

COUNTY COUNCIL OF BEAUFORT COUNTY
ADMINISTRATION BUILDING
100 RIBAUT ROAD
POST OFFICE DRAWER 1228
BEAUFORT, SOUTH CAROLINA 29901-1228
TELEPHONE: (843) 255-2180
FAX: (843) 255-9401
www.bcgov.net

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STEWART H. RODMAN
VICE CHAIRMAN

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COUNTY ADMINISTRATOR

JOSHUA A. GRUBER
DEPUTY COUNTY ADMINISTRATOR
SPECIAL COUNSEL

SUZANNE M. RAINEY
CLERK TO COUNCIL

AGENDA
NATURAL RESOURCES COMMITTEE

Monday, October 13, 2014
1:30 p.m.

Executive Conference Room, Administration Building
100 Ribaut Road, Beaufort

Committee Members:

Brian Flewelling, Chairman
Cynthia Bensch, Vice Chairman
Gerald Dawson
William McBride
Jerry Stewart
Tabor Vaux
Laura Von Harten

Staff Support:

Tony Criscitiello, Division Director

1. CALL TO ORDER – 1:30 P.M.
2. CONSIDERATION OF CONTRACT AWARD
 - A. Stormwater Public Education Contract ([backup](#))
3. AN ORDINANCE AUTHORIZING THE RELINQUISHMENT OF A STORMWATER EASEMENT ON RILEY ROAD ([backup](#))
4. PRESENTATION, INFORMATION AND DISCUSSION / STORMWATER MS4 PERMIT APPLICATION TO BE MADE TO DHEC ([backup](#))
5. TEXT AMENDMENT OF CHAPTER 4 (FUTURE LAND USE) OF THE BEAUFORT COUNTY COMPREHENSIVE PLAN TO INCLUDE A PLACE TYPE OVERLAY FUTURE LAND USE DESIGNATION ([backup](#))
6. DISCUSSION / REAPPOINTMENTS AND APPOINTMENTS
 - A. Northern Corridor Review Board
 - B. Rural and Critical Lands Preservation Review Board
 - C. Southern Corridor Review Board
 - D. Stormwater Management Utility Board
7. EXECUTIVE SESSION
 - A. Discussion of negotiations incident to proposed contractual arrangements and proposed purchase of property
8. ADJOURNMENT

2014 Strategic Plan: Committee Assignments

Community Development Code: Adoption
Comprehensive Plan for County-owned land: Inventory Use and Direction
Greenprint Map Update (*Goal Accomplished July 2014*)
Water Quality Office: Next Steps





COUNTY COUNCIL OF BEAUFORT COUNTY
PURCHASING DEPARTMENT
102 Industrial Village Road, Building 3
Post Office Drawer 1228
Beaufort, South Carolina 29901-1228

TO: Councilman Brian Flewelling, Chairman, Natural Resources Committee
FROM: Dave Thomas, CPPO, Purchasing Director *DT*
SUBJ: **RFP # 08192014 Request for Proposal to provide Education and Outreach Consulting Services for Stormwater Management**
DATE: October 13, 2014

BACKGROUND: Beaufort County Purchasing Department issued a Request for Proposal (RFP) for Education and Outreach Consulting Services for Stormwater Management to assist with the department's programs and projects. The proposal requested that the consultant staff and facilitate stormwater education and outreach within the County and to perform duties and responsibilities necessary to bring and keep Beaufort County compliant with all Federal, State, and local laws/regulation regarding stormwater management for fiscal year 2015, with the option to renew every year for up to four (4) consecutive years. The Evaluation Committee consisted of five (5) representatives of the Beaufort County Stormwater Implementation Committee (SWIC) including Bryan McIlwee with the Town of Hilton Head Island, Kim Jones with the Town of Bluffton, Lamar Taylor with the City of Beaufort, Anthony Maglione representing the Town of Port Royal as a consultant, and Eric Larson with Beaufort County Stormwater Management.

The scope of services to provide stormwater education and outreach is unique and not widely marketed by for-profit businesses. The SWIC wrote the RFP scope of services to solicit non-profit organizations and educational institutions. Many groups such as these exist in Beaufort County and it was a goal to find a consultant that could organize these groups and efficiently utilize our existing resources. Beaufort County received one (1) response to the RFP from Beaufort Soil and Water Conservation District. The Committee reviewed and evaluated the RFP and decided to interview the vendor. Beaufort Soil and Water Conservation District's proposal meets the goals set forth by the SWIC and was unanimously approved by the Evaluation Committee.

The initial contract term is effective October 14, 2014 to June 30, 2015. Contract fee for the term will be a negotiated amount not to exceed \$50,000.00.

FUNDING: Primary Funding - 50250011-51160, Stormwater Fees, as part of the cost share MOU with the Towns of Hilton Head Island, Bluffton, and Port Royal and the City of Beaufort. The County's portion is \$25,218.

PROPOSED YEARLY COST: \$50,000

FOR ACTION: Natural Resources Committee meeting October 13, 2014.

RECOMMENDATION: The Purchasing Department recommends that the Natural Resources Committee approve the contract award to Beaufort Soil and Water Conservation District for Education and Outreach Consulting Services for Stormwater Management.

CC: Gary Kubic, County Administrator *GKubic*
Josh Gruber, Deputy Administrator *JG*
Alicia Holland, Chief Financial Officer *AH*
Robert McFee, Director of Engineering and Infrastructure *JR McFee*
Eric W Larson, Stormwater Manager *Eric W Larson*

Stormwater Education and Outreach Consulting Services Proposal by Beaufort Soil and Water Conservation District

A Report to Beaufort County
Stormwater Utility Board

October 1, 2014



Structure of the Beaufort Soil & Water Conservation District

Commissioner Chairperson Appointed by DNR Board	Commissioner Vice-Chairperson Appointed by DNR Board
Alan A. Ulmer, Jr.	Claude M. McLeod, Jr.

Commissioner Sec/Treasurer Elected	Commissioner Elected	Commissioner Elected
Denise M. Parsick Education Chairperson & Educator	Luke Inabinett	Mac Sanders

	Associate Commissioners Voted in by Board	
Art Holland Retired USDA- SCS (NRCS)	Dean Moss Retired Director BJWSA	Carol Murphy Previous SWCD Manager & Educator

Staff Member	Title
Shelby Berry	District Manager, & Educator
Pam Floyd	Education Coordinator
Debra Way	Education Specialist
Kathryn Madden	Education Specialist

Additional Education Specialist
Laura Lee Rose Clemson Extension

Proposed Scope of Work

- Public Survey via internet, email, paper
- Public Open House(s) for MS4 input
- Neighbors for Clean Water campaign
 - Printed booklets
 - Website
- Community Education Programs
- School education program using Enviroscope
- Public/School Fact Sheets and Brochures



Proposed Scope of Work cont.

- Pond Clinic for Public, Staff
- Exhibiting at festivals, community events
 - Giveaways, Flyers, Activities, etc.
- Storm Drain Marker program
- Rain Barrel Program
- Rain Garden workshops
- Training for staff, developers, contractors
- MS4 reporting





BEAUFORT COUNTY STORMWATER UTILITY
120 Shanklin Road
Beaufort, South Carolina 29906
Voice (843) 255-2801 Facsimile (843) 255-9478



TO: Councilman Brian Flewelling Chairman, Natural Resources Committee

FROM: Robert McFee, PE, Division Director for Engineering and Infrastructure
Eric W. Larson, Beaufort County Stormwater Utility *Eric W. Larson*

SUBJECT: Stormwater Drainage Easement Conveyance to Centex Homes - Shadow Moss Phase 4

Date: September 12, 2014

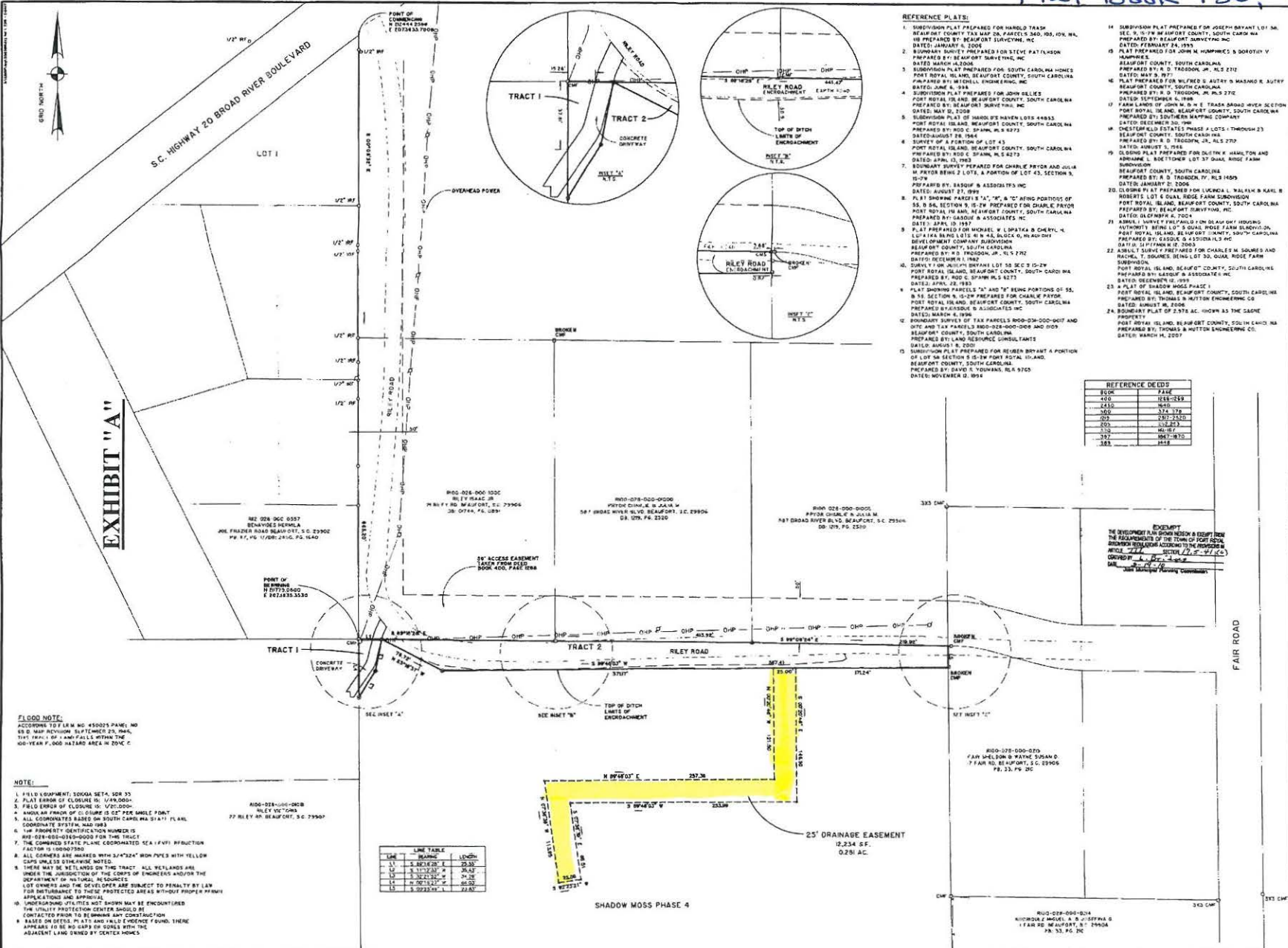
BACKGROUND: The Trask Family conveyed a 25' drainage easement to Beaufort County located in the Shadow Moss, Phase 4 Subdivision in May of 2010. An open ditch was then constructed by Stormwater to handle water runoff from Riley Road onto Phase 4 of the Shadow Moss Subdivision as shown on the attached **Exhibit "A"**. Centex Homes, who has subsequently purchased the property from the Trask Family, has now approached the County to request the return of this drainage easement as they are now developing the property and are designing a storm sewer system to re-route runoff that is currently conveyed by the ditch. It is their desire to re-route the drainage across Phase 4 using a buried pipe.

Upon such conveyance, Centex Homes would be responsible for the construction and maintenance of the re-routed drainage easement and Beaufort County would be released from all responsibility.

FOR ACTION: Natural Resources Committee meeting occurring on October 13, 2014.

RECOMMENDATION: Staff recommends the Natural Resources Committee of County Council endorse the conveyance of the above-referenced drainage easement to Centex Homes with the provision that they are responsible for the construction and ongoing maintenance of same and release Beaufort County for all future responsibility.

CC: Gary Kubic, County Administrator *OK Gary Kubic*



FLOOD NOTE:
 ACCORDING TO F.L.W. NO. 450255 PANEL NO. 005 AS MAP REVISION, BUT LIMITED TO PANEL NO. 1017 PANEL 1 OF 1 AND 1 FALLS WITHIN THE 100-YEAR FLOOD HAZARD AREA IN ZONING C.

- NOTE:**
1. FIELD EQUIPMENT: SOKKA SET, 528 55
 2. PLAT BOUND OF CLOSURE IS 1/2" (0.000)
 3. FIELD BOUND OF CLOSURE IS 1/2" (0.000)
 4. ANGLE AND BOUND OF CLOSURE IS 1/2" PER SINGLE POINT COORDINATE SYSTEM (NAD 83)
 5. ALL COORDINATES BASED ON SOUTH CAROLINA STATE PLAN COORDINATE SYSTEM (NAD 83)
 6. THE PROPERTY IDENTIFICATION NUMBERS IS 805-028-000-0000 FOR THIS TRACT
 7. THE COMPANED STATE PLANE COORDINATED SEA LEVEL REFRACTION FACTOR IS 1.00000700
 8. ALL CORNERS ARE MARKED WITH 3/4"x3/4" IRON PIPES WITH YELLOW CAPS UNLESS OTHERWISE NOTED.
 9. THERE MAY BE WETLANDS ON THE TRACT. ALL WETLANDS ARE UNDER THE JURISDICTION OF THE CORPS OF ENGINEERS AND/OR THE DEPARTMENT OF NATURAL RESOURCES. LOT DIMENSIONS AND THE DEVELOPER ARE SUBJECT TO PRELIMINARY FIELD SURVEILLANCE TO THESE PROTECTED AREAS WITHOUT PROPER PERMITS APPLICATIONS AND APPROVALS.
 10. UNDERGROUND UTILITIES NOT SHOWN MAY BE ENCOUNTERED. THE UTILITY PROTECTION CENTER SHOULD BE CONTACTED PRIOR TO BEGINNING ANY CONSTRUCTION.
 11. RAISED OR BEARS IN AS-1 AND ALSO 1-HOLE FOUND. THERE APPEARS TO BE NO GAPS OR GOLES WITH THE ADJACENT LAND OWNED BY CENTER HOMES.

LINE NUMBER	LINE BEARING	LENGTH
1	N 89°18'20" E	25.30
2	S 11°12'30" W	25.30
3	S 32°21'30" W	21.28
4	S 70°23'30" W	45.00
5	S 59°33'30" W	22.87

- REFERENCE PLATS:**
1. SUBDIVISION PLAT PREPARED FOR HAROLD TRAM BEAUFORT COUNTY TAX MAP 526, PARCELS 360, 050, 051, 052, 053, 054, 055 PREPARED BY BEAUFORT SURVEYING INC DATED JANUARY 6, 2004
 2. BOUNDARY SURVEY PREPARED FOR STEVE PATLISON PREPARED BY BEAUFORT SURVEYING INC DATED MARCH 8, 2004
 3. SUBDIVISION PLAT PREPARED FOR SOUTH CAROLINA HOMES PORT ROYAL ISLAND BEAUFORT COUNTY, SOUTH CAROLINA PREPARED BY MICHELL ENGINEERING, INC DATED JUNE 8, 2004
 4. SUBDIVISION PLAT PREPARED FOR JOHN BELLES PORT ROYAL ISLAND BEAUFORT COUNTY, SOUTH CAROLINA DATED MAY 12, 2004
 5. SUBDIVISION PLAT OF LAND OFS HAVEN LOTS 44883 PORT ROYAL ISLAND BEAUFORT COUNTY, SOUTH CAROLINA PREPARED BY: R.D.C. SPANGLER & SONS, INC DATED APRIL 15, 1992
 6. SURVEY OF A PORTION OF LOT 43 PORT ROYAL ISLAND BEAUFORT COUNTY, SOUTH CAROLINA PREPARED BY: R.D.C. SPANGLER & SONS, INC DATED APRIL 15, 1992
 7. BOUNDARY SURVEY PREPARED FOR CHARLE PAVON AND JULIA M PAVON BEING LOTS, A PORTION OF LOT 43, SECTION 9, IS-7 PREPARED BY: ASSOCIATES INC DATED AUGUST 27, 1999
 8. PLAT SHOWING PARCELS "A", "B", "C" BEING PORTIONS OF 55, B-18, SECTION 9, IS-7M PREPARED FOR CHARLE PAVON PORT ROYAL ISLAND BEAUFORT COUNTY, SOUTH CAROLINA PREPARED BY: ASSOCIATES INC DATED APRIL 15, 1992
 9. PLAT PREPARED FOR MICHAEL W. SPANGLER & CHEYLL K. LUTHE BEING LOTS 44 IN 42, BLOCK 0, IN ADJUTANT BEAUFORT COUNTY, SOUTH CAROLINA PREPARED BY: R.D.C. SPANGLER & SONS, INC DATED FEBRUARY 1, 1992
 10. PLAT SHOWING PARCELS "A" AND "B" BEING PORTIONS OF 55, B-18, SECTION 9, IS-7M PREPARED FOR CHARLE PAVON PORT ROYAL ISLAND BEAUFORT COUNTY, SOUTH CAROLINA PREPARED BY: ASSOCIATES INC DATED MARCH 8, 2004
 11. BOUNDARY SURVEY OF TAX PARCELS 800-030-000-000 AND 0370 AND TAX PARCELS 800-030-000-000 AND 0370 BEAUFORT COUNTY, SOUTH CAROLINA PREPARED BY LAND RESOURCE CONSULTANTS DATED AUGUST 1, 2000
 12. SUBDIVISION PLAT PREPARED FOR REUBEN BRYANT A PORTION OF LOT 10 SECTION 9, IS-7M PORT ROYAL ISLAND BEAUFORT COUNTY, SOUTH CAROLINA PREPARED BY: DAVID V. THOMAS, RLS 9763 DATED: NOVEMBER 12, 1994

REFERENCE DEEDS:

BOOK	PAGE
400	258-259
420	605
500	374-376
505	352
505	357-363
507	457
507	467-470
508	618

EXEMPTION:
 THE DEVELOPMENT PLAN SHOWN HEREON IS DEEMED TO BE THE REQUIREMENTS OF THE TOWN OF PORT ROYAL BOUNDARY SURVEYING ACCORDING TO THE PROVISIONS IN TITLE 26, CHAPTER 12 OF THE SOUTH CAROLINA CODE, SECTION 26-12-101 (C) DATED 1997.
 DAVID V. THOMAS
 LAND SURVEYING ENGINEER



VICINITY MAP (NOT TO SCALE)
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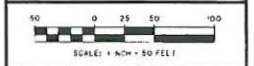
- LEGEND:**
- CONCRETE MONUMENT (SQUARE)
 - CONCRETE MONUMENT (RECTANGLE)
 - IRON PIPE (CIRCLE)
 - IRON PIPE (RECTANGLE)
 - IRON PIPE (TRIANGLE)
 - IRON PIPE (DIAMOND)
 - IRON PIPE (STAR)
 - IRON PIPE (CROSS)
 - IRON PIPE (X)
 - IRON PIPE (DOT)



IN WITNESS WHEREOF, I HAVE SET MY HAND AND SEAL OF OFFICE AT PORT ROYAL, SOUTH CAROLINA, THIS 11th DAY OF FEBRUARY, 2005.
 David V. Thomas
 S.C. PROFESSIONAL LAND SURVEYOR LICENSE NO. 60089

INCLUDE SHADOW MOSS PHASE 4 PLAT OF TRACT 1, TRACT 2 & A 25' DRAINAGE EASEMENT BEING A PORTION OF SHADOW MOSS PHASE 4 TOWN OF PORT ROYAL, BEAUFORT COUNTY, SOUTH CAROLINA
 PREPARED FOR: BEAUFORT COUNTY
 BEAUFORT COUNTY SC - 800 8K 0030 PG 0087
 FILE NUMBER 2005014008
 DIVISION OF RECORDS AND PLATS
 REC'D BY J. HAZLEY SCPTA 6/1/05
 RECORDING FEE \$ 6.00

THOMAS & HUTTON ENGINEERING CO.
 50 STATE OF CONGRESS WAY, 3RD FLOOR 27077
 SAVANNAH, GA 31405 / (912) 524-5300
 www.thomas-hutton.com



SCALE: 1" = 50' FEET
 SCALE: 1" = 50'
 FILE: J-28-09
 FIELD DATE: 05/26/05
 DRAWN BY: LCB/JMB
 REVIEWED BY: TSS
 APPROVED BY: D.V.T.
 PARTY CHIEF: TH
 SHEET OF 1



941 Houston Northcutt Blvd, Suite 201
Mt. Pleasant, SC 29464
(843) 414-1040
WWW.APPLIEDTM.COM

August 4, 2014

Mr. Mays Boyd, PE
Thomas & Hutton Engineering
50 Park of Commerce Way
Savannah, GA 31405

Re: Shadow Moss Phase 7 – Riley Road Drainage
Plan Review
Second Submission (First Submittal Comments sent via email on July 7, 2014)
ATM Project # 08-1884

Dear Mays:

Please be advised that we are in receipt (via hardcopy and/or email) of and have reviewed the following materials for the improvements of the above-referenced project for the first review:

1. Memorandum addressed to Michael Klink, PE from Mays Boyd, PE of Thomas & Hutton, entitled "Shadow Moss Phase 7 – Riley Road Drainage," dated July 1, 2014.
2. Construction plan Sheets CO, C3.1, C3.3, C3.4, and C3.5 for "Site Development Plans of Shadow Moss – Phase 7," revised date June 23, 2014.
3. ICPR Pond elevation data result sheet, entitled "Shadow Moss Phase 7 Lagoon 5," date revised July 1, 2014.
4. Drainage master plan exhibit entitled "Shadow Moss, Port Royal, South Carolina, Post-development Drainage Exhibit," dated July 1, 2014 completed by Thomas & Hutton Engineering Co.

Please be advised that we are in receipt (via hardcopy and/or email) of and have reviewed the following materials in conjunction with the above-referenced project for the second review:

1. Memorandum addressed to Michael Klink, PE from Mays Boyd, PE of Thomas & Hutton, entitled "Shadow Moss Phase 7 – Riley Road Drainage Comment Response," dated July 28, 2014.
2. Construction plan detail Sheet C3.4 for "Shadow Moss – Phase 5," dated March 13, 2012.
3. Drainage master plan exhibit entitled "Shadow Moss, Port Royal, South Carolina, Post-development Drainage Exhibit," dated July 24, 2014 completed by Thomas & Hutton Engineering Co.

4. "Shadow Moss Phase 6 and 7 Stormwater Piping and Inlet Design Considerations" (revised date 7/1/2014) and corresponding "Shadow Moss Phase 7 Lagoon 5 Inlet Exhibit."
5. Construction plan Sheet C3.1 for "Site Development Plans of Shadow Moss – Phase 7," revised date June 28, 2014.

I. PROJECT DESCRIPTION

The Shadow Moss Phase 7 is currently under construction. Approximately 15 acres around Riley Road drains by ditch to an area located in Shadow Moss Phase 7 that ponds and infiltrates into the ground. Beaufort County has an existing drainage easement documented for the ditch that collects the 15 acres that flows south onto the Shadow Moss Phase 7 property.

The drainage area of 15 acres north of Shadow Moss Phase 7 was not incorporated into the Shadow Moss Phase 7 drainage system. To avoid flooding problems and drainage issues from occurring in the future, Thomas & Hutton has created a design to account for the flow into the Shadow Moss Phase 7 drainage system and be stored by Lagoon 5.

As discussed on site with Thomas & Hutton, Beaufort County, and the Town of Port Royal representatives, the plan is to eliminate the Beaufort County Easement located in Shadow Moss Phase 7 and the Shadow Moss Development will be responsible to maintain the drainage system conveyance located in Shadow Moss and Beaufort County will maintain the roadside drainage swale of Riley Road up to the right-of-way line.

II. TECHNICAL REVIEW

Based on our review of the submitted documents versus the Port Royal Subdivision Regulations, Flood Hazard Reduction Regulations, Tree Preservation and Zoning Ordinance, Beaufort County Stormwater Management Standards and OCRM "Standards for Stormwater Management and Sediment Reduction Regulations" Regulations we offer the following comments:

1. Please submit documentation that shows that lagoon 5 has the required free broad per OCRM standards for a 100 year storm event.
Completed
2. Lagoon 5 has a water surface elevation of 13'. Please submit the control structure detail that will determine this water surface elevation of Lagoon 5.
Completed
3. Per the construction plans submitted the existing RCP pipe is not upsized, please verify that the additional flow does not require the proposed pipe nor the existing pipe to be increased in size.
Completed

Based on ATM's review, all technical design documents have been submitted and approved; thus, ATM recommends at this time that the improvements of Shadow Moss Phase 7 – Riley Road Drainage be approved.

Should you have any questions or require additional information regarding the above, please do not hesitate to contact me at the office.

Sincerely,

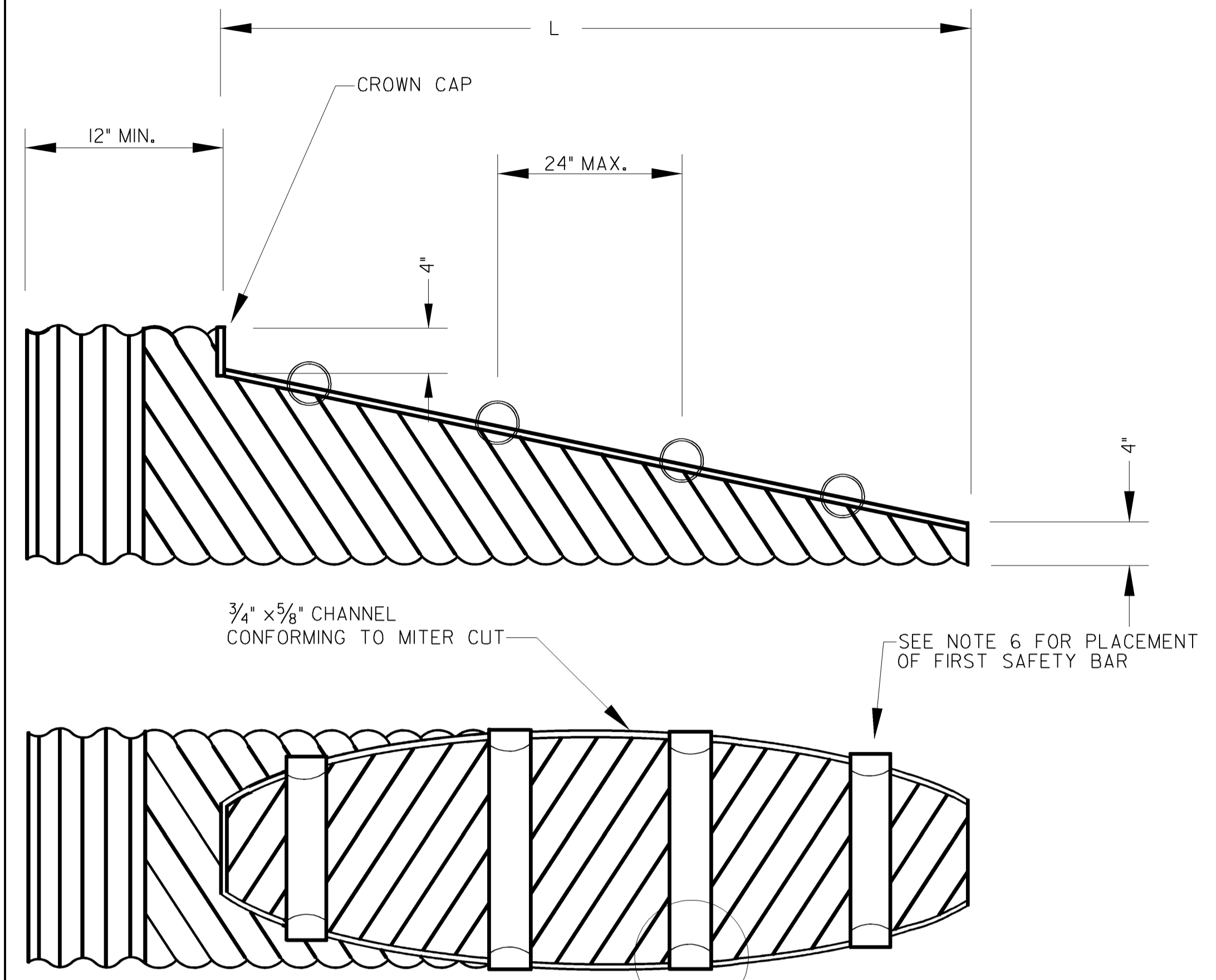


Michael R. Klink, P.E.
Project Engineer
Applied Technology & Management, Inc.

Cc (via email): Linda Bridges, Town of Port Royal Planning and Operations Administrator
Tony Maglione, ATM
Ryan Smith, PE, Thomas & Hutton Engineering

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS

ALTERNATE 2



END TREATMENT DIMENSIONS FOR ARCHED METAL PIPE				
PIPE DIA. (INCHES)	GAGE	SHEET THICKNESS (INCHES)	*4:1 SLOPE L DIMENSION	*6:1 SLOPE L DIMENSION
17" x 13"	16	.064"	1'-8"	2'-6"
21" x 15"	16	.064"	2'-4"	3'-6"
24" x 18"	16	.064"	3'-4"	5'-0"
28" x 20"	16	.064"	4'-0"	6'-0"
35" x 24"	14	.079"	5'-4"	8'-0"
42" x 29"	14	.079"	7'-0"	10'-6"
49" x 33"	14	.079"	8'-4"	12'-6"
57" x 38"	12	.109"	10'-0"	15'-0"
64" x 43"	12	.109"	11'-8"	17'-6"
71" x 47"	10	.138"	13'-0"	19'-6"

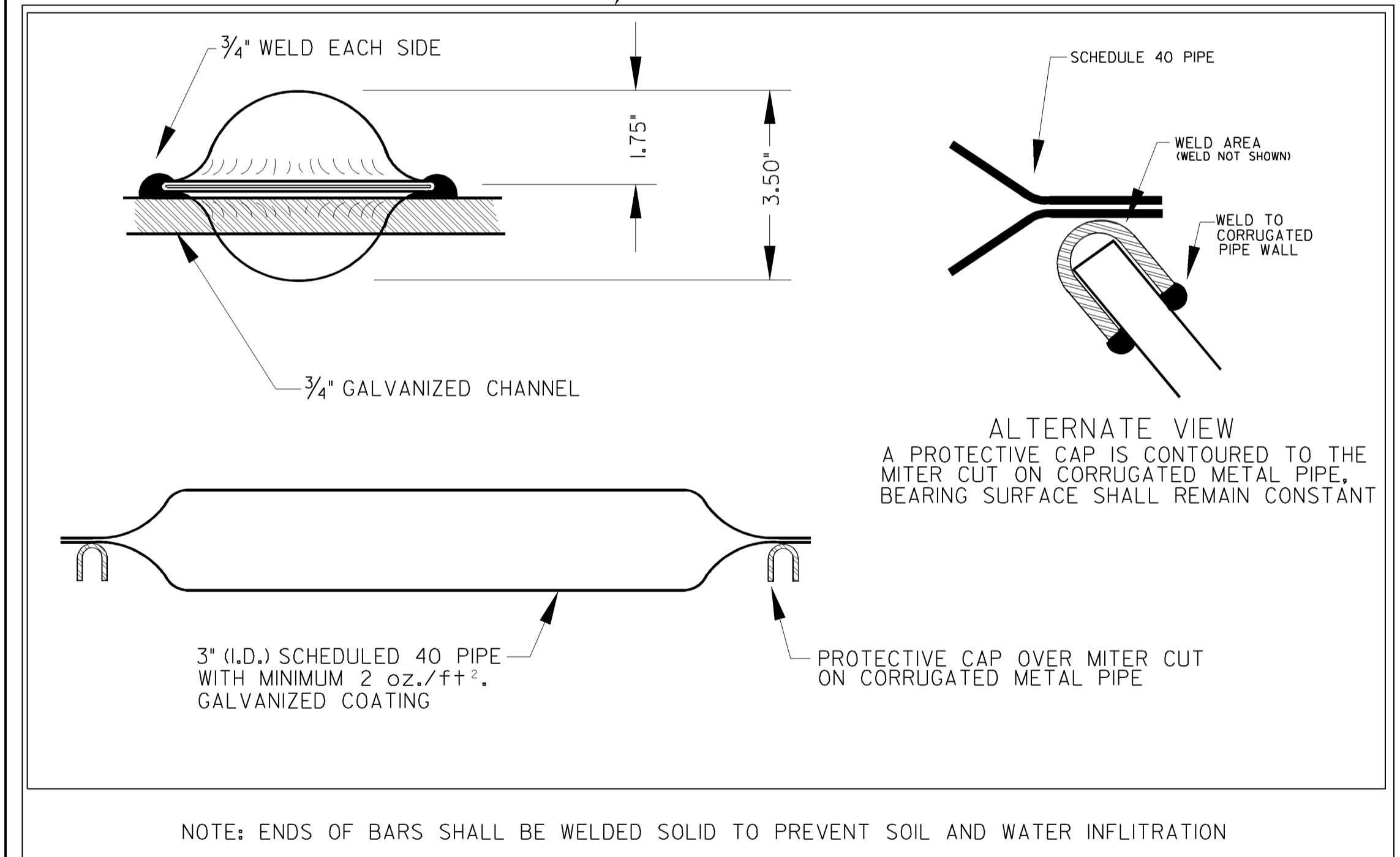
END TREATMENT DIMENSIONS FOR CIRCULAR METAL AND CIRCULAR CONCRETE PIPES				
PIPE DIA. (INCHES)	GAGE	SHEET THICKNESS (INCHES)	*4:1 SLOPE L DIMENSION	*6:1 SLOPE L DIMENSION
15"	16	.064"	2'-4"	3'-6"
18"	16	.064"	3'-4"	5'-0"
21"	16	.064"	4'-4"	6'-6"
24"	16	.064"	5'-4"	8'-0"
30"	16	.064"	7'-4"	11'-0"
36"	16	.064"	9'-4"	14'-0"
42"	14	.079"	11'-4"	17'-0"
48"	14	.079"	13'-4"	20'-0"
54"	14	.079"	15'-4"	23'-0"
60"	12	.109"	17'-4"	26'-0"

* SEE STD. NO. 9031T FOR SLOPES AT SIDE ROAD OR AT DRIVES.

* SEE STD. NO. 9031T FOR SLOPES AT SIDE ROAD OR AT DRIVES.

GENERAL NOTE ALTERNATE 2:

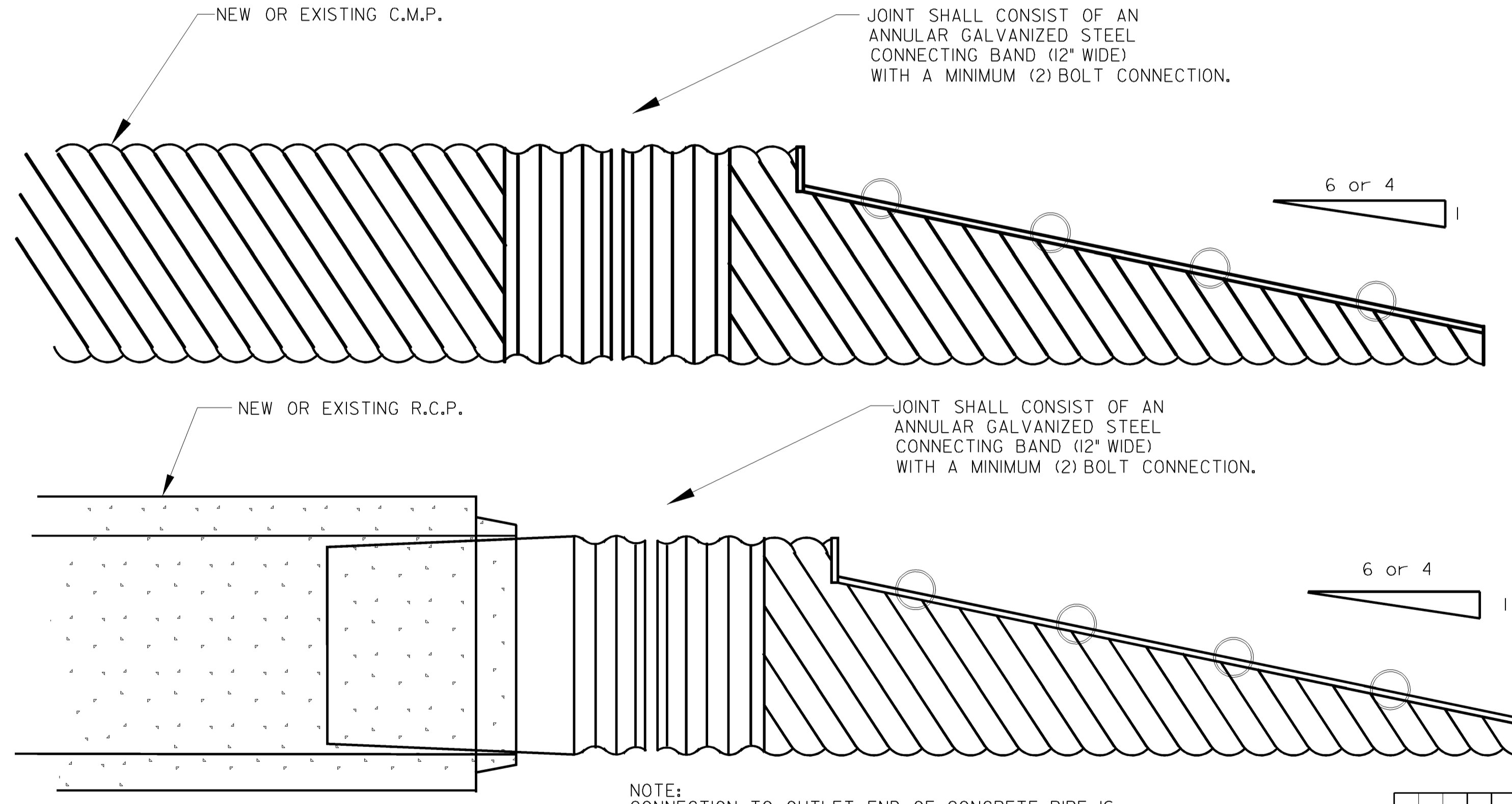
1. THE MATERIAL USED IN FABRICATION OF SLOPED END SECTION SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M 218 (GALVANIZED STEEL)
2. SLOPED END SECTIONS SHALL BE FORMED FROM FULL CIRCLE PIPE, MAY BE FORMED INTO PIPE ARCHES, WHERE SPECIFIED, AND SHALL MEET ALL REQUIREMENTS FOR CORRUGATION, GAGE, AND OTHER FABRICATION REQUIREMENTS.
3. THE EXPOSED EDGE CUT ON THE TOP SHALL BE COVERED WITH A PROTECTIVE CAP OVERLAPPING THE TOP OF THE ARCH BY NOT LESS THAN 1/8 INCH. THE 4 TO 1 OR 6 TO 1 BEVEL SHALL BE ENCASED WITH A PROTECTIVE CAP OVERLAPPING EACH SIDE OF THE CUT BY NOT LESS THAN 1/8 INCH. THE PROTECTIVE CAP IS TO BE THE SAME MATERIAL AS THE PIPE AND MINIMUM 1/4 GAGE (.079"). PROTECTIVE CAPS SHALL BE WELDED WITH 1/2 INCH WELDS ALTERNATING FROM SIDE TO SIDE OF THE CAP AT 12 INCH INTERVALS. WELDS SHALL BE AT THE ENDS OF ALL CAPS, REGARDLESS OF SPACING. REPAIR DAMAGED GALVANIZED COATINGS IN ACCORDANCE WITH GDOT STANDARD SPECIFICATIONS SECTION 645.
4. CONNECTIONS OF GALVANIZED STEEL END TREATMENTS TO CORRUGATED ALUMINUM OR ALUMINIZED STEEL PIPE MUST UTILIZED A POLYMER COATED GALVANIZED STEEL BAND MEETING THE REQUIREMENTS OF AASHTO M 256 84.
5. ADAPTER SLEEVE IS TO BE CONSTRUCTED OF GALVANIZED STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M 218, MINIMUM 12 GAGE (.109") MATERIAL.
6. BOTTOM SAFETY BAR SHALL HAVE A MAXIMUM CLEARANCE OF 5" WHEN MEASURED FROM THE BOTTOM OF THE INSTALLED BAR TO INSIDE CREST OF PIPE CORRUGATION.



ALTERNATE VIEW
A PROTECTIVE CAP IS CONTOURED TO THE MITER CUT ON CORRUGATED METAL PIPE, BEARING SURFACE SHALL REMAIN CONSTANT

3" (I.D.) SCHEDULED 40 PIPE WITH MINIMUM 2 oz./ft² GALVANIZED COATING

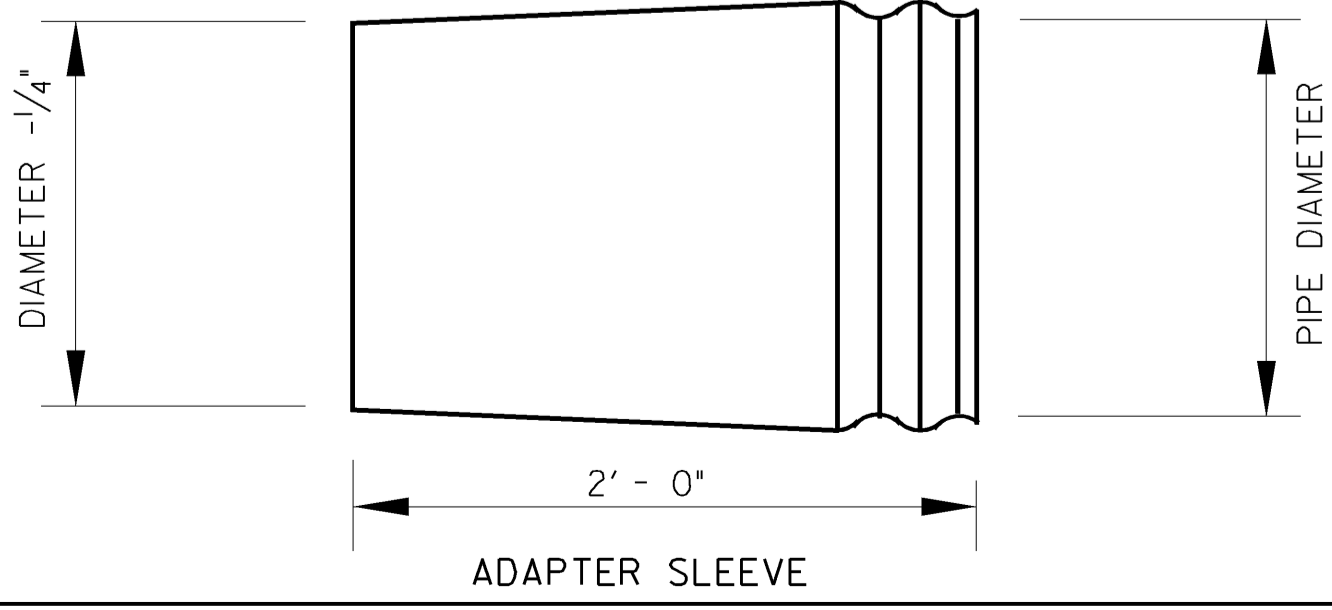
NOTE: ENDS OF BARS SHALL BE WELDED SOLID TO PREVENT SOIL AND WATER INFILTRATION



SPECIAL NOTE:

WHERE THE LENGTH OF DITCH OR THE DISTANCE BETWEEN TOE POINTS OF THE END SECTION ON SEPARATE INSTALLATIONS WOULD BE LESS THAN 30 FT., CONTINUED S.D. PIPE WITH AN INTERMEDIATE INLET OR OTHER ALTERNATE MAY BE SPECIFIED INSTEAD.

NOTE: CONNECTION TO OUTLET END OF CONCRETE PIPE IS ILLUSTRATED. CONNECTION TO INLET END WILL BE PERFORMED IN THE SAME MANNER.



















DATE		DEPARTMENT OF TRANSPORTATION	
REVISION		STATE OF GEORGIA	
		STANDARD SAFETY END SECTION (METAL)	
		(FOR SIDE DRAIN PIPE-OR FOR STORM DRAIN PIPE PARALLEL TO MAINLINE)	
		ALTERNATE 2	
		NO SCALE	JAN. 2005
BY	DESIGNED _____	(SUBMITTED) <i>B.A.A.</i>	NUMBER 1122
	DRAWN _____	STATE ROAD & AIRPORT DESIGN ENGINEER	SHEET 2 OF 3
	TRACED _____	(APPROVED) <i>O.S. Hill</i>	
	CHECKED _____	CHIEF ENGINEER	

R112-28-721
Shadow Moss Ph VII

RILEY RD

Existing 10ft Drainage Easement
Owner: Beaufort County
Recorded in Book - 2969 Page - 2263

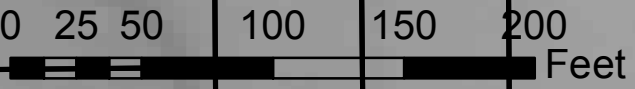


-  Easements
- Drainage**
-  River
-  Stream
-  Outfall
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline
-  DW
-  Access
-  Piped
-  Bleeder
-  Parcels
- 2013 DEM**
- Value**
-  High
Low

BRASSTOWN WAY

TUGALOO DR

CATAWBA WAY



THOMAS & HUTTON

50 PARK OF COMMERCE WAY | SAVANNAH, GA 31405
912.234.5300 | WWW.THOMASANDHUTTON.COM

MEMORANDUM

TO: Mr. Michael Klink, PE

FROM: Mays Boyd, PE *DMB*

CC: Ms. Linda Bridges, Town of Port Royal
Ms. Allison Tucker, PulteGroup
Mr. Todd Doupona, PulteGroup

DATE: July 1, 2014

SUBJECT: Shadow Moss Phase 7 – Riley Road Drainage

JOB NO: 18683.1700

Site development plans and Stormwater calculations have been revised for Phase 7 of Shadow Moss to account for existing drainage from an off-site basin north of Riley Road. Drainage basin DA-OS2B includes approximately 15 acres of off-site property draining to an existing roadside ditch at Riley Road. The Riley Road ditch currently connects to a ditch running through Phase 7 and connecting to the Stormwater system within Shadow Moss. Revised basin information is included on the attached Post-Development Drainage Exhibit for Shadow Moss. Site development plans have been revised to include an inlet at the Riley Road that connects through Phase 7 to existing Lagoon 5. ICPR model has been revised to include the connection between basin DA-OS2B and Lagoon 5. Attached ICPR results include peak pond stages in Lagoon 5 for the 2, 10 and 25-year, 24 hour storm events. Post-developed runoff for the revised model is detained on site and is released at less than pre-developed rates.

DMB/kts
Enclosures

THOMAS & HUTTON

50 PARK OF COMMERCE WAY | SAVANNAH, GA 31405
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MEMORANDUM

TO: Mr. Michael Klink, PE
FROM: Mays Boyd, PE *DMB*
CC: Linda Bridges, Town of Port Royal
Allison Tucker, PulteGroup
Todd Doupona, PulteGroup
DATE: July 28, 2014
SUBJECT: Shadow Moss Phase 7 – Riley Road Drainage Comment Response
JOB NO: 18683.1700

On behalf of our client, Centex Homes, please accept the following in response to comments received from your office by e-mail dated July 7, 2014.

Each comment is stated below followed by our response in *italics*.

- Please submit documentation that shows that Lagoon 5 has the required free board per OCRM standards for a 100 year storm event.
100-year storm elevation in Lagoon 5 is 17.00. Minimum top of bank has been revised to 17.50 to meet OCRM free board requirements. Lagoon 5 is bordered by existing development (Phase 5), proposed development (Phase 7) and existing ground elevations (eastern site boundary). Constructed elevations in Phase 5 and existing ground elevations to the east are greater than or equal to elevation 17.50. Proposed elevations of lots and right-of-way within Phase 7, adjacent to Lagoon 5, will also be greater than or equal to elevation 17.50.
- Lagoon 5 has a water surface elevation of 13'. Please submit the control structure detail that will determine this water surface elevation of Lagoon 5.
Lagoon 5 was initially permitted and constructed with Phase 5. Lagoon 5 control structure (Control Structure No. 15) was included in Phase 5. There are no proposed improvements to Lagoon 5 or Control Structure No. 15 as part of the Phase 7 site development. Control structure detail from the approved plans for Phase 5 is attached for reference.

The post-development drainage exhibit submitted for review on July 1, 2014 was from an old plan. Current exhibit, revised for Riley Road Improvements, is attached for reference.
- Per the construction plan submitted, the existing RCP pipe is not upsized, please verify that the additional flow does not require proposed pipe in Phase 7 nor the existing pipe in other phases to be increased in size.
Inlet and pipe size design considerations have been revised for existing pipes in Phases 5 and 6, proposed pipes in Phase 7 and the driveway crossing pipe at Riley Road. One proposed pipe size in Phase 7 has been increased. Remaining pipes are unchanged. Existing, proposed and proposed revisions to pipe sizes are identified on the stormwater piping and inlet design considerations. Attached exhibit, 'Lagoon 5 Inlet Exhibit', was created to show inlet and pipe locations from multiple phases on one sheet. Inlets labeled correspond to revised inlet and pipe size design considerations.

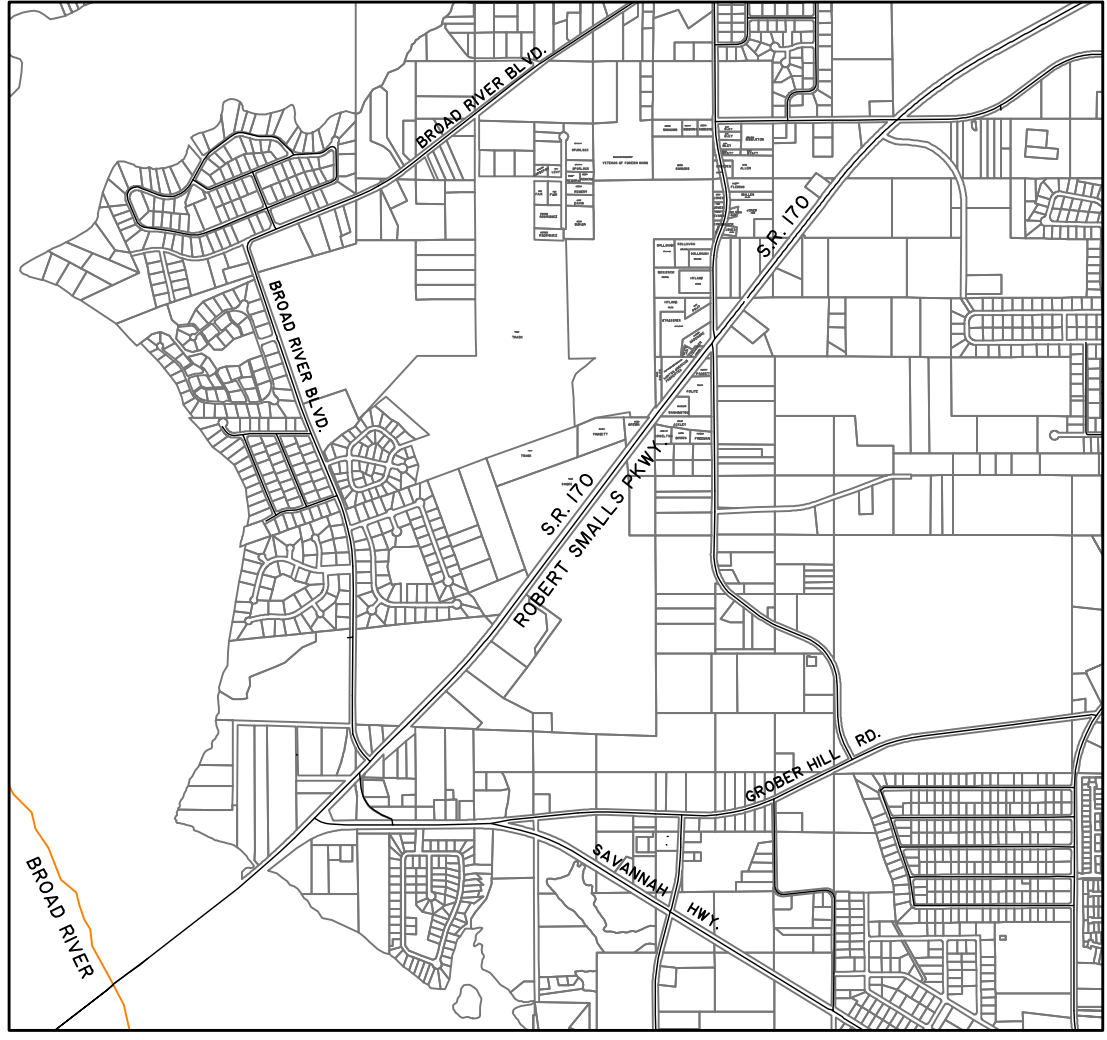
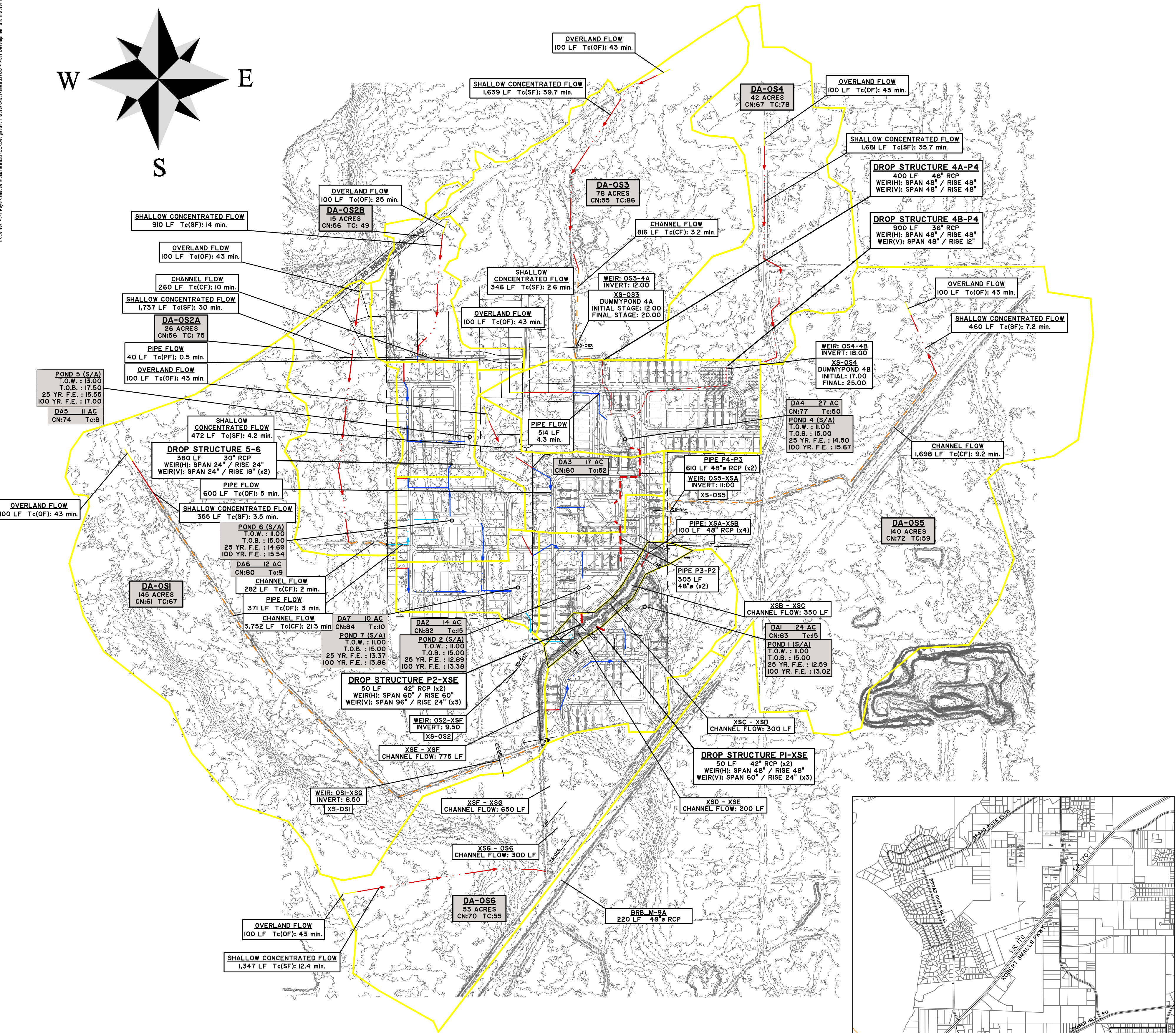
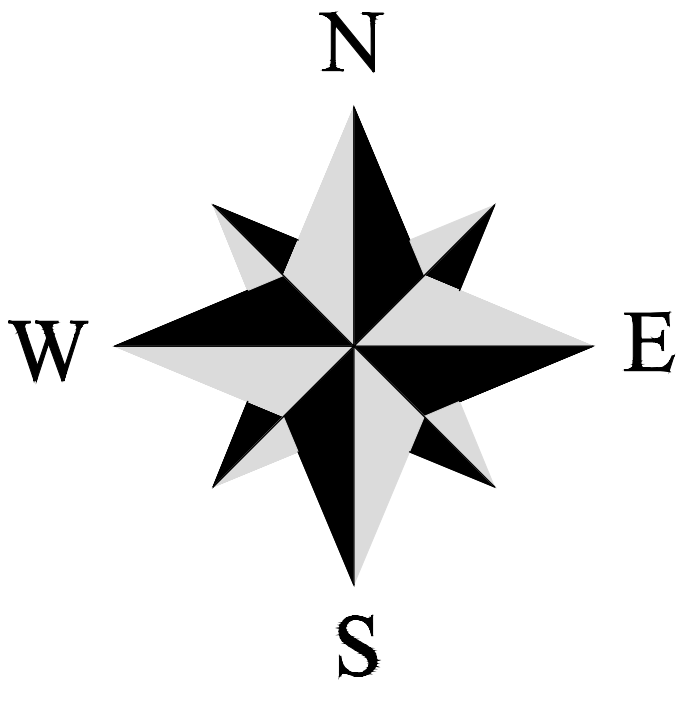
DMB/mbw

Enclosures

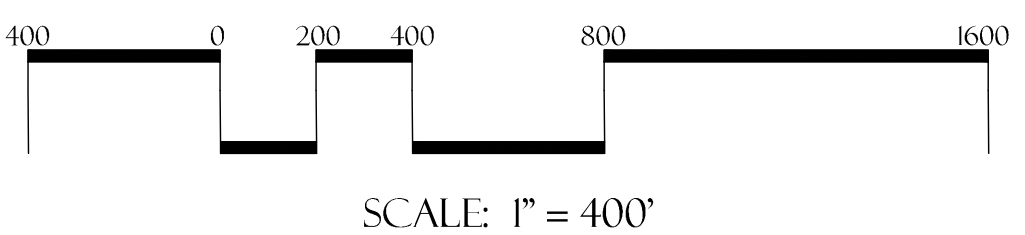
Shadow Moss Phase 7 Lagoon 5
Node Maximum Results
Revised 7/1/2014

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
POND5	POST	10YR	13.16	14.908	17.000	0.0026	40854	12.25	42.8	12.27	16.0
POND5	POST	25YR	13.27	15.549	17.000	0.0029	43017	12.25	52.9	12.89	17.1
POND5	POST	2YR	12.63	13.837	17.000	0.0015	37238	12.25	21.2	12.63	9.8

\\Centex-Port-Royal\Share\Maps\9863700\Design\Stormwater\Port-Royal\9863700 - Post Development Stormwater Exhibit.dwg - Jul 2, 2014 - 3:03:16 PM



DISCLAIMER
THIS MATERIAL IS FOR GRAPHIC PRESENTATION ONLY. CENTEX HOMES RESERVES THE RIGHT TO MODIFY BOUNDARY LINES, LAND USES OR INTENSITIES FOR ANY REASON, INCLUDING THE CHANGING NEEDS OF END-USERS, REQUIREMENTS OF GOVERNMENTAL AGENCIES AND INCREASED KNOWLEDGE OF ECOLOGICAL ENVIRONMENTAL OR CONSERVATION NEEDS. ACCORDINGLY, THIS GRAPHIC PRESENTATION SHOULD NOT BE RELIED ON FOR ANY PURPOSE WHATSOEVER.



SHADOW MOSS

PORT ROYAL, SOUTH CAROLINA

POST - DEVELOPMENT DRAINAGE EXHIBIT

PREPARED FOR
CENTEX HOMES
PREPARED BY
THOMAS & HUTTON ENGINEERING CO.
JULY 24, 2014

SITE DEVELOPMENT PLANS OF SHADOW MOSS - PHASE 7

PORT ROYAL, SOUTH CAROLINA

PREPARED FOR:
CENTEX HOMES
127 SUN CITY LANE
BLUFFTON, SC 29909

TM# R100-031-000-017C-0000

AUGUST 16, 2012

LAST REVISED: JUNE 23, 2014

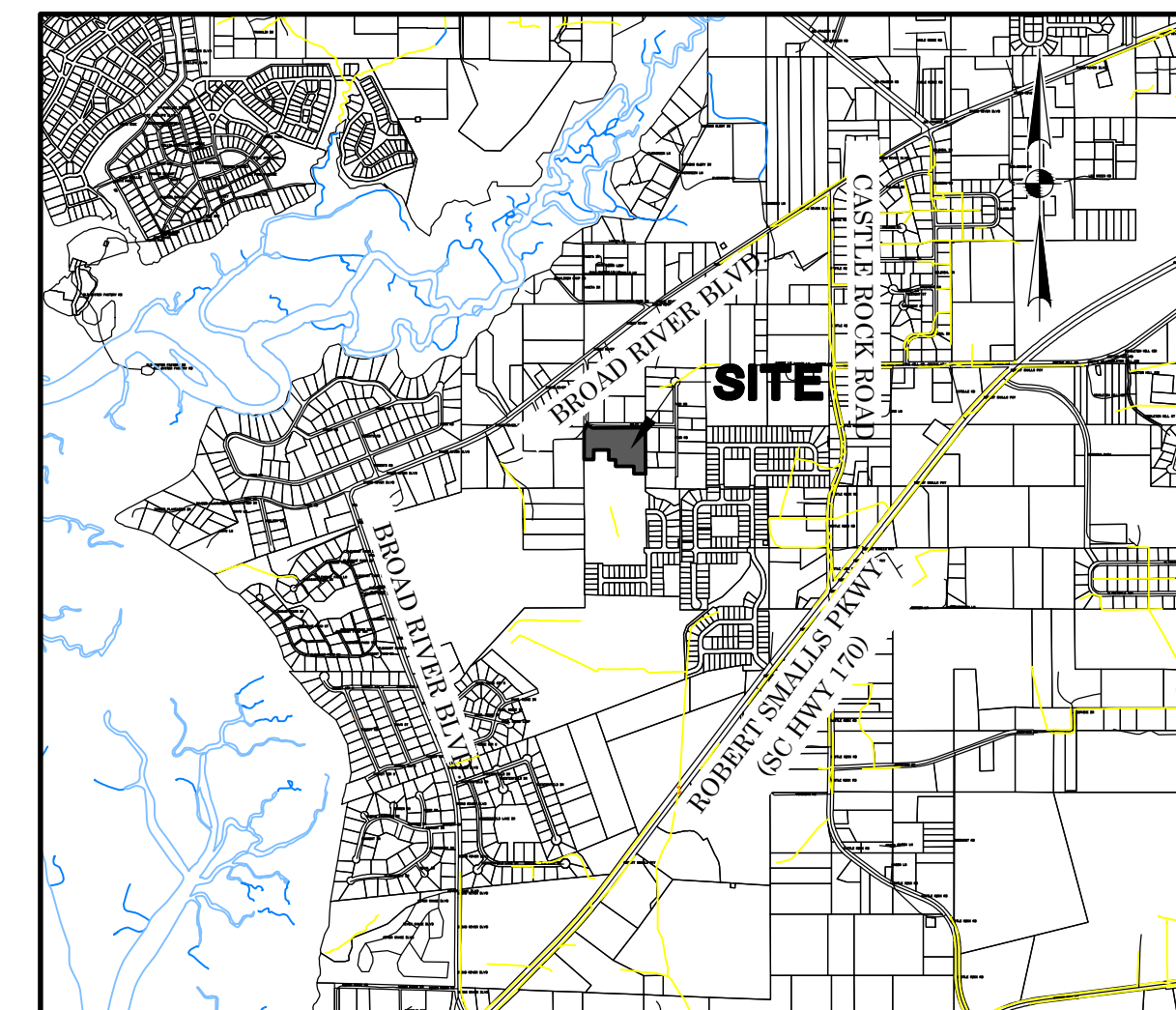
J-18683.1700

PREPARED BY:

THOMAS & HUTTON
Engineering | Surveying | Planning | GIS | Consulting

Savannah, GA | Brunswick, GA | Charleston, SC | Myrtle Beach, SC | Wilmington, NC

SHADOW MOSS - PHASE 7
BJWSA #2013-017



VICINITY MAP
SCALE: 1" = 2000'

J-18683.1700
08/16/12
SHADOW MOSS - PHASE 7
PORT ROYAL, SOUTH CAROLINA

Sheet List Table

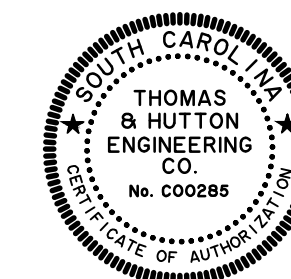
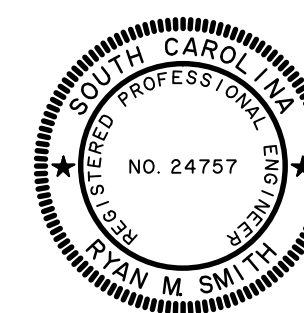
Sheet Number	Sheet Title
C0	COVER SHEET
C1.1	GENERAL NOTES AND INDEX
C1.2	PROJECT MAP
C1.3	CONDUIT PLAN
C2.1	WATER AND SEWER PLAN
C2.2	SEWER PROFILES
C2.3	WATER DETAILS
C2.4	WATER DETAILS
C2.5	SEWER DETAILS
C3.1	PAVING GRADING AND DRAINAGE PLAN
C3.2	ROAD PROFILES
C3.3	PAVING GRADING AND DRAINAGE DETAILS
C3.4	PAVING GRADING AND DRAINAGE DETAILS
C3.5	LOT GRADING PLAN
EC1.1	PHASE 1 - INITIAL LAND DISTURBANCE
EC1.2	PHASE 2 - STABILIZATION
EC1.3	EROSION AND SEDIMENTATION CONTROL DETAILS
EC1.4	STORMWATER POLLUTION PREVENTION NOTES
EC1.5	STORMWATER POLLUTION PREVENTION NOTES

REVISION HISTORY

REV. NO.	REVISION	BY	DATE
3	RILEY ROAD DRAINAGE REVISIONS	MCS	06/22/13
2	ADDED DRAINAGE EASEMENT TO LOTS 318/319	JJB	05/29/13
1	ADD DRAINAGE EASEMENTS LOTS 313-321,244-250,322	JJB	05/06/13

SUBMITTAL HISTORY

SUBMITTED TO	DATE
TOWN OF PORT ROYAL DEVELOPMENT PERMIT	04/22/13
OCRM NOI - NPDES	01/31/13
SCDHEC WATER/WASTEWATER CONSTRUCTION PERMITS VIA BJWSA DRP	01/28/13
OCRM CZC	11/14/12
BJWSA PLAN REVIEW	11/02/12

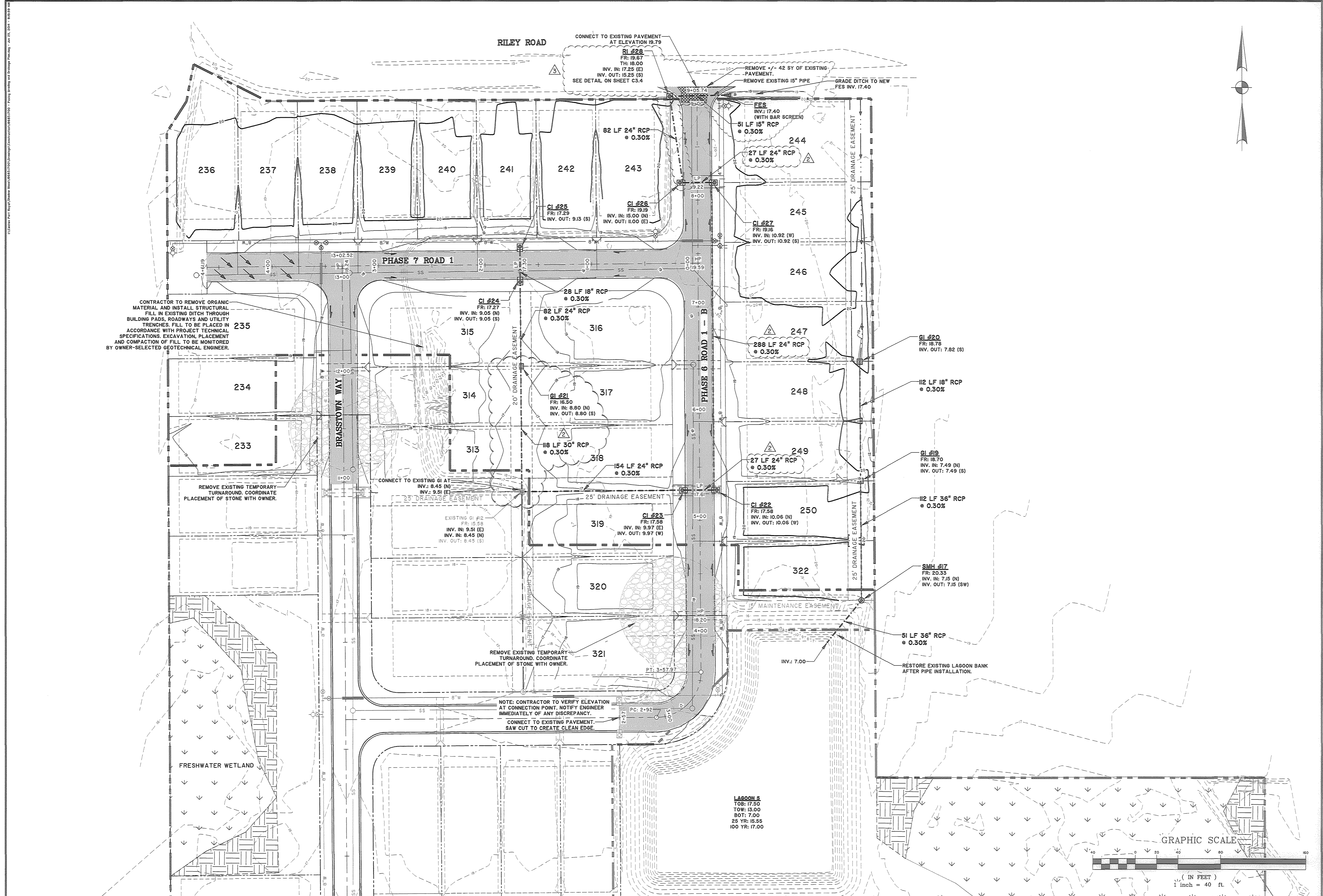


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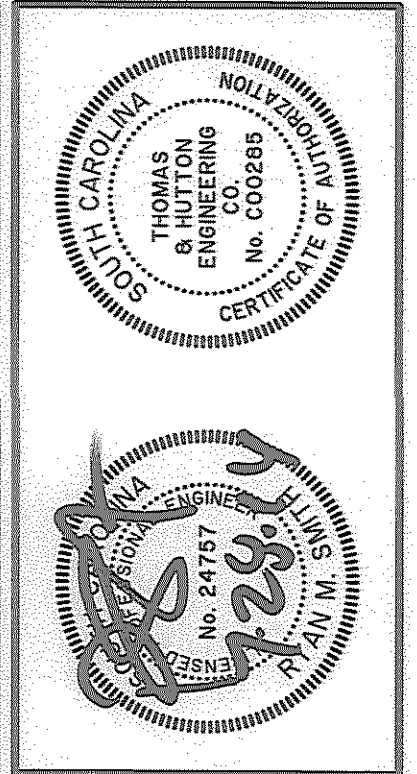
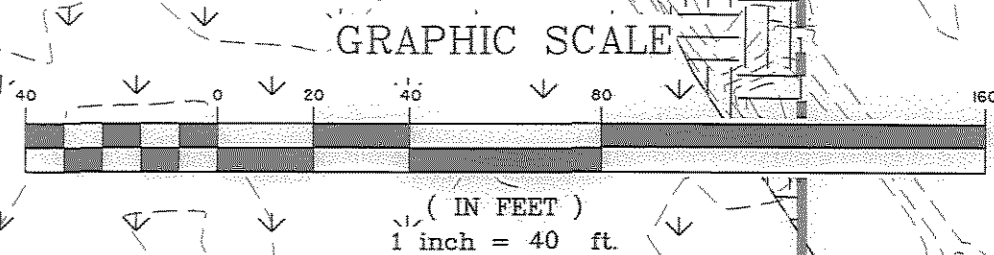
CONTRACTOR TO REMOVE ORGANIC MATERIAL AND INSTALL STRUCTURAL FILL IN EXISTING DITCH THROUGH BUILDING PADS, ROADWAYS AND UTILITY TRENCHES. FILL TO BE PLACED IN ACCORDANCE WITH PROJECT TECHNICAL SPECIFICATIONS. EXCAVATION, PLACEMENT AND COMPACTION OF FILL TO BE MONITORED BY OWNER-SELECTED GEOTECHNICAL ENGINEER.

REMOVE EXISTING TEMPORARY TURNAROUND. COORDINATE PLACEMENT OF STONE WITH OWNER.

REMOVE EXISTING TEMPORARY TURNAROUND. COORDINATE PLACEMENT OF STONE WITH OWNER.

NOTE: CONTRACTOR TO VERIFY ELEVATION AT CONNECTION POINT. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCY.
CONNECT TO EXISTING PAVEMENT. SAW CUT TO CREATE CLEAN EDGE.

LAGOON 5
TOB: 17.50
TOW: 15.00
BOT: 7.00
25 YR: 15.55
100 YR: 17.00



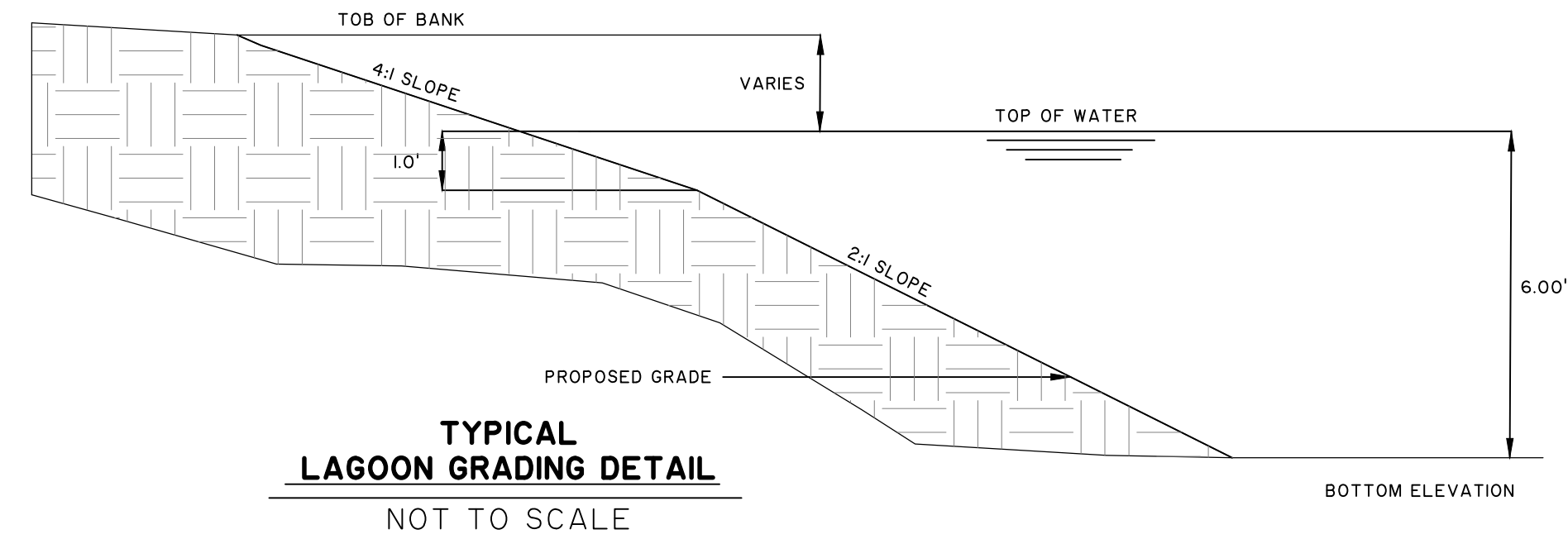
NO.	REVISIONS	BY	DATE
3	RILEY ROAD DRAINAGE REVISIONS	MCS	06/23/14
1	ADD DRAINAGE EASEMENTS LOTS 315-321, 244-250, 322	JJB	05/06/13

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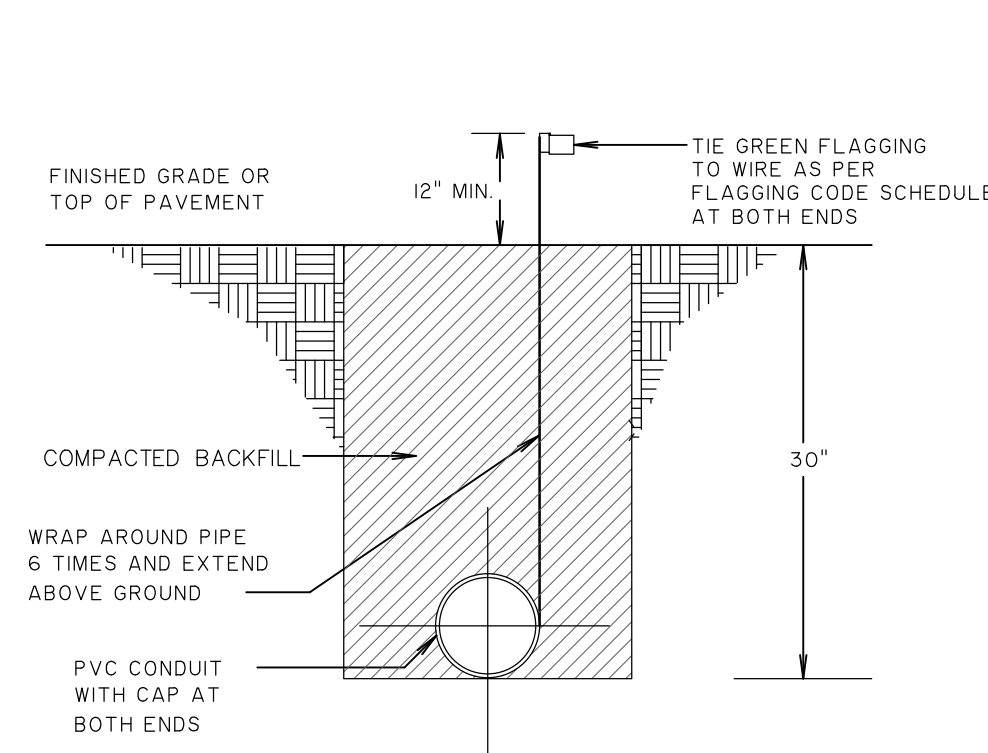
SHADOW MOSS - PHASE 7
PORT ROYAL, SOUTH CAROLINA
CENTEX HOMES
PAVING GRADING AND DRAINAGE PLAN

JOB NO:	J-18693.1700
DATE:	08/16/12
DRAWN:	JRC
DESIGNED:	DMB
REVIEWED:	RMS
APPROVED:	RMS
SCALE:	1" = 40'

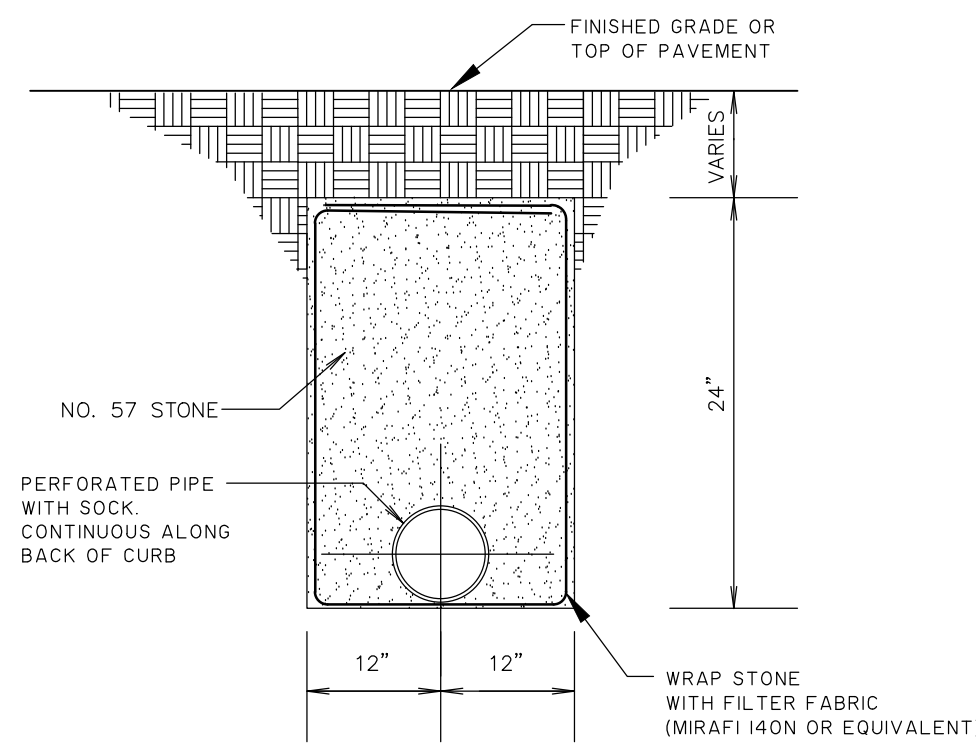
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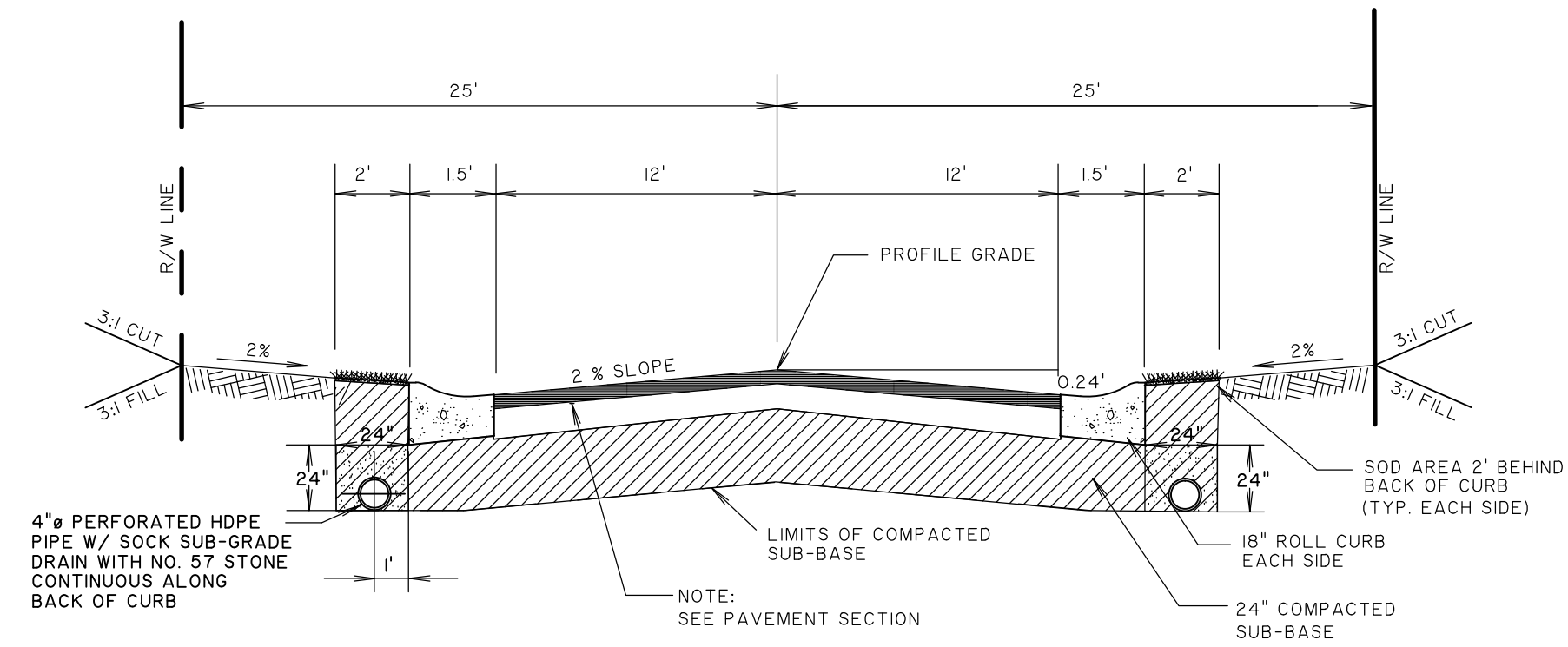
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NOT TO SCALE



CONDUIT DETAIL
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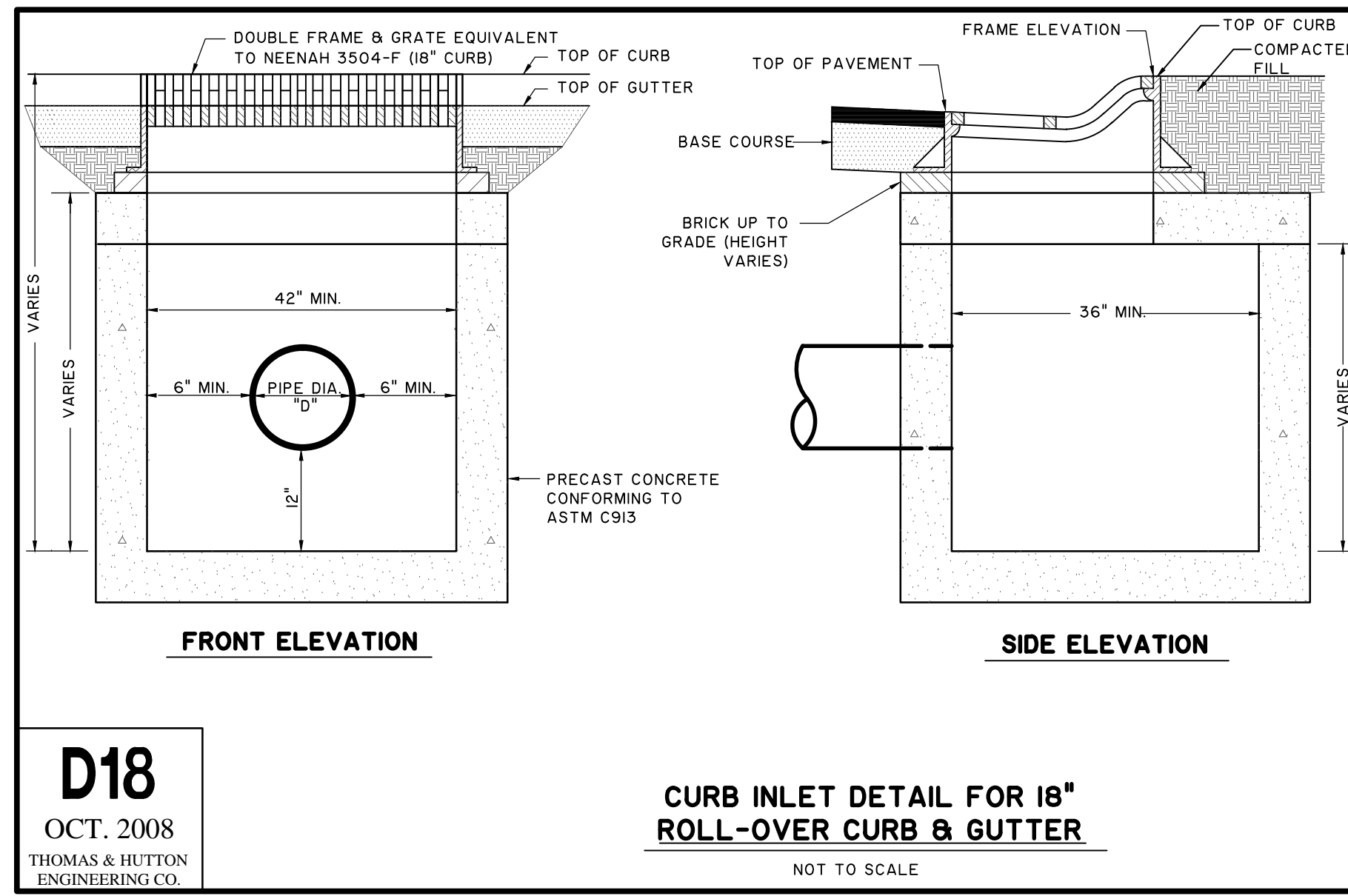


SUBGRADE DRAIN DETAIL
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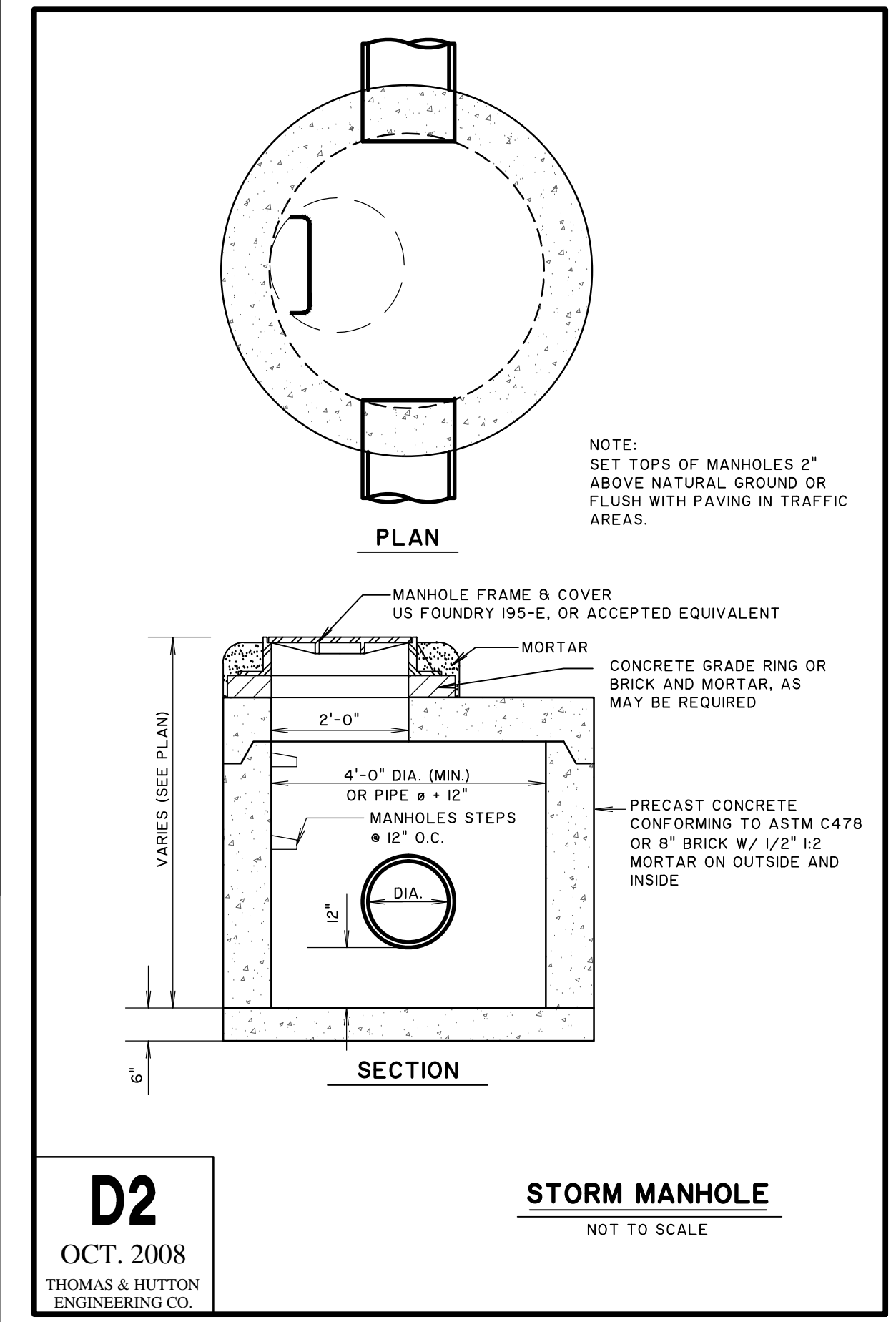
TYPICAL 18" ROLL-OVER CURB SECTION
NOT TO SCALE

- NOTES:
1. SEED & MULCH DISTURBED SLOPES FROM 6:1 TO 3:1.
 2. SOD & STAKE DISTURBED SLOPES FROM 3:1 TO 2:1.
 3. REFER TO PAVEMENT SECTION DETAILS.



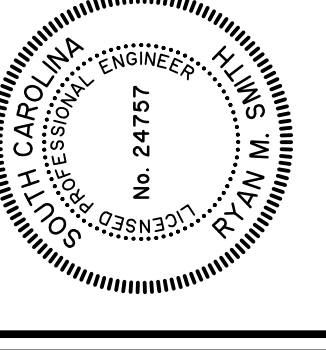
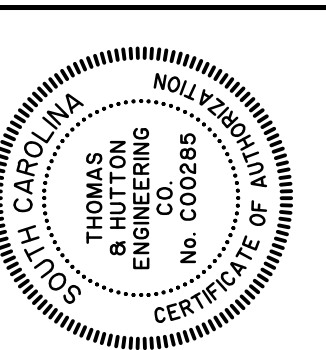
D18
OCT. 2008
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CURB INLET DETAIL FOR 18" ROLL-OVER CURB & GUTTER
NOT TO SCALE



D2
OCT. 2008
THOMAS & HUTTON
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STORM MANHOLE
NOT TO SCALE



NO.	REVISIONS	BY	DATE

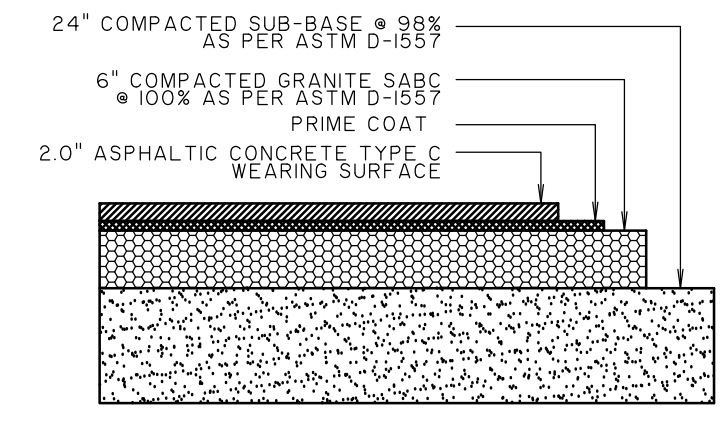
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SHADOW MOSS - PHASE 7
PORT ROYAL, SOUTH CAROLINA
CENTEX HOMES
PAVING GRADING AND DRAINAGE DETAILS

JOB NO:	J-18683.1700
DATE:	08/16/12
DRAWN:	JRC
DESIGNED:	DMB
REVIEWED:	RMS
APPROVED:	RMS
SCALE:	1" = 1'

C3.3

C:\Users\pjh\Documents\Projects\1000\1000.dwg



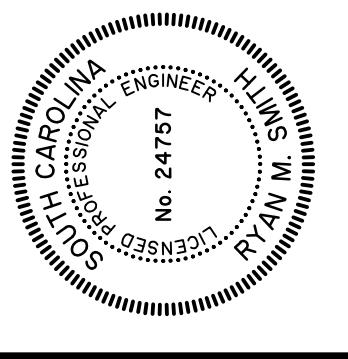
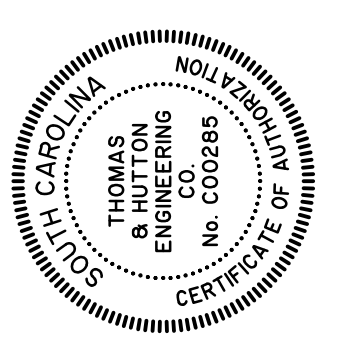
TYPICAL SUBDIVISION PAVEMENT SECTION

NOT TO SCALE

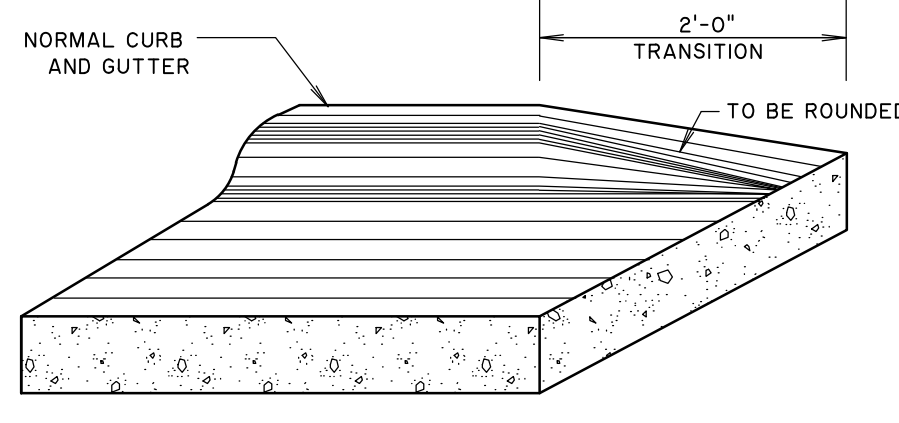
P11

OCT. 2008
THOMAS & HUTTON
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NOTE:
PAVEMENT SECTION SHOWN IS DICTATED BY OWNER AND SHOULD
BE VERIFIED BY A GEOTECHNICAL ENGINEER. THOMAS AND
HUTTON IS NOT RESPONSIBLE FOR PAVEMENT SECTION DESIGN.



NO.	REVISIONS	BY	DATE
3	RILEY ROAD DRAINAGE REVISIONS	MCS	06/23/14

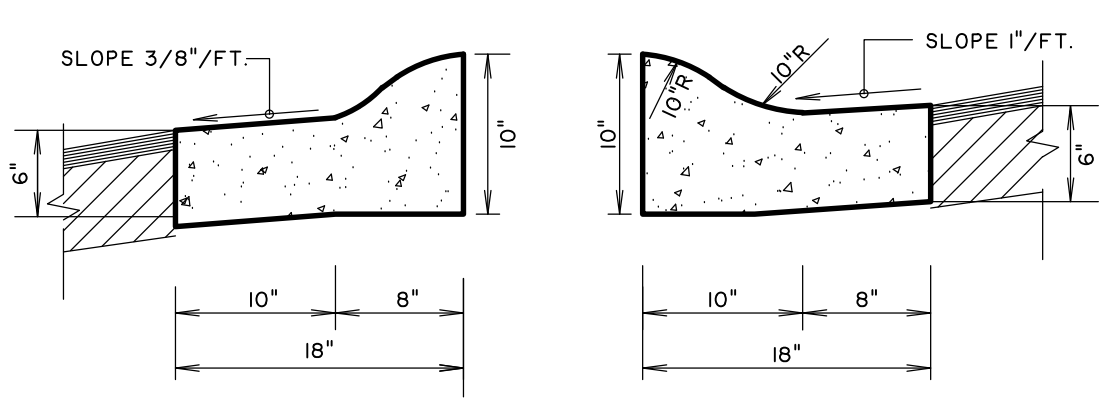


FEATHERING OF CURB AND GUTTER DETAIL

NOT TO SCALE

P22

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PITCH CURB

NORMAL CURB

- NOTES:
1. ALL CONCRETE SHALL BE 3,000 PSI.
 2. PROVIDE CONTROL JOINTS EVERY TEN FEET (10').
 3. PROVIDE EXPANSION JOINTS EVERY FIFTY FEET (50').
 4. PROVIDE EXPANSION JOINT WHERE CURB ABUTS SIDEWALKS, OR OTHER STRUCTURES.
 5. PROVIDE LIGHT BROOM FINISH.

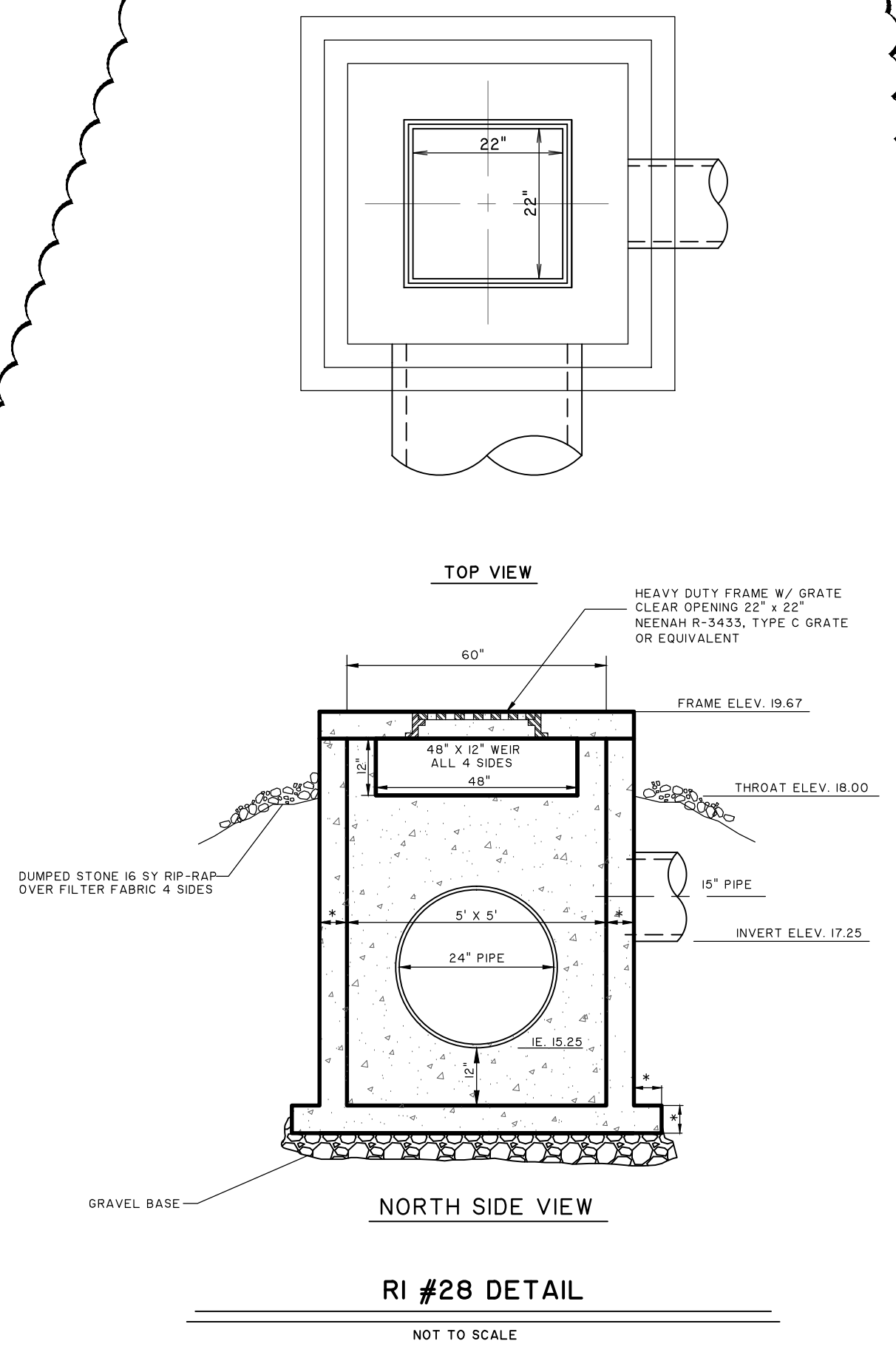
P20

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18" ROLL-OVER CURB & GUTTER

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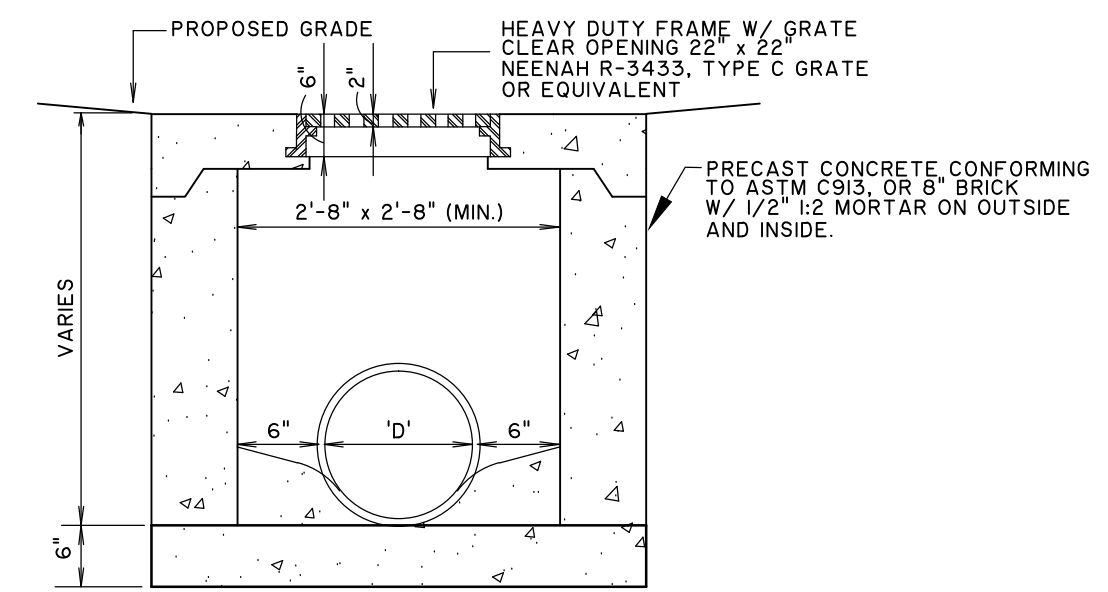


TOP VIEW

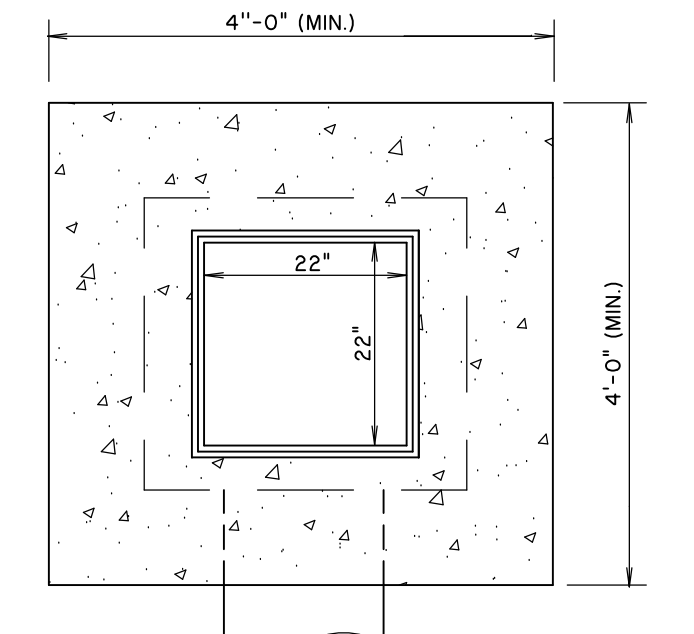
NORTH SIDE VIEW

RI #28 DETAIL

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SECTION



PLAN

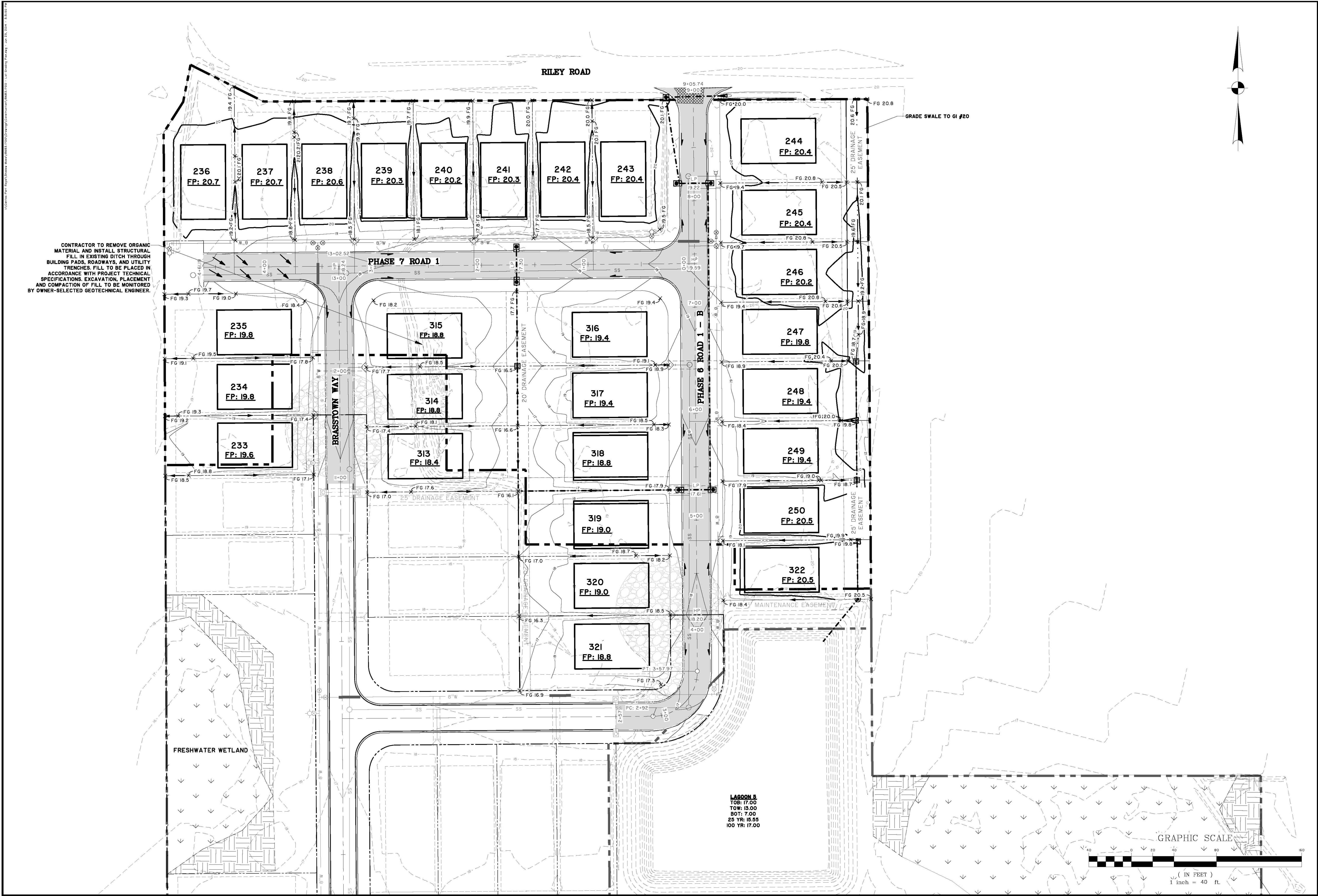
STANDARD INLET - GRATE TYPE

NOT TO SCALE

SHADOW MOSS - PHASE 7
PORT ROYAL, SOUTH CAROLINA
CENTEX HOMES
PAVING GRADING AND DRAINAGE DETAILS

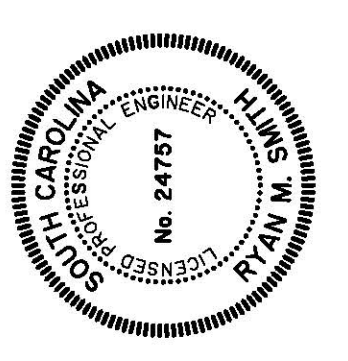
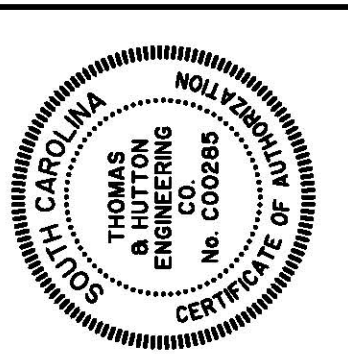
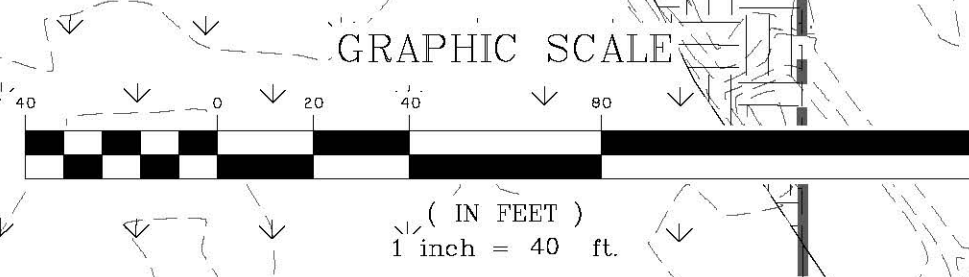
JOB NO:	J-18683.1700
DATE:	08/16/12
DRAWN:	JRC
DESIGNED:	DMB
REVIEWED:	RMS
APPROVED:	RMS
SCALE:	1" = 1'

C3.4



CONTRACTOR TO REMOVE ORGANIC MATERIAL AND INSTALL STRUCTURAL FILL IN EXISTING DITCH THROUGH BUILDING PADS, ROADWAYS, AND UTILITY TRENCHES. FILL TO BE PLACED IN ACCORDANCE WITH PROJECT TECHNICAL SPECIFICATIONS. EXCAVATION, PLACEMENT AND COMPACTION OF FILL TO BE MONITORED BY OWNER-SELECTED GEOTECHNICAL ENGINEER.

LAGOON 5
 TOB: 17.00
 TOW: 15.00
 BOT: 7.00
 25 YR: 15.55
 100 YR: 17.00



NO.	REVISIONS	BY	DATE
1	ADD DRAINAGE EASEMENTS LOTS 313-321, 244-250, 322	JMB	05/06/13

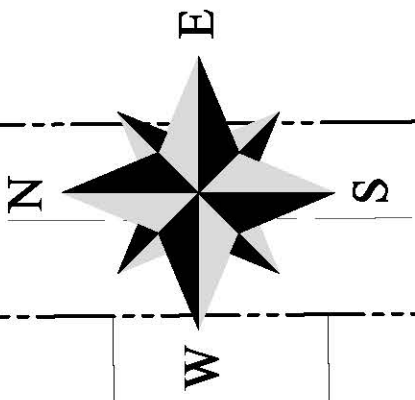
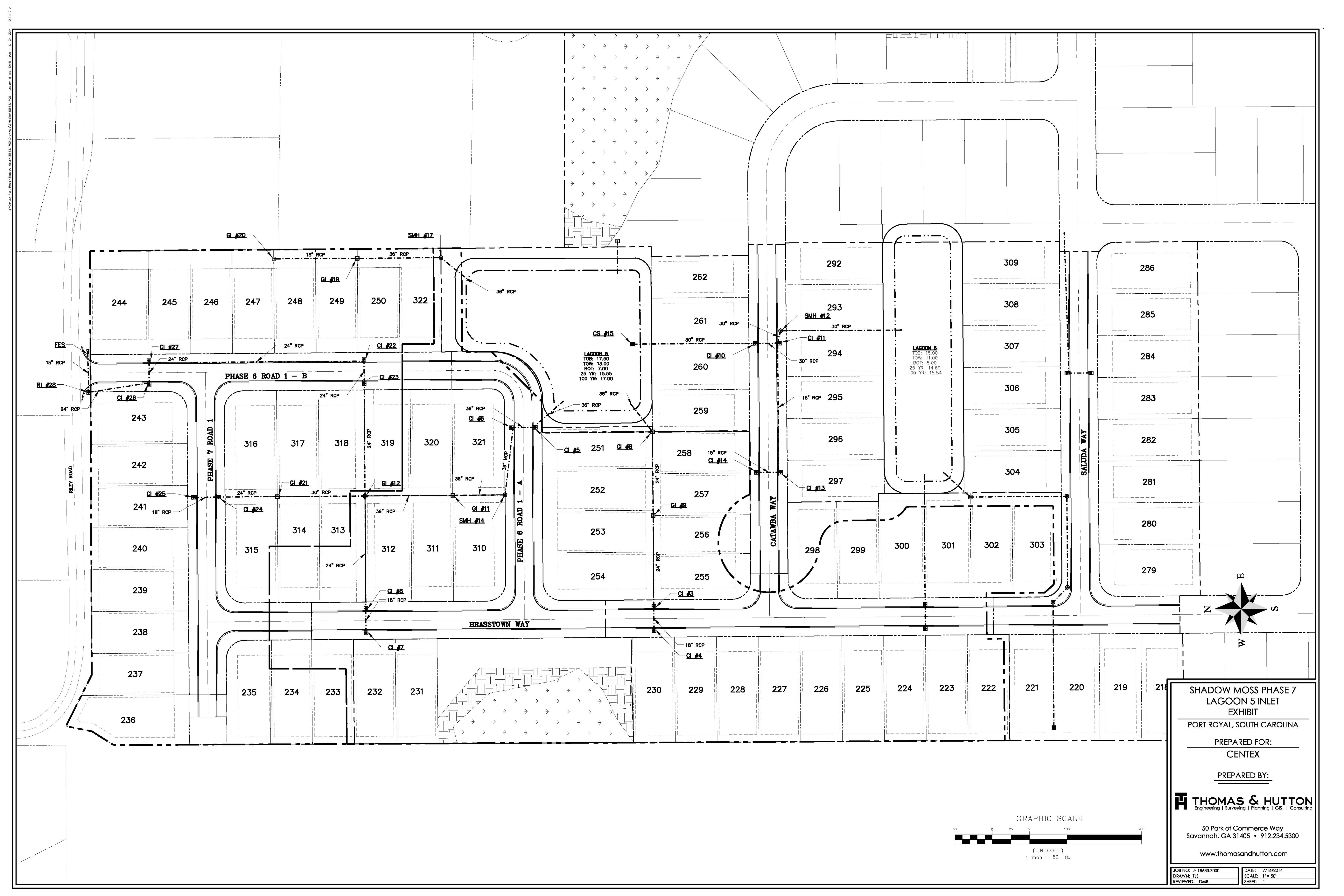
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SHADOW MOSS - PHASE 7
 PORT ROYAL, SOUTH CAROLINA
CENTEX HOMES
LOT GRADING PLAN

JOB NO:	J-18663.1700
DATE:	08/16/12
DRAWN:	JRC
DESIGNED:	DMB
REVIEWED:	RMS
APPROVED:	RMS
SCALE:	1" = 40'

C3.5

Shadow Moss Phases 6 and 7 Port Royal, South Carolina Thomas and Hutton Stormwater Piping and Inlet Design Considerations																		Manning's Size Legend										Date: 1/11/2012										
																		18	Proposed Pipe								By: DMB											
																		18	Existing Pipe								Job No.: 18683											
																		30	Proposed Change from Initial Phase 7 Design								Revised: 7/1/2014											
																		INLET CALCULATIONS																				
		A		DRAINAGE			INLET CALCULATIONS				n		Tc		C		I		Qc		S		Dm		V		L		hf		Ke		hm		LAGOON		INLET	
FROM	TO	INLET AREA	TOTAL AREA	PATH DISTANCE	PATH VELOCITY	PATH TIME	INLET TIME OF CONC.	INLET RUNOFF COEFF.	INLET RAINFALL INTENSITY	INLET DISCHARGE	MANNING'S COEFF.	TIME OF CONC.	TIME OF CONC. ROUNDED	RUNOFF COEFF.	RAINFALL INTENSITY	CUMULATIVE DISCHARGE	SLOPE	MANNING'S Dtheo	MANNING'S SIZE	MANNING'S VELOCITY	SEGMENT LENGTH	TRANS. TIME	GUTTER ELEV	FRICTION LOSSES	TOTAL	MINOR LOSSES	LAGOON STAGE ELEV	INLET ELEV	PONDING ELEV	FREEBOARD								
		(ACRES)	(ACRES)	(FT)	(FT/SEC)	(MIN)	(MIN)		(CFS)		(MIN)	(MIN)		(IN/HR)	(CFS)	(FT/FT)	(IN)	(IN)	(FT/SEC)	(FT)	(MIN)	(FT)	(FT)	(FT)	(FT)	(FT)	(FT)	(FT)	(FT)	(FT)								
CI4	CI3	0.50	0.50	0	0.30	0.00	10.00	0.50	6.60	1.65	0.013	10.00	10	0.50	6.6	1.65	0.003	12	18	0.93	27	0.48	15.85	0.0066	0.5	0.01	15.55	15.62	0.23									
CI3	GI9	0.30	0.80	0	0.30	0.00	10.00	0.50	6.60	0.99	0.013	10.48	10	0.50	6.6	2.64	0.003	14	24	0.84	125	2.48	15.85	0.0170	0.5	0.01	15.55	15.61	0.24									
GI9	GI8	0.30	1.10	0	0.30	0.00	10.00	0.50	6.60	0.99	0.013	12.97	13	0.50	6.2	3.41	0.003	15	24	1.09	112	1.72	17.21	0.0253	0.5	0.01	15.55	15.59	1.62									
GI8	LAGOON 5	0.20	1.30	0	0.30	0.00	10.00	0.50	6.60	0.66	0.013	14.69	15	0.50	6.0	3.90	0.003	16	36	0.55	47	1.42	17.10	0.0016	0.5	0.00	15.55	15.55	1.55									
GI20	GI19	1.30	1.30	0	0.30	0.00	10.00	0.50	6.60	4.29	0.013	10.00	10	0.50	6.6	4.29	0.003	17	18	2.43	112	0.77	18.78	0.1861	0.5	0.05	15.55	15.81	2.97									
GI19	SMH17	0.70	2.00	0	0.30	0.00	10.00	0.50	6.60	2.31	0.013	10.77	11	0.50	6.5	6.50	0.003	19	36	0.92	112	2.03	18.70	0.0106	0.5	0.01	15.55	15.58	3.12									
SHM17	LAGOON 5	2.00	2.00	0	0.30	0.00	10.00	0.50	6.60	6.60	0.013	12.80	13	0.50	6.2	6.20	0.003	19	36	0.88	51	0.97	20.33	0.0044	0.5	0.01	15.55	15.56	4.77									
CI7	CI8	1.20	1.20	0	0.30	0.00	10.00	0.50	6.60	3.96	0.013	10.00	10	0.50	6.6	3.96	0.003	16	18	2.24	27	0.20	16.38	0.0382	0.5	0.04	15.55	15.90	0.48									
CI8	GI12	0.60	1.80	0	0.30	0.00	10.00	0.50	6.60	1.98	0.013	10.20	10	0.50	6.6	5.94	0.003	19	24	1.89	154	1.36	16.38	0.1057	0.5	0.03	15.55	15.82	0.56									
CI25	CI24	1.00	1.00	0	0.30	0.00	10.00	0.50	6.60	3.30	0.013	10.00	10	0.50	6.6	3.30	0.003	15	18	1.87	28	0.25	17.06	0.0275	0.5	0.03	15.55	15.80	1.26									
GI24	GI21	0.40	1.40	0	0.30	0.00	10.00	0.50	6.60	1.32	0.013	10.25	10	0.50	6.6	4.62	0.003	17	24	1.47	82	0.93	17.06	0.0341	0.5	0.02	15.55	15.74	1.32									
GI21	GI12 (LAG 5 CONNECTOR)	0.40	3.60	0	0.30	0.00	10.00	0.50	6.60	1.32	0.013	11.18	11	0.50	6.5	11.70	0.003	24	30	2.38	118	0.82	16.50	0.0956	0.5	0.04	15.55	15.69	0.81									
CI14	CI13	0.52	0.52	0	0.30	0.00	10.00	0.50	6.60	1.72	0.013	10.00	10	0.50	6.6	1.72	0.003	12	15	1.40	27	0.32	15.40	0.0190	0.5	0.02	15.10	15.32	0.08									
CI13	CI11 (LAG 5 CONNECTOR)	0.45	0.97	0	0.30	0.00	10.00	0.50	6.60	1.49	0.013	10.32	10	0.50	6.6	3.20	0.003	15	18	1.81	173	1.59	15.40	0.1600	0.5	0.03	15.10	15.29	0.11									
FES	RI28 (LAG 5 CONNECTOR)	0.70	0.70	0	0.30	0.00	10.00	0.50	6.60	2.31	0.013	10.00	10	0.50	6.6	2.31	0.003	13	15	1.88	51	0.45	17.40	0.0650	0.5	0.03	15.55	15.64	1.76									



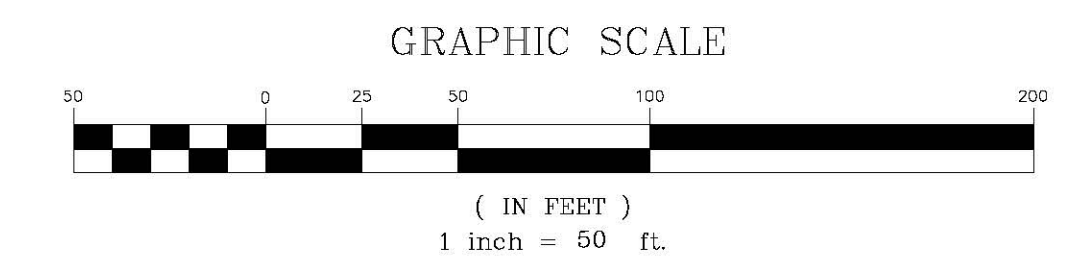
SHADOW MOSS PHASE 7
LAGOON 5 INLET
EXHIBIT
PORT ROYAL, SOUTH CAROLINA

PREPARED FOR:
CENTEX

PREPARED BY:
THOMAS & HUTTON
Engineering | Surveying | Planning | GIS | Consulting

50 Park of Commerce Way
Savannah, GA 31405 • 912.234.5300

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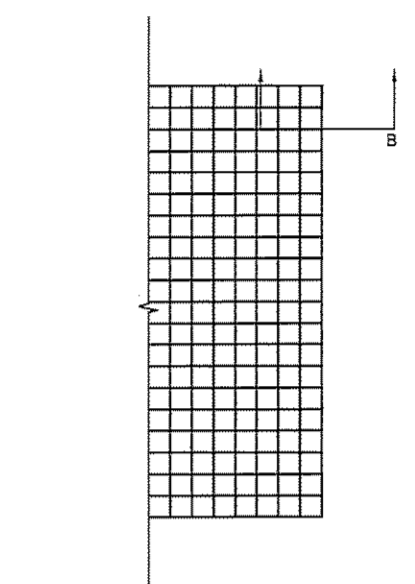


JOB NO: J-18683.7000	DATE: 7/16/2014
DRAWN: TJS	SCALE: 1" = 50'
REVIEWED: DMB	SHEET: 1

C:\Users\lsh\OneDrive\Documents\Projects\2008\2008\2008-10-23\2008-10-23.dwg

SECTION B

NOTE: SECTION "B" FOR ALL CONTROL STRUCTURE DETAILS



PLAN

PARTIAL TOP GRATING DETAIL A

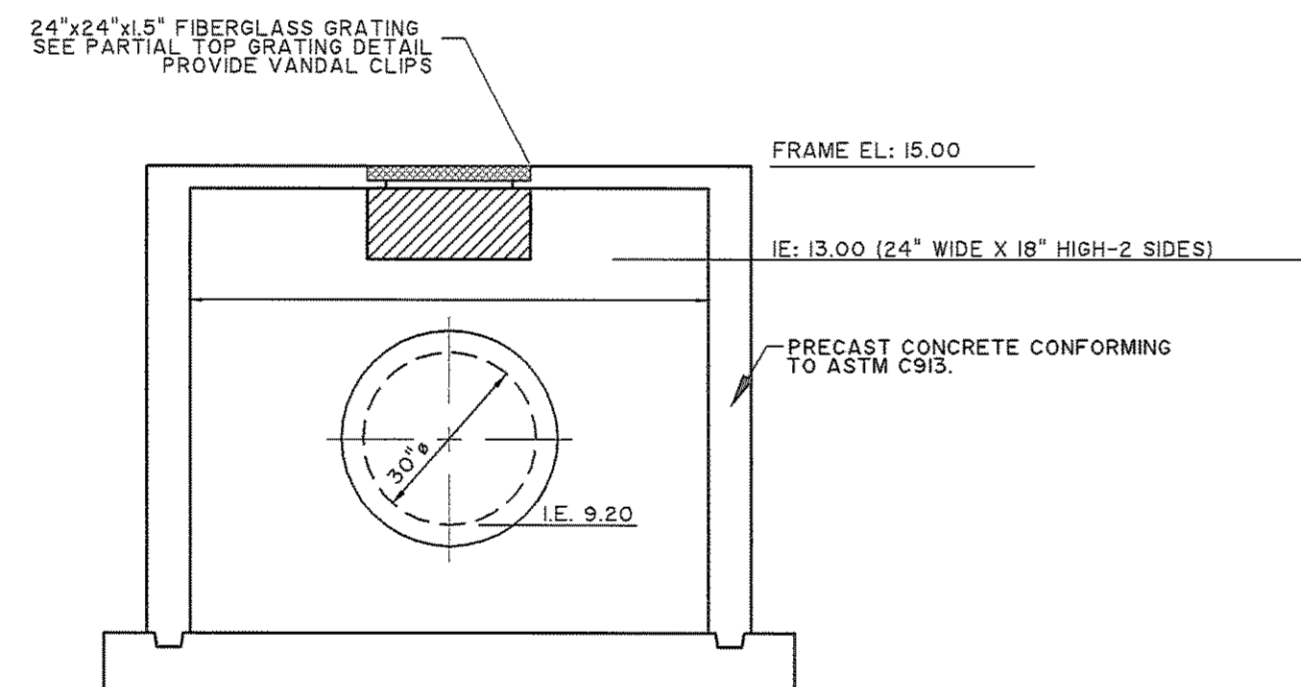
NOTE: GRATING DETAIL "A" FOR ALL CONTROL STRUCTURE DETAILS

PLAN

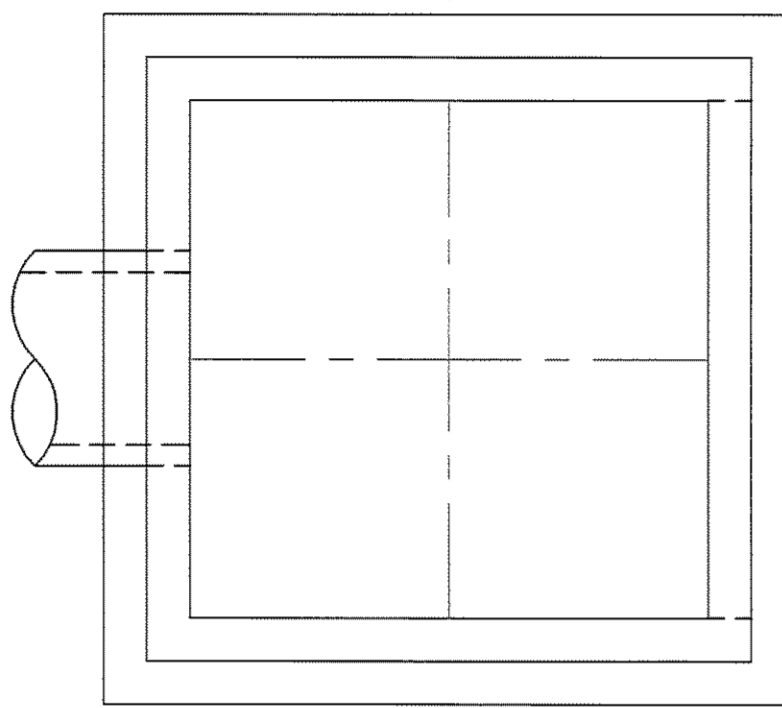
PARTIAL TOP GRATING DETAIL A

NOTE: GRATING DETAIL "A" FOR ALL CONTROL STRUCTURE DETAILS

PLAN



SECTION A-A

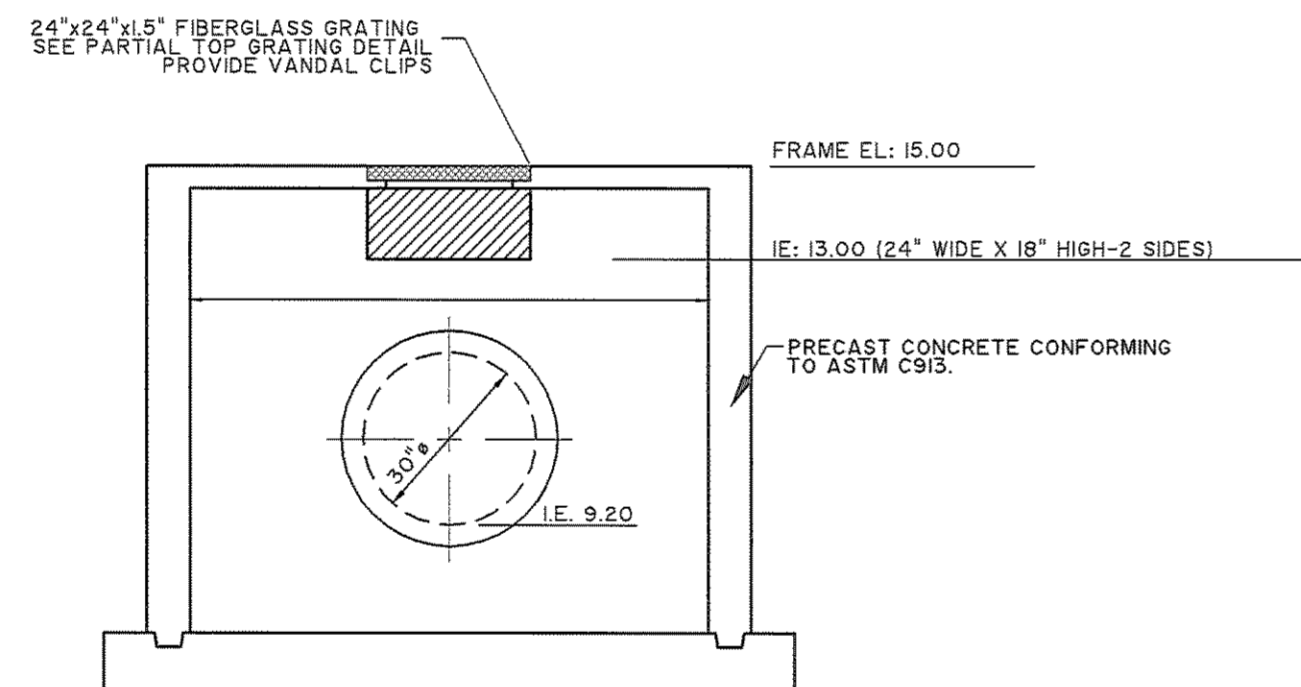


PLAN

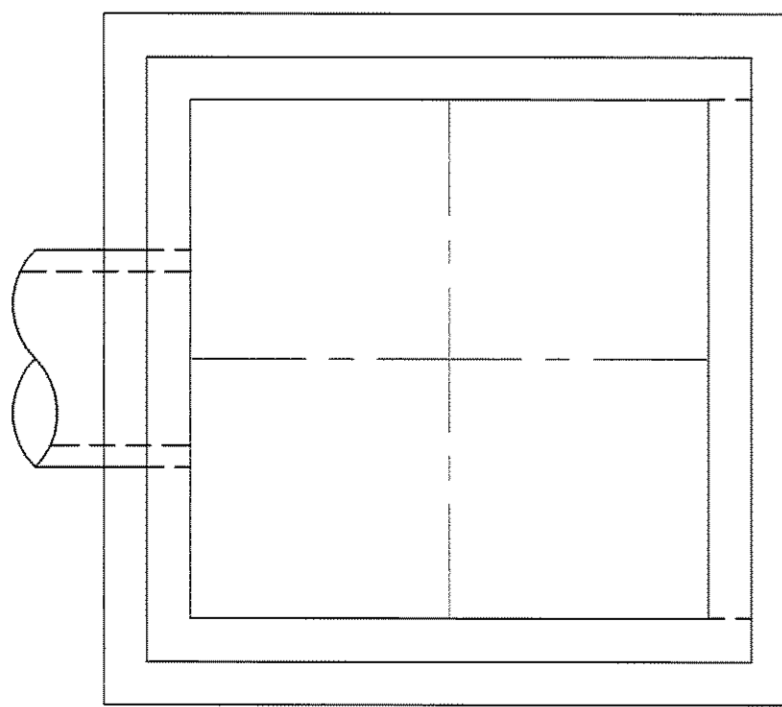
NOTE: GRATING NOT SHOWN IN THIS PLAN VIEW FOR CLARITY

CONTROL STRUCTURE #16

NOT TO SCALE



SECTION A-A

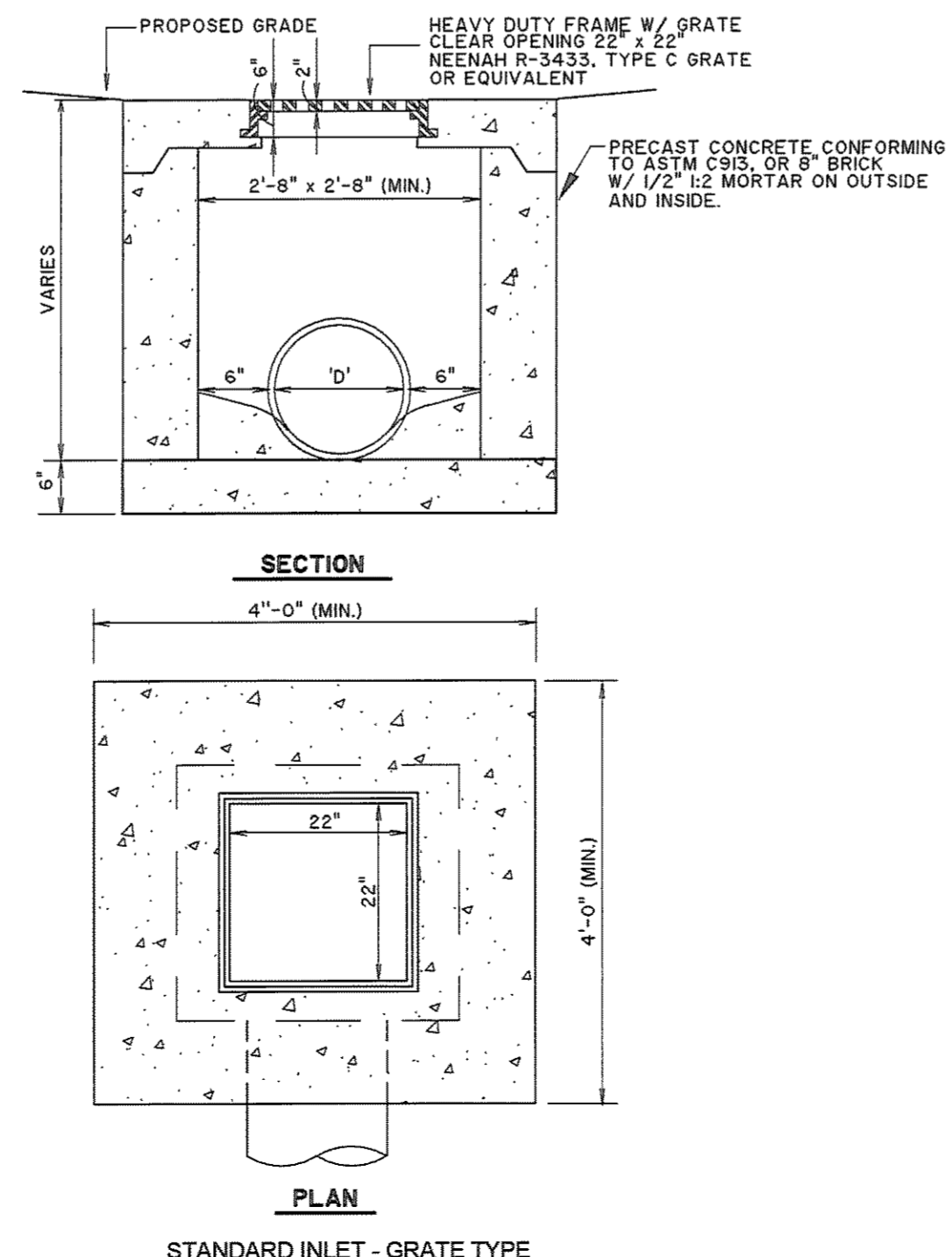


PLAN

NOTE: GRATING NOT SHOWN IN THIS PLAN VIEW FOR CLARITY

CONTROL STRUCTURE #15

NOT TO SCALE



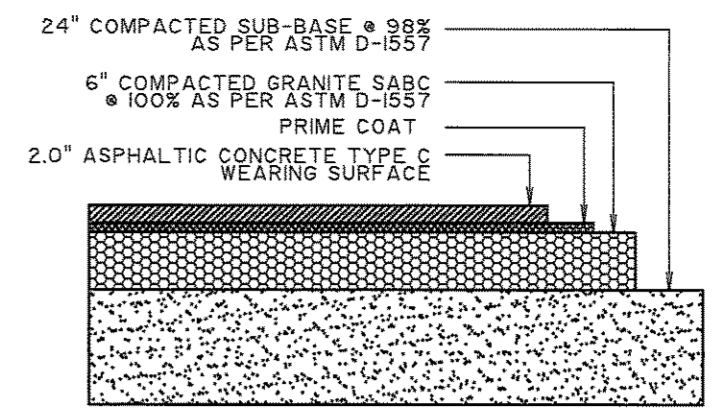
SECTION

4"-0" (MIN.)

PLAN

STANDARD INLET - GRATE TYPE

NOT TO SCALE



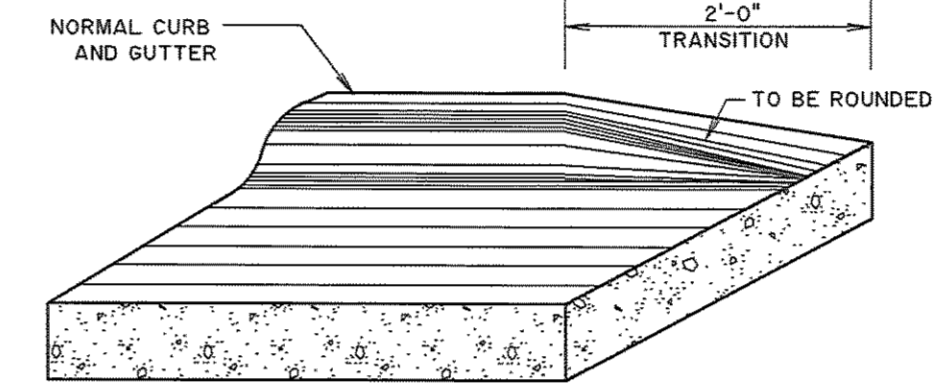
TYPICAL SUBDIVISION PAVEMENT SECTION

NOT TO SCALE

P11

OCT. 2008
THOMAS & HUTTON
ENGINEERING CO.

NOTE:
PAVEMENT SECTION SHOWN IS DICTATED BY OWNER AND SHOULD
BE VERIFIED BY A GEOTECHNICAL ENGINEER. THOMAS AND
HUTTON IS NOT RESPONSIBLE FOR PAVEMENT SECTION DESIGN.

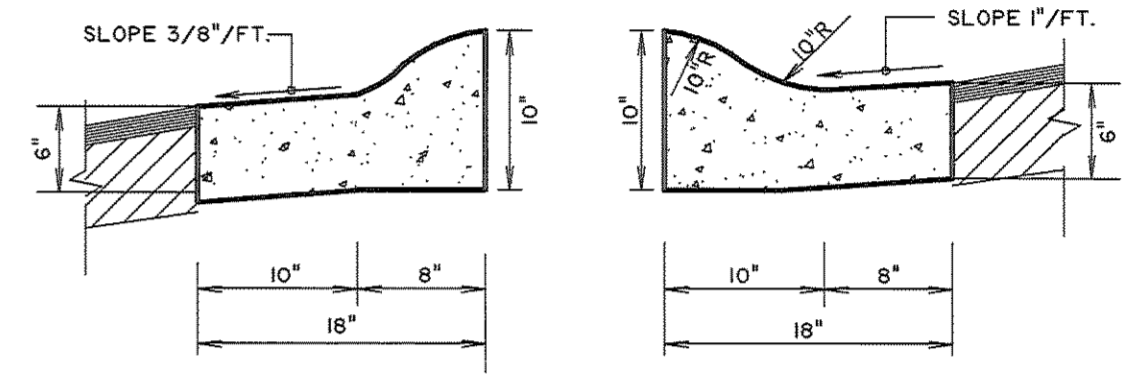


FEATHERING OF CURB AND GUTTER DETAIL

NOT TO SCALE

P22

OCT. 2008
THOMAS & HUTTON
ENGINEERING CO.



PITCH CURB

NORMAL CURB

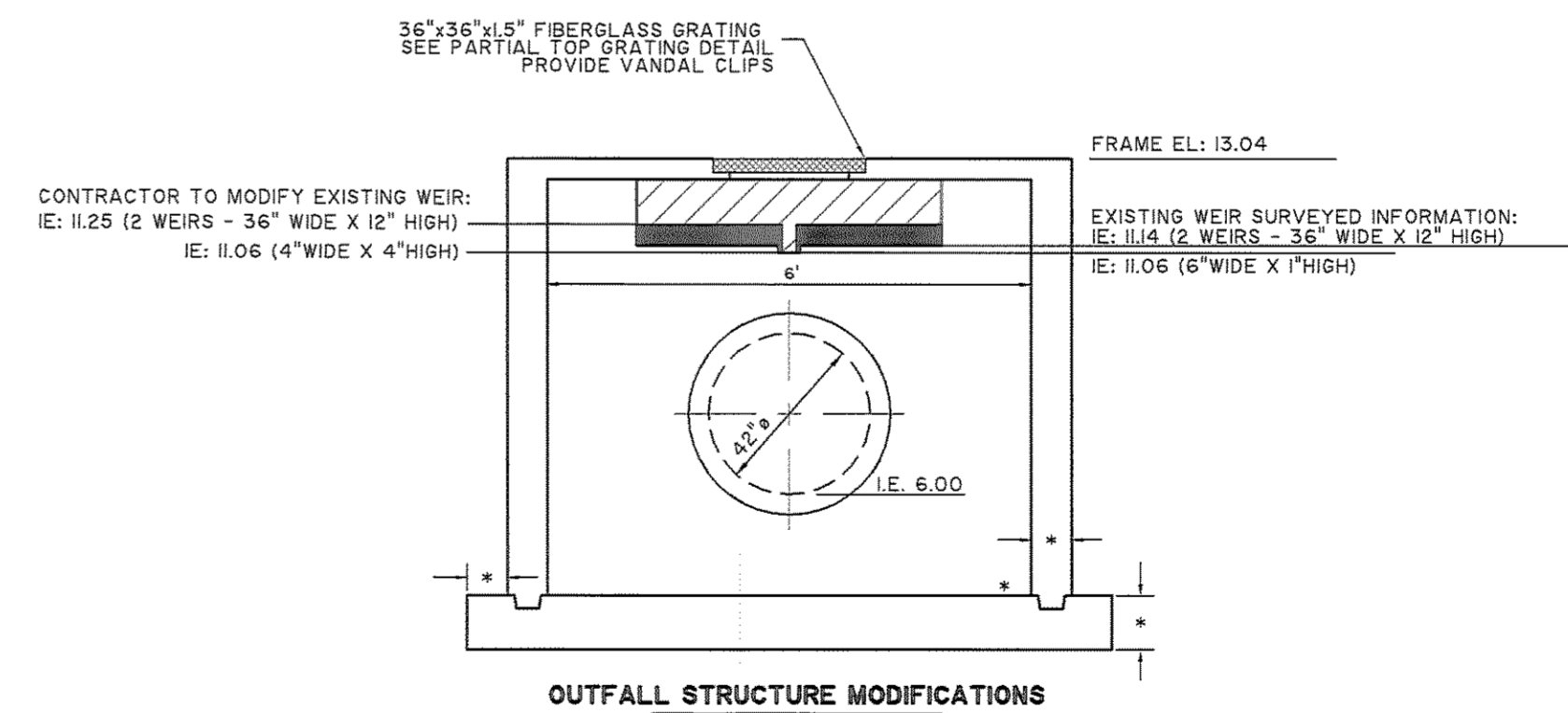
NOTES:
1. ALL CONCRETE SHALL BE 3,000 PSI.
2. PROVIDE CONTROL JOINTS EVERY TEN FEET (10').
3. PROVIDE EXPANSION JOINTS EVERY FIFTY FEET (50').
4. PROVIDE EXPANSION JOINT WHERE CURB ABUTS
SIDEWALKS, OR OTHER STRUCTURES.
5. PROVIDE LIGHT ROOM FINISH.

16" ROLL-OVER CURB & GUTTER

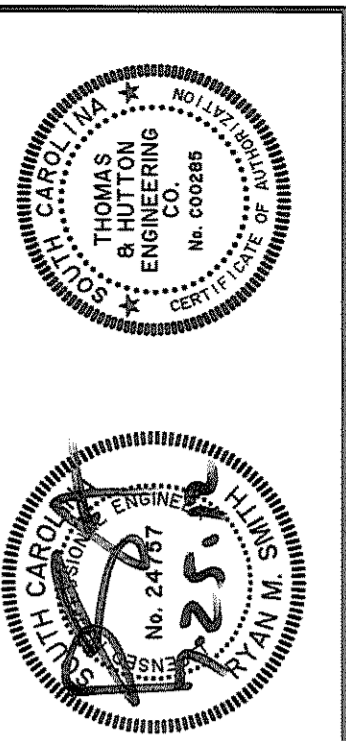
NOT TO SCALE

P20

OCT. 2008
THOMAS & HUTTON
ENGINEERING CO.



OUTFALL STRUCTURE MODIFICATIONS



NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
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50 Park of Commerce Way • PO Box 2727
Savannah, GA 31402-2727 • 912.234.5300
www.thomasandhutton.com

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CENTEX HOMES
PORT ROYAL, SOUTH CAROLINA

SHADOW MOSS - PHASE 5

PAVING GRADING AND DRAINAGE DETAILS

JOB NO:	J-186631200
DATE:	03/13/12
DRAWN:	DKC
DESIGNED:	DKC
REVIEWED:	RMS
APPROVED:	RMS
SCALE:	1" = 1'

9
PB
NC

Prepared by and return to:
Beaufort County Staff Attorney
P.O. Drawer 1228
Beaufort, SC 29901-1228
(843) 255-2055, (843) 470-5383 FAX

BEAUFORT COUNTY SC - ROD
BK 02869 PG 2263 - 2263 H
FILE NUM 2010094615
07/01/2010 04:43:16 PM
REC'D BY P BAXLEY RCPT# 621139
RECORDING FEES 0.00

Riley/Fair Road (drainage easement)

STATE OF SOUTH CAROLINA

DRAINAGE EASEMENT

COUNTY OF BEAUFORT

KNOW ALL MEN BY THESE PRESENTS, THAT We William Davis Trask, James Heide Trask, John Donald Trask, Harold E. Trask, Jr., Margaret Scheper Trask, and Robert Edward L. Holt, III, (collectively, the "Grantor") in the State aforesaid, for and in consideration of the sum of ONE AND NO/100 DOLLARS (\$1.00) and improvement of drainage on Grantor's land, the receipt whereof is hereby acknowledged, to us in hand paid at and before the sealing of these presents by Beaufort County, P.O. Drawer 1228, Beaufort, South Carolina 29901-1228, have granted and conveyed unto the said Beaufort County (the "Grantee") its Successors and Assigns, a non-exclusive 25' drainage easement (the "Easement") as set forth on that certain plat entitled "TRACT 1, TRACT 2 & A 25' DRAINAGE EASEMENT BEING A PORTION OF SHADOW MOSS PHASE 4" prepared by Thomas & Hutton Engineering Co., dated September 16, 2009 and recorded in the Beaufort County Register of Deeds Office in Plat Book 130 at Page 37 (the "Easement Map"), said property being situated in the Town of Port Royal, County of Beaufort, State of South Carolina.

For or in connection with the construction of a ditch to improve the drainage on the above described lands, such construction to include excavation, widening, or deepening, etc. for or in connection with the operation, maintenance, and inspection of such a ditch.

1. This easement includes the right of ingress and egress at any time over and upon the above described land, for the purpose of construction, inspection, and maintenance of ditches as referred to above.
2. There is reserved to the Grantee, Beaufort County, the right and privilege to use the above described land of the Grantor for the purposes of maintaining the drainage ditch system.
3. The Grantee is responsible for operating and maintaining the work of improvement herein described, and shall remove and dispose of all excess material, soil, and debris generated by the construction or maintenance of the ditch by Grantee.
4. Special Provisions
 - a. The Grantee shall have the right to clear and remove all brush and trees to a width necessary to excavate and/or improve the above drainage ditches. Provided, however, if the Grantor desires to salvage merchantable timber from the area to be cleared, he will do so prior to the time the contractor begins work. It is understood that the Grantee will advise the Grantor at least 10 days in advance of construction.
 - b. Proposed drainage ditches will be constructed within the boundaries of the Easement location shown on the Easement Map.

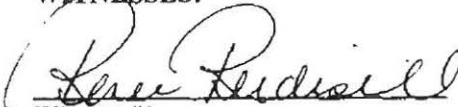
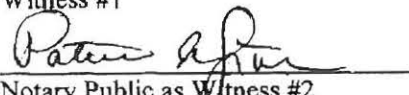
- c. If the Grantor desires to salvage levees, fences, culverts, or bridges that interfere with the construction or maintenance of drainage ditches, he will have the opportunity to do so prior to construction and maintenance work.
- d. The Grantee acknowledges and agrees that the real property owned by Grantor and burdened by the Easement granted herein is shown as "Tract 3" on a plat recorded in Plat Book 129, at Page 13, in the office of the Register of Deeds for Beaufort County, South Carolina ("Grantor's Parcel"). Grantor (or its successors in title to Grantor's Parcel) intends to develop Grantor's Parcel as an additional phase of a residential subdivision, and has the right to apply to Beaufort County for a development permit based upon construction plans which could potentially change the location and design of the drainage facilities to be constructed on Grantor's Parcel for such development from the location and design of the facilities to be constructed by Grantee as shown on the Easement Map.
- e. Upon the later to occur of (i) the date upon which Grantor (or its successors in title) records a final subdivision plat for Grantor's Parcel on which a street right-of-way is shown to connect to Riley Road, or (ii) the completion by Grantor of street and drainage improvements on Grantor's Parcel that are sufficient in design and capacity to accommodate storm water run-off from Riley Road, the location of the Easement herein granted shall be deemed amended and relocated to and within the street right-of-way shown on such final subdivision plat, without the necessity of any further action by either party.
- f. It is agreed that buildings, fences, signs or other obstructions will not be erected by Grantee, its successors, assigns, or administrators within the limits of the easement herein conveyed.

TO HAVE AND TO HOLD the aforesaid easement in, over and upon the above described land of the Grantor, with all the rights, privileges and appurtenances thereto belonging or in any wise appertaining, unto the Grantee, its successors and assigns, forever, subject to the relocation (if applicable) by Grantor as provided in paragraph (e) above.

IN WITNESS WHEREOF, I (or we) have hereunto set my (or our) hand and seal this 13th day of May, 2010.

Signed, Sealed and Delivered in the Presence of:

WITNESSES:


 Witness #1

 Notary Public as Witness #2

GRANTOR:


 William Davis Trask

I, the undersigned notary public, do hereby certify that the within named Grantor personally appeared before me this 13th day of May, 2010, and acknowledged the due execution of the foregoing instrument.

 (L.S.)
Notary Public for the State of South Carolina

My Commission expires: 6-27-2015

~~Notary Public as Witness #2~~

STATE OF SOUTH CAROLINA

ACKNOWLEDGEMENT

COUNTY OF BEAUFORT

I, the undersigned notary public, do hereby certify that the within named Grantor personally appeared before me this 25th day of May, 2010, and acknowledged the due execution of the foregoing instrument.

Mary K McForman (L.S.)
Notary Public for the State of South Carolina

My Commission expires: June 16, 2019

IN WITNESS WHEREOF, I (or we) have hereunto set my (or our) hand and seal this 25th day of May, ²⁰¹⁰~~2009~~.

Signed, Sealed and Delivered in the Presence of:

WITNESSES:

GRANTOR:

[Signature]
Witness #1

[Signature]
James Heide Trask

Mary K McForman
Notary Public as Witness #2

STATE OF South Carolina

~~ACKNOWLEDGEMENT~~

I, ~~the undersigned notary public, do hereby certify that the within named Grantor personally~~
appeared before me this _____ day of _____, 2009, and
acknowledged the due execution of the foregoing instrument.

(L.S.)
Notary Public for ~~the~~ State of South Carolina

~~My Commission expires: _____~~

IN WITNESS WHEREOF, I (or we) have hereunto set my (or our) hand and seal this
26th day of MAY, ~~2009~~²⁰¹⁰.

Signed, Sealed and Delivered in the Presence of:

WITNESSES:

GRANTOR:

Janette Wagon
Witness #1

Robert Edward L. Holt III
Robert Edward L. Holt, III

Bernard F. Buchheiser
Notary Public as Witness #2

STATE OF South Carolina
COUNTY OF CHARLESTON

ACKNOWLEDGEMENT

I, the undersigned notary public, do hereby certify that the within named Grantor personally appeared before me this 26th day of MAY, ~~2009~~^{2010 (BFR)}, and acknowledged the due execution of the foregoing instrument.

Bernard F. Buckheiser (L.S.)
Notary Public for the State of South Carolina

My Commission expires: My Commission Expires
November 19, 2019

I, the undersigned notary public, do hereby certify that the within named Grantor personally appeared before me this 13th day of MAY, 2009, and acknowledged the due execution of the foregoing instrument.

Patricia A. Jeter (L.S.)
Notary Public for the State of South Carolina

My Commission expires: 6-27-2015

IN WITNESS WHEREOF, I (or we) have hereunto set my (or our) hand and seal this 13th day of MAY, 2009.

Signed, Sealed and Delivered in the Presence of:

WITNESSES:

Eric R. Russell

Witness #1

Patricia A. Jeter

Notary Public as Witness #2

GRANTOR:

Margaret Scheper Trask
Margaret Scheper Trask

STATE OF South Carolina

COUNTY OF Beaufort

ACKNOWLEDGEMENT

IN WITNESS WHEREOF, I (or we) have hereunto set my (or our) hand and seal this

11 day of May, 2009/2010

Signed, Sealed and Delivered in the Presence of:

WITNESSES:

GRANTOR:

Betty Harvey
Witness #1

John Donald Trask
John Donald Trask

Allyson J. Warriner
Notary Public as Witness #2

STATE OF North Carolina

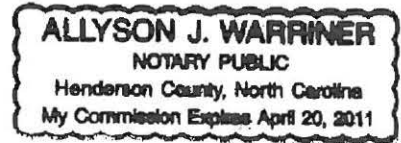
ACKNOWLEDGEMENT

COUNTY OF Brunswick

I, the undersigned notary public, do hereby certify that the within named Grantor personally appeared before me this 11 day of May, 2009, and acknowledged the due execution of the foregoing instrument.

Allyson J. Warriner (L.S.)
Notary Public for the State of ~~South Carolina~~ North Carolina

My Commission expires: April 20, 2010



I, the undersigned notary public, do hereby certify that the within named Grantor personally appeared before me this 13th day of May, ~~2009~~, and acknowledged the due execution of the foregoing instrument. 2010

Linda E Sanchez (L.S.)
Notary Public for the State of South Carolina

My Commission expires: 8/14/2016

Approved by County Attorney

[Signature]
Landon P. Howell

IN WITNESS WHEREOF, I (or we) have hereunto set my (or our) hand and seal this 13th day of May, ~~2009~~, 2010

Signed, Sealed and Delivered in the Presence of:

WITNESSES:

[Signature]
Witness #1

Linda E Sanchez
Notary Public as Witness #2

GRANTOR:

[Signature]
Harold E. Trask, Jr.

STATE OF South Carolina
COUNTY OF Charleston

ACKNOWLEDGEMENT

South Carolina Department of Health and Environmental Control's Small Municipal Separate Storm Sewer System (SMS4) Notice of Intent (NOI)

A Summary of Beaufort County
Stormwater Utility's permit
application

SWUB - October 1, 2014



Attachments included with permit application

- Current map of the MS4 system showing critical facilities, outfalls, etc.
- Current ordinances and regulations related to stormwater management, if applicable
- Listing of current stream impairments
- List of staff certifications for plan review, inspections
- Inventory of Municipal Facilities



Section 1 – Public Ed. & Outreach

Proposed Best Management Practices

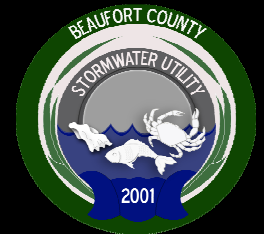
- Brochures, printed guidance – used in various ways to educate citizens
- Website – provides education and input from citizens
- Event Participation – festivals, volunteer events, speaking engagements
- School Stormwater programs – Enviroscape, etc.
- Surveys – measure citizen knowledge of issues
- Data Management



Section 2 – Public Involvement

Proposed Best Management Practices

- Storm Drain Stenciling
- Public Meetings – seek input on permit, programs, guidance development
- Community Clean Ups
- Volunteer Speakers – create a “Speakers Bureau” to educate others
- Data Management



Section 3 – Illicit Discharge, Detection, and Elimination

Proposed Best Management Practices

- Adequate Legal Authority – develop written guidance and establish enforcement
- Outfall Inventory Map
- Outfall Screening for illicit discharges – field inspection
- Prioritize other potential illicit discharges and non-stormwater discharges – monitor “hot spots”
- Education on illicit discharge – staff and public
- Enforcement program / data management



Section 4 – Construction Site Runoff

Proposed Best Management Practices

- Revise Stormwater Management Ordinance – add to BMP Manual to provide guidance and legal authority
- Develop Construction site control Best Management Practices – erosion & sediment and waste
- Create plan review procedures
- Define site inspection procedures and enforcement
- Receipt of Public Inquiries – website / hot line
- Data Management



Section 5 – Post Construction Stormwater Management

Proposed Best Management Practices

- Revise Stormwater Management Ordinance – add to BMP Manual to provide legal authority
- Review and Revise practices defined in BMP Manual
- Mechanism for long term O&M of BMPs – agreements / contracts / deed restrictions
- Define inspection procedures
- Enforcement
- Data Management



Section 6 – Pollution Prevention / Good Housekeeping for Municipal Operations

Proposed Best Management Practices

- Create / modify Spill Prevention plans for critical facilities
- Training of staff
- Create a spill response plan and train staff
- Parking lot and street cleaning – reduce amount of pollutants in stormwater runoff
- Inventory system condition, prioritize needs
- Data Management





MEMORANDUM

To: Natural Resources Committee of County Council
From: Anthony J. Criscitiello, Planning & Development Director *T.C.*
Date: October 7, 2014
Subject: Text Amendment to Chapter 4 (Future Land Use) of the Beaufort County Comprehensive Plan to include a Place Type Overlay Future Land Use Designation

Excerpt of PLANNING COMMISSION RECOMMENDATION from its October 7, 2014, draft meeting minutes:

Mr. Robert Merchant, County Long-range Planner, briefed the Commission. He noted that a new Code is in the process of adoption. That code emphasizes walkable communities and maps were made showing such communities. Such place types should be included in the Comprehensive Plan, another level for regional planning. This text amendment includes another chapter explaining place types and their related uses.

Discussion included how property is included in the place types or not, a recommendation to include language regarding the Planning staff making the determination whether a property is in or out of a place type, the rationale for the place type locations, the municipalities having their own codes that are similar to the proposed County code, the Code having mechanisms for growth via the place types, concern for single-family neighborhoods being encroached by apartment complexes, and the diverseness of the unincorporated County.

Motion: Mr. Randolph Stewart made a motion, and Mr. John Thomas seconded the motion, **to recommend to County Council to approve the Text Amendment of Chapter 4 (Future Land Use) of the Beaufort County Comprehensive Plan to include a Place Type Overlay Future Land Use Designation.** The motion passed (**FOR: Chmelik, Davis, Fireall, Johnston, Riley, Semmler, Stewart, and Thomas; ABSENT: Brown**).



MEMORANDUM

To: Beaufort County Planning Commission
From: Anthony J. Criscitiello, Planning & Development Director
Date: September 4, 2014
Subject: Text Amendment to Chapter 4 (Future Land Use) of the Beaufort County Comprehensive Plan to include a Place Type Overlay Future Land Use Designation

Comprehensive Plan Sections: The following additions are being proposed to Chapter 4: Future Land Use of the Beaufort County Comprehensive Plan:

- Amend Future Land Use Plan Division to include a Place Type Overlay Future Land Use Designation. This new language will be inserted immediately following the subsection “Special Land Use Designation” on Page 4-30.
- Amend Recommendation 4.4 include language that calls for the adoption of form-based zoning districts to implement the Place Type Overlay designation.
- Add Maps 4-9 and 4-10 which show the location of place types in Beaufort County.
- Add Appendix 4-I: Beaufort County Place Types, which further defines the appropriate character, form, scale, intensity, and mix of uses for each of the place types in Beaufort County.

Summary of the Proposed Amendment: The proposed amendments will create a Place Type Overlay Designation in the Future Land Use chapter of the Comprehensive Plan. The purpose of the Place Type Overlay is to identify locations in the County to promote appropriately scaled walkable environments with a mix of housing, civic, retail, and service choices. The proposed language establishes five place types going from the most rural to the most urban – rural crossroad, hamlet, village, town, and city. The plan then recommends that the County adopt form-based zoning districts to implement the various place types.

Source of Proposed Amendment: The origin of this proposal came from the Beaufort County Planning Department. The maps and definitions of various place types were developed as part of the early work performed by Opticos to draft a new Community Development Code for the County. The descriptions of the place types and the maps are already incorporated into the Preamble of the new Code and were reviewed by the Planning Commission when they forwarded the Code to the Natural Resources Committee at their May 5, 2014 meeting. Also, the place type maps were coordinated with the Town of Bluffton, Town of Port Royal, and City of Beaufort as a way to define locations to promote walkable, mixed-use communities.

Justification: While the place type definitions and maps were developed during the drafting of the Community Development Code and are contained in the Preamble to that draft Code, the concept rests more appropriately at the comprehensive planning level.

- Additional Layer of Regional Land Use Planning: The Place Type Overlay Designation represents an additional layer of regional, intergovernmental land use planning in Beaufort County. The Northern and Southern Regional Plans established a general framework of where to direct future growth in the County. The Future Land Use Plan in the Comprehensive Plan, which was coordinated with the municipalities, provides further specifics of the types of land uses and intensity of development that should occur inside and outside of the growth areas. The Place Type Overlay Designation further defines specific locations where it is suitable to encourage the growth of mixed-use walkable communities.
- Guidance for where to apply Future Transect Zones: The draft Community Development Code has several areas within the County where transect zones are being proposed to foster the development of mixed-use walkable communities. Within each of these communities the County held a charrette to determine the appropriate character, intensity, and mix of land uses. The Place Type Maps (Maps 4-9 and 4-10), however, identify many more areas of the County to encourage and reinforce the development of these communities. The Place Type Overlay Designation provides a framework for the overall scale, intensity, and mix of transect zones appropriate for these places to guide future community planning efforts.

Proposed Amendments: See attached.

Recommendation: The Beaufort County Planning staff recommends approval for the herein attached sections of the Beaufort County Comprehensive Plan.

Place Type Overlay

Both within and outside of Growth Areas the policies of this plan encourage the development and reinforcement of pedestrian scaled mixed-use communities. The purpose of the Place Type Overlay future land use is to identify locations in the County to promote appropriately scaled walkable environments with a mix of housing, civic, retail, and service choices and that achieve the following:

- Improve the built environment and human habitat.
- Promote development patterns that support safe, effective, and multi-modal transportation options, including auto, pedestrian, bicycle, and ultimately transit. This will minimize vehicle traffic by providing for a mix of land uses, walkability, and compact community form.
- Provide neighborhoods with a variety of housing types to serve the needs of a diverse population.
- Remove barriers and provide incentives for walkable urban projects.
- Promote the greater health benefits of a pedestrian-oriented environment.
- Reinforce the character and quality of local communities, including rural crossroads, neighborhoods, hamlets, and villages.
- Reduce sprawling, auto-dependent development.
- Protect and enhance real property values.
- Reinforce the unique identity of Beaufort County that builds upon the local context, climate, and history.

Rural Place Types: While rural landscapes consist largely of natural areas, agricultural and forestry uses, and low-density residential development, historically, small walkable communities served as retail, service and civic hubs for the surrounding rural hinterlands.

Rural Place types consist of Rural Crossroads and Hamlets (See Map 4-9 and 4-10). Appendix 4-I further defines the appropriate character, form, scale, intensity, and mix of uses for each of the place types in Beaufort County so that suitable zoning districts and other tools can be developed and applied to implement these places.

- **Rural Crossroad Place Types.** Rural crossroads are typically located at the intersection of two or more rural roads. They provide a small amount of pedestrian-oriented, locally-serving retail in a rural context, and transition quickly into agricultural uses and/or the natural environment as one moves away from the intersection. Historic examples of rural crossroads include Pritchardville in southern Beaufort County and the Corners Community on St. Helena Island.
- **Hamlet Place Types.** Hamlets are typically larger and more intense than rural crossroads and are often located at the edge of the rural and urban condition. A hamlet often has a small, pedestrian-oriented main street with surrounding and supporting residential fabric that is scaled to the size of a pedestrian shed. The main street and surrounding residential fabric transitions quickly into agricultural uses and/or the natural environment. A historic example of a hamlet includes the original settlement of Bluffton along Calhoun Street. The size and scale of the Habersham community would currently be classified as a hamlet, but could develop into a village if existing development plans are realized.

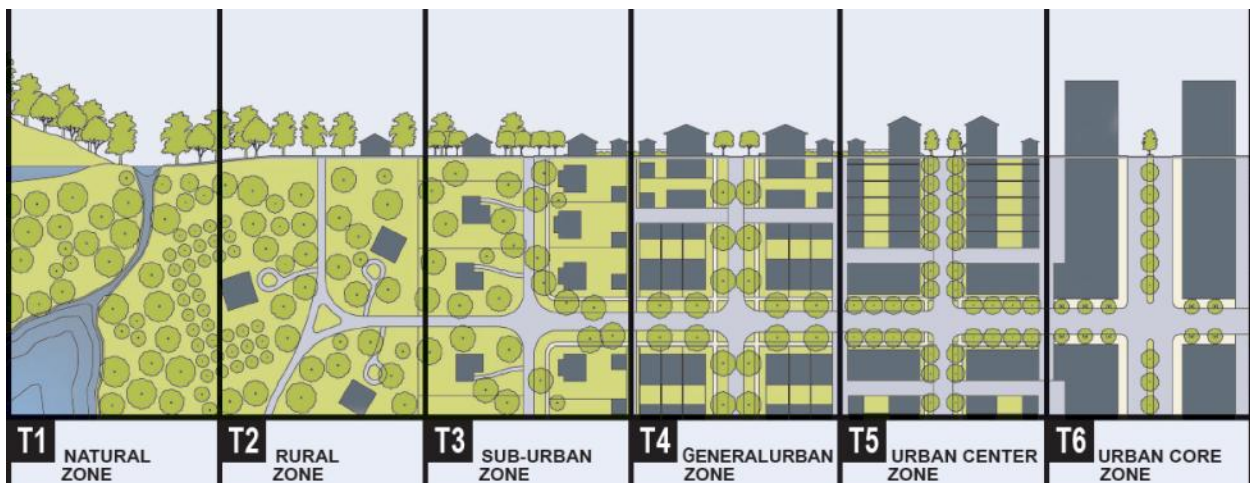
Urban Place Types: Urban places are more complex with concentrations of public infrastructure, community services, and existing homes and businesses. They are located within urbanized areas, and are organized within an interconnected network of streets and blocks in multiple pedestrian sheds. They include areas where one has the opportunity to walk, bike, or ride transit to work, to fulfill daily shopping needs (such as groceries), and to access other amenities within close proximity. These places are composed of elements that create complete walkable places, including downtowns, neighborhood main streets, neighborhood centers, and residential neighborhoods of varying densities and intensities.

Urban Place types consist of Villages, Towns, and Cities (See Map 4-9 and 4-10). Appendix 4-I further defines the appropriate character, form, scale, intensity, and mix of uses for each of the place types in Beaufort County so that suitable zoning districts and other tools can be developed and applied to implement these places.

- **Villages** are made up of clusters of residential neighborhoods of sufficient intensity to support a central, mixed-use environment. The mixed-use environment can be located at the intersection of multiple neighborhoods or along a corridor between multiple neighborhoods. Habersham is a good example of a place that is evolving into a village.
- **Towns** are made up of clusters of neighborhoods or villages that can support a larger, more complex mixed-use environment. Buildings at the core of a town are attached and may be up to four stories tall. Towns are important centers of the County. The Town of Port Royal represents the local archetype.
- **Cities** are made up of clusters of neighborhoods or villages that can support the most intense, complex mixed-use environments. Buildings within the cores of a city are attached and may be taller than four stories in height. Cities are regional centers of the County and contain primary commercial and civic destinations. The City of Beaufort represents the local archetype.

Implementing the Place Type Overlay: The place types should be implemented with form-based zoning districts that focus firstly on the intended character and intensity of development and secondly on the mix of uses within. The form-based districts should be organized on the principle of the Transect (Figure 4-5).

Figure 4-5: A Typical Rural-Urban Transect with Transect Zones



Source: The Smart Code Version 9.2

The Transect, as a framework, identifies a range of settlement patterns from the most natural to the most urban. Its continuum, when subdivided, lends itself to the creation of zoning categories with standards that prescribe appropriate intensity, character and mix of uses. The following are generalized zoning categories based on the Transect.

- **T-1 Natural Zone** consists of lands approximating or reverting to a wilderness condition, including lands unsuitable for settlement due to topography, hydrology or vegetation.
- **T-2 Rural Zone** consists of sparsely settled lands in open or cultivated state. These include woodland, agricultural land, and natural areas. Typical buildings are farmhouses, agricultural buildings, and low density houses.
- **T-3 Sub-Urban Zone** consists of low density residential areas, adjacent to higher zones that contain some mixed use. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions.
- **T-4 General Urban Zone** consists of a mixed use but primarily residential urban fabric. It may have a wide range of building types: single, sideyard, and rowhouses. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks.
- **T-5 Urban Center Zone** consists of higher density mixed use buildings that accommodate retail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.
- **T-6 Urban Core Zone** consists of the highest density and height, with the greatest variety of uses, and civic buildings of regional importance. There are no locations within Beaufort County where T-6 Urban Core is appropriate. Typically only large towns and cities have an Urban Core Zone.

In order to be an effective tool to implement the Place Type Overlay District the specific mix of uses, intensity and character of these districts should be calibrated to fit the unique natural and built environment of Beaufort County.

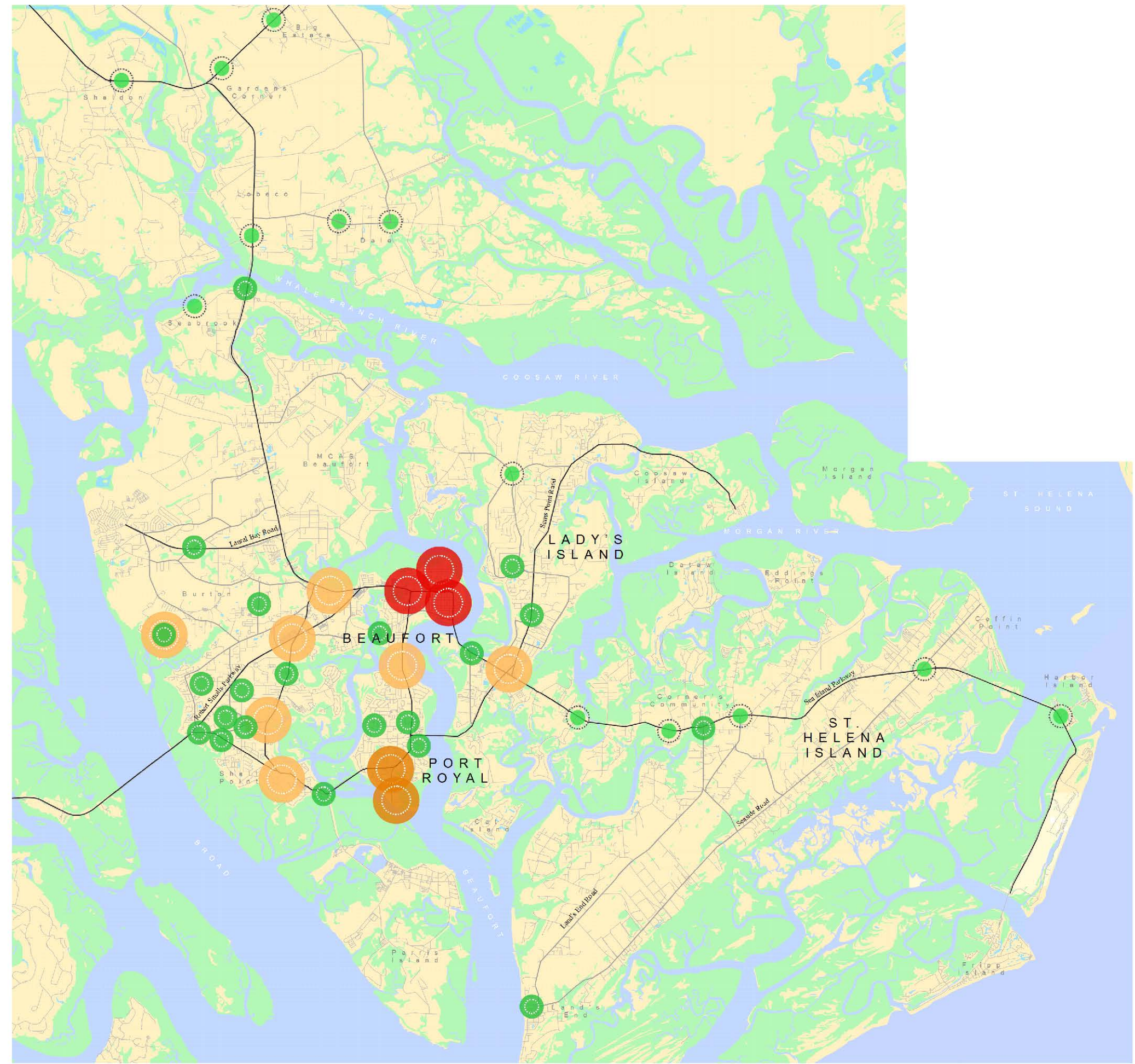
Recommendation 4-4: Update the County Land Use Regulations

Beaufort County will update the county's zoning and development standards ordinance to incorporate the related recommendations of the regional plans and to facilitate the Future Land Use element of this comprehensive plan. In particular, the county will consider incorporating the following recommendations:

- Incorporate the development guidelines and recommendations established in this plan and in the regional plans; and
- Encourage mixed-use developments, where proposed, through revisions that will expedite review procedures and provide density incentives.
- Codify requirements that allow for the county, municipalities, the school district, and where involved, the military, to review and comment on major development proposals and annexations. This action would require that any application for an annexation or proposed rezoning will be sent to the planning directors, or similar official, of the relevant review body prior to the public hearing on the application. Any comments provided by such planning official will be included in the review packets for the subject annexation or rezoning.
- Implement the Place Type Overlay by developing form-based zoning districts that focus firstly on the intended character and intensity of development and secondly on the mix of uses within. The form-based districts should be organized on the principle of the Transect. The specific mix of uses, intensity and character of the form-based districts should be calibrated to fit the unique natural and built environment of Beaufort County.

Chapter 4 Land Use

Map 4-9
**Place Type
Overlay**
Northern Beaufort
County








- City Place Type
- Town Place Type
- Village Place Type
- Hamlet Place Type
- Rural Crossroad Place Type

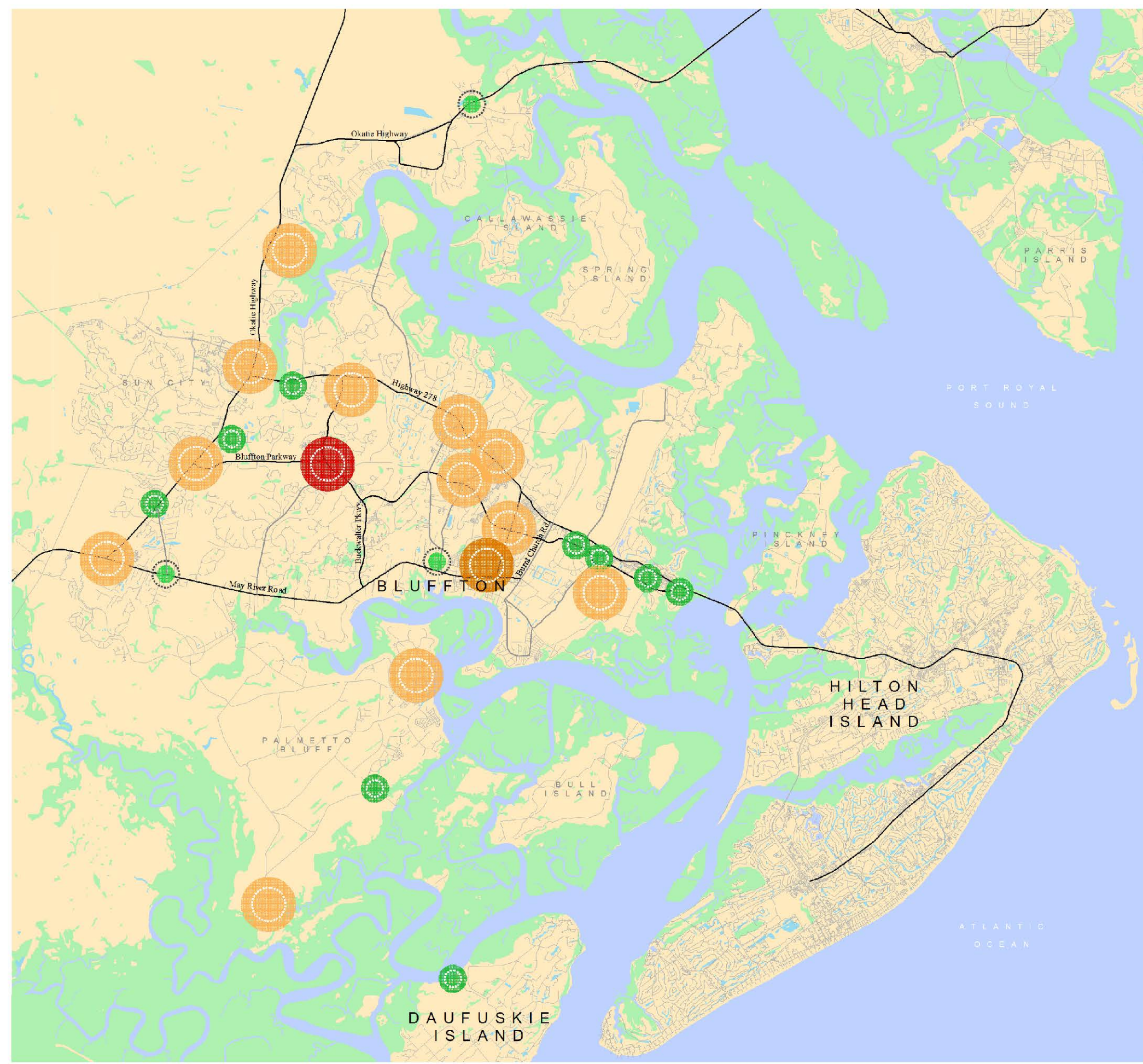
2010
Beaufort County
Comprehensive
Plan

Chapter
4
Land Use

Map 4-10
Place Type Overlay
Southern Beaufort
County

-  City Place Type
-  Town Place Type
-  Village Place Type
-  Hamlet Place Type
-  Rural Crossroad Place Type

2010
Beaufort County
Comprehensive
Plan



Appendix 4-I

Beaufort County Place Types

Overview

The Place Type Overlay identifies locations in the County to promote appropriately scaled walkable environments with a mix of housing, civic, retail, and service choices. The scale, intensity and character of these walkable communities vary greatly from small rural crossroads that serve neighboring agricultural communities to cities with a diversity of uses and housing types. This Appendix further defines the appropriate character, form, scale, intensity, and mix of uses for each of the place types in Beaufort County so that suitable zoning districts and other tools can be developed and applied to implement these places.

Table 1: Rural Place Types in Beaufort County





			Rural Crossroads	Hamlet
				
Form				
Type of Settlement		Significant intersection or node.	Low to medium intensity main street.	
Level of Urbanization		Minimal to Mild	Mild to Medium	
Transect Zones		T2 and T3	T2, T3, and T4	
Scale		Primarily auto scale with human scale development at center - 1/8 to 1/4 mile pedestrian shed.	Transitioning from auto to human scale. 1/4 mile pedestrian shed.	
Acres		10 acres minimum. 80 acres maximum.	40 acres minimum. 200 acres maximum.	
Intensity of Settlement		1 to 2 dwelling units per acre gross.	3 to 6 dwelling units per acre gross.	
Character of Buildings		1–2 story detached buildings containing various uses that are primarily residential or agricultural in form.	1–3 story detached buildings containing various uses that are primarily residential or agricultural in form.	
Infrastructure				
Stormwater Management		Low impact watershed management at the lot level.	Low impact watershed management at lot, neighborhood and community level.	
Water & Sewer Service		Septic systems and wells transitioning to package wastewater systems and regional water and sewer service.	Septic systems and wells transitioning to package wastewater systems and regional water and sewer service.	
Electricity and Communications		Standard voltage electric utility and communication lines shall be buried when they are new; or when significant alterations to an existing thoroughfare ROW occurs.		
Services				
Fire, EMS, Police		Professionally manned fire and EMS stations, and police sub-stations may be sited. Fire hydrants may be sparse and shall be required of all new development.	Professionally manned fire and EMS stations, and police sub-stations are appropriate. Fire hydrants shall be required of all new development.	
Transportation				
Street Network		Simple organic network of large irregular blocks. “Crossroads” intersection shall not be widened, but rather pedestrianized.	Simple organic network. Medium to large blocks with ‘complete’ main street. Streets and intersections shall not be widened.	
Street Surface		Only public streets shall be paved.	All streets except alleys shall be paved.	
Transit		Regional transportation service only.	Regional transportation service only.	
Common Destinations				
Health Care	office/clinic	Appropriate	Appropriate	
	hospital	Not appropriate	Not appropriate	
Schools	Primary	Not appropriate	Appropriate	
	Secondary	Not appropriate	Appropriate	
	College	Not appropriate	Not appropriate	
Civic Space		Primarily neighborhood and community scaled greenways, greens, pocket parks, playgrounds, gardens, and preserves.	Primarily neighborhood and community parks, greenways, greens, squares, plazas, playgrounds, gardens, and preserves.	
Civic Structures		Primarily range from neighborhood to small community scaled facilities (e.g. rec. center, meeting hall, church, etc.). Regional scaled facilities shall locate in Town or City Place Types (e.g. cultural facilities, County govt. buildings, post office, library, DMV, Social Security Administration, etc.).	Primarily range from neighborhood to large community scaled facilities (e.g. rec. center, meeting hall, post office, church, library, etc.). Regional scaled facilities shall locate in Town or City Place Types (e.g. cultural facilities, County govt. bldgs., state and federal agencies.).	

Table 2: Urban Place Types in Beaufort County

		Village	Town and City
			
Form			
Type of Settlement		Cluster of neighborhoods and hamlets support a mixed-use village center and main street within County, Town, or City.	Neighborhoods and districts that are interconnected by mixed-use streets form these town and city “centers” of the County.
Level of Urbanization		Med. to High. Enhanced services provide countywide economies of agglomeration.	High. Enhanced services provide multi-county region economies of agglomeration.
Zoning Districts		T3 and T4	T3, T4 and T5
Scale		Human scale. ½ mile pedestrian shed.	Human scale. ½ mile pedestrian shed.
Acres		120 acres minimum. 500 acres maximum.	320 acres minimum.
Intensity of Settlement		4 to 12 dwelling units per acre gross.	6 to 24 dwelling units per acre gross.
Character of Buildings		1–3 story attached and detached buildings appear residential or commercial in form.	1–4 story attached and detached buildings appear residential or commercial in form.
Infrastructure			
Stormwater Management		Low impact watershed management at lot, neighborhood, community, district level.	Low impact watershed management at lot, neighborhood, community, district level.
Water & Sewer Service		Regional water and sewer shall be required of all new development.	Regional water & sewer shall be required of all new development.
Electricity and Communications		Standard voltage electric utility and communication lines shall be buried when they are new; or when significant alterations to an existing thoroughfare ROW occurs.	
Services			
Fire, EMS, Police		Professionally manned fire and EMS stations, and police sub-stations are appropriate. Fire hydrants shall be required of all new development.	The main City or Town fire and EMS station, and the main stand-alone police station shall locate here. Fire hydrants shall be required of all new development.
Transportation			
Street Network		Complex semi-formal network with small to med. blocks and ‘complete’ main street. Existing street network shall not be widened, but rather “dieted” and pedestrianized.	Complex network, formal, grid, ‘Complete’ streets, and a prominent main street. Existing street network shall not be widened, but rather “dieted” and pedestrianized.
Street Surface		All streets and alleys shall be paved.	All streets and alleys shall be paved.
Transit		Plan for Regional or Local transit service.	Multi-modal transit hub shall locate here.
Common Destinations			
Health Care	office/clinic	Appropriate	Appropriate
	hospital	Not appropriate	Appropriate
	Primary	Appropriate	Appropriate
Schools	Secondary	Appropriate	Appropriate
	College	Not appropriate	Appropriate
Civic Space		Primarily neighborhood and community scale parks, greenways, greens, squares, plazas, playgrounds, gardens, and preserves.	Neighborhood, community and regional scale parks, greenways, greens, squares, plazas, playgrounds, gardens, and preserves.
Civic Structures		Primarily range from neighborhood to large community scaled facilities (e.g. rec./community center, meeting hall, post office, church, library, etc.). Regional scale facilities shall locate in Town or City Place Types (e.g. cultural facilities, County govt. bldgs., state and federal agencies).	Address civic needs at the neighborhood/ community scale (e.g. meeting hall, rec. center, community center); at the town or city scale (e.g. main library, main post office, town hall, theater, museum); and at the regional scale (e.g. cultural facilities, County govt. bldgs., state and federal agencies).

ADD-ONS

The document(s) herein were provided to Council for information and/or discussion after release of the official agenda and backup items.

Topic: Stormwater Management MS4 Permit Application
Date Submitted: October 13, 2014
Submitted By: Eric Larson
Venue: Natural Resources Committee

APPENDIX C

**Small Municipal Separate Storm Sewer Systems (SMS4)
Notice of Intent (NOI) Template for authorization to discharge
Storm Water from Regulated SMS4 under
SC NPDES Phase II General Permit (SCR030000)**

Eric Larson

October 13, 2014

Natural Resources Committee

**South Carolina Department of Health and Environmental Control
Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201-1708**

Small Municipal Separate Storm Sewer Systems (SMS4) Notice of Intent (NOI) Template for authorization to discharge Storm Water from Regulated SMS4 under SC NPDES Phase II General Permit (SCR030000)

FOR OFFICE USE ONLY	
DATE RECEIVED	
DATE REVIEW COMPLETE	
REVIEWED BY	

PURPOSE

The purpose of the SMS4 Notice of Intent (NOI) is for a Regulated Small Municipal Separate Storm Sewer System located partly, or wholly, in the State of South Carolina to seek authorization to discharge stormwater runoff under SC Phase II NPDES General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems, SCR030000

INSTRUCTIONS

The following information must be provided to the Bureau of Water, Stormwater Permitting Section as application material. Application questions are intended to highlight the SWMP requirements under the SMS4 permit. Each element not currently performed must be implemented by the date required in the permit.

NOTE: The proposed stormwater quality management program should provide a forum and a structure by which to encourage, or to allow, the public to participate. There may be specific ways the public might be involved, based on a program's particular needs. For instance, you may want stream watch groups to be organized. As such, the proposed program should describe how this will be accomplished, and the time schedule. Each SWMP will be reviewed by the Department to ensure it is the functional equivalent of the permit under which the SMS4 is seeking coverage. This application is divided into five Parts (I thru V) and seven subsequent Sections (1 thru 7). Each must be completed in their entirety. Attached at the end this SMS4 NOI, there are three tables listed as addenda to sections 1 thru 6 to list BMP Measurable Goals and Implementation Milestones for each MCM. Complete each addendum, providing more details on the goals and milestones for each BMP outlined in this NOI as required in the permit and attach them to this NOI. In Table 1, you must list by name and description the Best Management Practices (BMP) that will be implemented in each area (based on a set of priorities identified in the area). In Table 2, provide the administrative information to complete those identified BMP as explained below. In Table 3, provide more details on the goals and milestones for each BMP outlined in this NOI as required in the permit. Timely submission of this properly completed NOI template satisfies the requirements of SC Water Pollution Control Permits Regulation 61-9 122.1(b), 122.6(1), 122.21(c), (d) & (e), 122.22(a)(3), (b), (c) & (d), 122.26(a)(9) & (f)(5), 122.28(b)(2)(ii), (iii) & (iv), 122.33, 122.34(d) & (e) and 124.52(c) as appropriate

ADMINISTRATIVE INFORMATION	
Primary Contact and Position/Title	The person in your organization serving as the primary contact.
Other Department and Roles	Other departments within your organization involved in the project and how their role is identified.
Other Government Entity and Roles	Identification of other government entities responsible for implementing one or more of the BMP. Include a copy of the interlocutory agreement, or contract, or proposed agreement with execution schedule.
Other Institutions and Roles	Identification of partnerships with another MS4 operator or institution (e.g., Chamber of Commerce, environmental interest organizations, civic groups) to achieve the BMP.
Equipment Needs (if applicable)	What are these needs?
Target Groups (if applicable)	Specific kinds of groups that will be targeted, such as service industries (i.e., carpet cleaning), civic groups, schools, and church groups, etc.

PART 1
ADMINISTRATIVE INFORMATION

Name of municipal entity / tribe / state agency / federal agency / or public institution that owns / operates a small MS4:

Beaufort County
MS4

N/A
NPDES Small MS4 Permit Coverage Number

Gary Kubic
Responsible Elected Official or Officer

County Administrator
Title

100 Ribaut Road	Beaufort	SC	29902
Street Address	City	State	Zip Code

Indicate whether the SMS4 is a:

- Municipal Entity
- Tribe
- State Agency
- Federal Agency
- Other Public Institution: _____

PROGRAM CONTACT

TECHNICAL CONTACT

Eric Larson
Name
elarson@bcgov.net
Email Address
(843) 255-2805
Phone Number

Michael Klink
Name
mklink@appliedtm.com
Email Address
(843) 298-2369
Phone Number

Attach an organizational chart that shows the different departments involved in stormwater management.

Indicate whether or not the SMS4 is relying on another entity to satisfy one or more of its permit obligations. If checked, the entities and the elements being implemented must be listed below with copy of all written documentation required under Section 4.4 attached to this NOI.

Indicate whether or not the SMS4 is a co-permittee partnering with other SMS4 to develop and implement the SWMP. If checked, SMS4 may jointly submit an NOI with one or more SMS4 in it. Each SMS4 in the NOI must obtain authorization to discharge under SCR030000. The SWMP description must clearly indicate the joint permittees responsibility. Each and every element being implemented must be discussed in the written documentation pertinent to Section 2.4 attached to this SMS4 NOI.

**PART II
SMS4 INFORMATION**

**ITEM A
MS4 SYSTEM**

Urbanized Area (UA), or Core Municipality (if the SMS4 is not located in an UA) Beaufort County, SC

Latitude and Longitude of the center of the SMS4 32° 14' 50" N, 80° 50' 19"W

Jurisdiction in square miles within current corporate boundaries: ≈ 71 sq miles (Black Outline)

Area of additional urban growth boundary: ≈ 51 sq miles (Brown Outline)

The permit will be used to regulate the: UA portions, as follows (Counties only):

Entire Jurisdiction Unincorporated Area (Red Outside UA)

Total Area: _____ Unincorporated, Urbanized Area ≈ 71 sq miles (Black Outline)

**ITEM B
STORM DRAINAGE INFRASTRUCTURE**

Give figures for the following features of stormwater drainage infrastructure. For a county government, indicate whether the figures represent the entire county or only the urbanized area. Figures for length and number of culverts and catch basins may be rough estimates.

Entire Jurisdiction	<u>≈ 732 sq miles (Beaufort County)</u>	Urbanized Area(s)	<u>≈ 71 sq miles</u>	COUNTIES ONLY
Storm Sewers	<u>≈ 528,000 Feet</u>	Open Ditches	<u>≈ 10,560,000 Feet</u>	
Culverts	<u>≈ 7,000</u>	Catch Basins	<u>≈ 12,000</u>	
Retention and / or Detention Basins	<u>≈ 1,000</u>			

ITEM C

STATE THE FOLLOWING, INCLUDE ITEMS IN A COPY OF THE SMS4 MOST CURRENT MAP AS POSSIBLE

Zoned areas for commercial or industrial activity	<u> </u>	State vocational, technical, college or universities	<u> </u>
Actual areas of commercial or industrial activity	<u> </u>	Federal vocational, technical, college or universities	<u> </u>
Other municipally owned/operated industrial activities	<u> </u>	City Roads	<u> </u>
Municipal or County Wastewater Treatment Plants	<u> </u>	County Roads	<u> </u>
Vehicle Fleet Maintenance Centers	<u> </u>	Perennial and intermittent streams	<u> </u>
Power Plants	<u> </u>	Topography or Drainage Patterns	<u> </u>
Airports	<u> </u>	Landfills	<u> </u>
Military Installations	<u> </u>	Indian Country lands, if any	<u> </u>

ITEM D

IDENTIFYING IMPAIRED STREAMS AND ALL SENSITIVE WATER BODIES

Identify water bodies (located throughout the SMS4 jurisdiction, or extending one mile beyond the SMS4 service boundaries if cost effective) listed in Part 3 of the permit. Impairments, indicating the nature of pollution (cause) and their sources should be listed below. Visit: <http://www.scdhec.gov/tmdl>

STREAM NAME	WQMS	Impairment(s)
See attached list of water bodies on the 2012 303(d) List for Beaufort County		

ITEM E
HAS THE STATE OR EPA ISSUED A TDML FOR ANY STREAMS LOCATED THROUGHOUT THE SMS4 JURISDICTION OR EXTENDING ONE MILE BEYOND THE SMS4 SERVICE BOUNDARY?

Yes No If yes, list stream, WQMS, and parameter(s) of concern, visit: <http://www.scdhec.gov/tmdl>:

STREAM	WQMS and PARAMETERS OF CONCERN
Chechessee Creek (2012 303(d) List)	18-09, 18-10, 18-11; Fecal Coliform
Okatie River (2012 303(d) List)	Shellfish Sites: 18-07, 18-08, 18-16, 18-17; Fecal Coliform

PART III
EXISTING LEGAL AUTHORITY TO CONTROL STORMM WATER DISCHARGES TO MS4

Review ordinances applicable to the control of pollution that might enter the SMS4. Extract the portions of the ordinances that apply to the control of the storm sewer system and attach a copy of those portions to this NOI. Ordinances dealing with stormwater issues might be found, for example, in conjunction with litter control, prohibition of dumping, clean up of spills, grading/building permits, sewer connection ordinances, erosion and sediment practices, subdivision regulations or other land use/development ordinances. Ensure that all legal authority necessary to enable the SMS4 to carry out all provisions of the permit are obtained.

The portions of the existing ordinance that relate to stormwater are attached to the permit (Part II - Chapter 99; Part II Chapter 106, Article XIII - Division 4; and Part II – Chapter 106, Article VII – Division 3). Beaufort County is proposing to create a stand-alone document of the stormwater ordinance as part of their MS4 Program.

PART IV
PROPOSED STORMWATER MANAGEMENT PROGRAM

This NOI requires SMS4 seeking coverage to provide a description of existing and planned activities as well as Best Management Practices (BMP) for a SWMP. The following sections correspond to the six minimum control measures MCM to be included in the SWMP required in part 4.2 of the permit. If another MS4 will be responsible for implementing any or all portions of any or all following six minimum measures, attach the inter local agreement (ILA) and the proposed schedule of implementation. The NOI must be completed by answering all pertinent questions for the six MCM.

See the attached six MCMs.

PART V
SIGNATURE OF RESPONSIBLE CORPORATE OFFICER

This NOI must be signed as follows: For a municipality, state, federal, other public agency, and/or co-permittees by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes one of the following:

- i. The chief executive officer of the agency.
- ii. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

County Administrator

Signature
Title/MS4
Date

**SECTION 1
PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS**

1. Are (or will, within the first year of permit coverage,) the goals and objectives of the program based on at least three high priority, community-wide issues (e.g. reduction of the POC in discharges from the MS4, promoting pervious techniques used in the MS4) defined?

Yes
 No

Improvement of Water Quality in Estuaries & Rivers, Reduction in SW Pollutant Loading, SW volume reduction

2. Are (or will, within the first year of permit coverage) the pollutant(s) of concern identified and the audience(s) targeted?

Yes
 No

If no, explain

3. Have (or will, during permit coverage,) appropriate message(s) based on targeted residential issues and on targeted industrial/commercial issues and / or from issues deemed more appropriate to the MS4 been created?

Yes
 No

If no, explain

4. Have (or will, during permit coverage,) appropriate educational materials (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, websites) been developed?

Yes
 No

If no, explain

5. Is (or will during permit coverage) public input (e.g., the opportunity for public comment, or public meetings) being utilized in the development of the SWMP?

Yes
 No

If no, explain

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM

**TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES**

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION ONE

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Identify Target Pollutants & Audience Messages	Identify target pollutants in MS4 areas. Identify audiences and messages to educate to reduce discharge of target pollutants.
B.	Brochures	Create and distribute target audience based brochures on SW management & pollution protection
C.	Website	Create a standalone SW Website that provided all audiences with quick access to SW pollution prevention information. Update current "SW Kiosks"
D.	Event Participation	Trained staff will attend local events (e.g. Water Festival), will have a display station for face to face contact with public on SW quality goals and objectives and will have information for distribution
E.	School SW Programs	Develop various school curriculum for Elementary, Middle and High School level science programs that be presented by teachers and/or County SW staff
F.	Community Surveys	Conduct Community wide surveys (on line) to gauge the public's knowledge of Stormwater issues
G.	Public Input	Provide opportunities via website or public meetings to citizen input on Stormwater issues

TABLE 2: ADMINISTRATIVE INFORMATION	
PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager
OTHER DEPARTMENT	ROLE
BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)	
GOVERNMENT ENTITY	ROLE
Beaufort County SW Utility	Primary Responsible Party
OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Primary provider of Public Education services as a contractor to the County
EQUIPMENT NEEDS (IF APPLICABLE)	
Portable Display Booth	
GROUP	TARGET DESCRIPTION
Beaufort County SW Utility	Create a SW Education Booth for use at public events and in school programs
Beaufort County Soil & Conservation District	Enviroscape Educational Unit materials

ADDENDUM TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI) BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES <i><u>These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)</u></i>	
SECTION ONE	
TABLE 3: BEST MANAGEMENT PRACTICES	
<p>The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.</p> <p>Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.</p> <p>For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.</p>	

BMP A	MEASURABLE GOALS AND MILESTONES
Goals	Identify Target Pollutants & Audience Messages
Milestone Year 1	Using available data from existing water quality sampling program (provided by USCB) determine target pollutants for each area of the MS4
Milestone Year 2	Begin to identify possible causes and sources of pollutants and develop target audiences to reach with stormwater pollution messages and educational materials
Milestone Year 3	Continue to identify possible causes and sources of pollutants and develop target audiences to reach with stormwater pollution messages and educational materials
Milestone Year 4	Continue to identify possible causes and sources of pollutants and develop target audiences to reach with stormwater pollution messages and educational materials
Milestone Year 5	Continue to identify possible causes and sources of pollutants and develop target audiences to reach with stormwater pollution messages and educational materials – Review and assess success of program and modify as needed
BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Distribution of SW Pollution Prevention Brochures to the public
Milestone Year 1	Create SW Pollution Prevention target audience brochures (e.g. general public, sportsmen, etc.). Develop a portable SW display booth
Milestone Year 2	Participate as a partner when possible at public events (festivals, etc.), set up booth and man, distribute audience specific brochures- Goal to reach 1,000 people with SW education
Milestone Year 3	Continue year 2 goals, add more events participation as opportunities become available, Goal – to reach 2,000 people per year
Milestone Year 4	Continue program Goal – Reach 4,000 people per year
Milestone Year 5	Continue program Goal – Reach 5,000 people per year – Assess BMP results and adjust program as necessary
BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Create and interactive Website, with standalone citizen report and complaint link and continue use of five existing Stormwater educational Kiosks
Milestone Year 1	Create standalone Stormwater Information and Education Website, with links to other programs (both public and private) that promote water quality and preservation practices
Milestone Year 2	Update Website based on customer input, availability of new information and input from both the development and environmental community
Milestone Year 3	Update Website based on customer input, availability of new information and input from both the development and environmental community
Milestone Year 4	Update Website based on customer input, availability of new information and input from both the development and environmental community
Milestone Year 5	Update Website based on customer input, availability of new information and input from both the development and environmental community
BMP D	MEASURABLE GOALS AND MILESTONES
Goals	Event Participation
Milestone Year 1	Create a portable SW display and train staff to man the display for major local events. Goal – Have ready for 2015 Beaufort Water Festival.
Milestone Year 2	Identify local events where the SW display can be set up and manned Goal - Participate in three or more events
Milestone Year 3	Gain input on the effectiveness of the SW display program, adjust as needed and modify. Goal – Participate in five or more events
Milestone Year 4	Continue program and update information as needed Goal – Participate in six or more events, become

	“regulars” at major events.
Milestone Year 5	Continue program and update information as needed Goal – Participate in six or more events, become “regulars” at major events.
BMP E	MEASURABLE GOALS AND MILESTONES
Goals	School Stormwater Programs
Milestone Year 1	Working with local groups and Beaufort County Schools, develop three educational units for use in local school science programs (7 th Grade) – Goal – Complete final programs in first year.
Milestone Year 2	Train County staff, and if possible science teachers, in use of the educational unit and “test” educational unit in trial schools, adjust program as necessary – Goal – by end of year two have program ready for release to all 7 th grade classes
Milestone Year 3	Implement educational unit program in elementary schools – Goal – five participating 7 th grade classes
Milestone Year 4	Implement educational unit program in middle schools – Goal – five participating middle schools and adjust program to reach elementary schools (4 th grade)
Milestone Year 5	Implement educational unit program in five additional middle schools and trial elementary school program in two 4 th grade classes
BMP F	MEASURABLE GOALS AND MILESTONES
Goals	Community Surveys
Milestone Year 1	Develop a community wide Stormwater public knowledge on line survey to integrate into SW website
Milestone Year 2	Implement, via website, first Stormwater public knowledge survey, gather and correlate results to create measurable baseline data to gauge the public’s knowledge of Stormwater issues
Milestone Year 3	None
Milestone Year 4	Implement second Stormwater public knowledge survey, gather and correlate results to compare to measurable baseline data to gauge the public’s increase in knowledge of Stormwater issues
Milestone Year 5	Assess two survey results and adjust survey program based upon survey results
BMP G	MEASURABLE GOALS AND MILESTONES
Goals	Public Input Opportunities
Milestone Year 1	Develop a program for conducting public meetings in various areas of the County to discuss the County Stormwater Management Program and to receive public input on stormwater related issues
Milestone Year 2	Conduct first public meeting in a selected area of the County. Compare results to input received from on line surveys
Milestone Year 3	Conduct second public meeting in a selected area of the County. Compare results to input received from on line surveys
Milestone Year 4	Conduct third public meeting in a selected area of the County. Compare results to input received from on line surveys
Milestone Year 5	Conduct fourth public meeting in a selected area of the County. Compare results to input received from on line surveys – review program and adjust as may be necessary

**SECTION 2
PUBLIC INVOLVEMENT AND PUBLIC PARTICIPATION**

1. Have (or will, within the first year of permit coverage,) the public been invited to participate in the development and implementation of all parts of the community's SWMP?

Yes
No

If no, explain

2. Are (or will, during the permit term) opportunities created for citizens to participate in the implementation of stormwater controls (e.g., stream clean-ups, storm drain stenciling, volunteer monitoring, and educational activities)?

Yes
No

If no, explain

3. Has the permittee (or will, during the permit term,) ensured that the public can easily find information about the SMS4 SWMP? If available in the web, provide link

Yes
No

If no, explain

4. Are (or will) written procedures for implementing the **Public Involvement / Participation** MCM incorporated into the SWMP?

Yes
No

If no, explain

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 2 tables to this NOI.

ADDENDUM

**TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES**

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION TWO

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Storm Drain Stenciling	Update the previous Stormwater Drain medallion program
B.	Public Meetings/Citizen Panels	Set up formal advertised meetings in various areas of the County to that the County can present SW information and gain citizen input and can raise concerns and/or problems
C.	Community Clean Ups	Set up formal community clean up days for cleaning trash and debris for roadsides, ditches, etc. in the watershed areas
D.	Volunteer Speakers	Create a Speakers Bureau of trained County staff who can provide SW Pollution Prevention talks to service clubs, churches and other groups that may be in need of speakers.

TABLE 2: ADMINISTRATIVE INFORMATION

PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager
OTHER DEPARTMENT	ROLE
Beaufort County Soil & Conservation District	Primary provider of Public Involvement services as a contractor to the County

BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)	
GOVERNMENT ENTITY	ROLE
Beaufort County SW Utility	Primary responsible party
OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Primary provider of Public Involvement services as a contractor to the County
EQUIPMENT NEEDS (IF APPLICABLE)	
Storm drain markings	
GROUP	TARGET DESCRIPTION
Beaufort County SW Utility	Identify speakers, provide equipment for cleanup days, organize, promote and conduct area public meetings
Beaufort County Soil & Conservation District	Develop speaker's information, identify speakers, train speakers. Organize cleanup day programs
Beaufort County Soil & Conservation District	Organize and promote marker installation events

ADDENDUM TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI) BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES <u>These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)</u> SECTION TWO	
TABLE 3: BEST MANAGEMENT PRACTICES	
<p>The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.</p> <p>Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.</p> <p>For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.</p>	
BMP A	MEASURABLE GOALS AND MILESTONES
Goals	Storm Drain Marker Program
Milestone Year 1	Order 1,500 storm drain markers (or stencil) to be placed on all stormwater boxes that flow to receiving streams or wetlands. Identify all stormwater structures that need marking via the County GIS/Mosquito control program stormwater structure data base
Milestone Year 2	Identify groups (e.g. Boy & Girl Scouts, Service clubs, etc.) that can provide volunteers to place markers on SW structures. Goal – Complete 25% of SW structures in the County
Milestone Year 3	Continue program and cover another 25% of SW structures
Milestone Year 4	Continue program and cover another 25% of SW structures
Milestone Year 5	Complete remaining 25% of SW structures

BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Public Meeting Citizen Participation Panels
Milestone Year 1	Establish and document procedures for advertising Citizen Input meeting, conduction such meeting, areas to be targeted, program for such event Goal – Conduct first event
Milestone Year 2	Conduct four additional SW Citizen Input meetings in various areas of the County
Milestone Year 3	Conduct four additional SW Citizen Input meetings in various areas of the County
Milestone Year 4	Conduct four additional SW Citizen Input meetings in various areas of the County. Evaluate effectiveness of the program, adjust program as may be needed.
Milestone Year 5	Conduct four additional SW Citizen Input Meetings in various areas of the County.
BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Community Clean Up Days
Milestone Year 1	Create and document a Community Cleanup program, identify liabilities and responsibilities, insurance requirement, areas to be targeted, traffic and pedestrian protection procedures, collection and disposal of bags, etc. Goal – Written program in year one.
Milestone Year 2	Organize teams in targeted areas, advertise and promote cleanup days, provide on-site program management, arrange for collection and disposal, etc. Goal – two cleanup program trials, assess results and modify program as may be necessary.
Milestone Year 3	Continue to identify cleanup areas, organize teams and advertise programs Goal – Four cleanup programs
Milestone Year 4	Continue to identify cleanup areas, organize teams and advertise programs Goal – Four cleanup programs
Milestone Year 5	Continue to identify cleanup areas, organize teams and advertise programs Goal – Four cleanup programs
BMP D	MEASURABLE GOALS AND MILESTONES
Goals	Volunteer Speakers
Milestone Year 1	Develop 15 min. SW Education PowerPoint presentation, develop speaker's outline, identify speakers, trial two speaking events, gauge results and modify program as needed.
Milestone Year 2	Continue to recruit speakers and create a "Speakers Bureau". Link request for a speaker to the Website, advertise to service groups, churches, etc. availability of speakers. Goal – 3 speaking engagements
Milestone Year 3	Continue program, evaluate and update as needed. Recruit speakers – Goal 6 speaking engagements
Milestone Year 4	Continue program, evaluate and update as needed. Recruit speakers – Goal 9 speaking engagements
Milestone Year 5	Continue program, evaluate and update as needed. Recruit speakers – Goal 12 speaking engagements

SECTION 3
ILLICIT DISCHARGE DETECTION AND ELIMINATION

The following are common sources of illicit discharges to an MS4:

- Sanitary Wastewater
- Car wash wastewaters
- Radiator flushing disposal
- Spills from roadway accidents
- Carpet cleaning wastewaters
- Effluent from septic tanks
- Improper oil disposal
- Laundry Wastewaters/gray water
- Improper disposal of auto and household toxics

STORM SEWER SYSTEM MAP

Does the MS4 currently have a storm sewer system map completed for the entire regulated municipal separate storm sewer system? The map must depict, at a minimum: city streets, topography or drainage patterns, streams, and outfalls (points where the city or county-operated MS4 discharges into the streams or adjacent MS4s).

Yes

No If no, explain

Beaufort County has a working map that has storm structures identified. The map requires update to require all parameters mentioned above.

PRIORITY AREAS, FIELD SCREENING, TRACING AND ELIMINATION OF ILLICIT DISCHARGES

Has (or will, within the first year of permit coverage,) the MS4 identified priority areas documenting its basis for the selection?

Yes

No If no, explain

Not currently in place, this will be completed within 12 months of the effective date of coverage.

Does the MS4 currently have (or will have) written field screening and analytical protocol to detect and eliminate illicit discharges to the MS4 within one year from the effective date of coverage?

Yes

No If no, explain

Not currently in place, this will be completed within 12 months of the effective date of coverage.

Does the MS4 currently have procedures for tracing the source of an illicit discharge?

Yes

No If no, explain

Beaufort County will develop a procedure for tracing the source of an illicit discharge along with determining a written field screening and analytical protocol to detect and eliminate illicit discharge within 12 months from the effective date of coverage.

INSPECTION/SCREENING AND ENFORCEMENT PROCEDURES

1. Does the MS4 presently have personnel and procedures in place for inspection and/or screening for non-stormwater discharges? If yes, please describe and indicated percentage of system inspected and/or screened.

Yes

No

2. Does the MS4 presently have procedures and personnel in place for enforcement of violations of the illicit discharge ordinance? If yes, please describe.

Yes

No

3. How are enforcement actions documented?

Enforcement actions are not currently documented. This will be determined within 24 months from the effective date of coverage.

4. Has the MS4 defined "hot spots" for non-stormwater discharge screening and inspections? If yes, please describe and provide a

map of illicit discharge screening priority areas.

Yes

No

PUBLIC INPUT AND COMPLAINTS

1. Does the MS4 presently have procedures in place to receive and consider information and complaints about non-stormwater discharges that are submitted by the public? If so, provide brief description: responsible departments, personnel, steps followed.

Yes
No

Refer to Section 1 in regards to input of complaints.

EDUCATION

1. Has the MS4 educated the public and businesses including, but not limited to, auto parts supply, auto repair shop and restaurants, regarding ways to detect, prevent and eliminate illicit discharges? If yes, briefly describe the educational materials, including media used (e.g., written brochures, public service announcements, etc.), the topic(s) covered, intended target audience(s), and the distribution method.

Yes
No

Please refer to Sections 1 and 2 of this form for more details.

ILLICIT DISCHARGE ORDINANCES

1. Does the MS4 currently have an ordinance or regulatory mechanism that prohibits non-stormwater discharges into the storm sewer system? If yes, please attach a copy of the ordinance and give page number(s) of this section of ordinance. If No, proceed to the next section (inspections and enforcement).

Yes No _____ Page Number _____ Ordinance Section Number _____

2. Does the ordinance or regulatory mechanism clearly define non-stormwater discharges, either through a written description of a non-stormwater discharge or through a listing of unallowable or allowable non-stormwater discharges?

N/A

Yes No If no, explain

3. Does the ordinance or regulatory mechanism allow right-of-entry on private property for inspection of suspected discharges?

N/A

Yes No If no, explain

4. Does the ordinance or regulatory mechanism prohibit dumping?

N/A

Yes No If no, explain

5. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to eliminate non-stormwater discharges in the event of violations? If yes, please note page number and paragraph number.

N/A

Yes No _____ Page Number _____ Paragraph Number _____

6. What is maximum penalty in ordinance or regulatory? Please note maximum penalty, page number and paragraph number.

N/A

Yes No _____ Max. Penalty _____ Page Number _____ Paragraph Number _____

7. Does the MS4 have ordinance or other regulatory mechanism that prohibits contamination of stormwater runoff from "hot spots" including industrial and commercial properties, restaurants, auto repair shops, auto supply shops, and large commercial parking areas?

N/A

Yes No If no, explain

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION THREE

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Adequate legal authorities	<p>Develop an ordinance, or other regulatory mechanism, adequate legal authorities to meet the objectives of the Illicit Discharge Stormwater Management Program.</p> <p>Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Illicit Discharge Stormwater Management Program.</p> <p>Establish the authority to enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater illicit discharges to determine whether there is compliance of the Illicit Discharge Stormwater Management Program.</p> <p>Establish the authority to issue violations to determined establishments and/or owners when illicit discharges and/or non-storm water discharges are determined.</p>
B.	Develop Outfall Inventory Map	Develop procedures for field data collection activities and administration tasks for new development. Implement inventory collection of County owned stormwater structures and outfalls. Complete overall inventory map and continue to update map as construction plans are approved and developments are constructed.
C.	Outfall Screening for Illicit Discharges	Determine a list of significant illicit discharges. Develop and implement procedures for conducting outfall screening with scheduled visits of all outfalls to locate the problem, determine the source of the problem, remove/correct the illicit discharge, organize data collected, and report illicit discharges determined.
D.	Prioritize Other Potential Illicit Discharges and Non-storm Water Discharges	Determine a list of other potential illicit discharges, non-storm water discharges and incidental non-storm water discharges. Prioritize and establish procedures to evaluate the list of other potential illicit discharges and non-storm water discharges.
E.	Education on Illicit Discharges	Establish education and training to staff and the public on illicit discharges.
F.	Enforcement	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.

TABLE 2: ADMINISTRATIVE INFORMATION

PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager
OTHER DEPARTMENT	ROLE
Code Enforcement	Provide enforcement assistance
BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)	
GOVERNMENT ENTITY	ROLE

Beaufort County SW Utility	Primary responsible party
OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Training Assistance
EQUIPMENT NEEDS (IF APPLICABLE)	
Sampling Equipment	
GROUP	TARGET DESCRIPTION
Beaufort County Stormwater Utility	Equipment necessary for sampling
USCB	Lab services

**ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES**
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION THREE

TABLE 3: BEST MANAGEMENT PRACTICES

The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.

Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.

For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.

BMP A	MEASURABLE GOALS AND MILESTONES
Goals	<p>Develop an ordinance, or other regulatory mechanism, adequate legal authorities to meet the objectives of the Illicit Discharge Stormwater Management Program.</p> <p>Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Illicit Discharge Stormwater Management Program.</p> <p>Establish the authority to enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater illicit discharges to determine whether there is compliance of the Illicit Discharge Stormwater Management Program.</p> <p>Establish the authority to issue violations to determined establishments and/or owners when illicit discharges and/or non-storm water discharges are determined.</p>
Milestone Year 1	Begin development of ordinance setting forth the illicit discharge program, requiring implementation and continued maintenance of outfall inventory data collection. The ordinance will include all necessary authorities for determining illicit discharges and non-storm water discharges, outfall screening, authority to enter public or private property with outfalls, trace illicit discharges to source, and enforcement.
Milestone Year 2	Complete development of ordinance setting forth the illicit discharge program, requiring implementation and continued maintenance of outfall inventory data collection.
Milestone Year 3	Implement ordinance setting forth the illicit discharge program, requiring implementation and continued

	maintenance of outfall inventory data collection.
Milestone Year 4	Continue implementation of ordinance setting forth the illicit discharge program, requiring implementation and continued maintenance of outfall inventory data collection.
Milestone Year 5	Review and reassess ordinance setting forth the illicit discharge program, requiring implementation and continued maintenance of outfall inventory data collection.
BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Develop procedures for field data collection activities and administration tasks for new development. Implement inventory collection of County owned stormwater structures and outfalls. Complete overall inventory map and continue to update map as construction plans are approved and developments are constructed.
Milestone Year 1	Develop procedures for field data collection activities and administration tasks for data collection of new development.
Milestone Year 2	Implement inventory of 25% of County owned outfalls.
Milestone Year 3	Implement inventory of another 25% of County owned outfalls.
Milestone Year 4	Implement inventory of another 25% of County owned outfalls. Continue to update map as new development and/or changes occur.
Milestone Year 5	Complete inventory map by implementing inventory of remaining 25% of County owned outfalls.
BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Determine a list of significant illicit discharges. Develop and implement procedures for conducting outfall screening with scheduled visits of all outfalls to locate the problem, determine the source of the problem, remove/correct the illicit discharge, organize data collected, and report illicit discharges determined.
Milestone Year 1	Determine list of significant illicit discharges. Determine procedures for conducting outfall screening with scheduled visits of all outfalls. Report illicit discharges in annual report.
Milestone Year 2	Implement conducting outfall screening and determine source of illicit discharge.
Milestone Year 3	Continue to implement conducting outfall screening and determine source of illicit discharge.
Milestone Year 4	Continue to implement conducting outfall screening and determine source of illicit discharge.
Milestone Year 5	(60 months) Conduct outfall screening with a schedule to visit all outfalls during the permit term. Maintain records of all data collected.
BMP D	MEASURABLE GOALS AND MILESTONES
Goals	Determine a list of other potential illicit discharges, non-storm water discharges and incidental non-storm water discharges. Prioritize and establish procedures to evaluate the list of other potential illicit discharges and non-storm water discharges.
Milestone Year 1	Establish procedures for determining list of other potential illicit discharges, non-storm water discharges and incidental non-storm water discharges.
Milestone Year 2	Implement procedures for determining list of other potential illicit discharges, non-storm water discharges and incidental non-storm water discharges.
Milestone Year 3	Prioritize investigations for the other potential illicit discharges, non-storm water discharges, and incidental non-storm water discharges.
Milestone Year 4	Begin investigating for other potential illicit discharges, non-storm water discharges, and incidental non-storm water discharges.
Milestone Year 5	Continue investigating for other potential illicit discharges, non-storm water discharges, and incidental non-storm water discharges.
BMP E	MEASURABLE GOALS AND MILESTONES
Goals	Establish education and training to the public on illicit discharges.

Milestone Year 1	Determine necessary education and training that can be offered to the public.
Milestone Year 2	Continue education and training to the public.
Milestone Year 3	Continue education and training to the public.
Milestone Year 4	Continue education and training to the public.
Milestone Year 5	Continue education and training to the public.
BMP F	MEASURABLE GOALS AND MILESTONES
Goals	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.
Milestone Year 1	Determine procedures for issuing violations and enforcement actions and develop database for tracking illicit discharge locations and violators.
Milestone Year 2	Begin to track issuance of notices of violations and enforcement actions.
Milestone Year 3	Continue to track issuance of notices of violations and enforcement actions.
Milestone Year 4	Continue to track issuance of notices of violations and enforcement actions.
Milestone Year 5	Review and reassess procedures and database.

SECTION 4
 CONSTRUCTION SITE RUNOFF PROGRAM
 CONSTRUCTION SITE RUNOFF ORDINANCES

1. Do the current ordinances/regulations for the municipal stormwater management program comply with Local, State and Federal public notice requirements? If yes, describe how the public is notified.

Yes No

2. Do you currently have an erosion prevention and sediment control - or similar - ordinance or regulatory mechanism? If yes, include a copy and reference the page number(s). If No, proceed to the next set of questions below about construction site plans review.

Yes No **Sec. 106 – 2856 (c) Page 2-26 in the BC BMP Manual & Sec. 106 – 2929 a. (17)** Page Number

3. Does the ordinance or regulatory mechanism require that site operators implement erosion prevention, sediment control, soil stabilization practices and other controls for land disturbance activities?

Yes No If no, explain

4. Does the ordinance/regulatory mechanism require (explicitly or implicitly) that controls be implemented for any land disturbances greater than or equal to one acre, or less than one acre if part of a large common plan of development or sale that would disturb one acre or more? If yes, note the page number and paragraph number where this is defined.

Yes No **Sec. 106-2929** Page Number **a. (17)** Paragraph Number

5. Does the ordinance or regulatory mechanism contain or reference technical standards for erosion and sediment control? If yes, note the page number and paragraph number where this is defined.

Yes No Page Number Paragraph Number

Ordinance states (Sec. 106-2929 a. (17)) in accordance with State and/or Federal laws concerning erosion control, not specific to a set of technical standards.

6. Do those technical standards meet with or exceed the current SC DHEC construction general permit sections 3.5 and 4.4?
 N/A

Yes No

7. Do technical standards require that construction activities maintain temporary water quality buffers during construction?
 N/A

Yes No

8. Does the ordinance or regulatory mechanism clearly define the criteria - primarily who must submit - for submitting erosion and sediment control information or plans? If yes, note page number and paragraph number

Yes No **Sec. 106 – 2856 (c) Page 2-26 in the BC BMP Manual** Page Number Paragraph Number

9. Does the ordinance or regulatory mechanism require approval by the local government prior to commencement of land disturbance activities? If yes, note page number and paragraph number.

Yes No **Sec. 106-2929** Page Number **a. (17)** Paragraph Number

10. Does the ordinance or regulatory mechanism require re-submittal of erosion and sediment control information or plans if site plans or conditions change during land disturbance activities? If yes, note page number and paragraph number.

Yes No Page Number Paragraph Number

11. Does the ordinance or regulatory mechanism allow right-of-entry for government officials onto construction sites for inspections? If yes, note page number and paragraph number.

Yes No **Sec. 99-107** Page Number **(c)** Paragraph Number

12. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to STOP WORK in the event of non-compliance violations? If yes, note page number and paragraph number.

Yes No **Sec. 106 – 2856 (c) Page 2-26 in the BC** Page Number Paragraph Number

BMP Manual

13. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to effectively prohibit the discharge of pollutants in wash waters, from washouts, in stormwater runoff and from leaks and spills? If yes, note page number and paragraph number.

Yes No

Page Number _____

Paragraph Number _____

CONSTRUCTION SITE PLANS REVIEW

1. Does the MS4 presently have in place a technical review process with approval conditioned to meeting all requirements contained in parts 4.2.4 & 5 of the permit (i.e. engineering department, planning department, zoning board) that evaluates new development and redevelopment construction for construction site runoff?

Yes

No If no, explain

2. Does the technical review process require an erosion prevention and sediment control plan to protect water quality with appropriate BMP rationale?

Yes

No If no, explain

3. Does the review process include a requirement for pre-construction meeting between the MS4 and site developer, for priority construction sites, including at a minimum those construction activities discharging directly into, or immediately upstream of, waters the state recognizes as impaired or high quality?

Yes

No If no, explain

A pre-construction meeting is required with the Zoning and Planning Department, the County does not currently discuss the above construction activities discharges.

4. If there is a review process, provide a brief narrative or a flow chart of the process, describing the process steps, responsible personnel qualifications (by department, title and contact person), and criteria used for evaluation of information or plans that are submitted.

Yes

No If no, explain

The review process starts with the Zoning Department with Hillary Austin, Zoning Administrator. Ms. Austin distributes engineering related items such as stormwater construction plans and calculations to the Stormwater Engineering Department with Eric Larson, Stormwater Manager who coordinates with the professional engineer of record for questions and comments on the submitted design.

RESPONDING TO PUBLIC INPUT AND COMPLAINTS

1. Does the MS4 presently have procedures in place for receipt and consideration of information and complaints submitted by the public?

Yes

No

If Yes, please provide a brief narrative of the receipt process and procedures, describing process steps, responsible departments, and personnel (by title). If available, provide information on complaint tracking, documentation, etc:

Before development and permit approval, the public input and complaints are received by the Planning and Zoning Department from the public calling the number on the public notice. There is not a procedure in place for complaints during construction. After construction, complaints are differeed to the Stormwater Utility Department which will resolve the problem by involving the necessary department, Engineering and/or Public Works. A website (Citizengram) has been created for the public to notify the County of concerns in the area.

ENFORCEMENT AND INSPECTION PROCEDURES

1. Does the MS4 presently have personnel and procedures in place for construction site runoff inspection?

Yes

No If no, explain

The BC BMP Manual, which is required to be followed per the ordinance states that an erosion control form for new development is required for new development to be completed by a professional (engineer, land surveyor or landscape architect). Beaufort County personnel and procedures are not in place currently to review and enforce form to be completed by property owners and/or conduct site inspections.

2. Does the program provide for monthly inspection of priority sites?

Yes

No If no, explain

Same explanation as above.

3. Does the MS4 presently have procedures and personnel in place for enforcement to the maximum extend for violations of construction site requirements?

Yes

No If no, explain

Same explanation as above.

4. Does the MS4 use a STOP WORK order to enforce non-compliance with construction site policies and requirements?

Yes

No If no, explain

5. How are enforcement actions documented?

The building department enforcement action is by a stop work form.

The engineering department enforcement action is by an enforcement letter.

TRAINING AND EDUCATION

1. Does the MS4 presently make construction site runoff control training/information available to the public, developers, engineers, and contractors? (Clemson University periodically provides training through its Certified Erosion Prevention & Sediment Control Inspection (CEPSCI) course. Local governments are encouraged to refer developers and contractors to these classes.)

Yes

No If no, explain

2. Has MS4 staff completed states approved training, such as the Clemson CEPSCI program? Enter the number either way

Yes If yes, how many?

No

7 County staff

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM

TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI) BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION FOUR

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Revise Stormwater Management Ordinance	Revise stormwater management ordinance, or other regulatory mechanism, to adequate and clearly state the legal authorities to meet the objectives of the construction site runoff requirements for the Stormwater Management Program. Establish the legal authority to review designs and proposals for new development and redevelopment to determine whether adequate stormwater runoff control measures will be installed, implemented, and maintained during construction.

		<p>Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Construction Site Runoff Stormwater Management Program.</p> <p>Establish the authority to enter private and public property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to construction sites with devices to control erosion and sediment control and other waste at site.</p>
B.	Erosion and Sediment and Other Waste at the Site Control Requirements	Determine requirements for the implementation of appropriate BMPs on a construction site to control erosion and sediment and other waste at the site.
C.	Revise Plan Review Procedures	Develop plan review procedures to determine if the construction site is in compliance with erosion control requirements determined by the County. Set requirements and procedures for a pre-construction meeting and tracking of current construction activities for the County and the public.
D.	Revise Site Inspection Procedures and Penalties	<p>To ensure that all erosion control measures meet the County's performance standards to control erosion and sediment and other waste at site. The County shall develop and implement a written inspection program for construction site controls installed pursuant to the County's construction site runoff control program.</p> <p>Document and maintain records of inspections, findings and enforcement actions and make them available for review by the permitting authority.</p>
E.	Receipt of Public Inquires	Develop procedures for receiving and consideration of public inquires, concerns, and information submitted regarding local construction activities.

TABLE 2: ADMINISTRATIVE INFORMATION

PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager
OTHER DEPARTMENT	ROLE
Zoning and Planning	Ordinance development
Legal	Ordinance development
Building and Code Enforcement	Ordinance development and enforcement
BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)	
GOVERNMENT ENTITY	ROLE
Beaufort County SW Utility	Primary responsible party
OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Training assistance
EQUIPMENT NEEDS (IF APPLICABLE)	
N/A	
GROUP	TARGET DESCRIPTION
N/A	N/A

**ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES**

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION FOUR

TABLE 3: BEST MANAGEMENT PRACTICES

The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.

Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.

For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.

BMP A	MEASURABLE GOALS AND MILESTONES
Goals	<p>Revise stormwater management ordinance, or other regulatory mechanism, to adequate and clearly state the legal authorities to meet the objectives of the construction site runoff requirements for the Stormwater Management Program.</p> <p>Establish the authority to review designs and proposals for new development and redevelopment to determine whether adequate stormwater runoff control measures will be installed, implemented, and maintained during construction.</p> <p>Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Construction Site Runoff Stormwater Management Program.</p> <p>Establish the authority to enter private and public property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to construction sites with devices to control erosion and sediment control and other waste at site.</p>
Milestone Year 1	Begin development of ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project. The ordinance will include all necessary authorities for design review and approval, inspection, and monitoring.
Milestone Year 2	Complete development of ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project.
Milestone Year 3	Implement ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project.
Milestone Year 4	Continue implementation of ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project.
Milestone Year 5	Review and reassess ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project.
BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Determine requirements for the implementation of appropriate BMPs on a construction site to control erosion and sediment and other waste at the site.
Milestone Year 1	Begin establishing standards for construction site runoff control.
Milestone Year 2	Complete the development of standards for construction site runoff control.
Milestone Year 3	Implement construction site runoff control standards.
Milestone Year 4	Continue to implement construction site runoff control standards.
Milestone Year 5	Review and reassess construction site runoff control standards.
BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Develop plan review procedures to determine if the construction site is in compliance with erosion

	control requirements determined by the County. Set requirements and procedures for a pre-construction meeting and tracking of current construction activities for the County and the public.
Milestone Year 1	Begin to develop plan review procedures and requirements for construction site compliance, pre-construction meetings, and tracking of current construction activities for erosion and sediment control.
Milestone Year 2	Complete plan review procedures and requirements for construction site compliance, pre-construction meetings, and tracking of current construction activities for erosion and sediment control.
Milestone Year 3	Educate County staff of construction site runoff control standards and plan requirements.
Milestone Year 4	Implement procedures and requirements for construction site compliance, pre-construction meetings, and tracking of current construction activities for erosion and sediment control.
Milestone Year 5	Review and reassess procedures and requirements.

BMP D	MEASURABLE GOALS AND MILESTONES
Goals	To ensure that all erosion control measures meet the County's performance standards to control erosion and sediment and other waste at site. The County shall develop and implement a written inspection program for construction site controls installed pursuant to the County's construction site runoff control program. Document and maintain records of inspections, findings and enforcement actions and make them available for review by the permitting authority.
Milestone Year 1	Begin to develop a stormwater ordinance that references a written inspection program; including issuing infractions, development of a database for tracking and inspecting pre-construction control devices, and a draft written inspection program.
Milestone Year 2	Complete stormwater ordinance and written inspection program.
Milestone Year 3	Implement the stormwater ordinance and inspection program, including to update the database with inspection records, findings and enforcement actions.
Milestone Year 4	Continue to implement the stormwater ordinance and inspection program, including to update the database with inspection records, findings and enforcement actions.
Milestone Year 5	Review and reassess the ordinance and inspection program.

BMP E	MEASURABLE GOALS AND MILESTONES
Goals	Develop procedures for receiving and consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 1	Begin to develop procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 2	Complete procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 3	Implement procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 4	Continue to implement procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 5	Review and reassess procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.

SECTION 5
 POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT OR
 PERMANENT / LONG TERM STORM WATER POLLUTION CONTROL MEASURES

POST-CONSTRUCTION STORMWATER MANAGEMENT PROGRAM

1. Will the Post-Construction Stormwater Management Program require that controls are in place to meet the site performance standards in Part 4.2.5.2 to the MEP and to protect water quality?

Yes No If no, explain

2. Does the MS4 currently have in place mechanisms or strategies to address permanent stormwater runoff management from new development or redevelopment projects that result in land disturbance of one acre or more? For example, land use planning requirements, zoning directives, site-based local controls such as riparian buffer zone protection; storage or detention of stormwater prior to release to streams; practices to cause stormwater to percolate the soil rather than runoff immediately; vegetative practices.

Yes No

If Yes, please provide a brief narrative of - and/or references to - the structural and non-structural strategies, describing strategies implemented, Best Management Practices allowed, technical guidance, responsible departments, and personnel (by title).

Under Division II.106.XIII.4 of the County's Code of Ordinances, all development and redevelopment shall provide adequate drainage, peak rate, volume and stormwater pollution control to match predevelopment conditions as deemed feasible by the stormwater administrator (Eric Larson, Stormwater Manager). Fulfilment of these requirements is to be based on the latest version of the county's manual for stormwater BMPs.

SITE PERFORMANCE STANDARDS

1. Has the permittee established, implemented and enforced a requirement that owners or operators of new development and redeveloped sites discharging to the MS4, which disturb greater than or equal to one acre (including projects that disturb less than one acre that are part of a larger common plan of development or sale), design, install, implement, and maintain stormwater control measures that maintain pre-development conditions and protect water quality to the MEP?

Yes No Sec. 106- 2856 Page Number (d) Paragraph Number

PERMANENT STORMWATER CONTROLS SITE MANAGEMENT ORDINANCE

1. Do you currently have an ordinance or regulatory mechanism that addresses permanent stormwater runoff management from new development and redevelopment projects? If yes, reference the page number in your ordinance. If No, proceed to the next section on permanent stormwater management plans review.

Yes No Sec. 106- 2856 Page Number (d) Paragraph Number

2. Does the ordinance or regulatory mechanism require controls to mitigate pollutants in stormwater runoff? If yes, note page number and paragraph number.

Yes No Sec. 106 - 2856 Page Number (c) Paragraph Number

3. Does the ordinance or regulatory mechanism require (explicitly or implicitly) that controls be implemented for any new development or redevelopment projects greater than or equal to one acre, including projects less than one acre that are part of a large common plan of development or sale, that discharge into your small MS4? If yes, note page number and paragraph number.

Yes No Sec. 106- 2857 Page Number (a) (2) & (3) Paragraph Number

4. Does the ordinance or regulatory mechanism contain or reference technical standards for water quality controls (e.g., design of detention basins)? If yes, note page number and paragraph number.

Yes No Sec. 106- 2861 Page Number (a) (3) Paragraph Number

5. Does the ordinance or regulatory mechanism clearly define the criteria for submittal -who must submit - of permanent stormwater management design information or plans? If yes, note page number and paragraph number.

Yes No Sec. 106- 2929 Page Number (f) (1) Paragraph Number

6. Does the ordinance or regulatory mechanism require approval prior to construction of permanent stormwater management controls? If yes, note page number and paragraph number.

Yes No Sec. 106-2929 Page Number a. (17) Paragraph Number

7. Does the ordinance or regulatory mechanism require re-submittal of permanent stormwater management design information or

plans if site plans change after the initial design has been approved? If yes, please note page number and paragraph number.

Yes No _____ Page Number _____ Paragraph Number

8. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to penalize the owner of permanent stormwater management controls for violations? If yes, please note page number and paragraph number.

Yes No _____ Page Number _____ Paragraph Number

9. Does the ordinance or regulatory mechanism allow the MS4 right-of-entry on property where permanent stormwater management controls are installed for inspections? If yes, please note page number and paragraph number.

Yes No **Sec. 106- 2856** Page Number **(f)** Paragraph Number

10. Does the ordinance or regulatory mechanism require that permanent stormwater management controls have adequate and long-term operation and maintenance? If yes, please note page number and paragraph number. If no, how does the MS4 owner/operator maintain permanent stormwater management controls?

Yes
No

Sec. 106 – 2856 (c) Page 2-26 in the BC BMP Manual

11. Does the ordinance or regulatory mechanism require establishment and maintenance of water quality buffers in areas of new development and redevelopment?

Yes No If no, explain

Sec. 106- 1845 (4) (d.)

PERMANENT STORMWATER MANAGEMENT PLANS REVIEW

1. Does the MS4 presently have in place a technical review process (i.e. engineering department, planning department, zoning board) that evaluates new development and redevelopment with regard to the impact that permanent stormwater runoff will have on receiving streams? Plan review must specifically address site performance standards and ensure long term maintenance.

Yes No

If Yes, provide a brief narrative or a flow chart of the review process, describing the process steps, responsible personnel (by department, title and contact person), and criteria used for evaluation of information or plans that are submitted.

The review process starts with the Zoning Department with Hillary Austin, Zoning Administrator. Ms. Austin distributes engineering related items such as stormwater construction plans and calculations to the Stormwater Engineering Department with Eric Larson, Stormwater Manager who coordinates with the professional engineer of record for questions and comments on the submitted design.

2. Does the MS4 presently have in place a requirement for submittal of 'as-built' certifications at project completion to ensure that site performance standards and long term maintenance requirements are met?.

Yes No If no, explain

There are no long-term maintenance requirements at this time. This will become a part of the new stormwater management program.

3. Does the MS4 presently include measures for effective water quality protection in its watersheds?

Yes No If no, explain

4. Does the MS4 track Post-Construction Stormwater Control measures?.

Yes No If no, explain

Many post-construction control measures have been inventoried by the County but are not required to be tracked. This will become a part of the new stormwater management program.

5. Does the MS4 conduct inspection of permanent storm water controls and document all findings and enforcement actions? .

Yes

No If no, explain

The County has established permission to inspect SCMs but does not do so regularly. This will become a part of the new stormwater management program.

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION FIVE

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Adequate legal authorities	<p>Maintain through an ordinance, or other regulatory mechanism, adequate legal authorities to meet the objectives of the Post-Construction Site Runoff Controls program.</p> <p>Establish the authority to review designs and proposals for new development and redevelopment to determine whether adequate stormwater control measures will be installed, implemented, and maintained.</p> <p>Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Post-Construction Stormwater Management Program.</p> <p>Establish the authority to enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater discharges to determine whether there is compliance the Post-Construction Stormwater Management Program.</p>
B.	Determine BMPs	Review and revise (as necessary) the current Beaufort County Stormwater Manual to include the latest BMPs (non-structural, structural, infiltration, and vegetation).
C.	Plan reviews	Conduct site plan reviews of all new development and redeveloped sites that disturb greater than or equal to one acre (including sites that disturb less than one acre that are part of a larger common plan of development or sale). The site plan review shall address how the project applicant meets the performance standards and how the project will ensure long-term maintenance.
D.	Provide a mechanism to require long-term operation and maintenance of structural BMPs	Implement or require an operation and maintenance plan for the long-term operation of the structural BMPs required by the program. The operation and maintenance plan shall require the owner of each structural BMP to perform and maintain a record of annual inspections of each structural BMP. Annual inspection of permitted structural BMPs shall be performed by a qualified professional.
E.	Inspections of Structural Stormwater Control Measures	<p>To ensure that all stormwater control measures meet the County's performance standards and are being maintained pursuant to the maintenance agreement, the County shall develop and implement a written inspection program for structural stormwater controls installed pursuant to the County's post-construction program.</p> <p>Document and maintain records of inspections, findings and enforcement actions and make them available for review by the permitting authority.</p>
F.	Enforcement	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.

TABLE 2: ADMINISTRATIVE INFORMATION	
PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager
OTHER DEPARTMENT	ROLE
Planning and Zoning	Ordinance assistance
Legal	Ordinance assistance
Building and Code Enforcement	Ordinance assistance and enforcement
BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)	
GOVERNMENT ENTITY	ROLE
Beaufort County SW Utility	Primary responsible party
OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Training assistance
EQUIPMENT NEEDS (IF APPLICABLE)	
N/A	
GROUP	TARGET DESCRIPTION
N/A	N/A

ADDENDUM TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI) BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES <i>These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)</i>	
SECTION FIVE	
TABLE 3: BEST MANAGEMENT PRACTICES	
<p>The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.</p> <p>Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.</p> <p>For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.</p>	
BMP A	MEASURABLE GOALS AND MILESTONES
Goals	<p>Maintain through an ordinance, or other regulatory mechanism, adequate legal authorities to meet the objectives of the Post-Construction Site Runoff Controls program.</p> <p>The County shall have the authority to review designs and proposals for new development and redevelopment to determine whether adequate stormwater control measures will be installed,</p>

	<p>implemented, and maintained.</p> <p>The County shall have the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Post-Construction Stormwater Management Program.</p> <p>The County shall have the authority to enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater discharges to determine whether there is compliance the Post-Construction Stormwater Management Program.</p>
Milestone Year 1	Begin to develop ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs. The ordinance will include all necessary authorities for design review and approval, inspection, and monitoring.
Milestone Year 2	Complete development of ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs.
Milestone Year 3	Implement ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs.
Milestone Year 4	Continue implementation of ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs.
Milestone Year 5	Review and reassess ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs.

BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Review and revise (as necessary) the current Beaufort County Stormwater BMP Manual to include the latest BMPs (non-structural, structural, infiltration, and vegetation).
Milestone Year 1	Begin to review and revise (as necessary) the Beaufort County Stormwater BMP Manual.
Milestone Year 2	Complete review and updates of the Beaufort County Stormwater BMP Manual as necessary to implement desired BMPs.
Milestone Year 3	Implement the Beaufort County Stormwater BMP Manual.
Milestone Year 4	Continue to implement the Beaufort County Stormwater BMP Manual.
Milestone Year 5	Review and reassess the Beaufort County Stormwater BMP Manual.

BMP C	MEASURABLE GOALS AND MILESTONES
Goals	The County shall conduct site plan reviews of all new development and redeveloped sites that disturb greater than or equal to one acre (including sites that disturb less than one acre that are part of a larger common plan of development). The site plan review shall address how the project applicant meets the performance standards and how the project will ensure long-term maintenance.
Milestone Year 1	Begin to redefine plans review process and procedures in conjunction with developing the stormwater ordinance, including review and clearly stating criteria for stormwater treatment and design standards.
Milestone Year 2	Complete plans review process and procedures in conjunction with developing the stormwater ordinance.
Milestone Year 3	Implement plans review process and procedures.
Milestone Year 4	Continue to implement the plans review process and procedures.
Milestone Year 5	Review and reassess the plans review process and procedures.

BMP D	MEASURABLE GOALS AND MILESTONES
Goals	The County shall implement or require an operation and maintenance plan for the long-term operation of the structural BMPs required by the program. The operation and maintenance plan shall require the owner of each structural BMP to perform and maintain a record of annual inspections of each structural BMP. Annual inspection of permitted structural BMPs shall be performed by a qualified professional.
Milestone Year 1	Begin to develop procedures to require an operation and maintenance plan for the long-term operation of the structural BMPs required by the program.
Milestone Year 2	Complete procedures to require an operation and maintenance plan for the long-term operation of the

	structural BMPs required by the program. Make available stormwater control measure (SCM) maintenance plan templates.
Milestone Year 3	Educate SCM operators of maintenance plan requirements. Begin to obtain maintenance plan for each SCM and enter appropriate data into SCM database (see BMPs E and F).
Milestone Year 4	Continue to implement maintenance plan for each SCM and enter appropriate data into SCM database.
Milestone Year 5	Complete maintenance plan for all current SCMs and enter appropriate data into SCM database.
BMP E	MEASURABLE GOALS AND MILESTONES
Goals	To ensure that all stormwater control measures meet the County's performance standards and are being maintained pursuant to the maintenance agreement, the County shall develop and implement a written inspection program for structural stormwater controls installed pursuant to the County's post-construction program. The County shall document and maintain records of inspections, findings and enforcement actions and make them available for review by the permitting authority.
Milestone Year 1	Begin to create a draft of the written inspection program and start to develop stormwater ordinance that references the written inspection program. Begin to setup database for tracking and inspecting post-construction stormwater control measures.
Milestone Year 2	Complete the written inspection program and stormwater ordinance that references the written inspection program. Complete the setup of a database for tracking and inspecting post-construction stormwater control measures.
Milestone Year 3	Implement routine inspections.
Milestone Year 4	Continue to implement routine inspections.
Milestone Year 5	Complete inspection of every post-construction SCM and documented inspections, findings and enforcement actions in the database.
BMP F	MEASURABLE GOALS AND MILESTONES
Goals	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.
Milestone Year 1	Begin to develop procedures and database for tracking post-construction stormwater control measures violations.
Milestone Year 2	Complete procedures and database for tracking post-construction stormwater control measures violations.
Milestone Year 3	Identify and input SCMs violations in database.
Milestone Year 4	Continue to identify and input SCMs violations in database.
Milestone Year 5	Complete inventory of county-wide inspections of current SCMs and corresponding violation(s).

**SECTION 6
POLLUTION PREVENTION / GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS**

MUNICIPAL FACILITIES AND STORMWATER CONTROL INVENTORY

1. Has the MS4 owner/operator obtained a SC Industrial Stormwater General Permit coverage or a no-exposure waiver for all qualifying municipal industrial activities? If yes, please give permit numbers or copy of the No-Exposure Certification form.

Yes No _____ Permit Number(s)

List municipally-owned or operated facilities that have a notable potential for contaminating runoff: for example - vehicle maintenance garages; waste transfer operations; golf courses; salt or other materials storage; landfill. If more than one facility for a given type of operation; give the number of such facilities. Indicate if any of these are covered by an NPDES permit. Is there a documented pollution prevention plan in place for these facilities?

FACILITY OR TYPE OF OPERATION	NUMBER	IS ACTIVITY COVERED BY NPDES PERMIT?	IS A POLLUTION PREVENTION PLAN IN EFFECT?
Mosquito Control Facility	1	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Detention Facility	1	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Public Works (North and South)	2	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Garbage Convenience Stations	12	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Airports	2	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

In addition to considering industrial-type operations, you must also consider municipal infrastructure, and related maintenance activities, maintenance schedules and long-term inspection procedures for structural controls and the proper disposal of waste from storm sewers/catch basins, etc. Also included in this program area is discharge of pollutants from roads and parking lots. See Part 4.2.6.1

MUNICIPAL OPERATIONS POLLUTION PREVENTION

1. Does the MS4's operations and maintenance program have policies and procedures in place that address pollution prevention? If yes, please describe procedures. Consider the following in your response: Municipally owned or operated facility assessment (4.2.6.2), Facility specific stormwater management SOP and facility stormwater controls (4.2.6.3), Storm sewer system maintenance activities-MS4 Maintenance (4.2.6.4), Flood management projects, (4.2.6.5), Pesticide, herbicide and fertilizer application and management in landscape maintenance (4.2.6.6). You may want to incorporate maintenance activities, maintenance schedules; long term inspection procedures for structural and non-structural stormwater controls to reduce floatables and other pollutants; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways; controls for reducing or eliminating pollutants from municipal parking lots, maintenance and storage yards, fleet or maintenance areas with outdoor storage areas, salt/sand storage areas, snow disposal areas, waste transfer stations; disposal of waste removed from storm sewers and the areas listed above; and assessment of impacts on water quality from all of the above.

Yes No **If no, explain There is not yet a formalized operation and maintenance program for pollution prevention activities. One will be developed as part of the new stormwater management plan.**

STAFF EDUCATION AND TRAINING

1. Does the MS4's current operation and maintenance program provide annual training for staff on preventing and reducing stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance?

Yes No If no, explain
There is not yet a formalized operation and maintenance program for pollution prevention activities. One will be developed as part of the new stormwater management plan.

2. Are training activities documented? If yes, please describe training and method of record-keeping.

Yes
 No

If no, explain **Training activities are not currently documented, but will be in accordance with measurable goals described below.**

REQUIREMENTS FOR CONTRACTORS OVERSIGHT

1. Are contractors hired by the permittee to perform municipal maintenance activities required to comply with all municipal operations control measures?

Yes

No If no, explain

County operations control measures are not currently documented but will be under the new stormwater management plan.

2. Are oversight procedures documented? If yes, please describe SOP.

Yes
 No

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM

**TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
 BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES**

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION SIX

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	SPCC Plans	Develop spill prevention and control plans for County facilities.
B.	Training programs	Provide training program for grounds maintenance, landscaping crews, and roadway and drainage staff.
C.	Parking Lot and Street Cleaning	Prioritize and improve street and parking lot cleaning practices to reduce the amount of debris and solids in runoff.
D.	Asset Management	Asset management of facilities and high priority areas.

TABLE 2: ADMINISTRATIVE INFORMATION

PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager
OTHER DEPARTMENT	ROLE
Public Works (includes solid waste)	SPCC implementation
Mosquito Control	SPCC implementation
Airports	SPCC implementation
GOVERNMENT ENTITY	ROLE
Beaufort County SW Utility	Primary responsible party
Sheriff	SPCC Detention Facility implementation
OTHER INSTITUTION	ROLE

N/A	N/A

EQUIPMENT NEEDS (IF APPLICABLE)	
SPCC Plans	

GROUP	TARGET DESCRIPTION
County facility staff	Staff at County facilities subject to stormwater good housekeeping measures.

ADDENDUM TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI) BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES <i>These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)</i>
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SECTION SIX

TABLE 3: BEST MANAGEMENT PRACTICES

The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.

Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.

For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.

BMP A	MEASURABLE GOALS AND MILESTONES
Goals	SPCC Plans
Milestone Year 1	Identify list of facilities and determine high priority areas.
Milestone Year 2	Develop a SWPP that may be used for the identified facilities.
Milestone Year 3	Evaluate all county-owned or operated facilities to determine whether an SPCC or separate stormwater permit is necessary. Evaluate new facilities as they are obtained.
Milestone Year 4	Continue to conduct annual inspections of facilities and high priority areas.
Milestone Year 5	Continue to conduct annual inspections of facilities and high priority areas.

BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Provide training program for grounds maintenance, landscaping crews, and roadway and drainage staff.
Milestone Year 1	Develop procedures for training program for grounds maintenance, landscaping crews, and roadway and drainage staff.
Milestone Year 2	Develop a pollution prevention workshop for all municipal employees responsible for grounds maintenance, landscaping crews, and roadway and drainage staff.
Milestone Year 3	Implement annual workshop for new employees and crew managers.
Milestone Year 4	Continue to implement annual workshop for new employees and crew managers.
Milestone Year 5	Review and reassess procedures and training.

BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Parking Lot and Street Cleaning
Milestone Year 1	Inventory and prioritize roads for cleaning.
Milestone Year 2	Quantify debris collected from street sweeping.
Milestone Year 3	Achieve a determined percentage reduction in solids levels in runoff.
Milestone Year 4	Continue to achieve and measure determined percentage reduction in solids level in runoff.
Milestone Year 5	Continue to achieve and measure determined percentage reduction in solids level in runoff.
BMP D	MEASURABLE GOALS AND MILESTONES
Goals	Asset management of facilities and high priority areas.
Milestone Year 1	Develop procedures for asset management of facilities and high priority areas.
Milestone Year 2	Identify high priority areas, 25% of stormwater management system.
Milestone Year 3	Identify high priority areas, another 25% of stormwater management system.
Milestone Year 4	Identify high priority areas, another 25% of stormwater management system.
Milestone Year 5	Complete identification of high priority areas, remaining 25% of stormwater management system.

APPENDIX D

Schedule of Implementation for Existing Small Municipal Separate Storm Sewer Systems SMS4

SCR030000 IMPLEMENTATION SCHEDULE	
3.1.1.1	30 days from Permit Effective Date
3.1.1.3, 4, 3.3.1 & 3.4.1	120 days from Permit Effective Date
3.1.2, 3.2.1, 3.3.2, 3.4.2, & 5.3.5.2	180 days from Permit Effective Date
4.1.2.1	6 months from Permit Effective Date
4.1.3.1, 4.1.4.1, 4.1.5.1, 4.2.6.1, 4.2.6.3.a, 4.2.6.4 4.2.6.5, 4.2.6.6.a.i,b & e. iii	1 year from the Permit Effective Date
4.2.6.3.b, 4.2.6.5.d & 4.2.6.6.b & d	2 years from the Permit Effective Date
3.1.1.1, 3 & 4, 3.3.1 & 2, 3.5, 4.1.5.1-7, 4.1.8 & 5.3	27 months from Permit Effective Date
3.1.3.1	30 months from Permit Effective Date
3.1.3.2 & 3.2.2, 4.2.6.3.b & c	36 months from Permit Effective Date
3.1.3.3	42 months from Permit Effective Date
3.1.3.4	48 months from Permit Effective Date
3.1.3.1-5, 3.1.3.4.b.v, 3.2.2, 4.1.5.4 & 5 and 5.3	54 months from Permit Effective Date
2.5, 2.10, 3.1.3.5	180 days before the Permit Expiration Date
*** PERMIT EXPIRATION DATE ***	
3.1.3.6, 3.2.3	74 months from Permit Effective Date
3.1.3.7	96 months from Permit Effective Date