# STORMWATER MANAGEMENT SYSTEM CONDITION ASSESSMENT

# Shell Point Drainage Improvement Program

**Prepared For:** 

Beaufort County Stormwater 120 Shanklin Rd Beaufort, SC 29906

**Prepared By:** 



April 2023



License Expiration Date: \_\_\_\_\_\_6/30/2024\_\_\_

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#### 1.0 - Introduction

Beaufort County has requested that J. Bragg Consulting, Inc. conduct a visual inspection of the Shell Point stormwater management system in association with the Shell Point Drainage Improvement Program. The goal of the visual inspection was to provide recommendations for maintenance and construction based on a condition assessment of the stormwater management system including roadside ditches, driveway pipes, pipe conveyance systems, crossline pipes, and channels. The assessment focused on channel/ditch performance and crossline pipe performance and structural conditions. The inspection focused on areas where citizens' complaints have been received and as focused upon within the previous Shell Point Drainage Improvement study which encompasses approximately 214-acres. This area is illustrated on the location map provided in Figure 1.

Only systems that were open and apparent were visually inspected and did not include areas where fenced or too thickly vegetated to pass through. Only a general inspection of roadside ditches and driveway pipes was conducted and does not include structural assessment of driveway pipes due to the large number of assets, and driveway pipes are not considered as a critical stormwater system asset. Structural assessment of closed pipe systems was not conducted due to requiring pipe video and/or pole cameras which were not included within the scope of this assessment. However, it should be noted that the Shell Point stormwater management system was constructed approximately 50-70 years ago, and therefore, Beaufort County should consider future pipe closed-circuit television (CCTV) of these systems due to their age.

Many of the crossline pipes inspected during this assessment are maintained by the South Carolina Department of Transportation (SCDOT) with the channels/ditches and outfalls falling under the maintenance responsibilities of Beaufort County. Field inspections of these systems were conducted between October 2022 and February 2023. Field inspection included condition assessment of 33 channel/ditch sections totaling approximately 10,480-feet along with 44 crossline pipes.

The Shell Point community is geographically located on Port Royal Island within the municipal boundary of the Town of Port Royal. The area of concern, as mentioned above, encompasses approximately 214-acres, and features single-family residential, multi-family residential, wooded, lowland swamp, open recreation, and commercial land uses. Beaufort County has received approximately 49 formal complaints of flooding and system maintenance conditions between March 8, 2017, and February 5, 2020, with additional complaints since then of street and yard flooding along with roadside ditches and interior channels that were clogged and overflowing their banks. Complaint locations and the general nature of the complaint are illustrated in Figure 1.

This report is separated into asset types including channels/ditches, crossline pipes and SCDOT-maintained roadside ditches and driveway pipes. Qualitative condition assessment observations were based on J. Bragg Consulting's extensive experience evaluating stormwater management systems. No manned entries were performed during this condition assessment. Assessment evaluation methods consisted of, but are not limited to, the following list:

- Object IDs for the assets evaluated were taken from Beaufort County's GIS stormwater inventory. Some of the piping evaluated did not have an object ID and were therefore provided with one for the assessment.
- Visual examinations and documentation with photographs using an iPhone.
- Interior pipe photographs using an iPhone when accessible.
- Asset photograph GIS coordinates provided through the iPhone.
- Sediment/debris and submergence was briefly described.
- Obstructions, cracking, deterioration, joint displacement, and other defects and concerns were documented.

Construction and maintenance recommendations are provided based on SCDOT and Beaufort County standards and specifications. Recommendations also include description of the United States Army Corp of Engineers (USACE) 401/404 permitting requirements in order to separate action items that can be conducted by maintenance (no permitting) and construction that will require 401/404 permits.

#### Figure 1: Condition Assessment Location Map





#### 2.0 - Crossline Pipe Findings

Of the 44 crossline pipes inspected, approximately 84% are maintained by the SCDOT. Crossline pipes ranged in size from 15-inches to 36-inch2s with approximately 43% percent being 15-inches in size. Table 1 summarizes the results of the condition assessment of the crossline pipes. Note that pipe #68742 located on Hamrick Drive could not be located, and therefore, was assessed as having a poor performance rating and unknown for structural conditions. A comprehensive overview of the crossline pipe assessment is provided in Table 2. The locations of the crossline pipes are depicted in Appendix A and cutsheets with photographs of asset conditions are provided in Appendix B.

Assessed Condition	Performa	nce Rating	Structur	al Rating
	(No.)	(%)	(No.)	(%)
Good	2	4.55%	6	13.64%
Fair	7	15.91%	9	20.45%
Poor	35	79.55%	11	22.73%
Unknown			19	43.18%

#### Table 1: Summary of Crossline Condition Ratings

Crossline pipe performance issues noted during field observations included submergence, sediment, or pipe section displacement that affected the hydraulic performance of the pipe. In cases where the pipe was either fully submerged or fully filled with sediment, the performance rating was considered poor. In cases where crossline pipes were partially full of sediment or partially submerged, a performance rating was provided based on the amount of sediment or amount of submergence that the pipe was subjected to.

Pipe cleaning is recommended for all pipes that were observed to contain sediment. Reinspection of the pipes that were filled with sediment is recommended upon the completion of pipe cleaning. The replacement of crossline pipes #52851, #71839, and #83003 due to severe pipe joint displacement is recommended as these pipes show infill through the displaced joints and could fail. Hydraulic studies of crossline pipes #60026, and #59399 are recommended since these pipes are small relative to the size of the contributing watersheds that the pipes convey. In the case of crossline pipe #60026 there is photographic and video documentation of flooding occurrences during small frequent rainfall events indicating that the pipe is undersized. In cases of crossline pipes with minor defects such as broken end bells, deterioration due to age and exposed reinforcement the crossline pipes should be inspected every 5-years.

Crossline pipe #78129, located at 410 Broad River Dr (S-287), is buried, and filled with sediment. This pipe was originally designed to convey stormwater to the marsh per SCDOT design plans, File No. 7.370. The east end of the pipe is buried, and the outfall channel has been filled in. Figure 2 below depicts the crossline pipe. As shown the existing 18" crossline pipe conveyed stormwater flows to the marsh. Flows from the contributing area now flow to the upstream side of the outfall (#60026) at Hamrick Dr exacerbating the flooding conditions at that outfall. It should be noted that a Beaufort County Transportation sponsored sidewalk project is proposed for Broad River Dr. It is anticipated that the sidewalk will be placed on the eastern side of Broad River Dr, which may require a closed pipe system to convey stormwater along the eastern side of Broad River Drive to the Hamrick Dr outfall. If this project moves forward the recommendation would be to tie crossline pipe #78129 to the closed pipe system. This recommendation would improve the conditions at the upstream end of crossline pipe #60026 by reducing the amount of contributing area to the crossline.

Recommendations for crossline pipes in submerged conditions coincide with the conditions of the channels/ ditches which receive and convey stormwater flows to and from the crossline pipe. Recommendations for solutions to submergence are more specifically described in Section 3.0 of this report.



Figure 2: Crossline Pipe #78129

	Crossline Pipe/Culvert Condition Assessment Summary									
nventory Object ID	Crossing Road Name	Road Name	Asset Owner	Pipe Diameter (in)	Length (ft)	Performance Rating	Reason	Structural Rating	Reason	Recommendation
71947	Carolina Village Cir	Baynard Rd	SCDOT	15″	61.28	Poor	Full of sediment.	Unknown	Could not inspect due to sediment.	Clean and reinspect.
71905	Green Pond Dr	Baynard Rd	SCDOT	15″	96.51	Poor	Full of sediment.	Unknown	Could not inspect due to sediment.	Clean and reinspect.
59368	Green Pond Dr	Green Pond Dr	SCDOT	15"	44.98	Poor	Partially full of sediment.	Fair	Broken end bell with exposed reinforcement.	Clean and reinspect in 5-years.
							1. Partially full of sediment.			
71901	Near Luella St	Green Pond Dr	SCDOT	18″	42.62	Poor	2. Ditch on east side poorly formed and	Poor	Broken end bell with exposed reinforcement.	Clean and reinspect in 5-years.
/1901	iveal Edella St	Green Fond Di	36001	10	42.02	1001	pipe end sits above flowline of ditch.	1001	broken end ben with exposed remotement.	clean and reinspect in 5-years.
							pipe end sits above nowine of ditch.			
						_		_	1. Broken end bell with exposed reinforcement.	
*83000	Green Pond Dr (South)	Baynard Rd	SCDOT	15"	48.00	Poor	Full of sediment.	Poor	2. Not inspectable.	Clean and reinspect.
									1. Broken end bell with exposed reinforcement.	
71887	Dogwood St	Baynard Rd	SCDOT	18"	49.97	Poor	1. Partially full of sediment.	Poor	2. Pipe joint displacement.	Clean and reinspect.
		.,					<ol><li>Pipe section displacement.</li></ol>		3. Deterioration due to pipe age.	
							1. Partially full of sediment.			
35786	Baynard Rd	225 Baynard Rd	SCDOT	36"	38.75	Poor	2. Partially submerged.	Good		Clean and conduct channel maintenance.
52837	Baynard Rd	225 Baynard Rd	SCDOT	36"	35.29	Poor	Partially submerged	Poor	Broken end bell with exposed reinforcement.	Conduct channel maintenance reinspect in 5-
	· ·	· · ·					1. Fully submerged.			
23213	Dogwood St	5019 Dogwood St	SCDOT	24"	45.98	Poor	2. Partially full of sediment.	Unknown	Could not inspect due to Submergence.	Clean and conduct channel maintenance.
58515	Morning Mist Dr	6014 Morning Mist Dr	SCDOT	18"	43.12	Eair	Partially full of sediment.	Good		Clean.
37487	Magnolia St	4017 Magnolia St	SCDOT	24"	36.71	Poor	Fully submerged.	Unknown	Fully submerged	Conduct channel maintenance and reinspect.
59364	Cedarbrook St	4099 Cedarbrook St	SCDOT	15"	48.06	Poor	Partially full of sediment.	Good	Tuly submerged	Clean.
58520	Shell Point Rd	4010 Shell Point Rd	SCDOT	18"	34.70	Poor	Filled with sediment.	Unknown	Filled with sediment.	Clean and reinspect.
							1. Partially full of sediment.			
58513	Shell Point Rd	Broad River Dr	SCDOT	18"	39.62	Poor	2. Partially submerged.	Unknown	Not accessible.	Conduct channel maintenance and reinspect
	1	-	+	+				+	1. Interior not accessible.	
58509	Shell Point Rd	Hickory St	SCDOT	18"	85.60	Poor	Fully submerged.	Fair/Unknown		Conduct channel maintenance and reinspect
		+	+	1				+	2. Deterioration due to pipe age. 1. Broken end bell.	-
58508	Hickory St	Shell Point Rd	SCDOT	24"	55.32	Good	Minimally submerged.	Fair		Reinspect in 5-years.
									2. Deterioration due to pipe age.	
70444		101011111	CODOT	45"	40.02	<b>F</b> -1:	Discourse the second second	D	<ol> <li>Broken end bell with exposed reinforcement.</li> <li>Bissicial disclosure at</li> </ol>	
78114	Hickory St	1016 Hickory St	SCDOT	15″	48.82	Fair	Pipe section displacement.	Poor	2. Pipe joint displacement.	Reinspect in 5-years.
				4				-	3. Deterioration due to pipe age.	
59739	Palmetto Ridge St	Broad River Dr	SCDOT	18"	57.48	Fair	Pipe section displacement.	Poor	Pipe joint displacement.	Reinspect in 5-years.
									<ol> <li>Broken end bell with exposed reinforcement.</li> </ol>	
52851	Broad River Dr	3011 Broad River Dr	SCDOT	24"	36.23	Poor	Due to structural condition	Very Poor	<ol><li>Severe pipe joint displacement.</li></ol>	Replace pipe.
52051	broad niver br	Soll Brodd Airer Br	56501		50.25			veryroon	3. Backfill infiltration.	hepidde piper
									<ol><li>Deterioration due to pipe age.</li></ol>	
59399	Walnut St	3013 Walnut St	SCDOT	15"	39.66	Poor	1. Partially full of sediment.	Fair	1. Broken end bell.	Hydraulic study with possible pipe replaceme
55555	Wallac St	Sold Wallacot	56501	15	55.00		<ol><li>Pipe size to small for drainage area.</li></ol>	i un	<ol><li>Deterioration due to pipe age.</li></ol>	injuruune seudy men possible pipe replaceme
*83001	Walnut St	3007 Walnut St	SCDOT	15"	42.00	Poor	1. Fully submerged.	Unknown	1. Fully submerged. 2	Clean and conduct channel maintenance.
							2. Partially full of sediment.		Partially full of sediment.	
52976	Walnut St	2098 Walnut St	SCDOT	24"	44.07	Fair	Partially full of sediment.	Good		Clean
59738	Between Walnut St & Cypress St	Hickory St	SCDOT	18"	37.83	Fair	Pipe section displacement.	Poor	<ol> <li>Broken end bell with exposed reinforcement.</li> </ol>	Reinspect in 5-years.
									2. Pipe joint displacement.	
									1. Broken catch basin lid.	
52856	Cypress St	Hickory St	SCDOT	15"	56.32	Fair	Partially full of sediment.	Fair/Unknown	2. Deterioration due to pipe age.	Clean pipe and replace catch basin.
									<ol><li>Unable to inspect east end of pipe, not accessible.</li></ol>	
									<ol> <li>Broken end bell with exposed reinforcement.</li> </ol>	
71839	Cypress St	3011 Cypress St	SCDOT	18″	51.26	Poor	1. Partially full of sediment.	Poor	<ol><li>Severe pipe joint displacement.</li></ol>	Replace pipe.
/1005	0,0,00000	Soll cypress se	56501	10	51.20		2. Submerged.	1 001	3. Severe pipe deflection.	nepidde piper
									<ol><li>Deterioration due to pipe age.</li></ol>	
71879	Hickory St	3410 Hickory St	SCDOT	15″	45.81	Poor	Filled and buried with sediment.	Unknown	Not accessible.	Clean and reinspect.
52862	Broad River Dr	1099 Broad River Dr	SCDOT	15"	34.44	Poor	Filled and buried with sediment.	Unknown	1. Not accessible.	Clean and reinspect.
32002	S. Odd Inver Di			1.5					2. Inlet Partially full of debris and sediment.	elean and remspect.
52857	Ashwood Cir	Broad River Dr	SCDOT	15"	29.44	Poor	Partially full of sediment.	Good/Unknown	West end of pipe not accessible.	Clean and reinspect.
59448	Ashwood Cir	Broad River Dr	SCDOT	15"	10.90	Poor	Partially full of sediment.	Fair	Pipe joint displacement.	Clean and reinspect in 5-years.
71845	Ashwood Cir	2423 Ashwood Cir	SCDOT	18″	32.19	Roor	Partially full of sediment.		1. Interior not accessible.	Clean and reinspect
/1040		2425 ASTIWOOD CIF	30001	18	32.19	Poor	Fartially full of sediment.	Fair/Unknown	<ol><li>Deterioration due to pipe age.</li></ol>	Clean and reinspect.
*83002	Ashwood Cir	2424 Ashwood Cir	SCDOT	15"	88.00	Poor	Partially full of sediment.	Unknown	Not accessible.	Clean and reinspect.
							1. Destinily full of a diverse		1. Broken end bell.	
71864	Broad River Dr	749 Broad River Dr	SCDOT	24"	48.45	Poor	1. Partially full of sediment.	Poor	2. Severe pipe joint displacement.	Conduct channel maintenance and reinspect
							2. Submerged.		3. Deterioration due to pipe age.	
57215	Hamrick Dr	Broad River Dr	SCDOT	15"	34.46	Good		Fair	Pipe joint displacement.	Reinspect in 5-years.
						1				
60026	Broad River Dr	584 Broad River Dr	SCDOT	24"	55.41	Poor	Fully submerged.	Unknown	Not accessible. Pipe size small for drainage area.	Conduct channel maintenance and reinspect
							. ,	-	the state of the s	hydraulic study possible pipe replacement.
	1						1. Partially full of sediment.			
	Hamrick Dr	Hamrick Dr	Beaufort County	15"	45.50	Fair	2. Submerged.	Good		Clean, conduct channel maintenance and rei
68743		1	Beaufort County	15"	48.10	Poor	Could not locate pipe.	Unknown	Could not locate pipe.	Locate pipe and clean.
		Hamrick Dr	Deautort County		48.10	Poor		Unknown		None.
68742		Hamrick Dr Hamrick Dr		10"	32.11		Fully submerged.	Unknown	Fully submerged. Fully submerged.	None.
68742 53707	Driveway pipe in channel	Hamrick Dr	Beaufort County	18"	27 77	Poor				
68742 53707 53708	Driveway pipe in channel Driveway pipe in channel	Hamrick Dr Hamrick Dr	Beaufort County Beaufort County	18"	32.77	Poor	Fully submerged.			
68742 53707 53708 22849	Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel	Hamrick Dr Hamrick Dr Hamrick Dr	Beaufort County Beaufort County Beaufort County	18" 18"	32.19	Poor	Fully submerged.	Unknown	Fully submerged.	None.
68742 53707 53708 22849 53706	Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel	Hamrick Dr Hamrick Dr Hamrick Dr Hamrick Dr	Beaufort County Beaufort County Beaufort County Beaufort County	18" 18" 18"	32.19 32.19	Poor Poor	Fully submerged. Fully submerged.	Unknown Unknown	Fully submerged. Fully submerged.	None. None.
68742 53707 53708 22849 53706 78129	Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Broad River Dr	Hamrick Dr Hamrick Dr Hamrick Dr Hamrick Dr 410 Broad River Dr	Beaufort County Beaufort County Beaufort County Beaufort County SCDOT	18" 18" 18" 18"	32.19 32.19 37.06	Poor Poor Poor	Fully submerged. Fully submerged. Filled and buried with sediment.	Unknown Unknown Unknown	Fully submerged. Fully submerged. Filled and buried with sediment.	None. None. Recommendation provided in report Section
68742 53707 53708 22849 53706	Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel	Hamrick Dr Hamrick Dr Hamrick Dr Hamrick Dr	Beaufort County Beaufort County Beaufort County Beaufort County	18" 18" 18"	32.19 32.19	Poor Poor	Fully submerged. Fully submerged.	Unknown Unknown	Fully submerged. Fully submerged. Filled and buried with sediment. Inaccessible/Filled with sediment	None. None.
68742 53707 53708 22849 53706 78129 78130	Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Broad River Dr Broad River Dr	Hamrick Dr Hamrick Dr Hamrick Dr Hamrick Dr 410 Broad River Dr 396 Broad River Dr	Beaufort County Beaufort County Beaufort County Beaufort County SCDOT SCDOT	18" 18" 18" 18" 15"	32.19 32.19 37.06 49.73	Poor Poor Poor Poor	Fully submerged. Fully submerged. Filled and buried with sediment. Inaccessible/Filled with sediment	Unknown Unknown Unknown Unknown	Fully submerged. Fully submerged. Filled and buried with sediment. Inaccessible/Filled with sediment 1. Broken end bell.	None. None. Recommendation provided in report Section Clean and CCTV closed system pipe.
68742 53707 53708 22849 53706 78129	Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Broad River Dr	Hamrick Dr Hamrick Dr Hamrick Dr Hamrick Dr 410 Broad River Dr	Beaufort County Beaufort County Beaufort County Beaufort County SCDOT	18" 18" 18" 18"	32.19 32.19 37.06	Poor Poor Poor	Fully submerged. Fully submerged. Filled and buried with sediment. Inaccessible/Filled with sediment 1. Partially full of sediment.	Unknown Unknown Unknown	Fully submerged. Fully submerged. Filled and buried with sediment. Inaccessible/Filled with sediment 1. Broken end bell. 2. Severe pipe joint displacement.	None. None. Recommendation provided in report Section
68742 53707 53708 22849 53706 78129 78130	Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Driveway pipe in channel Broad River Dr Broad River Dr	Hamrick Dr Hamrick Dr Hamrick Dr Hamrick Dr 410 Broad River Dr 396 Broad River Dr	Beaufort County Beaufort County Beaufort County Beaufort County SCDOT SCDOT	18" 18" 18" 18" 15"	32.19 32.19 37.06 49.73	Poor Poor Poor Poor	Fully submerged. Fully submerged. Filled and buried with sediment. Inaccessible/Filled with sediment	Unknown Unknown Unknown Unknown	Fully submerged. Fully submerged. Filled and buried with sediment. Inaccessible/Filled with sediment 1. Broken end bell.	None. None. Recommendation provided in report Section Clean and CCTV closed system pipe.

#### Table 2: Crossline Pipe/Culvert Condition Assessment Summary

#### 3.0 - Channel/Ditch Findings

Field observation of channels/ditches included those that were within the limits shown in Figure 1. Roadside ditches were assessed; however, they are addressed separately in Section 4 of this report. The Beaufort County stormwater GIS inventory lists 30 channel segments within the aforementioned areas, three (3) of the channels shown in the inventory no longer exist. Approximately 10,244 linear feet of channel were observed.

Performance ratings of the channels were assigned based on the following conditions: adverse grade/scour holes, tidal influence, amount of debris/blockage, vegetation density/blockage and sediment infill. An important aspect of the channel condition assessment is the jurisdictional determination of the channel segments since this provides guidance on which maintenance activities that can be conducted without USACE 401/404 permits and what activities within the channel would need permitting. Table 3 summarizes the channel segments performance rating and preliminary jurisdictional determination. A comprehensive overview of the channel/ditch assessment is provided in Table 4, the locations of the crossline pipes are depicted in Appendix A and cutsheets with photographs of asset conditions are provided in Appendix C.

Р	erformance Ratin	ıg	Jurisd	lictional Determir	nation
Condition	(No.)	(%)	Category	(LF)	(%)
Good	3	25.93%	Critical Area	1816	17.73%
Fair	7	11.11%	Wetland	1601	15.63%
Poor	17	62.96%	Linear Jurisdic-	2059	20.10%
			Non-Jurisdic-	4767	46.54%

#### Table 3: Summary of Channel/Ditch Assessment

Recommendations provided in this report for channels are based on the performance rating and jurisdictional determination. All channels, which were assessed a fair or poor rating due to debris/blockage and vegetation / blockage can be cleaned regardless of jurisdictional determination. However, the channel substrate (bed) and embankments cannot be disturbed within critical and wetland areas, whereas only the channel substrate in linear jurisdictional areas are required to remain undisturbed. There are no limitations for disturbance in non-jurisdictional areas meaning these channels can be daylighted (graded) and widened.

Field observance yielded that many of the channels are holding water where there is no base flow. This condition can cause flooding because attenuation (storage) within the channels is decreased resulting in higher water surface elevations during rainfall events which can lead to overtopping the channel embankments. This indicates adverse grades within the channels, sediment infill and to a lesser degree blockage due to debris accumulation. Since no disturbance is allowed in jurisdictional areas channel daylighting cannot be accomplished without an individual USACE permit. It is recommended that these areas be cleaned to improve flow through the channel and reinspected during rainfall events to determine if daylighting is necessary to prevent flooding. Full scale daylighting of channels would require hydraulic studies to determine the size of cross section necessary to carry flows from the design storm event and attain 401/404 and stormwater permits.

Submergence of crossline pipes is common within the Shell Point community stormwater system with 15 out of 44 crossline pipes exhibiting submergence conditions. More significantly this condition affects 5 of 7 or 71% of the outfalls located within the limits of this assessment. Submergence of the crossline pipe reduces the pipe's capacity and causes higher upstream water surface elevations due to backwater effects. In non-jurisdictional areas the channel can be cleaned both upstream and downstream via maintenance activities. However, in jurisdictional areas individual 401/404 permitting is necessary to daylight the channel as previously described. Therefore, the actions to resolve submerged conditions would require a hydraulic study and individual permits. However, Nationwide Permit #3 allows for maintenance daylighting of the channel 200-ft upstream and downstream of a crossline pipe located within a jurisdictional area without attaining a permit. In this case a memo describing the scope of work and USACE checklist would be created and retained in Beaufort County files in case of USACE intervention.

#### Table 4: Channel/Ditch Condition Assessment Summary

Channel/Ditch Condition Assessment Summary										
Inventory Object ID	Length	Upstream Limit	Downstream Limit	Jurisdictional Determination	Asset Owner	Performance Condition	Reason	Construction or Maintenance	Recommended Construction/Maintenance Actions	USACE Requirements
(No.)	(ft)	(Address/Road Name/Ditch Object ID)	(Address/Road Name/Ditch Object ID)							· ·
4604	998	Shell Pt Rec Park Rd	Ditch #53705	Linear Jurisdictional	Beaufort County	Fair	Overtops banks during small frequent rain events due to undersized crossline pipe #60026, tidal influence and adverse grade of outfall channel.	Construction	1. Overflow Bench 2. Daylight and widen channel	1. None 2. Individual permit/Mitigation
12706	463	Ditch #26310	4017 Magnolia St	Wetland	Beaufort County	Poor	Holding water due adverse channel grade downstream of crossline pipe #37487. Dense vegetation upstream.	Maintenance	1. Remove vegetation. 2. Daylight channel.	1. None 2. Nationwide #3 200-ft upstream and downstream of crossline pipe #37487. Requires work plan & checklist no permit.
12829	241	Morning Mist Dr	Ditch #34531	Non Jurisdictional	Beaufort County	Poor	Heavy vegetation.	Maintenance	Clean channel of debris and remove vegetation.	None
22301	456	Ditch #53705	Broad River Rd @ Hamrick Dr	Critical Area	Beaufort County	Poor	Overtops banks during small frequent rain events due to undersized crossline pipe #60026, tidal influence and adverse grade of outfall channel.	Maintenance/Construction	1. Overflow Bench 2. Daylight Channel 3. Daylight and widen channel beyond Nationwide permit #3 coverage	<ol> <li>Individual permit &amp; mitigation.</li> <li>Nationwide #3 200-ft upstream and downstream of crossline pipe #60026. Requires work plan &amp; checklist no permit.</li> <li>Individual permit &amp; mitigation.</li> </ol>
26310	498	4099 Cedarbrook	Ditch #12706	Non Jurisdictional	Beaufort County	Fair	Upper section of ditch is good. Lower part of ditch fair due to	Maintenance	Remove Vegetation.	None
26311	126	Ditch #53339	Ditch #33247	Non Jurisdictional	Beaufort County	Poor	dense vegetation. Debris blockage, vegetation and sediment infill.	Maintenance	None private residence/ditch. No complaints.	None
26336	298	3014 Walnut St	Ditch #32183	Non Jurisdictional	Beaufort County	Poor	Debris blockage, vegetation and sediment infill.	Maintenance	Clean channel of debris, remove vegetation and some trees. Daylight channel. Cleaning of this channel will be important for upsizing crossline pipe #59399.	None
26498	236	3007 walnut	Ditch #33247	Non Jurisdictional	Beaufort County	Poor	Debris blockage, vegetation and sediment infill causing upstream submergence of roadside ditches and crossline pipe @ 3007 Walnut St	Maintenance	Clean channel of debris, remove vegetation and some trees. Daylight channel.	None
28693	349	5019 Dogwood St	Ditch #34854	Linear Jurisdictional	Beaufort County	Fair	Adverse grade causing submergence of crossline pipe #23213 and downstream conditions.	Maintenance	<ol> <li>Channel cleaning and vegetation removal.</li> <li>Daylight channel.</li> </ol>	<ol> <li>None</li> <li>Nationwide #3 200-ft upstream and downstream of crossline pipe #23213. Requires work plan &amp; checklist no permit.</li> </ol>
31169	228	1099 Broad River	Broad River Outfall	Non Jurisdictional	Beaufort County	Poor	Channel bed higher than crossline pipe.	Maintenance	Daylight channel	None
32183	203	Ditch #33247	3011 Broad River Rd	Wetland	Beaufort County	Fair	Holding water, debris blockage, vegetation and sediment infill.	Maintenance	<ol> <li>Channel cleaning and vegetation removal.</li> <li>Daylight channel.</li> </ol>	1. None 2. Nationwide #3 200-ft upstream and downstream of crossline pipe #52851. Requires work plan & checklist no permit.
32581	293	4017 Magnolia St	Ditch #34463	Non Jurisdictional	Beaufort County	Poor	Holding water due to downstream conditions. Adverse channel grade causing submergence of crossline pipe #37487. Work to b included with Nationwide #3 permit for crossline pipe.	e Maintenance	Daylight channel.	None
32725	451	Broad River Rd	Broad River Outfall	Critical Area/Wetland	Beaufort County	Fair	Adverse channel grade. Tidally influenced.	Maintenance	Daylight channel.	Nationwide #3 200-ft upstream and downstream of crossline pipe #52851. Requires work plan & checklist no permit.
33247	711	Hickory St	Ditch #32183	Wetland/Non Jurisdictional	Beaufort County	Poor	Holding water due to downstream conditions, debris blockage, vegetation and sediment infill.	Maintenance	Clean channel of debris, remove vegetation and some trees. Clean out sediment.	None in upper reaches. Can remove debris and vegetation from lowe reaches without permit. Cannot disturb ditch substrate and banks of lower reach.
34462	155	Ditch #34463	5019 Dogwood St	Linear Jurisdictional/Wetland	Beaufort County	Fair	Holding water due to submergence of crossline pipe #23213	Maintenance	Daylight channel.	Nationwide #3 200-ft upstream and downstream of crossline pipe #23213. Requires work plan & checklist no permit.
34463	841	Ditch #32581	Ditch #34462	Wetland/Non Jurisdictional	Beaufort County	Fair	Holding water due to submergence of crossline pipe #23213	Maintenance	Daylight downstream portion of channel segment.	Nationwide #3 70-ft upstream of channel segment 34462. Requires
34531	172	227 Baynard Rd	Ditch #34854	Non Jurisdictional	Beaufort County	Good	None	None	None private residence/ditch. No complaints.	work plan & checklist no permit. None
							Holding water due to downstream conditions, debris blockage,			None
34548	215	3010 Palmetto Ridge St	Ditch #32183	Non Jurisdictional	Beaufort County	Poor	vegetation and sediment infill. Holding water due to channel #45900 adverse grade and	Maintenance	Daylight channel, remove debris and vegetation.	None Nationwide #3 200-ft upstream and downstream of crossline pipe
34854	302	Ditch #28693	227 Baynard Rd	Linear Jurisdictional	Beaufort County	Poor	submergence of crossline #35786.	Maintenance	Daylight channel.	#35786. Requires work plan & checklist no permit.
41936	349	3011 Cypress	3013 Walnut St	Non Jurisdictional	Beaufort County	Poor	Ditch cross section not sufficient for carrying stormwater flow. Low backyard grades allow flooding. Down stream conveyance require maintenance and may be inadequate.	Maintenance	Daylight channel, widen cross section, remove sediment from downstrear crossline #59399. Tree removal involved.	n None
42204	465	Ditch #51186	Ditch #41936	Non Jurisdictional	Beaufort County	Poor	Dense vegetation in upper reaches. Good performance in grass	Maintenance	Remove vegetation.	None
42388	499	Hickory St	Cypress St	Non Jurisdictional	Beaufort County	Good	lined lower reaches. Ditch recently cleaned of vegetation.	None	None	None
45900	176	Baynard Rd	Broad River Outfall	Critical Area/Linear Jurisdictional	Beaufort County	Poor	Adverse channel grade causing crossline pipe #35786 submergence. Tidally influenced.	Maintenance	Daylight channel.	Nationwide #3 200-ft upstream and downstream of crossline pipe #35786. Requires work plan & checklist no permit.
51186	173	Hickory St	Ditch #42204	Non Jurisdictional	Beaufort County	Poor	Dense vegetation and adverse grade causing slight submergence of crossline pipe #59738.	Maintenance	Remove vegetation, daylight channel.	None
51390	302	Ditch #31745 (Food Lion Det. Pond)	Shell Pt Rec Park Rd	Linear Jurisdictional	Beaufort County	Good	of crossine pipe #59738. None	None	None	None
53337	218	3009 Broad River Rd	Ditch #26336	Non Jurisdictional	Beaufort County	N/A	Ditch no longer exists.	N/A	N/A	N/A
53338	176	3014 Walnut St	Ditch #53337	Non Jurisdictional	Beaufort County	N/A	Ditch no longer exists.	N/A	N/A	N/A
53339	155	Hickory St	Dtich#26311	Non Jurisdictional	Beaufort County	N/A	Ditch no longer exists.	N/A	N/A	N/A
53705	456	Ditch #4604	Ditch #22301	Critical Area	Beaufort County	Poor	Overtops banks during small frequent rain events due to undersized crossline pipe #60026 and tidal influence.	Construction	1. Overflow Bench 2. Daylight and widen channel	<ol> <li>Individual permit and Mitigation.</li> <li>Individual permit and Mitigation.</li> </ol>
None	300	Broad River Rd @ Hamrick Dr	Broad River Outfall	Critical Area	Beaufort County	Poor	Tidally influence and holds water due to adverse grade causing submergence of crossline pipe #60026.	Maintenance/Construction	1. Daylight Channel 2. Dredge channel approximately 1000-ft.	Nationwide #3 200-ft upstream and downstream of crossline pipe #60026.     Individual permit & mitigation.

#### 4.0 - SCDOT Right-of-Way Roadside Ditch and Driveway Pipe Findings

All roadways within the Shell Point Drainage Improvement Program study area are maintained by SCDOT. SCDOT maintains assets within their right-of-way, including roadside ditches, driveway pipes, closed pipe systems and crossline pipes/culverts. The condition assessment included the SCDOT right-of-way due to consistent citizen complaints which generally described poor maintenance of these assets vs. flooding issues. Common complaints include ditches being clogged, driveway pipes clogged, and ditches needing to be cleaned.

The condition assessment focused on areas of complaints within the limits of the original Shell Point drainage study. Most of the roadways inspected included a typical SCDOT 2-lane local road ditch cross section except for the following roadways:

- Cypress St no drainage
- Hickory St from Broad River Dr to Cypress St no drainage
- Dogwood St from 5019 Dogwood St to Savannah Hwy asphalt valley gutter
- Morning Mist Dr from 6014 Morning Mist Dr to Dogwood St asphalt valley gutter
- Magnolia St asphalt valley gutter
- Cedarbrook St asphalt valley gutter

In general, the asphalt valley gutters listed above, are in fair condition, however, there are gutter sections on all roadways listed where debris or grass overgrowth is clogging the gutter and requires cleaning to improve the hydraulic performance of the gutter. Cypress St and the section of Hickory St which do not have drainage features were originally designed to be constructed with asphalt valley gutter per SCDOT historical plans, however, the gutter was never installed as it appears the gutter could not be installed due to topography. Furthermore, it appears that installation of curb and gutter with closed pipe systems or roadside ditches and driveway pipes would not be constructable due to topography.

Detailed assessment including performance and structural conditions of driveway pipes was not conducted due to the amount of driveway pipes within the study area, and the fact that many pipes are buried or either partially or fully filled with sediment. General conditions were observed, and photographs were taken showing the general conditions of these systems and provided to SCDOT. Observations generally noted that driveway pipes and roadside ditches are clogged due to sediment infill.

Beaufort County and J. Bragg Consulting began coordination with SCDOT in September 2022 to resolve maintenance issues within the SCDOT right-of-way in the study area. SCDOT began cleaning roadside ditches and driveway pipes in October 2022, and this effort is ongoing as of the date of this report. Table 5 summarizes the roadways requiring maintenance and the status of maintenance actions as of the date of this report. Figure 3 illustrates the roadways where maintenance is required and cut sheets including photographs are provided in Appendix D.

Roadway	From	То	Notes	Ditching Status
Broad River Dr	Parris Island Pkwy	1004 Broad River Dr	Both sides of roadway	No Status
Ashwood Cir	Broad River Dr	Broad River Dr	Partially completed on right side to Palmetto Ridge St	No Status
Broad River Dr	Shell Point Rd	3016 Broad River Dr	Both sides of roadway	Complete
Walnut St	3015 Walnut St	Cypress St		Complete
Palmetto Ridge St	Broad River Dr	Hickory St	Both sides of roadway completed	Complete
Hickory St	Shell Point Rd	Cypress St	Both sides of roadway	Complete
Shell Point Rd	Parris Island Pkwy	Baynard Rd	Both sides of roadway	Scheduled week of 2/27/2023
Morning Mist Rd	Shell Point Rd	6014 Morning Mist Rd	Right side of roadway	Complete
Dogwood St	Baynard Rd	5018 Dogwood St	Right side of roadway	Complete
Green Pond Rd	Baynard Rd	Gollihugh St	Both sides of road, includes cleaning of culvert at 5003 Green Pond Rd	Scheduled week of 3/13/2023
Baynard Rd	Shell Point Rd	Parris Island Pkwy		No Status

#### Table 5: Summary of SCDOT Right-of-Way Maintenance



Figure 3: SCDOT Right-of -Way Maintenance Location Map

Stormwater Management System

Condition Assessment Shell Point Drainage Improvement Program Page 10 of 11

#### 5.0 - Conclusions

Based on the findings of the condition assessment, J. Bragg Consulting presents the following conclusions:

- 42 (approx. 95%) of the crossline pipes observed during the assessment received a performance rating of fair to poor due to maintenance related issues and require immediate attention.
- 19 (approx. 43%) of the crossline pipes observed were found to have structural defects, 2 of which need immediate attention due to severe joint displacement. 17 crossline pipes should be monitored every 5-years due to minor defects and/or deterioration due to age.
- 19 (approx. 43%) of the crossline pipes could not be inspected for structural defects because they were either filled with sediment or submerged.
- 15 (approx. 34%) of the crossline pipes exhibited submerged conditions with 8 pipes being fully submerged.
- 29 (approx. 66%) of the crossline pipes were observed to be partially or fully filled with sediment and require immediate attention.
- 24 (approx. 89%) of the channel segments assessed received a hydraulic performance rating of fair to poor.
- None of the channels assessed had base flows except for those that are tidally influenced, however, 9 were observed to be holding water.
- 6 major crossline pipes are submerged due to adverse channel grades including scour holes. 4 of the 6 crossline pipes are system outfalls.
- Approximately 5,140 LF out of approximately 10,505 LF (approx. 49%) of channel that is included in the condition assessment is considered jurisdictional waters of the state (WoS).

Noticeable conditions and defects discovered during field observation were:

- Crossline Pipes
  - o Joint displacement,
  - Broken end bells,
  - Deterioration of concrete due to age,
  - Sediment infill, and
  - o Submergence.
- Channels/Ditches
  - Blockage due to debris and dense vegetation,
  - Sediment infill,
  - Adverse grades/scour holes, and
  - Submergence/holding water (stagnation).

#### 6.0 - Recommendations

Recommendations for both crossline pipes and channels/ditches are provided in Tables 2 & 4. The recommendations are provided based on industry-wide standards of care for piping and channel systems. The recommendations also consider the jurisdictional determination of the channels which includes what will be necessary to perform work regarding USACE 401/404 water quality permits or documentation.

# Appendix A: Asset Location Maps





----- CROSSLINE PIPES/CULVERTS







## LEGEND

STORMWATER INVENTORY

- ----- CHANNEL/DITCH
- 🔚 CRITICAL AREA
- ----- LINEAR JURISDICTIONAL
- WETLAND



#### SHELL POINT DRAINAGE IMPROVEMENT PROGRAM

CONDITION ASSESSMENT ASSET LOCATION MAP

> APPENDIX A EXHIBIT 3

150 300 ft 0

SCALE 1" = 150'





## LEGEND

STORMWATER INVENTORY

- ----- CHANNEL/DITCH
- CRITICAL AREA
- ----- LINEAR JURISDICTIONAL
- WETLAND



#### SHELL POINT DRAINAGE IMPROVEMENT PROGRAM

CONDITION ASSESSMENT ASSET LOCATION MAP

> APPENDIX A EXHIBIT 4







- CROSSLINE PIPES/CULVERTS

# Appendix B: Crossline/Culvert Condition Assessment Cut Sheets

#### **General Information**

Crossing Road: Carolina Village Circle Road Name: Baynard Road Asset Owner: SCDOT

Pipe Size: 15"

## **Condition Information & Ratings**

Performance Condition: Poor Reason: Full of Sediment.

Structural Condition: Unknown Reason: Could not inspect due to sediment.

Recommendation: Clean and reinspect.



#### **General Information**

Crossing Road: Green Pond Drive Road Name: Baynard Road Asset Owner: SCDOT Pipe Size: 15″

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: Full of sediment.

Structural Condition: Unknown Reason: Could not inspect due to sediment.

Recommendation: Clean and reinspect.





Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road:

Road Name: Green Pond Drive

Asset Owner: SCDOT

Pipe Size: 15"

## **Condition Information & Ratings**

Performance Condition: Poor Reason: Partially full of sediment.

Structural Condition: Fair Reason: Broken end bell exposed reinforcement.

Recommendation: Clean and reinspect in 5 years.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Near Luella Street Road Name: Green Pond Drive Asset Owner: SCDOT

Pipe Size: 18"

#### **Condition Information & Ratings**

Performance Condition: Poor

Reason: 1. Partially full of sediment.

2. Ditch on east side poorly formed pipe end sits above flowline of ditch.

Structural Condition: Poor Reason: Broken end bell exposed reinforcement.

Recommendation: Clean and reinspect in 5 years.





Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Green Pond Drive South

Road Name: Baynard Road

Asset Owner: SCDOT

Pipe Size: 15"

## **Condition Information & Ratings**

Performance Condition: Poor Reason: Full of sediment.

Structural Condition: Unknown

Reason: 1.Broken end bell exposed reinforcement. 2. Not inspectable.

Recommendation: Clean and reinspect.





Appendix B

#### **General Information**

**Crossing Road: Dogwood Street** 

Road Name: Baynard Road

Asset Owner: SCDOT

Pipe Size: 18"

## **Condition Information & Ratings**

Performance Condition: Poor

Reason: 1. Partially full of sediment.

2. Pipe section displacement.

Structural Condition: Poor

Reason: 1. Broken end bell exposed reinforcement.

- 2. Pipe joint displacement.
- 3. Deterioration due to pipe age.

Recommendation: Clean and reinspect.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Baynard Road Road Name: 225 Baynard Road Asset Owner: SCDOT

Pipe Size: 36"

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: 1. Partially full of sediment 2. Partially submerged.

Structural Condition: Good Reason:

Recommendation: Clean and conduct channel maintenance.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Baynard Road Road Name: 225 Baynard Road Asset Owner: SCDOT Pipe Size: 36″

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: Partially submerged

Structural Condition: Poor Reason: Broken end bell exposed reinforcement.

Recommendation: Conduct channel maintenance reinspect in 5-years.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Dogwood Street Road Name: 5019 Dogwood Street Asset Owner: SCDOT Pipe Size: 24″

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: 1. Fully submerged. 2. Partially full of sediment.

Structural Condition: Unknown Reason: Could not inspect due to submergence.

Recommendation: Clean and conduct channel maintenance.





#### **General Information**

Crossing Road: Morning Mist Drive Road Name: 6014 Morning Mist Drive Asset Owner: SCDOT Pipe Size: 18″

## **Condition Information & Ratings**

Performance Condition: Fair Reason: Partially full of sediment.

Structural Condition: Good Reason:

Recommendation: Clean.





Appendix B

#### **General Information**

Crossing Road: Magnolia Street Road Name: 4017 Magnolia Street Asset Owner: SCDOT Pipe Size: 24"

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: Fully submerged.

Structural Condition: Unknown Reason: Fully submerged.

Recommendation: Conduct channel maintenance reinspect in 5-years.





Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Cedarbrook Street Road Name: 4099 Cedarbrook Street Asset Owner: SCDOT Pipe Size: 15"

## **Condition Information & Ratings**

Performance Condition: Poor Reason: Partially full of sediment.

Structural Condition: Good Reason:

Recommendation: Clean.





#### **General Information**

Crossing Road: Shell Point Road Road Name: 4010 Shell Point Road Asset Owner: SCDOT Pipe Size: 18″

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: Filled with sediment.

Structural Condition: Unknown Reason: Filled with sediment.

Recommendation: Clean and reinspect.





#### **General Information**

Crossing Road: Shell Point Road Road Name: Broad River Drive Asset Owner: SCDOT

Pipe Size: 18"

#### **Condition Information & Ratings**

Performance Condition: Reason: 1. Partially full of sediment. 2. Partially submerged.

Structural Condition: Unknown Reason: Not accessible.

Recommendation: Conduct channel maintenance and reinspect.





#### **General Information**

Crossing Road: Shell Point Road Road Name: Hickory Street Asset Owner: SCDOT

Pipe Size: 18"

## **Condition Information & Ratings**

Performance Condition: Poor Reason: Fully submerged.

Structural Condition: Fair/Unknown Reason: 1. Interior not accessible. 2. Deterioration due to pipe age.

Recommendation: Conduct channel maintenance and reinspect.





Appendix B

#### **General Information**

Crossing Road: Hickory Street Road Name: Shell Point Road Asset Owner: SCDOT

Pipe Size: 24"

## **Condition Information & Ratings**

Performance Condition: Good Reason: Minimally submerged.

Structural Condition: Fair Reason: 1. Broken end bell. 2. Deterioration due to pipe age.

Recommendation: Reinspect in 5 years.





Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B
#### **General Information**

Crossing Road: Hickory Street

Road Name: 1016 Hickory Street

Asset Owner: SCDOT

Pipe Size: 15"

# **Condition Information & Ratings**

Performance Condition: Fair Reason: Pipe section displacement.

Structural Condition: Poor

Reason: 1. Broken end bell exposed reinforcement.

- 2. Pipe joint displacement.
- 3. Deterioration due to pipe age.

Recommendation: Reinspect in 5 years.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

# **General Information**

Crossing Road: Palmetto Ridge Street Road Name: Broad River Drive Asset Owner: SCDOT Pipe Size: 18"

# **Condition Information & Ratings**

Performance Condition: Fair Reason: Pipe section displacement.

Structural Condition: Poor Reason: Pipe joint displacement.

Recommendation: Reinspect in 5 years.



#### **General Information**

Crossing Road: Broad River Drive

Road Name: 3009 Broad River Drive

Asset Owner: SCDOT

Pipe Size: 24"

# **Condition Information & Ratings**

Performance Condition: Poor Reason: Due to structural condition

Structural Condition: Very Poor

Reason: 1. Broken end bell exposed reinforcement.

- 2. Severe pipe joint displacement.
- 3. Backfill infiltration.
- 4. Deterioration due to pipe age.

Recommendation: Replace pipe.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

# **General Information**

Crossing Road: Walnut Street

Road Name: 3013 Walnut Street

Asset Owner: SCDOT

Pipe Size: 15"

# **Condition Information & Ratings**

Performance Condition: Poor Reason: 1. Partially full of sediment. 2. Pipe size to small for drainage area.

Structural Condition: Fair

Reason: 1. Broken end bell. 2. Deterioration due to pipe age.

Recommendation: Hydraulic study with possible pipe replacement.





Appendix B

#### **General Information**

Crossing Road: Walnut Street

Road Name: 3007 Walnut Street

Asset Owner: SCDOT

Pipe Size: 15"

# **Condition Information & Ratings**

Performance Condition: Poor Reason: 1. Fully submerged. 2. Partially full of sediment.

Structural Condition: Unknown

Reason: 1. Fully submerged. 2. Partially full of sediment.

Recommendation: Clean and conduct channel maintenance.





Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Walnut Street Road Name: 2098 Walnut Street Asset Owner: SCDOT Pipe Size: 24"

# **Condition Information & Ratings**

Performance Condition: Fair Reason: Partially full of sediment.

Structural Condition: Good Reason:

Recommendation: Clean.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

# **General Information**

Crossing Road: Between Walnut Street and Cypress Street

Road Name: Hickory Street

Asset Owner: SCDOT

Pipe Size: 18"

# **Condition Information & Ratings**

Performance Condition: Fair Reason: Pipe section displacement.

Structural Condition: Poor

Reason: 1. Broken end bell exposed reinforcement. 2. Pipe joint displacement.

Recommendation: Reinspect in 5 years.





# **General Information**

**Crossing Road: Cypress Street** 

Road Name: Hickory Street

Asset Owner: SCDOT

Pipe Size: 15"

# **Condition Information & Ratings**

Performance Condition: Fair Reason: Partially full of sediment.

Structural Condition: Fair/Unknown

Reason: 1. Broken catch basin lid.

- 2. Deterioration due to pipe age.
- 3. Unable to inspect east end of pipe, not accessible.

Recommendation: Clean pipe and replace catch basin.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

**Crossing Road: Cypress Street** 

Road Name: 3011 Cypress Street

Asset Owner: SCDOT

Pipe Size: 18"

# **Condition Information & Ratings**

Performance Condition: Poor

Reason: 1. Partially full of sediment.

2. Submerged.

Structural Condition: Poor

Reason: 1. Broken catch basin lid

- 2. Deterioration due to pipe age.
- 3. Unable to inspect east end of pipe, not accessible.

Recommendation: Replace pipe.



Stormwater Management System **Condition Assessment** Shell Point Drainage Improvement Program

Appendix B







# **General Information**

Crossing Road: Hickory Street Road Name: 3410 Hickory Street Asset Owner: SCDOT Pipe Size: 15″

# **Condition Information & Ratings**

Performance Condition: Poor Reason: Filled and buried with sediment.

Structural Condition: Unknown Reason: 1. Not accessible. 2. Inlet Partially full of debris and sediment.

Recommendation: Clean and reinspect.





Appendix B

#### **General Information**

Crossing Road: Broad River Drive Road Name: 1099 Broad River Drive Asset Owner: SCDOT Pipe Size: 15"

# **Condition Information & Ratings**

Performance Condition: Poor Reason: Filled and buried with sediment.

Structural Condition: Unknown Reason: 1. Not accessible. 2. Inlet Partially full of debris and sediment.

Recommendation: Clean and reinspect.





Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Ashwood Circle Road Name: Broad River Drive Asset Owner: SCDOT Pipe Size: 15″

# **Condition Information & Ratings**

Performance Condition: Poor Reason: Partially full of sediment.

Structural Condition: Good/Unknown Reason: West end of pipe not accessible.

Recommendation: Clean and reinspect.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

# **General Information**

Crossing Road: Ashwood Circle Road Name: Broad River Drive Asset Owner: SCDOT Pipe Size: 15"

# **Condition Information & Ratings**

Performance Condition: Poor Reason: Partially full of sediment.

Structural Condition: Fair Reason: Pipe joint displacement

Recommendation: Clean and reinspect in 5 years.



Appendix B

# **General Information**

Crossing Road: Ashwood Circle Road Name: 2423 Ashwood Circle Asset Owner: SCDOT

Pipe Size: 18"

# **Condition Information & Ratings**

Performance Condition: Reason: 1. Partially full of sediment.

Structural Condition: Fair/Unknown Reason: 1. Interior not accessible. 2. Deterioration due to pipe age.

Recommendation: Clean and reinspect.



# **General Information**

Crossing Road: Ashwood Circle Road Name: 2424 Ashwood Circle Asset Owner: SCDOT Pipe Size: 15″

# **Condition Information & Ratings**

Performance Condition: Poor Reason: Partially full of sediment.

Structural Condition: Unknown Reason: Not accessible.

Recommendation: Clean and reinspect.





#### **General Information**

Crossing Road: Broad River Drive

Road Name: 749 Broad River Drive

Asset Owner: SCDOT

Pipe Size: 24"

# **Condition Information & Ratings**

Performance Condition: Poor

Reason: 1. Partially full of sediment.

2. Submerged.

Structural Condition: Poor

- Reason: 1. Broken end bell.
  - 2. Severe pipe joint displacement.
  - 3. Deterioration due to pipe age.

Recommendation: Conduct channel maintenance and reinspect.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Hamrick Drive Road Name: Broad River Drive Asset Owner: SCDOT Pipe Size: 15″

# **Condition Information & Ratings**

Performance Condition: Good Reason:

Structural Condition: Fair Reason: Pipe joint displacement

Recommendation: Reinspect in 5 years.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

# **General Information**

Crossing Road: Broad River Drive

Road Name: 584 Broad River Drive

Asset Owner: SCDOT

Pipe Size: 24"

# **Condition Information & Ratings**

Performance Condition: Poor Reason: Fully submerged.

Structural Condition: Unknown Reason: Not accessible. Pipe size small for drainage area.

Recommendation: Conduct channel maintenance and reinspect. Conduct hydraulic study possible pipe replacement.



# **General Information**

Crossing Road: Hamrick Drive Road Name: Hamrick Drive Asset Owner: Beaufort County Pipe Size: 15"

# **Condition Information & Ratings**

Performance Condition: Fair Reason:1. Partially full of sediment. 2. Submerged.

Structural Condition: Good Reason:

Recommendation: Clean, conduct channel maintenance and reinspect.





# **General Information**

Crossing Road: Hamrick Drive Road Name: Hamrick Drive Asset Owner: Beaufort County Pipe Size: 15″

# **Condition Information & Ratings**

Performance Condition: Unknown Reason: Could not locate pipe.

Structural Condition: Unknown Reason: Could not locate pipe.

Recommendation: Locate pipe and clean.

# No photos available

# **General Information**

Crossing Road: Driveway pipe in channel Road Name: Hamrick Drive Asset Owner: Beaufort County Pipe Size: 18″

# **Condition Information & Ratings**

Performance Condition: Unknown Reason: Fully submerged.

Structural Condition: Unknown Reason: Fully submerged.

Recommendation: None.





Appendix B

# **General Information**

Crossing Road: Driveway pipe in channel Road Name: Hamrick Drive Asset Owner: Beaufort County Pipe Size: 18″

# **Condition Information & Ratings**

Performance Condition: Unknown Reason: Fully submerged.

Structural Condition: Unknown Reason: Fully submerged.

Recommendation: None.





Appendix B

#### **General Information**

Crossing Road: Driveway pipe in channel Road Name: Hamrick Drive Asset Owner: Beaufort County Pipe Size: 18″

# **Condition Information & Ratings**

Performance Condition: Unknown Reason: Fully submerged.

Structural Condition: Unknown Reason: Fully submerged.

Recommendation: None.



Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

#### **General Information**

Crossing Road: Driveway pipe in channel Road Name: Hamrick Drive Asset Owner: Beaufort County

Pipe Size: 18"

# **Condition Information & Ratings**

Performance Condition: Unknown Reason: Fully submerged.

Structural Condition: Unknown Reason: Fully submerged.

Recommendation: None.









Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix B

# **General Information**

Crossing Road: Broad River Drive Road Name: 410 Broad River Drive Asset Owner: SCDOT Pipe Size: 18"

# **Condition Information & Ratings**

Performance Condition: Poor Reason: Filled and buried with sediment.

Structural Condition: Unknown Reason: Filled and buried with sediment.

Recommendation: Provided in report Section 2.



#### **General Information**

Crossing Road: Broad River Drive Road Name: 396 Broad River Drive Asset Owner: SCDOT Pipe Size: 15"

# **Condition Information & Ratings**

Performance Condition: Unknown Reason: Inaccessible/Filled with sediment

Structural Condition: Unknown Reason: Inaccessible/Filled with sediment

Recommendation: Clean and CCTV closed system pipe.





#### **General Information**

Crossing Road: Broad River Road

Road Name: 256 Broad River Road

Asset Owner: SCDOT

Pipe Size: 18"

# **Condition Information & Ratings**

Performance Condition: Poor

Reason: 1. Partially full of sediment.

2. Pipe section displacement.

Structural Condition: Poor

- Reason: 1. Broken end bell.
  - 2. Severe pipe joint displacement.
  - 3. Deterioration due to pipe age.

Recommendation: Replace pipe.



Stormwater Management System **Condition Assessment** Shell Point Drainage Improvement Program

Appendix B







#### **General Information**

Crossing Road: Shell Point Recreation Park Road Name: Shell Point Recreation Park Asset Owner: Beaufort County

Pipe Size: 24"

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: 1. Partially full of sediment. 2. Submerged.

Structural Condition: Fair/Unknown Reason: 1. Interior not accessible. 2. Broken end bell.

Recommendation: Clean and reinspect.





# Appendix C: Channel/Ditch Condition Assessment Cut Sheets

#### Channel Inventory ID: 4604

#### **General Information**

Length: 998'

Upstream Limit: Shell Point Recreation Park Road

Downstream Limit: Ditch #53705

Asset Owner: Beaufort County

Jurisdictional Determination: Linear Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Fair

Reason: Overtops banks during small frequent rain events due to undersized crossline pipe #60026, tidal influence and adverse grade of outfall channel.

Construction or Maintenance: Construction

Actions: 1. Overflow Bench 2. Daylight and widen channel

USACE Requirements: 1. none 2. Individual permit/Mitigation.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

Appendix C



Appendix C

# Channel Inventory ID: 12706

# **General Information**

Length: 463'

Upstream Limit: Ditch #26310

Downstream Limit: 4017 Magnolia St

Asset Owner: Beaufort County

Jurisdictional Determination: Wetland

#### **Condition Information & Ratings**

Performance Condition: Poor

Reason: Holding water due adverse channel grade downstream of crossline pipe #37487. Dense vegetation upstream.

Construction or Maintenance: Maintenance

Actions: 1. Remove vegetation. 2. Daylight channel.

USACE Requirements: 1. None

2. Nationwide #3 200-ft upstream and downstream of crossline pipe #37487. Requires work plan & checklist no permit.



# Channel Inventory ID: 12829

# **General Information**

Length: 241'

Upstream Limit: Morning Mist Drive

Downstream Limit: Ditch #34531

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

# **Condition Information & Ratings**

Performance Condition: Poor Reason: 1. Heavy vegetation.

Construction or Maintenance: Maintenance Actions: 1. Clean channel of debris and remove vegetation.

USACE Requirements: None







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# Channel Inventory ID: 22301

# **General Information**

Length: 456'

Upstream Limit: Ditch #53705

Downstream Limit: Broad River Rd @ Hamrick Dr

Asset Owner: Beaufort County

Jurisdictional Determination: Critical Area

#### **Condition Information & Ratings**

Performance Condition: Poor

Reason: Overtops banks during small frequent rain events due to undersized crossline pipe #60026, tidal influence and adverse grade of outfall channel.

Construction or Maintenance: Maintenance/Construction

Actions: 1. Overflow Bench

- 2. Daylight Channel
- 3. Daylight and widen channel beyond Nationwide permit #3 coverage.

USACE Requirements: 1. Individual permit & mitigation.

- 2. Nationwide #3 200-ft upstream and downstream of crossline pipe #60026. Requires work plan & checklist no permit.
- 3. Individual permit & mitigation.





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# Channel Inventory ID: 26310

# **General Information**

Length: 498'

Upstream Limit: 4099 Cedarbrook Street

Downstream Limit: Ditch #12706

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Fair Reason: Upper section of ditch is good. Lower part of ditch fair due to dense vegetation.

Construction or Maintenance: Maintenance Actions: Remove Vegetation

**USACE Requirements: None** 


#### **General Information**

Length: 126' Upstream Limit: Ditch #53339 Downstream Limit: Ditch #33247 Asset Owner: Beaufort County Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: Debris blockage, vegetation and sediment infill.

Construction or Maintenance: Maintenance Actions: None private residence/ditch. No complaints.

**USACE** Requirements: None



Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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#### **General Information**

Length: 298'

Upstream Limit: 3014 Walnut Street

Downstream Limit: Ditch #32183

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

## **Condition Information & Ratings**

Performance Condition: Poor Reason: Debris blockage, vegetation and sediment infill.

Construction or Maintenance: Maintenance

Actions: Clean channel of debris, remove vegetation and some trees. Daylight channel. Cleaning of this channel will be important for upsizing crossline pipe #59399.

**USACE** Requirements: None





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#### **General Information**

Length: 236'

Upstream Limit: 3007 walnut

Downstream Limit: 3007 walnut

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor

- Reason: Debris blockage, vegetation and sediment infill causing upstream submergence of roadside ditches and crossline pipe @ 3007 Walnut St.
- Construction or Maintenance: Maintenance
- Actions: Clean channel of debris, remove vegetation and some trees. Daylight channel.

**USACE Requirements: None** 



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#### **General Information**

Length: 349'

Upstream Limit: 5019 Dogwood Street

Downstream Limit: Ditch #34854

Asset Owner: Beaufort County

Jurisdictional Determination: Linear Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Fair

- Reason: Adverse grade causing submergence of crossline pipe #23213 and downstream conditions.
- Construction or Maintenance: Maintenance
- Actions: 1. Channel cleaning and vegetation removal. 2. Daylight channel.
- USACE Requirements: 1. None
  - 2. Nationwide #3 200-ft upstream and downstream of crossline pipe #23213. Requires work plan & checklist no permit.





#### **General Information**

Length: 228'

Upstream Limit: 1099 Broad River Drive Downstream Limit: Broad River Drive Outfall Asset Owner: Beaufort County Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: Channel bed higher than crossline pipe.

Construction or Maintenance: Maintenance Actions: Daylight channel.

**USACE** Requirements: None





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#### **General Information**

Length: 203'

Upstream Limit: Ditch #33247

Downstream Limit: 3011 Broad River Rd

Asset Owner: Beaufort County

Jurisdictional Determination: Wetland

#### **Condition Information & Ratings**

Performance Condition: Fair

Reason: Holding water, debris blockage, vegetation and sediment infill.

Construction or Maintenance: Maintenance

Actions: 1. Channel cleaning and vegetation removal. 2. Daylight channel.

USACE Requirements: 1. 1. None

2. Nationwide #3 200-ft upstream and downstream of crossline pipe #52851. Requires work plan & checklist no permit.



#### **General Information**

Length:293'

Upstream Limit: 4017 Magnolia Street

Downstream Limit: Ditch #34463

Asset Owner: Beaufort County

Jurisdictional Determination: Ditch #34463

#### **Condition Information & Ratings**

Performance Condition: Poor

Reason: Holding water due to downstream conditions. Adverse channel grade causing submergence of crossline pipe #37487. Work to be included with Nationwide #3 permit for crossline pipe.

Construction or Maintenance: Maintenance Actions: Daylight channel.

**USACE** Requirements: None









Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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#### **General Information**

Length: 451'

Upstream Limit: Broad River Drive

Downstream Limit: Broad River Drive Outfall

Asset Owner: Beaufort County

Jurisdictional Determination: Critical Area/Wetland

#### **Condition Information & Ratings**

Performance Condition: Fair Reason: Adverse channel grade. Tidally influenced.

Construction or Maintenance: Maintenance Actions: Daylight channel.

USACE Requirements: Nationwide #3 200-ft upstream and downstream of crossline pipe #52851. Requires work plan & checklist no permit.



#### **General Information**

Length: 711'

Upstream Limit: Hickory Street

Downstream Limit: Ditch #32183

Asset Owner: Beaufort County

Jurisdictional Determination: Wetland/Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor

- Reason: Holding water due to downstream conditions, debris blockage, vegetation and sediment infill.
- Construction or Maintenance: Maintenance
- Actions: Clean channel of debris, remove vegetation and some trees. Clean out sediment.
- USACE Requirements: None in upper reaches. Can remove debris and vegetation from lower reaches without permit. Cannot disturb ditch substrate and banks of lower reach.





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#### **General Information**

Length: 155'

Upstream Limit: Ditch #34463

Downstream Limit: 5019 Dogwood Street

Asset Owner: Beaufort County

Jurisdictional Determination: Linear Jurisdictional/Wetland

#### **Condition Information & Ratings**

Performance Condition: Fair

Reason: Holding water due to submergence of crossline pipe #23213

Construction or Maintenance: Maintenance Actions: Daylight channel.

USACE Requirements: Nationwide #3 200-ft upstream and downstream of crossline pipe #23213. Requires work plan & checklist no permit.





#### **General Information**

Length: 841'

Upstream Limit: Ditch #32581

Downstream Limit: Ditch #34462

Asset Owner: Beaufort County

Jurisdictional Determination: Wetland/Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Fair

Reason: Holding water due to submergence of crossline pipe #23213

Construction or Maintenance: Maintenance Actions: Daylight downstream portion of channel segment.

USACE Requirements: Nationwide #3 70-ft upstream of channel segment 34462. Requires work plan & checklist no permit.





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#### **General Information**

Length: 172'

Upstream Limit: 227 Baynard Road

Downstream Limit: Ditch #34854

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Good Reason: None

Construction or Maintenance: None Actions: None private residence/ditch. No complaints.

USACE Requirements: None





#### **General Information**

Length: 215'

Upstream Limit: 3010 Palmetto Ridge Street

Downstream Limit: Ditch #32183

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor

Reason: Holding water due to downstream conditions, debris blockage, vegetation and sediment infill.

Construction or Maintenance: Maintenance Actions: Daylight channel, remove debris and vegetation.

**USACE** Requirements: None





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#### **General Information**

Length: 302'

Upstream Limit: Ditch #28693

Downstream Limit: 227 Baynard Road

Asset Owner: Beaufort County

Jurisdictional Determination: Linear Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: Holding water due to channel #45900 adverse grade and submergence of crossline #35786.

Construction or Maintenance: Maintenance Actions: Daylight channel.

USACE Requirements: Nationwide #3 200-ft upstream and downstream of crossline pipe #35786. Requires work plan & checklist no permit.







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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#### **General Information**

Length: 349'

Upstream Limit: 3011 Cypress Street

Downstream Limit: 3013 Walnut Street

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor

Reason: Ditch cross section not sufficient for carrying stormwater flow. Low backyard grades allow flooding. Down stream conveyance require maintenance and may be inadequate.

Construction or Maintenance: Maintenance

Actions: Daylight channel, widen cross section, remove sediment from downstream crossline #59399. Tree removal involved.



**USACE Requirements: None** 



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#### **General Information**

Length: 465'

Upstream Limit: Ditch #51186

Downstream Limit: Ditch #41936

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor

Reason: Dense vegetation in upper reaches. Good performance in grass lined lower reaches.

Construction or Maintenance: Maintenance Actions: Remove vegetation.

**USACE Requirements: None** 



#### **General Information**

Length: 499'

Upstream Limit: Hickory Street

Downstream Limit: Cypress Street

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Good Reason: Ditch recently cleaned of vegetation.

Construction or Maintenance: Actions: None

USACE Requirements: None



#### **General Information**

Length: 176'

Upstream Limit: Baynard Road

Downstream Limit: Broad River Outfall

Asset Owner: Beaufort County

Jurisdictional Determination: Critical Area/Linear Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: Adverse channel grade causing crossline pipe #35786 submergence. Tidally influenced.

Construction or Maintenance: Maintenance Actions: Daylight channel.

USACE Requirements: Nationwide #3 200-ft upstream and downstream of crossline pipe #35786. Requires work plan & checklist no permit.



#### **General Information**

Length: 173'

Upstream Limit: Hickory Street

Downstream Limit: Ditch #42204

Asset Owner: Beaufort County

Jurisdictional Determination: Non Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Poor Reason: Dense vegetation and adverse grade causing slight submergence of crossline pipe #59738.

Construction or Maintenance: Maintenance Actions: Remove vegetation, daylight channel.

**USACE** Requirements: None





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#### **General Information**

Length: 302' Upstream Limit: Ditch #31745 (Food Lion Detention Pond) Downstream Limit: Shell Point Recreation Park Road Asset Owner: Beaufort County Jurisdictional Determination: Linear Jurisdictional

#### **Condition Information & Ratings**

Performance Condition: Good Reason: None

Construction or Maintenance: None Actions: None

**USACE** Requirements: None





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#### **General Information**

Length: 456'

Upstream Limit: Ditch #4604

Downstream Limit: Ditch #22301

Asset Owner: Beaufort County

Jurisdictional Determination: Critical Area

#### **Condition Information & Ratings**

Performance Condition: Poor

Reason: Overtops banks during small frequent rain events due to undersized crossline pipe #60026 and tidal influence.

Construction or Maintenance: Construction

Actions: 1. Overflow Bench 2. Daylight and widen channel

USACE Requirements: 1. Individual permit and Mitigation. 2. Individual permit and Mitigation.





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#### Channel Inventory ID: None

#### **General Information**

Length: 277'

Upstream Limit: Broad River Road @ Hamrick Drive

Downstream Limit: Broad River Outfall

Asset Owner: Beaufort County

Jurisdictional Determination: Broad River Outfall

#### **Condition Information & Ratings**

Performance Condition: Poor

Reason: Tidally influence and holds water due to adverse grade causing submergence of crossline pipe #60026.

Construction or Maintenance: Maintenance/Construction Actions: 1. Daylight Channel 2. Dredge channel approximately 1000-ft.

USACE Requirements: 1. Daylight Channel 2. Dredge channel approximately 1000ft.



# Appendix D: SCDOT Right-of-Way Condition Assessment Cut Sheets

#### SCDOT Right-of-Way Inventory ID: Broad River Drive

#### **General Information**

Roadway: Broad River Drive

From: Parris Island Parkway

To: Shell Point Park

#### **Condition Information & Status**

Notes: Both sides of roadway Ditching Status: Most portions completed.









Stormwater Management System **Condition Assessment** Shell Point Drainage Improvement Program

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#### SCDOT Right-of-Way Inventory ID: Ashwood Circle

#### **General Information**

Roadway: Ashwood Circle

From: Broad River Drive

To: Broad River Drive

#### **Condition Information & Status**

Notes: Partially completed on right side to Palmetto Ridge St Ditching Status: No Status









Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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#### SCDOT Right-of-Way Inventory ID: Broad River Drive

#### **General Information**

Roadway: Broad River Drive

From: Shell Point Road

To: 3016 Broad River Drive

#### **Condition Information & Status**

Notes: Both sides of roadway Ditching Status: Complete

# No photos available

# SCDOT Right-of-Way Inventory ID: Walnut Street

#### **General Information**

**Condition Information & Status** 

Roadway: 3015 Walnut Street

From: Cypress Street

To: Broad River Drive

Ditching Status: Not complete.

Notes:









Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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#### SCDOT Right-of-Way Inventory ID: Palmetto Ridge Street

#### **General Information**

Roadway: Palmetto Ridge Street

From: Broad River Drive

To: Hickory St

#### **Condition Information & Status**

Notes: Both sides of roadway completed Ditching Status: Complete





Appendix D

## SCDOT Right-of-Way Inventory ID: Hickory Street

#### **General Information**

Roadway: Hickory Street

From: Shell Point Rd

To: Cypress St

#### **Condition Information & Status**

Notes: Both sides of roadway Ditching Status: Complete





Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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#### SCDOT Right-of-Way Inventory ID: Shell Point Road

#### **General Information**

Roadway: Shell Point Road

From: Parris Island Parkway

To: Baynard Road

#### **Condition Information & Status**

Notes: Both sides of roadway Ditching Status: Scheduled week of 2/27/2023









Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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#### SCDOT Right-of-Way Inventory ID: Morning Mist Drive

#### **General Information**

Roadway: Morning Mist Drive

From: Shell Point Road

To: 6014 Morning Mist Road

#### **Condition Information & Status**

Notes: Right side of roadway Ditching Status: Complete







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#### SCDOT Right-of-Way Inventory ID: Dogwood Street

#### **General Information**

Roadway: Dogwood Street

From: Baynard Road

To: 5018 Dogwood Street

#### **Condition Information & Status**

Notes: Right side of roadway Ditching Status: Complete

# No photos available

#### SCDOT Right-of-Way Inventory ID: Green Pond Road

#### **General Information**

Roadway: Green Pond Road

From: Baynard Road

To: Gollihugh Street



#### **Condition Information & Status**

Notes: Both sides of road includes cleaning of culvert at 5003 Green Pond Rd

Ditching Status: Scheduled week of 3/13/2023







Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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## SCDOT Right-of-Way Inventory ID: Baynard Road

#### **General Information**

Roadway: Baynard Road

From: Shell Point Road

To: Parris Island Parkway

#### **Condition Information & Status**

Notes:

**Ditching Status: No Status** 









Stormwater Management System Condition Assessment Shell Point Drainage Improvement Program

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