

09/08/99

TIP PROJECT: R-4436CF

CONTRACT: DC00176

See Sheet 1-A For Index of Sheets

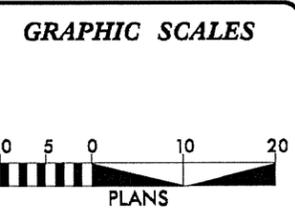
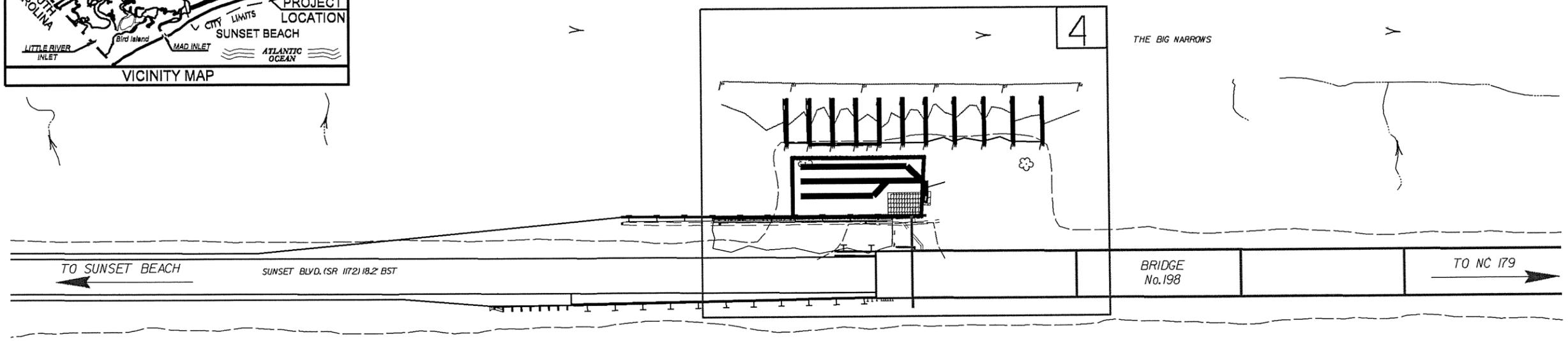
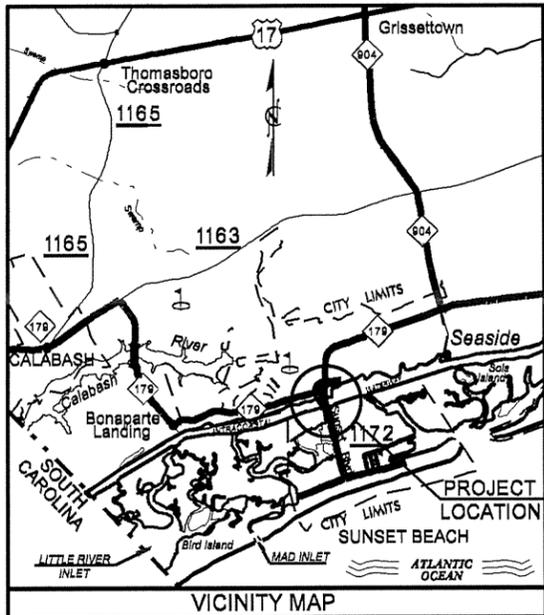
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

LOCATION: SOUTH END OF BRIDGE No. 198 OVER THE INTERCOASTAL WATERWAY ON SR 1172 (SUNSET BLVD.)

TYPE OF WORK: GRADING AND DRAINAGE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4436CF	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34625.2.55	STP-1172(007)	BMP CONSTR.	
DF15003.2010016		HUR. MATTHEW	
3B.201011		BRG. MAINT.	



Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

LETTING DATE:
APRIL 13, 2017

Brian Lipscomb, PE
PROJECT ENGINEER

Jordan Woodard, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

3/17/17

Brian S. Lipscomb
SIGNATURE: P.E.



\$\$\$SYTIME\$\$\$\$\$
\$\$\$DCGN\$\$\$\$\$
\$\$\$SERNAME\$\$\$\$\$

02/03/15

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.
R-4436CF

SHEET NO.
1-B

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	✕
Property Monument	□
Parcel/Sequence Number	⑩
Existing Fence Line	-----
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----
Existing Historic Property Boundary	-----
Known Soil Contamination: Area or Site	☠
Potential Soil Contamination: Area or Site	☠?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	+
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	-----
Buffer Zone 1	-----
Buffer Zone 2	-----
Flow Arrow	→
Disappearing Stream	-----
Spring	○
Wetland	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	-----
Switch	-----
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite R/W Marker	-----
Proposed Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Drainage / Utility Easement	-----
Proposed Permanent Utility Easement	-----
Proposed Temporary Utility Easement	-----
Proposed Aerial Utility Easement	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	-----
Pavement Removal	-----

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----

Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	-----
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	-----
Proposed Power Pole	-----
Existing Joint Use Pole	-----
Proposed Joint Use Pole	-----
Power Manhole	-----
Power Line Tower	-----
Power Transformer	-----
U/G Power Cable Hand Hole	-----
H-Frame Pole	-----
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	-----
Proposed Telephone Pole	-----
Telephone Manhole	-----
Telephone Booth	-----
Telephone Pedestal	-----
Telephone Cell Tower	-----
U/G Telephone Cable Hand Hole	-----
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	-----
Water Meter	-----
Water Valve	-----
Water Hydrant	-----
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Satellite Dish	-----
TV Pedestal	-----
TV Tower	-----
U/G TV Cable Hand Hole	-----
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

Gas Valve	-----
Gas Meter	-----
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

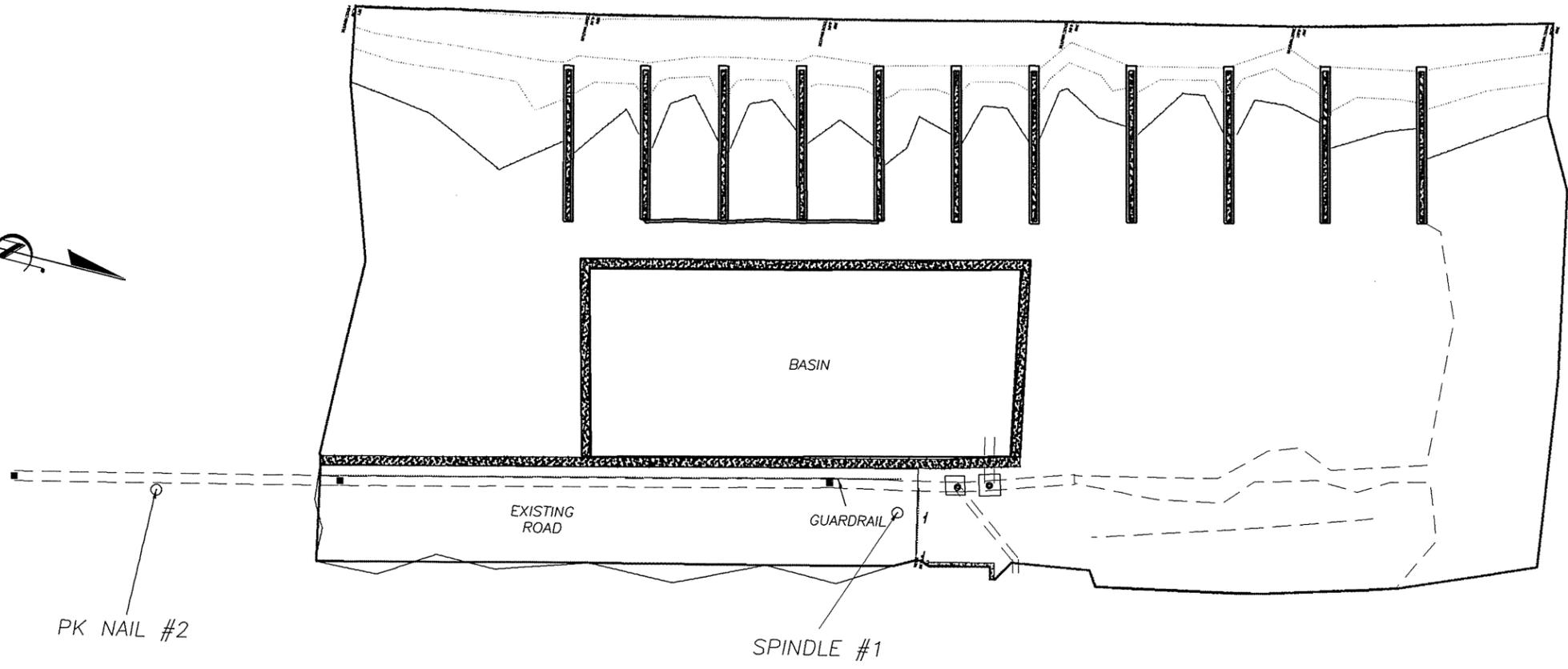
Sanitary Sewer Manhole	-----
Sanitary Sewer Cleanout	-----
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

MISCELLANEOUS:

Utility Pole	-----
Utility Pole with Base	-----
Utility Located Object	-----
Utility Traffic Signal Box	-----
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	-----
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	-----
U/G Test Hole (S.U.E.*)	-----
Abandoned According to Utility Records	-----
End of Information	-----

SURVEY CONTROL SHEET

NOTE: SURVEY COMPLETED USING NAD83 (NSRS 2007) AND DATUM NAVD 88



REVISIONS

8/17/99

SYSTEMS
 DESIGN
 SERVICES

POINT	NORTH	EAST	ELEVATION
SPINDLE #1	46781.4029	2148803.7761	14.78'
PK NAIL #2	46632.5359	2148836.2111	8.50'
PK NAIL #3	46534.7059	2148915.4011	7.05'

LOCATION AND SURVEY PROVIDED TO HSP BY PRIVATE CONTRACTOR AS AN AS-BUILT SURVEY.
ORIGINAL FILES ARE AVAILABLE UPON REQUEST.

5/28/09

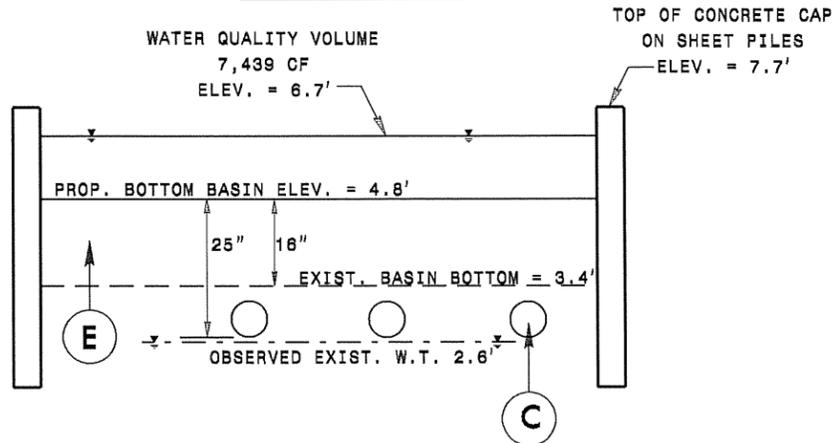
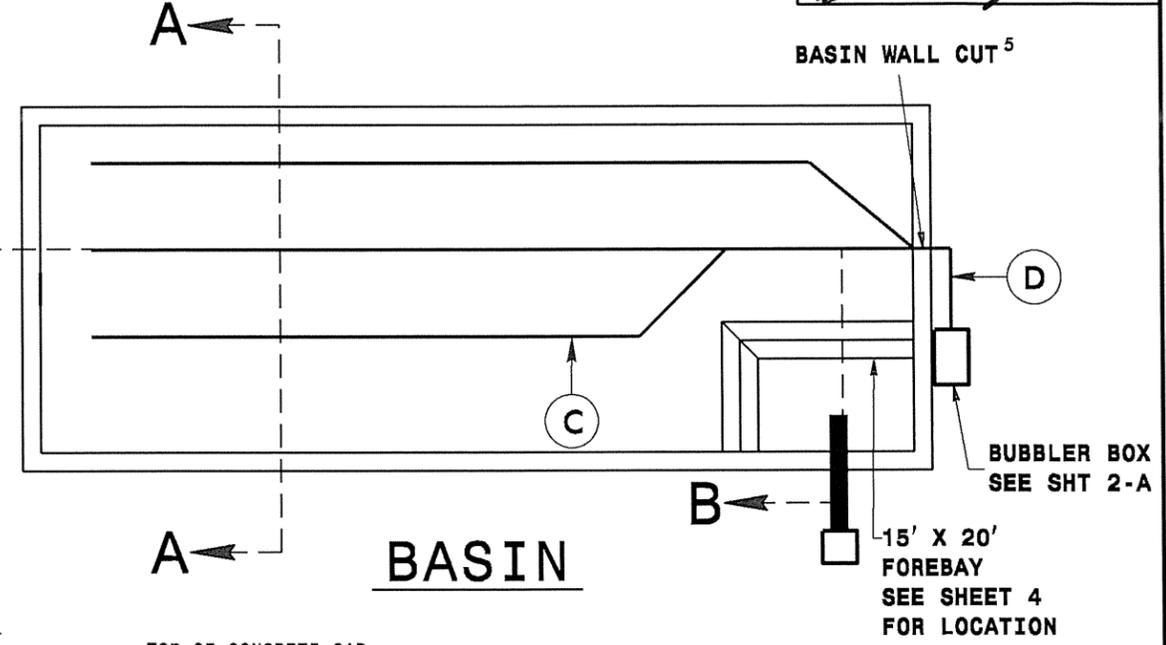
PROJECT REFERENCE NO. R-4436CF	SHEET NO. 2
HYDRAULICS ENGINEER	
	
2/12/17	

MATERIALS	
A	GEOTEXTILE FABRIC
B	24" INLET PIPE
C	6" PERFORATED HDPE D/W W/ FILTER SOCK
D	6" SOLID HDPE D/W
E	SAND, SPEC. 2S OR COARSER
F	CLASS B RIP RAP

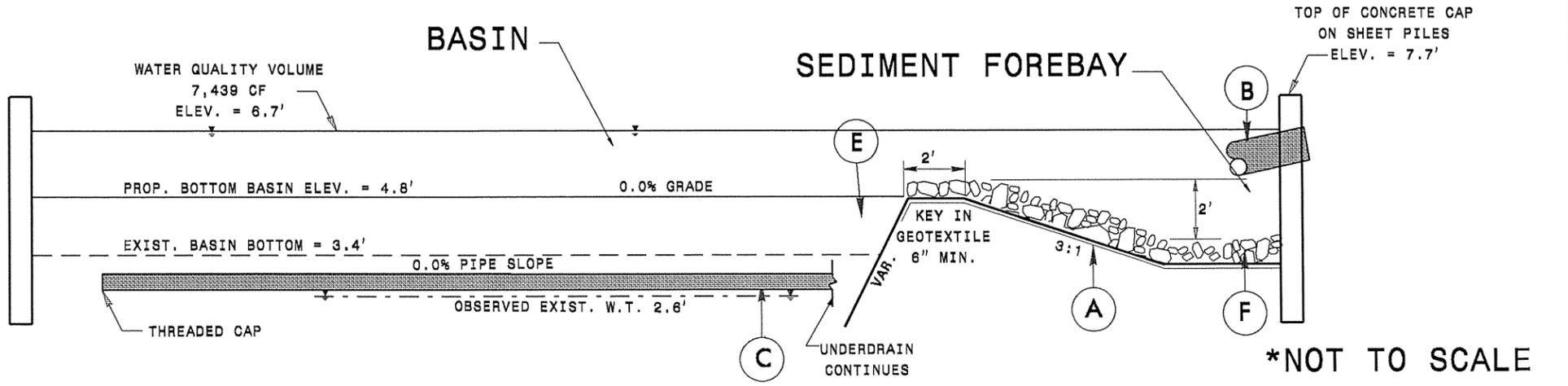
INFILTRATION BASIN DETAIL

NOT TO SCALE

NOTE:
SEE PLAN SHEET #4 FOR SHAPE AND SIZE OF BASIN AND LENGTH OF UNDERDRAIN PIPES.
WATER QUALITY VOLUME = 7,439 CU. FT.



B - B



*NOT TO SCALE

- NOTES**
1. ENTIRE SEDIMENT FOREBAY WILL BE LINED WITH FILTER FABRIC.
 2. FOREBAY FLOOR DIMENSIONS ARE 9' LONG BY 14' WIDE.
 3. REMOVE SEDIMENT AND TOP INCH OF SAND FROM EXISTING BASIN BOTTOM.
 4. EXCAVATE TRENCHES FOR UNDERDRAIN PIPE AND LAY PIPE.
 5. CUT HOLE IN BASIN WALL LARGE ENOUGH FOR UNDERDRAIN TO FIT THROUGH. LINE INTERIOR OF WALL WITH GEOTEXTILE TO PREVENT MATERIAL ESCAPING AROUND UNDERDRAIN.
 5. BACKFILL WITH CLEAN SAND TO DESIGN ELEVATION.

5/28/09
 R. M. CARROLL
 PROFESSIONAL ENGINEER
 NO. 033181
 STATE OF FLORIDA

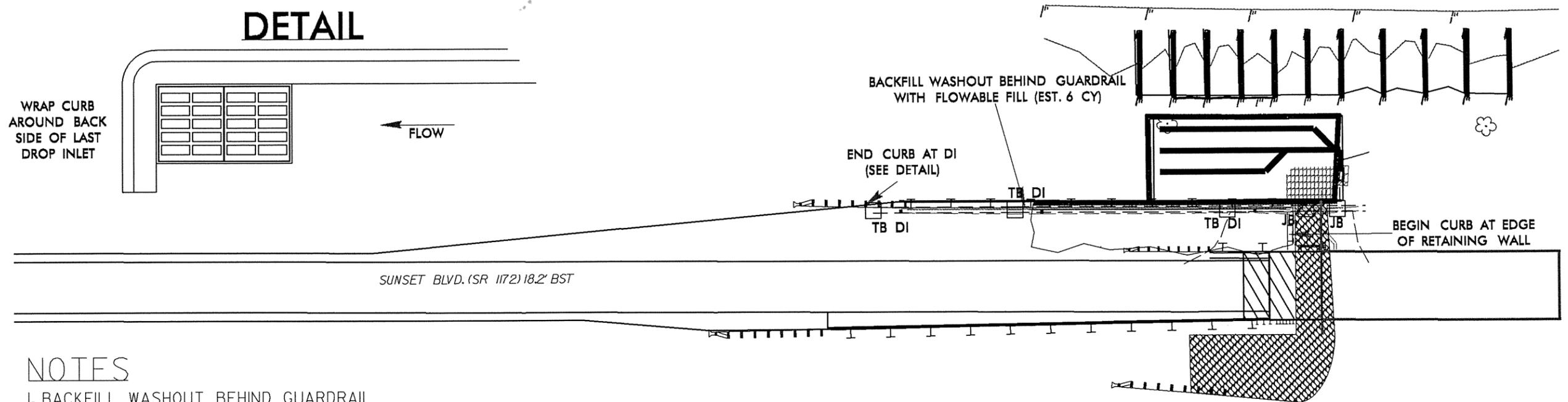
8/17/99

PROJECT REFERENCE NO. R-4436CF	SHEET NO. 2-B
HYDRAULICS ENGINEER	
<i>Ben S. [Signature]</i> 3/17/17	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

A	6" Asphalt Curb (Median Curb Dimensions 846.01)
B	Existing Retaining Wall
C	Existing Guard Rail (Face May Be Temporarily Removed for Curb Installation)
D	Existing Flexible Traffic Barrier

ASPHALT CURB INSTALLATION

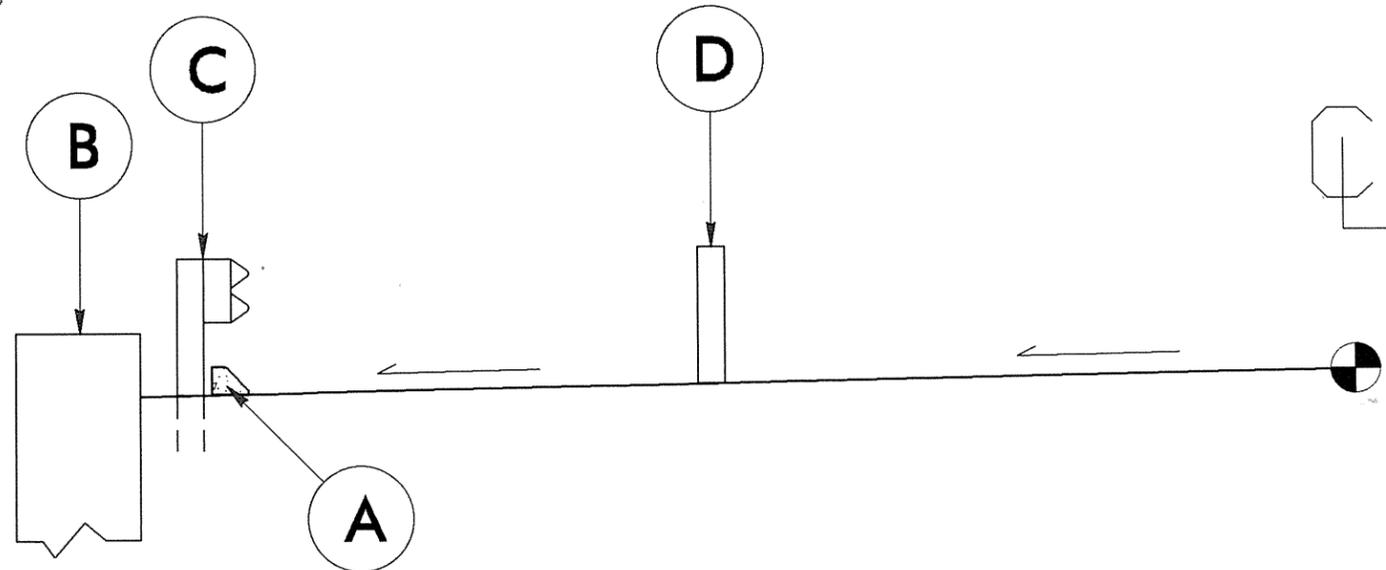
CURB END DETAIL



NOTES

1. BACKFILL WASHOUT BEHIND GUARDRAIL WITH FLOWABLE FILL
2. REMOVE "W" GUARDRAIL BEAM AND OFFSET BLOCKS TO PROVIDE CLEARANCE FOR PLACING ASPHALT CURB. REPLACE OFFSET BLOCKS AND "W" GUARDRAIL BEAM FOLLOWING INSTALLATION OF ASPHALT GUTTER.

TYPICAL



REVISIONS

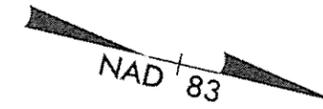
SYSTEMS

ROCK PLATING LOCATION

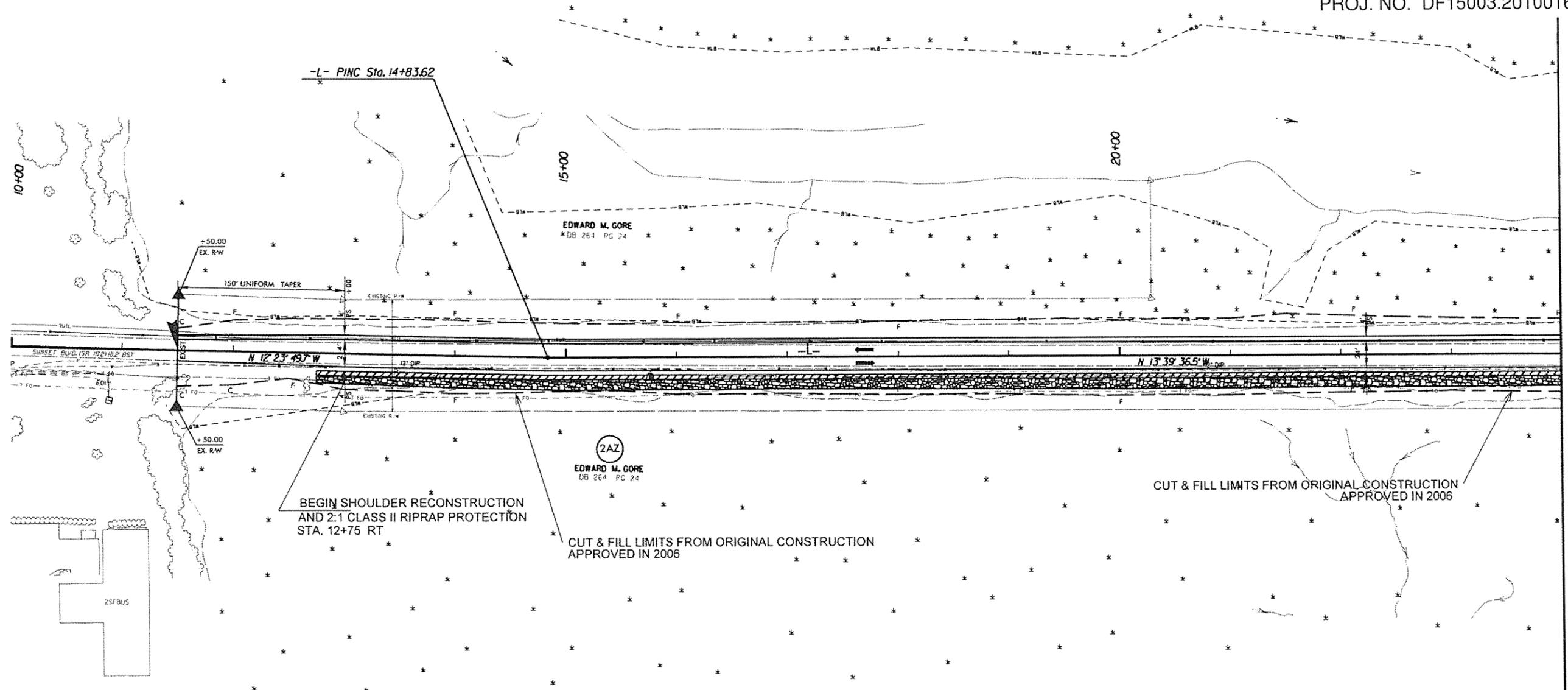
R-4436CF Sheet 2-D

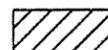
PROJECT REFERENCE NO. B-0682	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PERMIT DRAWINGS TO
REPAIR EROSION ESCARPMENT AND
RIP RAP SLOPE PROTECTION
DRAWING DATE: 12/08/2016
Revised 12/15/2016



ROCK PLATING WORK IS PART
OF THE HURRICANE MATTHEW
CAUSEWAY REPAIR PROJECT.
PROJ. NO. DF15003.2010016



-  4' EARTH SHOULDER RECONSTRUCTION
-  SLOPE RECONSTRUCTION & RIP RAP SLOPE PROTECTION (2:1 SLOPE)

PERMIT DRAWINGS SHEET 1 OF 3

8/17/15
 I:\QC-2016-1657
 CA\Environment\NGL\ES\Sunset Beach\B-0682\Sunset Beach Hurricane Matthew Oct 8 2016\B-0682.RDW Rev Jan 2016\Pre\Jug.B0682.rdy.pah4.dgn
 8/17/15

MATCHLINE -L- STA 24+00 SEE SHEET 5

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	HOLE CUT THROUGH SHEET PILE (GENERIC) LS	GRADING LS	BORROW EXC. CY	ROCK PLATING SY	6" PERFORATED HDPE PIPE W/SOCK (GENERIC) LF	6" HDPE 45 DEGREE ELBOW (GENERIC) EA	6" HDPE 90 DEGREE ELBOW (GENERIC) EA	6" HDPE WYE (45 X 135 DEGREE) (GENERIC) EA	6" THREADED END CAP ASSEMBLY (GENERIC) EA	PATCHING EXISTING PAVEMENT (FULL DEPTH) (GENERIC) TON	SUBDRAIN FINE AGGREGATE CY	FLOWABLE FILL CY	MASONRY DRAINAGE STRUCT EA	WEEP HOLE FILTER BAG EA	WASHED NOS7 STONE (GENERIC) TON	STEEL 8M GR LF	ADD GR POSTS EA	REMOVE AND RESET EXISTING GR POST (GENERIC) LF	RIP RAP, CLASS B TON	TEMP. SILT FENCE LF	SAFETY FENCE LF	COIR FIBER MAT SY	COIR FIBER WATTLE LF	SEED & MULCHING AC	RESPONSE FOR EROSION CONTROL EA	GEOTEXTILE FOR DRAINAGE SY	ASPHALT CURB (GENERIC) LF
34625.2.55 - R-4436CF	Brunswick	1	SR 1172 (SUNSET BLVD.)	GRADING AND DRAINAGE - R-4436CF		2	2WU	NO	NO	0.05	24	1	1			260	2	1	2	3		190	6	1	3	4				18				45	5	70	200	
TOTAL FOR MAP NO. 1										0.05		1	1			260	2	1	2	3		190	6	1	3	4				18				45	5	70	200	
TOTAL FOR PROJ NO. 34625.2.55 - R-4436CF										0.05		1	1			260	2	1	2	3		190	6	1	3	4				18				45	5	70	200	
DF15003.2010016 - Hurricane Matthew Number	Brunswick	1	SR 1172 (SUNSET BLVD.)	GRADING AND DRAINAGE - HURRICANE MATTHEW NUMBER		2	2WU	NO	NO	0.36	24			200	1,650															2,000	2,000	500		0.75				
TOTAL FOR MAP NO. 1										0.36				200	1,650															2,000	2,000	500		0.75				
TOTAL FOR PROJ NO. DF15003.2010016 - Hurricane Matthew Number										0.36				200	1,650															2,000	2,000	500		0.75				
3B.201011 - Bridge Maintenance Number	Brunswick	1	SR 1172 (SUNSET BLVD.)	GRADING AND DRAINAGE - BRIDGE MAINTENANCE NUMBER		2	2WU	NO	NO		24										2						100	5	1,100									
TOTAL FOR MAP NO. 1																					2						100	5	1,100									
TOTAL FOR PROJ NO. 3B.201011 - Bridge Maintenance Number																					2						100	5	1,100									
GRAND TOTAL										0.41		1	1	200	1,650	260	2	1	2	3	2	190	6	1	3	4	100	5	1,100	18	2,000	2,000	500	45	0.75	5	70	200

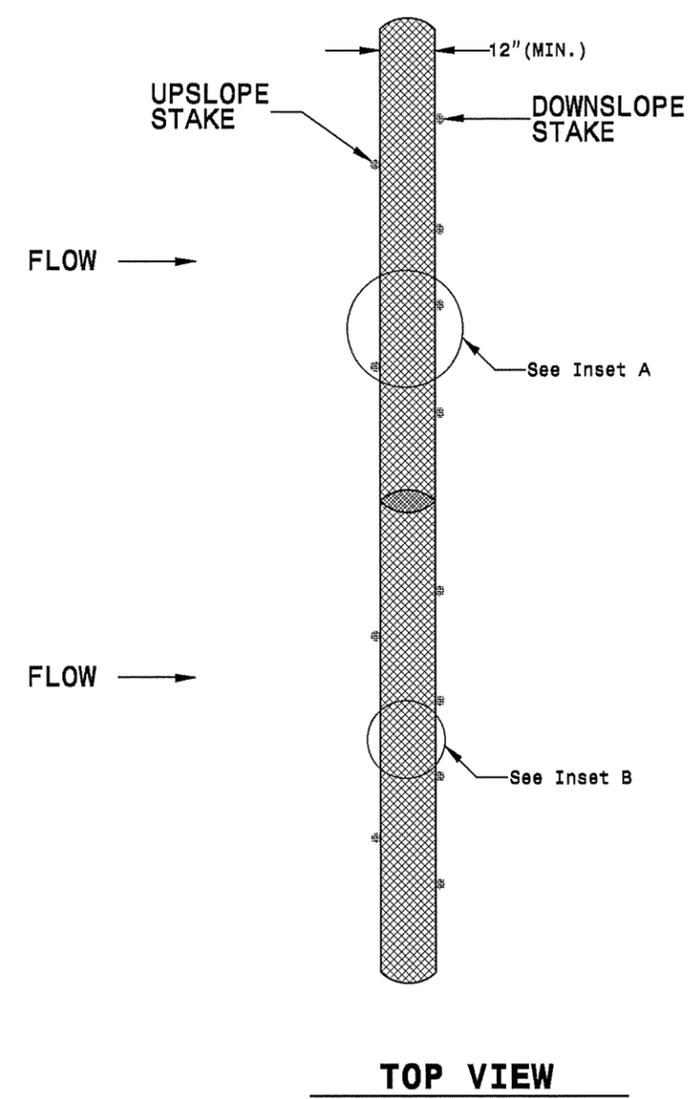
THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	441300000-E	445700000-N
										WORK ZONE ADVANCE/GENERAL WARNING SIGNING	TEMPORARY TRAFFIC CONTROL
										SF	LS
34625.2.55 - R-4436CF	Brunswick	1	SR 1172 (SUNSET BOULEVARD)	GRADING AND DRAINAGE - R-4436CF		2	2WU	0.05	24		
TOTAL FOR MAP NO. 1								0.05			
TOTAL FOR PROJ NO. 34625.2.55 - R-4436CF								0.05			
DF15003.2010016 - Hurricane Matthew Number	Brunswick	1	SR 1172 (SUNSET BOULEVARD)	GRADING AND DRAINAGE - HURRICANE MATTHEW NUMBER		2	2WU	0.36	24	80	1
TOTAL FOR MAP NO. 1								0.36		80	1
TOTAL FOR PROJ NO. DF15003.2010016 - Hurricane Matthew Number								0.36		80	1
3B.201011 - Bridge Maintenance Number	Brunswick	1	SR 1172 (SUNSET BOULEVARD)	GRADING AND DRAINAGE - BRIDGE MAINTENANCE NUMBER		2	2WU		24		
TOTAL FOR MAP NO. 1											
TOTAL FOR PROJ NO. 3B.201011 - Bridge Maintenance Number											
GRAND TOTAL									0.41	80	1



Benjamin J. [Signature]
2/5/16

COIR FIBER WATTLE DETAIL



NOTES:

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT SO THAT FLOW WILL NOT WASH AROUND WATTLE AND SCOUR SLOPES AND AS DIRECTED.
- 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.

