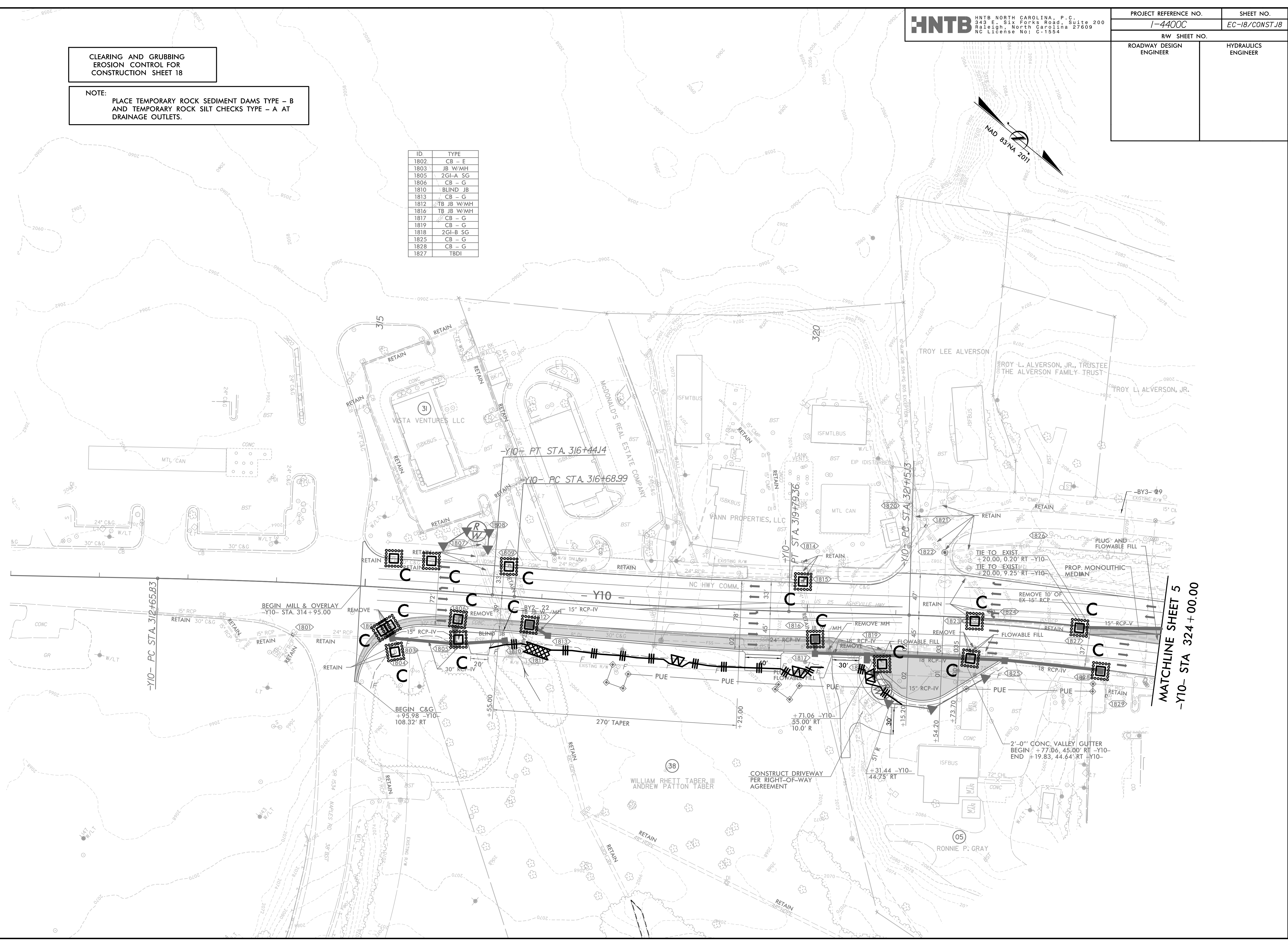
7/19/2017

PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-18/CONST.18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

ID	TYPE
1802	CB - E
1803	JB W/MH
1805	2GI-A SG
1806	CB - G
1810	BLIND JB
1813	CB - G
1812	TB JB W/MH
1816	TB JB W/MH
1817	CB - G
1819	CB - G
1818	2GI-B SG
1825	CB - G
1828	CB - G
1827	TBDI



MATCHLINE SHEET 5  
 -Y10- STA 324+00.00

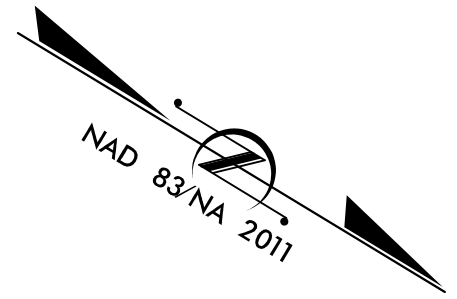
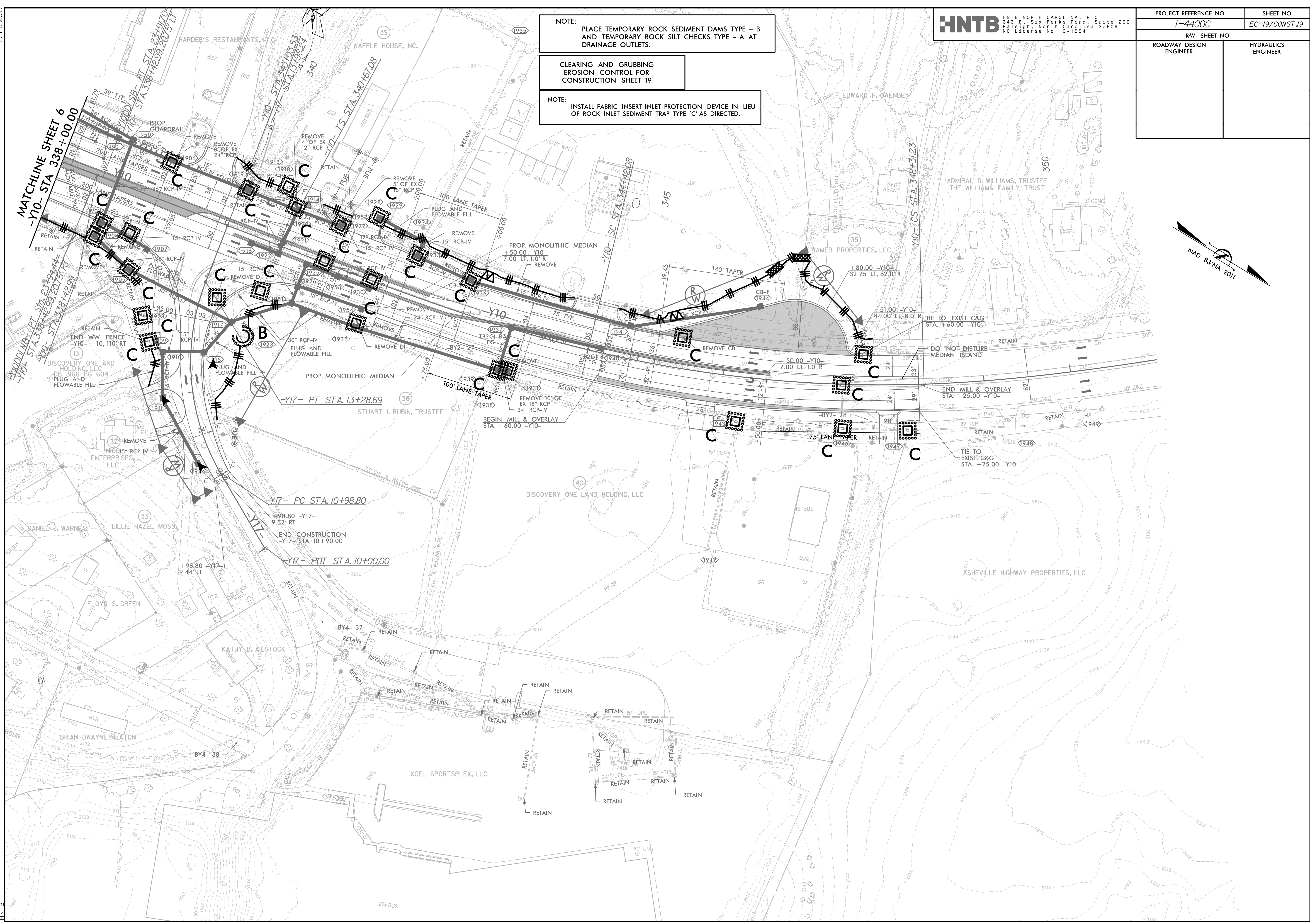
7/19/2017

PROJECT REFERENCE NO.	SHEET NO.
1-4400C	EC-19/CONST.19
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 19

NOTE: INSTALL FABRIC INSERT INLET PROTECTION DEVICE IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE 'C' AS DIRECTED.



3/29/2019  
 1-4400C.HYD.EC.PSH19.dgn  
 HNTB



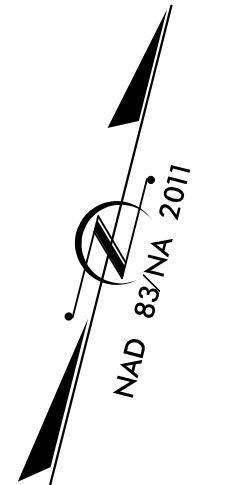
8/22/2017

**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.
1-4400C	EC-21/CONST.21
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 21

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



MATCHLINE SHEET 15  
-Y12- STA 21 + 40.00

NOTE:  
TEMPORARY SHORING SHOWN FOR  
INFORMATION ONLY. FOR MORE  
INFORMATION SEE TMP SHEETS.

3/29/2018  
C:\Users\hntb\OneDrive\Documents\14400C-HYD-EC-PSH21.dgn  
HNTB