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## AGENDA PUBLIC FACILITIES COMMITTEE

Tuesday, January 21, 2014

4:00 p.m.

Conference Room, Building 2

Beaufort Industrial Village

102 Industrial Village Road, Beaufort

### Committee Members:

Gerald Dawson, Chairman  
Steve Fobes, Vice Chairman  
Cynthia Bensch  
Rick Caporale  
Brian Flewelling  
William McBride  
Jerry Stewart

### Staff Support:

Rob McFee, Division Director

1. CALL TO ORDER – 4:00 P.M.
2. REQUEST TO INSTALL SIDEWALKS ON MARTIN LUTHER KING DRIVE IN FRONT OF PENN CENTER
3. DISCUSSION / DAUFUSKIE ISLAND CONSERVANCY SOLID WASTE INTEGRATED SERVICES STUDY ([backup](#))
4. CONSIDERATION OF CONTRACT AWARDS
  - A. Request to Purchase a Bobcat and Accessories from State Contract for Beaufort County's Stormwater Utility / Infrastructure Department ([backup](#))
  - B. Request Additional Three-Month Extension of Janitorial Services with Carolina Cleaning Inc. ([backup](#))
5. ADJOURNMENT



***PREPARED FOR:***

DAUFUSKIE ISLAND CONSERVANCY  
PO BOX 45  
DAUFUSKIE ISLAND, SOUTH CAROLINA 29915



**DAUFUSKIE ISLAND**

**SOLID WASTE INTEGRATED SERVICES STUDY**

**NOVEMBER 2011**

***PREPARED BY:***

**JOYCE**  
ENGINEERING

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JEI PROJECT NO. 00851.1101.21.01

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Drawing 1 - Conceptual Layout

Appendix 1 – Solid Waste System Audit

Appendix 2 – Island Waste Records

Appendix 3 – Historic Property Map

Appendix 4 – Community Concerns and Priorities Discussion

Appendix 5 – Opinion of Cost

Appendix 6 – Glass Cullet Research

# 1. Introduction

The Daufuskie Island Conservancy (Conservancy) was founded in 2005 with a mission statement to protect Daufuskie Island’s natural environment through education, research, conservation of land and implementation of earth-friendly practices. In 2009, the Conservancy committed to strategic planning of waste management issues to further its mission.

Daufuskie Island is an approximately 8 square mile, primarily residential island located 3 miles from Hilton Head, South Carolina. The Island is only accessible by water and has multiple ferry landings as well as a marina. The Island is divided into a historic district containing residences, businesses and County services, and 3 active Planned Unit Developments (PUDs). These PUDs generally contain both residences and businesses. The active PUDs include Haig Point, Melrose and Bloody Point. Former PUDs Oakridge and the Webb Tract are in the process of forfeiting PUD status. The Island currently has an estimated permanent population of 400 with an additional 600 part time residents. There are approximately 65 residences located within the historic district with remaining Island residences located within the PUDs. There is also significant island tourism with estimates ranging from 50,000 to 200,000 visits each year.

**Figure 1: Daufuskie Island Existing Conditions**

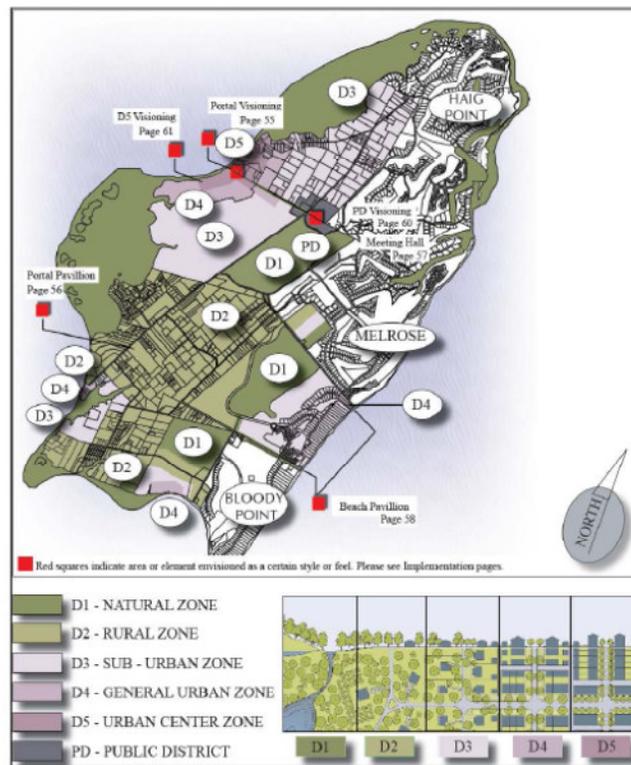


Figure obtained from: the Daufuskie Island Community Preservation Plan Chapter 2.

Daufuskie Island has published guidelines for future development and planning on the Island in its Community Preservation Plan (CPP). The CPP stresses the importance of preserving the Island's natural beauty. The CPP works to achieve this goal by designating specific areas near Island portals for more intense development while seeking to preserve some of the rural character in other areas of the Island by allowing other landowners to transfer development rights to those areas. A major factor for this preservation is the consolidation of Island infrastructure and services to allow for economies of scale and to reduce the impact of these activities on the Island.

In 2010, the Conservancy applied for and received a matching grant from the Community Foundation of the Low-Country to assist in developing a conceptual solid waste study. Joyce Engineering, Inc. (JEI), an engineering and environmental services firm specializing in solid waste consulting, was contracted to provide professional assistance in preparing this study. The Conservancy also plans to use funding from this grant to explore recycling and reuse options for crushed glass on the Island, and to create an example layout for a solid waste transfer station that incorporates recycling and reuse activities into a safe facility that does not intrude on the natural beauty of the area.

## **2. Purpose**

JEI and the Conservancy approached this study as both a quantitative analysis of solid waste needs and mechanisms to support those needs as well as a qualitative process to identify ways to preserve the Island's natural environment and minimize system impacts. In locations with large uninhabited tracts of land or heavy industrial complexes, traditional solid waste planning can be relatively unobtrusive. However, successful solid waste programs around the country in small, low impact development areas such as Daufuskie Island must look to a customized program that provides services to meet the needs of local residents and visitors in a manner that protects the local environment without intruding on the local land uses.

The purpose of this study is to supply guidance for the development of a solid waste program that can provide Daufuskie Island's residents and businesses with vital services to enhance the Island's quality of life while preserving its natural environment. To meet these goals, the study explores the potential for consolidation of solid waste services on Daufuskie Island and the integration of sustainable waste diversion and recycling activities into existing disposal practices.

### **3. Methods**

In order to develop a set of useful guidelines for the process of developing a Daufuskie Island solid waste management system, JEI worked with the Conservancy to gather information about solid waste programs from two primary frames of reference. These two areas of concern were:

1. The history of solid waste management on the Island; and
2. The Island's goals for solid waste service development.

Gathering this information provides perspective in creating guidelines that move from the past into a successful future. In each of these informational blocks, data was gathered on both quantitative information, such as the population size and quantity of waste disposed, and qualitative information, such as how a successful facility would fit into the Island aesthetics. Both approaches are important for a sustainable program, as neither a facility that meets the local aesthetic but does not provide necessary services nor a facility that provides useful services but negatively impacts surrounding property represent acceptable scenarios.

#### Recent History of Island Solid Waste Management

To understand the previously established solid waste systems and disposal history, JEI worked with the Conservancy to create a Solid Waste System Audit (Appendix 1). The Conservancy used its knowledge of Island operations along with requests for information from different agencies and commercial and government representatives. This accumulated information was then used to categorize and detail the recent history of Island waste practices.

JEI reviewed Beaufort County records of solid waste disposal to identify past disposal trends and assist in the analysis and understanding of current and future disposal needs (Appendix 2). Beaufort County provided records for local landfill disposal. The records were split into two categories: Daufuskie Island residential wastes (wastes coming from the County Transfer Station serving the historic districts) and Daufuskie Island commercial waste (Island PUDs and businesses). In addition to the County data, disposal records from the Daufuskie Island Club transfer station (prior to its bankruptcy) were also examined. For the Daufuskie Island Club area, data was available directly from club records until January 2009. After the bankruptcy and funding issues halted club waste records in January 2009, the waste disposal data for this population was no longer available.

## Island Plans for Future Solid Waste Management

In order to understand the Island's solid waste plans, JEI personnel visited to observe current solid waste management practices and to discuss ongoing programs with Island residents. JEI's visit to the Island included observation of existing solid waste facilities and the general Island development. The visit also provided an understanding of the unique Island aesthetic and helped to establish a conceptual framework for future solid waste management services.

JEI also reviewed the CPP, which provides valuable insight into the current development zones of the Island and plans for modifying these zones to ensure a sustainable Island community. The CPP also details priorities and strategies for site aesthetics, Island infrastructure and services. Historically and culturally important properties on the Island (see map in Appendix 3) must also be considered when siting and designing a waste management facility. It is important to be aware of these issues so that the solid waste strategy works within the established CPP approach.

Finally, JEI worked with the Conservancy to bring a group of Island residents together to brainstorm a vision for an ideal solid waste program. By inviting people from different Island interest groups, the goal is to include as much diversity of opinion as possible on what constitutes a successful program. The brainstorming session included discussion of solid waste priorities relating to the purpose of the facilities, what would be included in a successful system, what services are critical immediately and what services would be desirable to add in the future. The results of these brainstorming sessions are included as Appendix 4.

## 4. Results

### Recent History of Solid Waste Management

#### *Waste Facilities*

Daufuskie Island currently has a number of solid waste management facilities. Each of the communities and commercial entities are generally served by different waste collection centers. Residential wastes are disposed of based on the district in which the resident lives. The historic district residents transport their own waste to a County operated drop-off facility, which contracts with a barging service and a hauling service to deliver waste to the landfill for disposal. The PUD residents' wastes were originally collected at PUD transfer stations with each transfer station separately barged off of the island for landfill disposal. However, due to bankruptcy proceedings at the Melrose and Bloody Point facility, the Haig Point transfer station is the only remaining PUD facility operating with proper permitting from the Department of Health and Environmental Control (DHEC). A temporary open-top dumpster is currently in place at the Bloody Point Spa for residents of Bloody Point, Melrose, Melrose cottage owners and Sandy Lane Condo owners to drop off waste. This temporary dumpster has been serviced through different contracts for barging and hauling residential wastes including disposal locations in Georgia and Beaufort County.

Waste disposal for Island businesses and industries varies with location. For those commercial enterprises located within PUDs, the waste is generally transported to the transfer station for the PUD the business is located within. The waste is then removed from the Island along with the PUD residential wastes by a barge service. Businesses and industry located in historic or marina districts must arrange for their own waste collection and barge transportation. Typically, this arrangement consists of a dumpster located outside of the business which is occasionally collected by a contractor for barging off the Island.

A summary of the current categories of waste generators, management locations and methods of transportation is provided in Table 1. To manage the waste generated by residents and businesses, the Island supports 3 waste collection centers (County, Haig Point and Melrose) as well as independent barging contracts for each collection center and each business located outside of a PUD.

In addition to disposal facilities off the Island, basic land clearing debris is also disposed of through the use of a permitted air curtain incinerator on the Island by Daufuskie Site Preparation, Inc.

**Table 1: Summary of Current Daufuskie Island Solid Waste Management**

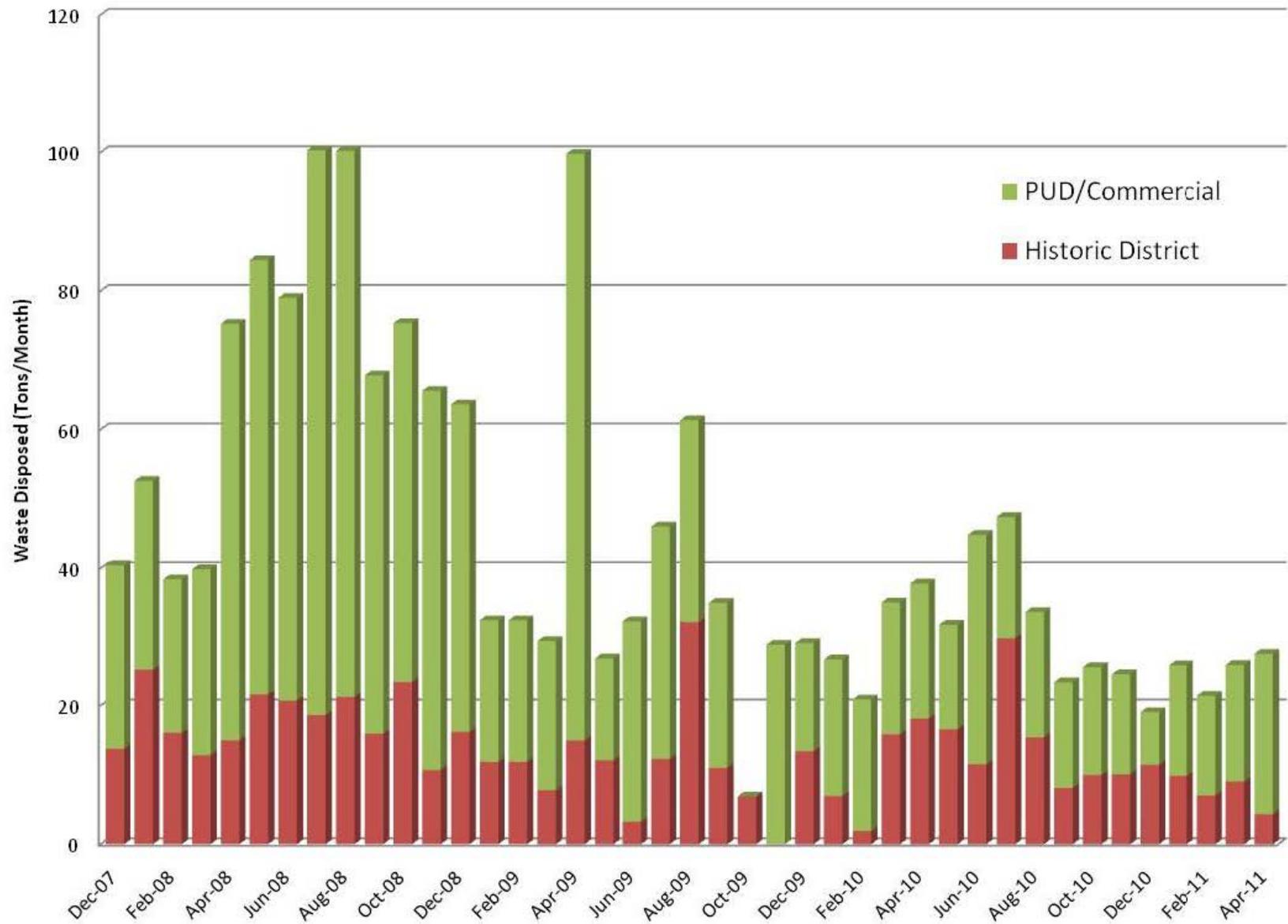
| <b>Category</b>                    | <b>Solid Waste Generators</b>  | <b>Waste Management Location</b>   | <b>Method of Transport to Management Location</b> | <b>Method of Transport from Management Location to Landfill</b> |
|------------------------------------|--|--|---|---|
| <b>County Residential Wastes</b>   | Residences not located within PUDs   | County Drop-off Center   | Resident transports                               | Contract service to barge County drop-off waste to landfill     |
| <b>PUD Residential Wastes</b>      | Residences in Haig Point, Melrose & Bloody Point/Sandy Lane                              | PUD Transfer Stations (legal issues with Melrose & Bloody Point/Sandy Lane)        | Curbside collection or resident transports        | Contract service to barge PUD waste to landfill                 |
| <b>PUD Commercial Wastes</b>       | Strachan Mansion, Island House, Pro Shops, Club Houses, Maintenance, etc.                | PUD Transfer Stations  | PUD organization transports                       | Contract service to barge PUD waste to landfill                 |
| <b>Commercial Wastes (Non-PUD)</b> | Daufuskie Crab Company, Churches, Museum, Marshside Mama's, Freeport Marina, SCE&G, etc. | On-site dumpster   | Dumpster is on-site                               | Contract to have dumpsters collected and barged to landfill     |
| <b>County Services Waste</b>       | School, Fire, Department, Public Works, etc.   | Haig Point Transfer Station (Fire Dept.) & County Drop-off Center (other services) | Organization transports                           | Contract service to barge waste to landfill                     |

Data obtained from waste services audit with information provided by the Daufuskie Island Conservancy

### ***Waste Trends***

Recent solid waste disposal data were analyzed to identify disposal trends. Based upon the available landfill disposal data as discussed in the methods section, the disposal information was broken down into monthly records of the waste landfilled for the Historic District residences and the Island PUD/Commercial properties since December 2007 (Figure 2).

Figure 2: Recent Solid Waste Disposal History



### ***Daufuskie Island Club Impact***

Analysis of the disposal data included examination of long term trends, seasonal trends and waste disposal in connection to events on Daufuskie Island. An important connection between waste data and the Daufuskie Island Club bankruptcy must first be identified and separated out so the trend analysis is not affected. The Daufuskie Island Club bankruptcy proceedings led to an end to their waste management contract in the month of December 2008. When analyzing the PUD/Commercial waste data, a decrease in the median monthly waste tonnage between calendar years 2007 and 2008 was identified. In calendar year 2008, the median monthly tonnage of waste disposed in PUD/Commercial facilities was 53.4 tons. In calendar year 2009, the median monthly tonnage of waste disposed in PUD/Commercial facilities was 22.7 tons. The reduction in PUD/Commercial waste from 2008 to 2009 was 30.7 tons/month, a decrease of 57%.

This impact in PUD/Commercial median monthly tonnage at the end of the Daufuskie Island Club waste contract may have been influenced by a reduction in waste generation at the remaining PUD/Commercial facilities. General economic conditions on the Island likely led to decreasing residency rates and decreasing construction activities from 2008 to 2009. In order to evaluate the potential impact of economic conditions with available data, the County Historic District waste records were evaluated during the same time period. Although the Historic District and PUD/Commercial entities are not identical operations, they both include tourism activities, new construction, variation in residency rates and fluctuation of consumption with economic condition. In calendar year 2008, the median monthly tonnage of waste disposed in the Historic District was 17.4 tons. In calendar year 2009, the median monthly tonnage of waste disposed in the Historic District was 11.9 tons. The reduction in Historic District waste from 2008 to 2009 was 5.5 tons/month, a decrease of 32%. Therefore the percentage decrease from 2008 to 2009 in the PUD/Commercial area was nearly twice that of the Historic district. Components of this additional decrease include transport of waste to a Georgia facility, for which no records are available, and possible improper waste handling and disposal.

### ***Recycling/Waste Reduction Impacts***

A major trend visible in the waste data is the impact of increasing recycling activities on disposal tonnages in the PUD/Commercial data. Haig Point instituted a recycling program in May 2007 after meetings with the Daufuskie Island Conservancy's waste and recycling committee. Haig Point then increased its recycling with the addition of a second recycling container in July 2010. The recycling impact can be seen by comparing calendar year 2009 and 2010 data at the PUDs/Commercial with the Historic District since no significant events, such as a PUD bankruptcy occurred during that time period.

The PUD/Commercial median monthly tonnage in 2009 was 22.7 tons/month while in 2010 it was 17.9 tons/month, for a decrease of 21%. The Historic District median monthly tonnage in 2009 was 11.9 tons/month while in 2010 it was 11.5 tons, for a decrease of 3%. The percentage decrease in the PUD/Commercial tonnage was 7 times greater than the Historic District, which is confirmed with both anecdotal evidence from the PUDs about the increased popularity of recycling, and with need for a doubling of the number of recycling containers at Haig Point.

### ***Seasonal Impacts***

Another trend visible in the data is the impact of tourism/seasonal residents on the disposal tonnages in both the PUD/Commercial data and the Historic District data. This trend impacts how much waste storage space must be available in Island dumpsters to handle peak months. In order to identify the impact of this trend, the off-season months of January – March and September – December were compared with the peak season months of April – August for the combined 2009 and 2010 calendar years. In the offseason, the Historic District waste stream monthly median was 10.0 tons and the PUD/Commercial monthly median was 19.0 tons. The peak season Historic District waste stream monthly median was 15.2 tons and the PUD/Commercial monthly median was 24.3 tons. Therefore, during peak season the Historic District experienced an increase in the monthly median tonnage of 52% and the PUD/Commercial increased 28%. The Historic District experiences an especially exaggerated spike in waste tonnage around July/August as seen in Figure 2. Thus, seasonal variation is important in both groupings but significantly more important in the Historic District.

### ***Peak Events***

As discussed in the seasonal impact section above, waste variations must be examined to determine the balance between the quantity of temporary waste storage and the frequency of waste removal required. Seasonal variations impact waste contracting requirements as they are generally somewhat predictable from looking at data from previous years. This can often be managed by increasing the frequency of removal in the contract during certain seasons, since waste flow is relatively consistent as the increased levels are the result of a temporarily increased island population. Peak months can be problems for this type of waste management system since these months are often statistical outliers that are significantly larger than typical months and do not necessarily occur during the same period from year to year. However, peak months can generally be predicted by having an active relationship with local solid waste generators. For instance, major development

projects, road projects or demolition work can result in a brief period of elevated waste generation. These projects are typically planned in advance and should be managed by plan discussions between the generator and the waste manager. Typically, extra dumpsters are ordered from the landfill or waste hauling company during projects of this type to accommodate the additional waste volume. The use of additional dumpsters, rather than a planned increase of frequency, allows for a custom solution for each event and ensures that sufficient disposal capacity is available to handle a burst of increased disposal. This management system is also useful for holiday weekends that result in a short term but significant increase in island visitors rather than seasonal residents. The July 4<sup>th</sup> holiday is a perfect example where additional dumpsters may be needed to simply manage the influx of waste as it would be challenging to have additional dumpster removals during the holiday.

### ***Future Projections***

Projections for the future of waste management must take into account the waste generated by Melrose and Bloody Point that is currently not tracked in the County data. Economic and construction conditions will result in uncertainty in estimating future waste quantities. This uncertainty is a reality faced by the waste industry across the country, and is enhanced in areas of high tourism and development such as Daufuskie Island. A typical industry waste facility is currently experiencing waste reductions of approximately 25% MSW and 45% C&D waste from the peak years prior to the recession. As the economy improves, waste tonnages may not rapidly return to these peaks due to structural economic changes and increased recycling.

Another note of caution in waste projection for a small population center such as Daufuskie Island, is that individual events such as a single significant construction project or storm event can have an extreme impact on annual waste generation. The baseline disposal created by a small population is not large enough so that probability distributions result in individual high and low events generally averaging out to the approximate baseline value. Instead, a single outlier event has the potential to skew the entire year's data. The positive note for this situation is that events such as construction projects or storm damage will generally skew data to the upside in a small community.

Calendar year 2008 represents the most recent data where all Island facilities were believed to be accounted for in County waste disposal data. In 2008, economic conditions were already creating a drop off in construction activity so values should not be unreasonably high. The county residential disposal in 2008 was 218 tons and commercial disposal was 652 tons for a total annual disposal of 870 tons.

Residential waste disposal is likely to increase back towards the 2008 number of 218 tons per year as economic conditions improve since the 2008 value does not represent an unrealistic peak during an economic boom, and total waste disposed in 2010 already increased from 2009 (156 tons in 2010 versus 138 tons in 2009).

Commercial waste disposal has experienced some decrease lately related to increased recycling efforts at Haig Point (the primary component in available solid waste data in 2009 and 2010). With the inclusion of the Melrose and Bloody Point waste streams, the Commercial waste disposal records will certainly increase over the 2009 and 2010 numbers due to the additional population. However, with Commercial waste disposal rates decreasing approximately 100 tons from 2009 to 2010 as the Residential waste stream increased, a rapid return to the 2008 value as a baseline is unlikely. For an approximation of near term Island-wide Commercial waste disposal quantities, the 2008 calendar year value can be reduced by the same percentage decrease of Residential area wastes from 2008 to 2010. The additional decrease of waste generation in Commercial data between 2009 and 2010 due in part to Haig Point recycling should also be accounted for since Residential area wastes actually increased slightly over the same time period. A conservatively low approximate short term annual Commercial waste disposal figure would then be 360 tons. With improving economic conditions and accounting for increased recycling, a medium term return to approximately 550 tons of Commercial disposal is a reasonable possibility. The potential for Commercial disposal growth will be based in the short term on disposal above the baseline from new construction projects. In the long term, the Commercial disposal growth will be based upon increasing the baseline through increasing Island population and visitor count.

**Table 2: Estimated Future Waste Disposal Tonnages for Planning Purposes**

| <b>Waste Source</b> | <b>Short Term Annual Tonnage</b> | <b>Short Term Median Monthly Tonnage</b> | <b>Short Term Peak Monthly Tonnage</b> | <b>Medium Term Annual Tonnage</b> | <b>Medium Term Median Monthly Tonnage</b> | <b>Medium Term Peak Monthly Tonnage</b> |
|---------------------|----------------------------------|--|--|-----------------------------------|---|---|
| <b>Residential</b>  | 150                              | 11.5                                     | 25                                     | 220                               | 17.5                                      | 30                                      |
| <b>Commercial</b>   | 360                              | 30                                       | 55                                     | 550                               | 45  | 70                                      |

## Island Plans for Future Solid Waste Management

JEI personnel visited the Island and observed the Island aesthetic as preserved in both PUD and historic area properties. JEI also visited the existing and potential waste facility locations at the island to identify positive and negative components of the current Island solid waste management practices. In addition to the site visit, JEI reviewed the Island CPP for information on planned development priorities and methods. JEI also provide brainstorming questions to the Conservancy to obtain additional input from Island residents on their solid waste and development priorities. Over 40 invitations were sent out to Island constituents to provide input and assistance in this brainstorming session. In all, 16 people from different Island organizations, civic groups, neighborhoods, and commercial entities provided input. The original brainstorming prompts from JEI as well as the recommendations and input from the brainstorming focus group are included in Appendix 4.

The visit, CPP review and brainstorming focus groups responses provided JEI the priorities for the direction of recommendations for Island waste management. The Island represents a small community in a historically and culturally important area with limited infrastructure that desires to retain its natural beauty and cultural aesthetic. As a result, waste strategies were focused around:

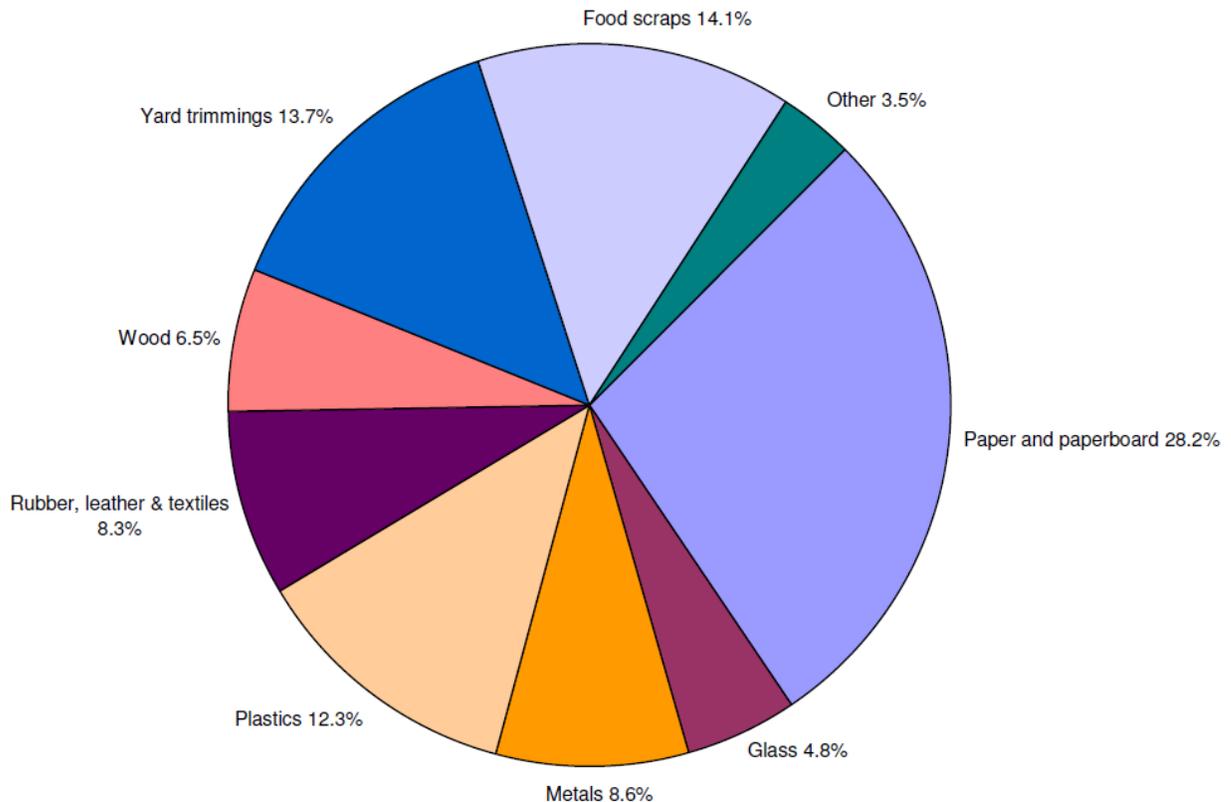
- Waste source reduction to reduce the amount of area needed for waste management and limit the impact of waste management on the Island population;
- Recycling to reflect the Island's desire to support green activity and protect the environment;
- Centralization through public/private partnership in waste management to reduce the number of properties impacted by waste management facilities;
- Low impact development design to limit the intrusiveness of waste management facilities on neighboring properties; and
- Simplified systems to reduce the need for additional infrastructure or development activities.

## 5. Discussion

The recommendations and topics for further Conservancy discussion and research have been broken down into the following categories based upon JEI's analysis of future solid waste management objectives for Daufuskie Island.

Material and percentage targets for source reduction and recycling are based upon the generated materials present in the waste stream. The typical distribution of materials in the United States' waste stream, prior to recycling, has estimated by the Environmental Protection Agency for 2009 in the following figure from EPA publication EPA530-R-10-012: Municipal Solid Waste in the United States: 2009 Facts and Figures.

**Figure 3: MSW Materials Generation in 2009 before Recycling**



When determining targets for recycling rates, it is useful to examine both the waste generation numbers to identify potential components for recycling and the national recycling rates to assist in understanding which materials are generally recycled successfully. The following figure, from EPA publication EPA530-R-10-012: Municipal Solid Waste in the

United States: 2009 Facts and Figures, provides the recovery percentage of common waste components.

**Figure 4: MSW Materials Generation and Recovery of Materials in 2009  
(in millions of tons generated and recovered)**

| Material                                  | Weight Generated     | Weight Recovered    | Recovery As a Percent of Generation |
|---|----------------------|---------------------|-------------------------------------|
| Paper and paperboard                      | 68.43                | 42.50               | 62.1%                               |
| Glass                                     | 11.78                | 3.00                | 25.5%                               |
| Metals                                    |                      |                     |                                     |
| Steel                                     | 15.62                | 5.23                | 33.5%                               |
| Aluminum                                  | 3.40                 | 0.69                | 20.3%                               |
| Other nonferrous metals*                  | 1.89                 | 1.30                | 68.8%                               |
| <i>Total metals</i>                       | <i>20.91</i>         | <i>7.22</i>         | <i>34.5%</i>                        |
| Plastics                                  | 29.83                | 2.12                | 7.1%                                |
| Rubber and leather                        | 7.49                 | 1.07                | 14.3%                               |
| Textiles                                  | 12.73                | 1.90                | 14.9%                               |
| Wood                                      | 15.84                | 2.23                | 14.1%                               |
| Other materials                           | 4.64                 | 1.23                | 26.5%                               |
| <i>Total Materials in Products</i>        | <i>171.65</i>        | <i>61.27</i>        | <i>35.7%</i>                        |
| Other wastes                              |                      |                     |                                     |
| Food, other**                             | 34.29                | 0.85                | 2.5%                                |
| Yard trimmings                            | 33.20                | 19.90               | 59.9%                               |
| Miscellaneous inorganic wastes            | 3.82                 | Neg.                | Neg.                                |
| <i>Total Other Wastes</i>                 | <i>71.31</i>         | <i>20.75</i>        | <i>29.1%</i>                        |
| <b><i>TOTAL MUNICIPAL SOLID WASTE</i></b> | <b><i>242.96</i></b> | <b><i>82.02</i></b> | <b><i>33.8%</i></b>                 |

Includes waste from residential, commercial, and institutional sources.

\* Includes lead from lead-acid batteries.

\*\* Includes recovery of other MSW organics for composting.

Details may not add to totals due to rounding.

Neg. = Less than 5,000 tons or 0.05 percent.

## Source Reduction

Source reduction is accomplished by reducing the amount of waste generated on the Island. Source reduction can either occur through people making active choices to alter their consumption patterns, such as selecting products to purchase with less packaging, or by diverting materials from the waste stream prior to management outside the home or business. By reducing the amount of waste that must be handled on the Island, the total cost of waste management will be reduced (since most costs are on a per ton basis) and

the impact of the solid waste management operations will be reduced. Reduced impact will come from fewer trucks needed to transport the smaller volume of waste and smaller components of waste management facility used for waste storage. This methodology is a good starting point for a conservancy program as waste that is not generated does not need to be managed, transported and disposed, thereby eliminating many steps with one action item.

The simplest method for encouraging waste reduction in a population is to provide education. Providing information on the value of waste reduction both economically and environmentally is an important first step. This instruction must also be followed with examples and assistance for simple actions that can be taken in the home or business to actually reduce day to day waste. Early education programs at schools are also an excellent place for waste reduction strategies as children are often excited to bring home fun projects they can work on and put into action with the help of their parents.

The first step in any waste reduction program is to encourage reuse. Reuse means to purchase durable (non-disposable) goods and to reuse and repair them. In a situation where the original owner of a durable good decides they no longer want the item, it is often possible to sell or donate the item to another household/business. Education about the value of durable goods in regards to the quantity of waste the average household generates should be touted in education programs. It is also useful to have a thrift store or “swap shop” location. Many convenience centers and transfer stations will provide a location for items such as furniture, tools or other durable goods to be left separate from the waste so that other visitors to the center can take and repair/reuse them. This is a very low cost option and can be improved if free transportation for bulky items to the site is offered by a group on the Island.

In addition to durable goods, many convenience centers and transfer stations allow for drop off in covered boxes of clothing and shoes which can be made available to local residents at a permanent “store” location or at quarterly/semiannual sales events.

The Conservancy should also plan to encourage home based composting for residential and restaurant food waste. Composting of your own materials on your own property is not regulated by DHEC due to the small scale of such operations. Compost bins can be easily constructed from small pieces of lumber, but attractive, prefabricated plastic bins are also available. Grants may be available to provide composting containers and to provide educational flyers on how to compost and how to build your own compost container. The South Carolina Department of Health and Environmental Control (<http://www.scdhec.gov/environment/lwm/recycle/>) runs a very active community outreach program for recycling and reuse and is a good resource to contact for additional information. They are frequently available for helping with flyer design and graphics.

The Clemson Agricultural Cooperative Extension Office is also a valuable resource for composting and includes a tutorial on the basics of at home composting ([http://www.clemson.edu/extension/hgic/plants/other/compost\\_mulch/hgic1600.html](http://www.clemson.edu/extension/hgic/plants/other/compost_mulch/hgic1600.html)).

Compost is an excellent amendment for gardening and facility landscaping the Island.

Creating a communal residential compost operation at the transfer facility is not initially recommended as it would include additional equipment expense for the benefit of operation. Compost piles of significant size are called windrows and are usually turned with a front end loader to aerate them. Aeration encourages faster composting and reduces odors. Communal composting also faces additional permitting hurdles and related construction and environmental monitoring expenses from DHEC regulations, especially if food wastes are included. It would be valuable to have room to expand the site into this operation if Island growth continues and local restaurants and homeowners develop motivation to compost. The site operator could then sell the material back to residents and PUDs. In the meantime, backyard composting would reduce waste costs, provides an excellent fertilizer, and teaches people about the value of composting. DHEC is expecting to update its regulations on composting in 2012 or 2013, including modifications that would make compliance for food composting less onerous than current standards.

In the next few years, the Conservancy should also encourage PUDs to compost yard waste on-site or ask them to bring yard waste to the central transfer station location for composting. Yard waste composting has a lower standard for DHEC regulatory compliance than residential food waste. A permit is still required, but sampling requirements are reduced. Waste will still need to be turned for aeration, but turning occurs less frequently than with food waste due to slower decomposition times. If composting is done in a central location, the PUDs may have to agree to purchase the finished material back to offset costs. The compost material will be valuable due to dirt being a limited commodity on the Island and fertilizer being both expensive and generally not good for the environment. Composting may be able to take place in a portion of the area waste was previously being managed at each PUD if waste operations are moved to the communal site.

Reusing oyster shells to create oyster beds is another topic of interest in the Carolinas. North Carolina has a substantial public program underway supporting this activity. The South Carolina program in Beaufort County has information available at <http://score.dnr.sc.gov/deep.php?subject=6&topic=1>. Some Charleston restaurants have also participated in this activity through the North Carolina program. Even if oyster shells are not used for oyster bed re-creation, it is generally possible to crush shells as a replacement for gravel in surface water drainage systems or landscaping applications.

## Recycling and Environmental Protection

Recycling is an important activity to prevent waste material from ending up in the landfill. Many recyclable materials are also valuable commodities which can help to offset the cost of transportation of these materials from the Island to a recycling center.

The Conservancy should discuss with the County the possibility for providing recycling for high value commodities such as cardboard, metals, mixed paper, electronic waste (as well as potential for plastics). As part of taking high value wastes, the County should also consider taking lower value material such as glass. If the County is not interested in providing recycling for PUD members, volume from the combination of PUDs and commercial businesses may be sufficient to bring independent recyclers or waste haulers to the site to offer reduced or no cost recycling. Recycling should be provided as a program including a range of commodities. Be careful to not piecemeal the recycling by selectively recycling only the valuable commodities. By providing a “basket” of recycled goods, the valuable commodities will help to offset the costs of recycling the low value materials.

The PUDs and County can also look into getting together on an annual basis to rent (and transport to the Island) a wood chipper to make mulch from wood wastes due to land clearing and storm debris. Typically storm debris management is a County responsibility and chipping may be a cheaper option than barging the material off of the Island for disposal, and less disruptive to the residents than open burning. The County may also have land clearing waste from road projects. Material can be stockpiled until ready to chip in sufficient volume to be economical. Mulching is an alternative to burning that typically creates attractive material (color can usually be added by the chipping company) and prevents smoke and safety concerns from burning efforts. Having one rental period would allow the PUDs to split the cost of the transportation to and from the Island.

Glass recycling efforts should continue to be researched for ways to use crushed glass material on the Island. The South Carolina Department of Transportation is not a proponent of glass in road construction at this time, although other state DOT agencies have expressed interest. However, private roads, parking lots and driveways that are not County maintained may be a potential area for use, as well as drainage needs. Appendix 6 of this report has some detailed suggestions for use of recycled glass on the Island. Glass can be stored and crushed at the communal transfer station. A glass crusher could also be transported on a periodic basis to the Island as an alternative to purchase.

## Centralization and Public/Private Partnership

In order to limit the impact of the facility on Island residents, the Conservancy should consider supporting a single site with separate disposal areas for the PUDs and commercial business, and the historic district. The site should manage municipal solid wastes, construction and demolition wastes, recycling and household hazardous wastes. The site owner can charge PUDs based on historic waste levels, number of dumpsters, per resident, or on volume of waste basis. Businesses can be charged based on dumpster size and pull frequency. By providing services to all of the Island PUDs, POAs and businesses, a single site would have the economy of scale for the hauler to pick up all the waste at one time and charge the facility owner. This would also help ensure only full dumpsters are removed from the Island, and allow the cost of a waste compactor to be split between the Island groups since no single group produces enough waste to fully utilize a compactor. Having full compacted loads is important since barging costs are based on the size of the container, not the weight of the contents.

Alternatively, the site owner could still have each PUD use a separate set of dumpsters and have the hauler charge separately for each PUD and just have the PUDs pay the site owner for storing their dumpsters. Business dumpsters could still be hauled to the single site and combined and compacted into larger dumpsters with increased efficiency for removal from the Island. The separate PUD areas would remove some of the economy of scale in terms of hauling efficiency (as waste is charged by the ton for the hauler and each PUD would have to be picked up in a separate truck to keep the weights separate for billing), but might still provide some economy of scale due to a larger contracted amount of waste. A single site would also allow infrastructure to be shared and waste disposal needs to be focused in one area of the Island but each PUD facility and the County can continue to pay its own fees. Costs for maintaining the site and making an aesthetic entryway, etc. could be shared by all entities rather than each group paying almost the same amount to maintain their own site. There would also be additional room for recycling activities, glass crushing, etc and allow for improved redevelopment of land previously used for waste management within the PUDs and historic district. A conceptual site plan for this type of service facility that also protects the aesthetics of neighboring properties is attached as Drawing 1.

## Low Impact Development

Transfer Station operations should always focus on safety and regulatory compliance. However, it is also important that neighboring properties and the Island aesthetic be protected. This report has already discussed how reducing the number of solid waste

management facilities on the Island would result in fewer neighboring properties and thus allow for increased spending to protect those properties. Reducing the number of solid waste management facilities would also help to decrease waste related traffic flow as vehicles would only have to go to one facility and waste haulers would only remove full waste containers. The sample facility layout in Drawing 1 shows an example plan that optimizes traffic flow within the management facility. The plan also separates home owners bringing waste to the site from commercial haulers bringing waste to the site and from waste companies removing waste from the site. Since Island priorities also include blending site aesthetics into the natural environment, basic landscaping will be an important component of any design. Proper buffers for landscaping protect the site visually and provide noise dissipation for any equipment operation. Local vegetation is always the best choice for these situations as it reduces maintenance costs and is often readily available for transplant on the existing site.

The facility should also be located, to the extent possible, in areas of planned development, existing road infrastructure, and away from culturally or historically important properties. The following figures show planned development locations and road infrastructure and the historic and culturally sensitive areas are included in Appendix 3.

**Figure 5: Planned Development of Daufuskie Island**



Figure obtained from: the Daufuskie Island Community Preservation Plan Chapter 2.

**Figure 6: Current Daufuskie Island Road Infrastructure**

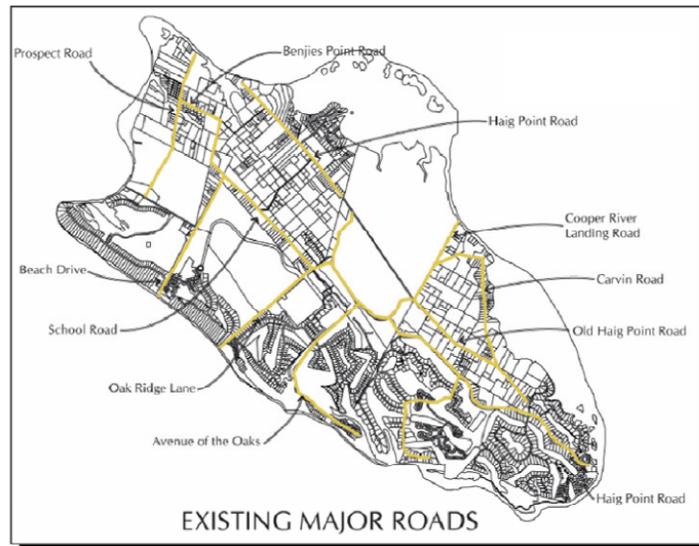


Figure obtained from: the Daufuskie Island Community Preservation Plan Chapter 2.

Drawing 1 contains additional suggestions for low impact development for the property. These options include minimizing road paving to allow for better storm water control, keeping traffic at the front of the site near the local road, minimizing the use of unsightly structures and buildings, providing substantial buffers with vegetation to protect neighboring properties, and concentrating equipment operation and waste storage containers at the center of the site to provide the maximum distance between these activities and neighboring properties. Finally, the site should consider having limited hours of operation and limited days of operation due to the small Island population. The short hours of operation would reduce the impact on neighbors as well as drastically reduce the cost of operating the facility. On high waste volume weeks or months extended hours could be temporarily offered to prevent any issues with waste accumulation at homes or businesses.

### Simplified System

The ultimate goal for the Island is to create a simple waste management system. A simple system has the fewest components and locations, provides only the services used by Island residents and minimizes the cost and impact of the facility on the community. The Conservancy will likely need to work to bring the different constituencies together and help to drive the agenda to achieve these goals. In order to assist with this effort, it would be helpful for the Conservancy to continue collecting basic waste data, reinforcing its contacts with the different Island entities, and establishing its position on waste management issues. However, the Conservancy will probably best achieve its goals for the Island waste management project by acting as a motivator, facilitator and organizer between the major interest groups. Different groups generally have different priorities and may decide to avoid conflict by leaving things as they currently stand. The Conservancy can provide the spark and grass roots effort needed to mobilize change and then keep the process moving.

Currently, the Conservancy should prepare to support potential transfer station operators in researching current costs for PUDs for waste disposal to determine local transfer station costs and revenue. Conservancy members do not necessarily need to do the research themselves, but instead should provide introductions between transfer station operators, DHEC, the local POAs and PUDs, and the County.

The Conservancy should also work to bring the PUDs and POAs onboard to the single waste facility concept by explaining its benefits to the environment and cost efficiency as described in this report.

The Conservancy could also make some basic information requests to start the process of examining the Melrose Transfer Station site as a possible waste management location. These requests include checking for the level of interest from the property owner and PUD and to determine what might be required for them to want to move forward. At this point we have determined the basic size of the property, location on the Island, and existing solid waste Transfer Station permit would make it a potentially suitable site.

As these tasks progress, the Conservancy will need to approach the County for their preferred method of involvement in the project. The County needs should be considered early into the process. Possibilities include having the County lease a portion of the Melrose site (or another shared site) for County waste operations. County operations can be setup in a temporary manner where costs would be minimal if the County had to move operations at a future date. Cost savings for the County would occur in sharing site infrastructure, buildings and labor, and having assistance in dealing with local facility siting issues. Alternatively, the County could obtain a piece of property and lease a portion to a transfer station operator to handle PUD and commercial wastes.

C:\projects\DAUFUSKIE ISLAND SITE PLAN.dwg (10/11/11)

PROJECT NO. 851.1101.21  
 SCALE AS SHOWN  
 DRAWING NO. 1

CONCEPTUAL SITE PLAN  
 DAUFUSKIE ISLAND CONSERVANCY  
 DAUFUSKIE ISLAND, SOUTH CAROLINA

**JOYCE ENGINEERING**  
 3251 LANDMARK DRIVE #240  
 NORTH CHARLESTON, SC 29418  
 PHONE: (843) 207-1373

DESIGNED: M.J.F.  
 DRAWN: R.W.H.  
 CHECKED: M.J.F.  
 APPROVED: M.J.F.  
 DATE: 10/6/11

| NO. | BY | CHK | APP | DATE | REVISIONS AND RECORD OF ISSUE |
|-----|----|-----|-----|------|-------------------------------|
|     |    |     |     |      |                               |
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|     |    |     |     |      |                               |

**LEED/GREEN DESIGN POSSIBILITIES:**

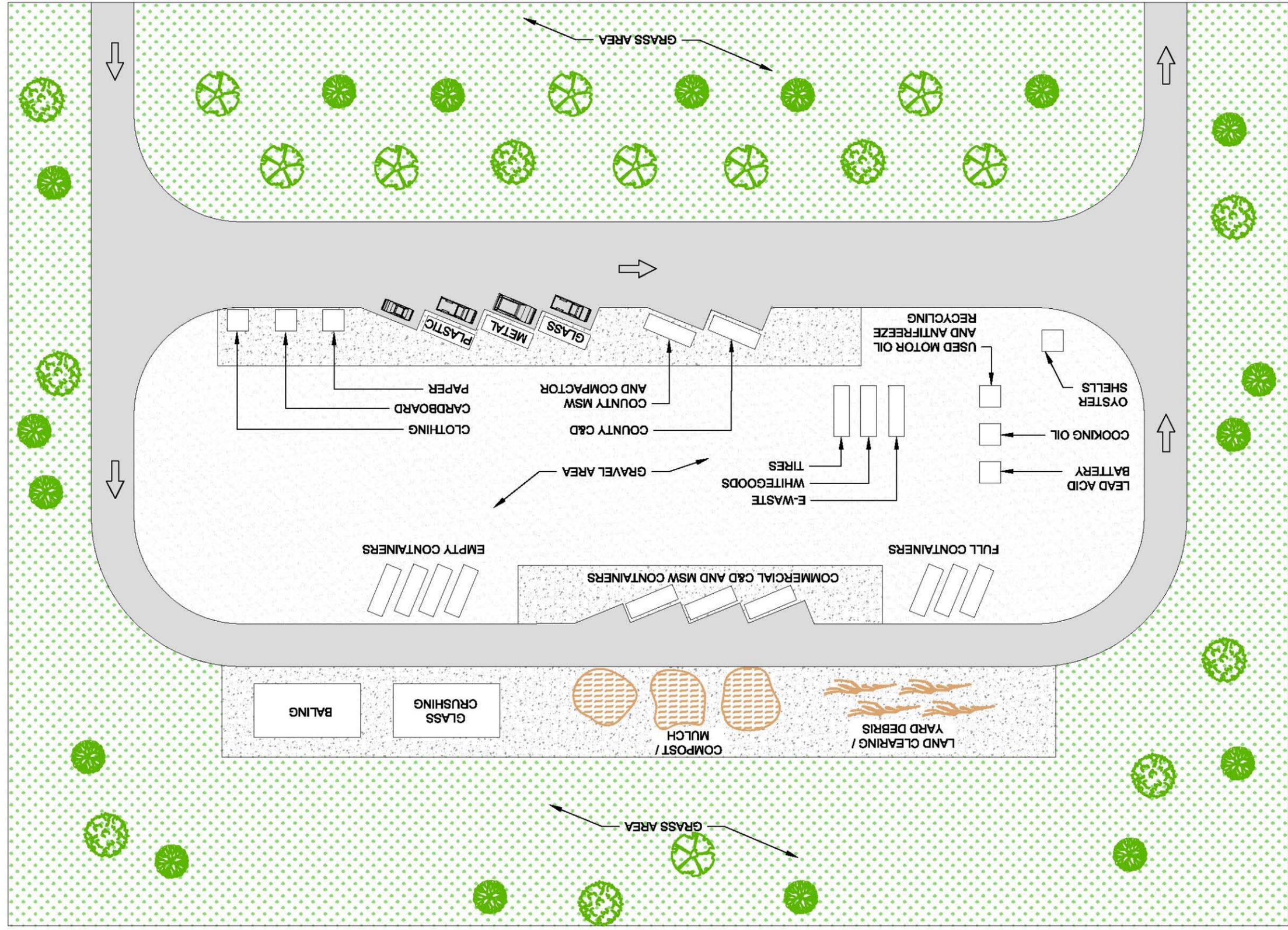
**WATER**  
 WATERLESS URINALS  
 RE-USE OF GREY WATER FOR TOILETS AND WATERING.  
 COMPOSTING TOILETS  
 ROOFS THAT MANAGE STORMWATER  
 DRIP IRRIGATION SYSTEM

**BUILDINGS**  
 SHINGLES FROM RECLAIMED TIRES  
 LARGE OVERHANG TO PROTECT BUILDING FROM SOLAR HEAT AND GLARE

**PAVING**  
 HIGH ALBEDO PAVING  
 (SRI>29 FOR 50% OF PAVING FOR LEED CREDIT)  
 RUBBERIZED ASPHALT SURFACE COURSE MADE WITH RECYCLED TIRES OVER A CONCRETE BASE  
 PERVIOUS CONCRETE PAVING  
 CRUSHED CONCRETE FOR AGGREGATE (RATHER THAN LIMESTONE)

**OTHER**  
 DROUGHT TOLERANT LANDSCAPING  
 USE 100% POST CONSUMER RECYCLED CONCRETE BLOCKS.  
 LOCK-BLOCK RETAINING WALL SYSTEMS OFFERS SUCH A PRODUCT. THEY ARE CURRENTLY REGISTERED AS RECYCLABLE MATERIAL.

USE 100% POST CONSUMER RECYCLED CONCRETE BLOCKS.  
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 "GREEN" BUILDING PRODUCTS IN CALIFORNIA AND OREGON. ALSO, LEED QUALIFIED FOR CREDIT.



CONVENIENCE CENTER CONCEPTUAL SITE LAYOUT

DAUFUSKIE  
ISLAND  
CONSERVANCY

LOVE IT    SAVE IT    SHARE IT



# Daufuskie Island Current Systems Audit

# Introduction - Information Needs

---

- **Waste generation sources**
- **Waste generation rates**
- **Waste transport methods for each source to each management facility**
- **Waste management facilities**
- **Waste transport methods from each management facility to final disposal**

# Waste Sources

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- **What are the different waste sources in the following categories (name and brief description)?**
  - **PUDs**
  - **Non-PUD Residential**
  - **Non-PUD Commercial**
  - **Industrial**
  - **County Services**

# Waste Generation Rates

---

- **What are the approximate generation rates for the different waste sources?**
  - **Information previously provided (no need to respond):**
    - **Daufuskie Island Club**
    - **Haig Point**
    - **Non PUD Residential + County Services**
  - **Remaining needs (contact info or waste stream info):**
    - **Non PUD Commercial**
    - **Industrial**

# Transport - Generator to Site

---

- **How are wastes transported from each generator to a convenience center or transfer station, or are they directly taken to a barge?**
  - **Haig Point**
  - **Daufuskie Island Club / Melrose**
  - **Non PUD Residential**
  - **Non PUD Commercial**
  - **Industrial**
  - **County Services**

# Transfer Station Summary

---

- **Which Transfer Station/Convenience Center manages the waste for the following groups (transfer station name and location)?**
  - **Daufuskie Island Club / Melrose**
  - **Haig Point**
  - **Non PUD Residential + County Services**
  - **Non PUD Commercial**
  - **Industrial**

# Hauling Summary

---

- **How is waste currently transported from the transfer stations or convenience centers to the landfill for the transfer stations that handle the following waste sources (list transfer stations and transportation methods)?**
  - **Daufuskie Island Club / Melrose**
  - **Haig Point**
  - **Non PUD Residential + County Services**
  - **Non PUD Commercial**
  - **Industrial**

# Joyce Engineering and The Daufuskie Island Conservancy

## Current Systems Audit For the Island Waste and Recycling Facility July 29, 2011

### Introduction – Information Needs

#### Waste generation sources

*PUD residential waste – Haig Point, Melrose, Oakridge/Beachfield, Bloody Point/ Sandy Lane*

*PUD commercial waste (some examples) –*

*Haig Point: Strachan Mansion, Calibogue Club, Pro Shop, Equestrian, Maintenance Shops, Clubhouse*

*Melrose: Island House, Jack's, Beach Club, Inn, Sportsman Lodge, Maintenance Area, General Store*

*Bloody Point: Clubhouse, Golf Maintenance Area*

*Non-PUD residential waste /county – Approximately 65 occupied homes some with incidental occupation or rental*

*Non-PUD commercial waste (some examples)- Daufuskie Crab Company, Marshside Mama's, museum, school, Freeport Marina, Hargray, SCE&G*

*Construction and Demolition – various projects, approximately 1,000-5,000 tons/year  
Recycling - within Haig Point*

#### Waste transport methods for each source to each management facility

*PUD residential – curbside pick up by PUD personnel or homeowner takes waste to SCDHEC permitted waste transfer station with contracted “dumpster” containers and/or compactors within the PUD. Melrose/Bloody Point/Sandy Lane are in a temporary state using an assortment of different methods to move waste from residences to a collection point. See below.*

*PUD commercial – mixed with residential, delivered by PUD personnel to SCDHEC permitted waste transfer station with contracted “dumpster” containers and/or compactors within the PUD*

*Non-PUD residential/county – homeowner delivers waste to county dump that consists of open dumpsters at present, attended to by county personnel*

*Non-PUD commercial – businesses either rent a dumpster and barge it off of Daufuskie, or they illegally use the county dump facility*

*Construction and Demolition – the contractor rents a dumpster for their site and barges it off of Daufuskie, or they illegally use the county dump facility*

*Recycling within Haig Point – recycling is collected curbside or it can be taken to a central collection point within the PUD from where it is ferried to the Hilton Head Embarkation Center. Contracted hauler collects it weekly.*

### **Waste management facilities**

*Haig Point Transfer Station – Owned and operated by Haig Point Club and Community Assn Inc and permitted as a SCDHEC transfer facility since approximately 1991.*

*Melrose Transfer Station – Under disposition of Bankruptcy Court; approved by SCDHEC for reactivation as a Waste Transfer Station, awaiting resolution of real estate technicalities and removal of accumulated waste prior to occupation and reinstatement.*

*Until this is resolved, there is a temporary open dumpster located in Bloody Point.*

*County dump – County has contracted for construction of a Citizen's Convenience Center; awarded design-build construction contract in abeyance due to adjacent landowner suits and consequent injunction.*

### **Waste transport methods from each management facility to final disposal**

*PUDs – hauler picks up dumpster at transfer station and barges off of Daufuskie*

*County dump – through contract with contracted haulers, dumpsters are picked up and barged off of Daufuskie*

*Commercial waste – businesses who rent dumpsters have them barged off of Daufuskie, other businesses illegally take waste to the residential county dump*

*Construction and Demolition – contractors have their dumpsters barged off of Daufuskie, others illegally take waste to the residential county dump*

### **Waste Sources**

**What are the different waste sources in the following categories (name and brief description)?**

- PUDs – *Haig Point, Melrose and Bloody Point/Sandy Lane residential and commercial (clubhouse, pro shop, maintenance facilities, residential, etc)*
- Non-PUD Residential – *historic district households*
- Non-PUD Commercial – *restaurants, museum, church, etc*
- County Services – *school, fire station, public works department*

### **Waste Generation Rates**

**What are the approximate generate rates for the different waste sources?**

Information previously provided (no need to respond)

- Daufuskie Island Club/Melrose/Bloody Point/Sandy Lane
- Haig Point
- Non-PUD residential + county services

Remaining needs (contact info or waste stream info):

- Non-PUD Commercial – *total commercial tonnage provided by Beaufort County less PUD waste which is classified as commercial should yield commercial waste not generated by PUDs*
- Industrial - *minimal*

## **Transport – Generator to Site**

**How are wastes transported from each generator to a convenience center or transfer station, or are they directly taken to a barge?**

- Haig Point – *curbside pick up or each home owner can take their trash to the Haig Point transfer station; single stream recycling can be collected curbside or taken to a collection point within the PUD*
- Melrose – *temporary process while Melrose Transfer Station is tied up in legal issues: a) private residences and Driftwood Cottage homeowners take their trash to the county dump, b) Melrose Cottage Owners Assn have contracted pick up with waste going to temporary open dumpster located in Bloody Point, c) RBC (Oceanfront Residents (timeshare)) have contractor pickup, but no information on where waste is going, d) Easter Beach Villas (two buildings) no information.*
- Bloody Point/Sandy Lane – *until the Melrose Transfer Station is reopened, there is temporarily an open dumpster located next to the Bloody Point Pro Shop. Sandy Lane has a contractor collecting the waste and depositing in the dumpster; Bloody Point homeowners must take their own waste to the dumpster.*
- Non-PUD Residential – *homeowner takes waste to the county dump*
- Non-PUD Commercial – *businesses rent a dumpster located on their property or illegally use the county dump*
- County Services - *museum, school, DPW, fire station uses Haig Point*

## **Transfer Station Summary**

**Which Transfer Station/Convenience Center manages the waste for the following groups (transfer station name and location)?**

- Melrose – *not using a transfer station while Melrose Transfer Station is tied up in legal issues; Melrose Cottage Owners Assn waste is going to the dumpster located Bloody Point, see below. For other entities within Melrose, there is no information.*
- Bloody Point/Sandy Lane – *not using a transfer station while Melrose Transfer Station is tied up in legal issues; Bloody Point has a temporary open dumpster in place for the use of Sandy Lane and Bloody Point*
- Haig Point – *Haig Point Transfer Station*
- Non-PUD Residential + county services – *county dump*
- Non-PUD Commercial – *businesses have a dumpster on their property which is barged off of Daufuskie, or illegally use the county dump*

## **Hauling Summary**

**How is waste currently transported from the transfer stations or convenience centers to the landfill for the transfer stations that handle the following waste sources (list transfer stations and transportation methods)?**

- Melrose and Bloody Point/Sandy Lane – *Expect to use Melrose Transfer Station when resort facilities reopen; will bale and process waste to reduce volume, transport to landfill or recycling sales point. Temporary open dumpster at Bloody Point has a contract service that will remove the dumpster.*
- Haig Point – *Contract service removes compactor/dumpster from HP Transfer Station*
- Non-PUD Residential + County services – *county contracts with service for removal of dumpster from county dump*
- Non-PUD Commercial – *businesses that have dumpsters contract with a hauler for removal*

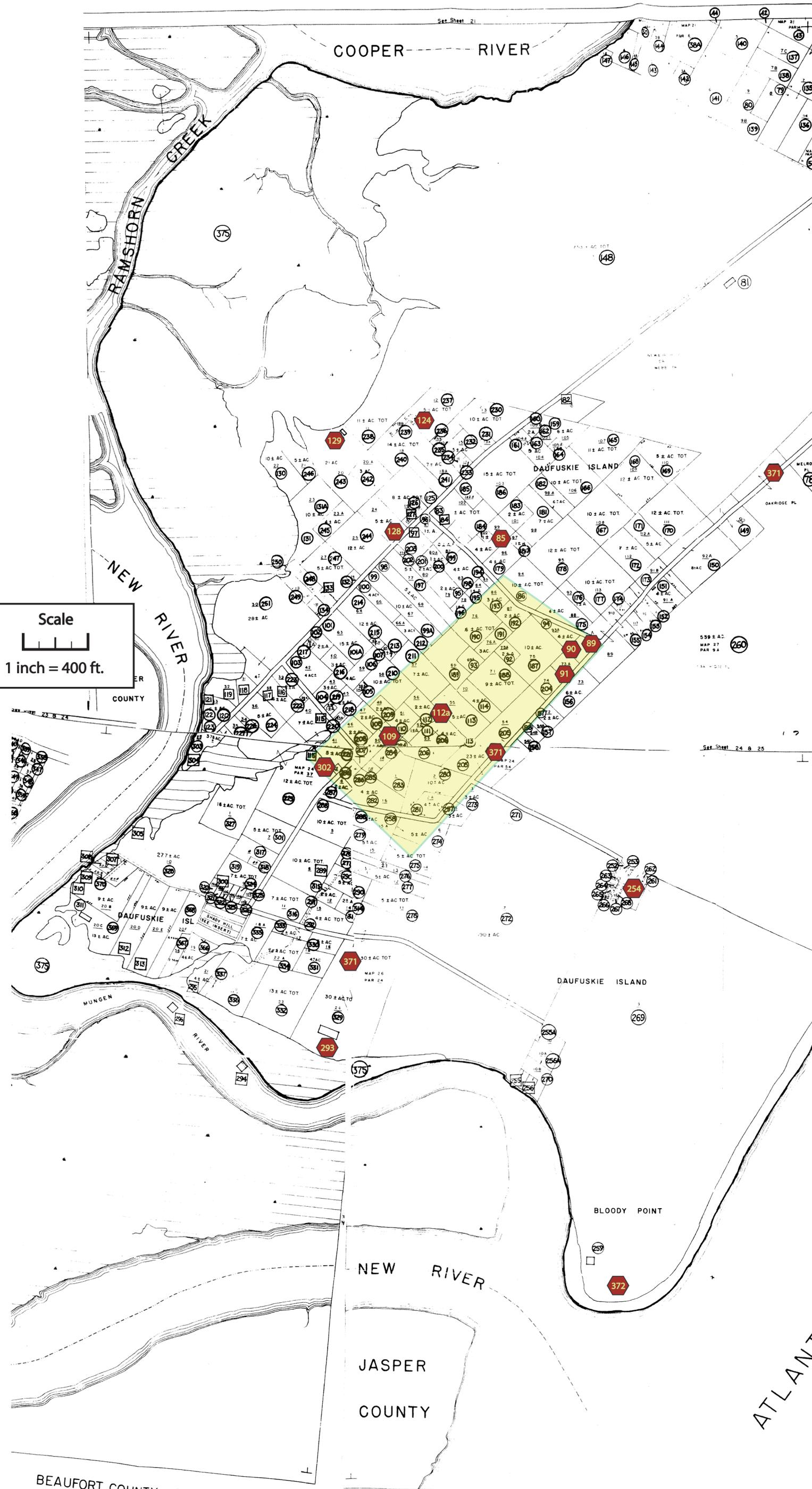
| Month/Year | Commercial Tonnage |
|------------|--------------------|
| Dec-07     | 26.68              |
| Jan-08     | 27.43              |
| Feb-08     | 22.3               |
| Mar-08     | 27.02              |
| Apr-08     | 60.27              |
| May-08     | 62.84              |
| Jun-08     | 58.29              |
| Jul-08     | 81.66              |
| Aug-08     | 78.96              |
| Sep-08     | 51.87              |
| Oct-08     | 51.95              |
| Nov-08     | 54.89              |
| Dec-08     | 47.42              |
| Jan-09     | 20.43              |
| Feb-09     | 20.43              |
| Mar-09     | 21.51              |
| Apr-09     | 84.82              |
| May-09     | 14.69              |
| Jun-09     | 28.88              |
| Jul-09     | 33.71              |
| Aug-09     | 29.29              |
| Sep-09     | 23.79              |
| Oct-09     | 0.00               |
| Nov-09     | 28.78              |
| Dec-09     | 15.59              |
| Jan-10     | 19.69              |
| Feb-10     | 18.97              |
| Mar-10     | 19.00              |
| Apr-10     | 19.66              |
| May-10     | 15.09              |
| Jun-10     | 33.27              |
| Jul-10     | 17.65              |
| Aug-10     | 18.07              |
| Sep-10     | 15.25              |
| Oct-10     | 15.58              |
| Nov-10     | 14.42              |
| Dec-10     | 7.60               |
| Jan-11     | 15.98              |
| Feb-11     | 14.36              |
| Mar-11     | 16.82              |
| Apr-11     | 23.15              |
| May-11     | 2.41               |

\* Please note that the accuracy of this tonnage cannot be verified

\* Tonnage is variable and there no information about the source of this tonnage

| Month/Year                        | Daufuskie Island MSW Tonnage |
|-----------------------------------|------------------------------|
| Jan-07                            | 8.40                         |
| Feb-07                            | 8.60                         |
| Mar-07                            | 1.26                         |
| Apr-07                            | 12.89                        |
| May-07                            | 17.37                        |
| Jun-07                            | 13.29                        |
| <b>Available Months for FY 07</b> | <b>61.81</b>                 |
| Jul-07                            | 22.55                        |
| Aug-07                            | 23.39                        |
| Sep-07                            | 17.96                        |
| Oct-07                            | 9.17                         |
| Nov-08                            | 27.22                        |
| Dec-07                            | 13.77                        |
| Jan-08                            | 25.17                        |
| Feb-08                            | 16.11                        |
| Mar-08                            | 12.84                        |
| Apr-08                            | 15.00                        |
| May-08                            | 21.62                        |
| Jun-08                            | 20.73                        |
| <b>Fiscal Year 08 Total</b>       | <b>225.53</b>                |
| Jul-08                            | 18.63                        |
| Aug-08                            | 21.25                        |
| Sep-08                            | 15.95                        |
| Oct-08                            | 23.42                        |
| Nov-08                            | 10.71                        |
| Dec-08                            | 16.22                        |
| Jan-09                            | 11.88                        |
| Feb-09                            | 11.88                        |
| Mar-09                            | 7.80                         |
| Apr-09                            | 14.96                        |
| May-09                            | 12.12                        |
| Jun-09                            | 3.27                         |
| <b>Fiscal Year 09 Total</b>       | <b>168.09</b>                |
| Jul-09                            | 12.29                        |
| Aug-09                            | 32.07                        |
| Sep-09                            | 11.03                        |
| Oct-09                            | 6.89                         |
| Nov-09                            | 0.00                         |
| Dec-09                            | 13.43                        |
| Jan-10                            | 6.97                         |
| Feb-10                            | 1.92                         |
| Mar-10                            | 15.88                        |
| Apr-10                            | 18.14                        |
| May-10                            | 16.57                        |
| Jun-10                            | 11.53                        |
| <b>Fiscal Year 10 Total</b>       | <b>146.72</b>                |
| Jul-10                            | 29.75                        |
| Aug-10                            | 15.44                        |
| Sep-10                            | 8.12                         |
| Oct-10                            | 9.98                         |
| Nov-10                            | 10.10                        |
| Dec-10                            | 11.46                        |
| Jan-11                            | 9.84                         |
| Feb-11                            | 7.06                         |
| Mar-11                            | 9.04                         |
| Apr-11                            | 4.32                         |
| May-11                            | 17.44                        |
| <b>* Fiscal Year 11 Total</b>     | <b>132.55</b>                |

\* Fiscal Year 11 Total does not include June 2011



**Legend**

- The Maryfield Community (the former Southern Historic District) is the most historic area on the island, as determined by the concentration of key contributing landmarks in the community.
- Of the 18 key landmarks that contribute to the island's designation as a historic district, 12 are located on the former Mary Field plantation
- During the 1940s, the former Mary Field plantation was the highest-density population center for individuals of western African descent on the island.

**Key landmarks located in the former Mary Field Plantation**

- 85 Hudson House
- 89 First African Union Baptist Church
- 90 One Room School
- 91 Mary Field School
- 109 Daufuskie School
- 112a Single Pen – Folk Housing Form
- 124 Union Sisters and Brothers Oyster Society Hall
- 128 Roller House
- 129 Mary Field Cemetery
- 293 Mary Dunn Cemetery
- 302 Martin House
- 371 North-South Road
- 375 Salt Marshes – Incorrect...Remove

**Key landmark located in the former Cooper River Plantation (Not Shown)**

- 52 Mt. Cameral Baptist Church – Not Show
- 53 Janie Hamilton School – Not Shown

**Other Key Contributors**

- 1 Haig's Point Lighthouse – Not Shown
- 254 Bloody Point Lighthouse
- 372 Bloody Point
- 373 Tabby Ruins (Haig Point) – Not Shown

**National Registry of Historic Places Inventory -- Nomination Form, 1982**

**Scale**  
  
 1 inch = 400 ft.

THIS MAP IS FOR TAX PURPOSES ONLY. ALTHOUGH IT IS COMPILED FROM RECORDED DEEDS AND PLATS IT IS NOT INTENDED TO REPRESENT AN ACTUAL SURVEY AND SHOULD NOT CONSIDERED AS SUCH.

DAUFUSKIE  
ISLAND  
CONSERVANCY

LOVE IT    SAVE IT    SHARE IT



# Daufuskie Island Concerns and Priorities Survey

# Introduction

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- **What is our purpose?**
- **How will we define success/What will success look like when have achieved it?**
- **What services will we need immediately?**
- **What services do we want to be able to offer in the future?**

# Purpose

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- **Why are we planning a one-island waste management system?**
- **Talking points**
  - **Protect the island environment**
  - **Preserve island land use**
  - **Control costs**
  - **Increase recycling/reuse**
  - **Support local industry**
  - **Reduce vehicle dependence**
  - **Other thoughts /order of priorities?**

# Vision

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- **How would a successful system look?**
- **Talking points**
  - **Number of locations**
  - **General area for location(s)**
  - **Appearance of location(s) (Buildings, vegetation, etc.)**
  - **Management of commercial versus residential waste**
  - **Methods for bringing waste to locations(s)**
  - **Methods for removing waste from the island**
  - **Services available for residents/businesses (details on next slide)**
  - **Other thoughts?**

# Services - Immediate

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- **What services do we need now?**
- **Talking points**
  - **Residential waste disposal/compaction**
  - **Commercial waste disposal/compaction**
  - **Curbside collection (optional for additional fee?)**
  - **Paper recycling (white paper and cardboard)**
  - **Metal recycling**
  - **Glass reuse**
  - **Yard waste composting**
  - **Household hazardous waste removal**
  - **Electronic waste removal**

# Services - Long Term

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- **What services might we want in the future?**
- **Talking points**
  - **Food composting**
  - **Waste shredding**
  - **Biomass burning**
  - **Room for population expansion**
  - **Other thoughts?**

# Community Concerns and Priorities Survey

\* Denotes individual surveys

## What is our purpose?

- The creation of a Consolidated Waste and Recycling Facility to serve all island residents and businesses.

## Purpose

### Why are we planning a one island waste management system?

#### Protect the environment-

- Protect and preserve Daufuskie's natural resources; land, water, air
- Promote the re-use of recyclables
- Reducing the amount of waste leaving the island for Hickory Hill Landfill.
- An earth friendly facility
- Promotes efficient. recycling and composting systems
- Takes up less room at the land fill when one facility is maintained correctly.
- Recycling averts millions of tons of materials away from the landfill.
- One waste management facility would require less land,

#### Follow laws, standards and regulations-

- So the historic and community impacts of the location are studied.
- Align with the new Daufuskie CP Plan- Recommendation 8.2, Chapter 2.
- Have one island operator that ensures waste is handled properly
- Will allow for better regulations from a central location
- Requires less inspections/time from DHEC, less permitting and more control.

#### Promote and market-

- Serve as a model for island and rural communities.
- Promote commerce with affordable waste options
- Residents buy-in to the plan
- To plan for future development
- To improve beauty of our island
- \*This concept is strongly supported by most islanders

#### Economy-

- Consolidate trash services
- A single facility with a controlled operator that operates a well-run facility cost less to operate than waste collection.
- The cost for one service island wide can be shared with all residents.
- Cost Efficiency and cost control- avoid double payment (pay the county and the hauler to remove household waste), operators chosen by bid process.
- Eliminate the duplication of services: four waste services barging dumpsters
- Consistency in types of services
- More effective waste disposal, general recycling and recycling of contractor waste. Lumber that is waste to a contractor could be used by a homeowner.

- Offer affordable option to commercial businesses for waste removal
- Enable the county to achieve economies of scale in regard to waste management, thereby further reducing costs.
- Create jobs for island residents
- To protect our biggest resource: tourism

## **Concerns:**

### **County / zoning**

- \*Rules and regulations of the PUD's may prohibit participation in a One Island Solution.
- \*There is no county responsibility for commercial waste.
- \*The county collects commercial white wastes at a selected County owned and operated Convenience Centers.
- \*The county is the responsible party if a public/private system fails
- \*The county has negative feelings about this initiative stemming from the law suit concerning the present dump site.
- \*The entire island is on the National Register of Historic Places.
- \*The proposed Frances Jones Blvd site is located very close to historic landmarks / resources of importance to on the the diverse groups that resides and / or owns property on the island.
- Will HP's current permit stay in place so we can go back to where we are if it does not work?
- \*I wonder if Joyce has seen a facility where commercial and residential waste are handled as separate businesses but share the same facility in terms of, for example, compaction and pulverization? That may help county buy in.
- \*The newly adopted form-based code makes the less populous former "southern historic district" a targeted area for the provision of industrial, integrated services for the entire island.

### **Location**

- \*Daufuskie is too small for various waste management systems.
- \*The facility will be able to grow as the island develops.
- \*Need workable solutions to negate the "not in my back yard" problem because this alone could derail the project..
- \*The present dump site on Francis Jones Blvd (in litigation) is the least bad site for the facility due to its central location and 10 acre parcel. I hope you consider all merits concerning this site.
- \*Waste facilities are disproportionately clustered in low-income communities and communities of color largely due to local land-use (i.e., zoning) decisions. *Adapted from A Regulatory Strategy for Siting and Operating Waste Transfer Stations, National Environmental Justice Advisory Council, EPA 500-R00-002, march 2000*
- The current site on Francis Jones Blvd is not a 10 acre site. It is a 6.3 acre site. Part of the original 10 acre parcel (i.e. 3.3 acres) was deeded by the county for the development of a park / outdoor recreation for the historic Gullah-Geechee neighborhood.
- To take back the park in order to site the one-island waste facility appears to be insensitive and a disservice to the historically Gullah-Geechee neighborhood.

- \* Melrose Transfer Station- I agree that this is a great site for an island wide solution, the owners of the contiguous McDavid property and the small subdivision on School Road as it meets Oakridge may disagree according to the NIMBY principle.

### **Rules and regulations**

- \*Illegal methods seem to mean little; It makes it impossible to operate legitimately when illegitimate operations are supported by PUD's for short term cost savings.
- It is highly unlikely that residents in the CP district would produce an average of five pulls of construction and demolition waste per month.

### **Costs**

- \*Ways to fairly split private/public waste and recycle costs.
- \*Some quasi businesses are concerned because they illegally dump at the residential only dump. Any solution will create an added cost to them.
- \*Will this demonstrate to the county a cost savings now and in the future as the island develops?
- \*Can businesses be shown a long term cost savings? We need their support.
- Community does not want to pay more for waste removal
- It is illegal for someone to collect waste for contract or incidental payment and then take it to a County facility.

## **Vision**

### **What will success look like when we have achieved it?**

#### **Environment-**

- The facility is known as environmentally friendly.
- "Invisible" appearance with landscaping and natural buffers. Pleasing to the eye.
- No smell.
- Clean, orderly, efficient and monitored daily.

#### **Laws, standards and regulations-**

- Inspected regularly
- All services are handled properly

#### **Promote and Market-**

- Because the facility follows specific guidelines our community will be recognized as "Green Waste Managers".
- We will conduct tours and educational talks at this location.
  - A rendering (photo) of the new facility to promote to the island.
- \*The initiative starts in local homes and businesses. I would like to see a compliance course and a large banner presented to each entity at completion. These colorful banners could be proudly displayed in front windows (much like stars on on banners to recognize those serving our county)

#### **Economy-**

- No price increase or change for residents.
- Return on investment will be evident

#### **Location-**

- Be sited in an area that will accommodate future growth (without the need for engaging in eminent domain) to acquire additional contiguous space, when needed.
- The new facility would be sited in an area that does not present environmental injustice issues / concerns for the race and ethnic minorities of the island.
- The future addition of new services at the one-island facility would be anticipated.
- Determined with input from the community and by historic and community impact studies
- Located off a paved road.
- Central location. Like the location of Melrose. because it is not a surprise to be in "someone's backyard".
- Based on the size of the island one location for waste and recycling.
- Metal building surrounded by earthen berm and vegetation for noise/light pollution buffer as well as beautification.

### **Services-**

- Follow the Beaver Island Model
- A single site for recycling and waste removal.
- Drive through services will be available to licensed collectors, businesses and individual residents.
- Processing of solid waste, recycling, composting and biomass power generation- "one stop shopping, accepts everything".
- Have a weight scale.
- Manned facility.
- Composting will be available for resale.
- Utilize a Biomass Generator.
- Must have the option of curbside pick up for waste, recycling and composting.
- Management of commercial vs. residential waste –
- A certified waste management professional can warrant where a particular load of waste originated; residential or commercial. Ticket is issued to the individual or aggregator who brought in the waste providing a paper trail.
- Methods for bringing waste to the waste facility – use small feeder trucks for collection and small dumpsters for construction sites.
- Methods for removing waste from the island – bales which will compact the waste will be loaded into trailers
- Equipment needed – baler, truck scale, chipper for vegetative waste, glass pulverizer, grinder for pressure treated wood
- Non treated wood could be burned in the biomass generator in the future.
- \*Pulls from the site would be infrequent given the enhanced recycling initiative.
- \*No strong opinion concerning waste collection; a front line for compliance is ones ability to keep their banner hanging proudly in their window.
- \*Beaufort County has been doing this for quite some time. A typical recycling/convenient center such as the one on Hilton Head Island is a worthy start for anyone looking at engineering a site. At the Hilton Head facility, first you drive through the recycling bins then arrive at the area of refuse which is elevated so that the bags of refuse are easily dropped into containers. The area is fenced off and contained to keep items from being incorrectly discarded.

## **Concerns:**

- The Biomass generator might compete with our incinerator business.
- \*Can we see a return on investment on Biomass power generation, using pulverized glass and etc.

## **Services – Immediate**

### **What services will we need now?**

- Waste services that meets the standards established in the county ordinances.
- \*Safe steps at county dump site
- \*Clean dumpster sites, Bloody Point, County, Freeport, Melrose
- \*The garbage at the Melrose Cottages picked up daily
- Curb side pick up for condos, timeshares and residents
- Waste services that reflect the uniqueness of Daufuskie as a bridge less island- Daufuskie's services are traditionally different from those provided on mainland Beaufort County. "Because of the remote nature of Daufuskie Island, the minimum level of solid waste services differs from that in other solid waste districts in the county. Recyclable materials are not collected by the county on Daufuskie Island." (Chapter 62, Section 62-21(j) Beaufort County Code of Ordinances
- Accordingly, the county could amend the Code of Ordinances to allow the operation of a county owned and operated transfer center which could accept both residential and commercial waste.
- Dumpsters for temporary rental ie. remodeling project, small commercial jobs.
- Electronic waste removal and hazardous waste removal
- Manned dump site.
- Weight scale
- Interim solution / location while we plan the new facility
- Co-locate residential and commercial
- User friendly recycling
- Survey all households: Will they commit to recycling?
- \*Daufuskie Island residents and businesses need all of the services that are provided throughout Beaufort County i.e. Bluffton and Hilton Head. A residential and commercial waste disposal/compaction container and recycling bins would reduce the overall trips required to haul refuse therefore saving money, and generates all of the benefits of recycling and protecting the already fragile environment. This is past due!
- \*Daufuskie Island is way behind the ball when it comes to protecting our environment and wonderful resources as it pertains to recycling and waste management. Recycling creates millions of jobs and there are countless reasons why we should be doing our part as a community and as part of the country. I do not think that anyone would argue that having multiple facilities performing the same function is a worthy cause as we know it is not efficient, not controlled the way it should be and could be better.

### **Concerns-**

- Using glass for the dirt roads might cause the county to stop being responsible for maintenance. Find more ways to re-use glass.

- \*Most car owners have their oil, radiator fluid and transmission fluid changed at Jiffy Lube or elsewhere. How many gallons of oil and other fluids have been dumped on the ground or in the back yard or elsewhere over the past 20 years on Daufuskie Island?
- Melrose / Bloody Point has short term high volume commercial waste needs due to renovation and construction.

## Services – Long Term

### What services do we want to be able to offer in the future?

- Commercial / Residential/ Industrial Waste Removal at one location
- Commercial / Industrial / Household Recycling- Island wide
- Get the trash off the island / dumping on vacant lots
- Address illegal dumping
- Enforce illegal dumping
- Community becomes environmentally responsible
- Chipper to resale as mulch for landscaping
- Glass reuse/pulverizing/dirt roads and other uses
- Residential and commercial waste compaction would be achieved by baling
- Community Composting- food and landscaping
- Biomass Power Generator
- Energy production
- Full service recycling
- Composting for purchase
- Market as a progressive environmental community
- Affordable biodegradable service-ware for restaurants
- Long term plan as island population grows
- Baling will produce the same effect as waste shredding, which is to compact the waste.
- Sawmill wood pellets to be burned in wood burning stoves could be a product of the biomass generator
- Population expansion – CP plan allocates 1 acre per dwelling unit. The island is 5,000 acres = 5,000 dwelling units. Assume 2-4 people per dwelling unit = 10,000-20,000 people.
- Some areas are targeted for more intense development. Some areas are approved for up to four dwellings per acre.

### Concerns:

- Any health issues using pulverized glass for dirt road beds?

### Other thoughts:

- Glossary of terms to be included in the Joyce Study.
- Make announcements at Island Council meetings on study updates.
- \*Plan needs to be endorsed by the Island Council.
- \*Big thanks to the Conservancy for all you do!



**Waste Disposal Opinions of Cost for Daufuskie Island - Not Including Transfer Station Equipment, Labor and Property Costs**  
**Option 1 - Uncompacted Waste in 40 cy Dumpsters Removed Once per Month from the Island**

|   | <u>Commercial and PUD Disposal</u> | <u>Historic District</u> |
|---|------------------------------------|--------------------------|
| 40 cy Open Top Dumpster Rental  | 700 \$/month                       | 700 \$/month             |
| Service Fee   | 70 \$/month                        | 70 \$/month              |
| Fuel Surcharge  | 140 \$/month                       | 140 \$/month             |
| Barging Fee (monthly removal)   | 400 \$/month                       | 400 \$/month             |
| Waste Density without Compactor   | 500 lbs/cy                         | 500 lbs/cy               |
| Uncompacted Waste Weight  | 10 tons/dumpster                   | 10 tons/dumpster         |
| Landfill Disposal Tipping Fee   | 65 \$/ton                          | 45 \$/ton                |
| Uncompacted Waste Dumpster Disposal                                     | 650 \$/dumpster                    | 450 \$/dumpster          |
| Total Cost per 40 cy Dumpster Pulled<br>Once per Month                  | \$1,960                            | \$1,760                  |
| Total Cost per Ton for an Uncompacted Dumpster<br>Pulled Once per Month | 196 \$/ton                         | 176 \$/ton               |
| Short Term Estimated Waste  | 360 tons/year                      | 150 tons/year            |
| <b>Short Term Estimated Waste Cost</b>                                  | <b>\$70,560</b>                    | <b>\$26,400</b>          |
|   | <b>Total Short Term Cost</b>       | <b>\$96,960</b>          |
| Mid Term Estimated Waste  | 550 tons/year                      | 220 tons/year            |
| <b>Mid Term Estimated Waste Cost</b>                                    | <b>\$107,800</b>                   | <b>\$38,720</b>          |
|   | <b>Total Mid Term Cost</b>         | <b>\$146,520</b>         |

**Waste Disposal Opinions of Cost for Daufuskie Island - Not Including Transfer Station Equipment, Labor and Property Costs**  
**Option 2 - Compacted Waste in 40 cy Dumpsters Removed Twice per Month from the Island**

|  | <u>Commercial and PUD Disposal</u> | <u>Historic District</u> |
|--|------------------------------------|--------------------------|
| 40 cy Open Top Dumpster Rental   | 700 \$/month                       | 700 \$/month             |
| Service Fee  | 280 \$/month                       | 280 \$/month             |
| Fuel Surcharge   | 560 \$/month                       | 560 \$/month             |
| Barging Fee (weekly removal)   | 1600 \$/month                      | 1600 \$/month            |
| Waste Density with Compactor   | 800 lbs/cy                         | 800 lbs/cy               |
| Compacted Waste Weight (per Dumpster per Month)                            | 64 tons/dumpster-month             | 64 tons/dumpster-month   |
| Landfill Disposal Tipping Fee  | 65 \$/ton                          | 45 \$/ton                |
| Compacted Waste Dumpster Disposal Cost                                     | 4160 \$/dumpster-month             | 2880 \$/dumpster-month   |
| Total Cost per 40 cy Dumpster Pulled<br>Four Times per Month               | \$7,300                            | \$6,020                  |
| Total Cost per Ton for a Compacted Dumpster<br>Pulled Four Times per Month | 114 \$/ton                         | 94 \$/ton                |
| Short Term Estimated Waste   | 360 tons/year                      | 150 tons/year            |
| <b>Short Term Estimated Waste Cost</b>                                     | <b>\$41,063</b>                    | <b>\$14,109</b>          |
|  | <b>Total Short Term Cost</b>       | <b>\$55,172</b>          |
| Mid Term Estimated Waste   | 550 tons/year                      | 220 tons/year            |
| <b>Mid Term Estimated Waste Cost</b>                                       | <b>\$62,734</b>                    | <b>\$20,694</b>          |
|  | <b>Total Mid Term Cost</b>         | <b>\$83,428</b>          |

Note: This scenario is valid during months with increased waste generation due to tourist traffic, and is shown primarily to indicate the potential for cost savings through increased efficiency of waste management

## Summary of Potential Recycled Glass Uses for Daufuskie Island

| Use   | Details  | Results   |
|---|--|---|
| <b>Utility Pipe Bedding</b>                                     | Glass cullet used for compacted bedding to support utility pipes   | Glass crushed to minus 3/8-inch gradation can be used for pipe bedding for up to 100% substitution of AASHTO No. 8 aggregate. Compact with normal construction methods and density test with standard nuclear gauge. Materials has good drainage qualities.   |
| <b>Trenching Backfill</b>                                       | Glass cullet used to backfill trenches to surface grade.   | Glass crushed to minus 3/8-inch gradation can be blended up to 20 percent by weight with conventional aggregates for most uses including road or embankment support. In locations where backfill provides no roadbed, embankment or structural support, up to 100% of the blend may be comprised of glass cullet. Compaction of 100% cullet backfill may require extra efforts. |
| <b>Septic Drainfield Sand Filter, and Pipe Bedding</b>          | Glass cullet used as drainfield media, for sand filters and/or pipe bedding in septic systems              | Glass crushed to minus 1/4-inch gradation can make up to 100% of the sand/glass mixture for septic sand filters. Glass cullet is frequently more permeable than many areas' local sands.  |
| <b>Flexible Base Course for Road Construction</b><br>(see note) | Glass cullet mixed with gravel for road base course with hot mix asphalt surface course                    | Glass crushed to the same standards of base course aggregate can be used for base course for up to 20% substitution of standard aggregate. Some studies recommend 10% limit for a more conservative usage. Results indicate similar performance to pure aggregate.  |
| <b>Asphalt-stabilized Base Course</b><br>(see note)             | Glass cullet mixed with aggregate and emulsified asphalt produced by plant-mixing at elevated temperatures | Glass crushed to the same standards of asphalt-stabilized base course aggregate can be used for up to 5% substitution of standard aggregates.   |
| <b>Retaining Wall Backfill</b>                                  | Glass cullet mixed with backfill for retaining wall construction   | Glass crushed to backfill standards can be used in a blend as up to 20% of structural backfill and up to 100% of non-structural backfill. Non-structural backfill can include garden walls, etc.  |
| <b>French Drains</b>  | Glass cullet used for drainage media   | Glass crushed to gravel or sand type specifications depending upon application can be used to backfill trenches in creating French Drains / Under Drains that lower local water tables or increase drainage in poorly draining soils.   |
| <b>Golf Course Sand Traps</b>                                   | Glass cullet mixed with sand for sand traps  | Glass crushed to sand standards and thoroughly tumbled to remove sharp edges. Mixed with sand in traps.   |

Glass Crushing and Processing Costs = \$7 to \$12 per ton

Crushing and Processing Rate = 1 to 5 tons per hour

Note: SC DOT has not approved glass cullet for Projects



**COUNTY COUNCIL OF BEAUFORT COUNTY  
PURCHASING DEPARTMENT**

102 Industrial Village Road, Bldg 3—Post Office Drawer 1228  
Beaufort, South Carolina 29901-1228

**TO:** Councilman Gerald Dawson, Chairman, Public Facilities Committee  
**FROM:** Dave Thomas, CPPO, Purchasing Director *DT*  
**SUBJ:** Request to Purchase a Bobcat and Accessories from State Contract for Beaufort County's Stormwater Utility/Infrastructure Department  
**DATE:** January 21, 2014

**BACKGROUND:** The Purchasing Department received a request from the Stormwater Utility/Infrastructure Department to purchase a new Bobcat and accessories from Clark Equipment Company, a South Carolina State contract vendor, via Bobcat of Savannah, an authorized dealer. The new Bobcat will replace the old Bobcat that hit a washout area and slid into an outfall channel that was full of water; the insurance company found it a total loss from water damage during the construction of a project at the Hilton Head Island Airport. The Bobcat replacement will support Stormwater Utility/Infrastructure operations. Please see the attached quote for product description and pricing information.

**STATE CONTRACT VENDOR INFORMATION**

**COST**

Clark Equipment Company, West Fargo, ND

\$66,107

**FUNDING:** Account# 50250011-54200, Stormwater Enterprise Fund - Specialized Capital Equipment

**FY 2013 COST:** NA

**FOR ACTION:** Public Facilities Committee meeting occurring January 21, 2014.

**RECOMMENDATION:** The Purchasing Department recommends that the Public Facilities Committee approves, and recommends to County Council the contract award to purchase the items from the aforementioned vendor for a total cost of \$66,107.

**CC:** Gary Kubic, County Administrator  
Bryan Hill, Deputy Administrator  
Alicia Holland, Chief Financial Officer *AH*  
Rob McFee, Division Director, Engineering and Infrastructure *RM*  
Eddie Bellamy, Public Works Director *EB*  
Eric Larson, Stormwater Utility/Infrastructure Manager *Eric W. Larson*



# Bobcat

## Product Quotation

Quotation Number: CMS-22380v1  
Date: 2013-12-18 05:28:31

| Customer Name/Address:   | Bobcat Dealer  | Contract Holder/Manufacturer   |
|--|--|--|
| <b>BEAUFORT COUNTY<br/>STORMWATER<br/>120 SHANKLIN ROAD<br/>BEAUFORT, SC 29906<br/>Phone: (843) 812-7572</b> | <b>Brent<br/>Bobcat of Savannah,<br/>402 HIGHWAY 80 EAST<br/>BLOOMINGDALE GA 31302<br/>Phone: 912-236-5588<br/>Fax: 912-234-3675</b> | <b>Clark Equipment Company<br/>dba Bobcat Company<br/>PO Box 6000<br/>West Fargo, ND 58078<br/>Phone: 701-241-8719<br/>Fax: 701-280-7860<br/>Contact: Crystal Stram<br/>Crystal.stram@doosan.com</b> |

SC Contract # 5000013444

| Description                                       | Part No      | Qty      | Price Ea.          | Total              |
|---|--------------|----------|--------------------|--------------------|
| <b>T770 Bobcat Compact Track Loader<br/>(iT4)</b> | <b>M0185</b> | <b>1</b> | <b>\$45,350.58</b> | <b>\$45,350.58</b> |

92 HP Turbo Interim Tier 4 Diesel Engine  
Air Intake Heater - Automatically Activated  
Auxiliary Hydraulics: Variable Flow  
Backup Alarm  
Bob-Tach  
Bobcat Interlock Control System (BICS)  
Controls: Bobcat Standard  
Engine/Hydraulic Systems Shutdown  
Horn  
Instrumentation: Engine Temp & Fuel Gauges, Hourmeter,  
RPM and Warning Lights

Lift Arm Support  
Lift Path: Vertical  
Lights, Front & Rear  
Operator Cab

- Includes: Adjustable Suspension Seat, Top & Rear Windows, Seat Bar, Seat Belt
- Roll Over Protective Structure (ROPS) meets SAE-J1040 & ISO 3471
- Falling Object Protective Structure (FOPS) meets SAE-J1043 & ISO 3449, Level I; (Level II is available through Bobcat Parts)

Parking Brake: Spring Applied, Pressure Released (SAPR)  
Tracks: Rubber, 17.7" wide  
Warranty: 12 Months, Unlimited Hours

|   |   |          |                   |                   |
|---|---|----------|-------------------|-------------------|
| <b>A91 Option Package</b>   | <b>M0185-P01-A91</b>  | <b>1</b> | <b>\$6,335.34</b> | <b>\$6,335.34</b> |
| Cab Enclosure with Heat and AC<br>High Flow Hydraulics<br>Sound Reduction<br>Hydraulic Bucket Positioning<br>Power Bob-Tach<br>Deluxe Instrument Panel<br>Keyless Start | Engine Block Heater<br>Attachment Control Kit<br>Cab Accessories Package<br>Two Speed Travel<br>3-Point Seat Belt |          |                   |                   |

|  |                      |          |                   |                   |
|--|----------------------|----------|-------------------|-------------------|
| <b>Selectable Joystick Controls (SJC)</b>  | <b>M0185-R01-C04</b> | <b>1</b> | <b>\$1,815.00</b> | <b>\$1,815.00</b> |
| <b>Forestry Applications Kit, M-Series</b> | <b>7230523</b>       | <b>1</b> | <b>\$5,456.20</b> | <b>\$5,456.20</b> |
| <b>Engine Compartment Seal Kit</b>         | <b>7190789</b>       | <b>1</b> | <b>\$705.32</b>   | <b>\$705.32</b>   |
| <b>80" C/I Heavy Duty Bucket</b>           | <b>6726344</b>       | <b>1</b> | <b>\$1,154.44</b> | <b>\$1,154.44</b> |
| <b>— Bolt-On Cutting Edge, 80"</b>         | <b>6718008</b>       | <b>1</b> | <b>\$256.00</b>   | <b>\$256.00</b>   |
| <b>Pallet Fork Frame, Heavy Duty</b>       | <b>7109332</b>       | <b>1</b> | <b>\$874.76</b>   | <b>\$874.76</b>   |
| <b>— 48" Pallet Fork Teeth</b>             | <b>6541518</b>       | <b>1</b> | <b>\$417.24</b>   | <b>\$417.24</b>   |

**Quote Total - US dollars (state sales tax will apply)** **\$62,364.88**  
*(6% Sales tax)* *3,741.89*

\*Prices off South Carolina Contract# 5000013444. Contract Period: 05-18-2013 thru 05-15-2018

\*Terms Net 30 Days. Credit cards accepted.

\*FOB: Destination within the 48 Contiguous States.

\*Delivery: 90 to 120 days from ARO

\*State Sales Taxes apply.

\*ORDERS TO BE PLACED WITH: Clark Equipment Company dba Bobcat Co, Govt Sales, PO Box 6000, West Fargo, ND 58078. Vendor #7000049765

Prices & Specifications are subject to change. Please call before placing an order. Applies to factory ordered units only.



**COUNTY COUNCIL OF BEAUFORT COUNTY  
PURCHASING DEPARTMENT**

102 Industrial Village Road, Bldg 3—Post Office Drawer 1228  
Beaufort, South Carolina 29901-1228

**TO:** Councilman Gerald Dawson, Chairman, Public Facilities Committee  
**FROM:** Dave Thomas, CPPO, Purchasing Director *dt*  
**SUBJ:** **Additional Three (3) Month Extension of Janitorial Services with Carolina Cleaning Inc.**  
**DATE:** January 21, 2014

**BACKGROUND:** The Purchasing Department received a request from the Facilities Management Director to extend janitorial services with Carolina Cleaning for an additional three months. On November 18, 2013, the original request to extend janitorial services with Carolina Cleaning was approved for the term of three months, through January 31, 2014. The original three (3) month extension and this additional three (3) month extension are necessary in order to complete the preparation of the Request for Proposal (RFP) for janitorial services for the County. The RFP preparation progress has taken longer than expected due to additional buildings, specifications, and requirements being considered. The current timeline includes issuing the RFP by February and the award process being completed no later than May 1, 2014. The new month to month contract extension will end April 30, 2014.

**VENDOR INFORMATION:**

**COST**

Carolina Cleaning Inc., Hilton Head Island, SC \$126,805

**FUNDING:**

|   |           |
|---|-----------|
| General Fund, Facilities Management                             | \$108,798 |
| Enterprise Funds, Hilton Head Island and Lady's Island Airports | \$ 18,008 |

**PRIOR YEAR COST:** November 1, 2012-October 31, 2013 \$539,794

**FOR ACTION:** Public Facilities Committee meeting occurring January 21, 2014.

**RECOMMENDATION:** The Purchasing Department recommends that the Public Facilities Committee approve and recommend to County Council an additional three (3) month extension of services from the aforementioned vendor with a total cost of \$126,805.

**CC:** Gary Kubic, County Administrator  
Bryan Hill, Deputy Administrator *BH*  
Alicia Holland, Chief Financial Officer *AH*  
Mark Roseneau, Facilities Management Director *MR*