

AGENDA
NATURAL RESOURCES COMMITTEE
Monday, May 3, 2010
2:00 p.m.
Council Chambers
Administration Building

Committee Members:
Paul Sommerville, Chairman
Jerry Stewart, Vice-Chairman
Steven Baer
Gerald Dawson
Brian Flewelling
William McBride
Stu Rodman

Staff Support: Tony Criscitiello

- 2:00 p.m.** 1. CALL TO ORDER
2. TEXT AMENDMENT TO THE BEAUFORT COUNTY ZONING AND DEVELOPMENT STANDARDS ORDINANCE (ZDSO), ARTICLE V, SECTION 106-1098 GENERAL USE TABLE (TO ALLOW A SMALL TOWING BUSINESS TO BE ABLE TO DO BUSINESS IN COMMERCIAL REGIONAL ZONING) ([Memo](#))
3. STORMWATER BEST MANAGEMENT PRACTICE (BMP) MANUAL MODIFICATIONS FOR VOLUME RUNOFF CONTROL ([Backup](#))
4. REQUEST FOR QUOTES FOR TOURIST RAILROAD ON PORT ROYAL RAILROAD RIGHT-OF-WAY ([Backup](#))
5. FORM-BASED CODE ([Backup](#))
- Memorandum of Understanding with Beaufort County, City of Beaufort and Town of Port Royal
 - Selection of Form-Based Code Consultant - Opticos Design, Inc.
6. CONSIDERATION OF REAPPOINTMENTS AND APPOINTMENTS
- Beaufort/Jasper Water and Sewer Authority (June consideration)
 - Rural and Critical Lands Board

7. EXECUTIVE SESSION

- Discussion of negotiations incident to proposed contractual arrangements and proposed purchase of property

8. ADJOURNMENT

County TV Rebroadcast	
Wednesday	9:00 a.m.
Thursday	4:00 a.m.
Saturday	11:00 p.m.

Natural Resources		
<i>Date</i>	<i>Time</i>	<i>Location</i>
June 7	2:00 p.m.	ECR
No Meeting in July		
August 10	2:00 p.m.	ECR
September 7	2:00 p.m.	ECR
October 4	2:00 p.m.	ECR
November 1	2:00 p.m.	ECR
December 6	2:00 p.m.	ECR



PLANNING DIVISION MEMORANDUM

TO: Natural Resources Committee of Beaufort County Council
FROM: Anthony Criscitiello, Planning Director
DATE: April 26, 2010
SUBJECT: Proposed Amendment to the ZDSO to Permit Towing Businesses in the Commercial Regional (CR) Zoning District

Excerpt of PLANNING COMMISSION RECOMMENDATION from its April 5, 2010, draft meeting minutes:

Ms. Delores Frazier briefed the Commission. The use is not allowed. The staff is recommending denying the amendment since the use should not be on major highways. Towing businesses are better suited to light industrial areas. Towing is allowed as an accessory use if one is doing automotive repair. The applicant is primarily a towing business.

Chairman Hicks noted that the applicant is not present at the meeting and no other members of the public are present.

Public Comment: None was received.

Applicant's Comment: None was received since he was not present at the meeting.

Committee discussion included:

- whether the applicant was the owner of the property (the answer was no);
- whether the Planning staff had heard from the property owner (the answer was no);
- whether the text amendment would apply to any piece of property zoned commercial regional throughout the county (the answer was yes);
- the Commission having seen applicants in the past who had asked for text amendments to accommodate their business;
- the allowance of towing businesses in light industrial, industrial park, and rural zoning districts;
- the difficulty of granting the text amendment since other locations are available to the applicant; and
- the applicant as the renter and not the owner of the property can move to another location.

Motion: Mr. Semmler made a motion, and Mr. Sutler seconded the motion, to recommend to County Council to deny the requested Text Amendment to the Beaufort County Zoning and Development Standards Ordinance (ZDSO), Article V, Section 106-1098 General Use Table that will allow a small towing business to be able to do business in commercial

regional zoning. No further discussion occurred. The motion was carried (FOR: Hicks, LeGrec, Petit, Riley, Semmler and Sutler),

Discussion on a point of clarification: Ms. Frazier noted that anyone can request a text change to the zoning and development standards ordinance once they have paid a filing fee. Text amendments are not tied to specific properties, but rather to zoning districts.

STAFF REPORT:

A. SUMMARY OF REQUEST

Mr. Sigler would like to operate a small towing business on US 278 in a Commercial Regional (CR) zoning district. Towing businesses are permitted in the Light Industrial (LI), Industrial Park (IP) and Rural Business (RB) districts, but are not allowed in CR districts.

B. ANALYSIS

Section 106-493 of the ZDSO lists 7 standards (below), any of which is cause for a Zoning Text Amendment. Analysis will address all those that are applicable to this text change request.

Sec. 106-493. Standards for zoning text amendment.

A zoning ordinance text amendment may be approved if:

1. It would implement a new portion of the comprehensive plan or amendment.
(Not Applicable)
2. It would implement and better achieve the comprehensive plan's goals and objectives that have proved difficult to achieve under the ordinance's existing provisions.
(Not Applicable)
3. The ordinance's provisions were inconsistent or unreasonable in light of standards for similar uses.
(Not Applicable)
4. It is necessary to respond to state and/or federal legislation.
(Not Applicable)
5. It provides additional flexibility in meeting the ordinance's objectives without lowering the ordinance's general standards.

Towing businesses are classified in the ZDSO as light industrial uses. These businesses are primarily involved in motor vehicle towing and the storage of vehicles. They may also provide incidental services such as emergency road repair services. Currently, these uses are permitted in the Light Industrial (LI), Industrial Park (IP) and Rural Business (RB) districts, but are not

allowed in CR districts

The Commercial Regional (CR) zoning district permits a wide range of retail, service and office uses. These uses often include large commercial activities that serve the entire county and highway oriented businesses that need to be located on major highways. Exterior storage is limited and accessory to the principal commercial use. In southern Beaufort County, CR zoning districts are generally concentrated along US 278. In northern Beaufort County, CR zoning is clustered along US 21, SC 280 and SC 170 in the Burton area. These major roadways are also within the County's Highway Corridor Overlay District (HCOD), which mandates additional landscaping and architectural standards intended to enhance and protect the aesthetic quality of development along these highways.

Currently, the zoning districts in the County's ZDSO regulate use over form or design. In this regulatory environment, towing businesses, which typically have large, fenced-in storage areas for cars and trucks and small, accessory dispatch/office facilities, are better suited to light industrial areas that permit similar types of uses than to major roadway corridors that serve as entrances to the County's municipalities.

6. It addresses a new use, changing conditions, and/or clarifies existing language.

(Not Applicable)

7. It clarifies the ordinance or makes adjustments to account for interpretation.

(Not Applicable)

C. STAFF RECOMMENDATION

After review of the guidelines set forth in Section 106-493 of the ZDSO, staff recommends denial of this request.

E. ATTACHMENT

- Copy of application for Zoning Text Amendment



M E M O R A N D U M

DATE: April 29, 2010

TO: Natural Resources Committee

FROM: Gary Kubic, County Administrator

SUBJ: Volume Control Addition to BMP Manual

This is a product coming forward as a recommendation by the Stormwater Utility Board.

Thank you.

GK:ch



TO: Councilman Paul Sommerville, Chairman, Natural Resources Committee

VIA: Gary Kubic, County Administrator
Rob McFee, Director of Public Services
Eddie Bellamy, Public Works Director *MCB*
Robert Klink, County Engineer *REK*

FROM: Dan Ahern, P.E., Stormwater Manager *DA*

SUBJ: Volume Control Addition to BMP Manual

DATE: April 29, 2010

BACKGROUND. The County Council adopted changes to the ZDSO in October 2009 incorporating stormwater volume controls for new development. Changes to the County's BMP manual have been developed to provide guidance on implementing the ordinance changes. The changes were consolidated into a new Appendix C. This appendix has been posted on SW Website since beginning of February and we held a workshop on February 15, 2010 for engineering community to answer questions and get feedback. Changes were incorporated into Appendix C based on that workshop and reposted on the Web site along with minor wording changes in body of manual. This process was monitored by the Stormwater Utility Board and on April 7, 2010 the unanimously approved the proposed changes.

RECOMMENDATION.

That the Natural Resources Committee endorses and recommends to County Council the issuance of the volume control updates to the Stormwater Best Management Practices Manual.

Attachments:

Stormwater Best Management Practice (BMP) Manual modifications for Volume Runoff Control

1-2

- Addition of a new manual appendix with forms that can be used to verify that proposed structural BMPs are sized in accordance with the criteria presented in Section 5 of the manual.
- Addition of a new manual appendix with a maintenance agreement form that assigns responsibility for maintaining stormwater BMPs following construction.

The 2008 Phase 1 version of the manual built upon the 2003 version and included the following specific changes or additions to the manual:

- Update the summary of stormwater regulation to include discussion of erosion and sediment control requirements during construction (including inspection and reporting requirements under the NPDES general stormwater permit).
- Addition of an Appendix D (the Town of Bluffton's Stormwater Ordinance), which includes requirements that are applicable to new developments in the May River watershed.
- Addition of low impact development BMPs that will be required for new construction.

The 2009 Phase 2 version addresses applicability of BMPs to redevelopment and adds the following specific addition to the manual:

- Consideration of total nitrogen (total N) as a third "indicator pollutant" to determine whether a BMP plan sufficiently controls stormwater quality. As a result, three worksheets must be completed—one for total phosphorus, one for fecal coliform, and one for total nitrogen.

In October 2009, the County Council adopted stormwater volume runoff control regulations. In response, the May 2010 BMP Manual was modified as follows:

- Appendix C was added to document the effectiveness of BMPs in controlling stormwater volume.**
- The Appendix includes a worksheet that must be completed to determine the "effective imperviousness" of the development. The recommended goal set for new development is 10 percent effective imperviousness.**
- The former Appendix C (Sediment Control Certification Form for Construction Sites) is now Appendix D.**
- The former Appendix D (Town of Bluffton Stormwater Ordinance) has been removed because the town no longer has a stand-alone ordinance.**

2.4 Coordination with Town of Bluffton

In the previous version of the manual (April 2009), this section described the Town of Bluffton's stand-alone Stormwater Ordinance. Now, coordination between the Town and the County is covered by an interagency agreement. The May 2010 version of the BMP Manual incorporates the Town's in-series BMPs into the manual. These include:

- Redirecting roof drainage onto adjacent impervious surfaces;**
- Installing grassed swales on lots with suitable soils;**
- Installing sunken island in parking lots instead of raised islands with curbs;**
- Installing pervious pavement (at least 50 percent) in commercial parking lots; and**
- Installing disconnected drainage where possible.**

Appendix C provides information on the effectiveness of these BMPs in reducing stormwater runoff volume.

Article 3 of the Ordinance (Standards) pertains to stormwater management standards for water quantity and water quality. Specific requirements pertaining to water quality controls include the following:

- In areas of Hydrologic Soil Groups A and B, development shall control and infiltrate the first one (1) inch of stormwater runoff from the entire development with structural BMPs.
- In areas of Hydrologic Soil Groups C and D, development shall store and release the first one (1) inch of stormwater runoff from the entire development with structural BMPs, and the captured runoff shall be discharged over a 72-hour period.
- New developments receiving a Development Standards Ordinance permit from the Town shall be required to perform stormwater quality monitoring to ensure compliance with the Ordinance and proper operation of the BMPs.
- New developments must provide an estimate of pre-development pollutant loading levels and demonstrate that post-development pollutant loading does not exceed pre-development levels.

Other related topics covered in the Ordinance include Sediment and Erosion Control inspection reports, permeable paving (where conditions permit), and maximum imperviousness for infill development of single family lots.

After discussion between key staff members from Beaufort County and the Town of Bluffton in January 2008, the decision was made to incorporate the Town of Bluffton's

3.6 Recommended Policies and Standards for New Development

The BMP Manual requires consideration of both stormwater runoff volume control and runoff pollution load control. Consequently, calculations based on considerations in Appendix C (stormwater runoff volume control) should be performed to establish the basis for the “effective imperviousness” value to be used in the pollution load reduction worksheets.

Table 3-14 presents a BMP Technology Criteria Matrix based on Tables 3-9 and 3-10 (BMP pollution removal efficiencies) and Table 3-13 (removal requirements to meet antidegradation goal). For each impervious cover category, this matrix lists the minimum BMP alternatives which will satisfy the BMP efficiency requirements for meeting the antidegradation water quality goal. Since certain BMPs are restricted to either small or large drainage areas, Table 3-15 presents the minimum BMP requirements for drainage areas less than 10 acres and for 10 acres or greater. The small and large area categories in Table 3-15 are based upon the total area of the development project, not the potential drainage area of the specified BMPs.

In this manual, "impervious cover" refers to a surface composed of any material that significantly impedes or prevents natural infiltration of water into soil. Impervious surfaces include roofs, buildings, streets, parking areas, and any concrete, asphalt or compacted gravel surface. A “green roof”, which incorporates vegetation and associated planting medium onto the roof surface, can be expected to reduce stormwater runoff and pollution loads (Wanielista, 2007), and therefore the benefits for incorporation of green roofs into the site design should be considered in the BMP Plan calculation sheets. Benefits also should be considered for “pervious pavement”, which is manufactured to infiltrate rainfall rather than converting rainfall to runoff. Other Low Impact Development (LID) features such as impervious developed area that discharges from a roof drain to a pervious area, and impervious developed area that discharges to features including lot swales, sunken islands, and disconnected drainage, should also be considered. These are addressed in Appendix C.

Appendix C

Stormwater Volume Control

Appendix C

Stormwater Volume Control

C.1 Background

This Appendix constitutes a reporting of expected stormwater runoff volume control for the stormwater management practices that will be considered in the update to the Beaufort County Stormwater Best Management Practices (BMP) Manual. These practices include:

- Rooftop practices (e.g., green roofs, flat roof rainfall collection/evaporation)
- Pervious pavement
- Runoff capture and use for irrigation
- Disconnection of impervious area (e.g., routing rooftop runoff onto adjacent lawn surface)
- Rain gardens or other devices designed to capture runoff and promote percolation into the soil.
- Swales to capture runoff from highways and other roadways.

For each of these practices, this appendix reports expected runoff volume reduction for these practices.

C.2 Stormwater Runoff for Undeveloped Area

The EPA Stormwater Management Model (SWMM) was used to determine the expected long-term stormwater runoff (percent of rainfall converted to stormwater runoff) for various soil types. In this case, separate model runs were done for the NRCS soil groups A, B, C and D. Runs were done using a long-term rainfall record for Jacksonville, Florida (1964 - 2004) using hydrologic parameter values that have been established based on model calibration in Jacksonville, Florida as well as literature values. Key input parameters for the simulations include the Horton infiltration rates, maximum soil storage volume, and rate of soil storage recovery after rainfall events.

The results of the analysis for long-term conversion of rainfall to stormwater runoff are as follows:

- Soil group A: 4%
- Soil group B: 8%
- Soil group C: 14%
- Soil group D: 21%

These values will be used as the basis for comparison for other practices, to determine the extent to which a developed area can control the 'excess runoff' (i.e., runoff beyond what would be generated by the natural undeveloped land).

C.3 Rooftop Practices

Rooftop practices that have been evaluated include green roofs and roof evaporation for structures with flat roofs. The green roof includes some depth of planting media on the roof, which will capture rainwater and experience water loss through evapotranspiration, whereas the roof evaporation includes some depth of water that is allowed to accumulate on the roof and evaporate. In both cases, the rooftop practice can be supplemented with a cistern to collect roof runoff and re-circulate that collected water back to the rooftop.

Green Roof. Review of literature suggests that the typical planting media depth is in the range of 3 to 12 inches. SWMM was used to evaluate the expected runoff from the green roof for each of those media depths, assuming that the media would behave similarly to soil group B. Simulations were done with and without considering use of a cistern to collect excess stormwater and recirculate it back to the green roof later. Rather than explicitly modeling the capture and recirculation of water through the cistern, cistern storage volume was evaluated by providing additional surface depression storage to the green roof. Values of 1 inch, 2 inches, 3 inches and 4 inches of additional storage were evaluated.

The results of the analysis are presented in Table C-1. As shown in the table, the green roof is expected to reduce the roof runoff by 34 to 55% depending upon the depth of the planting media, if there is no runoff collection and recirculation using a cistern. This range is consistent with the current BMP manual, which suggests that green roofs be treated as 50% impervious and 50% pervious developed area. The 50% value was suggested based on work by Marty Wanielista in Florida. Wanielista also evaluated green roofs with runoff capture and recirculation, and found that 75% runoff reduction could be achieved. This is comparable to the values in the table below, with a cistern volume of 3 to 4 inches. The Chesapeake Stormwater Network Technical Bulletin 4 has also provided estimates of volume reduction for green roofs, and their recommended range of 45 to 60% is also consistent with the findings in the table.

The results indicate that a green roof cannot totally compensate for the excess stormwater runoff that is generated by the roof surface. However, a green roof with media depth and cistern volume at the high end of the range investigated would come close to compensating for additional stormwater if the structure was located on soil group D. That soil group is expected to convert 21% of rainfall to runoff, in comparison to 24% runoff (76% reduction) for the system with the 4 inch cistern volume and 12 inch planting media depth.

Table C-1. Green Roof Reduction in Stormwater Runoff Volume

Roof Media Depth (inches)	Roof Runoff Reduction as Function of Roof Media Depth and Cistern Volume				
	Cistern Volume (inches)				
	0	1	2	3	4
3	34%	58%	67%	71%	74%
6	40%	60%	68%	72%	75%
9	48%	63%	69%	73%	75%
12	53%	66%	71%	74%	76%

NOTE: Cistern volume of 1 inch is equivalent to 0.62 gallon per square foot of rooftop area.

Roof Evaporation. Roof evaporation calculations were conducted using a spreadsheet tool developed previously by CDM for Beaufort County. Spreadsheet inputs included long-term meteorological data such as daily rainfall and pan evaporation data, plus user inputs such as the maximum ponding depth on the roof, coefficient for orifice flow from roof to cistern, roof area, and cistern volume.

The results of the analysis are presented in Table C-2. As shown in the table, the roof evaporation is expected to reduce the roof runoff by 0 to 89% depending upon the maximum allowable depth of ponding, if there is no runoff collection and recirculation using a cistern. Since the natural conversion of rainfall to runoff is 21% for soil group D and 14% for soil group C, roof evaporation in some cases can compensate for the excess runoff without cistern runoff capture and recirculation. With appropriate combinations of cistern volume and maximum ponding depth, roof evaporation can compensate for the excess runoff for soil groups B, C and D. Soil group A would require 96% runoff reduction and no combinations tested were able to achieve that level.

The results tend to show that the roof evaporation has greater runoff reduction for equal depths of planting media (green roof) versus roof ponding depth (roof evaporation). One reason is that for an equivalent depth, the planting media provides less water storage in the voids of the media than the open water storage for roof evaporation. Another is that the roof evaporation in most cases will occur more rapidly than the evapotranspiration of the plants and planting media on the green roof.

Table C-2. Roof Evaporation Reduction in Stormwater Runoff Volume

Roof Ponding Depth (Inches)	Percent Runoff Reduction for Various Combinations of Maximum Roof Ponding Depth and Cistern Volume					
	Cistern Volume (Inches)					
	0	0.2	1	2	3	4
0	0%	27%	59%	71%	77%	80%
2	71%	73%	77%	80%	83%	87%
4	80%	81%	83%	85%	87%	89%
6	85%	86%	87%	89%	90%	91%
8	89%	89%	90%	91%	92%	93%

NOTE: Cistern volume of 1 inch is equivalent to 0.62 gallon per square foot of rooftop area.

C.4 Pervious Pavement

The current BMP Manual suggests that pervious pavement should be treated as 'pervious developed area' for the purposes of water quality BMP plan evaluation. This is in part based on the fact that properly designed, installed and maintained pervious pavement should have an infiltration rate through the pavement that is greater than or equal to the infiltration rate of the underlying soil – in other words, the rate of infiltration through the pavement surface is not the limiting factor in the facility's capability to infiltrate rainfall.

However, products such as pavers may be considered pervious pavement as well, and these systems may not reduce post-development runoff to pre-development conditions. The Chesapeake Stormwater Network Technical Bulletin No. 4 shows studies that measured 70% to 100% volumetric reduction. A value of 75% runoff volume reduction is recommended in the Technical Bulletin. Perhaps the BMP Manual should distinguish between pavement and pavers in determining how to assess porous pavement as part of the BMP plan review process.

C.5 Runoff Capture and Use for Irrigation

Roof runoff capture and use for irrigation was evaluated using a spreadsheet tool developed previously by CDM for Beaufort County. Spreadsheet inputs included long-term meteorological data such as daily rainfall and pan evaporation data, plus user inputs such as irrigated area, roof area, cistern volume, and desired irrigation water depth. The spreadsheet was developed assuming that irrigation would occur once per week, at the desired irrigation water depth, if the preceding 7-day period did not provide the desired irrigation water depth. The irrigation water calculation took water from the cistern if available, and supplemented that with an external source.

The results of the analysis are presented in Table C-3. One observation is that the percent roof runoff reduction is often limited by the cistern volume. For example, with a cistern volume of 1 inch, results are exactly the same whether the ratio of irrigated area to roof area is 2 to 1, 3 to 1, 6 to 1, or 9 to 1. The same is true for other cistern volumes.

Table C-3. Roof Runoff Capture for Irrigation and Associated Reduction in Stormwater Runoff Volume

Ratio of Irrigated Area to Roof Area	Percent Runoff Reduction for Various Combinations of Irrigated Area to Roof Area Ratio and Cistern Volume				
	Cistern Volume (inches)				
	0	1	2	3	4
0	0%	0%	0%	0%	0%
0.5	0%	30%	34%	35%	35%
1	0%	41%	52%	58%	61%
2	0%	43%	64%	73%	78%
3	0%	43%	64%	77%	83%
6	0%	43%	64%	77%	85%

NOTE: Cistern volume of 1 inch is equivalent to 0.62 gallon per square foot of rooftop area.

Since the natural conversion of rainfall to runoff is 14% for soil group C and lower for the soil groups A and B, roof runoff capture and use for irrigation will not compensate for the excess runoff for these soil groups. However, with a cistern volume of 4 inches and a ratio of irrigated area to roof area of 3 or greater, roof runoff capture for irrigation use can compensate for the excess runoff for soil group D.

Though not directly related to the reduction in runoff volume, the spreadsheet also provides an estimate of the percentage of irrigation need that is met by the roof runoff capture. These results are shown in Table C-3A for the same values of cistern volume and irrigated area to rooftop area ratios in Table C-3. As expected, the percent of irrigation need met by the rooftop runoff increases as the cistern volume increases, and as the ratio of irrigated area to roof area decreases (i.e., irrigating a smaller area relative to the size of the rooftop).

Table C-3A. Percent of Irrigation Need Met by Roof Runoff Capture

Ratio of Irrigated Area to Roof Area	Percent of Irrigation Need Met by Rooftop Runoff Capture For Various Combinations of Irrigated Area to Roof Area Ratio and Cistern Volume				
	Cistern Volume (Inches)				
	0	1	2	3	4
0	0%	0%	0%	0%	0%
0.5	0%	86%	98%	99%	100%
1	0%	59%	75%	83%	88%
2	0%	30%	48%	52%	56%
3	0%	20%	31%	37%	40%
6	0%	10%	15%	18%	20%

NOTE: Cistern volume of 1 inch is equivalent to 0.62 gallon per square foot of rooftop area.

C.6 Disconnection of Impervious Area

The 2008 BMP manual update included consideration of disconnected impervious area (i.e., routing flow from impervious area onto adjacent pervious area where it has an opportunity to infiltrate). Figure 3-6 of the manual shows the relationship between the ratio of impervious runoff source area to adjacent pervious area receiving the impervious area runoff, and the appropriate 'effective' imperviousness value for the impervious area. For example, if the ratio is equal to 2, the graph shows an effective imperviousness of 75%. This means that in the BMP plan evaluation, the impervious area should be treated as 75% impervious and 25% developed pervious area, to reflect the runoff reduction (and associated load reduction) benefit of disconnecting the impervious area.

The graph was based on model runs for an 'average' soil condition in Beaufort County. For the current analysis, SWMM was run for the soil groups A, B, C and D to assess the variability by soil group and consider revising the figure to reflect that variability. In the analysis, the 'run on' feature of SWMM was used to route the runoff generated by the impervious area onto the pervious area. By comparing the amount of runoff that would be generated separately by the pervious and impervious areas to the runoff generated by the combination of impervious area discharging to pervious area, the 'effective imperviousness' of the impervious area was calculated. The results are presented as "effective imperviousness" rather than percent runoff reduction because we are looking at the overall runoff from the system of disconnected impervious area plus pervious area receiving runoff from the impervious area, rather than looking at runoff reduction from a particular impervious surface such as a rooftop.

Results of the analysis are presented in Table C-4. In this case, the percentage values in the table are the 'effective imperviousness' values for the impervious runoff area discharging to pervious area. To compensate for the excess runoff, the value in Table C-4 would have to be equal to zero. This is not the case for any of the analyzed cases.

Table C-4. Effective Imperviousness Values for Various Soil Groups and Ratios of Impervious Runoff Source Area and Adjacent Pervious Area

Ratio of Impervious to Pervious Area	Percent Runoff Reduction for Various Soil Groups and Ratio of Impervious Source Area to Adjacent Pervious Area				
	Soil Group				Manual
	A	B	C	D	
0.2	19%	31%	42%	54%	50%
1	33%	50%	64%	70%	66%
2	49%	65%	78%	80%	75%
5	54%	85%	90%	93%	86%

The values in the table show that the effective imperviousness value for a particular ratio of impervious area to adjacent pervious area is highly variable depending on the soil group.

C.7 Rain Gardens

In the 2003 BMP manual update, the bioretention (or rain garden) BMP was added as one of the BMPs featured with design and maintenance information. This BMP functions by capturing stormwater runoff which can pond on the rain garden surface and infiltrate into the planting media below the rain garden surface. Runoff volume reduction is achieved by evapotranspiration of the water at the surface and in the planting media, and by infiltration from the rain garden to the subsurface around and below the rain garden.

SWMM was used to evaluate the expected runoff from a combination of a developed area routing its runoff to a rain garden area. Again, the "run-on" feature of SWMM was used to route the developed area runoff to the rain garden area, which was modeled as a pervious area with depression area equivalent to the maximum ponding area plus the total water storage capacity in the planting media, and unlimited soil water storage (infiltrating water from the rain garden is assumed to be conveyed away from the rain garden to surficial aquifer groundwater).

Design criteria outlined in the manual were used to determine model input. These criteria included the following:

- Water quality storage volume of 1.5 inches per impervious acre or 0.5 inch per acre, whichever is greater
- Planting media depth of 3 feet (minimum recommended value)

■ Ponding depth of 6 inches (maximum allowable value)

The model was run for a medium density residential case (assumed 25% imperviousness) and a high intensity commercial case (assumed 85% imperviousness) to test both of the water quality storage volume requirements. As discussed in the manual, the surface area of the rain garden was calculated based on accommodating the water quality volume considering the ponding volume above the rain garden (6 inches in this case) plus available water storage in the planting media below the surface for average antecedent conditions. The manual suggest using a factor of 0.2 to establish the soil storage volume in the planting media, so in this case, 3 feet (36 inches) of planting media provides 7.2 inches of water storage.

Results of the analysis are presented in Table C-5. In this case, the table shows the percent of runoff over the site area (developed area plus rain garden area), which can be compared directly with the percent runoff expected for undeveloped area. The results indicate that the rain garden design totally compensated for the excess stormwater runoff in the simulations for medium density residential land use, but runoff volumes were slightly higher than predevelopment levels for the high intensity commercial development. In fact, the medium density residential results show that the runoff from the system may be slightly less than the runoff from undeveloped area. This is because the runoff from both impervious and pervious land area associated with the medium density residential land use is routed to the rain garden, so the rain garden will not only reduce amount of impervious area runoff, but may reduce pervious area runoff as well.

Table C-5. Urban Area Runoff Reduction for Rain Garden Designed in Accordance with 2008 BMP Manual

Soil Group	Percent Runoff from Urban Site with Rain Garden	
	Medium Density Residential (25% DCIA)	Commercial (85% DCIA)
	A	3%
B	8%	11%
C	14%	18%
D	19%	27%

More analysis was done to review the impacts of the design assumptions. In this case, the choice of 3-foot planting media depth and 6-inch surface ponding led to the minimum surface area of rain garden allowable under the requirements of the BMP

Manual. Selecting a lower maximum ponding depth, for example, would require a larger rain garden surface area and subsequently would promote more infiltration from the rain garden to the groundwater. Similarly, a shallower planting media could also be considered, as the planting media depth should be limited based on the depth of the high water table. This would also increase the required surface area of the facility.

The results of the additional analysis showed that the volume reduction is slightly better for the designs that increase the surface area of the rain garden. This is what would be expected, because the increased surface area enhances the infiltration capability of the facility.

For informational purposes, Table C-5A shows the quantity of impervious area that can be treated by one acre of rain garden area, based on the Beaufort County design criteria. In this case, a range of values is presented, which reflect the medium density residential and commercial evaluation described above. The larger value in the range is representative of the criterion for highly developed area (1.5 inches per impervious acre) and the lower value is reflective of the medium density residential level of development (0.5 inch per acre).

Table C-5A. Impervious Area Served by One Acre of Rain Garden, Based on 2008 BMP Manual Design Criteria

Ponding depth (inches)	Impervious Area (Acres) Served by One Acre of Rain Garden, for Various Depth of Planting Media		
	3 Feet	2 Feet	1 Foot
6	6 to 9 acres	5 to 8 acres	4 to 6 acres
3	5 to 7 acres	4 to 5 acres	2 to 4 acres

The analysis presented here assumes that the site is suitable for bioretention. These facilities can be designed with underdrains to facilitate drainage, but underdrain outflow would minimize the amount of stormwater volume reduction achieved by the facility. Consideration of volume reduction with underdrains was not evaluated.

C.8 Swales

Initial model runs were conducted to evaluate the potential for roadside swales to reduce runoff volumes from roadway runoff. The 'run-on' feature of SWMM was again used to evaluate reductions in runoff occurring when impervious area runoff (from roadway) is routed onto pervious area (swale). Evaluation of the initial results indicated that the results were similar to model results presented in Section C.6 for disconnected impervious area. It is recommended that the results presented in Section C.6 can be used to determine the volume reduction benefit of swales, using half of the

swale topwidth as the basis for the pervious area receiving runoff from the impervious roadway.

C.9 Evaluation of Volume Control in BMP Plans

To evaluate a BMP plan for runoff volume reduction, all of the findings documented previously have been compiled based on the "effective" impervious area with the volume reduction controls. If a volume control reduces impervious area runoff so that it is exactly equal to pervious runoff, the "effective" imperviousness of the impervious area is zero. If there is no runoff volume control, the impervious area has 100% "effective" imperviousness. In cases where the runoff volume control for impervious area does not reduce the runoff to the level of a pervious surface, the "effective" imperviousness of the impervious area is determined.

Table C-6 shows an example of the "effective" imperviousness based on a hypothetical impervious area with volume control. In the example, the uncontrolled impervious area has a runoff of 50 inches per year, and with the volume control BMP, the impervious area runoff is limited to 23 inches per year. For soil group A, the expected runoff from pervious area is 2 inches per year. Consequently, the uncontrolled increase in runoff in going from pervious to uncontrolled impervious condition (i.e., 100% effective) is 48 inches per year. With the volume control BMP, the increase in runoff is 23 inches per year. In this case, the effective imperviousness of the impervious area is calculated as the ratio of controlled runoff increase to uncontrolled runoff increase, which equals $23/48$, or 48%.

The tables for use in the determination of effective imperviousness are included here as Tables C-7 through C-11. These include:

- Table C-7: Green Roof
- Table C-8: Flat Roof Evaporation
- Table C-9: Stormwater Capture and Irrigation Use
- Table C-10: Rain Garden
- Table C-11: Disconnected Impervious Area and Roadside Swale

Each of these tables shows the estimated effective imperviousness based on the four soil groups (A, B, C and D) and various design criteria.

Table C-6. Example of Effective Imperviousness Calculation

Runoff Parameter	Soil Group			
	A	B	C	D
Uncontrolled Impervious Runoff (Inches)	50	50	50	50
Pervious Runoff (Inches)	2	4	7	11
Controlled Impervious Runoff (Inches)	25	25	25	25
Uncontrolled Increase (Inches)	48	46	43	39
Controlled Increase (Inches)	23	21	18	14
Effective Imperviousness	48%	46%	42%	36%

Table C-7. Green Roof Effective Imperviousness

Soil Group A:

Roof Media Depth (Inches)	Effective Imperviousness as Function of Roof Media Depth and Cistern Volume				
	Cistern Volume (Inches)				
	0	1	2	3	4
3	65%	39%	30%	26%	23%
6	58%	37%	29%	25%	22%
9	50%	35%	28%	24%	22%
12	43%	31%	26%	23%	21%

Soil Group B:

Roof Media Depth (Inches)	Effective Imperviousness as Function of Roof Media Depth and Cistern Volume				
	Cistern Volume (Inches)				
	0	1	2	3	4
3	63%	37%	27%	22%	19%
6	56%	34%	26%	22%	19%
9	48%	32%	25%	21%	18%
12	40%	28%	23%	20%	17%

Soil Group C:

Roof Media Depth (Inches)	Effective Imperviousness as Function of Roof Media Depth and Cistern Volume				
	Cistern Volume (Inches)				
	0	1	2	3	4
3	61%	32%	22%	17%	14%
6	53%	30%	21%	16%	13%
9	45%	27%	20%	15%	13%
12	36%	23%	18%	14%	12%

Soil Group D:

Roof Media Depth (Inches)	Effective Imperviousness as Function of Roof Media Depth and Cistern Volume				
	Cistern Volume (Inches)				
	0	1	2	3	4
3	57%	26%	16%	10%	6%
6	49%	24%	14%	9%	6%
9	40%	20%	13%	8%	5%
12	30%	17%	10%	7%	4%

Table C-8. Flat Roof Evaporation Effective Imperviousness

Soil Group A:

Roof Ponding Depth (Inches)	Effective Imperviousness as Function of Roof Media Depth and Cistern Volume					
	Cistern Volume (Inches)					
	0	0.2	1	2	3	4
0	100%	72%	39%	26%	20%	17%
2	26%	24%	20%	17%	14%	9%
4	17%	16%	14%	11%	9%	7%
6	11%	10%	9%	7%	6%	5%
8	7%	7%	6%	5%	4%	3%

Soil Group B:

Roof Ponding Depth (Inches)	Effective Imperviousness as Function of Roof Media Depth and Cistern Volume					
	Cistern Volume (Inches)					
	0	0.2	1	2	3	4
0	100%	71%	36%	23%	16%	13%
2	23%	21%	16%	13%	10%	5%
4	13%	12%	10%	8%	5%	3%
6	8%	7%	5%	3%	2%	1%
8	3%	3%	2%	1%	0%	-1%

Table C-8 (continued). Flat Roof Evaporation Effective Imperviousness

Soil Group C:

Roof Ponding Depth (Inches)	Effective Imperviousness as Function of Roof Ponding Depth and Cistern Volume					
	Cistern Volume (Inches)					
	0	0.2	1	2	3	4
0	100%	66%	31%	17%	10%	7%
2	17%	15%	10%	7%	3%	-1%
4	7%	6%	3%	1%	-1%	-3%
6	1%	0%	-1%	-3%	-5%	-6%
8	-3%	-3%	-5%	-6%	-7%	-8%

Soil Group D:

Roof Ponding Depth (Inches)	Effective Imperviousness as Function of Roof Ponding Depth and Cistern Volume					
	Cistern Volume (Inches)					
	0	0.2	1	2	3	4
0	100%	66%	25%	10%	3%	-1%
2	10%	8%	3%	-1%	-5%	-10%
4	-1%	-3%	-5%	-8%	-10%	-13%
6	-8%	-9%	-10%	-13%	-14%	-15%
8	-13%	-13%	-14%	-15%	-16%	-18%

Table C-9. Stormwater Capture and Irrigation Use Effective Imperviousness

Soil Group A:					
Ratio of Irrigated Area to Impervious Area	Effective Imperviousness for Various Combinations of Irrigated Area to Impervious Area Ratio and Captured Volume				
	Captured Volume (Inches)				
	0	1	2	3	4
0	100%	100%	100%	100%	100%
0.5	100%	69%	65%	64%	63%
1	100%	57%	46%	40%	36%
2	100%	55%	34%	24%	19%
3	100%	55%	33%	20%	13%
6	100%	55%	33%	19%	11%
Soil Group B:					
Ratio of Irrigated Area to Impervious Area	Effective Imperviousness for Various Combinations of Irrigated Area to Impervious Area Ratio and Captured Volume				
	Captured Volume (Inches)				
	0	1	2	3	4
0	100%	100%	100%	100%	100%
0.5	100%	67%	63%	62%	62%
1	100%	55%	43%	37%	34%
2	100%	53%	31%	21%	15%
3	100%	53%	30%	16%	9%
6	100%	53%	30%	16%	7%

Table C-9 (continued). Stormwater Capture and Irrigation Use Effective Imperviousness

Soil Group C:

Ratio of Irrigated Area to Impervious Area	Effective Imperviousness for Various Combinations of Irrigated Area to Impervious Area Ratio and Captured Volume				
	Captured Volume (Inches)				
	0	1	2	3	4
0	100%	100%	100%	100%	100%
0.5	100%	65%	61%	60%	59%
1	100%	52%	39%	33%	29%
2	100%	50%	26%	15%	9%
3	100%	50%	25%	10%	3%
6	100%	50%	25%	10%	1%

Soil Group D:

Ratio of Irrigated Area to Impervious Area	Effective Imperviousness for Various Combinations of Irrigated Area to Impervious Area Ratio and Captured Volume				
	Captured Volume (Inches)				
	0	1	2	3	4
0	100%	100%	100%	100%	100%
0.5	100%	62%	57%	56%	56%
1	100%	48%	34%	27%	23%
2	100%	46%	19%	8%	1%
3	100%	46%	18%	2%	-6%
6	100%	46%	18%	2%	-8%

Table C-10. Rain Garden Effective Imperviousness

Soil Group A:		
Media Depth (feet)	Effective Imperviousness for Various Combinations of Media Depth and Surface Ponding	
	Surface Ponding (Inches)	
	3	6
2	-2%	0%
3	0%	1%
Soil Group B:		
Media Depth (feet)	Effective Imperviousness for Various Combinations of Media Depth and Surface Ponding	
	Surface Ponding (Inches)	
	3	6
2	-1%	2%
3	2%	5%
Soil Group C:		
Media Depth (feet)	Effective Imperviousness for Various Combinations of Media Depth and Surface Ponding	
	Surface Ponding (Inches)	
	3	6
2	-1%	4%
3	3%	7%
Soil Group D:		
Media Depth (feet)	Effective Imperviousness for Various Combinations of Media Depth and Surface Ponding	
	Surface Ponding (Inches)	
	3	6
2	-2%	6%
3	4%	12%

NOTE: Values are based on 2008 BMP Manual design criteria of 0.5 inches per acre or 1.5 inches per impervious acre, whichever is greater

Table C-11. Disconnected Impervious Area and Roadside Swale

Ratio of Impervious to Pervious Area	Effective Imperviousness for Various Soil Groups and Ratio of Impervious Source Area to Adjacent Pervious Area			
	Soil Group			
	A	B	C	D
0.2	19%	31%	42%	54%
1	33%	50%	64%	70%
2	49%	65%	76%	80%
5	54%	85%	90%	93%

NOTE: For roadway with adjacent swale, use half of swale topwidth as the basis for the adjacent pervious area calculation.

To assess the effective impervious area for a new development, a worksheet has been developed and is presented here as Figure C-1. The worksheet requires that the development is broken down into specific pervious and impervious land elements, and volumes controls applied to the impervious areas are identified. Based on the values in Tables C-7 through C-11 and the design criteria applied, the breakdown of traditional impervious area into "effective impervious area" and "developed pervious area" can be calculated. For example, if a volume control reduces parking lot effective imperviousness to 40%, then 40% of the parking lot area would be assigned to "effective impervious area" and 60% of the parking lot area would be assigned to "pervious developed area."

An example worksheet application for a hypothetical residential development is presented in Figure C-2. For this example, the total site area is 120 acres, with 40 acres of what would traditionally be considered impervious area. This would include rooftops, paved driveways, and paved streets. Soil group D is predominant on the site.

As shown in Figure C-2, the proposed volume control BMPs would include rain gardens to treat rooftop runoff, porous pavement for all driveway areas, and swales along all of the streets. For the rain gardens, a value of 12% effective imperviousness is read from Table C-10 for soil group D, ponding depth of 6 inches, and planting media depth of 3 feet. The porous pavement is treated as 0% effective imperviousness (100% developed pervious area) as is the case in the most recent version of the BMP Manual. For the street runoff to swales, the value of 90% effective imperviousness is interpolated from values in Table C-11 for soil group D and ratio of street impervious area to adjoining pervious area (one-half of total swale surface area as discussed earlier) equal to 4.3. Note that the rain garden and swale entries include notes suggesting how the rain garden and swale areas were established. Overall, the volume control BMPs take the development from a 39% uncontrolled imperviousness to an effective imperviousness (Impervious Developed Area in the figure) of 10%.

Figure C-2. Example 1 - Worksheet Calculations for Residential Development with Volume Control BMPs

Site Element	Area (acres)	Volume Control BMP	Effective Imperviousness (%)	Impervious Developed Area (acres)	Permeable Developed Area (acres)	Developed Open Space (acres)
Road Top	2	Mini Golf Paving @ 200 ft/catchment width @ 20 ft	50%	1	1	0
Driveway	1	Permeable Paving	0%	0	1	0
Driveway	2	Shale Ratio of Impervious to permeable = 4:1 (Based on 1/2 inch @ 150 ft/catchment)	80%	1	1	0
Urban Services Area (i.e., lawn)	50		--	0	50	0
Mini Golf	1	Ratio of Impervious to permeable = 4:1 (Based on 1/2 inch @ 150 ft/catchment)	--	0	0	1
Developed Open Space	4.1		--	0	0	4.1
Perches	4.7	Ratio of Impervious to permeable = 1:1 (Based on 1/2 inch @ 150 ft/catchment)	--	0	0	4.7
Anti-Collision Pond	6		--	0	0	6
TOTAL AREA (Acres) of Total Area	121.0			21.0	61.0	39.0
Permeable Soil Group: <input type="text" value="D"/>						

A second example prepared for the same residential development is presented in Figure C-3. In this case, all of the volume control reduction is achieved by capturing impervious area runoff and using captured runoff for irrigation. This may require an alternative design of the proposed wet detention pond BMP to account for storage that will be depleted by irrigation use, or implementation of a separate wet detention pond designed specifically for runoff capture and irrigation use. An effective imperviousness value of 30% was selected from Table C-9, based on a capture volume of 2 inches of runoff over the impervious tributary area, and a ratio of irrigated area to impervious area of 1.5. With 40 acres of traditional impervious area, the required area for irrigation is 52 acres. This is less than the available urban pervious area, so this should be an acceptable solution. The wet detention pond area is greater than the previous example to account for the required capture storage and for the fact that there are no onsite volume control BMPs to reduce pond inflows during design storm events. Again, the overall effect is to limit the effective imperviousness to 10%, compared to a traditional imperviousness of 33%.

Figure C-4 illustrates an example calculation for a commercial site. In this example, the total site of 92 acres includes 26.3 acres of traditional impervious area, or about 29% of the site. The proposed volume control BMPs include flat roof evaporation with cistern for the rooftops, a combination of porous pavement (30%) and rain garden volume control (50%) for the parking lot area, and no control for the street area. For the roof evaporation, a value of -8% is read from Table C-8 for soil group D, roof ponding of 6 inches, and no cistern. The negative value indicates that the roof runoff with the storage will actually be less than the runoff expected from a pervious area with soil group D. For the rain garden, a value of 12% effective imperviousness is read from Table C-10 for soil group D, ponding depth of 6 inches, and planting media depth of 3 feet. The porous pavement is treated as 0% effective imperviousness (100% developed pervious area) as is the case in the most recent version of the BMP Manual. The rain garden entry includes a note suggesting how the rain garden area was established. Overall, the volume control BMPs take the development from an 82% uncontrolled imperviousness to an effective imperviousness (Impervious Developed Area in the figure) of 10%.

Figure C-4. Example 3 - Worksheet Calculations for Commercial Development with Volume Control BMPs

Site Element	Area (Acres)	Volume Control BMP	Effective Imperviousness (%)	Impervious Developed Area (Acres)	Number Developed Area (Acres)	Detached Open Space (Acres)
Roof	7	Retention Basin ponding depth 100mm	4%	0.56	7.56	0
Paving lot	1.25	Permeable pavement	0%	0	1.25	0
Paving lot	1.25	Run-off from Paving lot to 100mm depth	17%	0.21	7.25	0
Driveway	2.8	None	20%	2.8	0	0
Urban Paved Area (e.g., Plaza)	3	None	0%	0	3	0
Urban Paved Area (e.g., Plaza)	1.7	(Run-off to area is 20% of total area)	0%	0	0	1.7
Water pond	3	None	0%	0	0	3
TOTAL IMPERVIOUS AREAS	21.2		0%	3.57	21.2	4.7
Net Impervious Area	0		0%	0	0	0

Permeable Soil Credit:

Memorandum of Understanding
DRAFT - WDM - NOVEMBER 23, 2009

This Memorandum of Understanding (“MOU”) is made by and between the County Council of Beaufort County (“County”) and Beaufort-Jasper Water and Sewer Authority (“BJWSA”), together, the (“Parties”). The purpose of this MOU is to set forth general provisions to guide the County and BJWSA in the development of an easement agreement (“Easement”) between the two parties for use of a significant portion of the Port Royal Railroad Right- of -Way (“RoW”).

WHEREAS, BJWSA purchased all right title and interest in the RoW from the South Carolina State Ports Authority on November 6, 2009; and,

WHEREAS, on May 19, 2009, the Federal Surface Transportation Board issued an order placing the entire railroad right-of-way into the Federal Railbank and establishing specific requirements that BJWSA must follow in its administration (the “Order”); and,

WHEREAS, BJWSA’s utility requirements in the RoW extend only to the underground portions of the property; and,

WHEREAS, the County has submitted a major grant application for a project that will utilize the surface portion of the RoW; and,

WHEREAS, other proposals have been made for the surface use of the RoW that the County intends to consider; and,

WHEREAS, the City of Beaufort (“Beaufort”) and the Town of Port Royal (“Port Royal”) have indicated their support for the beneficial use of the surface use of the RoW; and ,

WHEREAS, BJWSA is supportive of the beneficial use of the RoW by the County, Beaufort and Port Royal; and,

WHEREAS, such beneficial use of the RoW will require BJWSA to grant an Easement to the County and/or to Beaufort and Port Royal; and,

WHEREAS, the Parties desire to articulate their commitment to conclude such Easement and to define what the provisions of such Easement shall encompass;

NOW, THEREFORE, this MOU is hereby approved by the County and BJWSA on the date last set forth below. The parties agree as follows:

1. BJWSA and the County agree to work expeditiously and in good faith to conclude by March 1, 2010, an agreement establishing a non-exclusive Easement for Beaufort County on the RoW.

2. With respect to this MOU and any subsequent Easement, the term “RoW” shall mean those portions of the 25 mile right-of-way that have not been assigned to others. In general, and for the purposes of this MOU, portions “assigned to others” include that section of the RoW between Poppy Hill Road and the eastern bank of Middle Creek and that section of the RoW from a point 3300 ft west of the U.S. Highway 17 viaduct to the CSX mainline tracks in Yemassee. A map showing the prospective assignment of surface responsibilities across the entire right-of-way is attached hereto as Exhibit I and made a part hereof.

3. The Easement will assign to the County, responsibility for surface activities within the RoW. The County may thereafter authorize other agencies or organizations to utilize portions of the RoW, provided however that each such utilization shall be in accordance with the provisions of the Easement, this Agreement and the Order, and shall be memorialized by written document. BJWSA shall have the right to review such document solely for the purpose of determining compliance with the provisions of the Order. To the extent that such proposed use creates an encroachment upon the RoW, BJWSA shall retain the authority to approve such encroachments. In this context, the term “encroachment” means a physical modification of the surface of the RoW.

4. BJWSA agrees to provide the Easement to the County at the cost of one dollar (\$1.00) per year provided however that BJWSA will receive any and all revenues from the use of the RoW by any utility and further provided that, should any commercial use be made of the RoW, BJWSA shall have the right to set an annual fee for such use and to specify the terms of payment of such fee.

5. While both the City of Beaufort and the Town of Port Royal may have interests and goals associated with the RoW, BJWSA acknowledges that, the County will be the lead agency in the negotiations designed to develop an Easement on the RoW.

6. Both parties understand and agree that any Easement must comply with all Federal requirements as they relate to RoW being part of the Federal Rail Bank system as such are defined in the Order.

7. The County acknowledges that BJWSA will retain complete and unfettered access to the RoW for BJWSA’s current and future uses and purposes, including the assignment of underground placement rights to other utilities. BJWSA’s Buried Infrastructure Plan will be the controlling document for underground utilization of the RoW. A preliminary version of BJWSA’s Buried Infrastructure Plan is attached hereto as Exhibit II. The County acknowledges that the Easement will be non-exclusive, meaning that BJWSA reserves the right to utilize the RoW for its own purposes, what ever they might be. To the extent that such utilization contemplates encroachments on the RoW, BJWSA shall coordinate such activities with the County. BJWSA’s Buried Infrastructure Plan locates underground utilities in a forty foot strip on either side of a 20 foot wide corridor centered on the historic centerline of the rails. Improvements may be made within that strip, but, should BJWSA or its licensees need to access or install buried infrastructure within this area, the County would be responsible for restoration of those areas after construction is complete.

8. The County acknowledges that BJWSA will retain all rights to negotiate agreements with other utilities (e.g. SCE&G) for use of RoW and that all revenues derived from such agreements will accrue directly to BJWSA. In the event that such agreements contemplate physical changes to the surface of the RoW, the County shall be a part of those negotiations and shall have the authority to approve such physical changes.

9. BJWSA agrees to retain the railroad infrastructure, including the rails, ties and ballast (“Infrastructure”), in place until at least April 30, 2010. After that time, absent a firm and implementable plan for continued rail service approved by the County, the South Carolina Division of Public Railways, and the Federal Surface Transportation Board, BJWSA reserves the right to remove the infrastructure from the RoW. Should the County require that the Infrastructure be left in place, payment shall be made to BJWSA for the fair market value of the Infrastructure, as determined by independent appraisal, no later than September 30, 2010.

10. The County (and/or others that may be chartered by the County) shall be responsible for all maintenance, security and related costs of the RoW beginning on the effective date of the Easement. The Easement shall describe particular maintenance requirements and standards that will apply. The County shall indemnify BJWSA against any claims associated with those portions of the RoW subject to the Easement, provided however that any actions of BJWSA or its assignees or their associated contractors will be the responsibility of BJWSA.

11. This MOU and the Easement will be subject to other easements or permits entered into by BJWSA with current users of the RoW and, prior to the effective date of the Easement, with new users of the RoW . The County shall have the right to review and comment on any such easement or permit and BJWSA agrees that, to the extent possible, the County’s comments shall be incorporated into the easement or permit.

12. South Carolina Electric And Gas Company (“SCE&G”) operates a 115 KV transmission line on the RoW, extending approximately _____ feet from near Depot Rd in Beaufort to Brotherhood Way in Beaufort. BJWSA is completing an easement agreement with SCE&G to provide for that existing line. A provision of that agreement will be that SCE&G cooperate with the County and with Beaufort and Port Royal to develop a landscape management plan for that portion of the RoW. BJWSA will insist that the Easement with the County contain the same provision and that a coordinated landscape management plan be carried out.

**EXCERPTS OF MINUTES from
Northern Beaufort County Regional Plan Implementation Committee Meetings**

Date: February 26, 2010

Location: County Council Chambers, County Administration Building, 100 Ribaut Road

Attendance:

Members Present: Jim Hicks, Committee Chairman / County Planning Commission Chair; Harley Laing, Committee Vice-Chairman / Municipal Planning Commissioner; Jim Bequette, Beaufort County School Board Member; Gerald Dawson, Beaufort County Councilman; Vernon DeLoach, Town of Port Royal Councilman; Brian Flewelling, Beaufort County Councilman; J.L. Goodwin, Town of Yemassee Mayor; Billy Keyserling, City of Beaufort Mayor; William McBride, County Councilman; Sam Murray, Town of Port Royal Mayor; Paul Sommerville, Beaufort County Councilman; and Mike Sutton, City of Beaufort Councilman;

Staff Present: Libby Anderson, City of Beaufort Planning Director; Linda Bridges, Town of Port Royal Planning Administrator; Anthony Criscitiello, County Planning Director; Russell Byrd, U.S. Marine Corps Air Station-Beaufort; Colin Kinton, County Traffic and Transportation Engineer; Ginnie Kozak, Lowcountry Council of Governments (LCOG); Robert Merchant, County Long-range Planner; Scott Dadsen, City of Beaufort Administrator

Other Attendees: Reed Armstrong, Coastal Conservation League; Joe Lee, Town of Port Royal Councilman; Ronald Petit, Beaufort County Planning Commissioners; Angela Williams, Lowcountry Economic Network; and general public

CALL TO ORDER: Chairman Jim Hicks called the meeting to order at approximately 10:07 a.m.

HISTORICAL TOURIST TRAIN PROPOSAL

Chairman Hicks noted that Mr. Robert Franzen, of Steam Services of America, presented a proposal at the last meeting for a historic rail train for Beaufort to Yemassee. Chairman Hicks then asked each of the mayors of the municipalities to discuss with their respective councils Mr. Franzen's proposal. Committee members were asked to forward additional questions to Mr. Franzen prior to today's meeting. Mr. Franzen, forwarding proprietary information to Chairman Hicks last night, is willing to share that information to the press and the Committee. During this meeting, the Committee will vote on a recommendation to be forwarded to County Council. Chairman Hicks noted to the audience that public comment would not be received from individuals, rather he would take a show of hands regarding supporting or not supporting Mr. Franzen's proposal. Chairman Hicks went on to review the fact sheet with the Committee.

As part of the Memorandum of Understanding (MOU), if Beaufort County accepts the official easement, the County will be responsible for all upkeep costs of the easement, must direct the sale of the rails, and must uphold the Beaufort-Jasper Water and Sewer Authority (BJWSA) agreements with some property owners.

Mayor Billy Keyserling noted that he was a partial property owner of a large parcel of land along the railway. He asked should he recuse himself from the discussion and/or the vote. He asked County Councilman William McBride for advice on the parliamentary question. Chairman Hicks noted that Mayor Keyserling made the issue public and it was Mayor Keyserling's moral decision to continue or not. Councilman McBride agreed with Chairman Hicks.

Chairman Hicks noted a cost analysis that was forwarded to the Committee by Mr. Franzen.

Discussion included:

- the projected cost of the rail that will be negotiated and mutually agreed upon between the rail company and Beaufort-Jasper Water and Sewer Authority (BJWSA) where this Committee is not involved;
- a desire to see a good business plan or a 5-year analysis projection of the business;
- the encouragement of a walking/biking trail by the Northern Regional Plan, and the Comprehensive Plans of the City of Beaufort and the Town of Port Royal;
- the Beaufort County future land use element showing the railroad right-of-way as public use;
- the pros and cons of the compatibility of a combined railroad and walking trail;
- concern for the removal of the rails;
- the high expense associated with a railroad;
- the rail not entering into the Town of Port Royal;
- the rail proposal being void if Mr. Franzen's group was unable to negotiate with BJWSA;
- the City of Beaufort Council having no reason to block the rail proposal;
- concern that hotel and restaurant owners and the Chamber of Commerce have not commented on Mr. Franzen's proposal;
- concern for the potentially huge financial liability associated with Mr. Franzen's rail proposal;
- supporting the recommendation with a caveat that the business bond that financial liability instead of the municipalities and the County;
- the rail proposal as a potential benefit to Beaufort County and its neighboring communities, including the Town of Yemassee;
- the negative side of the proposal should the business fails;
- the Memorandum of Understanding (MOU) having a clause that BJWSA can negotiate with a private operator for a share of its profits;
- supporting a recommendation to forward the rail proposal to County Council for continued use of the railways;
- the safety concerns for both the rail and the trail concepts;
- supporting a combined rail/trail program;
- the need to entice businesses to Beaufort;
- Beaufort's long history with the railroad and maritime and a desire to preserve that history;
- the Marine Corps Air Station Beaufort shipping their aviation fuel by barge instead of rail;
- the train will attract more tourism and more people means more schools;
- the financial difficulty to support public services such as a bike/walking path;
- the 20-foot easement that BJWSA will allow the County to use;
- aligning the lateness of this rail proposal to the BJWSA timeline;
- the idea of preserving the train;
- the economic benefits for the industrial park and tourism; and
- support of the rail concept by the City of Beaufort, the Town of Yemassee and the Town of Port Royal as long as the rail does not go beyond Ribaut Road in the Town of Port Royal.

Motion: Mayor Billie Keyserling made a motion, and County Councilman Paul Sommerville seconded the motion, to recommend that County Council consider SSA's request for a historic train use of the rail bed if a proposal can be made that provides substantiation that such use is in the economic and general best interest of the County, and that either SSA or a similar project's sponsors as may be designated can

be meet the requirements established by BJWSA, and that the business if accepted be held accountable for such liability as may occur, and that it must be compatible for a trail use. Further discussion included agreement with the motion and yielding to Mr. Logan for a comment.

Mr. Logan noted that the question of the liability on any above ground use requires the using entity to furnish liability insurance, and in Mr. Franzen's case it is \$10 million. Mayor Keyserling noted the financial liability he spoke of concerned hiring lawyers for lawsuits by abutting property owners of the rail.

The motion was carried unanimously (FOR: Bequette, Dawson, DeLoach, Flewelling, Goodwin, Hicks, Keyserling, Laing, McBride, Murray, Sommerville, and Sutton).

☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺

Date: January 22, 2010

Location: County Council Chambers, County Administration Building, 100 Ribaut Road

Attendance:

Members Present: Jim Hicks, Committee Chairman / County Planning Commission Chair; Jim Bequette, Beaufort County School Board Member; Gerald Dawson, Beaufort County Councilman; Vernon DeLoach, Town of Port Royal Councilman; Brian Flewelling, County Councilman; Herbert Glaze, Beaufort County Councilman; J.L. Goodwin, Town of Yemassee Mayor; Billy Keyserling, City of Beaufort Mayor; William McBride, County Councilman; Sam Murray, Town of Port Royal Mayor; Beaufort County Councilman Paul Sommerville, and City of Beaufort Councilman Mike Sutton

Staff Present: Libby Anderson, City of Beaufort Planning Director; Linda Bridges, Town of Port Royal Planning Administrator; Anthony Criscitiello, County Planning Director; Alice Howard, U.S. Marine Corps Air Station-Beaufort; Colin Kinton, County Traffic and Transportation Engineer; Ginnie Kozak, Lowcountry Council of Governments (LCOG); Robert Merchant, County Long-range Planner

Other Attendees: Reed Armstrong, Coastal Conservation League; Joe Lee, Town of Port Royal Councilman; Ronald Petit and Robert Semmler, Beaufort County Planning Commissioners; Charles Sexton, Beaufort-Jasper Water and Sewer Authority; and Angela Williams, Lowcountry Economic Network

HISTORICAL RAILROAD PRESENTATION

Chairman Hicks noted that Mr. Robert Franzen, of Steam Services of America, will present a proposal for a historic rail train for Beaufort.

Chairman Hicks summarized the timeline for the railbed that this Committee must keep in mind.

- At the last meeting, this Committee, as the County Council appointed body to screen proposed uses for the railbed, recommended to Beaufort County Council that the objective for the future use of the Port Royal railbed be a linear park/pathway.
- Mr. Franzen met with Beaufort County Chairman Weston Newton requesting an opportunity to present a proposal for the rail bed. Chairman Newton had this Committee to hear Mr. Franzen's proposal which will occur today.
- The County's Transportation Investment Generating Economic Recovery (TIGER) Grant application for federal funding that will include a walking bike path/linear park system between the

Town of Port Royal and Laurel Bay Road on the existing Port Royal rail bed. If the grant is awarded by February 15, 2010, the park will be built; if not, Mr. Franzen will have provided an alternate use for the rail bed to be considered.

- When this Committee meets on February 26, it will know of the TIGER Grant status, will have heard Mr. Franzen's proposal, and must either revalidate the linear park concept or recommend a change to a historic train concept. Chairman Hicks noted that video DVDs would be made available to the municipalities to view this meeting to determine the wishes of the respective councils.
- There is a Memorandum of Understanding for an agreement between Beaufort County Council and Beaufort-Jasper Water and Sewer Authority (BJWSA), the existing owner of the rail bed, to transfer the use of the surface of the rail bed to Beaufort County by March 15, 2010.
- Mr. Franzen and/or his representative must have an agreement with BJWSA by April 30, 2010, regarding the use of the rail bed.
- September 30, 2010, BJWSA expects final arrangements for removing the rails from the rail bed.

Mr. Franzen introduced himself and several members of his presentation team—Clark Johnson and Jeff Barker of Iowa Pacific Holdings, LLC; Tommy Logan, a Beaufortonian associate; and Randall Gustafson of TranSystems. Summarization of Mr. Franzen's presentation:

- A video clip from Mr. Ed Ellis, the President of Iowa Pacific Holdings where he mentioned a shared rail/trail concept for the Port Royal rail bed.
- Steam Services of America, in conjunction with Iowa Pacific Holdings, proposes to revive and operate the Port Royal railway as a rail with trail enterprise. The County could, at a later time through discussion, operate a trail next to the historic tourist train he is proposing. The proposal is phased and included dinner trains, rail freight opportunities, transit and rail opportunities, and depot/commercial opportunities. Statistics regarding tourist trains were provided.
- Mr. Clark Johnson of Iowa Pacific Holdings, LLC, gave the histories of his part in the company and the company itself.
- Mr. Franzen reiterated his desire to keep the railroad tracks in place and the economic opportunities trains provide to the community.
- Mr. Randall Gustafson of TranSystems advised against the "either-or" situation because the rail and the trail can easily co-exist, citing several existing profitable rail/trail examples in the U.S. Beaufort's rail bed is a relatively flat right-of-way according to the railroad plans; there was more potential here because of the corridor width and the easy topography. The Beaufort train would be a low-speed operation.
- It would take time (years) to build the business – he proposes phasing the operation, beginning with tourist trains and expanding to dinner trains, movie productions using their trains, rail freight operations, commuter and passenger rails, etc.
- Mr. Johnson expanded on the rail freight opportunities and the use of environmentally efficient engines. Transloading operation may occur where freight is transported one freight car at a time to a warehousing operation where freight is loaded onto local trucks—an ancillary benefit to the community.
- The freight corridor would be between Yemassee and the Industrial Park near the Air Station. Freight from the port is not in their plans; their plans are for tourist trains from the port. Mr. Franzen's proposal does not include funding from the County or the municipalities, rather he will bring the funding to purchase the rail bed from BJWSA and to start and maintain the operation.
- Mr. Jeff Baker of Iowa Pacific Holdings explained the available Federal grant funding that is administered through the Federal Railroad Administration--Railroad Rehabilitation and Improvement Financing (RRIF).

- The RRIF grant is awarded after the applicant can prove the ability to repay the monies over a 35-year period. Mr. Franzen is asking that the railroad be kept intact. He noted that there were 1,380 applicants for the TIGER grant. He asks that this Committee vote in favor of his railroad proposal and he would like to speak to County Council. Mr. Franzen spoke of the need for Port Royal Master Plan to change to allow tourist trains in Port Royal. A four-month period will be needed to: rebuild the tracks and bridges and to cut back the brush; train their staff for train operations, reservations/ticketing; and build a depot. Job opportunities will occur from their operation. We want to bring this economic engine to your County. We want to preserve the rich railroad history that has been here since 1871. We want to co-exist with you and all the businesses in town.

Committee discussion included:

- the dinner or tourist trains usually not being subsidized by Federal, state or local funds;
- the train demographics aimed at numerous markets—families, people 35 to 70 year old with annual incomes of \$45,000 and over, etc.;
- the proposed trail length from Port Royal to Laurel Bay, with an option to Yemassee;
- the for-profit aspect of Mr. Franzen's proposal;
- the government/not-for-profit entities' capability to apply for Federal funding;
- the transit/light rail aspect being County initiated with an opportunity for Mr. Franzen's company to manage that aspect for the County;
- the BJWSA's business model to sell the steel rails to recoup their expenses for purchasing the Port Royal rail bed;
- Iowa Pacific owning or having purchase contracts on all of its rail lines;
- the interchangeability to connect to the existing rail system;
- discussing with the towns who currently are part of the Iowa Pacific system to determine their economic benefit from the trains;
- the ridership of the Fort Meyer dinner train system because it might be comparable to Beaufort; and
- working with the Marine Corps Air Station regarding transporting aircraft fuel since it is one of Beaufort's cherished economic engine.

Public Comment:

1. Mr. Clark Coberly, an abutting Sheldon property owner to the Port Royal rail bed, has concerns about the plans for the rail bed. The majority of the railroad ties would have to be replaced. Mr. Franzen's company said they would replace the ties, but disposal of the hazard material would increase the cost. If the route becomes a trail, the County would probably bear the cost of paying for it, maintaining it, and providing security and sanitation facilities on it. I don't think the Beaufort taxpayers want this. The presentation was comprehensive, but realize that these people are looking to make money for themselves; it's the American principle to grow and prosper. How will this plan help all the taxpayers of Beaufort County?
2. Mr. Claude McLeod, a Seabrook / Northern Beaufort County resident, whose family owns property about 2-1/2 miles abutting the railroad that includes the Historic Village of Seabrook that is on the U.S. Historic Register. He is excited that the railroad will come back to life because his childhood memories include riding on the train. He is excited about sewer as part of the railway, but he disagrees with a trail on the railway. He mentioned several past events including four movies that filmed in Seabrook. He believes many jobs could be created with this enterprise. He hoped the Committee would look favorably on this proposal.
3. Mr. Thomas Logan of Beaufort mentioned the Yemassee Revitalization Committee that was ecstatic and encourage about this proposal. He would recommend a meandering, rather than a straight, path for the trail. He supports the promotion of historical sites such as the Hunting Island Lighthouse, that

is no longer operable, and the railway. He agrees that the Marine Corps Air Station could benefit from the train system as suggested. I would hope you would look favorably on this proposal for the betterment of Yemassee and Beaufort County.

4. Mr. Paul Radcliff, a member of the South Carolina Railroad Museum Board of Trustees, witnessed Mac Truck closing its plant and a lot of people were out of work. A few years later Guardian Fiberglass reopened the plant, but needed rail service. A 10-year dormant railway abutted the property and Guardian Fiberglass, through a grant, was able to upgrade the rail and 150 people returned to work. He knows of another South Carolina incident where the trail won out and 300 jobs were lost with the removal of the rails. He asked that the County give Mr. Franzen a chance.
5. Mrs. Celeste Franzen has spent the last 29 years of her life riding around the country look at railroads. She noted that several railroads have received “free” publicity and advertising via several national television programs. Most tourist trains are in small towns than Beaufort. Trains affect all age groups. Entertainment, shopping and dinner trains, as well as the educational facet for children, attract the women; whereas, the train and its engine attract the men.
6. Mr. Maurice Ungaro, a planner, noted that the tracks have been there for a long time—why hasn’t industry taken advantage of it? A cost benefit analysis, a business plan and a projected economic grown due to tourism should be presented by Mr. Franzen before a final decision is made. Look at how the government funds will be utilized—is the tourist train in the spirit of the funding? The 16-mile line from the Air Station to Yemassee is short and he does not feel a passenger rail service to Beaufort will occur. If the rail company obtains permanent easement to the rails, how will we take up the ties when the service becomes defunct? The safety of a linear park system, if used successfully, would not be a problem. He noted the Whale Branch Bridge is a hand cranked bridge and may prove problematic. The Polar Express brought 60,000 visitors over a 6-week span, the Shrimp Festival brings 50,000 people in one day.
7. Ms. Cindy Holden, long-time Beaufort resident, plans to watch her grandchildren grow up in Beaufort. She lives along the railroad in Sheldon. She supports anything that brings jobs and revenue, preserves the military history, and preserves the County history. Once the tracks are gone, they are gone. She has not been a fan of the trails—it looks like an expense to her. Even if Mr. Franzen’s program does not work, the tracks would have been fixed. Look at what we are doing before we destroy something we can’t bring back.
8. Mayor J.L. Goodwin thinks this is one of the best opportunities he’s seen in this part of the country in a long time. We’re talked about the train for 10 years. In this short period of time, it seems more real and more likely to happen. We need jobs badly. A walking trail in the rural area worries him. Anything that brings jobs with the numbers that have been presented, we shouldn’t turn our back on it. We should utilize what we have. He strongly recommends that we support this.
9. Ms. Diane Burnett, a long-time Sheldon resident, agrees with Mayor Goodwin. We have an opportunity to work together. The rails-to-trails could be a good opportunity. Our environment and history is a treasure. Include the environment in the rails-to-trails concept. She is concerned with the security of the trail.

Chairman Hicks closed the public comment segment. He reiterated that the County did not have the authority to make a decision until the Agreement was signed. BJWSA is still the owner of the rails. He asked that Mr. Franzen talk to BJWSA prior to the February 26th Committee meeting. Mr. Sexton of BJWSA indicated that a property owner has asked that trails not come through

Mr. Wm. Weston J. Newton
Chairman, Beaufort County Council
P.O. Drawer 1228
Beaufort, SC 29901

Dear Chairman Newton,

The Town of Yemassee lends its full support to and endorsement of Mr. Robert Franzen's plans to restore and operate an excursion train between Port Royal and Yemassee.

The old Port Royal/Augusta railroad line is historically significant, dating back to the late 1800's. The excursion train will recreate and preserve a major piece of the Lowcountry's railroad history. With a mystique of an era gone by, the train will offer riders a trip on one of the oldest and most scenic railroad routes in the country. Riders will experience views of our forests and waters, and opportunities to visit the historic towns of Port Royal, Beaufort and Yemassee.

The excursion train project will also contribute significantly to opportunities for Yemassee's economic development. With our close proximity to Interstate 95 and the surrounding towns the train will draw new visitors to our area. As visitors are drawn to our town, more business owners will find it beneficial to open and operate to service the increased visitors. And as more businesses open, more jobs will be created, and more revenue will be generated for the Town of Yemassee, the Town of Port Royal and Beaufort County.

The addition of the excursion train also compliments Yemassee's downtown revitalization plans. As businesses open to service the train visitors, empty buildings will be rehabbed and occupied. This will aid in cleaning up slum and blight in the downtown area, an area which serves as a major gateway into Beaufort County. The addition of the excursion train also compliments Yemassee's plans to renovate the existing Amtrak train station. Yemassee will be able to reposition itself as a renewed railroad hub for the entire Lowcountry region.

We thank Beaufort County Council for its due consideration of this valuable historical and economic development asset for Lowcountry and the Town of Yemassee.

With Warmest Regards,

J.L. Goodwin
Mayor, Town of Yemassee

Cc: Beaufort County Council



Northern Regional Plan Implementation Committee
Beaufort County Council • Planning & Development Division
Post Office Drawer 1228, Beaufort SC 29901-1228
Phone: (843) 470-2724 • FAX: (843) 470-2731

December 14, 2009

Mr. Robert C. Franzen
55 John Allman Lane
Sylva, NC 28779

Dear Mr. Franzen:

Your letter of November 24, 2009 to Mr. Weston Newton, Chairman of Beaufort County Council, proposed utilization of the Beaufort-Jasper Water and Sewer Authority owned Port Royal to Yemassee rail bed in support of a Historic Train Service and requested an opportunity to discuss this concept with Chairman Newton or an appropriate committee. As Chairman of Beaufort County Council, Mr. Newton has tasked the Northern Regional Plan Implementation Committee to review all matters regarding any proposed county supported use of the rail bed and make appropriate recommendations to County Council.

Accordingly, Chairman Newton has requested that the committee meet with you, review your proposal regarding the use of the rail bed and make such recommendations to County Council as may be appropriate. The next scheduled meeting of the Northern Regional Plan Implementation Committee is at 9:30 a.m. on Friday, January 22, 2010, in the Executive Conference Room of the Beaufort County Administration Building. You are invited to attend this meeting, present your proposal for use of the rail bed in support of a Historic Train Service and respond to such questions as the members of the Committee may have on the subject. Please note that this meeting is publicly televised. If you require special equipment in support of your presentation, please let me know in advance.

For your information the Northern Regional Plan Implementation Committee membership includes five members of Beaufort County Council, the Mayors and one council member from the Town of Port Royal and the City of Beaufort, a representative of the Beaufort County School Board and two planning commission members. Upon confirmation of your availability to attend the January meeting, I will:

- Provide a copy of your letter to each member of the Committee.
- Invite the General Manager of Beaufort-Jasper Water and Sewer Authority and the Mayor of the Town of Yemassee to join the Committee for review of your proposal.

Mr. Robert C. Franzen
December 15, 2009
Page 2 of 2

- Request that the members of the Committee provide any key questions they may have regarding your proposal prior to the meeting to allow you an opportunity for such research, as may be required.

Please feel free to contact me with any questions you may have.

Sincerely,

Jim Hicks
Chairman, Beaufort County Northern
Regional Plan Implementation Committee

cc: Chairman, Beaufort County Council
Each member of the NRP Implementation Committee
General Manager, Beaufort Jasper Water and Sewer Authority
Mayor, Town of Yemassee

Rainey, Sue

From: Weston Newton [Wnewton@jsplaw.net]
Sent: Monday, December 14, 2009 12:00 PM
To: Rainey, Sue
Subject: FW: Proposed Meeting with Mr. Robert Franzen
Attachments: 2009.12.11 Franzen ltr--BJWSA rail purchase.doc

For your records
Thank you
weston

From: Jim Hicks [mailto:jbhicks@hargray.com]
Sent: Sunday, December 13, 2009 6:02 PM
To: Robert Franzen
Cc: Paul Sommerville; Billy Keyserling; Brian Flewelling; William McBride (E-mail); William Ladson; Sam Murray; Jim Bequette; Herbert Glaze (E-mail); Harley Laing; Mike Sutton; Weston Newton; Mayor J. L. Goodwin; Dean Moss; tonyc@bcgov.net; Billie Lindsay; Gary Kubic; Scott Dadson; Van Willis; Linda Bridges; Libby Anderson; robm@bcgov.net; deloresf@bcgov.net
Subject: Proposed Meeting with Mr. Robert Franzen

Mr. Franzen,

Your letter of November 24, 2009 to Weston Newton, Chairman of Beaufort County Council requested a meeting with him or a designated committee for the purpose of reviewing your proposal to use the Port Royal to Yemassee rail bed in support of an Historic Train Service.

In response to your request Chairman Newton has tasked the Northern Regional Plan Implementation Committee to meet with you at their next scheduled meeting on January 22, 2010. Details of the proposed meeting are contained in the attached letter which is provided in the form of an advance copy.

At your convenience please confirm your availability for the proposed meeting on January 22, 2010.

Jim Hicks
Chairman
Northern Regional Plan Implementation Committee

Robert C. Franzen
55 John Allman Lane
Sylva, NC 28779

November 24, 2009

Wm. Weston J. Newton
Chairman, Beaufort County Council
PO Box 1938
Bluffton, SC 29910

Dear Mr. Newton,

My name is Robert Franzen and I am a railroad contractor, consultant and a native South Carolinian, raised in Greenville and a graduate of Clemson University. I have extensive expertise of over 30 years in tourist rail service and the railroad industry. I have previously worked for and continue to work with the largest Tourist Rail lines in America. I am a historic railroad preservation specialist, and the Port Royal line has significant historical value which at least warrants the opportunity to discuss in an open forum.

I have been interested in the Port Royal Railroad line for several years and have been talking with different parties from Beaufort, Port Royal and Yemassee, discussing the idea of Historic Train Service between Port Royal/Beaufort and Yemassee and freight service as warranted in the future between Yemassee and the Beaufort County industrial park near the air station. Our most immediate issues have been to save the RR and to prevent BJW&SA from scrapping the rail. In order for the railroad to be saved and be put in operation, Beaufort County, City of Beaufort, Town of Port Royal and Yemassee will have to facilitate the opportunity for that to happen.

With Beaufort County potentially leasing the above ground use from the BJW&SA of the railroad right of way (ROW), the County Administrator, Gary Cubic has asked me to send a letter to you describing our intentions concerning the Port Royal Railroad. I would like to negotiate with the County to lease the ROW with the rail in place to operate a Historic Tourist Train on the rail line between Port Royal/Beaufort and Yemassee. Below I describe what I envision the operation to be in the future.

Passenger service on the Port Royal Railroad (PRR) shall consist initially of daily and weekend trips running between Port Royal and Yemassee. The daily operation will run a diverse fleet of cars to accommodate diverse groups. The PRR will work toward the incorporation of events and seasonal specials as goals for the short and long term operation by implementing a series of events to produce optimum revenue as popularity of the railroad allows. The events and their marketing potential include audiences of all

ages and interests. Given the proper growth timetable, long term prospects and potential for the PRR seem endless.

The operation shall consist of daily excursion runs from Port Royal/Beaufort to Yemassee, a dinner train that runs from Port Royal/Beaufort to Whale Branch and two children's events, one at Christmas and the other in the summer season. The dinner train will run a weekend schedule at the start of the PRR's operation, with the goal of running every evening during peak season. PRR will offer more than one dinner train selection to customers, with one being a gourmet dinner train and the other being a mystery theatre dinner train. PRR's full time chefs would plan a wonderful meal, prepare and serve a three course dinner on these trains. PRR will work with Port Royal, Beaufort and Hilton Head arts leaders to provide entertainment at the depot in Port Royal, Yemassee and as well as on the train.

Events that we anticipate including are as follows:

*Daily excursions
Dinner Trains
Dinner Boat Cruises
Promote Filming Feature Films using the Train
Polar Express Trains
Thomas the Tank Trains
Local Event and Festival Trains
Annual Yemassee-Port Royal Marine Reunion Trains
Work with the Convention Bureau to host specials for companies and events
Private party trains, weddings, anniversary, family reunions*

Other community events may also develop as we become more involved in the local market. Our primary target is the tourism population that already boasts a yearly population of 3.5 million within the Beaufort-Hilton Head area, with a secondary market that incorporates another larger visitor population of fourteen million plus within a two-hour drive.

Making the Port Royal Railroad operational will require repairing and improving existing track and bridges, building a depot in Port Royal/Beaufort and in Yemassee, leasing office space, building a maintenance facility and building turning facilities for the train equipment in Port Royal/Beaufort and Yemassee. Equipment will have to be purchased: steam engines, diesels, passenger cars, dinner train cars, maintenance equipment, computer systems, reservation systems, and other items. The estimate is that the start-up alone for the Port Royal Railroad will have an economic impact of 50 million per year. Within the first three years, the railroad anticipates hiring 150 people in full and part-time jobs and it will bring an economic impact of 75 million plus per year. We believe that this will bring a much needed economic stimulus to Port Royal and Yemassee as well as Beaufort and Beaufort County.

Working with local chambers of commerce, city and county government, state tourism officials, business leaders and civic groups. The Port Royal Railroad will add a fresh dimension to entertainment for the Beaufort/ Hilton Head Area and the surrounding areas of Charleston, SC and Savanna, GA.

The PRR would operate all trains and dispatch the railroad between Port Royal/Beaufort and Yemassee. PRR would qualify its crews to standard operating railroad rules. PRR would employ an Operations Manager, Trainmaster/Road Foreman, Dispatcher and three engineer/conductor qualified personnel to operate the trains. As trains increase, the number of operating employees would increase to 9 or 10 employees with mechanical forces assisting as needed. Once the PRR is in full operation, it expects to employ 65 full time employees and 30 seasonal employees for all departments which will include: Administration, Marketing, Accounting, Reservations, Retail, Depot, Operations, Mechanical, MOW-Track, and Food & Beverage.

The year round schedule in the first two to three years of operation would start with one AM train Thursday-Sunday and one evening Dinner Train on Friday and Saturday in March. The schedule would ramp up with three trains a day in April through October. Thomas the Tank engine would run 10 days in mid-June as a special event in addition to the other June trains. The April-October trains would consist of three trains: one train with departure @ 8:30 AM returning @ 1:00 PM; one afternoon train with departure @ 1:30 PM returning @ 6:00 PM; and one evening dinner train with the departure @ 7:00 PM returning @ 10:00 PM. Starting in November the schedule would ramp down to one train five days a week and the Dinner Train 2-3 days per week. Polar Express would finish out the year in November and December with three trains per night at its peak in mid-December.

Our ultimate goal would be to operate out of Port Royal and Yemassee. It would be a positive step for Beaufort County, City of Beaufort and Yemassee to work with the Town of Port Royal to change the Port Master Plan to incorporate the Historic Tourist Train. The tourist train would be the catalyst for the Port development.

I would like to discuss the future of the Railroad and the possibilities the Railroad offers. I respectfully request a meeting with you and the County Administrator or your designated County Council Committee dealing with the railroad at a location of your choosing to discuss the nature of this letter in detail at your earliest convenience.

Thank you.

Robert Franzen
www.steamsofamerica.com
ssoa2001@aol.com
828-226-5214 Cell
828-631-2901 Office
828-631-2903 Fax

Cc:

Gary Cubie

Paul Sommerville

Steven Baer

Rick Caporale

Gerald Dawson

Brian Flewelling

Herbert Glaze

William McBride

Stewart Rodman

Gerald Stewart

Laura Von Harten

Samuel Murray

Milton Van Willis

Joe Lee

Scott Dadson

Billy Keyserling

J. I.. Goodwin

Dean Moss

W. Thomas Logan

OFFICE OF THE COUNTY ADMINISTRATOR

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GARY KUBJC
COUNTY ADMINISTRATOR

CHERYL HARRIS
EXECUTIVE ASSISTANT

BRYAN J. HILL
DEPUTY COUNTY ADMINISTRATOR

LADSON F. HOWELL
STAFF ATTORNEY

September 10, 2009

Mr. Dean Moss, General Manager
Beaufort – Jasper Water & Sewer Authority
6 Snake Road
Okatie, SC 29909

RE: Beaufort – Jasper Water and Sewer Authority (BJWSA) Acquisition of Port Royal Railroad
Right-of-Way

Dear Mr. Moss:

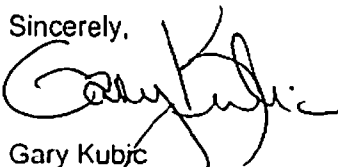
I am in receipt of your September 3, 2009 memo wherein you outlined the remaining steps for future acquisition of the Port Royal Railroad Right-of-Way.

The purpose of this letter is to indicate to you that we support your efforts to complete this purchase.

We are excited about the possibility to partner with you for the development of this corridor. The potential use of this resource will yield positive economic and environmental returns to our citizens. It cannot happen unless we take the first step.

You have met every challenge. You have earned our appreciation. Please accept our gratitude and continued support as you proceed.

Sincerely,



Gary Kubjc
County Administrator

GK:ch

Attachment

cc: Weston Newton, Chairman, County Council ✓



5 SNAKE ROAD, OKATIE, SC 29559
Phone 843.987.9292 FAX 843.987.9293
Customer Service 843.987.9200
Operations & Maintenance 843.987.9220
Engineering 843.987.9250
www.bjwsa.org

DEAN MOSS, General Manager

MEMORANDUM

To: Gary Kubic, Scott Dadson and Van Willis

From: Dean Moss

Subj: RR RoW - Next Steps

Date: September 3, 2009

1. The purpose of this memo is to advise you of the status of BJWSA's acquisition of the Port Royal Railroad Right-of-Way (RoW) and to outline the next steps that need to occur to move the project forward.

2. We have discussed from time to time over the last four years that BJWSA needs to use only the underground section of the RoW for existing and future utility pipelines and appurtenances. We have stated that the use of the surface of the RoW is a decision that must be made by the County and the municipalities. The time has come to formalize that understanding. By this I do not mean that the actual uses need to be defined, but only that we execute an agreement that establishes and regularizes the relationship between BJWSA and your organizations.

3. BJWSA will close the RoW purchase with the South Carolina State Ports Authority (SCSPA) in early October 2009. At that time, BJWSA will acquire (for \$3M) all the SCSPA's, right title and interest in the property, subject only to the constraints of the Federal rail-banking order. In essence, the RoW is available for any use that does not permanently restrict its potential future use for rail.

4. BJWSA intends to complete long term property use agreements with Clarendon Plantation and several large land owners north of the Whale Branch. These agreements will allow those property owners to restrict access to those portions of the RoW that pass through their property.

5. There are a number of other property and encroachment issues that must be resolved over the next several months, but none of them affect the central 100' RoW from Ribaut Rd. to Poppy Hill Rd.

6. BJWSA intends to complete an easement agreement with SCE&G to account for its 115 KV transmission main that runs from about North Street to Brotherhood Rd. Additionally, we intend to allow for SCE&G and other utilities to use the RoW for other utility lines in the future, subject to provisions that we will develop with the County and the Municipalities. BJWSA will sell these easements to SCE&G and others as a way of partially offsetting the price of the acquisition.

DAVID M. TAUB, Ph.D.
CHAIRMAN

MICHAEL L. BELL
JAMES P. O'NEAL

BRANDY M. GRAY
DEputy CHAIRMAN

JIM CARLEN
JOHN D. ROGERS

MARK C. SNYDER
VICE PRESIDENT, TREASURER

ROBERT G. HOLZMACHER
CHARLIE H. WHITE

7. The agreement mentioned in paragraph 2 above would in general specify the following:
 - a. BJWSA agrees to lease the surface rights to the RoW., for a very nominal sum, for a period of at least 50 years, to Beaufort County, the municipalities, some combination of the above or, some other non-profit organization designated and chartered by them.
 - b. This lease would be subject to certain conditions, including obviously the restrictions contained in the STB Rail-banking Order. Others conditions would include, but not be limited to:
 - i. Right of BJWSA to install, operate and maintain its lines;
 - ii. Right of BJWSA to realize the revenue from other utility installations that might be permitted to occur;
 - iii. Right of BJWSA to realize the revenue from the sale of the exiting improvements on the RoW such as the rails, ties and ballast, or to be fairly compensated if it is decided that those improvements should remain in place;
 - iv. Recognition and adherence to the provisions of existing land leases and encroachment permits; and,
 - v. Agreement that the lessee would be responsible for the maintenance of the RoW and would assume all liability for activities on the RoW. These responsibilities would not extend to land leased to others.

8. It will obviously take some time to develop and execute such an agreement. **Before BJWSA's board meeting on 24 September, I would like to have from you all, or from the County as agent for the group, a letter that indicates your intent to proceed with the development of such an agreement.**

9. I will ask Libby Breland to schedule a meeting of the four of us so that we can discuss this and resolve any unanswered questions. I suggest Tuesday, 8, September.

**Form-Based Code
MEMORANDUM OF UNDERSTANDING (MOU)**

This is an agreement between Beaufort County hereinafter called the COUNTY, the City of Beaufort hereinafter called the CITY, and the Town of Port Royal hereinafter called the TOWN.

I. PURPOSE: The purpose of this MOU is to clearly identify the roles and responsibilities of each party as they relate to engaging Opticos Design, Inc. hereinafter called the CONSULTANT to develop three (3) consistent and compatible form-based codes, one for each of the parties.

III. FINANCIAL RESPONSIBILITIES UNDER THIS MOU

1. All three parties acknowledge that the cost to complete Phases 1, 2 & 3 of the attached Scope of Work (Attachment A) hereafter called the SCOPE is \$550,000.
2. For fiscal expediency to all three parties and to the CONSULTANT, the COUNTY agrees to serve as lead agent with the CONSULTANT. As lead agent, the COUNTY agrees to review all invoices and disburse funds to the CONSULTANT upon approval of the invoices.
3. The COUNTY agrees to contribute the sum of \$350,000 to complete phases 1, 2, & 3 of the SCOPE.
4. The CITY agrees to contribute the sum of \$15,000 to the COUNTY toward the cost of Phase 1 of the SCOPE. Upon completion of Phase 1, if the CITY agrees to proceed to Phases 2 & 3 as set forth in the SCOPE, the CITY agrees to pay the balance of its share \$85,000 to the COUNTY.
5. The TOWN agrees to contribute the sum of \$15,000 to the COUNTY toward the cost of Phase 1 of the SCOPE. Upon completion of Phase 1, if the TOWN agrees to proceed to Phases 2 & 3 as set forth in the SCOPE, the TOWN agrees to pay the balance of its share \$85,000 to the COUNTY.

IV. UPON COMPLETION OF PHASE 1: It is mutually understood and agreed to by and between the parties that the CITY and/or the TOWN may take one of the three following actions:

1. The CITY and/or the TOWN may agree to proceed to Phases 2 & 3 of the SCOPE and to pay the balance of its share of \$85,000 to the COUNTY.
2. The CITY and/or the TOWN may agree to modify the SCOPE with the understanding that any resulting changes in the total contract amount as

RECOMMENDATION: The Natural Resources Committee approve and recommend to County Council approval of a contract award to Opticos Design, Inc. the top ranked firm, with the anticipated cost of \$350,000. Opticos will have 18 months to finish the service.

cc: Richard Hinline, Elizabeth Smith

Terms of Agreement

Date:

This Agreement ("Agreement") is entered into for references purposes only, this tenth day of May, Two-thousand ten, by and between Beaufort County ("Client") and Opticos Design, Inc. ("Consultant").

Client:

Beaufort County
P.O. Drawer 1228
Beaufort, SC 29901-1228

Consultant:

Opticos Design, Inc.
1285 Gilman Street
Berkeley, CA 94706

Project: Beaufort County Form-Based Code

Scope of Services:

Consultant agrees to provide services to Client in accordance with Exhibit A – Scope of Work and Exhibit B – RFQ #3918/100926 attached hereto and incorporated herein by reference. If any conflict should arise between the two documents, Exhibit A shall govern. Any services not specifically identified in Exhibit A or Exhibit B are not included in this Agreement.

The intent of the services outlined in Exhibit A is to produce a multi-jurisdictional Form-Based Code to unify land use, development regulations and site design standards into one singular ordinance that promotes and regulates walkable, place-based urbanism.

Consultant does not employ any licensed architects and cannot perform any services for which a licensed architect is required. Nothing in this agreement shall be construed as requiring Consultant to perform any services for which an architectural license is required.

Compensation for Services:

Consultant shall be paid on a fee basis for performance of services under this agreement in accordance with the terms of Exhibit A attached hereto and incorporated herein by reference.

Any additional tasks performed outside of those specified in Exhibit A will be billed at the hourly rates set forth below (subject to a 5% increase at the beginning of each calendar year):

Opticos Design, Inc.

1285 Gilman Street

Berkeley, CA 94706

p: 510.558.6957

f: 510.898.0801

w: opticosdesign.com

Principal	\$225/hr
Senior Associate	\$175/hr
Associate	\$160/hr
Senior Designer	\$145/hr
Designer	\$125/hr
Administration	\$85/hr

Reimbursable Expenses:

Actual expenditures made by the Consultant in the express interest of the project are included in the overall contract amount in Exhibit A. Additional reimbursables expenses not included are listed in Exhibit A, Proposed Budget by Phase, Additional Terms.

Base Information:

Client is responsible for providing all necessary base information regarding the site and any project requirements before design commences. This may include but is not limited to site surveys, geotechnical data, pertinent background documents, etc.

During the performance of services, Consultant may require additional base information. Client shall promptly provide any such additional base information. Consultant shall not be responsible for any delays in obtaining any base information regardless of when requested.

Consultant is not responsible for any errors, omissions, or changes required due to late, incorrect, or missing base information. Consultant shall be reimbursed at the hourly rates listed above for any services required to make any corrections or changes related to this section.

Client Duties:

The Client shall pay all bills in a timely manner and promptly notify Consultant of any change of address or contact information. The Client shall also reply to Consultant's requests in a timely manner.

Ownership of Documents:

The Consultant's documents are instruments of service and are the property of the Consultant. The documents will be available to the Client for use only on this Project. Re-use of the documents prepared under this Agreement for projects beyond the scope of this Agreement requires the express written consent of the Consultant and will require a re-use fee and a release of liability to be negotiated under a separate agreement at the time the re-use is requested in writing by the Client.

Credit shall be given to the Consultant any time designs or drawings are used. This may be done in text or by placing "Opticos Design, Inc." next to image.

Alteration and Use of Consultant's Documents:

Materials prepared by the Consultant under this Agreement shall not be used by Client, or transferred to any other party, for use in other projects, additions to the current project, or any other purpose for which the material was not strictly intended by the Consultant, without the Consultant's express written permission. Any unauthorized modification or reuse of the materials shall be at the Client's sole risk, and the Client agrees to defend, indemnify, and hold the Consultant harmless, from all claims, injuries, damages, losses, expenses, and attorney's fees arising out of the unauthorized modification or use of these materials.

Limits of Liability:

To the maximum extent permitted by law, the Client agrees to limit the Consultant's liability for the Client's damages to the Consultant's professional fees paid under this agreement. The limitation shall apply regardless of the cause of action or legal theory pled or asserted.

Indemnity:

The Consultant hereby agrees to indemnify and save harmless the Client, its officers, agents, and employees from and against any and all liability, claims, demands, damages, fines, fees, expenses, penalties, suits, proceedings, actions and cost of actions to the extent arising or growing out of negligence of the Consultant, its agents, servants, or employees.

Arbitration:

In the event of any dispute arising out of this Agreement, the parties shall first attempt to resolve the dispute informally between them. If they are unsuccessful in informally resolving the dispute, it shall be submitted to binding arbitration to be conducted in Alameda County, California before a single arbitrator selected by the parties. Should the parties be unable to agree upon a single arbitrator, the dispute shall be submitted to the American Arbitration Association pursuant to its expedited rules, before a single arbitrator. The award of the arbitrator shall be final and binding on the parties and may, in the arbitrator's sole discretion, include an award of reasonable attorneys' fees to the prevailing party. If either party fails to pay its share of any fees charged by the arbitrator, or actively participate in the arbitration process, the arbitration shall nevertheless proceed to a final, binding decision by the arbitrator, whose award shall be binding on both parties, notwithstanding the non-participation by one party. Discovery shall not be permitted except as may be determined by the arbitrator.

Right to Terminate:

In addition to all rights of Consultant to suspend or withhold work as herein provided, both Client and Consultant shall each have the right to terminate this Agreement upon providing the other party with 30 days written notice. Consultant

shall be paid for all services performed through and including the termination date, and shall be reimbursed for all reimbursable expenses incurred through and including the termination date. Neither party shall have any liability to the other for any losses, damages, or claims sustained by a party by virtue of or incurred after the date of termination.

Miscellaneous:

If any provision of this Agreement shall be held by a court of competent jurisdiction to be invalid, unenforceable, or void, the remainder of this Agreement shall remain in full force or effect.

Payment Terms:

Services and reimbursable expenses shall be billed monthly. Client shall make payment to Consultant within fifteen (15) days after receipt of invoice.

Consultant reserves the right to suspend work on any project when invoices have not been paid within thirty (30) days after having been rendered. Any overdue payment shall bear interest, compounded monthly, at six (6)% per annum, or the maximum rate allowable by law, whichever is less. Payment of interest, however, will not cure a failure by you to make payments to us when due.

A 20% deposit (will be required for work on the project to begin. The deposit will be applied to the last outstanding invoice at the conclusion of the Consultant's work for the Client. At that time, any unused funds will be returned to the Client.

Commencement Date:

Consultant shall commence its services as soon as is reasonably practical after receipt of this Agreement signed by Client and the deposit paid in full.

Consultant
Opticos Design, Inc.
By: Stefan Pellegrini, Vice President

Date

Client:
Beaufort County
By:

Date

Scope of Work

This scope of work follows the outline for process and deliverables framed in the "White Paper" drafted for Beaufort County on 16 February 2010 after our working session in Beaufort on 11-12 February. Phase 1 describes the establishment of a framework for preparing analysis and mapping to inform the Form-Based Code. Phase 2 describes the creation of draft Form-Based Code content. Phase 3 describes a two-step process: first, the application of the Form-Based Code to local zoning maps through a series of working sessions and charrettes (when and where appropriate); and second, the refinement, finalization, and subsequent adoption of the Form-Based Code. The final (optional) Phase 4 describes our approach to ongoing assistance with future implementation and refinement, as may be necessary or appropriate.

Phase 1 – Project Initiation and Form-Based Code Foundation

Objectives: Establishing a framework for an effective process, organizing background data and conducting physical macro-scale analysis

1.1 Kick-off Meeting (Visit 1): This phase would begin with an initial kickoff trip to Beaufort County for two to three workdays, to accomplish the following:

- **Establish Technical Advisory Group (TAG):** The project team will meet with the "Technical Advisory Group" composed of representatives of planning staffs from Beaufort County, City of Beaufort, and Town of Port Royal (we will expect periodic coordination with the Town of Bluffton as needed during the project). The TAG will also include volunteers who are trained land planning design professionals (e.g. landscape architects, civil engineers, land surveyors). This meeting will be held at a central location and will assist the consultant team with an understanding of the planning process to date, give them the ability to gather background data, and allow them to discuss timeline and process with the group.
- **Initiate Interface with Staff Engineers and SCDOT:** The project team will facilitate an introductory session focused on identifying potential corridor design issues (lane width, on-street parking, access & curb cuts, street spacing, etc.) and presenting national trends and approaches (ITE Context Sensitive Design, Smart Transportation Guidebook, etc.) in order to identify and frame critical issues for further design discussion.
- **Initiate Interface with Stormwater Managers:** The project team will facilitate an introductory session focused on existing stormwater treatment and volume reduction standards.
- **Begin Macro-scale Documentation:** The project team will begin their macro-scale documentation of the county-wide planning areas through research of existing land use plans and Zoning Ordinances. Comprehensive and Regional Plans to be reviewed include the Beaufort County Comprehensive Plan, the North County Regional Plan, the South County Regional Plan, the City of Beaufort Comprehensive/Vision Plan, and the Port Royal Comprehensive Plan. Codes and Ordinances to be reviewed include the Beaufort County Code of Ordinances, the City of Beaufort Unified Development Ordinance, the Town of Port Royal Code of Ordinances, the Bluffton Old Town District Code, and the Town of Bluffton Unified Development Code. Other relevant documents to be reviewed include the Draft Daufuskie Island Plan and Code.

This task and the completion of our macro-scale documentation assumes that the maps and GIS data utilized in recent planning activities can be made available to the project team to the maximum extent possible for use in additional analysis and mapping.

- **Conduct Initial Site Visit:** The project team will conduct an initial site visit of the County and planning areas to grow more familiar with the landscape of the various jurisdictions over the two- to three-day period. Physical analysis of natural features and systems, transportation networks, land use patterns, etc. will be documented through photography and on-site measurements.

1.2 Complete County-wide Macro-Scale Documentation: The project team will utilize background information obtained during Task 1.1 and complete the macro-scale documentation in preparation for county-wide sector and place-type mapping, including analysis of Beaufort County's neighborhoods, districts, and corridors. The project team will utilize the foundation of regional physical analysis, sector, and Transect mapping in the applicable comprehensive and regional planning documents, as well as the mapping prepared for the 11-12 February working session, for this task.

1.3 Two- to Three-day Workshop (Visit 2): The project team will return to Beaufort County for two to three workdays to present and finalize the macro-scale analysis and discuss the overall process with the TAG and, as appropriate, local stakeholders or governing authorities through the following tasks:

- **Meet with TAG:** The project team will meet with the TAG and/or local staffs to discuss project progress.
- **Discuss and Determine Implementation Strategies:** The project team will work with the TAG to discuss implementation strategies for the Form-Based Code, determine jurisdictional responsibilities and roles, and develop a refined approach to the process outlined in Phases 2 and 3.
- **Discuss and Determine Form-Based Coding Approach:** The project team will work with the TAG members to determine approach and strategy for “plugging” the Form-Based Code into each jurisdiction’s respective codes, and discuss approach for other elements of respective codes that will require updating.
- **Present Process to Stakeholders:** The project team will participate in up to two (2) presentations in planning areas to educate community stakeholders on the process and respond to initial questions.
- **Facilitate Corridor Working Group session:** Building on the session initiated during the kick-off meeting, the project team will facilitate a work session on suggested design approaches, presenting draft concepts and testing design standards on specific corridors in the county. Activities will focus around area-wide transportation planning issues and planning area connectivity.
- **Educate Review Boards/Governing Councils:** The project team will participate in up to two (2) Educational work sessions with local Planning Commissions, Historic Review Boards, or Councils, as appropriate (these could be held as one or more joint work sessions prior to each of the presentations listed above).
- **Finalize Macro-scale Analysis:** The project team will finalize the macro-scale analysis based on input received during the two- to three-day workshop and assemble the Sector Maps from each planning area into a comprehensive County Sector and Community Types Map.

1.4 Initiate Micro-scale Documentation: The project team will initiate targeted micro-scale documentation in each planning area in order to analyze and document initial content for the county-wide Form-Based Code. Travel involved with this task will be completed in tandem with Task 1.3 in order to optimize expenses.

Phase 1 Timeline: Three months – May 2010 – July 2010

Phase 1 Trips: Two trips, up to six working days

Phase 1 Deliverables: Bi-weekly Project Updates in digital format; Existing Development Code Assessment, macro-scale documentation including neighborhood, district, and corridor analysis, refined sector and place type mapping, and County Transect calibration in .pdf format

Phase 2 – Form-Based Code Creation and Refinement

Objectives: Establishing a county-wide planning framework; establishing a county-wide Form-Based Code

2.1 Draft County-wide Administrative Form-Based Code Components: The project team will draft the county-wide Administrative Draft Form-Based Code components that will include Form-Based Zone Districts, Form-Based Regulations, Use Tables, Parking Standards, Site Planning Standards, Thoroughfare Standards, Signage Standards, Architectural Standards and Guidelines, Submittal Requirements, and Administrative Procedures as outlined in the “White Paper”.

2.2 Draft SCDOT Technical Document: Following the work session in Phase 1, the project team will prepare a summary document that articulates the design standards and their applicability/tailoring to SCDOT. This document will include Beaufort County-based case study examples in order to communicate directly how the standards apply locally. This document will form the basis of Thoroughfare Standards that will appear in the Form-Based code.

2.3 Review and Refine County-wide Administrative Draft Form-Based Code and Draft SCDOT Technical Document: After the release of the Administrative Draft Form-Based Code and Draft DOT technical document, the project team will convene with the TAG to refine the content and discuss strategies for local code integration. The team will also work with the DOT for their input on the Draft SCDOT technical document.

2.3 Discuss and Prepare for Local Code Application (Visit 3): The project team will discuss with the TAG, strategy for the application and calibration of the county-wide Form-Based Code in Phase 3. In addition, the team will facilitate a wrap-up session focused on refining and resolving any remaining design issues and discussing their incorporation into the form-based code and SCDOT policy.

Phase 2 Timeline: Three months – July 2010 – October 2010

Phase 2 Trips: One trip, up to 3 working days

Phase 2 Deliverables: Bi-weekly Project Updates in digital format; county-wide Administrative Draft Form-Based Code; Draft Code materials for Public Review/Adoption through one round of administrative edits with the TAG; Draft DOT technical document.

Phase 3 – Local Code Application

Objectives: Application of code elements through the creation of local regulating plans; testing and refinement of code elements through appropriate levels of stakeholder engagement; working with staffs and political leaders for ongoing assistance and education

3.1 Conduct Additional Micro-scale Analysis: The project team will conduct additional micro-scale analysis within the planning areas in preparation for a series of Local Code Application activities. (Travel involved with this task will be completed in tandem with Task 2.3 in order to limit travel costs.)

3.2 Local Code Application Activities:

- **Draft Regulating Plan(s):** The project team will utilize the foundation of the Administrative Draft Code and background information previously collected to draft preliminary Regulating Plans for each of the planning areas in preparation for the Local Code Application Workshops and Charrettes.
- **Facilitate Local Code Application Workshops (Visits 4 & 5):** The project team will finalize Regulating Plans for specific planning areas through a series of two- to three-day working sessions that combine working sessions with the TAG, public workshops and presentations, and informative working sessions with local planning commissions, review boards, and governing councils. Time during each workshop will be devoted to focus on presenting and discussing the Draft Regulating Plan for each of the key project planning areas, including North of the Whale Branch River, Town of Port Royal: Shell Point, Seabrook and Laural Bay, St. Helena Island and South County. Based on information learned during the interview process, the project team proposes these sessions be held over the course of two (three maximum) trips and ten (twelve maximum) workdays.
- **Facilitate Local Code Calibration Charrette(s) (Visits 6 & 7):** The project team will conduct up to two (2) five-day community charrettes that focus on particular planning areas of the County. These charrettes will be held to focus on targeted areas, including Burton and selected areas within City of Beaufort or Lady's Island. Each charrette will be customized to local needs, and will provide an opportunity for the implementation of a local Regulating Plan and the calibration of the county-wide Form-Based Code, as appropriate, to local conditions. The project team will engage specialists to assist in addressing particular issues each charrette may present. The charrettes provide an opportunity to engage planning staff and the general public in an educational coding exercise that may be repeated in other high-priority locations in the future. Based on discussions with staff to date, the project team proposes that these charrettes be completed over the course of two to trips and up to ten workdays. A Charrette Report will be produced for each charrette that documents the process and includes a catalog of imagery produced. Each charrette will provide an opportunity for the following:
 - Initial public presentation of micro-scale analysis, sector mapping, and background

- Market testing and analysis of key planning area test sites for economic feasibility and impact (assume targeted background market analysis, economic feasibility analysis, and fiscal impact analysis for up to five projects developed during charrettes)
- Site plan visioning for key planning areas and refinement of draft model Form-Based Code regulations with local stakeholders
- Presentation and refinement of Draft Regulating Plans for “pilot phase” areas
- Working sessions with the local Staff members and/or TAG to discuss code content and potential implementation mechanisms for local planning areas
- Public presentations of draft coding materials and opportunities for feedback

3.3 Finalize Regulating Plans and Draft Form-Based Code Content: Working with the TAG, the project team will refine and finalize the regulating plans and draft Form-Based Code Content based on additional feedback and input received during the working sessions and the charrettes, and create drafts suitable for public hearings and adoption. In order to save travel costs, we will assume that these meetings can be accomplished through a videoconference or series of conference calls and/or other correspondence.

3.4 Present Public Review Draft Form-Based Code and Regulating Plans (Visit 8): The project team will facilitate up to four (4) sessions with local Planning Commissions, Historic Review Boards, and/or Design Review Boards, as appropriate, to adopt the Form-Based Code. The number of sessions assumes that a joint City of Beaufort/Town of Port Royal session will be possible.

3.5 Support Final Review Draft Form-Based Code and Regulating Plans Presentations: The project team will provide support to local staff in preparation for presentation to local Councils to discuss and adopt the Form-Based Code.

Phase 3 Timeline: Five - Seven months – October 2010 – March 2011

Phase 3 Trips: Up to five trips, up to 23 working days

Phase 3 Deliverables: Bi-Weekly Project Updates in digital format; Charrette Reports (up to two) including Review Draft Regulating Plan(s) and Review Draft calibrated Form-Based Code components; Final Code materials suitable for adoption by local jurisdictions and County.

Phase 4 – Pilot Phase Consulting and Code Refinement (optional, not included in project budget)

Objectives: Maximizing usability and appropriateness of Form-Based Code materials; ongoing education with staff and political leaders. The intent of this phase is to provide services on an as-needed (time and materials) basis, responding to the potential unique needs of local jurisdictions during a testing period immediately after adoption.

- 4.1 Summarize:** The project team will create a summary brief, “How to Use the Form-Based Code,” geared for planners, community members, and developers, for distribution to the local jurisdictions.
- 4.2 Train:** The project team can work with the Form-Based Codes Institute to provide staff training in Form-Based Coding (200 and 300 level) and additional resources (e.g. distribution of the Paroleks’ Form-Based Codes book) as needed to assist local jurisdictions with future Form-Based Coding efforts.
- 4.3 Test Pilot Projects:** As needed, the project team will be available to local staffs for continued testing of pilot projects and further refinement of Form-Based Code materials. This “Strategic Advisor” role may include assistance to local staffs with code interpretation, design review in compliance with the code, recalibration of code or vision plan materials in “pilot phase” areas, assistance with implementation of amendments to local Zoning Maps, and facilitation of meetings and discussions with prospective applicants under FBC areas. As needed, the project team could assist in tabulating potential changes to the adopted Code materials and making recommendations for potential alternatives or solutions.

4.4 Refine as Necessary: As needed, the project team can work with the Staff Technical Advisory Committee and local staffs to refine Form-Based Code materials as necessary.

4.5 Re-Engage Local Stakeholders: As needed, the project team can return to re-engage local Planning Commissions (up to four sessions) and other leaders to review and adopt amended Form-Based Code materials, as necessary.

Phase 4 Timeline: January 2011 – January 2012 (two months – one year)

Phase 4 Trips: as needed

Phase 4 Deliverables: "How to Use the Form-Based Code" in .pdf format, training sessions and/or materials, assistance as needed in an ongoing "Strategic Advisor" role.

Proposed Budget by Phase

The following is an outline of the minimum proposed budget allocated for each phase of the project. Phase 4 is not included in the project budget.

Phase 1	\$105,880
Phase 2	\$217,760
Phase 3	\$226,360
Phase 4	tbd
Total	\$550,000

Additional Terms:



- 1 Client will provide space and equipment for workshops, charrette and other meetings. (Consultant to bring computers and drafting supplies.) Consultant will not be responsible for any such planning or expenses.
- 2 Client will provide food for participants other than the design team for workshops, charrette and working sessions.
- 3 Client will be responsible for all poTAGe associated with public outreach and marketing.
- 4 Client will be responsible for installation of any and all public outreach media including but not limited to banners and signage.
- 5 In the interest of environmental considerations, the consultant will provide one (1) double-sided, bound, printed copy on minimum 30% post-consumer recycled paper and a PDF file of each deliverable.
- 6 Any additional tasks performed outside of those specified above, such as attending additional meetings or completing additional revisions beyond the hours or number of revisions specified above, will be compensated at the hourly rates set forth below (subject to increase by five percent (5%) on January 1 of each calendar year occurring during the term of this agreement.

Principal	\$225/hr
Senior Associate	\$175/hr
Associate	\$160/hr
Senior Designer	\$145/hr
Designer	\$125/hr
Admin staff	\$85/hr

Area of Interest Map



LEGEND:

- 1 North of the Whale Branch River
- 2a Seabrook and Laurel Bay
- 2b Town of Port Royal and Shell Point
- 3 St. Helena Island
- 4 South County
- 5 Burton
- 6 City of Beaufort and Lady's Island
-  Workshop area of interest
-  Charrette area of interest

Summary of Approach and Deliverables

The Form-Based Code will unify land use, development regulations, and site design standards into one singular ordinance that promotes and regulates walkable, place-based urbanism.

The Form-Based Code for Beaufort County will include:

Form-Based Zone Districts. To the maximum extent possible, these zone districts will seek to replace existing zone districts in order to promote walkable urbanism and pedestrian-oriented form where feasible and appropriate. Within the County, we envision that the existing rural and urban zoning designations may be entirely replaced with Form-Based Zone Districts, and that the TND Ordinance currently underway will ultimately be replaced by Form-Based Site Planning Standards and corresponding Administrative Procedures.

Form-Based Regulations. The Code would include the following components that regulate urban form:

- Building Form Standards
- Frontage Standards
- Building Type Standards

Use Tables. The Code will calibrate land use for each of the Transect-Based Zone Districts and recalibrate land uses for remaining conventional zone districts, if applicable.

Parking Standards. The Code will calibrate appropriate parking standards along the Transect and provide parking management tools.

Site Planning Standards. The Code will provide design standards that promote walkable urbanism in larger undeveloped parcels and parcels suitable for redevelopment. These standards will include a calibration of existing Stormwater Treatment & Volume Reduction Standards as well as Waterbody and Sensitive Habitat Setback Standards along the Transect.

Thoroughfare Standards. The Code will address the design of thoroughfares across the Transect. This work will be based on appropriate thoroughfares by type and assembly and will be created through close coordination with local public works & engineering staffs and the D.O.T. as appropriate. Thoroughfares will address lighting standards.

Signage Standards. Signage standards will be calibrated along the Transect.

Architectural Standards/Guidelines. The code will address architectural design for the more intense zones of the Transect.

Submittal Requirements. The Code will refine submittal requirements as necessary for the Form-Based Code. It is anticipated that the County will seek only minor changes to existing processes.

Administrative Procedures. The Code will include a set of Administrative Procedures that fold the Form-Based Code into the County's larger Code of Ordinances.

Zoning Maps. The Project Team will work with Beaufort County Staff to draft Zoning Maps/Regulating plans for the following areas through strategic working sessions and up to four (4) public workshops:

- **North of the Whale Branch River.** Work here would seek to reinforce the rural character of the area, focusing on zoning updates in the three Community Preservation areas (Dale, Big Estates, Sheldon) and the Rural Business Districts including Garden Corner. The process would seek to refine the land use vision described in the North County Regional Plan.
- **Town of Port Royal, Shell Point, Seabrook and Laurel Bay.** Work here will be completed in coordination with the Town of Port Royal staff, and would focus on the Town of Port Royal and the unincorporated lands to the west of the Town and the Marine Base.
- **St. Helena Island.** Work here would seek to reinforce the rural character of the area, focusing on zoning updates to the Community Preservation areas with an emphasis on Corner's

Article VII: Resource Protection, Site Capacity & Open Space

Refer to Article VI above.

Article VIII: Acquisition and Resale of Development Rights

Currently not used, no changes are anticipated

Article IX: Affordable Housing Incentives

No changes are anticipated

Article X: Historic Preservation

No changes are anticipated

Article XI: Community Use and Nonresidential Design

We anticipate significant changes to this Article, including working with staff to amend and integrate the information in the draft TND Ordinance into the code.

Article XII: Subdivision Design

We anticipate changes to largely to Division 4 with regards to subdivision layout.

Article XIII: Subdivision and Land Development Standards

We anticipate changes to Division 2 (including the integration of new thoroughfare standards), Division 4 (including calibration of Stormwater Standards on the Transect) and changes to Division 5 (parking and loading).

Article XIV: Modulation of Standards

We anticipate that this section will be removed and replaced with new sections in Articles II and III.

Article XV: Signs

We anticipate the integration of Transect-based sign standards for the upper end of the Transect in this section.

Article XVI: Rural and Critical Lands Preservation

No changes are anticipated

Appendices A through Q

We anticipate that County staff will take the lead on upgrading and amending these sections as they relate to and/or apply to the CP areas (e.g. appendices D, I, K, L).

Summary of Approach and Deliverables

The Form-Based Code will unify land use, development regulations, and site design standards into one singular ordinance that promotes and regulates walkable, place-based urbanism. The Form-Based Code will likely integrate into the existing Unified Development Ordinance as a chapter or section.

The Form-Based Code for the City of Beaufort will include:

Form-Based Zone Districts. These new zone districts will be applicable to areas of the City that promote and enable walkable urbanism. Within the City, we envision that some degree of existing conventional zoning designations will remain intact.

Form-Based Regulations. The Code would include the following components that regulate urban form:

- Building Form Standards
- Frontage Standards
- Building Type Standards

Use Tables. The Code will calibrate land use for each of the Transect-Based Zone Districts and recalibrate land uses for remaining conventional zone districts.

Parking Standards. The Code will calibrate appropriate parking standards along the Transect and provide parking management tools.

Site Planning Standards. The Code will provide design standards that promote walkable urbanism in larger undeveloped parcels and parcels suitable for redevelopment. These standards will include a calibration of existing Stormwater Treatment & Retention Standards as well as Waterbody and Sensitive Habitat Setback Standards along the Transect.

Thoroughfare Standards. The Code will address the design of thoroughfares across the Transect. This work will be based on appropriate thoroughfares by type and assembly and will be created through close coordination with local public works & engineering staffs and the D.O.T. as appropriate. Thoroughfares will address lighting standards.

Signage Standards. Signage standards will be calibrated along the Transect.

Architectural Standards/Guidelines. The code will address architectural design for the more intense zones of the Transect.

Submittal Requirements. The Code will refine submittal requirements as necessary for the Form-Based Code. It is anticipated that the City will seek only minor changes to existing processes.

Administrative Procedures. The Code will include a set of Administrative Procedures that fold the Form-Based Code into the City's Unified Development Ordinance. It is anticipated at this time that one set of Administrative Procedures can be developed that will work for both the City and the Town.

Zoning Maps. The Project Team will work with City Staff to draft Zoning Maps/Regulating plans for the following areas through strategic working sessions and up to two public workshops:

- **City of Beaufort.** Work could focus on the historic core of the City of Beaufort and the Boundary Street planning area.

The City will sponsor one, five-day charrette process to plan and zone one area of interest within the City's immediate sphere of influence, to be selected from the Beaufort Comprehensive Plan's "G-" designated planning areas:

- a. West Beaufort – Cross Creek Shopping Center Area
- b. Portions of Lady's Island along Sam's Point Road and Sea Island Parkway, including the following "nodes" described in the City's Comprehensive Plan:
 - a. Intersection of Sea Island Parkway and Lady's Island Drive

- b. Sam's Point Road Corridor and node @ Shorts Landing Road
- c. Sea Island Parkway (U.S. 21) @ Eustis Landing Road

The City will be expected to participate in one, five-day charrette process to plan and zone the following areas led by Beaufort County:

- **Burton** – exact boundaries to be determined

Management and Coordination

The Project Team will work with the City through the Staff Technical Advisory Group as described in the work scope, and will work directly with City Staff in coordinating and supporting charrette and workshop events within the City. The Project Team will provide bi-weekly project updates to the members of the Staff Technical Advisory Group.

Meetings

In addition to Staff Technical Advisory Group meetings and as described in the work scope, the following meetings are included:

1. Phase 1:
 - a. 1 Educational Session with City Review Boards/Planning Commission/Council in coordination with the Town/County
 - b. 1 Community Meeting in coordination with the Town/County
2. Phase 2:
 - a. 1 meeting TBD in coordination with the County
3. Phase 3:
 - a. Up to 1 Community Meeting tied to workshops
 - b. Up to 2 Community Meetings tied to charrettes
 - c. 1 City Planning Commission Meeting in coordination with the Town

Cost

\$100,000 (minimum), including expenses

Summary of Approach and Deliverables

The Form-Based Code will unify land use, development regulations, and site design standards into one singular ordinance that promotes and regulates walkable, place-based urbanism. The Form-Based Code will likely integrate into the existing Code of Ordinances as a chapter or section.

The Form-Based Code for the Town of Port Royal will include:

Form-Based Zone Districts. These new zone districts will be applicable to areas of the Town that promote and enable walkable urbanism. Within the Town, we envision that some degree of existing conventional zoning designations will remain intact.

Form-Based Regulations. The Code would include the following components that regulate urban form:

- Building Form Standards
- Frontage Standards
- Building Type Standards

Use Tables. The Code will calibrate land use for each of the Transect-Based Zone Districts and recalibrate land uses for remaining conventional zone districts.

Parking Standards. The Code will calibrate appropriate parking standards along the Transect and provide parking management tools.

Site Planning Standards. The Code will provide design standards that promote walkable urbanism in larger undeveloped parcels and parcels suitable for redevelopment. These standards will include a calibration of existing Stormwater Treatment & Retention Standards as well as Waterbody and Sensitive Habitat Setback Standards along the Transect.

Thoroughfare Standards. The Code will address the design of thoroughfares across the Transect. This work will be based on appropriate thoroughfares by type and assembly and will be created through close coordination with local public works & engineering staffs and the D.O.T. as appropriate. Thoroughfares will address lighting standards.

Signage Standards. Signage standards will be calibrated along the Transect.

Architectural Standards/Guidelines. The code will address architectural design for the more intense zones of the Transect.

Submittal Requirements. The Code will refine submittal requirements as necessary for the Form-Based Code. It is anticipated that the Town will seek only minor changes to existing processes.

Administrative Procedures. The Code will include a set of Administrative Procedures that fold the Form-Based Code into the Town's larger Code of Ordinances. It is anticipated at this time that one set of Administrative Procedures can be developed that will work for both the Town and the City.

Zoning Maps. The Project Team will work with Town Staff to draft Zoning Maps/Regulating plans for the following areas through strategic working sessions and up to two public workshops:

- **Town of Port Royal, Shell Point.** Work here will be completed in coordination with County staff, and would focus on the Town of Port Royal and the unincorporated lands to the west of the Town.
The Town will be expected to participate in one, five-day charrette process to plan and zone the following areas led by Beaufort County:
- **Burton** – exact boundaries to be determined

Management and Coordination

The Project Team will work with the Town through the Staff Technical Advisory Group as described in the work scope. The Project Team will provide bi-weekly project updates to the members of the Staff Technical Advisory Group.

Meetings

In addition to Staff Technical Advisory Group meetings and as described in the work scope, the following meetings are included:

1. Phase 1:
 - a. 1 Educational Session with Town Review Boards/Planning Commission/Council in coordination with the County
 - b. 1 Community Meeting in coordination with the County
2. Phase 2:
 - a. 1 meeting TBD in coordination with the County
3. Phase 3:
 - a. Up to 1 Community Meeting tied to workshops
 - b. 1 Town Planning Commission Meeting in coordination with the City

Cost

\$100,000 including expenses

Appendix: White Paper

Introduction

The County and participating jurisdictions will work with the Consultant Team to produce a multi-jurisdictional Form-Based Code. This Form-Based Code will unify land use, development regulations, and site design standards into one singular ordinance that promotes and regulates walkable, place-based urbanism.

The Form-Based Code will utilize the established foundation of the following as a framework for implementing these new zoning tools:

- The North and South County Regional Plans
- The Comprehensive Plans for the City and Town
- The County Draft TND Ordinance
- The County's ongoing work in Form-Based Coding, including the Dausfuskie Island Plan and Code

To the maximum extent possible, the Form-Based Code will be "mandatory": it will be designed to replace existing zone districts in order to promote walkable urbanism and pedestrian-oriented form where feasible and appropriate. It will be applicable to undeveloped lands and extendable to developed lands that are appropriate for future redevelopment. At the same time the Code will need to accommodate some degree of "suburban" areas and corresponding zone districts that are not prone to transformation at this time.

The Form-Based Code will be designed to accommodate a Transfer of Development Rights (TDR) program that can coordinate and organize development into "sending" and "receiving" areas.

Code Components

The Form-Based Code will include the following components:

Form-Based Zone Districts. To the maximum extent possible, these zone districts will seek to replace existing zone districts in order to promote walkable urbanism and pedestrian-oriented form where feasible and appropriate. A strategy will be formulated to accommodate "suburban" areas and corresponding zone districts that are not prone to transformation.

Form-Based Regulations. The Code would include the following components that regulate urban form:

- Building Form Standards
- Frontage Standards
- Building Type Standards

Use Tables. The Code will calibrate land use for each of the Transect-Based Zone Districts and recalibrate land uses for remaining conventional zone districts.

Parking Standards. The Code will calibrate appropriate parking standards along the Transect and provide parking management tools.

Site Planning Standards. The Code will provide design standards that promote walkable urbanism in larger undeveloped parcels and parcels suitable for redevelopment. These standards will include a calibration of existing Stormwater Treatment & Retention Standards as well as Waterbody and Sensitive Habitat Setback Standards along the Transect.

Thoroughfare Standards. The Code will address the design of thoroughfares across the Transect. This work will be based on appropriate thoroughfares by type and assembly and will be created through close coordination with local public works & engineering staffs and the D.O.T. as appropriate. Thoroughfares will address lighting standards.

Signage Standards. Signage standards will be calibrated along the Transect.

Architectural Standards/Guidelines. The code will address architectural design for the more intense zones of the Transect.

Submittal Requirements. The Code will refine submittal requirements as necessary for the Form-Based Code. It is anticipated that the participating jurisdictions will seek only minor changes to existing processes.

Administrative Procedures. The Code will include a set of Administrative Procedures that fold the Form-Based Code into each of the participating jurisdiction's larger Ordinances. To the maximum extent possible, these procedures would be drafted for all jurisdictions' benefit.

Process

The consultant team will begin the process by utilizing existing Land Use maps and Sector Maps, refining them, and applying a series of Community and Place types appropriate for the diverse areas of the County and the jurisdictions.

These Sector, Community, and Place Types will provide the foundation for a County-Wide Transect that will organize a series of Form-Based Zoning Districts, and ultimately the Form-Based Code content previously described.

Working with local staffs, the consultant team will create Regulating Plans/Zoning Maps that apply the Form-Based Zoning Districts (and other regulatory elements as appropriate) across the County.

This work will focus on five general "subregions" during the process, four in the North County area and one in the South County area:

North County

North of the Whale Branch River. Work here would seek to reinforce the rural character of the area, focusing on zoning updates in the three Community Preservation areas (Dale, Big Estates, Sheldon) and the Rural Business Districts including Garden Corner. The process would seek to refine the land use vision described in the North County Regional Plan.

Town of Port Royal, Shell Point, Burton, Seabrook. Work here would focus on the Town of Port Royal and the unincorporated lands to the west of the Town and the Marine Base.

City of Beaufort, Ladies' Island. Work would focus on the City of Beaufort, City/County lands to the west, and predominantly nonresidential development on Ladies' Island to the east.

St. Helena Island. Work here would seek to reinforce the rural character of the area, focusing on zoning updates to the Community Preservation areas with an emphasis on Corner's Community, Land's End, and the potential recalibration of the existing Rural Business District along U.S. 21.

South County. Work in South County would incorporate preexisting/ongoing efforts on Daufuskie Island and could potentially coordinate with coding efforts in the Town of Bluffton, focusing on the May River Corridor (which would likely require the Town's participation and need to fold into their process) and the 170 Corridor (which could be tackled more independently).

For the most part, work to complete Zoning Maps/Regulating Plans for these areas will be accomplished through strategic working sessions with local staffs organized as a Technical Advisory Group, with targeted, public workshops geared toward information, education, and verification. Zoning Maps/Regulating Plans for specific planning areas needing a more concerted visioning effort and a more intense public process will be accomplished through a multi-day charrette process. Such a process would be utilized for Burton, for example. Additional charrettes could be utilized for lands around Beaufort as needed or appropriate.

The process of implementing Form-Based Coding will be, to the maximum extent possible, an administrative effort. It is anticipated that the process will require minor amendments to the various comprehensive plans (although the intent and/or vision of these documents will not change) in aligning the zoning, and that zoning amendments will also be required. Staffs and

the consultant team will work with appointed and elected officials throughout the process to inform, educate, and facilitate legislative decisions as necessary.

Timeline

The Form-Based Code can be completed in approximately 12-14 months.

Funding

The process anticipates that participating jurisdictions will contribute funding to the effort, with the exception of the Town of Bluffton; the ability to coordinate successfully with their coding process, rather than funding, is most important. Although participation by everyone is most ideal, the process is flexible enough to potentially exclude the provision of the Form-Based Code to jurisdictions (and subsequent changes to zoning maps) that may choose to not be included.