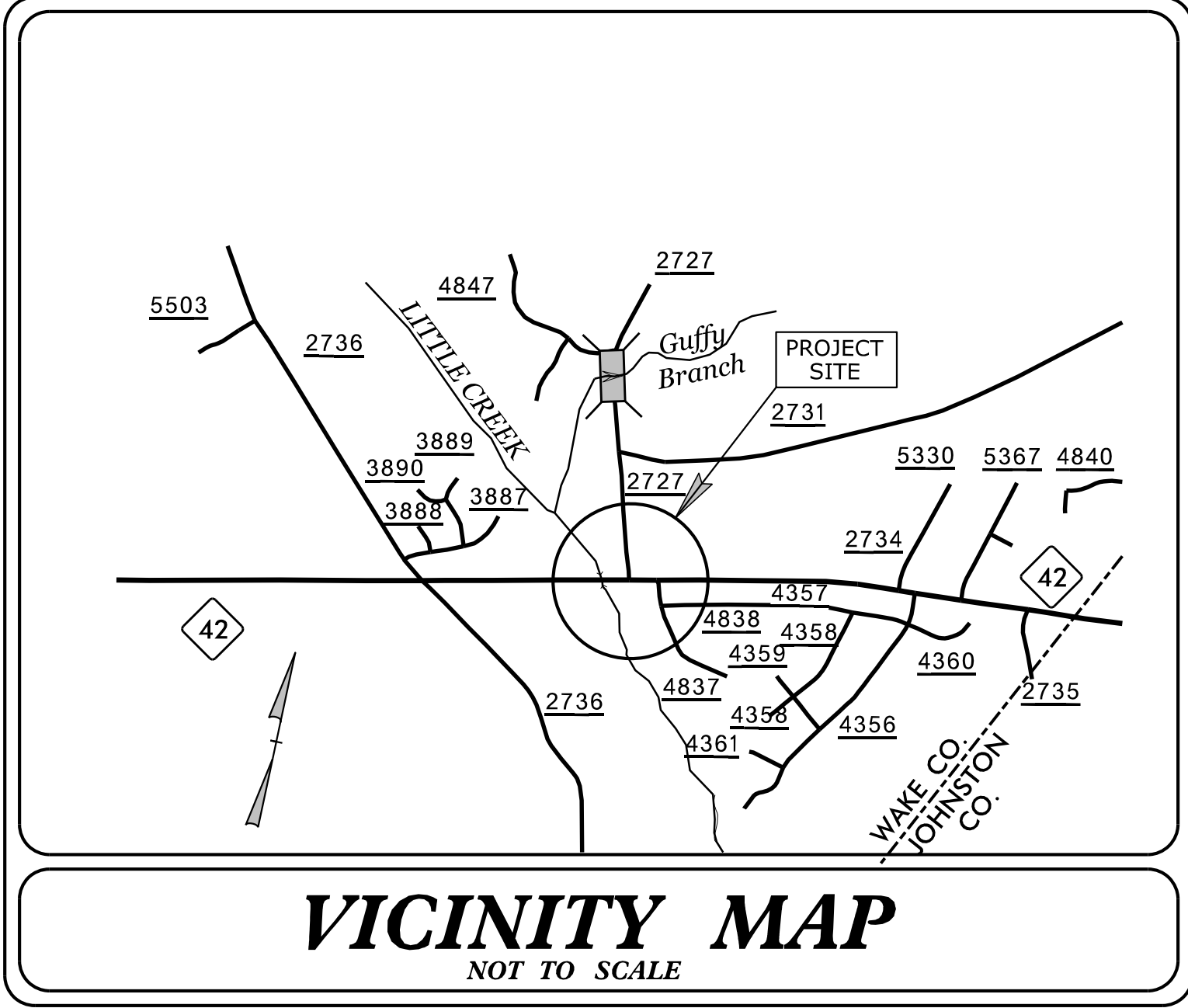


**TIP PROJECT: W-5601EY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601EY	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50138.1.156	HSIP-0042(067)	PE	
50138.2.155	HSIP-0042(066)	R/W & UTIL.	

# PART 2

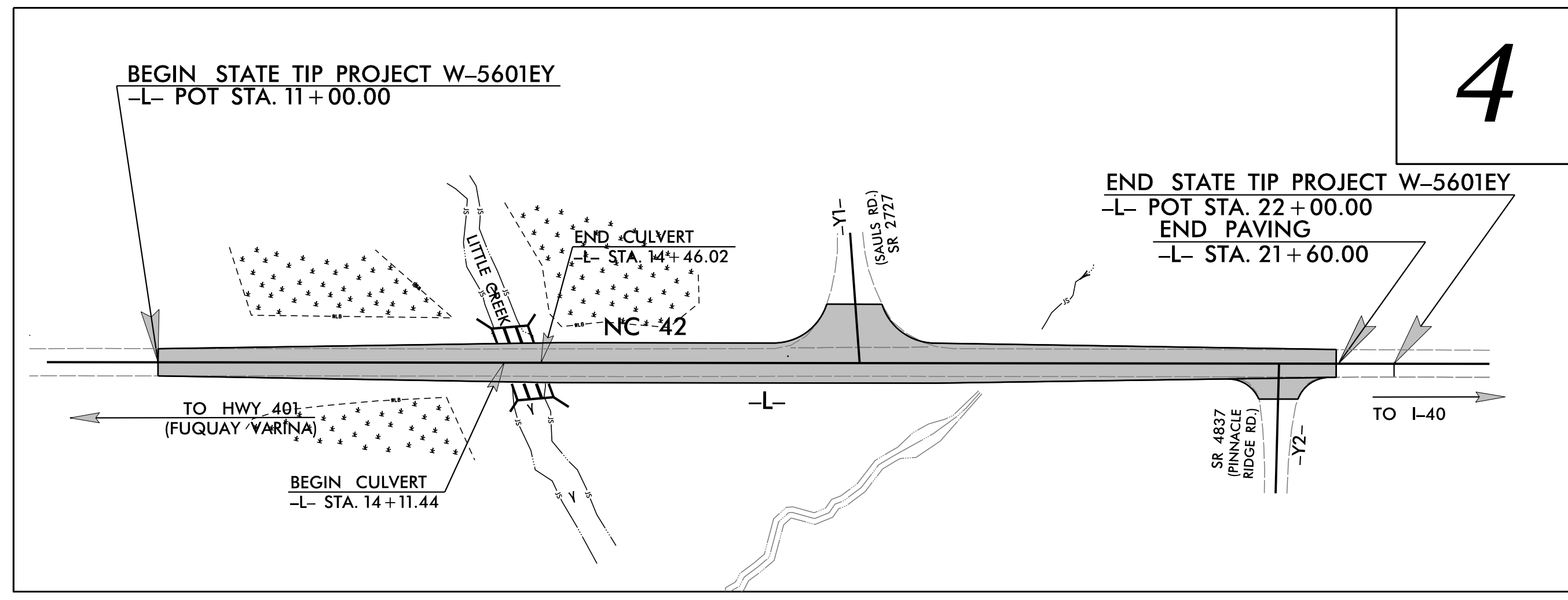
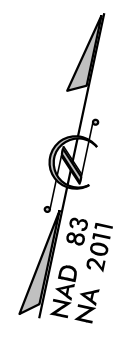


## STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

### PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

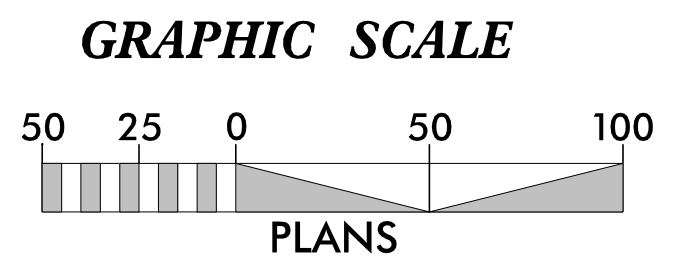
# WAKE COUNTY

**LOCATION:** CONSTRUCT AN EASTBOUND LEFT TURN LANE ON NC 42 AT THE SAULS ROAD (SR 2727) INTERSECTION.  
**TYPE OF WORK:** GRADING, DRAINAGE, PAVING AND CULVERT



NOTE: W-5601EY WAS DELETED. THE WORK FROM W-5601EY WAS INCORPORATED INTO W-5601EX.

- THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.
- THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.
- ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT  
*Refer To E. C. Special Provisions for Special Considerations.*



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG 010000 GENERAL STORMWATER CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES.

Prepared in the Office of:  
**SUNGATE DESIGN GROUP, P.A.**

905 JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27606  
TEL (919) 859-2243  
ENG FIRM LICENSE NO. C-890

**2024 STANDARD SPECIFICATIONS**

Designed by:  
**MATTHEW C. EDWARDS, PE** 3992  
NAME LEVEL III CERTIFICATION NO.

**Roadway Standard Drawings**  
The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

9/4/2024 EC-dsm-psh-01.dgn

# DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

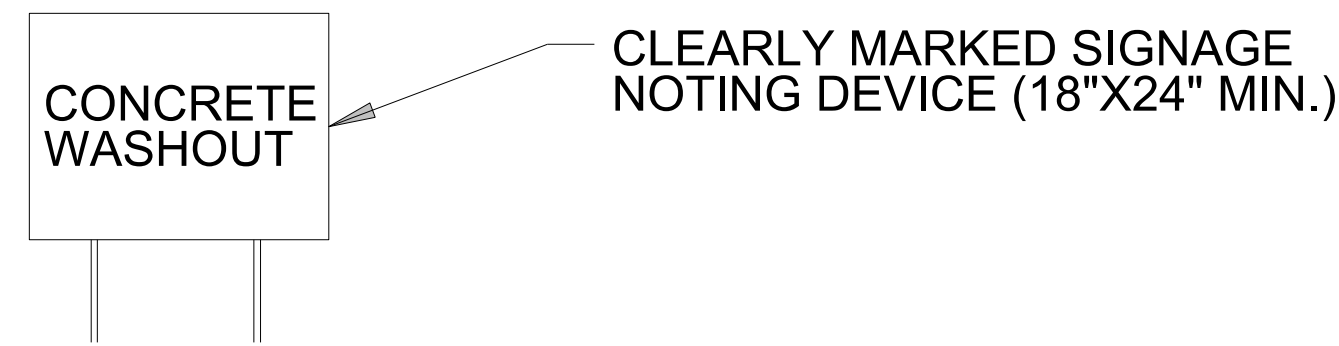
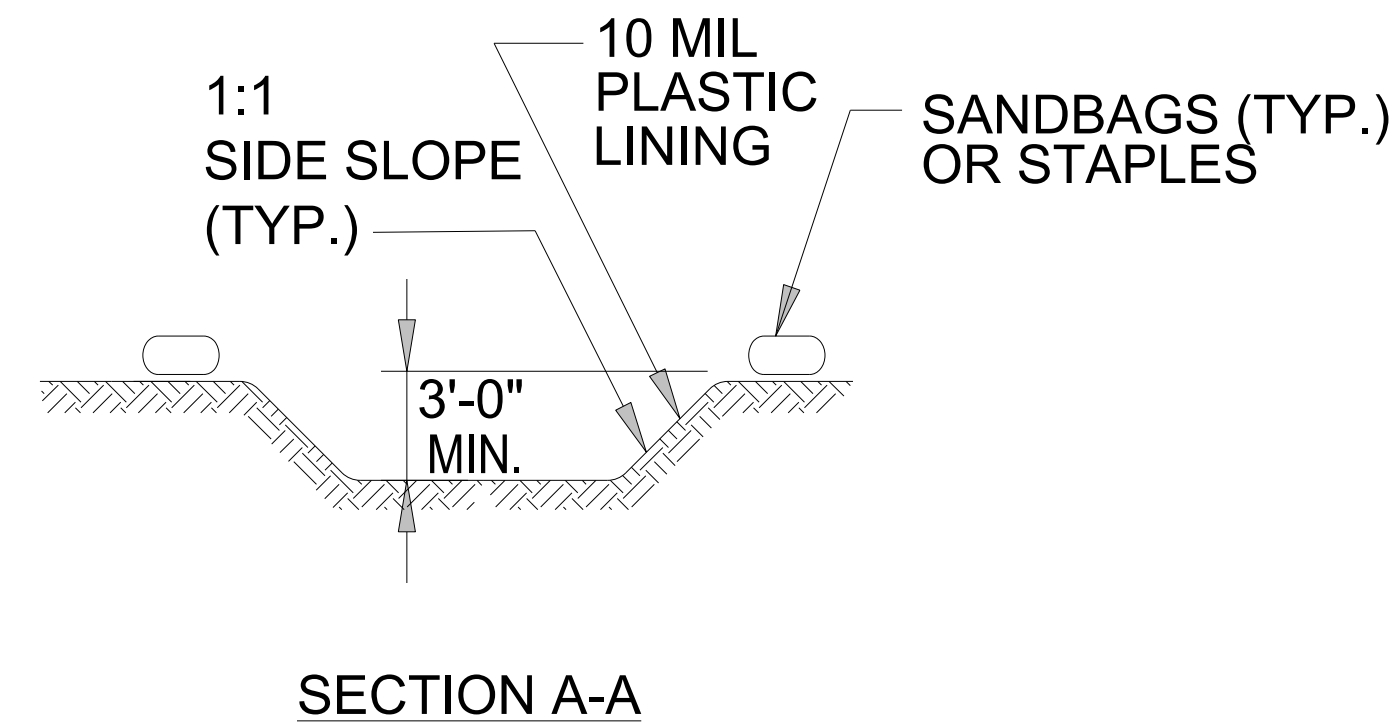
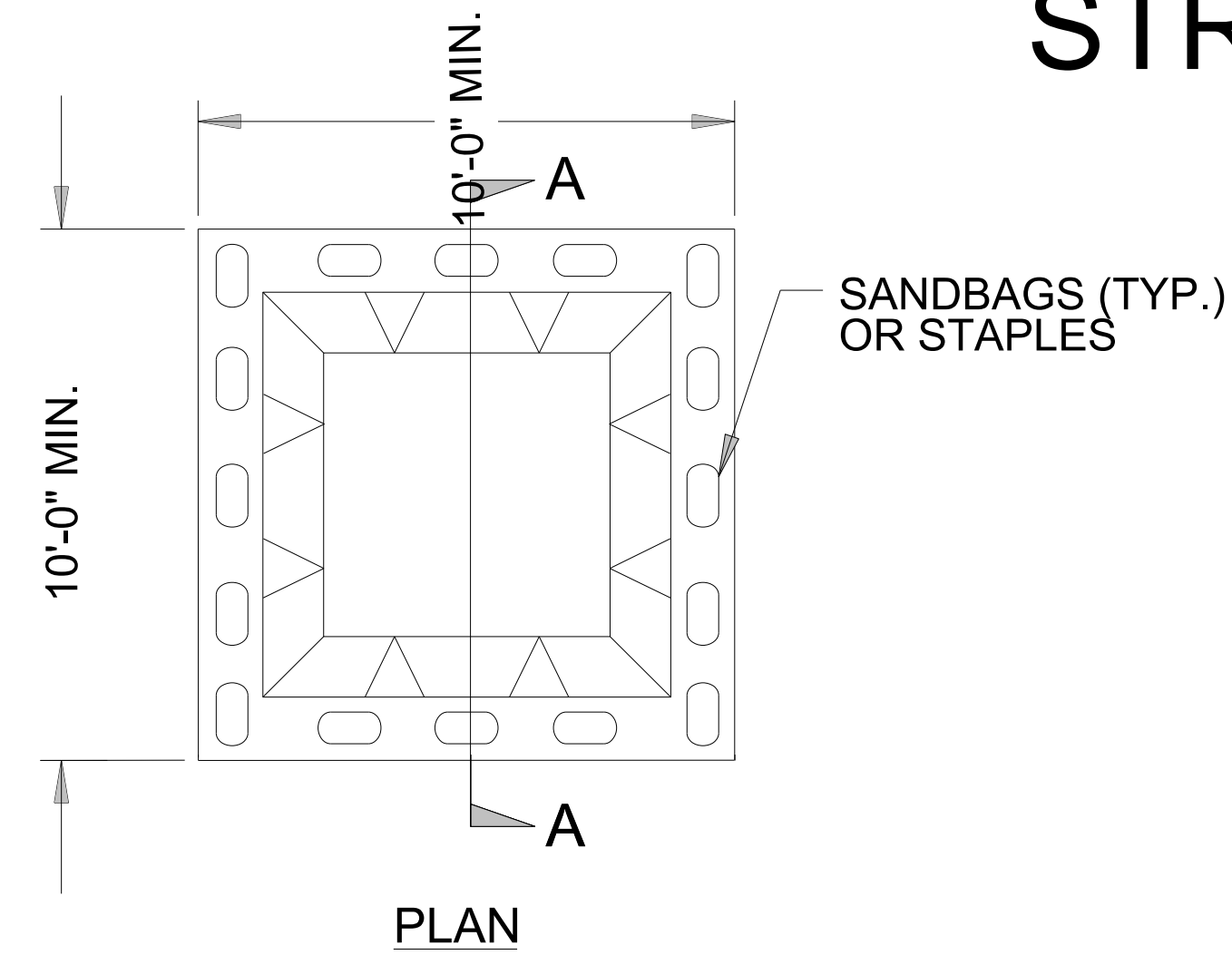
PROJECT REFERENCE NO. <b>W-5601EY</b>	SHEET NO. <b>EC-02</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

## EROSION & SEDIMENT CONTROL LEGEND

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

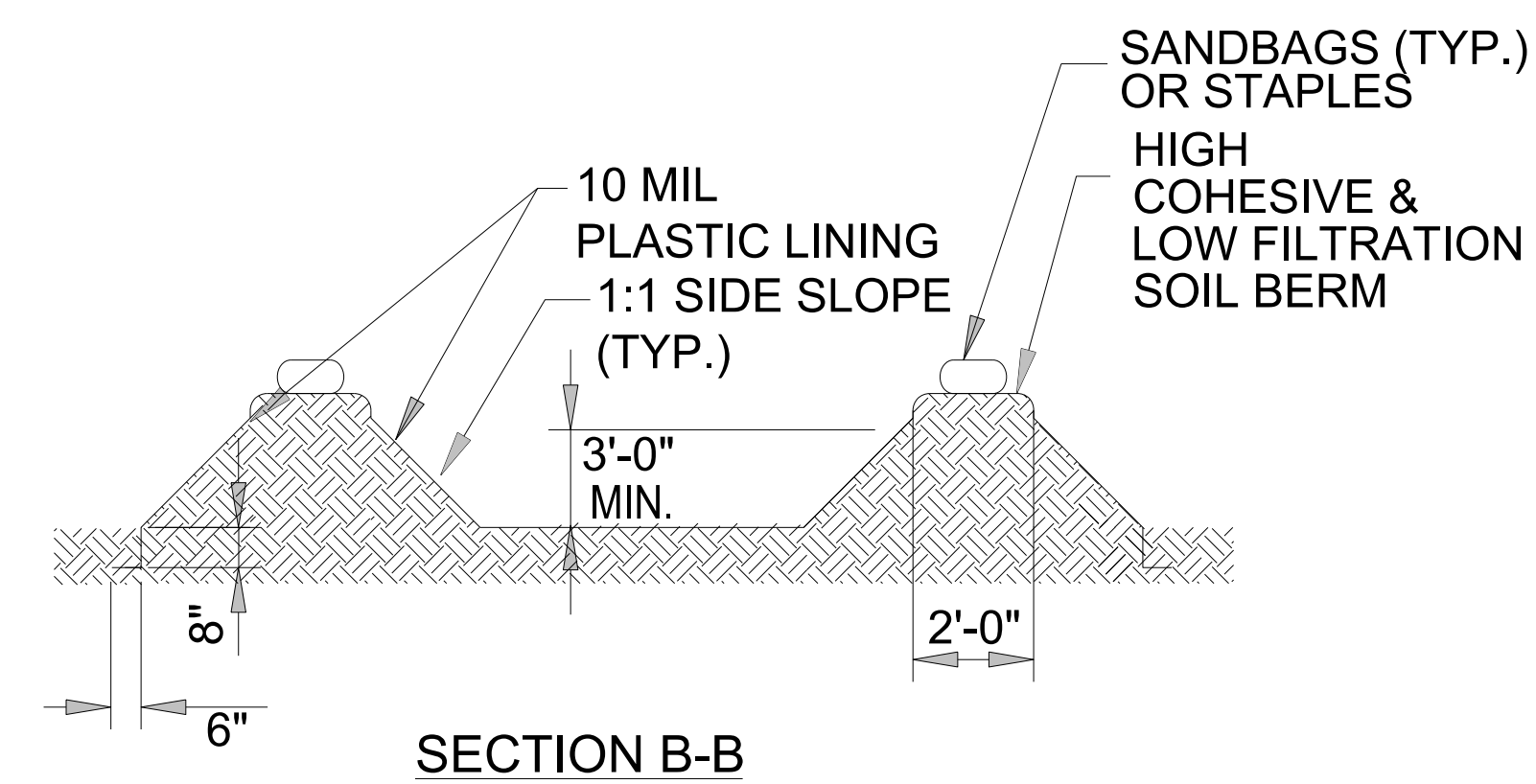
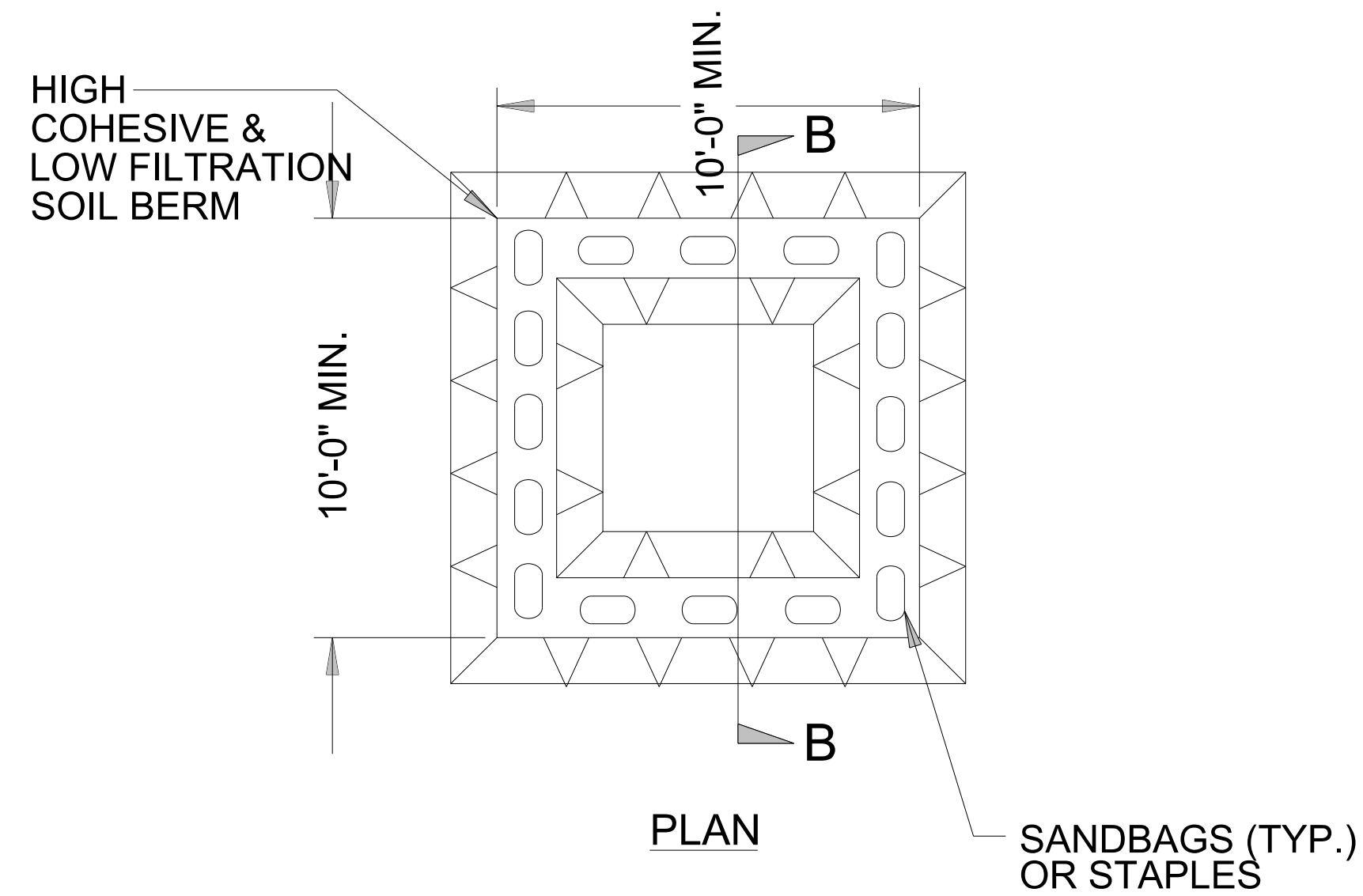
PROJECT REFERENCE NO. <i>W-560/EY</i>	SHEET NO. <i>EC-2A</i>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



**BELOW GRADE WASHOUT STRUCTURE**  
NOT TO SCALE

- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
  2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
  3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



**ABOVE GRADE WASHOUT STRUCTURE**  
NOT TO SCALE

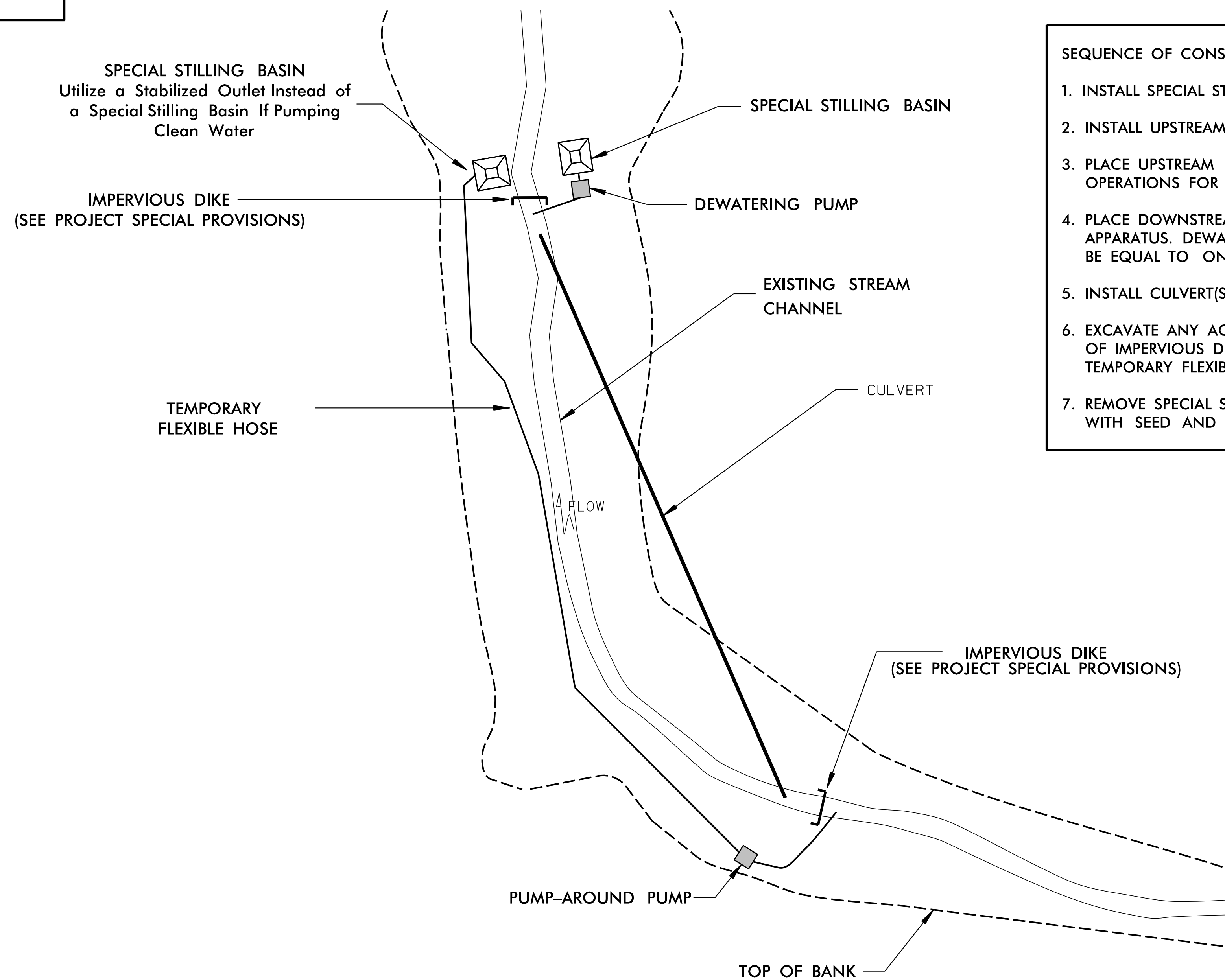
- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
  2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
  3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

PROJECT REFERENCE NO.	SHEET NO.
W-5601EY	EC-2B
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) 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

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PROJECT REFERENCE NO. <i>W-5601EY</i>	SHEET NO. <i>EC-3A</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 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES

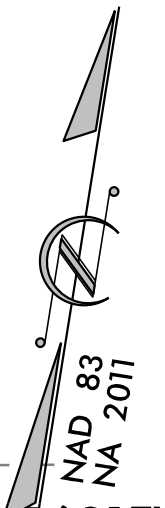
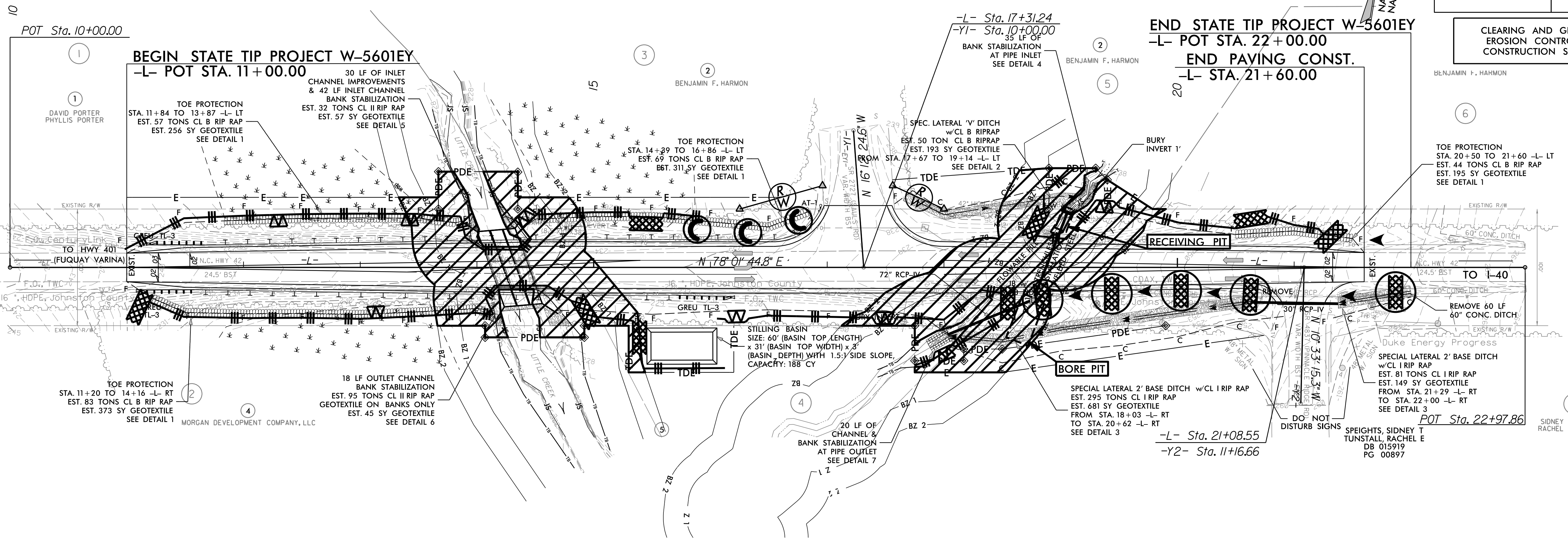
PROJECT REFERENCE NO.	SHEET NO.
W-5601EY	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 04

BENJAMIN F. HARMON

TOE PROTECTION  
STA. 20+50 TO 21+60 -L- LT  
EST. 44 TONS CL B RIP RAP  
EST. 195 SY GEOTEXTILE  
SEE DETAIL 1

SIDNEY T. SPEIGHTS  
RACHEL E. TUNSTALL



END STATE TIP PROJECT W-5601EY  
-L- POT STA. 22+00.00  
END PAVING CONST.  
-L- STA. 21+60.00

POT Sta. 10+00.00  
BEGIN STATE TIP PROJECT W-5601EY  
-L- POT STA. 11+00.00

-L- Sta. 21+08.55  
-Y2- Sta. 11+16.66

TOE PROTECTION  
STA. 11+20 TO 14+16 -L- RT  
EST. 83 TONS CL B RIP RAP  
EST. 373 SY GEOTEXTILE  
SEE DETAIL 1

18 LF OUTLET CHANNEL  
BANK STABILIZATION  
EST. 95 TONS CL II RIP RAP  
GEOTEXTILE ON BANKS ONLY  
EST. 45 SY GEOTEXTILE  
SEE DETAIL 6

STILLING BASIN  
SIZE: 60' (BASIN TOP LENGTH)  
x 31' (BASIN TOP WIDTH) x 3'  
(BASIN DEPTH) WITH 1.5:1 SIDE SLOPE,  
CAPACITY: 188 CY

SPECIAL LATERAL 2' BASE DITCH w/CL I RIP RAP  
EST. 295 TONS CL I RIP RAP  
EST. 681 SY GEOTEXTILE  
FROM STA. 18+03 -L- RT  
TO STA. 20+62 -L- RT  
SEE DETAIL 3

SPECIAL LATERAL 2' BASE DITCH  
w/CL I RIP RAP  
EST. 81 TONS CL I RIP RAP  
EST. 149 SY GEOTEXTILE  
FROM STA. 21+29 -L- RT  
TO STA. 22+00 -L- RT  
SEE DETAIL 3

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

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

# 3@10'X9' RCBC EXTENSIONS CONSTRUCTION SEQUENCE STA. 14+28 -L- LITTLE CREEK

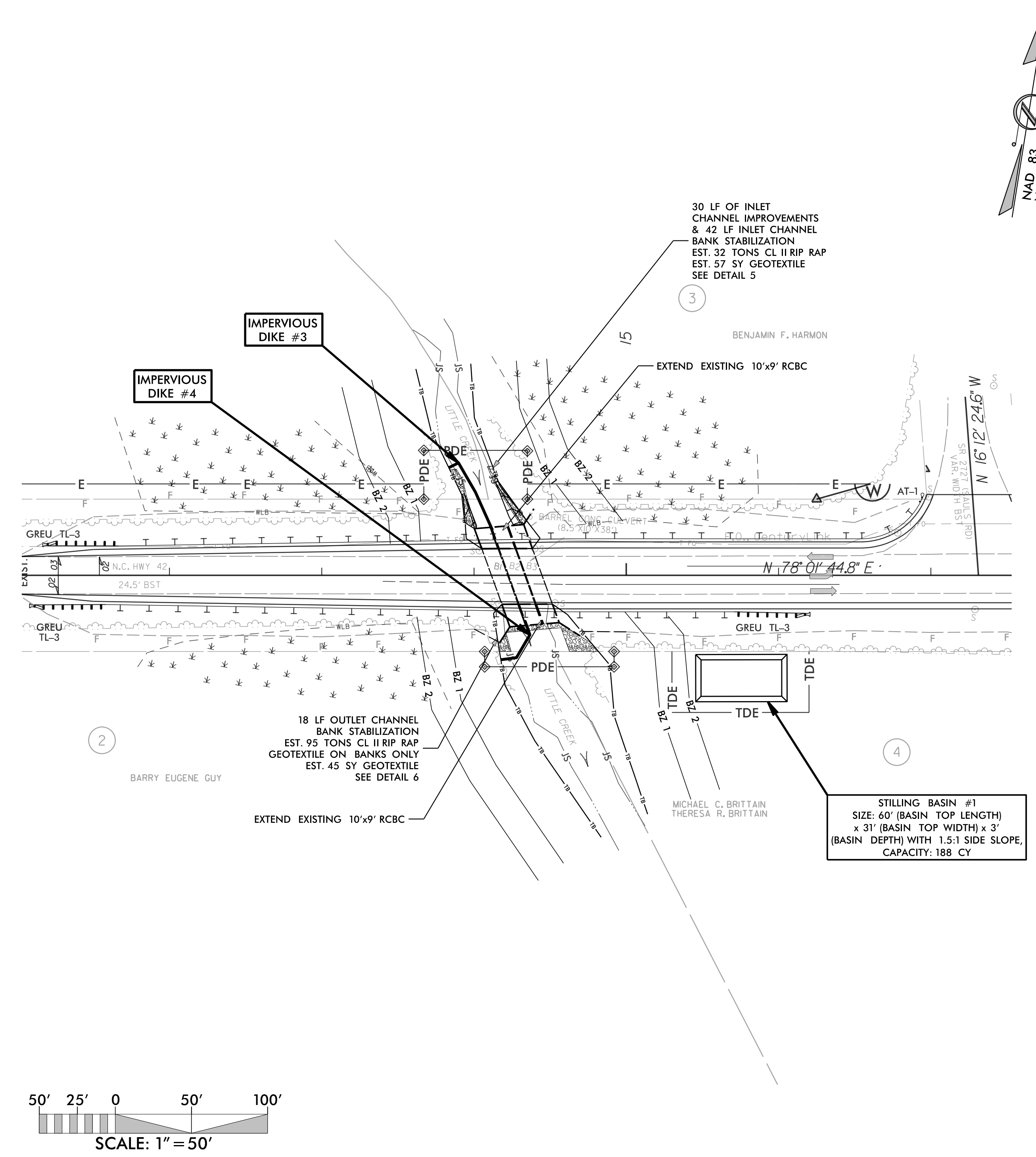
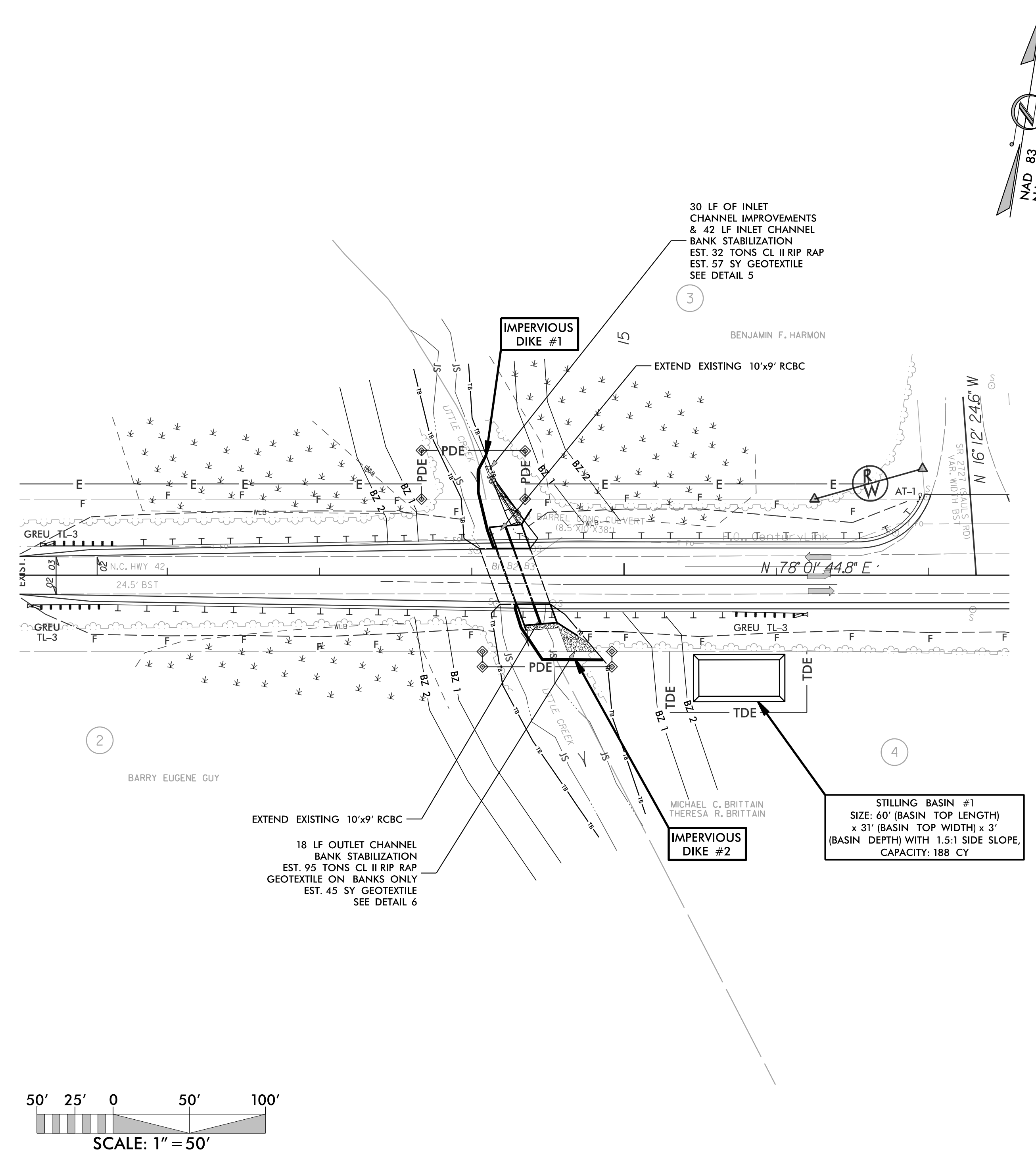
PROJECT REFERENCE NO. W-560/EY	SHEET NO. EC-04A/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

## PHASE I

- 1.) CONSTRUCT STILLING BASIN #1.
- 2.) INSTALL IMPERVIOUS DIKES #1 AND #2.
- 3.) DEWATER CONSTRUCTION AREA BY UTILIZING STILLING BASIN FOR PUMPED EFFLUENT.
- 4.) CONSTRUCT CULVERT EXTENSIONS FOR TWO EASTERN MOST BARRELS, ALONG WITH UPSTREAM CHANNEL IMPROVEMENTS AND INSTALL DOWNSTREAM OUTLET CHANNEL BANK STABILIZATION.
- 5.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 6.) REMOVE IMPERVIOUS DIKES AND DIRECT WATER THROUGH CULVERT EXTENSIONS.

## PHASE II

- 1.) INSTALL IMPERVIOUS DIKES #3 AND #4.
- 2.) CONSTRUCT CULVERT EXTENSION FOR WESTERN MOST BARREL, ALONG WITH UPSTREAM CHANNEL IMPROVEMENTS AND BANK STABILIZATION AND INSTALL DOWNSTREAM OUTLET CHANNEL BANK STABILIZATION.
- 3.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER REMOVAL OF IMPERVIOUS DIKES.
- 4.) REMOVE STILLING BASIN #1 AND IMPERVIOUS DIKES AND DIVERT WATER THROUGH 3@10'X9' RCBC.
- 5.) COMPLETE ROADWAY.





# 72" WELDED STEEL PIPE CONSTRUCTION SEQUENCE

## STA. 18+87 -L- UT TO LITTLE CREEK

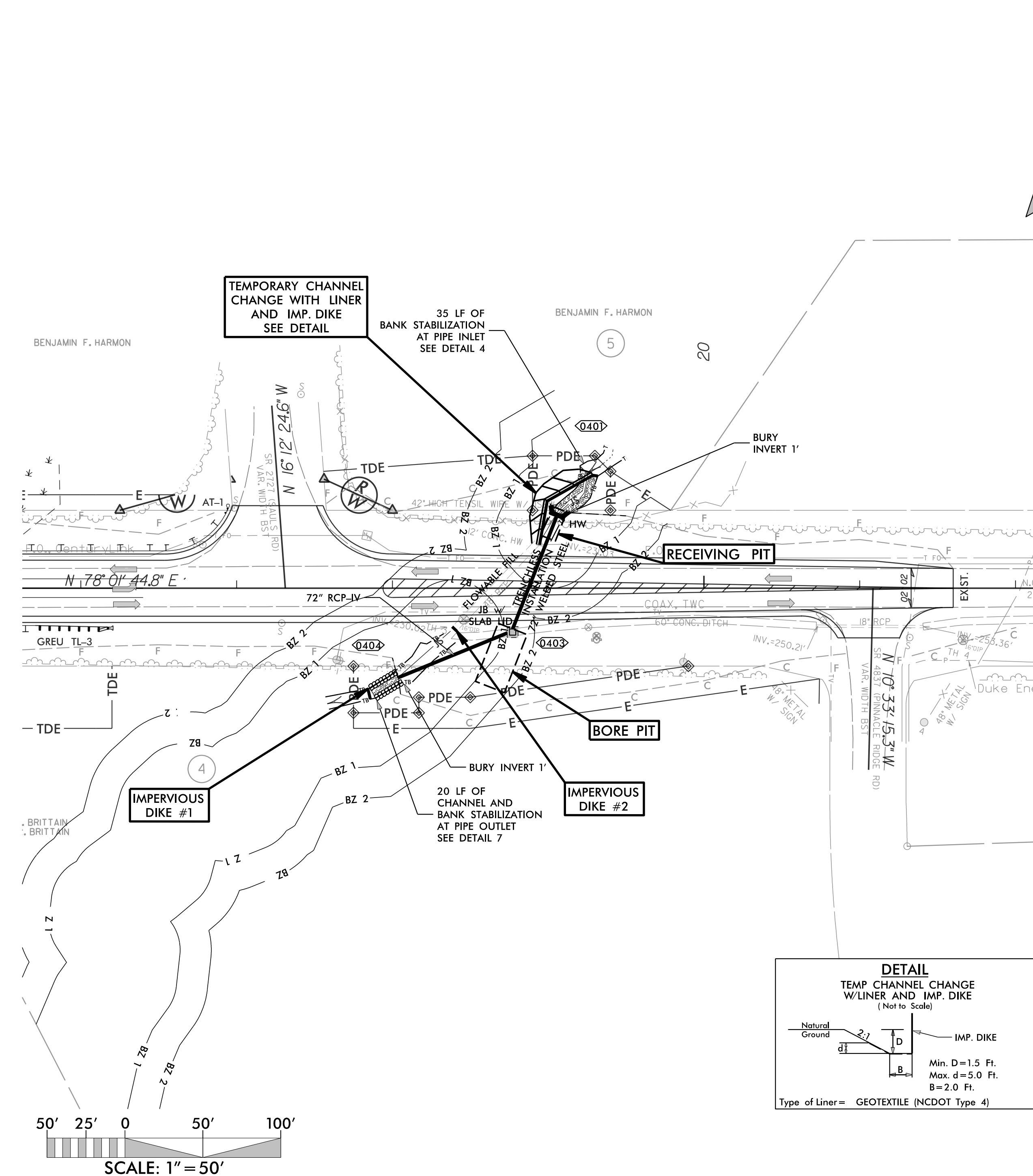
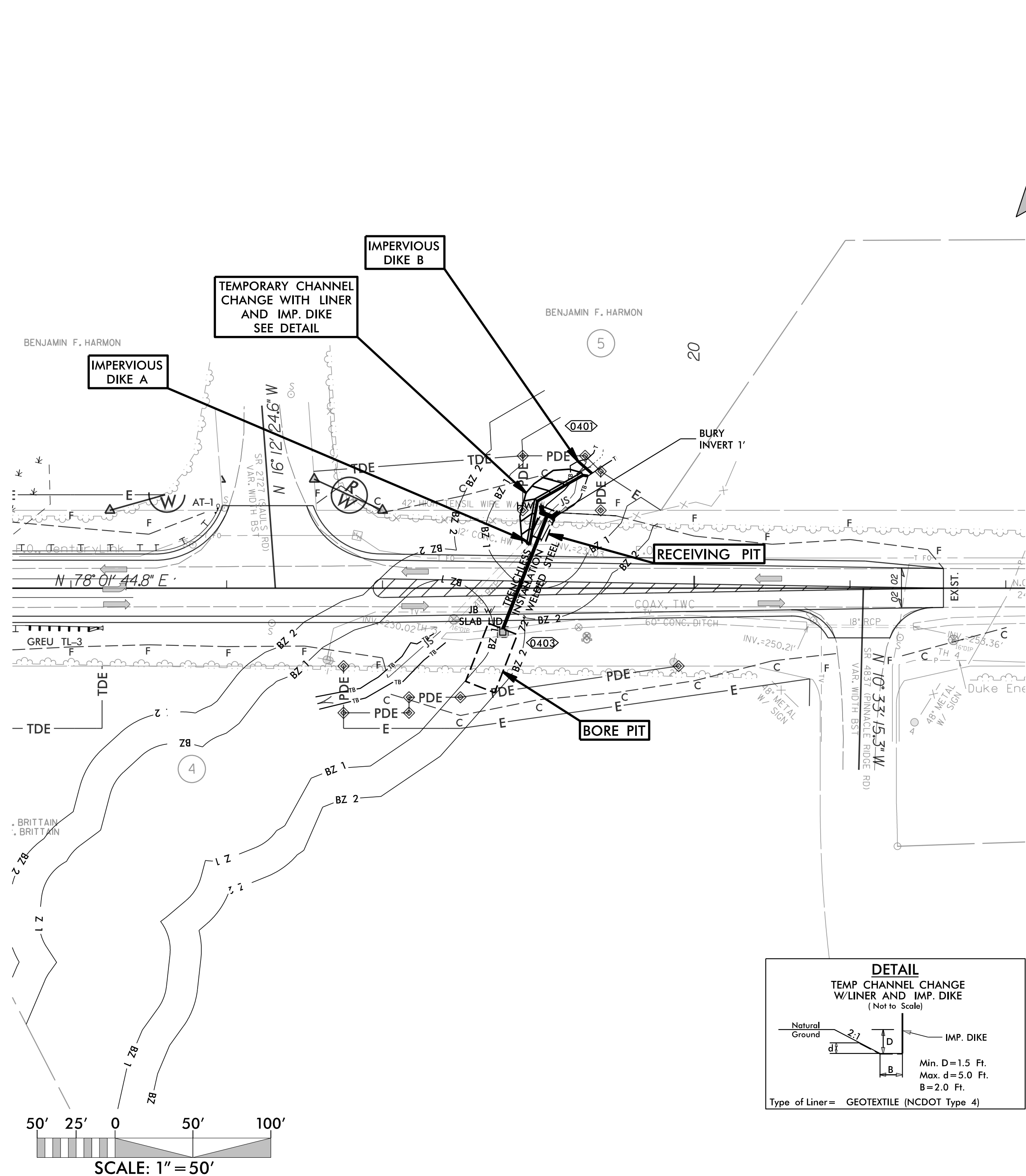
PROJECT REFERENCE NO.	SHEET NO.
W-560/EY	EC-04B/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

### PHASE I

- 1.) UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT PIPE CONSTRUCTION.
- 2.) INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
- 3.) INSTALL IMPERVIOUS DIKES A AND B, AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 4.) CONSTRUCT TEMPORARY CHANNEL CHANGE WITH LINER AND IMPERVIOUS DIKE (SEE DETAIL).
- 5.) REMOVE IMPERVIOUS DIKES A AND B, UPSTREAM PUMP, AND TEMPORARY FLEXIBLE HOSE.
- 6.) DIVERT FLOW INTO TEMPORARY CHANNEL.
- 7.) DEWATER CONSTRUCTION AREA BY UTILIZING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 8.) INSTALL 72" TRENCHLESS WELDED STEEL (INVERT BURIED 1'), HEADWALL, AND JB W/SLAB LID.

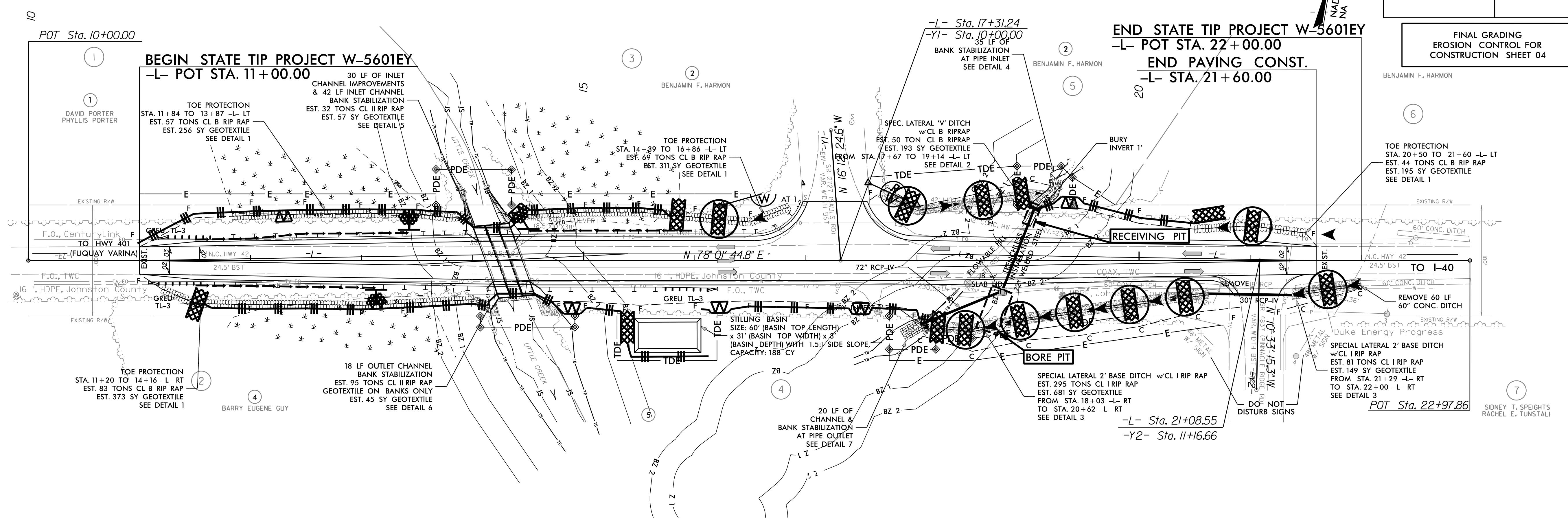
### PHASE II

- 1.) INSTALL DOWNSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
- 2.) INSTALL IMPERVIOUS DIKES #1 AND #2 AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
- 3.) DEWATER CONSTRUCTION AREA BY UTILIZING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT.
- 4.) INSTALL 72" RCP-IV (INVERT BURIED 1') AND BANK STABILIZATION AT PIPE INLET AND OUTLET.
- 5.) EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES.
- 6.) REMOVE IMPERVIOUS DIKES AND TEMPORARY CHANNEL CHANGE WITH LINER AND IMPERVIOUS DIKE, DOWNSTREAM PUMP, AND TEMPORARY FLEXIBLE HOSE. MANAGE STREAM FLOW WITH IMPERVIOUS DIKES AND BYPASS PUMPING FOR REMOVAL OF CHANNEL CHANGE WITH LINER/IMPERVIOUS DIKE AND ARMORING STREAMBANK SCAR FROM DIVERSION REMOVAL.
- 7.) FILL EXISTING 48" RCP WITH FLOWABLE FILL.
- 8.) REMOVE ANY REMAINING SPECIAL STILLING BASIN(S) AND COMPLETE ROADWAY.



PROJECT REFERENCE NO.	SHEET NO.
W-5601EY	EC-05/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FINAL GRADING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 04



Place Matting for Erosion Control on Slope as Work Allows.  
Sta. 11+50 to Sta. 13+50 -L- LT  
Sta. 14+50 to Sta. 16+00 -L- LT  
Sta. 11+50 to Sta. 13+20 -L- RT

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

