



STATE OF DELAWARE  
**DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL**

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OFFICE OF THE  
SECRETARY

**Secretary's Order No. 2014-WH-0023**

**Re: Application of Peninsula Compost Company LLC to Renew Beneficial Use Determination for the Wilmington Organic Recycling Center in Wilmington, New Castle County**

**Date of Issuance: October 20, 2014**

**Effective Date: October 20, 2014**

The Secretary of the Department of Natural Resources and Environmental Control (Department) issues this Order on the application of Peninsula Compost Company, LLC (Applicant), which seeks to renew a Beneficial Use Determination (BUD) for its composting activities at the Wilmington Organic Recycling Center located at 601 and 612 Christiana Avenue, Wilmington, New Castle County (WORC or Facility).

This Order and the associated record finds that the Applicant has demonstrated an inability to maintain compliance with its BUD and placed an undue burden on the quality of life of residents of the City of Wilmington, parts of the City of New Castle, and parts of New Castle County, particularly those living in close proximity to the Facility due to frequent uncontrolled odors. As a result, the Applicant is ordered to immediately cease the acceptance of any material at the Facility and initiate steps to implement an orderly closure in compliance with the Composting Approval for Closure Activities (Closure Plan) attached to this Order.

*Delaware's Good Nature depends on you!*

## **Background**

The BUD renewal request was reviewed by the Department's Division of Waste and Hazardous Substances, Solid and Hazardous Waste Management Section (SHWMS) under Section 2.5 of the Department's *Regulations Governing Solid Waste 7 DE Admin. Code Regulation 1301*. The Department received a request for a public hearing, which was held before the Department's presiding hearing officer, who prepared the attached Hearing Officer's Report (Report). The Report recommends that the BUD not be renewed and that the Facility proceed to take orderly steps to remove all composting materials. The Report relied upon technical advice from the experts within SHWMS, who also recommended closure and prepared a recommended Closure Plan, which would immediately cease deliveries and have the on-site material be composted for removal or properly disposed of off-site as soon as possible, but no later than March 31, 2015.

## **Discussion**

The record includes numerous public comments that oppose any Department action that would have the Facility continue composting operations. The stated ground for the extensive opposition was the foul odor attributed to the Facility. This odor adversely impacted the public at locations near and far from the Facility. The level of public comments from local residents, elected officials and residents who live several miles from the Facility confirms the Department's own investigation and history with the Facility, which has shown an inability to control odors from the Facility's property. Moreover, this odor problem is not new, as the Department's records show an increasing number of complaints about odor over the past several years. The Department's own

inspections also reveal a problem with the Applicant's ability to control adverse odor from the Facility.

The Department recognizes that part of the challenge faced by any composting operation is that the incoming waste and the composting process have the potential to create odors that must be controlled. Consequently, the Department required assurances, as part of the assessment of the original Beneficial Use Determination, from the Applicant that the Facility would be designed and operated to control odors. The Applicant's plans included a building to receive the waste feedstock that would have controls to handle odors. The Applicant's operations plan set forth training and special equipment to control odors. Based upon these documents and the Department's own independent review of them, the Department approved the Facility. The Department's approval of the Facility to operate based upon documents and assurances is now the subject of review based upon actual operations over the past five years. Unfortunately, for a variety of reasons, the Facility operations have produced odors that have not been controlled as intended. The causes of odors are a combination of equipment failing or not be operated properly, ratio of feedstocks; ie food waste to yard waste or nitrogen to carbon, management of the composting process, and exceeding approved levels for the amount of material on site, among others. However, the Department need not determine the specific causes at the Facility, but only the results, which culminated in the August 25, 2014 public hearing and an outpouring of vocal complaints by residents near and far from the Facility and their elected officials. The complaints are consistent with the Department's own assessment by its experts that the odor problems are not adequately controlled.

Today's Order is entered almost five years after the Facility's operations commenced and is issued reluctantly because the Department had high hopes that the composting operation would advance recycling and reduce the disposal of otherwise recyclable products into landfills. With the implementation of Universal Single-Stream Recycling, the prohibition of landfilling yard waste, the establishment of material recovery facilities, along with numerous voluntary recycling efforts, Delaware has moved aggressively to improve its landfill diversion rates. The State welcomes recycling businesses, including composters, and expects those facilities to maintain compliance with applicable requirements designed to protect the environment and public health.

Unfortunately, after five years of operation the record is overwhelming that the Facility should not continue to operate under a new BUD, but instead should be directed to follow the Department approved Closure Plan prepared by SHWMS. The unavoidable conclusion from a review of the record is that the odor control efforts have failed. The proof of the failure has been the odors impacting quality of life in much of the Greater Wilmington area and most profoundly by those in the nearby residential neighborhoods. Furthermore, the Applicant has violated conditions of the BUD on multiple occasions.

The SHWMS' Closure Plan is adopted as the responsible means to bring the Facility to an environmentally protective and orderly closure. Upon service of this Order on the Applicant, the Facility must cease receiving any waste. All active composting phases shall be completed by January 16, 2015. The Department believes that such a schedule is reasonable as it will allow material currently at the site to adequately complete the composting and curing process before the final product is removed. A more

detailed schedule is included in the Closure Plan, but the Facility shall be free of all compost and related waste by March 31, 2015,

The immediate closure of the Facility is mitigated by the Applicant's voluntary cessation in the deliveries of new material to be composted. The Department appreciates this act while this matter was pending decision. SHWMS believes that the Closure Plan is reasonable and can be implemented on time. Moreover, the Closure Plan maintains the same controls as existed in the prior BUD for such matters as odor control and other environmental and public safety concerns. Thus, this Order approves SHWMS' Closure Plan as a reasonable path forward to complete closure and removal of all compost and related waste by March 31, 2015.

### **Conclusion**

The Department directs the following as a final order of the Department:

1. The Department has the authority to direct that the Closure Plan, as attached to this Order and titled "Composting Approval for Closure Activities", be implemented so as to result in complete closure of the composting operations within the time period established by the Closure Plan;
2. The record supports the decision to not renew the BUD, which the Department previously issued in order to allow composting operations at the Facility;
3. BUD #29/092614E shall terminate immediately;
4. The Applicant's authority to accept any further waste shall cease immediately and Applicant shall implement, and comply with, the attached Closure Plan (Composting Approval for Closure Activities);

5. The Applicant has failed to meet the terms associated with the Environmental Improvement Project (“EIP”) as agreed to in the Second Amended Notice of Conciliation Proceedings, Administrative Penalty Assessment and Secretary’s Order No. 2014-WH-0009. As such, Peninsula shall pay the balance of \$10,000.00 as an additional administrative penalty within 30 days of the this Order;
6. The Department shall publish this Order on its web site and shall provide legal public notice as required by the law or regulation.



David S. Small  
Secretary

## COMPOSTING APPROVAL FOR CLOSURE ACTIVITIES

Effective Date: October 20, 2014  
Expiration Date: March 31, 2015

Business Name: Peninsula Compost Company, LLC  
Co-Owners: Waste Management Organic Growth, Inc.;  
EDiS Development Group V, LLC; Greenhull Compost,  
LLC; The Peninsula Compost Group, LLC

Mailing Address: 612 Christiana Avenue  
Wilmington, DE 19801

Ownership Contact Person: Andy DiSabatino, EDiS Development Group V, LLC  
Phone Number: (302) 421-2953

Alternate Ownership Contact Person: Mike Evanko, Greenhull Compost, LLC,  
Phone Number: (302) 655-7300

Facility Name: Wilmington Organic Recycling Center (“WORC”)

Facility Contact Person: Ken Horn, Facility Operations Manager  
Phone Number: (267) 283-5414

Alternate Facility Contact Person: Waylon Pleasanton, Compliance Officer  
Phone Number: (302) 670-8144

Location of Approved Activity: 601 and 612 Christiana Avenue  
Wilmington, DE 19801  
Tax Parcel Numbers: 2606300018, 2606300019,  
2606600005, and portion of 2606300014 (collectively  
“Site”)

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### **I. GENERAL CONDITIONS:**

- A. In accordance with Secretary’s Order No. 2014-WH-0023 (“Order”) issued on October 20, 2014, the Department of Natural Resources and Environmental Control (“the Department”) issues this Composting Approval for Closure Activities (“Approval”) to Peninsula Compost Company, LLC (“Peninsula”) for the purpose of processing food waste, yard waste, wood waste, and animal

bedding that already exist on-site to produce and distribute quality compost products. The facility is located on Tax Parcels 2606300018, 2606300019, and 2606600005 located on 612 Christiana Avenue and a five acre portion of 2606300014 located on 601 Christiana Avenue in Wilmington, Delaware (see attached parcel and site maps).

- B. This Approval no longer allows Peninsula to accept waste of any kind and directs closure of the facility.
- C. This Approval supersedes and replaces all prior BUD Approvals.
- D. This Approval shall be implemented according to the timelines specified herein and as outlined in Table 1.

**TABLE 1. CLOSURE DEADLINES**

| <b>Activity</b>  | <b>Deadline</b>             |
|--|-----------------------------|
| Cease Acceptance of All Waste  | Monday, October 20, 2014    |
| All Food Waste and Animal Bedding Properly Mixed and Incorporated into a Composting Windrow  | Tuesday, October 21, 2014   |
| All Wood Waste and Yard Waste (to be Composted) Incorporated into a Composting Windrow   | Thursday, November 20, 2014 |
| Properly Dispose/Recycle Biofilter Media   | Thursday, November 20, 2014 |
| All Composting Windrows Completed Through Phase III  | Friday, January 16, 2015    |
| All Screening of Phase III Compost Completed   | Friday, January 23, 2015    |
| Phase I & II Windrow Composting Area and Phase III Primary Curing Areas (as shown on attached site map) Free of All Waste and Compost  | Friday, January 23, 2015    |
| Trenches and Receiving Building Floor Free of Remaining Waste  | Friday, January 30, 2015    |
| Wood Waste "Overs" (as described in section III.D.5 of this Approval) and Wastes Stored in the Three-sided Bunker (as described in section III.D.6) Completely Removed from Site | Friday, January 30, 2015    |
| All Curing, Analysis and Distribution of Soil, Soil/Compost Blend, and Compost Completed   | Tuesday, March 31, 2015     |
| All Yard Waste and Wood Waste Not Composted Completely Removed from Site   | Tuesday, March 31, 2015     |
| Site Free of All Residual Wastes, Soil and Compost   | Tuesday, March 31, 2015     |
| Submit Certification Letter that Closure Activities are Complete   | Tuesday, March 31, 2015     |

- E. This Approval shall be conducted in accordance with the conditions herein and with the following documents, as submitted to the Department: (1) Application for Beneficial Use Determination, dated June 2014; (2) "Checklists for Persons Applying for a BUD" and its attachments dated June 2014; (3) proof of lease agreement, dated June 24, 2008; (4) Financial assurance: a Trust Agreement and an Irrevocable Standby Letter of Credit in the amount of \$405,675 dated August 28, 2013; (5) Facility Operations Plan dated July 2014; (6) Secretary's Order No. 2014-WH-0023; and (7) other procedures and policies specifically referenced in this Approval. Conditions of this Approval and the Order shall take precedence over any of the above listed documents. Failure to comply with any condition of this Approval or any provisions within the aforementioned documents is a violation of this Approval and the Order and may result in additional enforcement action(s).
- F. Peninsula shall, upon request, present a copy of this Approval and the Order to any law enforcement officer or representative of the Department.
- G. Peninsula shall notify the SHWMS in writing within twenty-four (24) hours of any changes in the ownership, operators, name, or company officials.
- H. Peninsula shall notify the SHWMS in writing at least thirty (30) days prior to the anticipated need to implement changes that will alter the beneficial use of the processed compost, or changes to processes, operations, or procedures described in the Application documents referenced above in section I.E., or to this Approval. Peninsula shall not implement said changes unless and until they have been notified in writing from the SHWMS agreeing to the change(s).
- I. This Approval may be modified by the Department at any time, including additional limitations, requirements and/or special conditions. In the event the regulations governing activities authorized in this Approval are revised, this Approval may be modified.
- J. In the event that any condition of this Approval cannot be achieved or is violated, Peninsula shall immediately notify the SHWMS and take immediate action to correct the violation.

## II. GENERAL OPERATING CONDITIONS:

- A. Operating hours: Compost feedstock materials may be processed six days per week, Monday through Saturday 6:00 a.m. to 5:00 p.m. Employees in the compost processing area may work beyond the stated hours as required.
- B. Security: Access to the Peninsula composting facility shall be controlled to prohibit the entry of unauthorized individuals.
- C. Access: Representatives of DNREC may, at any reasonable time, inspect this facility to verify compliance with the requirements of this Approval, the Order, the DRGSW and 7 Del. C. Chapter 60.
- D. Litter control: Daily litter control inspections at the perimeter of the facility shall be conducted and recorded on the Compost Facility Daily Inspection Sheet as detailed in the July 2014 Operations Plan. Daily inspection sheets shall be maintained on site and shall be immediately available to the Department upon

request. Litter on and around the facility shall be controlled and collected daily. This includes collection, removal and proper disposal of any solid waste not approved for processing. It also includes collection and proper disposal of any outgoing compost product or compost/soil mixture that falls along Christiana Avenue adjacent to the Peninsula site entrances. Prohibited waste, collected litter, and associated waste shall be stored in enclosed containers in one of the two "Residuals Staging Areas" identified on the attached site map. Waste from the screening process may be temporarily kept in a three-sided bunker adjacent to the screen in the manner described in section III.D.6 of this Approval.

- E. Dust control: No dust shall be allowed to migrate off of the facility. Dust shall be controlled at the Peninsula facility by:
1. Using street sweeper equipment on the site
  2. Using the Gore® Cover composting system in the Windrow Composting Area
  3. Other means as necessary
- F. Odor control: As part of the compost operator training, Peninsula operators shall be trained to recognize the improper odors associated with food waste management, anaerobic decomposition or other improper composting techniques in the windrows and/or within stored compost piles and shall take corrective action to eliminate these odors by employing proper materials management and composting procedures. Peninsula operators shall also be familiar with and act according to the most current version of the Odor Minimization and Monitoring Plan approved by the Division of Air Quality. Odors resulting from the Peninsula facility shall not be perceived beyond the boundaries of the Peninsula property. Peninsula shall post, in plain sight of the public, the facility's Odor Complaint Hotline. Any odor complaints received shall be documented and records of the complaints shall be immediately available to the Department upon request. Odors shall be controlled at the Peninsula facility by:
1. Daily washdowns of leachate trenches
  2. Using the air curtain system
  3. Using a spray truck on the site
  4. Proper removal of waste and distribution of compost as quickly as possible (no later than the deadlines outlined in Table 1 this Approval)
  5. Other means as necessary.
- G. Vector control: Peninsula shall monitor the facility for the presence of any rodents or other undesirable vectors daily. Peninsula shall document the presence of any undesirable vectors and legally eradicate them.
- H. Fire safety:
1. Daily temperature monitoring shall be conducted and records maintained for all windrows in Phases I-IV of the composting process. If routine temperature monitoring shows a location in a windrow where temperatures are greater than 160 degrees Fahrenheit, employees shall flag the location and report it to the site manager immediately.

2. If smoke is detected, employees shall flag the location and report it to the site manager immediately.
  3. The site manager shall act promptly to investigate all issues related to fire safety. Employees shall be trained in the proper procedures for fighting a compost fire.
  4. If a fire is detected, Peninsula shall call 911 to request assistance from the local firefighting agencies. Peninsula shall notify SHWMS at (302) 739-9403 ext. 8 of any fire within 24 hours of detection.
  5. Peninsula management shall meet with the representatives from the Wilmington Fire Department to ensure that their personnel are familiar with the layout of the facility, the sources of water for firefighting, and the methods of fighting a compost fire. Peninsula shall develop a fire management plan with the Wilmington Fire Department, which shall be implemented immediately, reviewed annually and updated as needed.
- I. Employee Health and Safety: Employees shall work under appropriate health and safety guidelines established by the Occupational Safety and Health Administration. Use of personal protective equipment shall be in accordance with 29 CFR Part 1910.132 as a minimum. First aid equipment shall be maintained and available onsite. Emergency telephone numbers of nearby ambulance, hospital, police and fire services shall be prominently displayed on-site.
- J. Smoking: No smoking shall be permitted in the receiving, processing, screening, and storage areas.
- K. Equipment Usage, Inspection and Maintenance: A combination of processing equipment such as front-end loaders, a slow speed shredder, screens, and a sweeper truck will be used to implement this Approval. Peninsula shall use a combination of this equipment and manual labor to process the waste material and to handle finished compost. Processing equipment shall be selected and operated in a manner to meet DNREC Air Quality standards in effect at the site. Peninsula shall maintain the air permit for their air ventilation system as long as it is required, and secure any necessary Division of Air Quality permits. All operating equipment shall be operated and inspected in accordance with the manufacturer's recommendation, any required permits, and this Approval. Equipment shall be maintained and operated in a manner that protects Peninsula employees, the public and the environment.
- L. Training: All employees who are to work in the receiving or compost processing area will have received initial training in (1) Health and safety procedures, (2) Fire prevention and protection, (3) Emergency first aid and (4) CPR. Prior to working in the composting operation, employees shall receive compost operator training including site specific training on the basics of the Gore® Cover composting process, biofilter operation, how to identify and respond to prohibited waste, and how to conduct an inspection of the facility. They will also receive equipment operation training conducted by the equipment manufacturer's representative or another person specifically knowledgeable in the operation of the equipment. Training shall include the manufacturer's operating and

maintenance manual, operation instruction, equipment safety features, and hazards that might be encountered. Unless otherwise specified by a nationally recognized training provider (for example, the American Red Cross as a training provider for First Aid), training shall be required initially and annually thereafter.

**M. Recordkeeping:**

1. Peninsula shall maintain all training records for a period of three (3) years from the Expiration Date of this Approval and the records shall be immediately provided to the Department upon request. These records shall document that required training has been provided to all employees who are to work in the waste receiving and compost processing areas.
2. Peninsula shall record and maintain on site, until the Expiration Date of this Approval, all data required by this Approval and continue to maintain them for a period of three (3) years from the Expiration Date of this Approval. The records shall be immediately provided to the Department upon request, including:
  - a. Daily, monthly, and annual tonnages for all incoming waste and materials (listed by waste/material description)
  - b. Daily, monthly, and annual tonnages for all outgoing waste and materials, including prohibited wastes and residuals (listed by waste/material description)
  - c. A list of all buyers or outlets of products
  - d. Records from all monitoring and inspections described in this Approval and in Peninsula's July 2014 Operations Plan
  - e. Daily compost process control and monitoring information
  - f. Laboratory results from all sampling described in this Approval
  - g. Odor, dust and vector complaints received from off site
  - h. All data, forms, and reports described in Peninsula's Odor Minimization and Monitoring Plan

**N. Sampling and Analysis:**

1. All sampling shall be conducted in accordance with the U.S. Composting Council's *Test Methods for Evaluation of Compost and Composting (TMECC)*.
2. Peninsula shall sample and analyze each batch of finished compost in order to demonstrate that the finished compost meets the analytical and performance criteria listed in Table 2, below. A batch of finished compost is defined as  $\leq 2,200$  cubic yards of compost that has completed Phase IV and has been screened through a  $\frac{1}{2}$  inch screen (or smaller).
3. Storage of Compost Awaiting Analysis:
  - a. Each batch of finished compost shall be stored separate from all other batches and windrows unless and until it can be shown to meet the analytical and performance criteria.
  - b. All batches of compost awaiting analysis or results shall be stored on 601 Christiana Avenue.
  - c. When the total volume of compost awaiting analysis, finished compost and Phase IV compost is less than 15,000 cubic yards,

Peninsula may store compost awaiting analysis on 612 Christiana Avenue in the area designated "Phase IV" on the attached site map and in the same manner described in section II.N.3.a

4. In the event that a batch of finished compost product fails to meet any of the criteria listed below for any parameter listed in Table 2, Peninsula shall notify the Department in writing within 24 hours, or the next business day, of Peninsula's receipt of the data and provide what corrective actions will be taken to address this failure and prevent future failures.
5. Each batch of finished compost product that does not meet the criteria for Maturity, Soluble Salts, pH, total inerts, moisture content, or carbon to nitrogen ratio shall not be distributed unless and until, Peninsula receives written Department approval or additional management and subsequent analysis of the same batch of finished compost demonstrates it meets the criteria for those parameters.
6. A batch of finished compost product that fails to meet the criteria for Salmonella, Fecal coliform, or any metal listed in Table 2 shall be properly disposed of within 30 calendar days of Peninsula's receipt of the analytical data for that batch or by the Expiration Date of this Approval, whichever comes first.
7. Metals analysis shall be on a dry weight basis for arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc using EPA's SW-846 (*Test Methods for Evaluating Solid Waste, Physical/Chemical*) method 6010 in its most currently approved version. Metals in the finished compost shall not exceed the Delaware Uniform Risk Based Remediation Standards (URS) for Critical Water Resource Area, Unrestricted Use as shown in Table 2:

**TABLE 2. PERFORMANCE and ANALYTICAL CRITERIA**

| PARAMETER                    | CRITERIA  |
|------------------------------|---|
| Maturity                     | ≥ 7 based on Solvita® Compost Maturity Index <sup>1</sup> |
| Soluble Salts (Conductivity) | ≤ 10 mmhos/cm   |
| Salmonella                   | < 3 MPN per 4 g dry wt.                                   |
| Fecal Coliform               | < 1,000 MPN   |
| pH                           | 5 – 8.5   |
| Total Inerts                 | < 1 %, not to exceed 0.5% plastic                         |
| Moisture Content             | 35-50%  |
| Carbon to Nitrogen Ratio     | 10:1 to 15:1  |
| Arsenic                      | < 11 mg/kg <sup>2</sup>                                   |
| Cadmium                      | < 4 mg/kg   |
| Chromium                     | < 35 mg/kg <sup>3</sup>                                   |
| Copper                       | < 310 mg/kg   |
| Lead                         | < 400 mg/kg   |
| Mercury                      | < 10 mg/kg  |
| Molybdenum                   | < 2 mg/kg   |
| Nickel                       | < 160 mg/kg   |
| Selenium                     | < 26 mg/kg  |
| Zinc                         | < 2,300 mg/kg   |

<sup>1</sup> Or shown to be stable to very stable using another method listed in the U.S. Composting Council's *Test Methods for Evaluation of Compost and Composting* (TMECC).

<sup>2</sup> Division policy sets limit for Arsenic at 11 ppm (mg/kg)

<sup>3</sup> The criterion for Chromium is based on the limit for Chromium VI.

- O. Reporting-Monthly: Peninsula shall submit the results from all analyses conducted in a given month to the Department via e-mail or in hard copy on a monthly basis by the 10<sup>th</sup> of the following month (i.e. October's monthly report would be due by November 10<sup>th</sup>). Each report shall include a status update of closure activities as described in Table 1 of this Approval. Peninsula shall also include in these monthly reports tonnages and volumes of:
1. Yard waste, wood waste, food waste, hatchery waste, animal bedding, and any other incoming waste received, listed by waste type
  2. Finished compost produced
  3. Finished compost distributed, including the date and customer name or location where sent
  4. All waste sent for disposal, recycling, or reuse, and the date and facility where sent. An attempt to provide a general description of the waste shall also be provided, i.e. plastic, treated lumber.
  5. Compost failing to meet performance and analytical criteria in Table 2, including the parameter(s) that was not met and the facility at which the unacceptable compost, and manufactured soil if applicable, was disposed

6. Finished compost stored
7. Material in each of Phases I-IV, listed by phase

Monthly reports shall be submitted to:

Mindy Anthony  
Delaware Department of Natural Resources and Environmental  
Control  
Solid and Hazardous Waste Management Section  
89 Kings Highway  
Dover, DE 19901

P. Authorized Waste Types:

Peninsula shall not accept any waste. Only yard waste, wood waste, food waste, and animal bedding that existed on-site prior to this Approval shall be processed into compost such that no compost or waste remains at the facility by the Expiration Date of this Approval.

III. **RAW MATERIAL ACCEPTANCE, PROCESSING, AND STORAGE:**

- A. Peninsula shall not accept any waste as of October 20, 2014. Only yard waste, wood waste, food waste, and animal bedding that existed on site prior to this Approval shall be processed into compost such that no compost or waste remains at the facility by the Expiration Date of this Approval.
- B. Procedures for Handling of Food Waste Already On site: Any waste associated with food waste but which is not certified compostable by the BPI, or equivalent certifying third party, shall be immediately removed from the food waste and placed in one of the designated "Residuals Staging Areas" described on the attached site map. Food waste shall be blended with absorbent organic material such that no liquid residue leaves the absorbent organic material or the Receiving Building floor. Food waste shall be blended with yard waste or wood waste at a ratio of at least 1 part yard waste/wood waste to 1 part food waste (2:1 yard waste/wood waste:food waste is better) to reach a carbon to nitrogen ratio between 20:1 and 35:1. All food waste shall be mixed with ground yard waste/wood waste, shredded, placed in a windrow, and covered with the Gore® cover system within twenty-four (24) hours of the food waste being received and no later than October 21, 2014. Food waste shall be processed in accordance with Peninsula's July 2014 Operations Plan except to follow specific requirements of this Approval and the Order. Windrows shall be held at temperatures above 131 degrees Fahrenheit for three consecutive days to meet requirements of the process to further reduce pathogens. Food waste that has spoiled to the point that the pH can affect the composting process shall either be amended to correct the pH prior to incorporation into a windrow or immediately be properly disposed at a lawful offsite location.
- C. Procedures for Handling of Animal Bedding, Yard Waste, and Wood Waste (Including Overs) Already On Site:

1. All animal bedding shall be mixed with ground yard waste/wood waste and placed in a composting windrow by October 21, 2014.
2. Wood waste overs (as described in section III.D.5) shall not be placed into a composting windrow.
3. All yard waste and wood waste intended for composting, shall be ground or shredded and placed into a composting windrow by November 20, 2014.
4. Any yard waste or wood waste not placed in a windrow for composting, as well as wood waste overs, shall be properly disposed of or recycled off site by March 31, 2015.

D. Procedures for Storage of Waste:

1. Storage of waste shall be in accordance with deadlines specified in Table 1 and otherwise in this Approval.
2. Yard waste and wood waste, including wood waste overs described below in section III.D.5, shall be stored in the designated Storage Bins outside of the Receiving Building or on the 601 Christiana Ave property (locations and quantity limits are described in the attached site map). The storage bins shall contain no more than 470 cubic yards of any combination of yard waste and wood waste, whether ground or un-ground. The 601 Christiana Ave property shall contain no more than 14,500 cubic yards. All yard waste and wood waste piles shall have a maximum height of 15 feet.
3. The temperature of the piles of ground yard waste and ground wood waste, including wood waste overs described below in section III.D.5, shall be monitored and recorded at least once a week to ensure the temperature at the core of the pile does not exceed 160 degrees Fahrenheit. If the temperature is above 160 degrees Fahrenheit, Peninsula shall follow the fire safety procedures outlined in section II.H above and take action to reduce the risk of fire. Records shall indicate the temperature measured as well as any actions taken to lower the temperature, if applicable.
4. Any yard waste or wood waste not placed in a windrow for composting shall be properly disposed of or recycled off site by March 31, 2015.
5. Wood waste material, or "overs", from the ½ inch screen shall be properly disposed of off site by January 30, 2015. This shall include wood waste overs on site as of the Effective Date of this Approval as well as those generated during closure.
6. Prohibited waste, collected litter, and associated waste shall be stored in enclosed containers in one of the two "Residuals Staging Areas" identified on the attached site map. Waste from the screening process may be temporarily kept in a three-sided bunker adjacent to the screen, but this waste shall be sent for proper off-site disposal, or stored in an enclosed container(s) in the Residual Staging Area(s), by the end of the operating day. No more than 160 cubic yards of any waste shall be stored in a single "Residuals Staging Area". Waste stored in a "Residuals Storage Area" shall be removed the same day the container becomes full or within 72

hours of the Department's request for Peninsula to dispose of the waste (whichever comes first). All prohibited waste, collected litter, and associated waste shall be properly disposed of off site by January 30, 2015.

7. Any other storage of waste not described in this Approval is prohibited.

E. Procedures for Waste in the Process of Composting (Phases I-IV):

1. All material in all phases of composting (from initial placement in the composting windrow to the final screening) shall be placed into windrows. All windrows in Phases I and II shall be completely covered by the Gore fabric such that no compost is exposed and the Gore fabric shall be sufficiently weighted down so the fabric does not move and the compost remains completely covered. The Gore fabric shall be monitored for wear and tear and shall be repaired or replaced as necessary to perform properly.
2. All composting windrows shall have completed through Phase III of the composting process by January 16, 2015.
3. No composting windrow shall exceed 185 feet in length, 26 feet in width, or 12 feet in height. Windrows shall be at least six feet apart at the base and at least 12 feet apart at the top.
4. No more than 4,500 cubic yards of completed Phase III compost shall be stored while awaiting screening through the 2" screen. All screening of Phase III compost shall be completed by January 23, 2015.
5. No more than 15,000 cubic yards of Phase IV compost shall be stored at any one time.
6. All completed Phase III compost shall only be stored in the designated Screening and Phase IV Area on 612 Christiana Avenue, as indicated on the attached site map. Phase IV compost shall be stored on either 612 Christiana Avenue in the designated Screening and Phase IV Area or on 601 Christiana Avenue in the designated Storage Area for Soil, Finished Compost and Compost Awaiting Analysis.
7. All Phase IV compost shall have gone through mechanical separation to remove plastics. Plastics, as well as other non-compostable materials removed from this separation process, may be temporarily kept in a three-sided bunker adjacent to the screen in the manner described in section III.D.6 of this Approval.

F. Procedures for Soil Acceptance: Peninsula shall evaluate all soils using appropriate due diligence and site investigative techniques to certify that the material meets the definition of Clean Fill set forth in Delaware's *Regulations Governing Solid Waste (DRGSW)*. If soil classification cannot be determined in this way, soil sampling and analysis shall be conducted prior to soil acceptance to verify that the incoming soil meets Delaware URS Standards for a Critical Water Resource Area, Unrestricted Use.

G. Procedures for Soil Storage: Soil shall be stored on 601 Christiana Avenue but shall be clearly identified and segregated from all other windrows and piles. Soil storage shall be conducted in a manner such that all other storage limitations

established in this Approval are met at all times. Soil storage shall also be maintained such that it poses no threat to the environment. All manufactured soil shall not exceed 10,000 cubic yards. By the Expiration Date of this Approval, Peninsula shall not store any soil or soil/compost blend.

**IV. STORAGE OF FINISHED COMPOST:**

- A. Finished compost is defined as compost that has completed the composting phases, has been screened through a ½-inch screen (or smaller), has satisfied all performance and analytical criteria specified in Table 2 of this Approval, and is immediately available for distribution to a customer, whether paid or unpaid.
- B. Finished compost shall be stored on 601 Christiana Avenue as designated on the attached site map. When the total volume of compost awaiting analysis, finished compost and Phase IV compost is less than 15,000 cubic yards, Peninsula may store finished compost on 612 Christiana Avenue in the area designated “Phase IV” on the attached site map. When stored on 612 Christiana Avenue, the finished compost shall be clearly identified, placed in windrows, and kept separate from other windrows.
- C. Finished compost, Phase IV compost in the 601 Christiana Avenue area, and compost awaiting analysis shall not exceed a total combined volume of 25,000 cubic yards nor weight of 18,750 tons.
- D. By the Expiration Date of this Approval, Peninsula shall not store any compost, including compost awaiting analysis.

**V. FINISHED COMPOST USE AND APPLICATION:**

- A. It is Peninsula’s responsibility to ensure that all necessary approvals have been obtained prior to marketing the compost.
- B. Finished compost shall be distributed to be used as a soil amendment or to create manufactured soil.
- C. Finished compost shall not be used at or around the WORC facility.

**VI. CLOSURE:**

- A. The purpose of this Approval is to direct closure of the facility. Deadlines for some specific closure activities are outlined in Table 1 of section I.D of this Approval. Peninsula shall cease operations and remove all waste, soil, soil/compost blend, and compost from the facility and shall sweep the site with a street sweeper or similar by March 31, 2015.
- B. Peninsula shall notify the Department in writing when closure activities are complete. Closure shall be complete by the Expiration Date of this Approval.
- C. During the closure period, the total amount of soil, finished compost and compost awaiting analysis stored on site shall not exceed a total of 25,000 cubic yards, nor 18,750 tons. By the Expiration Date of this Approval, all soil and compost,

including compost which did not meet the analytical criteria established in Table 2 of this Approval, shall be removed from the site.

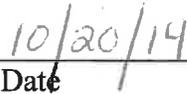
- D. Peninsula shall remove and properly dispose of the Biofilter media by November 20, 2014.
- E. Peninsula shall clean the leachate collection trenches such that they:
  - 1. Are free of all waste, compost, and residue
  - 2. Are rinsed
  - 3. Allow water to flow freely and unobstructed.
- F. Peninsula shall clean the Receiving Building floor such that all waste is removed and shall deodorize the floor by January 30, 2015.
- G. Peninsula shall sample the surface water and sediment from the three stormwater ponds on site. Surface water and sediment from the stormwater ponds shall be analyzed, on a dry weight basis, for the metals listed in Table 2 using EPA's SW-846 (*Test Methods for Evaluating Solid Waste, Physical/Chemical*) method 6010 in its most currently approved version. Sampling of surface water shall be conducted in accordance with Section 9.1.5 of Delaware's *Regulations Governing Storm Water Discharges Associated with Industrial Activities*. Sampling of sediment shall be conducted in accordance with the Department's Site Investigation and Restoration Section's Standard Operating Procedure for Sediment Sampling. Additional sampling and analysis may be required.
- H. Upon completion of all closure activities, Peninsula shall submit certification, signed by an owner or corporate officer, verifying that all closure activities were conducted in accordance with Secretary's Order No. 2014-WH-0023 and this Approval. Peninsula shall also identify any deviations from the same Order and Approval.
- I. Successful closure shall be defined as Peninsula conducting all closure activities and meeting all deadlines specified in the Order and Approval to the satisfaction of and at the sole discretion of the Department. Upon its determination that closure is satisfactorily completed, the Department shall issue a notice to Peninsula stating the same.

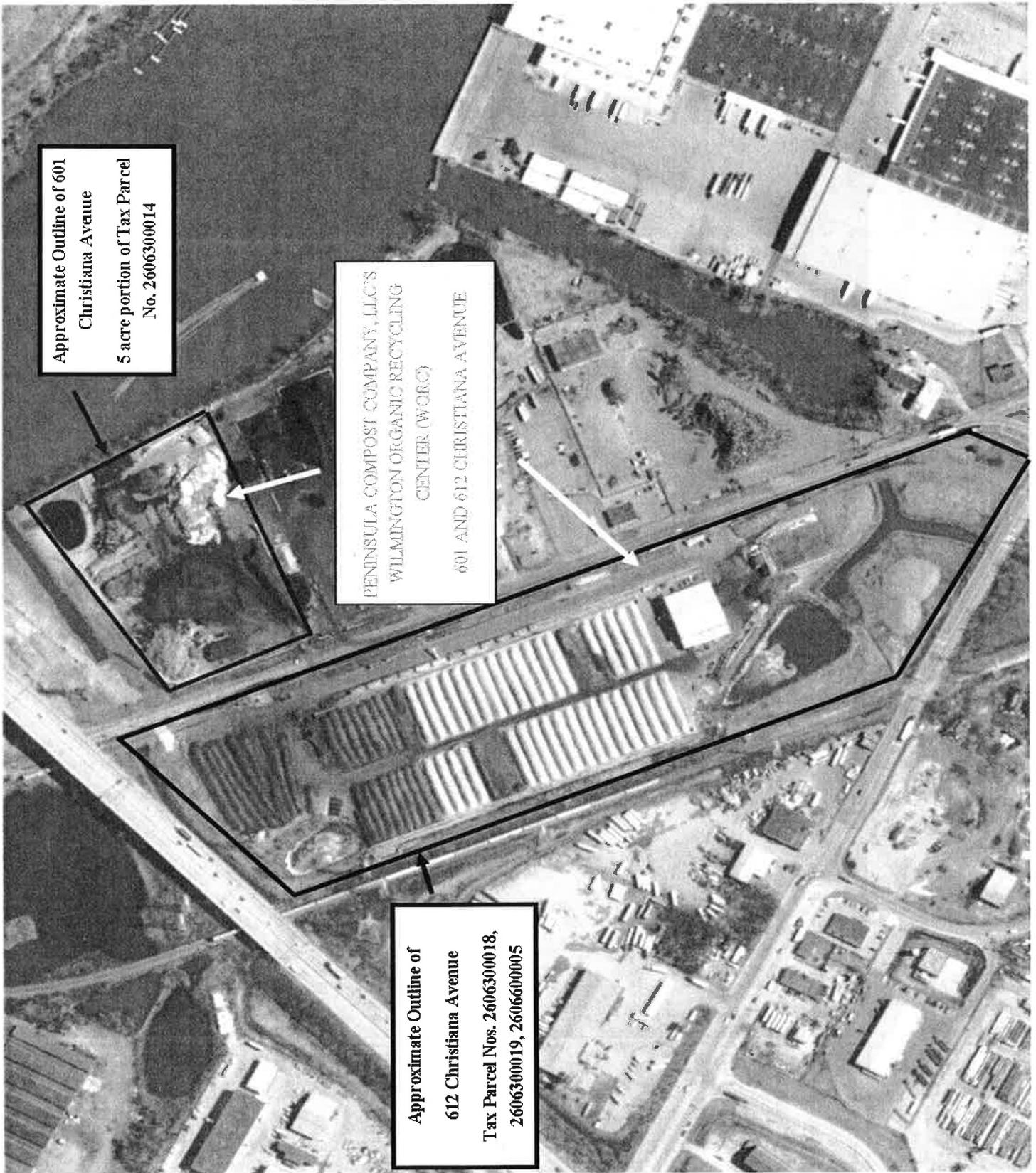
**VII. ADDITIONAL CONDITIONS:**

- A. The Department retains the right to collect samples of any material at any time. The Department and Peninsula retain the right to obtain split samples from each other's sampling events for separate analysis. Peninsula shall bear the expenses or reimburse the Department for the cost of analysis of all samples obtained and analyzed by, or for, the Department once per quarter.
- B. Peninsula shall obtain and maintain proper coverage under the Department's National Pollutant Discharge Elimination System (NPDES) stormwater permit program as applicable. Peninsula shall notify the stormwater program of its closure activities and expected date of closure.
- C. This Approval does not relieve Peninsula from complying with any other applicable Federal, State, or Local laws, regulations or ordinances.
- D. Any violation of any condition of this Approval, regulation promulgated by the Department, Secretary's Orders, or provision of 7 *Del.C.* Chapter 60, shall justify

termination of this Approval, implementation of appropriate enforcement action,  
and other remedies as deemed appropriate by the Department.

  
\_\_\_\_\_  
Nancy C. Marker  
Environmental Program Administrator  
Solid and Hazardous Waste Management Section

  
\_\_\_\_\_  
Date

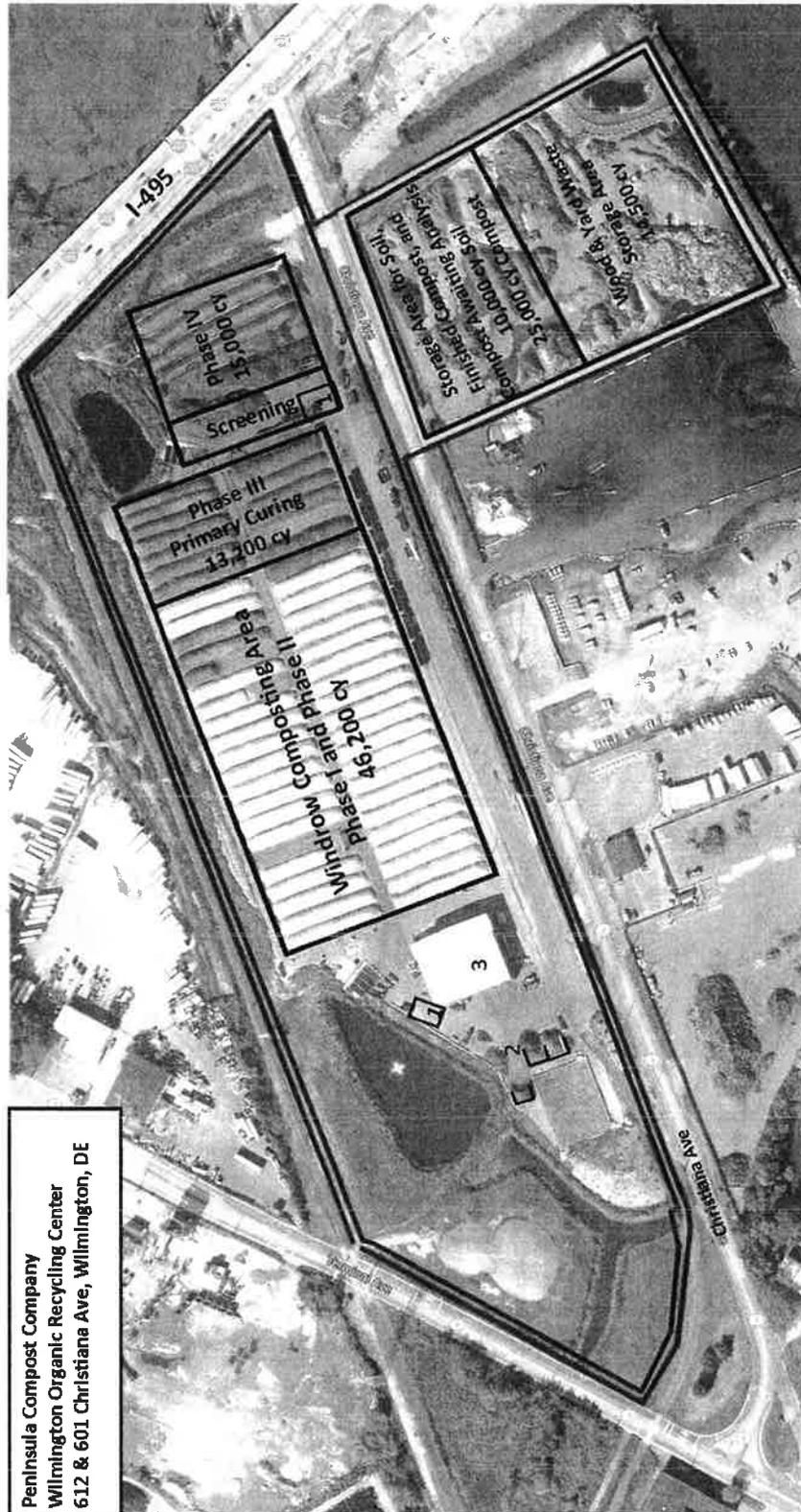


Approximate Outline of 601  
Christiana Avenue  
5 acre portion of Tax Parcel  
No. 2606300014

PENINSULA COMPOST COMPANY, LLC'S  
WILMINGTON ORGANIC RECYCLING  
CENTER (WORC)  
601 AND 612 CHRISTIANA AVENUE

Approximate Outline of  
612 Christiana Avenue  
Tax Parcel Nos. 2606300018,  
2606300019, 2606600005

### ATTACHED SITE MAP



Peninsula Compost Company  
 Wilmington Organic Recycling Center  
 612 & 601 Christiana Ave, Wilmington, DE

- 1—Residuals Storage Area
- 2—Storage Bins
- 3—Receiving Building
- 612 Christiana Avenue Area
- 601 Christiana Avenue Area
- Peninsula (WORC) Facility Boundaries

## **HEARING OFFICER'S REPORT**

**TO:** The Honorable David S. Small  
Secretary, Department of Natural Resources and Environmental Control

**FROM:** Robert P. Haynes, Esquire  
Senior Hearing Officer, Office of the Secretary  
Department of Natural Resources and Environmental Control

**RE:** Application of Peninsula Compost Company LLC to Renew Beneficial Use Determination for the Wilmington Organic Recycling Center Wilmington, New Castle County

**DATE:** October 20, 2014

### **I. PROCEDURAL HISTORY**

This Report considers an administrative record and makes recommendations to the Secretary of the Department of Natural Resources and Environmental Control (Department) on the July 15, 2014 application of Peninsula Compost Company LLC (Applicant). Applicant seeks to renew a Beneficial Use Determination (BUD) issued by the Department's Division of Waste and Hazardous Substances, Solid and Hazardous Waste Management Section (SHWMS) to authorize Applicant's composting facility located at 601 and 612 Christina Avenue, Wilmington, New Castle County (Facility), which also is known as the Wilmington Organic Recycling Center.

A public hearing was requested by Lee Jarmon on July 2, 2014. The Department provided public notice of the public hearing, which was held August 27, 2014 at the Rose Hill Community Center at 19 Lambson Lane, Wilmington, Delaware. State Representative Debra Heffernan requested that the public comment period be kept open for two additional weeks following the hearing. This request was granted and numerous email public comments were received through September 10, 2014, as compiled into an exhibit. Following the hearing, I requested technical assistance from SHWMS, which provided the attached Technical Response

Memorandum (TRM) and the attached Closure Plan (Composting Approval for Closure Activities).

## **II. SUMMARY OF THE RECORD**

The record that supports this Report includes: 1) the verbatim transcript of the public hearing; 2) the documents included in the record at the August public hearing as exhibits; 3) the timely received written public comments during the extended public comment period that ended September 10, 2014; 3) the post-hearing technical assistance from the experts in the Division of Waste and Hazardous Substances, Solid and Hazardous Waste Management Section (SHWMS); and 4) the documents and facts cited herein from my review of SHWMS' files.

The public hearing began with introductions of the Department's representatives Mindy Anthony and Bill Miller in SHWMS. The Applicant's representatives also were introduced including Andy DiSabatino, Managing Partner, Mike Evanko, a partner, Waylon Pleasanton, and Ken Horn, General Manager, John Reese with Port Contractors, and Mike Logan, a consultant. Other Department representatives included Marjorie Crofts, Director of the Division of Waste and Hazardous Substances, Nancy Marker, Administrator of SHWMS, and from the Division of Community Services, Jim Faedtke, Chief Enforcement Officer, and James Brunswick, Community Ombudsman. Ms. Anthony provided a brief presentation that included a procedural history of the BUD beginning with the August 2008 initial BUD and three modifications and one renewal, with the current BUD expiring September 26, 2014. In addition, the Department developed the record with exhibits that included the application, the public hearing public notices, and the July 2, 2014 letter from Mr. Jarmon requesting a public hearing on the application. DNREC Ex. Nos. 1-4.

The Applicant made a presentation by Mr. DiSabatino, who also reviewed the history of the Facility, including that the construction commenced March 2009 and the first receipt of

materials to be composted occurred December 1, 2009. He mentioned that the Facility received of carbon credits from the Climate Action Reserve for the carbon reduction from the organic recycling, which he noted also reduced sending waste to landfills.

Mr. Horn spoke of his 25 years experience in the recycling business and his March 21, 2014 employment by the Applicant. He indicated that the Facility was producing approximately 100,000 cubic yards of compost annually, which is marketed for agricultural and landscaping uses. He described the Facility's operations and the use of the Receiving Building and Biofilter and air exchange system. He explained the inspection and mixture and blending of food and yard waste process inside the Receiving Building. This mixture is placed outside and covered with a Gore© cover for the phase one, and heat and oxygen probes are inserted in the mixture for monitoring purposes. Beneath the materials are trenches, one which is used for air flow into the materials and one is to remove liquids. He explained that after four weeks in phase one the cover is removed, and the material is moved to phase two and covered again. He said that phases one and two are together called the rapid decomposing period. He explained that phase three entails the removal of the cover to allow the material to mature. The material is then subjected to screening to remove debris and placed in phase four rows where it further matures for between four to twelve weeks before screening for marketing as a final finished compost product.

Mr. Pleasanton spoke next about the operations and changes that have been made. He explained the 2011 commencement a twenty four hour telephone hotline for odor and traffic complaints. In addition, he indicated that in 2011 three mobile sprayers began to be used to spray odor neutralizing products similar to Febreze©. He said in 2011 the Facility also added a broom tractor and water truck to keep the Facility clean. In 2012, he noted that the Facility installed a 400 foot long sprayer along the northwest corner near Interstate 495 to spray the odor neutralizing agent. In 2013, he described the addition of a trailer mounted sprayer, and that the

Facility also established a Community Advisory Group, which meets periodically as an open forum open to the public. In 2013, the Facility also made changes to phase four composting to improve its quality and to reduce odor. In 2014, he mentioned the study to improve the stormwater pond's conditions and the 2014 hiring of Ken Horn. In 2014 also had the installation of a new screening machine to control dust and odors. He stated that in 2014 the Facility adopted an odor minimization and monitoring plan, which was to be filed with the Department and includes the reporting of hotline calls. Finally, he indicated that the Facility would be more selective in its receipt of incoming organics and would avoid foul smelling loads.

Mr. DiSabatino spoke again about how the Facility has distributed 175,000 cubic yards of compost, which has diverted 600,000 cubic yards from landfill disposal. He said the diversion from landfills disposal has reduced greenhouse gas emissions equivalent to removing 30,000 cars from the road for five years. . He said that the Facility employs twenty four persons and added \$47 million into the economy. Applicant's presentation is Applicant Ex. 1.

The public comments received at the public hearing are summarized below and fully set forth in the transcript.

State Representative Johnson spoke first and explained how if the Applicant's representatives lived nearby then then they would understand why the hearing room was full. He also discussed what he viewed as Applicant's broken promise based upon when the Applicant sought initial approval the Applicant promised the community that the Facility would not produce any odor. He mentioned how the Facility began operating and that the operations have resulted in Department fines for improper control of raw material and that the Facility had a big fire in 2012. He also mentioned problems with the stormwater pond. He ended by introducing the other elected officials present among the approximately 200 persons in attendance.

New Castle County Executive Tom Gordon spoke next and discussed the difficulty in choosing between jobs and the quality of life, but he sought immediate shutdown of the Facility due to the quality of life issue the continued operation imposed on others.

State Representative Debra Heffernan spoke on behalf of her constituents. She said the smell reaches her 6<sup>th</sup> District, which includes Edgemoor, Bellefonte and much of the Brandywine Hundred. She wants the Facility to be closed.

State Representative Charles Potter Jr. spoke on behalf of his constituents in the 1<sup>st</sup> District and voiced his opposition to the Facility continuing to operate because of the odor.

New Castle County Council President Chris Bullock who is also Pastor of the Cannan Baptist Church located near the Facility spoke in opposition to the Facility's continued operation.

State Representative Mike Ramone of the 21<sup>st</sup> District located in Pike Creek Valley area spoke in opposition to the renewal of the BUD based upon his constituents' complaints about the odor, including those who use the swim facility in New Castle near the Memorial Bridge complain about the odor.

Senator Margaret Henry spoke in opposition because of the stench that caused school children to cough at the smell.

New Castle County Councilman George Smiley spoke on behalf of his constituents in the 7<sup>th</sup> District in opposition to the Facility and based upon his own smell at his house in a neighborhood in New Castle.

New Castle County Councilman Bill Bell spoke in opposition based upon the odor.

New Castle County Councilman Jea Street spoke in opposition.

Wilmington City Councilwoman Shabazz spoke on the process when the Facility was proposed and there was a community outreach effort and the hope of economic development, but now she is concerned with the quality of life issue and wants the Facility shutdown.

Mr. Lee Jarmon, President of the 913 Alliance, spoke and introduced his grandson and others who would be speaking on behalf of the Alliance. His grandson, Stephen Shaw, spoke of the nauseating smell from the Facility. He cited the BUD's odor control provision, which requires that the Facility's odors are not to be perceived beyond the boundaries of the Facility. He said that the Facility was not adhering to this requirement. He expressed concern with the health risk from breathing the odor.

Reverend Beaman, pastor of the Bethel AME Church located near the Facility, spoke and provide a written statement. Beaman Ex. 1. He referenced how the Love Canal investigation began with odor complaints.

Marvin Thomas, President of the Southbridge Civic Association, spoke about meeting with the Applicant's representatives when the Facility was proposed and how the Applicant took community members to look at similar composting operations in Massachusetts and Washington, and that the report was that these facilities did not have odor problems. He indicated that the community did its due diligence, and that in the beginning of their operations there were no odor complaints. The odors problems began and the community has endured unbearable odors.

Ms. Smithers spoke about local job training and employment and said that the Applicant has had ample time to correct the odor problems, but has not been able to do so and that now the Facility should be shut down.

Mr. Hawks spoke about his efforts to gain employment for those released from prison and how the Applicant hired some who were released.

Charlie Gonzalez complained about the smell at his house in Hamilton Park and how his grandchild has complained of the odor at the school she attends and how she does not want to go to school because of the odor.

May Jarmon spoke as the vice president of the Wilmington Branch of the NAACP and provided a letter from the Branch's president, Charles Brittingham asking that the BUD not be renewed.

Richard Smith, President of the state NAACP, complained about the smell from his trips to the Port of Wilmington. He suggested better air quality monitoring as a condition to any renewal and that the Department should come up with a better enforcement system.

Saleem Chapman, Director of the Environmental Justice for the Clean Air Council, spoke and recommended no BUD renewal absent a viable resolution to the persistent odor from the Facility. He spoke of the harm from odors and the adverse impact on the communities impacted by such odors. He also complained about the Department's odor reporting system as overly burdensome with the requirement of affidavits.

Donald Farrell spoke about his concerns with the odor and the difficulty in reporting odor complaints to the Department and that the Department passed the monitoring of complaints to the Applicant. He encouraged the development of a phone tree to report odor complaints.

Michael Brown, a longtime local resident, spoke of how the odor problem has gotten worse in the last two to three years.

Keith Booker, past President of the state NAACP, spoke to a shutdown of the Facility.

Douglas Eller, general manager at Moon Landscaping, spoke on the use of the compost produced by the Facility and the benefit to the economy.

Paul Calistro spoke about the Applicant's donation of compost to the community gardens.

Marilyn Clark spoke in opposition to the renewal as a moral issue and that continued operation would hurt the young and old.

Charles Fleming, representing the 126 units' owners in the Justison Landing condominiums, spoke on the odors impacting the residents there, which he said was approximately two miles away. He also discussed his attempts at making odor complaints to the Applicant and the Department.

Angela Walker spoke as a resident of 26<sup>th</sup> Street in North Wilmington on the odor and how it has gotten worse recently and not better.

Lisa Jumps, a resident of North Wilmington in the Delaire development, spoke about the odors that reach her seven miles from the Facility. She also reported smelling the Facility's odor while driving on Interstate 495. She said that she was unable to enjoy outdoor activities such as outdoor cooking.

Robert Watson spoke about his distrust of the Department and calling about the odor from the Facility.

Sharon Braack, a resident of North Wilmington, spoke on the odor she smells at her property and her effort to complain to the Department. She indicated she only smells the odor occasionally when the wind is in a certain direction, but that when she does it makes her nauseous and prevents use of the outdoors. She discussed her research into the original approval and how some community members toured other compost operations and found no odor problems. She discussed smelling the odor and not knowing who to complain to about it.

Jerry Collins spoke about the unloading of dump trucks he observed and the construction of a berm and how he was told it was to control odors going into the Port of Wilmington. He wanted the Facility closed and thought that the property could be used as a truck stop. He also reported on talking to the I-495 construction workers, who told him the Facility's odor was terrible.

Jim Black, Director of the Partnership for Sustainability in Delaware, spoke about the location of the Facility next to the Port so that it could recycle spoiled fruit. He also discussed the composting benefits to food production and that Wilmington should be proud to have the largest food composting operation in the Nation.

Carolyn Marklin from Southbridge spoke about the odor and the problem it imposes on local residents' quality of life. She questioned the location and why it was not in communities such as Greenville and Brandywine Hundred.

Raymond Smith, a 55 year long Minquadale resident, spoke and complained about the odor and possible adverse health risks from it.

Childress-Gilliam spoke as a nearby resident who moved into her house in December and complained about the odor this spring and summer that prevented her from going outdoors or putting clothes outside to dry.

Samuel Guy spoke as a resident of the north side of Wilmington and he smells the Facility there. He talked about the doctrine of nuisance in fact as support for closing the Facility. He questioned the location in a poor diverse community.

Josie Roy, a resident of Smallwood, spoke on the bad odor she recently experienced.

May Jarmon spoke about the need to close the Facility down, and questioned the reduced penalty assessment for the odor complaint enforcement action.

Robert Oliver spoke and complained about the smell that prevents his grandkids from playing outside when they visit him.

The hearing received the following documents marked as exhibits: Shaw Ex 1, Beaman Ex. 1, Chapman Ex. 1, NAACP Ex. 1, and Johnson Ex. 1, and Alliance Ex. 1, which are documents that are based upon the public comments made by the speakers.

The post-hearing written comments are included in the record along with a summary cover sheet, which indicates almost all support denial of the BUD renewal. These post-hearing written comments includes a letter from New Castle County Council members Bullock, Street, Bell and Smiley opposing the renewal, a letter from eighteen members of the General Assembly also opposing renewal, Mayor Williams on behalf of the City of Wilmington, who sought a BUD that controlled odor, and a comment from Alan Muller of Green Delaware, who reluctantly opposed renewal because of the Facility's problems offset the benefits from composting.

The Applicant's consultant, Mike Logan, provided information on the evaluation of potential effects of odors as part of the post-hearing submissions. In addition, other comments in support of renewal were received including from W.L. Gore and Associates, which provided suggestions for any odor problems. Other comments in support were from persons who receive the compost.

A total of 39 post-hearing comments timely received are included in DNREC Ex. 5.

SHWMS provided its recommendation in an October 15, 2014 TRM, which included a proposed Closure Plan that would have all deliveries of waste cease immediately, and then provide for the orderly removal of all the existing compost from at the Facility after composting is completed in compliance with the Closure Plan, which requires all compost material removed by March 31, 2015. The TRM provided information on the complaints the Department received and the enforcement actions that the Department has taken as support for its recommendation to not renew the BUD, but instead to close the composting in an orderly manner. In addition, I include in the record the SHWMS' compliance assessments and inspection reports on the Facility, and the Department's Environmental Crimes Unit's complaint and enforcement activity on the Facility, as cited in the TRM.

I also drove by the Facility after operating hours before the public hearing, and I have smelled a strong odor when I have driven over the Christina River Bridge on Interstate 495, which is close to the Facility, but during those times I was not aware of the Facility's location in relation to the highway. My own personal observations support those public comments that the Facility is unable to control its odors from leaving the property boundaries. A review of the SHWMS also shows odor compliance issues raised in them.

### **III. FINDINGS AND DISCUSSION**

The record shows that the Facility has not been able to adequately control foul odors from going beyond the boundaries of its composting operations to justify a renewal of its BUD. The odor problem is highlighted by the adverse impact on the nearby residents who are most impacted by the foul smell from the Facility. The foul odors adversely impact residents who live far from the Facility. The nature and the scope of the public comments and complaints on file at the Department support a decision to not renew the BUD, but to move to immediate cessation of deliveries of waste, and an orderly closure of the material now on site and in the process of being composted.

The Department approved the Facility in a Coastal Zone Act permit and BUD decision in 2008. These approvals were based upon plans for the construction and operation of the Facility that would prevent the odors from the composting manufacturing process from being perceived beyond the borders of the Facility. This requirement was included in the BUD approval under Odor Control. The Department became aware of the odor problems and took regulatory actions on the complaints received as set forth in the TRM, but also sought to work with the Facility to improve its odor controls through revisions to the BUD, with the most recent revision occurring in May 2014 that kept the BUD expiration date of September 26, 2014.

Despite the Department's regulatory efforts to get the Facility to adequately control its odor, the Facility for whatever reason has not been able to comply with the terms of the BUD. As a result, foul odors have gone beyond the Facility's boundaries and have interfered with the enjoyment of life and property for those people who are adversely impacted by the Facility's odors, particularly those who live and work nearby. Indeed, the public comments include those who live several miles from the Facility. Thus, based upon this history, the application to renew should be denied and the Facility should be closed in an orderly manner as recommended by SHWMS in its TRM and accompanying Closure Plan that has immediate cessation of deliveries of all materials to be composted and the removal of all existing materials now on site by March 31, 2015.

The Department relied upon its review of the proposed design and operation of the Facility, which provided a welcome composting recycling alternative to landfill disposal of food and yard wastes. On paper, the Facility's 15,625 square foot Receiving Building, an exhaust system to control air transport of odors to a biofilter system, a 25' by 25' Pre-composting Staging Building, a scale house to weigh trucks, and windrows using Gore© system for the phases of composting were approved. This approval was based upon the Department's assessment that the design and operation would work to control the foul odors from the composting process, which entails food waste as a major source of the materials to be composted.

The Facility's property<sup>1</sup> includes 23 acres located at 612 Christiana Avenue, and 5 acres at 601 Christina Avenue, which is across the street from the larger property and the Facility is next to the Port of Wilmington property, but it is also close to residential neighborhoods with the closest house approximately 1,700 feet from the Facility's boundaries. The Facility's source of

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<sup>1</sup> The property is leased from Alma Properties, LLC. and consists of Tax Parcel Numbers 2606300018, 2606300019, and 2606600005

materials to be used for manufacturing compost is likely the source of the odor because it includes food waste (meat, poultry, fish, fruits, vegetables, dairy products) from restaurants, casinos, food importers, prisons, colleges, schools, sports venues and other institutions. The list of acceptable waste includes produce, floral, bakery, dairy and deli and seafood products, grocery, paper, frozen food, yard waste, paper products, animal bedding and hatchery waste. These materials produce foul odors that can go beyond the Facility's boundaries if not adequately controlled.

The Facility's odor control problems may begin with the delivery of food waste by truck, which occurs in walking floor trailers, self-contained packers, of back loading trucks. The operations require on average 35 trucks, which unload their contents after weighing in the Receiving Building. The unloading process uses operators to visually inspect the unloading for any unacceptable waste. The Receiving Building has three doors along the southeastern side, and two are used for food waste deliveries and one is used for yard waste and other types of carbon waste from wood products. The Receiving Building has a ventilation system exhausts the air to a biofilter unit at a rate of 42,000 cubic feet per minute, which allows four complete changes in the Receiving Building's air an hour. The exhaust is transported to the Biofilter Unit, which is capable of filtering 42,000 cubic feet per minute using a blend of wood chips and compost as its active media. The biofilter was expected to reduce odor by 97%. The biofilter is to be monitored for pressure changes, for moisture content, and visually for settling and other routine maintenance of its equipment. The Receiving Building was designed not to exceed holding 935 cubic yards or 700 tons of material, and the Facility was designed to receive

annually 120,000 tons of food waste, 40,000 tons of yard waste and 5,200 tons of hatchery waste and 40,000 tons of sandy soil used to produce topsoil.<sup>2</sup>

The received waste is blended to achieve a mixture of food and yard waste based upon the proper carbon to nitrogen ratio, moisture content and porosity, which the Applicant claims is critical. The mixture of materials occurs in the Receiving Building by front end loaders, which deposit the mixture to be composted on a conveyor that transports the materials to the Pre-composting Staging Building. From the Pre-composting Staging Building the materials to be composted are moved by front end loaders to a windrow, where before the end of the day it was to be covered by the Gore© cover system in order to minimize odor from the food waste.

The Facility's main composting process takes eight weeks and includes removing the Gore© cover to move materials during the Phases I to Phase II, and then again to move the material to Phase III windrows and to the curing phase of Phase IV, which can take an additional two weeks to two months depending on the end use for the compost.

The above review of the design and operation of the Facility as it was supposed to operate to control odors is contrasted with the regulatory history of problems with odors, particularly in recent years. The problem is that the plans either were not adequate or the execution of the plans was inadequate. In either case, the Department is to decide on the renewal based upon the actual operation, and not on promised operation. Based upon the record of public comments, inspections and enforcement actions, the inescapable conclusion is that renewal should not be granted, but instead the Department should direct the orderly closure be immediately implemented.

The TRM sets forth the position of the Department's experts that the Facility should not receive a new BUD and should be subject to closure pursuant a plan prepared by SHWMS. I

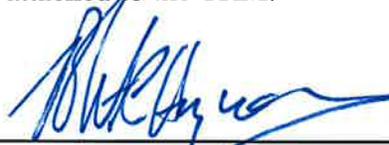
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<sup>2</sup> The Coastal Zone Act permit authorized a 250,000 per year cubic yard maximum production limit for compost, topsoil and mulch.

agree that the situation is beyond any regulatory correction and that the Applicant had ample time and opportunity to correct the odors problems prior to the renewal process. There is no presumption that a BUD will be renewed, or that an expired authority would be administratively extended pending a final decision. Thus, the immediate cessation of receiving any waste, and the orderly and prompt removal of the existing materials are appropriate regulatory steps to take at this time.

#### IV. CONCLUSION

I conclude that the record supports the Department's issuance of an Order that adopts the Closure Plan that SHWMS has drafted, which is attached to the TRM.



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Robert P. Haynes, Esquire  
Senior Hearing Officer

## MEMORANDUM

**TO:** Robert P. Haynes, Esq.

**THRU:** Marjorie Crofts, Division Director, WHS *YRM for MAC 10/15/14*

**FROM:** Mindy Anthony, Environmental Scientist, SHWMS *mbca 10/15/14*  
Bill Miller, Environmental Program Manager, SHWMS *10/15/14*  
Nancy C. Marker, Environmental Program Administrator, SHWMS *TCM 10/15/14*

**DATE:** October 15, 2014

**SUBJECT:** Memo to Hearing Officer on Public Hearing held August 27, 2014 regarding Peninsula Compost Company's ("Peninsula") request to renew Beneficial Use Determination ("BUD") Approval #29/092614E

**REFERENCE:** Peninsula Compost Company, LLC, File Code: 09.B

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The Solid and Hazardous Waste Management Section (SHWMS) is providing you with a response to concerns raised during, and after, the public hearing held on August 27, 2014 regarding Peninsula Compost Company's ("Peninsula") request to renew its Beneficial Use Determination ("BUD") Approval #29/092614E. I hope this information will assist you in reviewing the issues and making your recommendations to the Secretary of the Department of Natural Resources and Environmental Control. If you have any questions, feel free to call us at (302) 739-9403.

### **RESPONSE:**

Peninsula was issued a BUD in August 2008 and began operating the Wilmington Organic Recycling Center ("WORC") in December 2009. According to the Department's Environmental Crimes Unit's ("ECU") records, one odor complaint was received in 2010 and one in 2011. Since 2012, odor complaints associated with Peninsula/WORC have increased. The ECU received 27 complaints in 2012, 98 complaints in 2013, and 77 through September 2014. The ECU also issued criminal citations, one each, during the months of September 2013, August 2014, and September 2014. In each case, Peninsula was charged with violating the air quality regulations pursuant to 7 DE Admin. Code 1100 Air Quality Management Section, specifically Regulation No. 1119 § 2.0 which states:

*“No person shall cause or allow the emission of an odorous air contaminant such as to cause a condition of air pollution.”*

Air pollution is defined in Regulation No. 1101 § 2.0, in part, as:

*“... the presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration ... which unreasonably interferes with the enjoyment of life and property within the jurisdiction of the State...”*

The Department has coordinated with the facility to improve operations and minimize impacts. However, over time, the facility has demonstrated an increase in operational concerns, continued compliance issues, and a decreased ability to minimize impacts. Previous administrative enforcement actions taken by the Department have included Notices of Violations issued on August 19, 2011; June 7, 2012; November 14, 2012; March 11, 2013; and July 23, 2014. A Secretary's Order was issued on July 25, 2013, revised on December 4, 2013, and revised again on April 23, 2014.

Some operations at Peninsula have been identified as violations of the BUD Approval and, in some cases, are related to odors. These include, but are not limited to:

- Inadequate response to biofilter maintenance or replacement
- Processing/handling equipment has been down, sometimes for an extended period of time
- Time needed to produce finished compost takes longer than originally planned by Peninsula
- Quantities of waste or finished compost have been onsite above approved levels
- Non-compostable residuals from the screening process and trash have been onsite above approved levels
- Trench drains and wear of the paved composting pad have allowed for standing leachate onsite
- Poor maintenance of stormwater ponds and aeration systems at times
- Elements of the Gore® Cover composting system have not been maintained appropriately
- The mixture of food waste with yard waste/wood waste has been at a ratio too high to produce a quality product without odors
- Feedstocks and composting windrows are contaminated with non-compostable wastes
- Large volumes of feedstocks and compost in various stages have been and are on site
- Occurrence of fires at the facility with the most recent occurring on October 12, 2014
- Failure to develop markets to meet production demands

**It is recommended Peninsula's request to renew BUD approval #29/092614E be denied and that the facility initiate and complete closure in accordance with the attached Composting Approval for Closure Activities.**

## COMPOSTING APPROVAL FOR CLOSURE ACTIVITIES

Effective Date: October 20, 2014  
Expiration Date: March 31, 2015

Business Name: Peninsula Compost Company, LLC  
Co-Owners: Waste Management Organic Growth, Inc.;  
EDiS Development Group V, LLC; Greenhull Compost,  
LLC; The Peninsula Compost Group, LLC

Mailing Address: 612 Christiana Avenue  
Wilmington, DE 19801

Ownership Contact Person: Andy DiSabatino, EDiS Development Group V, LLC  
Phone Number: (302) 421-2953

Alternate Ownership Contact Person: Mike Evanko, Greenhull Compost, LLC  
Phone Number: (302) 655-7300

Facility Name: Wilmington Organic Recycling Center (“WORC”)

Facility Contact Person: Ken Horn, Facility Operations Manager  
Phone Number: (267) 283-5414

Alternate Facility Contact Person: Waylon Pleasanton, Compliance Officer  
Phone Number: (302) 670-8144

Location of Approved Activity: 601 and 612 Christiana Avenue  
Wilmington, DE 19801  
Tax Parcel Numbers: 2606300018, 2606300019,  
2606600005, and portion of 2606300014 (collectively  
“Site”)

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### I. GENERAL CONDITIONS:

- A. In accordance with Secretary’s Order No. 2014-WH-00XX (“Order”) issued on October 20, 2014, the Department of Natural Resources and Environmental Control (“the Department”) issues this Composting Approval for Closure Activities (“Approval”) to Peninsula Compost Company, LLC (“Peninsula”) for the purpose of processing food waste, yard waste, wood waste, and animal

bedding that already exist on-site to produce and distribute quality compost products. The facility is located on Tax Parcels 2606300018, 2606300019, and 2606600005 located on 612 Christiana Avenue and a five acre portion of 2606300014 located on 601 Christiana Avenue in Wilmington, Delaware (see attached parcel and site maps).

- B. This Approval no longer allows Peninsula to accept waste of any kind and directs closure of the facility.
- C. This Approval supersedes and replaces all prior BUD Approvals.
- D. This Approval shall be implemented according to the timelines specified herein and as outlined in Table 1.

**TABLE 1. CLOSURE DEADLINES**

| <b>Activity</b>  | <b>Deadline</b>             |
|--|-----------------------------|
| Cease Acceptance of All Waste  | Monday, October 20, 2014    |
| All Food Waste and Animal Bedding Properly Mixed and Incorporated into a Composting Windrow  | Tuesday, October 21, 2014   |
| All Wood Waste and Yard Waste (to be Composted) Incorporated into a Composting Windrow   | Thursday, November 20, 2014 |
| Properly Dispose/Recycle Biofilter Media   | Thursday, November 20, 2014 |
| All Composting Windrows Completed Through Phase III  | Friday, January 16, 2015    |
| All Screening of Phase III Compost Completed   | Friday, January 23, 2015    |
| Phase I & II Windrow Composting Area and Phase III Primary Curing Areas (as shown on attached site map) Free of All Waste and Compost  | Friday, January 23, 2015    |
| Trenches and Receiving Building Floor Free of Remaining Waste  | Friday, January 30, 2015    |
| Wood Waste "Overs" (as described in section III.D.5 of this Approval) and Wastes Stored in the Three-sided Bunker (as described in section III.D.6) Completely Removed from Site | Friday, January 30, 2015    |
| All Curing, Analysis and Distribution of Soil, Soil/Compost Blend, and Compost Completed   | Tuesday, March 31, 2015     |
| All Yard Waste and Wood Waste Not Composted Completely Removed from Site   | Tuesday, March 31, 2015     |
| Site Free of All Residual Wastes, Soil and Compost   | Tuesday, March 31, 2015     |
| Submit Certification Letter that Closure Activities are Complete   | Tuesday, March 31, 2015     |

- E. This Approval shall be conducted in accordance with the conditions herein and with the following documents, as submitted to the Department: (1) Application for Beneficial Use Determination, dated June 2014; (2) "Checklists for Persons Applying for a BUD" and its attachments dated June 2014; (3) proof of lease agreement, dated June 24, 2008; (4) Financial assurance: a Trust Agreement and an Irrevocable Standby Letter of Credit in the amount of \$405,675 dated August 28, 2013; (5) Facility Operations Plan dated July 2014; (6) Secretary's Order #XXXX; and (7) other procedures and policies specifically referenced in this Approval. Conditions of this Approval and the Order shall take precedence over any of the above listed documents. Failure to comply with any condition of this Approval or any provisions within the aforementioned documents is a violation of this Approval and the Order and may result in additional enforcement action(s).
- F. Peninsula shall, upon request, present a copy of this Approval and the Order to any law enforcement officer or representative of the Department.
- G. Peninsula shall notify the SHWMS in writing within twenty-four (24) hours of any changes in the ownership, operators, name, or company officials.
- H. Peninsula shall notify the SHWMS in writing at least thirty (30) days prior to the anticipated need to implement changes that will alter the beneficial use of the processed compost, or changes to processes, operations, or procedures described in the Application documents referenced above in section I.E., or to this Approval. Peninsula shall not implement said changes unless and until they have been notified in writing from the SHWMS agreeing to the change(s).
- I. This Approval may be modified by the Department at any time, including additional limitations, requirements and/or special conditions. In the event the regulations governing activities authorized in this Approval are revised, this Approval may be modified.
- J. In the event that any condition of this Approval cannot be achieved or is violated, Peninsula shall immediately notify the SHWMS and take immediate action to correct the violation.

## II. GENERAL OPERATING CONDITIONS:

- A. Operating hours: Compost feedstock materials may be processed six days per week, Monday through Saturday 6:00 a.m. to 5:00 p.m. Employees in the compost processing area may work beyond the stated hours as required.
- B. Security: Access to the Peninsula composting facility shall be controlled to prohibit the entry of unauthorized individuals.
- C. Access: Representatives of DNREC may, at any reasonable time, inspect this facility to verify compliance with the requirements of this Approval, the Order, the DRGSW and 7 Del. C. Chapter 60.
- D. Litter control: Daily litter control inspections at the perimeter of the facility shall be conducted and recorded on the Compost Facility Daily Inspection Sheet as detailed in the July 2014 Operations Plan. Daily inspection sheets shall be maintained on site and shall be immediately available to the Department upon request. Litter on and around the facility shall be controlled and collected daily.

This includes collection, removal and proper disposal of any solid waste not approved for processing. It also includes collection and proper disposal of any outgoing compost product or compost/soil mixture that falls along Christiana Avenue adjacent to the Peninsula site entrances. Prohibited waste, collected litter, and associated waste shall be stored in enclosed containers in one of the two "Residuals Staging Areas" identified on the attached site map. Waste from the screening process may be temporarily kept in a three-sided bunker adjacent to the screen in the manner described in section III.D.6 of this Approval.

- E. Dust control: No dust shall be allowed to migrate off of the facility. Dust shall be controlled at the Peninsula facility by:
1. Using street sweeper equipment on the site
  2. Using the Gore® Cover composting system in the Windrow Composting Area
  3. Other means as necessary
- F. Odor control: As part of the compost operator training, Peninsula operators shall be trained to recognize the improper odors associated with food waste management, anaerobic decomposition or other improper composting techniques in the windrows and/or within stored compost piles and shall take corrective action to eliminate these odors by employing proper materials management and composting procedures. Peninsula operators shall also be familiar with and act according to the most current version of the Odor Minimization and Monitoring Plan approved by the Division of Air Quality. Odors resulting from the Peninsula facility shall not be perceived beyond the boundaries of the Peninsula property. Peninsula shall post, in plain sight of the public, the facility's Odor Complaint Hotline. Any odor complaints received shall be documented and records of the complaints shall be immediately available to the Department upon request. Odors shall be controlled at the Peninsula facility by:
1. Daily washdowns of leachate trenches
  2. Using the air curtain system
  3. Using a spray truck on the site
  4. Proper removal of waste and distribution of compost as quickly as possible (no later than the deadlines outlined in Table 1 this Approval)
  5. Other means as necessary.
- G. Vector control: Peninsula shall monitor the facility for the presence of any rodents or other undesirable vectors daily. Peninsula shall document the presence of any undesirable vectors and legally eradicate them.
- H. Fire safety:
1. Daily temperature monitoring shall be conducted and records maintained for all windrows in Phases I-IV of the composting process. If routine temperature monitoring shows a location in a windrow where temperatures are greater than 160 degrees Fahrenheit, employees shall flag the location and report it to the site manager immediately.
  2. If smoke is detected, employees shall flag the location and report it to the site manager immediately.

3. The site manager shall act promptly to investigate all issues related to fire safety. Employees shall be trained in the proper procedures for fighting a compost fire.
  4. If a fire is detected, Peninsula shall call 911 to request assistance from the local firefighting agencies. Peninsula shall notify SHWMS at (302) 739-9403 ext. 8 of any fire within 24 hours of detection.
  5. Peninsula management shall meet with the representatives from the Wilmington Fire Department to ensure that their personnel are familiar with the layout of the facility, the sources of water for firefighting, and the methods of fighting a compost fire. Peninsula shall develop a fire management plan with the Wilmington Fire Department, which shall be implemented immediately, reviewed annually and updated as needed.
- I. Employee Health and Safety: Employees shall work under appropriate health and safety guidelines established by the Occupational Safety and Health Administration. Use of personal protective equipment shall be in accordance with 29 CFR Part 1910.132 as a minimum. First aid equipment shall be maintained and available onsite. Emergency telephone numbers of nearby ambulance, hospital, police and fire services shall be prominently displayed on-site.
- J. Smoking: No smoking shall be permitted in the receiving, processing, screening, and storage areas.
- K. Equipment Usage, Inspection and Maintenance: A combination of processing equipment such as front-end loaders, a slow speed shredder, screens, and a sweeper truck will be used to implement this Approval. Peninsula shall use a combination of this equipment and manual labor to process the waste material and to handle finished compost. Processing equipment shall be selected and operated in a manner to meet DNREC Air Quality standards in effect at the site. Peninsula shall maintain the air permit for their air ventilation system as long as it is required, and secure any necessary Division of Air Quality permits. All operating equipment shall be operated and inspected in accordance with the manufacturer's recommendation, any required permits, and this Approval. Equipment shall be maintained and operated in a manner that protects Peninsula employees, the public and the environment.
- L. Training: All employees who are to work in the receiving or compost processing area will have received initial training in (1) Health and safety procedures, (2) Fire prevention and protection, (3) Emergency first aid and (4) CPR. Prior to working in the composting operation, employees shall receive compost operator training including site specific training on the basics of the Gore® Cover composting process, biofilter operation, how to identify and respond to prohibited waste, and how to conduct an inspection of the facility. They will also receive equipment operation training conducted by the equipment manufacturer's representative or another person specifically knowledgeable in the operation of the equipment. Training shall include the manufacturer's operating and maintenance manual, operation instruction, equipment safety features, and hazards that might be encountered. Unless otherwise specified by a nationally

recognized training provider (for example, the American Red Cross as a training provider for First Aid), training shall be required initially and annually thereafter.

M. Recordkeeping:

1. Peninsula shall maintain all training records for a period of three (3) years from the Expiration Date of this Approval and the records shall be immediately provided to the Department upon request. These records shall document that required training has been provided to all employees who are to work in the waste receiving and compost processing areas.
2. Peninsula shall record and maintain on site, until the Expiration Date of this Approval, all data required by this Approval and continue to maintain them for a period of three (3) years from the Expiration Date of this Approval. The records shall be immediately provided to the Department upon request, including:
  - a. Daily, monthly, and annual tonnages for all incoming waste and materials (listed by waste/material description)
  - b. Daily, monthly, and annual tonnages for all outgoing waste and materials, including prohibited wastes and residuals (listed by waste/material description)
  - c. A list of all buyers or outlets of products
  - d. Records from all monitoring and inspections described in this Approval and in Peninsula's July 2014 Operations Plan
  - e. Daily compost process control and monitoring information
  - f. Laboratory results from all sampling described in this Approval
  - g. Odor, dust and vector complaints received from off site
  - h. All data, forms, and reports described in Peninsula's Odor Minimization and Monitoring Plan

N. Sampling and Analysis:

1. All sampling shall be conducted in accordance with the U.S. Composting Council's *Test Methods for Evaluation of Compost and Composting (TMECC)*.
2. Peninsula shall sample and analyze each batch of finished compost in order to demonstrate that the finished compost meets the analytical and performance criteria listed in Table 2, below. A batch of finished compost is defined as  $\leq 2,200$  cubic yards of compost that has completed Phase IV and has been screened through a  $\frac{1}{2}$  inch screen (or smaller).
3. Storage of Compost Awaiting Analysis:
  - a. Each batch of finished compost shall be stored separate from all other batches and windrows unless and until it can be shown to meet the analytical and performance criteria.
  - b. All batches of compost awaiting analysis or results shall be stored on 601 Christiana Avenue.
  - c. When the total volume of compost awaiting analysis, finished compost and Phase IV compost is less than 15,000 cubic yards, Peninsula may store compost awaiting analysis on 612 Christiana

Avenue in the area designated "Phase IV" on the attached site map and in the same manner described in section II.N.3.a

4. In the event that a batch of finished compost product fails to meet any of the criteria listed below for any parameter listed in Table 2, Peninsula shall notify the Department in writing within 24 hours, or the next business day, of Peninsula's receipt of the data and provide what corrective actions will be taken to address this failure and prevent future failures.
5. Each batch of finished compost product that does not meet the criteria for Maturity, Soluble Salts, pH, total inerts, moisture content, or carbon to nitrogen ratio shall not be distributed unless and until, Peninsula receives written Department approval or additional management and subsequent analysis of the same batch of finished compost demonstrates it meets the criteria for those parameters.
6. A batch of finished compost product that fails to meet the criteria for Salmonella, Fecal coliform, or any metal listed in Table 2 shall be properly disposed of within 30 calendar days of Peninsula's receipt of the analytical data for that batch or by the Expiration Date of this Approval, whichever comes first.
7. Metals analysis shall be on a dry weight basis for arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc using EPA's SW-846 (*Test Methods for Evaluating Solid Waste, Physical/Chemical*) method 6010 in its most currently approved version. Metals in the finished compost shall not exceed the Delaware Uniform Risk Based Remediation Standards (URS) for Critical Water Resource Area, Unrestricted Use as shown in Table 2:

**TABLE 2. PERFORMANCE and ANALYTICAL CRITERIA**

| PARAMETER                    | CRITERIA  |
|------------------------------|---|
| Maturity                     | ≥ 7 based on Solvita® Compost Maturity Index <sup>1</sup> |
| Soluble Salts (Conductivity) | ≤ 10 mmhos/cm   |
| Salmonella                   | < 3 MPN per 4 g dry wt.                                   |
| Fecal Coliform               | < 1,000 MPN   |
| pH                           | 5 – 8.5   |
| Total Inerts                 | < 1 %, not to exceed 0.5% plastic                         |
| Moisture Content             | 35-50%  |
| Carbon to Nitrogen Ratio     | 10:1 to 15:1  |
| Arsenic                      | < 11 mg/kg <sup>2</sup>                                   |
| Cadmium                      | < 4 mg/kg   |
| Chromium                     | < 35 mg/kg <sup>3</sup>                                   |
| Copper                       | < 310 mg/kg   |
| Lead                         | < 400 mg/kg   |
| Mercury                      | < 10 mg/kg  |
| Molybdenum                   | < 2 mg/kg   |
| Nickel                       | < 160 mg/kg   |
| Selenium                     | < 26 mg/kg  |
| Zinc                         | < 2,300 mg/kg   |

<sup>1</sup> Or shown to be stable to very stable using another method listed in the U.S. Composting Council's *Test Methods for Evaluation of Compost and Composting* (TMECC).

<sup>2</sup> Division policy sets limit for Arsenic at 11 ppm (mg/kg)

<sup>3</sup> The criterion for Chromium is based on the limit for Chromium VI.

- O. Reporting-Monthly: Peninsula shall submit the results from all analyses conducted in a given month to the Department via e-mail or in hard copy on a monthly basis by the 10<sup>th</sup> of the following month (i.e. October's monthly report would be due by November 10<sup>th</sup>). Each report shall include a status update of closure activities as described in Table 1 of this Approval. Peninsula shall also include in these monthly reports tonnages and volumes of:
1. Yard waste, wood waste, food waste, hatchery waste, animal bedding, and any other incoming waste received, listed by waste type
  2. Finished compost produced
  3. Finished compost distributed, including the date and customer name or location where sent
  4. All waste sent for disposal, recycling, or reuse, and the date and facility where sent. An attempt to provide a general description of the waste shall also be provided, i.e. plastic, treated lumber.
  5. Compost failing to meet performance and analytical criteria in Table 2, including the parameter(s) that was not met and the facility at which the unacceptable compost, and manufactured soil if applicable, was disposed

6. Finished compost stored
7. Material in each of Phases I-IV, listed by phase

Monthly reports shall be submitted to:

Mindy Anthony  
Delaware Department of Natural Resources and Environmental  
Control  
Solid and Hazardous Waste Management Section  
89 Kings Highway  
Dover, DE 19901

P. Authorized Waste Types:

Peninsula shall not accept any waste. Only yard waste, wood waste, food waste, and animal bedding that existed on-site prior to this Approval shall be processed into compost such that no compost or waste remains at the facility by the Expiration Date of this Approval.

III. **RAW MATERIAL ACCEPTANCE, PROCESSING, AND STORAGE:**

- A. Peninsula shall not accept any waste as of October 20, 2014. Only yard waste, wood waste, food waste, and animal bedding that existed on site prior to this Approval shall be processed into compost such that no compost or waste remains at the facility by the Expiration Date of this Approval.
- B. Procedures for Handling of Food Waste Already On site: Any waste associated with food waste but which is not certified compostable by the BPI, or equivalent certifying third party, shall be immediately removed from the food waste and placed in one of the designated "Residuals Staging Areas" described on the attached site map. Food waste shall be blended with absorbent organic material such that no liquid residue leaves the absorbent organic material or the Receiving Building floor. Food waste shall be blended with yard waste or wood waste at a ratio of at least 1 part yard waste/wood waste to 1 part food waste (2:1 yard waste/wood waste:food waste is better) to reach a carbon to nitrogen ratio between 20:1 and 35:1. All food waste shall be mixed with ground yard waste/wood waste, shredded, placed in a windrow, and covered with the Gore® cover system within twenty-four (24) hours of the food waste being received and no later than October 21, 2014. Food waste shall be processed in accordance with Peninsula's July 2014 Operations Plan except to follow specific requirements of this Approval and the Order. Windrows shall be held at temperatures above 131 degrees Fahrenheit for three consecutive days to meet requirements of the process to further reduce pathogens. Food waste that has spoiled to the point that the pH can affect the composting process shall either be amended to correct the pH prior to incorporation into a windrow or immediately be properly disposed at a lawful offsite location.
- C. Procedures for Handling of Animal Bedding, Yard Waste, and Wood Waste (Including Overs) Already On Site:

1. All animal bedding shall be mixed with ground yard waste/wood waste and placed in a composting windrow by October 21, 2014.
2. Wood waste overs (as described in section III.D.5) shall not be placed into a composting windrow.
3. All yard waste and wood waste intended for composting, shall be ground or shredded and placed into a composting windrow by November 20, 2014.
4. Any yard waste or wood waste not placed in a windrow for composting, as well as wood waste overs, shall be properly disposed of or recycled off site by March 31, 2015.

D. Procedures for Storage of Waste:

1. Storage of waste shall be in accordance with deadlines specified in Table 1 and otherwise in this Approval.
2. Yard waste and wood waste, including wood waste overs described below in section III.D.5, shall be stored in the designated Storage Bins outside of the Receiving Building or on the 601 Christiana Ave property (locations and quantity limits are described in the attached site map). The storage bins shall contain no more than 470 cubic yards of any combination of yard waste and wood waste, whether ground or un-ground. The 601 Christiana Ave property shall contain no more than 14,500 cubic yards. All yard waste and wood waste piles shall have a maximum height of 15 feet.
3. The temperature of the piles of ground yard waste and ground wood waste, including wood waste overs described below in section III.D.5, shall be monitored and recorded at least once a week to ensure the temperature at the core of the pile does not exceed 160 degrees Fahrenheit. If the temperature is above 160 degrees Fahrenheit, Peninsula shall follow the fire safety procedures outlined in section II.H above and take action to reduce the risk of fire. Records shall indicate the temperature measured as well as any actions taken to lower the temperature, if applicable.
4. Any yard waste or wood waste not placed in a windrow for composting shall be properly disposed of or recycled off site by March 31, 2015.
5. Wood waste material, or "overs", from the ½ inch screen shall be properly disposed of off site by January 30, 2015. This shall include wood waste overs on site as of the Effective Date of this Approval as well as those generated during closure.
6. Prohibited waste, collected litter, and associated waste shall be stored in enclosed containers in one of the two "Residuals Staging Areas" identified on the attached site map. Waste from the screening process may be temporarily kept in a three-sided bunker adjacent to the screen, but this waste shall be sent for proper off-site disposal, or stored in an enclosed container(s) in the Residual Staging Area(s), by the end of the operating day. No more than 160 cubic yards of any waste shall be stored in a single "Residuals Staging Area". Waste stored in a "Residuals Storage Area" shall be removed the same day the container becomes full or within 72

hours of the Department's request for Peninsula to dispose of the waste (whichever comes first). All prohibited waste, collected litter, and associated waste shall be properly disposed of off site by January 30, 2015.

7. Any other storage of waste not described in this Approval is prohibited.

E. Procedures for Waste in the Process of Composting (Phases I-IV):

1. All material in all phases of composting (from initial placement in the composting windrow to the final screening) shall be placed into windrows. All windrows in Phases I and II shall be completely covered by the Gore fabric such that no compost is exposed and the Gore fabric shall be sufficiently weighted down so the fabric does not move and the compost remains completely covered. The Gore fabric shall be monitored for wear and tear and shall be repaired or replaced as necessary to perform properly.
2. All composting windrows shall have completed through Phase III of the composting process by January 16, 2015.
3. No composting windrow shall exceed 185 feet in length, 26 feet in width, or 12 feet in height. Windrows shall be at least six feet apart at the base and at least 12 feet apart at the top.
4. No more than 4,500 cubic yards of completed Phase III compost shall be stored while awaiting screening through the 2" screen. All screening of Phase III compost shall be completed by January 23, 2015.
5. No more than 15,000 cubic yards of Phase IV compost shall be stored at any one time.
6. All completed Phase III compost shall only be stored in the designated Screening and Phase IV Area on 612 Christiana Avenue, as indicated on the attached site map. Phase IV compost shall be stored on either 612 Christiana Avenue in the designated Screening and Phase IV Area or on 601 Christiana Avenue in the designated Storage Area for Soil, Finished Compost and Compost Awaiting Analysis.
7. All Phase IV compost shall have gone through mechanical separation to remove plastics. Plastics, as well as other non-compostable materials removed from this separation process, may be temporarily kept in a three-sided bunker adjacent to the screen in the manner described in section III.D.6 of this Approval.

F. Procedures for Soil Acceptance: Peninsula shall evaluate all soils using appropriate due diligence and site investigative techniques to certify that the material meets the definition of Clean Fill set forth in Delaware's *Regulations Governing Solid Waste (DRGSW)*. If soil classification cannot be determined in this way, soil sampling and analysis shall be conducted prior to soil acceptance to verify that the incoming soil meets Delaware URS Standards for a Critical Water Resource Area, Unrestricted Use.

G. Procedures for Soil Storage: Soil shall be stored on 601 Christiana Avenue but shall be clearly identified and segregated from all other windrows and piles. Soil storage shall be conducted in a manner such that all other storage limitations

established in this Approval are met at all times. Soil storage shall also be maintained such that it poses no threat to the environment. All manufactured soil shall not exceed 10,000 cubic yards. By the Expiration Date of this Approval, Peninsula shall not store any soil or soil/compost blend.

**IV. STORAGE OF FINISHED COMPOST:**

- A. Finished compost is defined as compost that has completed the composting phases, has been screened through a ½-inch screen (or smaller), has satisfied all performance and analytical criteria specified in Table 2 of this Approval, and is immediately available for distribution to a customer, whether paid or unpaid.
- B. Finished compost shall be stored on 601 Christiana Avenue as designated on the attached site map. When the total volume of compost awaiting analysis, finished compost and Phase IV compost is less than 15,000 cubic yards, Peninsula may store finished compost on 612 Christiana Avenue in the area designated “Phase IV” on the attached site map. When stored on 612 Christiana Avenue, the finished compost shall be clearly identified, placed in windrows, and kept separate from other windrows.
- C. Finished compost, Phase IV compost in the 601 Christiana Avenue area, and compost awaiting analysis shall not exceed a total combined volume of 25,000 cubic yards nor weight of 18,750 tons.
- D. By the Expiration Date of this Approval, Peninsula shall not store any compost, including compost awaiting analysis.

**V. FINISHED COMPOST USE AND APPLICATION:**

- A. It is Peninsula’s responsibility to ensure that all necessary approvals have been obtained prior to marketing the compost.
- B. Finished compost shall be distributed to be used as a soil amendment or to create manufactured soil.
- C. Finished compost shall not be used at or around the WORC facility.

**VI. CLOSURE:**

- A. The purpose of this Approval is to direct closure of the facility. Deadlines for some specific closure activities are outlined in Table 1 of section I.D of this Approval. Peninsula shall cease operations and remove all waste, soil, soil/compost blend, and compost from the facility and shall sweep the site with a street sweeper or similar by March 31, 2015.
- B. Peninsula shall notify the Department in writing when closure activities are complete. Closure shall be complete by the Expiration Date of this Approval.
- C. During the closure period, the total amount of soil, finished compost and compost awaiting analysis stored on site shall not exceed a total of 25,000 cubic yards, nor 18,750 tons. By the Expiration Date of this Approval, all soil and compost,

including compost which did not meet the analytical criteria established in Table 2 of this Approval, shall be removed from the site.

- D. Peninsula shall remove and properly dispose of the Biofilter media by November 20, 2014.
- E. Peninsula shall clean the leachate collection trenches such that they:
  - 1. Are free of all waste, compost, and residue
  - 2. Are rinsed
  - 3. Allow water to flow freely and unobstructed.
- F. Peninsula shall clean the Receiving Building floor such that all waste is removed and shall deodorize the floor by January 30, 2015.
- G. Peninsula shall sample the surface water and sediment from the three stormwater ponds on site. Surface water and sediment from the stormwater ponds shall be analyzed, on a dry weight basis, for the metals listed in Table 2 using EPA's SW-846 (*Test Methods for Evaluating Solid Waste, Physical/Chemical*) method 6010 in its most currently approved version. Sampling of surface water shall be conducted in accordance with Section 9.1.5 of Delaware's *Regulations Governing Storm Water Discharges Associated with Industrial Activities*. Sampling of sediment shall be conducted in accordance with the Department's Site Investigation and Restoration Section's Standard Operating Procedure for Sediment Sampling. Additional sampling and analysis may be required.
- H. Upon completion of all closure activities, Peninsula shall submit certification, signed by an owner or corporate officer, verifying that all closure activities were conducted in accordance with Secretary's Order No. 2014-WH-XXXX and this Approval. Peninsula shall also identify any deviations from the same Order and Approval.
- I. Successful closure shall be defined as Peninsula conducting all closure activities and meeting all deadlines specified in the Order and Approval to the satisfaction of and at the sole discretion of the Department. Upon its determination that closure is satisfactorily completed, the Department shall issue a notice to Peninsula stating the same.

VII. **ADDITIONAL CONDITIONS:**

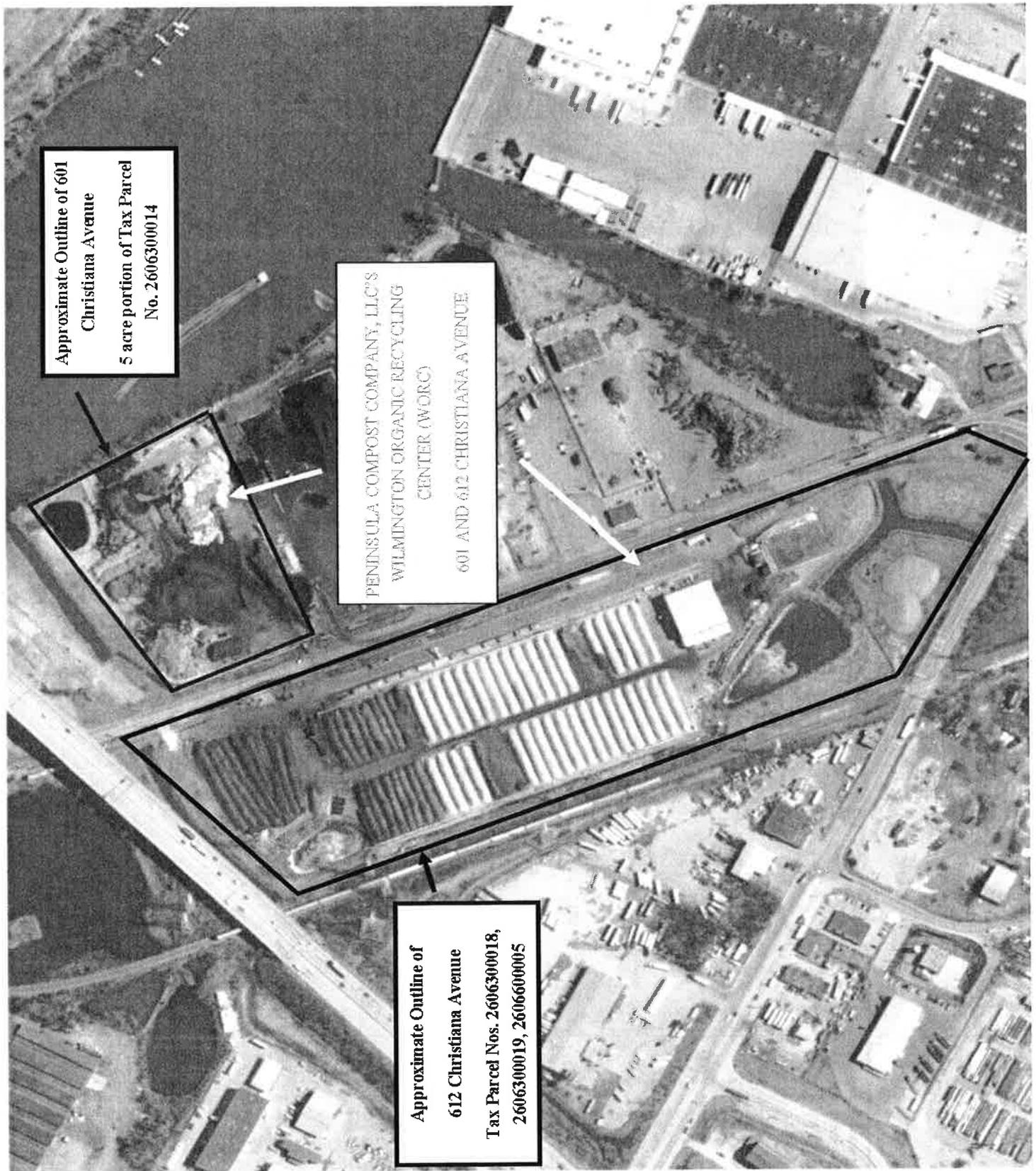
- A. The Department retains the right to collect samples of any material at any time. The Department and Peninsula retain the right to obtain split samples from each other's sampling events for separate analysis. Peninsula shall bear the expenses or reimburse the Department for the cost of analysis of all samples obtained and analyzed by, or for, the Department once per quarter.
- B. Peninsula shall obtain and maintain proper coverage under the Department's National Pollutant Discharge Elimination System (NPDES) stormwater permit program as applicable. Peninsula shall notify the stormwater program of its closure activities and expected date of closure.
- C. This Approval does not relieve Peninsula from complying with any other applicable Federal, State, or Local laws, regulations or ordinances.
- D. Any violation of any condition of this Approval, regulation promulgated by the Department, Secretary's Orders, or provision of 7 *Del.C.* Chapter 60, shall justify

termination of this Approval, implementation of appropriate enforcement action,  
and other remedies as deemed appropriate by the Department.

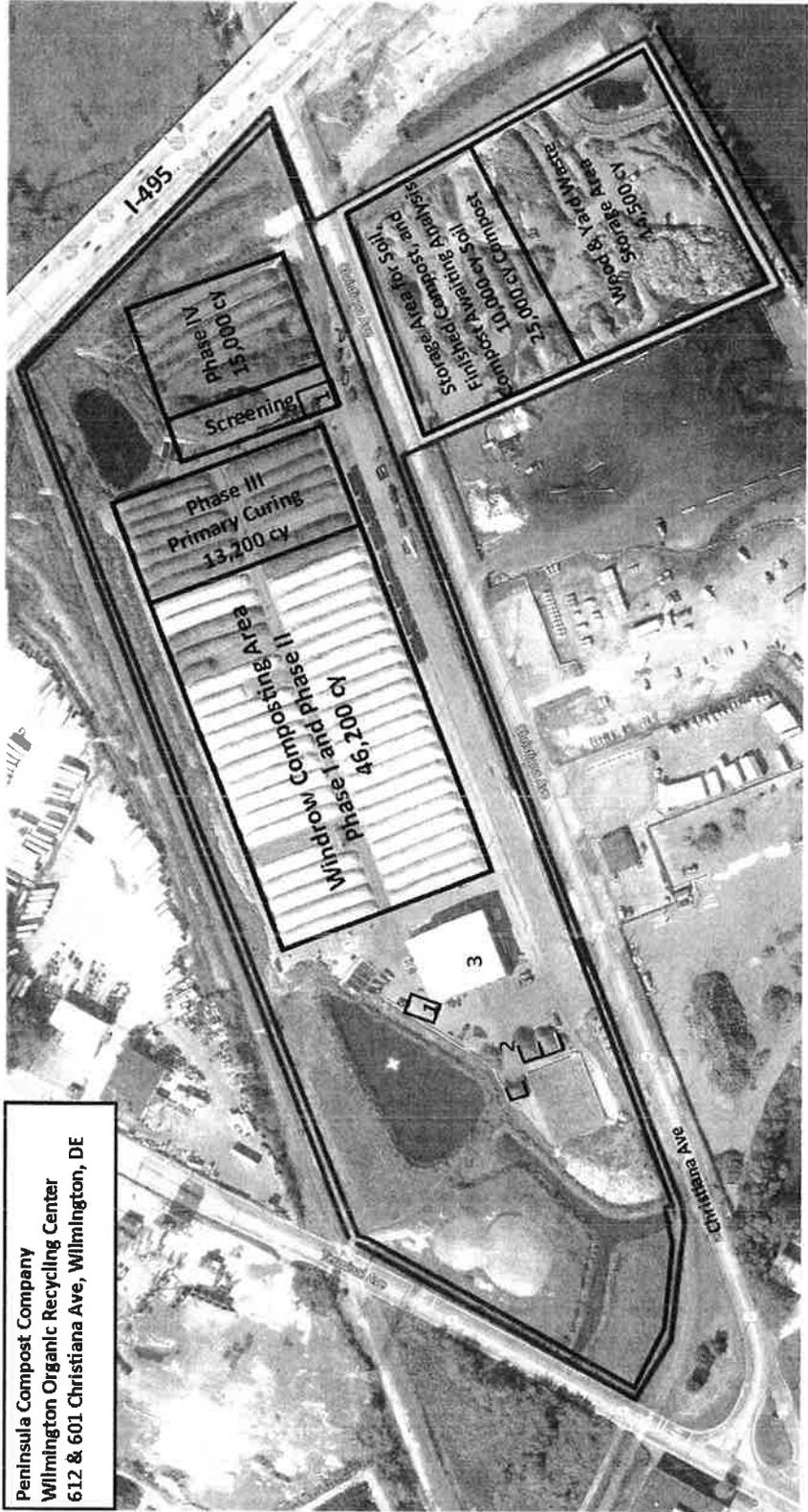
\_\_\_\_\_  
Nancy C. Marker  
Environmental Program Administrator  
Solid and Hazardous Waste Management Section

\_\_\_\_\_  
Date

PARCEL MAP



### ATTACHED SITE MAP



- 1 — Residuals Storage Area
- 2 — Storage Bins
- 3 — Receiving Building

- 612 Christiana Avenue Area
- 601 Christiana Avenue Area
- Peninsula (WORC) Facility Boundaries