Composting Feasibility Study for the Wyndham Virginia Crossings Hotel & Conference Center


Conducted by The Vannet Group, LLC.

Fall 2008
Composting and Food Waste Recycling Guide for The Wyndham Virginia Crossings Hotel and Conference Center

Table Of Contents

I. INTRODUCTION................................................................................................................................... 2

II. PURPOSE AND PROCESS OF COMPOSTING FOOD WASTE............................................................... 3

III. FOOD WASTE COMPOST PROGRAM DEVELOPMENT ....................................................................... 4

IV. WHY IMPLEMENT A COMPOST OPERATION?.......................................................................................... 4

V. COMPOSTABLE FOOD WASTE STUDY ................................................................................................. 4
   A. GOALS OF THE STUDY.......................................................................................................................... 5
   B. TYPES OF WASTE GENERATED.......................................................................................................... 5
   C. DATA COLLECTION PROCEDURES..................................................................................................... 6
   D. STUDY FINDINGS AND MONETARY IMPACTS.................................................................................... 7

VI. IMPLEMENTING AN EFFICIENT COMPOST AND FOOD WASTE RECYCLING PROGRAM AT THE WYNDHAM VIRGINIA CROSSINGS ..................................................................................... 10
   A. CORPORATE SUPPORT AND EMPLOYEE PARTICIPATION............................................................... 10
   B. EMPLOYEE COOPERATION.................................................................................................................. 10
   C. GENERAL PUBLIC NOTICE................................................................................................................. 10
   D. EQUIPMENT NEEDS: SITE MATERIALS COLLECTION TECHNIQUES............................................ 11
   E. PROGRAM BUDGET .............................................................................................................................. 12
   F. COMMUNITY RELATIONS.................................................................................................................... 13

VII CONCLUSION ...................................................................................................................................... 14

Appendices

Appendix A: Weight Spreadsheets from Study .......................................................................................... 15
Appendix B: State Regulations .................................................................................................................... 18
Appendix C: List of Current Virginia Permitted Food Waste Compost Facilities ..................................... 19
Appendix D: Hotel Information .................................................................................................................. 20
Appendix E: GETTING STARTED: A CHECKLIST FOR OFF-SITE COMPOSTING ................................. 22
Appendix F: GETTING STARTED: A CHECKLIST FOR ON-SITE COMPOSTING .................................. 24
Appendix G: Compost Uses: and Potential Markets .................................................................................. 27
I. Introduction

While waste reduction and recycling will lessen disposal costs, the largest economic benefits come from resource efficiency. Smart purchasing and effective use of supplies will save businesses the most money of all waste management practices. Coupling the concept of resource efficiency with “green” practices that recover and recycle usable goods makes a winning combination for your business and your community. Going green can almost always mean more “green” for your budget.

Through funding provided by the Virginia Department of Environmental Quality (DEQ), the Vannet Group, LLC conducted a field site food waste study at the Wyndham Virginia Crossings Hotel and Conference Center. (see Appendix D for specific hotel information and amenities) This guide is the resultant product which focuses on the food waste generated at the site and the methods available for recycling through the implementation of a food waste compost program. The information is provided in a format which will provide the facility management with the data and tools necessary to make an informed decision in selecting food waste recycling options; specifically compost. As you read this guide, keep in mind that prevention and recycling of waste can be translated into profit for your business. The information contained herein can help you get started on the way to a better bottom line through reduced and recycled waste.
II. Purpose and Process of Composting Food Waste

What is Composting?
Composting is an environmentally friendly and beneficial means by which to recycle organic materials. Composting is the aerobic biological controlled decomposition of organic materials. The decomposition of these materials produces a soil-like product that is nutrient rich and can then be used as a natural fertilizer and soil amendment. By implementing a composting program, the organic waste volume to landfills and incinerators can be reduced while at the same time offering economic advantages.

It should be noted that there is no true national production data available for food waste generated. Food waste from residential and commercial sources were estimated by the United States Environmental Protection Agency (EPA) using data from sampling studies in various parts of the country in combination with demographic data on population, grocery store sales, restaurant sales, numbers of employees, and numbers of prisoners, students, and patients in institutions. Generation of food scraps was estimated to be 31.7 million tons in 2007 (12.5 percent of total generation).¹

Furthermore, it is estimated that Virginians throw away more than 3 million tons of food scraps each year.² This is approximately 16 percent of all disposed materials going into landfills from businesses, residents, and institutions such as schools and prisons. Although going “green” programs have been implemented in many cities, industries and counties within the Commonwealth, the management of food waste provides additional opportunities to help enhance waste diversion efforts as well as provide greater uses for this almost unavoidable resource. All waste should be prioritized in order to minimize its generation and promote reuse before disposal. This is shown in the flow diagram below:

An integrated food waste management recycling program is essential to reduce waste and preserve landfill capacity. Continued reliance on landfills will not solve the overflow of filling landfills and environmental pollutants. Alternative disposal methods should be investigated, including source reduction, recycling, reuse, and materials recovery with a view toward maximizing the benefits and minimizing the cost of each method of waste management.


² USEPA, Municipal Solid Waste in The United States 2007: Facts and Figures EPA 530-R-08-010, November 2008
III. Food Waste Compost Program Development
In deciding whether a food waste recycling program will work for your site, multiple factors need to be addressed. The following are generalized areas of consideration for the Wyndham Virginia Crossings location.

1. Identify the goals of the composting program
2. Identify the scope of the project as to what sections, if not all, of your foodservice operations and engineering services will be included in the program
3. Identify the potential compost uses and possible markets to help in establishing a compostable waste hauling system with local area established recycling and composting programs.
4. Initiate public and employee education programs
5. Inventory materials for composting
6. Develop site materials collection techniques and compost facilities
7. State of Virginia regulations, approvals and licenses for on site composting
8. Transportation options for transport to an off-site compost facility
9. Budget impacts, both short term and long term to include initial investment
10. Publicity opportunities for promoting a greener hotel environment

IV. Why Implement a Compost Operation?
- Reduces solid waste disposal fees
- Eliminates wasting large quantities of recyclable raw ingredients
- Educates consumers on the benefits of food waste composting
- Markets your establishment as environmentally conscious
- Markets your establishment as one that assists local farmers and the community
- Reduces the need for more landfill space

V. Compostable Food Waste Study

Fruits, vegetables, dairy products, grains, bread, unbleached paper napkins, coffee filters, eggshells, meats and newspapers can be composted. If it can be eaten or grown in a field
or garden, it can be composted. Items that cannot be composted include plastics, grease, glass, and metals -- including plastic utensils, condiment packages, plastic wrap, plastic bags, foil, silverware, drinking straws, bottles, polystyrene or chemicals. Items such as red meat, bones and small amounts of paper are acceptable, but they take longer to decompose. Add red meat and bones to only a well-controlled compost pile to avoid attracting vermin, pests and insects to partially decomposed meat scraps. Not only is food composting a better use of organic resources than landfilling, it can also decrease refuse collection costs over the long term. See Appendix G for more information on the uses and markets for compost.

### a. Goals of the Study

The goals for this project were based on the facilities food waste management needs. As this new progressive program unfolds in practicality, the objectives associated with the goal may need further evaluation and adjustment; however, the primary goal should remain unchanged as **SAVE MONEY WHILE SAVING THE ENVIRONMENT**. The main objectives for this study were:

1. Identify and manage the amount of compostable food waste being generated
2. Identify disposal (hauling) costs and other associated waste management costs as they relate to waste disposal
3. Report on program specific considerations for facility management in deciding on the establishment of a compost program
4. Provide this guide for use as a decision tree and resource for the Wyndham Virginia Crossing managers and owners.

**With the production of a compost product, there is the potential of additional revenues being generated with the proper compost marketing program in place. However, long term on-site composting may not be feasible in this case, unless there is cooperation with an outside partnership, such as the adjoining golf course, for example. The participation with an existing off-site compost collection facility appears to be the simplest and most cost efficient means for effectively handling the compostable materials generated at this location.**

### b. Types of Waste Generated

The scope of this project was focused on compostable food wastes. Of the types of waste noted during the study, meat, paper, compost waste, and landfill, or non-
Composting and Food Waste Recycling Guide for
The Wyndham Virginia Crossings Hotel and Conference Center

Compostable waste, were separated and weighed over a three day period. Keeping the non-compostable materials (trash) out of the compostable materials was critical in establishing a baseline weight of waste generated. It should be noted, however, that the separation of food waste from other waste is often difficult and not an exact science. The following are suggested categories for separation of waste materials should the implementation of a waste recycling program be fully initiated at this location;

1. Organic food wastes (to include vegetables, fruits, bread, pasta, grains, beans, plate scrapings, small quantities of cooked meats)
2. Compostable paper
3. Meats
4. Noncompostable waste (to include uncooked meats, fryer fats, oils, plastics, metals, and other general trash)
5. Recyclable plastics, cans, and glass
6. Cardboard

c. Data Collection Procedures

The Wyndham Virginia Crossings Hotel and Conference Center has one restaurant, a full service conference center offering over 23,000 square feet of meeting and dining space, room service for over 230 rooms, and a bar lounge. The dates for data collection were selected based on the volume of business generated during a representative period of foodservice operations. It was important to identify the amounts of waste generated from banquets, weekly business meetings and training sessions, catered parties, room service, and routine restaurant operations.

Almost all food waste makes its way back through the kitchen area for disposal or reuse, depending on the type, age, and amount of food. If the food is to be disposed, normal protocol would be to immediately discard into the general landfill bound garbage; minus cardboard for recycling. In order to properly capture the proper amounts of waste discarded for this study, all waste was captured, separated, and weighed prior to disposal with the exception of cardboard.

The locations for waste collection often reflected the location of the event at the facility. For example, the ballroom waste was collected in the rear preparation area and transferred to the dumpster, while potentially reusable foods were transported back to the main kitchen for proper use and potential discarding. Meal preparation wastes involved numerous locations of waste receptacles located at various places within the kitchen. Data (weighs) collections were conducted during the entire kitchen operational workday at locations throughout the complex.
d. Study Findings and Monetary Impacts
Over the course of three days, the Wyndham Virginia Crossings hosted numerous foodservice events. The dates for data collection were selected to capture the various clientele noted during the average waste generated day. These events were:

- 7 restaurant buffet serving periods
- 8 dinner parties and banquets
- 5 business meetings with break service
- 25 room service deliveries
- Over 1000 guests served
The following table exhibits the amount of waste, by type, as weighed during this three day period. A more detailed breakdown of these numbers can be found, by date, time, and event in Appendix A.

<table>
<thead>
<tr>
<th>Windham Virginia Crossings Resort and Conference Center</th>
<th>Food Waste</th>
<th>Meat</th>
<th>Paper</th>
<th>Landfill</th>
<th>Daily Total Waste Generated</th>
<th>Persons Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>(in lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-Dec-08</td>
<td>325.3</td>
<td>57.8</td>
<td>17.4</td>
<td>380.4</td>
<td>780.9</td>
<td>171</td>
</tr>
<tr>
<td>5-Dec-08</td>
<td>397.9</td>
<td>31.8</td>
<td>10.2</td>
<td>226.1</td>
<td>666</td>
<td>473</td>
</tr>
<tr>
<td>6-Dec-08</td>
<td>623.9</td>
<td>44.1</td>
<td>13.6</td>
<td>305.1</td>
<td>986.7</td>
<td>685</td>
</tr>
<tr>
<td>Total Waste by Category</td>
<td>1,347.1</td>
<td>133.7</td>
<td>41.2</td>
<td>911.6</td>
<td>2,433.6</td>
<td></td>
</tr>
<tr>
<td>Percent of total Waste Generated</td>
<td>55.3%</td>
<td>5.5%</td>
<td>1.7%</td>
<td>37.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Per Day</td>
<td>449.0</td>
<td>44.6</td>
<td>13.7</td>
<td>303.9</td>
<td>811.2</td>
<td>443</td>
</tr>
<tr>
<td>Annual Waste Generated</td>
<td>163,897.2</td>
<td>16,266.8</td>
<td>5,012.7</td>
<td>11,0911.3</td>
<td>296,088.0</td>
<td>161,695</td>
</tr>
<tr>
<td>Annual Waste in Tons</td>
<td>81.9</td>
<td>8.1</td>
<td>2.5</td>
<td>55.5</td>
<td>148.0</td>
<td></td>
</tr>
<tr>
<td>Food Waste Generated Per Person Served</td>
<td>1.01lbs</td>
<td>0.10lbs</td>
<td>0.03lbs</td>
<td>0.69</td>
<td>1.83lbs</td>
<td></td>
</tr>
</tbody>
</table>

It should be noted that almost all customers, aside from those attending 2 events, were offered their menu items from available self-serve buffets. The study yielded the following percentages of the total waste (2,433.6lbs) as follows:

- Total waste averaged 811.2lbs per day
- Kitchen Prep Waste accounted for 16.8% of the Total Waste generated and 31.4% of all compostable food waste
- Of the meals served, the waste generated from buffet lines, hot plates, and discarded leftovers were 37.4% of total waste and 68.6% of all compostable food waste.
Composting and Food Waste Recycling Guide for
The Wyndham Virginia Crossings Hotel and Conference Center

- Meat waste accounted for 5.5% of the all weighed waste generated
- Landfill, non-compostable waste accounted for 37.5% of the total waste generated.
- Approximately 81.9 tons of food waste are generated annually
- The study found waste generated at an average of 1.83lbs per person, of which 1.01lbs per person was compostable food waste.

Monetary savings can be found in a variety of activities. However, the first recommendation would involve the reducing of the amount of waste generated. This type of approach, if not carefully managed, could prove detrimental to the quality of service provided by this location. Unlike most restaurants, the level of quality and service provided by this locations banqueting operation makes the available quantity as important as its unique culinary presentation. However, a 10% reduction in the waste stream should not affect the operation of the foodservice department or harm the quality or quantity available to their clientele. This could result in a reduction of 136 lbs per day or 2.5 tons of compostable food waste per year.

The following are merely suggestions towards reducing the amount of produced food waste while also increasing profit margins:

1. Reduce the presentation amount of prepared foods, not the selections on the buffet bar.
2. Minimize the amount of recurring discarded items available on the buffet bar; fruits, desserts, fruit salads, and some pasta and potato dish specialties were among recurring discarded items
3. Reduce the size of self serve plates and utensils. Patrons may be less inclined to go up for the third or fourth buffet plate
4. Increase glass sizes of most beverages, such as water, tea, and sodas. This fills the patron quicker.
5. Place breads on the tables with butter. This also fills the patron who will be more inclined to eat breads since they are more accessible than the buffet line.

According to preliminary figures, the average cost for landfill bound waste from the Wyndham facility generates approximately $1500 per month. The amount of compostable waste generated from the facility is more than 55% of all waste generated per month. **By cutting the size of the current trash compactor in half, coupled with the reduced amount to be charged for landfill fees, the Wyndham could reduce landfill bound waste charges by $850 per month, or $10,200.00 per annum.**
VI. Implementing an Efficient Compost and Food Waste Recycling Program at the Wyndham Virginia Crossings

a. **Corporate Support and Employee Participation.** The educational part of the composting program is crucial to the entire program's success. Being able to let your patrons and staff know that composting is reducing waste and pollution, has numerous end uses and is environmentally friendly is important and in this day of the “Going Green” movement should also create a positive business perception and have positive economic results as well.

b. **Employee Cooperation.** It was noted during the study, that employees, even those with language barriers, were becoming more conscious as to what waste went into the correct container. It would appear that if management were to provide incentives for reducing the amount of waste, then employee awareness and cooperation could increase beyond initial expectations. An incentive plan, contest, or simply a “pat on the back” could encourage continued program implementation and encourage employees to become more engaged.

c. **General Public Notice:** The general public that patronizes your establishment must be made aware, in a concise informational posting (signage), that a composting program is being utilized. The staff that is responsible for compostable materials collection must have appropriate training to ensure a successful program. This training should include appropriate handling and separation of waste materials and timely and routine collection schedule.
d. **Equipment Needs: Site Materials Collection Techniques.** The volume and weight of the organic compostable materials, compostable paper and other recyclable materials and non-compostable materials will determine what collection techniques will be best for your application.

Over 55% of your facilities waste is made up of compostable food waste. The first step in this process is to try to reduce the amounts of wastes generated. To aid in reducing compostable volumes, the staff must be trained to serve controlled portions with specific utensils. Much of the waste can be reduced through thoughtful purchasing techniques, handling, preparation, storage and education of the staff and patrons.

All foodwastes should still be processed through the kitchen. Properly labeled and colored containers should be placed in convenient locations with concise directions posted for proper disposal of waste materials. These containers will have to be monitored and refreshed routinely. They must also be of a size that can easily be handled by the staff for transfer to the compost containers for pick-up by the hauler. It is of great importance that sanitary practices be employed at all times when handling waste materials.

The containment bins for storing the compostable materials must be in a convenient location for the staff but also located away from high traffic areas. The compostable waste container storage area must also meet State of Virginia requirements.

The following waste collection containers are recommended for the Wyndham facility:

**General Trash:** Round Gray Large 44 gallon trash cans

**FoodWaste:** Round Blue 44 gallon Trash Cans

**Meat:** Round Red 30 gallon or smaller due to amount generated during study. This may not be necessary if the compost facility is capable of handling the small amount of meat generated as waste.
Composting and Food Waste Recycling Guide for
The Wyndham Virginia Crossings Hotel and Conference Center

Paper and Glass: A Duel Bin is recommended, for space and the need for less mobility.

e. Program Budget. The start-up costs of a new facility wide recycling program for food waste varies with location and demand for separation of the wastes. These initial costs may include employee training, signs, publicity, purchasing new waste collection containers, preparing and modifying the site where equipment may be located, hauling fees and untracked costs such as man-hours used for separation of the wastes. The following table estimates the proposed start-up costs associated with an off-site food waste compost operation for the Wyndham facility.

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste collection containers</td>
<td>Less than $1200</td>
</tr>
<tr>
<td>Site Preparation and modifications</td>
<td>Less than $1000</td>
</tr>
<tr>
<td>Education/Training Session</td>
<td>$500-$1000 (contractor provided session)</td>
</tr>
<tr>
<td>Man-Hours for Training Averaged</td>
<td>$15 per hr x 2 hrs x 40 employees=$1200</td>
</tr>
<tr>
<td>Hauling/Transportation for Compost</td>
<td>Contact your local hauler for current pricing</td>
</tr>
<tr>
<td>Signage</td>
<td>Less than $200</td>
</tr>
</tbody>
</table>

In calculating future waste generating estimates, the following formula may be applied:

For Total Waste
\[
\text{# of Persons Served} \times 1.83\text{lbs per person} = \text{The Total Amount of Waste}
\]

For Compostable Food Waste:
\[
\text{# of Persons Served} \times 1.01\text{lbs Generated per person} = \text{Lbs of Compostable Waste Generated}
\]
Composting and Food Waste Recycling Guide for
The Wyndham Virginia Crossings Hotel and Conference Center

f. Community Relations

Announce the Program. Sell the program to the community. If customers and the community understand that your business is initiating a selfless program to help reduce waste and improve the environment, they are likely to respond positively.

Donate Finished Compost. As you proceed with the operation of an on-site program, one way to “show” the community the environmental benefits of a composting program and create a media event is to donate a truckload of finished compost for use on community grounds or gardens. Some businesses also sell the finished product back to the customer.

Form a Community Advisory Group. You may want to take advantage of the surrounding homes and townhomes within the mile radius of your facility. Include the residents and local businesses in a community group made up of program partners (hauler, composter, participating retail businesses, local environmental organizations, etc.) This group can reach out to the community and also respond to any complaints that may arise from this or any other facility issues.³

VII Conclusion

Communities across the Commonwealth are facing mounting solid waste disposal problems. While existing landfills across the state are quickly being filled to capacity, finding, opening, and operating new ones is becoming increasingly more difficult and expensive. As landfill space decreases, the costs for landfilling your garbage will continue to grow, ultimately being passed on to businesses and residents in the form of higher disposal fees. Now, more than ever, reducing waste and recycling are smart tactics to incorporate into everyone’s business policies.

To summarize, the following areas should be considered prior to beginning a compost program:

**ECONOMICS.** After completing a cost assessment, do the economics make sense? This is the critical test. Be sure to amortize any capital investment, and look at long-term costs and savings.

**LOGISTICS.** Is it logistically feasible? This includes securing a hauler to take organics to the composting site and a nearby composter that accepts food/soiled paper. If you are planning to compost on-site, ensure that sufficient land, labor and capital are available. Also consider the floor plan inside your business, including space requirements for both inside collection and outside storage. And determine management and employee support for a composting program.

**ENVIRONMENTAL IMPACT.** Will composting make a big dent in the amount of waste that goes to disposal? After assessing your waste stream and the amount that is potentially compostable, consider the environmental returns. Diversion to composting can contribute to local/state recycling or diversion goals. The finished product can be used on company grounds or for the benefit of the community. Finished compost can be returned to customers through retail sale for home gardens. The program provides an opportunity to educate customers and employees about the benefits of recycling organics through composting.

**COMMUNITY ACCEPTANCE.** Are the public and the regulatory community supportive of a composting program? A composter with a good reputation in the community and among regulators will go a long way in making a composting program work. The hauler must be committed as well. Finally, this initiative must be a partnership, with the needs of your customers and the community at the center.

The Wyndham Virginia Crossings Hotel and Conference Center can do a lot to minimize or reduce these potential cost increases by incorporating simple recycling and waste reduction programs and procedures that will eliminate much of the waste otherwise thrown away. Not only will this help save your business money, but will extend the life of landfills and save valuable energy and natural resources. Consumers are ever-increasingly aware of, and more willing to embrace solutions to the many environmental challenges we face today. It makes good economic and environmental sense for our restaurants to do so as well.
Appendix A: Weight Spreadsheets from Study

<table>
<thead>
<tr>
<th>Times</th>
<th>Wyndham-Virginia Crossing</th>
<th>Compostable Food Waste</th>
<th>Meat</th>
<th>Paper</th>
<th>Landfill</th>
<th>Total Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>0530-0700</td>
<td>Kitchen Prep Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0700-1000</td>
<td>Breakfast Buffet @ the Glen</td>
<td>35.9</td>
<td>5</td>
<td>5.2</td>
<td>10.2</td>
<td>25</td>
</tr>
<tr>
<td>1000-1130</td>
<td>Kitchen Prep Area</td>
<td>68.6</td>
<td>5.1</td>
<td></td>
<td>24.4</td>
<td></td>
</tr>
<tr>
<td>1130-1400</td>
<td>Lunch Buffet @ the Glen</td>
<td>50.2</td>
<td></td>
<td>7.2</td>
<td>46.7</td>
<td>40</td>
</tr>
<tr>
<td>1000-1430</td>
<td>Breakroom</td>
<td>27.5</td>
<td></td>
<td></td>
<td></td>
<td>22.5</td>
</tr>
<tr>
<td>1400-1730</td>
<td>Kitchen Prep Area</td>
<td>68.2</td>
<td>2.7</td>
<td></td>
<td></td>
<td>59.2</td>
</tr>
<tr>
<td>1730-2200</td>
<td>Kitchen Prep Area</td>
<td>24.8</td>
<td>22.6</td>
<td></td>
<td></td>
<td>172.8</td>
</tr>
<tr>
<td>1800-2100</td>
<td>Dinner -Party</td>
<td>18.7</td>
<td>4.2</td>
<td></td>
<td></td>
<td>19.4</td>
</tr>
<tr>
<td>1600-1900</td>
<td>Dinner- Tavern</td>
<td>2</td>
<td></td>
<td></td>
<td>12.4</td>
<td>4</td>
</tr>
<tr>
<td>1730-2000</td>
<td>Dinner Buffet @ the Glen</td>
<td>29.4</td>
<td>18.2</td>
<td>5</td>
<td>12.8</td>
<td>42</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>325.3</td>
<td>57.8</td>
<td>17.4</td>
<td>380.4</td>
<td>171</td>
</tr>
</tbody>
</table>
## Wyndham-Virginia Crossing

<table>
<thead>
<tr>
<th>Times</th>
<th>Location</th>
<th>Compostable Food Waste</th>
<th>Meat</th>
<th>Paper</th>
<th>Landfill</th>
<th>Total Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>0530-0700</td>
<td>Kitchen Prep Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0700-1000</td>
<td>Breakfast Buffet @ the Glen</td>
<td>31.3</td>
<td></td>
<td>3</td>
<td>6.1</td>
<td>35</td>
</tr>
<tr>
<td>1000-1130</td>
<td>Kitchen Prep Area</td>
<td>41.2</td>
<td>4.8</td>
<td></td>
<td>31.8</td>
<td></td>
</tr>
<tr>
<td>1130-1400</td>
<td>Lunch Buffet @ the Glen</td>
<td>31.5</td>
<td></td>
<td></td>
<td>16.2</td>
<td>24</td>
</tr>
<tr>
<td>1200-1400</td>
<td>Lunch Banquet</td>
<td>18.9</td>
<td></td>
<td></td>
<td>17.8</td>
<td>142</td>
</tr>
<tr>
<td>1000-1430</td>
<td>Breakroom</td>
<td>16.3</td>
<td></td>
<td></td>
<td>7.8</td>
<td></td>
</tr>
<tr>
<td>1400-1730</td>
<td>Kitchen Prep Area</td>
<td>21.7</td>
<td>7.2</td>
<td></td>
<td>3 cans unaccounted for waste</td>
<td></td>
</tr>
<tr>
<td>1730-2200</td>
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<td>1600-1000</td>
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<td>1800-2130</td>
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Appendix B: State Regulations

State of Virginia Regulations for Composting

The Virginia State Waste Management Board promulgates and enforces the regulations that it deems necessary to protect the public health, public safety and the environment and natural resources. State of Virginia law prohibits open dumping and makes it unlawful for any person to create, contribute to, or operate an open dump. It is also unlawful for any person “to install, establish, construct, modify, operate, or abandon any solid waste facility unless they hold a valid permit from the Virginia Department of Environmental Quality (DEQ).

The following are links for State Guidance in Compost Facility requirements, regulations, and guidance:

State of Virginia Laws and Regulations
http://www.deq.state.va.us/waste/wasteregs.html
Virginia Code § 10.1-1408.1

Virginia Green Program
Virginia Green is the statewide program that works to reduce the environmental impacts of Virginia’s Tourism Industry. It is run as a partnership between DEQ, the Virginia Tourism Corporation and the Virginia Hospitality and Tourism Association.
http://www.deq.virginia.gov/p2/virginiagreen/homepage.html

Virginia Green Lodging
“Virginia Green Lodging is an initiative to promote pollution prevention practices in the hospitality and lodging sector. http://www.deq.virginia.gov/p2/lodging/about.html

United States Environmental Protection Agency

USEPA’s Compost Website: Includes publications, links, and a compost calculator
http://www.epa.gov/osw/conserve/rrr/composting/index.htm
Appendix C: List of Current Virginia Permitted Food Waste Compost Facilities

<table>
<thead>
<tr>
<th>Permit No.</th>
<th>Facilities Name</th>
<th>Location City</th>
<th>State</th>
<th>Solid Permit Status</th>
<th>Facility Telephone</th>
<th>Contact Lastname</th>
<th>Contact Firstname</th>
<th>Contact Phone</th>
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<tbody>
<tr>
<td>PBR175</td>
<td>DOC Powhatan Correctional Center</td>
<td>State Farm</td>
<td>VA</td>
<td>Permitted</td>
<td>NULL</td>
<td>Jeter</td>
<td>Malcolm</td>
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<td>PBR181</td>
<td>Watkins Nurseries Incorporated</td>
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<td>VA</td>
<td>Permitted</td>
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<td>Watkins</td>
<td>Robert</td>
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<td>VA</td>
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<td>McClellan</td>
<td>Phillip</td>
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<tr>
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<td>Chester</td>
<td>VA</td>
<td>Permitted</td>
<td>8045302498</td>
<td>Murphy</td>
<td>Willis</td>
<td>8044161142</td>
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<tr>
<td>SWP601</td>
<td>Royal Oak Farm Solid Waste Composting Facility</td>
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<td>Newman</td>
<td>Kenneth</td>
<td>5402973299</td>
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</table>

Average Fees Charged at the time of this report were $25 per ton
Appendix D: Hotel Information

Among Richmond’s finest hotels and conference centers, Wyndham Virginia Crossings Hotel and Conference Center is one of the premier full-service AAA 4-Diamond hotels in the region. Exclusively ranked in the top 1% of Expedia Insiders Select list in 2008, the hotel is conveniently located just north of Richmond and just minutes from major highways and area attractions.

LOCATION

- 183 guest rooms with five luxury suites
- 23,000 square feet of dedicated conference space
- Complete banquet facilities
- Full service restaurant
- Sports lounge and grill with billiards
- Valet/dry cleaning service
- Conveniently located near local attractions

FEATURES

- Extensive fitness center
- Outdoor swimming pool and Jacuzzi
- Squash court, sand volleyball and basketball
- The Crossings Golf Club, an 18-hole Joe Lee designed championship course adjacent to hotel
- 20 lushly landscaped acres
- Complimentary parking

ATTRACTIONS

- The Crossings Golf Club, championship course
- King’s Dominion Park
- Science Museum of Virginia
- Virginia Museum of Fine Arts
- Challenge Discovery
- Richmond International Raceway
- Lewis Ginter Botanical Gardens
- Indoor Go Kart Racing
- Civil War Attractions

MEETING SPACE HIGHLIGHTS

- 23,000 square feet of dedicated conference space, including 20 meeting rooms and two executive board rooms
- Natural lighting in 18 meeting rooms
- Ballroom is 4,700 square feet and accommodates up to 400 people
- Spacious prefunction areas
- Professional conference consultants, audiovisual technicians
- Multimedia, teleconferencing, T-1 Internet, and state-of-the-art telecommunications throughout
- IACC member

ROOM DETAILS

- 183 guest rooms with five luxury suites
- Complimentary wireless Internet access in all guest rooms
- Cable TV with in-room movies and video check out
- IPOD docking alarm clock

DINING AND ENTERTAINMENT

- The Glen Restaurant- full service restaurant featuring delicious seasonal fare and elegant décor
- In Room Dining
- Coffeemaker with Wolfgang Puck™ gourmet coffee
- Bath & Body Works® amenities with hair dryer
- Secure, computerized card-key lock
- USA Today newspaper
- ADA accessible rooms

The Yellow Tavern and Grill-offers casual dining, billiards and a relaxing atmosphere
- Outside terrace and multiple private dining rooms

GETTING THERE

From Interstate 95 South:
Take 95 South. Exit 84B onto I-295, toward Charlottesville. Merge onto US-1/N/Brook Road via Exit 43C toward Ashland. Turn left onto Virginia Center Parkway. Hotel is one mile down on the left.

From Richmond International Airport:
Take I-295 West. At the I-295/I-95 split stay on I-295. Exit 43C onto US Route 1 North. Turn right onto Virginia Center Parkway. Hotel is one mile down on the left.
Composting and Food Waste Recycling Guide for
The Wyndham Virginia Crossings Hotel and Conference Center

Jefferson Building
Second Floor

Jefferson Building
Third Floor

Madison Building
Second Floor

Madison Building
Third Floor

Wyndham Virginia Crossings Hotel & Conference Center

1000 Virginia Center Parkway, Glen Allen, Virginia 23059 Phone: 804-727-1400 Fax: 804-262-2332
800-WYNDHAM / wyndham.com Group Sales: 888-WYNDHAM

17
Appendix E: **GETTING STARTED: A CHECKLIST FOR OFF-SITE COMPOSTING**

**Step One: Locate a composting facility**

□ Contact your local or state solid waste agency (state composting association or the Composting Council) to get a list of composters in your area. They may be able to tell you which ones will accept or are permitted for food.

□ Is the composting facility permitted to accept food waste?

□ Is the composting facility permitted to accept food waste and meats?

□ Is the facility in compliance with all state and local regulations?

□ How does the tip fee compare to that for disposal? Payment arrangements?

□ You and the composter have agreed on all materials acceptable for composting, as well as those that cannot be included.

□ The compost facility can accept the amount of material you expect to deliver each week.

□ Will the composter accept organics in plastic bags? Dumpsters? Other containers?

**Step Two: Arrange for organics collection**

□ Can any hauler deliver to the composting site?

□ Can any kind of truck get into the site (for example, one pulling a compactor) or are there limitations on size and frequency of trucks entering the facility?

□ Does the composter provide any hauling service?

□ Can organics collection be arranged under your current contract? At what cost?

□ Will organics be collected as part of a larger composting program (that is, part of an organics collection route)?

□ Can frequency of waste collected for disposal be cut back?

□ Is hauler willing to work with you on size and arrangement of outside storage containers?

□ Is hauler willing to work with you on changes in collection frequencies?

□ Is co-collection an option (that is, two or more materials collected at the same time on the same truck) to reduce collection frequencies?

**Step Three: Determine inside collection procedures**

□ Who is responsible for monitoring the program inside?

□ Are any changes in size, number, or location of inside containers needed for separating compostables?

□ Who will take the compostables to the outside containers?
Composting and Food Waste Recycling Guide for The Wyndham Virginia Crossings Hotel and Conference Center

☐ Is the procedure for separating recyclables and compostables posted in a central employee area?

☐ All inside containers are either labeled, color-coded, or in some way designated for recycling, composting, trash, etc.

☐ Are there any changes in container liners that need to be communicated to employees?

Step Four: Educate

☐ What are employee responsibilities?

☐ Who in the organization is responsible to educate employees?

☐ How will new employees receive training?

Step Five: Monitor the program

☐ Can inside separation be made more efficient by either location or size of containers?

☐ Is the outside compostables bin overflowing before it is collected or can compostables be collected less frequently?

☐ Can frequency of waste disposal be reduced?

☐ Is recycling still being maintained?

☐ Are there a lot of "mistakes" in the separated organics? How can this be reduced?

☐ Is employee turnover high, requiring continued reeducation?

☐ Get employee input on improving the program.

☐ How are new employees trained?

Step Six: Get out your story

☐ Notify patrons visiting your facility that you are a green facility.

☐ Pitch or write an article for local newspapers, environmental publications, trade association newsletters, etc.

☐ Have an on-site promotion.

☐ Have a "composting day" where employees and the community are educated about composting (this may include a tour of the composting facility).

☐ Solicit local news coverage (radio and TV) or issue a press release.
Appendix F: GETTING STARTED: A CHECKLIST FOR ON-SITE COMPOSTING

Step One: Determine composting requirements

☐ How much capital is available to initiate a site?
☐ Is there sufficient labor to manage the site?
☐ Is there any equipment on-site that could be used for composting?
☐ How much land area is available for composting?
☐ How much food/food and soiled papers do you expect to compost each day? Of bulking agent, like wood chips? Of leaves and yard trimmings?
☐ What will be composted with the food service organics? Wood chips? Leaves and yard trimmings? Animal bedding? Manure?
☐ What other materials are on-site that could be composted with the food service organics (yard trimmings, straw, manure, etc.)
☐ What other sources of organic waste outside the institution (grocery and other produce, food processing, biosolids, yard trimmings, manure, straw, etc.) could be composted at your site?
☐ What are the regulatory or permitting requirements to compost and store this amount of organics?
☐ Are there state or local requirements for the finished compost product?
☐ Is there a market for finished compost on site?
☐ Are there markets outside of the business for compost?

B. Select a composting system/method

☐ Types of on-site composting methods:
  - Windrow Static pile
  - Aerated static pile
  - Containerized/in-vessel systems
  - Vermi-Composting

☐ How much material do you expect to compost each day?
☐ What are the permitting requirements for the site, selected composting method, and expected feedstock?
☐ What are the state and local rules/regulations for composting on-site?
☐ What capital, physical space, labor, and equipment (front-end loader, etc.) are available for composting?
☐ How will the composting method selected fit the proposed end market?

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Composting and Food Waste Recycling Guide for
The Wyndham Virginia Crossings Hotel and Conference Center

**Step Two: Arrange for organics collection**
- Who will be responsible for separation and collection of compostables?
- Will hauling be done within the business/institution, or will hauling be contracted out?
- How might your current hauling contracts be affected by composting?
- Will any material be brought to your site from outside of the business/institution?

**Step Three: Determine inside collection procedures**
- Who is responsible for monitoring the program inside?
- Are any changes in size, number, or location of inside containers needed for separating compostables?
- Who will take the compostables to the outside containers?
- Is the procedure for separating recyclables and compostables posted in a central employee area?
- All inside containers are either labeled, color-coded, or in some way designated for recycling, composting, trash, etc.
- Are there any changes in container liners that need to be communicated to employees?

**Step Four: Educate**
- What are employee responsibilities?
- Who in the organization is responsible to educate employees?
- How will new employees receive training?

**Step Five: Monitor the program**
- Can inside separation be made more efficient by either location or size of containers?
- Is the outside compostables bin overflowing before it is collected or can compostables be collected less frequently?
- Can frequency of waste disposal be reduced?
- Is recycling still being maintained?
- Are there a lot of "mistakes" in the separated organics? How can this be reduced?
- Is employee turnover high, requiring continued reeducation?
- Get employee input on improving the program.
How are new employees trained?

**Step Six: Get out your story**

- Notify patrons visiting your facility that you are a green facility.
- Pitch or write an article for local newspapers, environmental publications, trade association newsletters, etc.
- Have an on-site promotion.
- Have a "composting day" where employees and the community are educated about composting (this may include a tour of the composting facility).
- Solicit local news coverage (radio and TV) or issue a press release.
Composting and Food Waste Recycling Guide for
The Wyndham Virginia Crossings Hotel and Conference Center

Appendix G: Compost Uses: and Potential Markets

Compost has many uses on the farm and around the home. It can be used as a soil amendment to improve soil structure, infiltration rate, water holding capacity, and tilth. It is known to increase soil microorganism populations, soil organic matter and humus. Compost can also be used as a fertilizer supplement for nitrogen, phosphorous, potassium, and trace elements leading to much fuller and healthier plant growth. Mature compost has no objectionable odor, never "burns" as fertilizers do, can be used to suppress insect pests and soilborne plant pathogens, all while acting as a fungicide.

Compost can be used to increase pasture quality in intensively managed grazing systems. Compost does not decrease palatability of a pasture as raw manure does. This can be very important to farmers who no longer produce row crops where raw manure was generally applied. Convenience is also an advantage of compost, because it is a stable product it can be stored and applied when it fits the farmers schedule and the field does not have to be taken out of production.

There are numerous uses for compost generated from organic food wastes and compostable papers. The most common uses for this type of compost is in the agricultural fields such as farms, greenhouses, nurseries, landscaping, and soil and surface reclamation activities. Producing a high-quality compost is critical to being able to successfully meet the needs of the various markets. Large scale users might include the following:

- farms (sod, timber and Christmas tree, harvested crops, pasture/grazing)
- commercial greenhouses (growers)
- nurseries
- landscape contractors
- topsoil manufactures
- golf courses, sports complexes and parks
- Virginia Department of Transportation (VDOT)
- builders/developers/land reclamation contractors
- cemeteries