

Attachment IX

Odor Minimization and Monitoring Plan

Odor Minimization and Monitoring Plan

Peninsula Composting Company, LLC

Wilmington Organic Recycling Center Facility
612 Christiana Avenue
Wilmington, DE 19801

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.0 INTRODUCTION AND FACILITY OVERVIEW

This Odor Minimization and Monitoring Plan (OMMP”) has been developed by Peninsula Compost Company, LLC (“Peninsula”) to establish site-specific operating and documentation procedures to ensure that the processing and management of compost by the company does not result in odorous air contaminants that may significantly affect persons offsite consistent with the requirements specified in Section 1119 of the Delaware Administrative Code, Title 7. The OMMP was also developed to ensure the requirements set forth in Peninsula’s most recent Beneficial Use Determination (“BUD”) Approval (#29/092614D) are met related to the minimization and control of odors at the facility.

The Peninsula Compost Company, LLC operates the Wilmington Organic Recycling Center (“WORC”) facility located at 601 and 612 Christiana Avenue in Wilmington, DE. The WORC facility recycles source separated food and organic waste through composting. The wastes that are recycled generally include food waste (meat, poultry, fish, fruits, vegetables, dairy products), including some paper products mixed with food wastes, yard wastes (leaves, brush branches, etc.) and general wood materials (pallets, chips, lumber, trees, animal bedding, etc.). The source of the source separated food waste will include restaurants, hotels, casinos, food importers/distributors, prisons, colleges, schools, sports venues, and other institutions or commercial establishments.

The WORC facility blends these various food/organic materials to produce a compostable mix that is used to generate various landscaping products for use. The ratio of food waste to carbon source material (wood) is adjusted by the facility, as necessary, to optimize the moisture content, carbon/nitrogen ration and porosity of the material entering the composting process. This final blended mixture helps to maintain aerobic degradation during the composting process which aids in minimizing odors.

The WORC facility design is based on the "in vessel" composting technology provided by W.

L. Gore and Associates Inc. The facility includes the following operational elements:

- Scale House Area
- Receiving Building
- Windrow Composting Area
- Screening and Phase IV Secondary Curing Area
- Biofilter Unit
- Leachate Collection System
- Storm Water Collection and Control Areas
- Maintenance and Office Building Locations
- Riverside Storage Yard (operated on adjacent riverside lot at 601 Christiana Avenue)

1.1 Setting

The WORC facility is located at 612 Christiana Avenue in Wilmington, Delaware. The facility consists of an eighteen (18) acre parcel located east of Interstate I-495, south of the Christina River and just west of the Port of Wilmington. The facility also includes an adjacent parcel that comprises an additional five (5) acre portion of property located across the street at 601 Christiana Avenue. The main portion of the facility (the 612 parcel) is accessible by vehicular traffic using the two entrances located on Christiana Avenue. The 612 site also has rail access along the east side of the property. The 601 lot is utilized by Peninsula as its Riverside Storage Yard and has a simple access road also located on Christiana Avenue. The Riverside Storage Yard portion of the facility is further divided into a Final Compost Product Area, at the front of the lot near Christiana Avenue, and a Wood and Yard Waste Storage Area, on the riverside portion of the property. A copy of a Site Plan Map that shows the facility layout and various operating areas is provided in Attachment 1. The entire facility is located in the M-2, or General Industrial, zoning district. The areas immediately surrounding the facility are industrial properties, including a bulk commodity storage and transshipment yard, a warehouse facility and the Port of Wilmington. The nearest residential property lies approximately 0.30 miles to the west of the site.

Although the setting of the site does not impact the detection of odors at the property line, it does factor into the impact to residential areas. The site is located in and surrounded by an industrialized area. As detailed in Section 1.2 below, wind in the area of the site predominantly blows toward the east and away from residential areas. To the east of the site lies another industrial facility, the Christina River and the Cherry Island Landfill.

1.2 Environmental and Climactic Conditions

Several phases of the composting process involve the storage and handling of material outdoors. Although the materials are stored under the Gore-Tex fabric covers while undergoing active composting, the materials are exposed to, and may be affected by the constantly changing environmental climactic conditions such as wind speed, wind direction, temperature and precipitation are all factors that will affect exposed compost material and the generation and transport of odors at the site.

Based on Wind Rose Plots developed by the Natural Resource Conservation Service from data obtained from 1961 to 1990, the prevailing winds in the area are from the west-northwest. A figure showing the monthly prevailing wind direction is provided in Attachment 5. The WORC facility personnel visually monitor wind direction and relative intensity using a windsock that is positioned at the site. According to the National Climatic Data Center, the average wind speed in Wilmington, DE is 9.0 mph. Wind speeds are typically faster November through April and relatively slower during the hotter summer months.

Greater wind speeds increase the likelihood of potential odors being carried offsite. The transport of any odors would generally follow the direction of the wind. Faster winds help to disperse potential odors over a wider area so that the concentration's reduced and, therefore, their potential to become a nuisance is minimized. Based on historic data, wind speeds in the area tend to increase later in the day, in the afternoon, while calmer winds, and potentially stagnant conditions are more likely to occur in the early morning.

It is also common in the early morning for an inversion to occur, where a layer of air becomes trapped near the surface. During an inversion, temperature rises with height from the ground and therefore allows for very little buoyancy or rising motion of any air mass. If odors occur during an inversion, they may become trapped in a layer near the surface and can accumulate to greater than normal concentrations in the surrounding area. Although common in the early morning, inversions also occur more frequently in the winter, but can occur on any day when the conditions are favorable.

Heat also factors into the development of odors throughout the composting process. Greater temperatures help to speed up the reactions within the material while the composting process also generates its own heat. Because of this, more odors are expected to be generated during the summer months.

Since facility operations are outdoors and conducted on impervious surfaces incidents of heavy precipitation have the potential to overwhelm the facility's leachate and storm water runoff systems, both of which are discussed further in Sections 2.1.6 and 2.1.7 respectively. Proper and efficient operation of these systems are important to controlling and minimizing odors.

1.3 Seasonality

Incoming food and organic waste material to be processed at the WORC Facility is readily available and accepted year round. However, the demand for finished compost product (i.e., compost product that has been both screened to ½" minus and analyzed to meet the product quality criteria specified in the BUD) is seasonal and varies throughout the year. During the months of low compost demand, the stockpiles of finished compost product may be larger at times to ensure product is available during months of high demand. These larger product storage piles should be turned as needed in order to prevent the buildup of any potential odors.

This OMMP has been developed to ensure that the processing and management of the compost materials at the WORC facility will not produce noxious odors that can migrate offsite and may affect members of the surrounding community consistent with Section 1119 of the Department's Air Quality Regulations. The Plan addresses personnel responsibility, regular inspection procedures, corrective actions and notification requirements.

2.0 FACILITY OPERATING CONTROLS AND PERSONNEL RESPONSIBILITIES

The design and operation of the WORC plant was developed to both: 1) provide a rapid composting process to quickly and efficiently convert food and wood wastes into nutrient rich mulch material or soil products; and 2) to ensure appropriate environmental control system are in place to minimize the potential impact of the facility's operation on the surrounding area, including using various engineering and operational controls to minimize odors. Both of these design objectives rely heavily on the facility's state-of-the-art Gore™ technological approach to composting as well as proper management oversight by facility staff.

2.1 Facility Engineering and Operating Controls

The WORC facility processes food and organic materials using an "in-vessel" composting system that takes eight weeks to complete. During the composting process only air and water are added to the compost mixture.

After eight weeks of curing, the finished compost is screened and sold as high quality mulch or blended with other soils to produce a final topsoil product. Finished compost and topsoil are generally sold in bulk to landscape contractors. At each step in the compost process, the facility uses both operational and engineering controls to ensure the materials are properly managed and that potential impacts from the operations, including odors, are adequately minimized.

To ensure that the compost process is optimized when applying the Gore™ System, the initial feedstock in the windrow stockpiles is prepared in a manner to ensure that the material has the proper ratio of Carbon and Nitrogen (C-N) source materials (i.e., wood-food ratio). This is accomplished by monitoring the blend of food and wood in the Receiving Building as described below. In addition, the facility routinely evaluates or analyzes the initial feedstock materials to ensure that the moisture content is optimized. This is important to ensure that there is sufficient water to ensure that the biological breakdown process and temperature are within a range to ensure efficient aerobic digestion. Further, the moisture aids in the creation of a vapor barrier inside the membrane covers that helps to filter potential odors from the process. As it is first placed into windrows, the feedstock typically has a moisture content of 60%. After eight weeks of curing, the moisture content of the compost material is 30-40%.

Detailed herein are descriptions of the process management areas and the controls employed at each area.

2.1.1 Scale House Area

All of the incoming food and organic waste material is brought to the facility in trucks. Upon arrival, each driver must identify the waste in their haul as they are brought to the scale house to be weighed. At the Receiving Building, the truck load is visually scanned to prevent non-acceptable material from being deposited on the site. Operators will review the loads for trash, debris and non-compostable materials, as well as other prohibited waste. Once the truck has been weighed and screened, it is then directed to either the Receiving Building or the Riverside Storage Yard. This area will be observed on a routine basis and cleaned with on-site water sources and/or a sweeper on an as needed basis.

2.1.2 Receiving Building

Incoming materials are directed to the enclosed receiving building where the shipments can be offloaded onto the tipping floor for blending and processing into the pre-compost mixture. The receiving building is equipped with an air system that draws air from the building at a design rate of approximately 42,000 cubic feet per minute (cfm). The air flow is discharged to a biological odor absorber unit (or biofilter, see 2.1.5 below) that is used to provide odor control for the receiving building.

Trained WORC personnel will add a wood substrate (e.g., wood chips) that is stored onsite to the incoming food materials to optimize the C-N ratio for the final compost feedstock. The materials are finally blended using a grinder to homogenize the mixture and water can be added as necessary.

2.1.3 Windrow Compost Area

Once the material has been sized and blended the material is composted in forced aeration windrows. Composting is conducted in four phases: Phase I and Phase II, High Rate Composting; Phase III, Primary Curing; and Phase IV, Secondary Curing. The composting process utilizes technology developed and supplied by W.L. Gore & Associates that utilizes a membrane fabric cover system for the windrows in order to accelerate composting while controlling odors. The membrane cover is designed to allow air and carbon dioxide to escape while forming a moisture barrier inside the fabric that acts as a filter to keep in higher molecular weight organic compounds and odors.

During Phases 1 and 2, the windrows are covered with the Gore fabric and air is forced into the windrow to provide the necessary oxygen required by the composting process. During Phase III, the compost process is sufficiently stable so that the Gore cover is not required. The material is uncovered in Phase III but

has forced aeration of the windrows. The material remains in Phase III for 2 weeks. After 2 weeks in Phase III, the material is ready for screening and blending.

The open areas of the Windrow Compost Area (as shown in the Site Plan Map in Attachment 1) will be cleaned at least once a week using on-site water and a sweeper to prevent buildup of materials that could generate unpleasant odors. Additionally, when individual windrows are moved or rotated in this Area (i.e., in Phases I-III), the facility will scrape or clean the location where the windrow was stored to remove excess residue before the location is reused to prevent the buildup of residual compost materials.

2.1.4 Screening/Phase IV and Product Storage Areas

Material that has completed Phase III, as described above, is moved by front-end loader to the Screening Area. At the Screening Area the Phase III materials are screened to 2" minus. In accordance with Section III.E.5 of the BUD, the screened compost material is then either moved using front-end loaders to the Phase IV Area on the 612 Christiana Avenue property or the Finished Compost Area on 601 Christiana Avenue designated for storage of soil, finished compost, compost awaiting analysis and Phase IV material (as depicted in the Site Plan Map). The compost material will cure there for approximately four more weeks. Following this final curing stage, the material is screened again to 1/2" minus to produce the final compost product. This material will be stored in the Final Compost Storage Area on the 601 Christiana Avenue property.

The over's from the 1/2" screening process consists primarily of oversized wood materials that are considered feed stock. In accordance with Section III.D.5 of the BUD, these overs are considered wood waste feed stock and may be reintroduced back into the composting process as long as the material contains less than 0.5% plastic. Any plastic, residues and/or non-compostable materials removed during

this screening are containerized and sent offsite for further processing and/or disposal.

The screening area will be observed on a routine basis and cleaned with on-site water sources and/or a sweeper on an as needed basis. The equipment will also be cleaned with water on an as needed basis.

2.1.5 Biofilter Unit

As discussed above, the biofilter unit is used to receive and reduce odors in the air captured from the receiving building. The biofilter is an open topped unit that is filled with a mixture of naturally occurring materials, such as wood chips, compost, etc., that capture and degrade odorous compounds through microbial digestion. There is no stack on the unit and the captured air is allowed to filter through the organic substrate at a slow rate (approximately 3 cfm/ft²) to allow absorption to occur.

The proper operation and maintenance of the biofilter unit is addressed in Section 3.3.3 of the Facility Operations Plan. The facility routinely monitors the back pressure on the system to ensure the air flow in the system is not blocked. Additionally, the moisture content of the filter media (i.e., wood chips) is monitored weekly to ensure the bed conditions are optimized to maintain the efficiency of the odor removal. The biofilter unit was generally designed in accordance with the principles identified in US EPA's "Using Bioreactors to Control Air Pollution" (EPA-456/R-03-003, Sept. 2003). Based on this design, the filter media will be replenished approximately every three (3) years.

The fabric cover systems, screening equipment and Receiving Building and associated biofilter are registered equipment under the Section 1102 of the Department Air Quality Management regulations. Any additional operating conditions and required monitoring requirements are as specified in these equipment registrations, provided in Attachment 4.

2.1.6 Leachate Collection

Leachate will be generated from food in the Receiving Building, from active composting windrows, and from drainage through the biofilter. Collecting the leachate will pull away any excess water and its constituents, and drain this into the municipal sanitary sewer using concrete channels.

The Receiving Building has a drain to collect water from the floor. The floor of the building slopes to the drain. Water collected in this drain will be from the wash down of equipment and floors. This drain connects to the buried leachate piping system which drains to the sanitary sewer.

Most of the windrows where the food waste is composted are covered with the Gore cover system. The covers prevent rainfall from coming into contact with the composting material. Any water that does come out of the covered composting material is treated as leachate. This water is collected in the trench drain embedded in the concrete pad. The trench drains to a sump under each windrow. Each sump in turn drains to a leachate piping system which drains to the sanitary sewer. Because compost is able to retain water very efficiently, the amount of leachate generation expected is small.

Once the material has been covered and composting for a minimum of 6 weeks, the material is uncovered as it enters the curing phase. By the time the material has been moved to the curing phase, the requirements for a process to further reduce pathogens and vector attraction reduction have been achieved. As such, runoff from this material is no longer required to be treated as leachate.

Leachate will also be generated at the biofilter. This will be from rainfall which flows through the biofilter media material. Any water flowing through the media will be collected in the trench drain system cast into the concrete asphalt base of the biofilter. This water will drain to the sanitary sewer.

To prevent the generation of unpleasant odors, the leachate collection system is cleaned using a water truck and/or tractor. Trenches are inspected prior to or during the construction of each windrow.

2.1.7 Storm Water Collection and Control Areas

There are two storm water retention basins located on site at opposite ends of the 612 Christiana Avenue property. Any rain falling on the windrows, which are sloped at 2% along the length of the windrow, or on the asphalt surface of the screening area is directed to the storm drain system. Each retention pond is equipped with concrete debris traps to intercept any wood or compost materials that may be in the site run-off before it discharges to the basins. The retention basins are also aerated to prevent the water from becoming stagnant.

An additional storm water sediment basin is located on the northern corner of the 601 Christiana Avenue Property. This basin is shallow and intended to prevent sediments from the Riverside Storage Yard, which includes both the Final Compost Storage Area and the Wood and Yard Waste Storage Area, from entering the storm water discharge from this operating area. The sediment basin is equipped with two rows of silt fence in series, that protect the inlet to the basin from larger debris as well as excess silt and sediment.

The storm water basins are properly maintained in order to function as designed. The facility ensures that all effluent meets the criteria established in the facility DNREC storm water discharge permit. The retention basins are inspected on a weekly basis and documented on the facility's Daily Operating Log. All of the basins are also inspected prior to the on-set of any severe inclement weather such as tropical storms or hurricanes (to insure that inlet and outlet structures are free from obstructions).

2.1.8 ChemStation Odor Control Air Curtain

The WORC facility has installed a ChemStation Odor Control Air Curtain that is positioned along the south wall at the facility near storm water retention Pond 1. When operating, the ChemStation unit sprays an odor neutralizing spray that encapsulates and eliminates odors. The air curtain is activated at the site when the wind direction is blowing towards the neighboring Terminal Avenue truck stop and the Hamilton and Eden Park Communities. The air curtain is operated in accordance with an equipment registration issued to the facility. A copy of the air registration is provided in Attachment 4.

2.2 Facility Personnel Responsibilities

The key individuals that have the responsibility to perform tasks as identified in this Plan are identified below.

2.2.1 Plant Manager

The Plant Manager oversees all operations conducted at the facility, and has the primary responsibility to ensure that the inspection, monitoring and corrective action requirements of this Plan are appropriately carried out by the individual assigned to the position identified below.

2.2.2 Environmental Manager

The Environmental Manager is responsible for ensuring that routine odor surveys are conducted. If so designated, the Environmental Manager will designate a trained inspector to conduct the routine odor surveys, and will be responsible for training the inspector accordingly. Every Odor Survey Form and Odor Incident Report that is completed will be handed to the Environmental Manager for recordkeeping purposes. Any odors that are detected must be immediately reported to the Environmental Manager or his designee to ensure that the appropriate response is taken.

2.2.3 Odor Inspectors

Peninsula will designate certain personnel as odor inspectors who will conduct routine odor surveys of the facility in accordance with this Plan. The facility's Environmental Manager, or his/her designee, will perform training in the appropriate evaluation procedures to those qualified individuals prior to allowing them to conduct the odor evaluation. The inspection should be performed by someone who has not been affected by potential site odors that could potentially mask detection. Preferably, the inspection should be done just after arrival in the morning or following any time spent offsite.

3.0 PERSONNEL TRAINING

All site personnel will have job specific training provided by Peninsula to ensure that these individuals can properly operate and monitor the compost process in a manner that is consistent with its design. In addition to job specific training, employees may be required to receive additional supplemental training such as conducting Odor Surveys. Peninsula is committed to providing a comprehensive range of relevant training programs.

4.0 INSPECTION/ODOR EVALUATION PROCEDURES

Throughout the operation of the facility, there are a number of controls that are used to minimize the amount of odor. In order to ensure the controls are effective, Peninsula will conduct routine inspections of the facility at once each operating day and in conjunction with the daily routine facility inspections, whenever possible. At the discretion of the Plant Manager, the frequency of odor surveys may be increased at times to ensure compliance with applicable odor regulations at the discretion of the Plant Manager. Odor inspections must be performed by a trained inspector designated by Peninsula, as further detailed in Section 2.2.3 above. Each inspection must be documented on an Odor Survey Form, as provided in Attachment 2. These inspections will assist Peninsula in quickly identifying and minimizing or eliminating potential odor sources. If

an odor incident is detected, Peninsula will quickly respond and take the appropriate corrective measures to abate any conditions that have the potential to affect persons offsite.

A routine inspection will consist of the inspector walking around the facility and recording observations at five designated locations, shown in Attachment 2. At each location the inspector will determine if any foul or offensive odors are detected or could be detected beyond the facility's property line. Should an odor be detected during the inspection, the appropriate actions will be taken in accordance with the procedures described in Section 5.

5.0 CORRECTIVE ACTION PROCEDURES IN THE EVENT OF AN ODOR INCIDENT

In the event that an odor is detected at the facility during an odor survey, the inspector must report the incident to the Plant Manager or Environmental Manager immediately and begin to initiate the corrective actions as outline below. In the event of a significant incident or an incident that cannot be quickly and easily corrected, such as a tear in the Gore-Tex® cover, an Odor Incident Report, as provided in Attachment 3, will be completed to document the event. While the decision to complete the Odor Incident Report will be at the discretion of the Plant Manager or Environmental Manager, all incidents will be recorded and maintained as part of the facility's operating record.

If the facility receives an odor complaint from someone who has detected odors from an offsite location, the Plant Manager, or his designee, must be immediately notified. The individual plant personnel receiving the complaint information will initiate the completion of an Odor Incident Report Form, as provided in Attachment 3, to document the complaint report as well as the actions taken by the facility to identify and verify the odor and abate the condition. Upon notification of the complaint, the Plant Manager or his/her designate, will follow the notification procedures outlined in 6.0 below and ensure that the appropriate corrective actions described below are implemented.

5.1 Source Identification

The first step toward eliminating an odor is to identify the source. Once the source of the odor has been located, then the appropriate method to resolve the odor can be determined and implemented. The Odor Inspector will work with the Environmental Manager to evaluate and inspect each of the operational areas identified in 2.1 above to determine whether the materials or operations being conducted in those areas of the plant are the source of the odor. Once the source(s) of the odors is identified, the facility will implement appropriate corrective measures as outlined in Sections 5.2 and 5.3 below.

5.2 Equipment Maintenance or Repair

Equipment malfunction or disrepair can frequently lead to the unintended release of odors from the facility's operating areas. Once an area of the facility has been identified as the possible source of the odors, a check of all equipment within that operating area must be made to determine if any repairs or replacements are needed. Examples of this would be:

- A windrow cover needs to be replaced
- Building exhaust fan needs repair or maintenance
- A windrow pile needs to be covered
- The biofilter needs new organic absorbent
- The ChemStation Odor Control Air Curtain requires adjustment or repair
- Storage area(s) need to be cleaned
- The storm water collection basin(s) or filter box(es) need attention
- The aeration pad(s) need repair or maintenance

5.3 Source Isolation and Mitigation Measures

If the equipment in the facility's operating areas are functioning properly and the approaches listed in 5.2 above do not identify or eliminate the odor concern, then further corrective actions must be performed to isolate and mitigate the source of the odors.

An initial check the facility for unexpected or unapproved waste will be performed. If any such waste is found at the facility, then it must be disposed of immediately. The facility will also take the following steps to isolate and mitigate the source of the odors as necessary:

- Inspection of piles for odorous materials
- Turning of windrows
- Removal/disposal of odorous material offsite
- Applying odor suppressant/reagent controls (lime, carbon absorbent reagents)
- Use spray misters with odor eliminating agents
- Curtail facility operations and/or receipt of new wastes in the building

Using the above methods will help Peninsula to quickly identify the source of the odor and to correct the situation as efficiently as possible. Once the situation has been corrected, the facility can return to normal operations.

10 NOTIFICATION PROCEDURES

In the event that an odor has been detected (at any time) that has the potential to be detected offsite, the Environmental Manager should be notified immediately. The Environmental Manager will evaluate the type and character of the odor. If the Environmental Manager determines that the odor could create a nuisance or significantly affect anyone beyond the property boundary, a notification of the incident will be made to the Division of Air Quality (DAQ) and the Solid and Hazardous Waste Management Section (SHWMS). A copy of the Odor Incident Report should be provided along with the notification whenever possible. Notifications may be submitted via electronic mail and/or facsimile.

If an odor complaint is received from someone offsite, and the odor is confirmed as emanating from the facility, the Plant Manager, or his designate, will immediately contact the DAQ and SHWMS to notify them of the odor incident and inform them as to what corrective actions are being taken. A preliminary Odor Incident Report will be sent to the Department via electronic mail and/or facsimile. Surrounding community members, especially those who have previously

filed odor complaints, may also be notified to assure them that the situation is being investigated and is in the process of being resolved. The Plant Manager, or his designee, will subsequently notify the DAQ and SHWMS when the situation is corrected and report the corrective actions that were implemented. Documentation of the odor complaint will be included in the facility's operating record as discussed in Section 7.0 below.

7.0 RECORDKEEPING

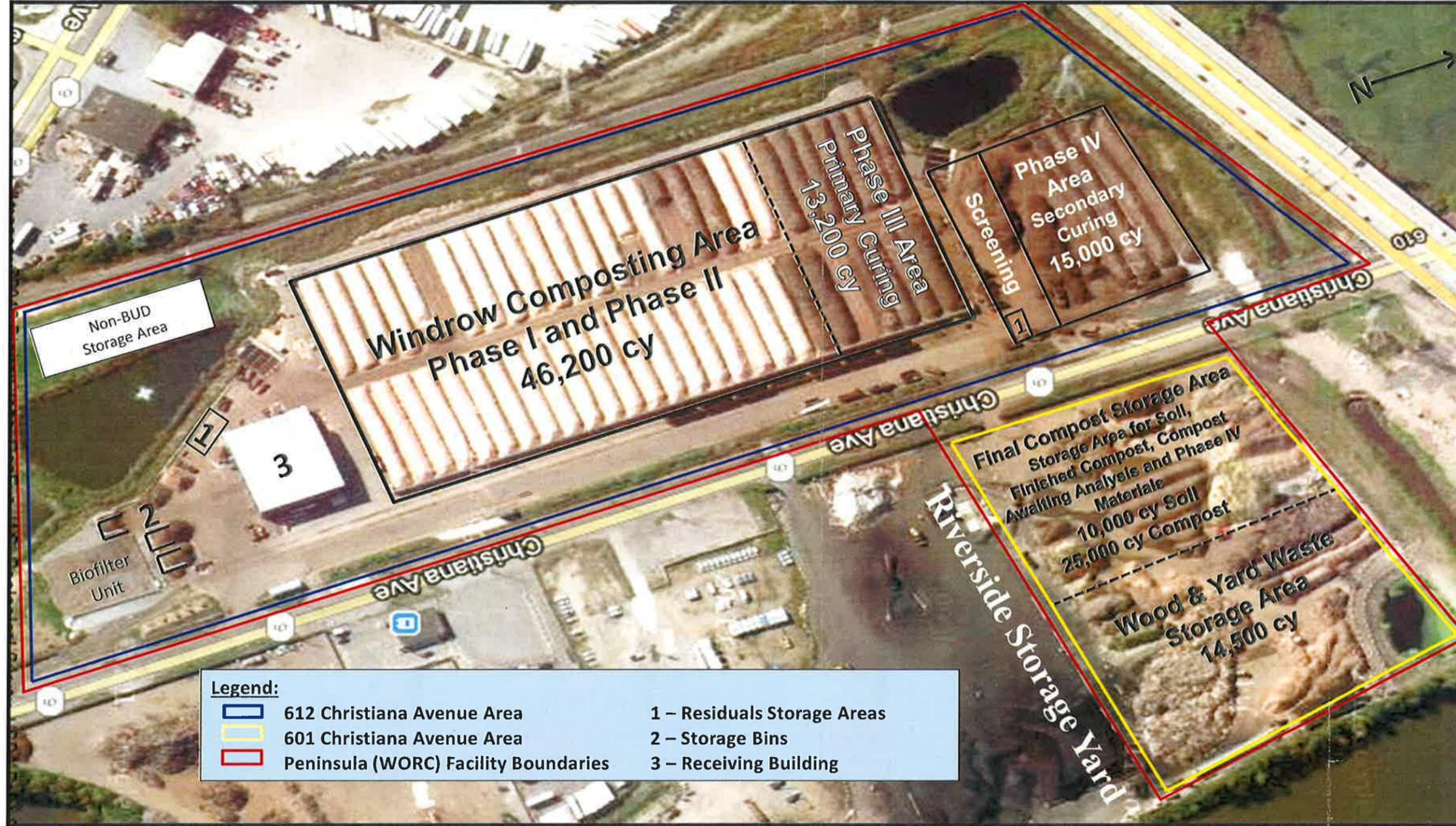
Copies of all completed Odor Survey Forms and/or Odor Incident Reports shall be maintained by the Environmental Manager. A copy of any completed Odor Incident Reports will also be immediately available to the Department upon request in accordance with Section II.F of the BUD. The Environmental Manager will also review the odor log forms to ensure that the documents were properly completed and that no odor detections were noted during the inspections.

All data, forms and reports required by this OMMP shall be recorded and maintained by Peninsula for a minimum of three (3) years and immediately made available to the Department upon request.

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Attachment 1

Site Plan Map
Wilmington Organics Recycling Center



Legend:

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

Site Plan Map	
Wilmington Organic Recycling Ctr. 601 and 612 Christiana Avenue Wilmington, DE 19801	
Compliance Plus Services, Inc. P.O. Box 186 Hatboro, PA 19040 Phone: 215.734.1414	
Scale: None	Proj: 0240.0507.01
Date: 02/28/2014	Revision: 1
Drwg: RM	Appr: MDL

Attachment 2

*Odor Survey Form and
Survey Locations Map*

Directions - Complete the information requested below for each odor inspection conducted at the facility. If an odor is detected, complete the bottom half of the form as well. Return all forms to the Environmental Manager or his designee. Copies of the final inspection forms must be maintained onsite.

Date: _____ Temperature: _____
 Time Started: _____ Wind Speed: _____
 Time Stopped: _____ Wind Direction: _____

Odor Survey Locations

	#1 - I-495 Border	#2 - NW Border	#3 - SW Border	#4 - S Border	#5 - 601 Christiana Ave.
	Time: _____				
Odor Detected	<input type="checkbox"/> No Odor Detected	<input type="checkbox"/> No Odor Detected	<input type="checkbox"/> No Odor Detected	<input type="checkbox"/> No Odor Detected	<input type="checkbox"/> No Odor Detected
	<input type="checkbox"/> Odor Detected				
If Detected: Severity of Odor	Mild Odor <input type="checkbox"/>				
	Moderate Odor <input type="checkbox"/>				
	Heavy Odor <input type="checkbox"/>				

What operations were being conducted on site (specify 612 or 601 Christiana Ave)? _____

Approximate inventory onsite: Windrows Composting Area _____ Screening/Phase IV Area _____
 Receiving Building _____ Final Compost Product Area _____

Can odor be detected from any of these potential sources:

Windrow Composting Area	Receiving Building	Screening Area	Biofilter	Final Compost Product Area
<input type="checkbox"/> No Odor Detected				
<input type="checkbox"/> Odor Detected				

Was the air curtain operating? Yes No

If an odor was detected, please complete the remainder of the form

Determination of Source: _____

Duration of Odor: _____

Intensity of Odor at Survey Location? At source? _____

What might be the best possible corrective action?

Replace Windrow Cover Cover Windrow Pile Adjust/Repair ChemStation Air Curtain Dispose of Unexpected or Unapproved Waste
 Repair/Maintain Building Exhaust Fan New Organic Absorbant for the Biofilter Other: _____

Who was notified of the incident?

Environmental Manager Plant Manager Department (DNREC) Other: _____

Were any odors detected on a follow-up inspection?

No Odor Detected Date of follow up inspection: _____ Wind Speed: _____
 Odor Detected (explain below) Time of follow up inspection: _____ Wind Direction: _____

Other/Comments:

Map 1

Perimeter Survey Locations

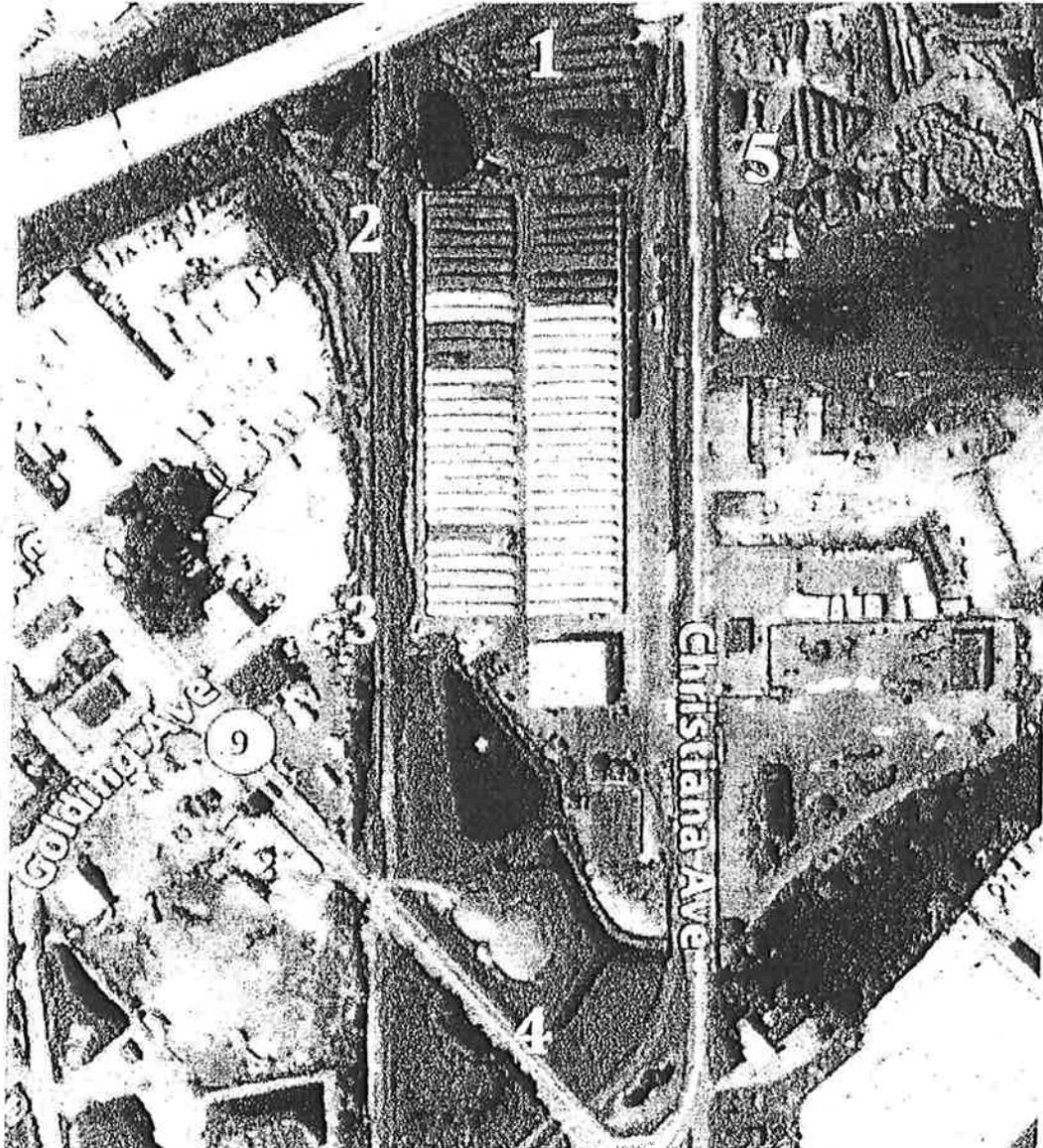
Location 1: 1495 border of facility (upwind of South Bridge)

Location 2: NW border of facility (upwind of Hamilton Park)

Location 3: SW border of facility (upwind of Holloway Terrace)

Location 4: S border of facility (upwind of Port of Wilmington)

Location 5: 601 Christiana Avenue Riverside Storage Area



Attachment 3

Odor Incident Report

Peninsula Compost Company, LLC
612 Christiana Avenue
Wilmington, DE. 19801
Phone: 302-777-3664 Fax: 302-777-3663

ODOR INCIDENT REPORT

Date of Odor Report: _____ Time of Report: _____

SECTION I: INITIAL COMPLAINT

Was this incident related to an odor complaint _____ or odor inspection? _____

If an odor inspection, what was the date and time of the inspection: _____

If complaint, identify personnel receiving report/complaint: _____

Name of person reporting odor complaint: _____

Address of person reporting odor complaint: _____

Contact phone number: _____

Date and time of odor detection: _____

Where was odor first detected? _____

How long did they smell the odor? _____

Describe the odor scent: Sweet Oily Septic Acrid Other (Describe): _____

Describe the severity of the odor: Mild Moderate Heavy

Did anyone else detect the odor? Yes No If yes, who? _____

When? _____ Where? _____

What is the relationship to the original complainant? _____

Have they ever smelled the odor before? Yes No If yes, describe the circumstances: _____

Did they (the complainant) notify DNREC? Yes No

If yes, when was it reported (date/time) _____ Was a Case No. assigned _____

Comments: _____

SECTION II: AGENCY NOTIFICATION

Was DNREC notified? Yes No How? Email Phone Other

Who notified the Department? _____ When (Date/Time) _____

Identify Department Contacts: _____ DAQ _____ SHWMS

Was another agency notified? Yes No If yes, identify: _____

Was a site visit/inspection performed by DNREC? Yes No

Name/Affiliation of investigating official: _____

Is there written documentation and/or an inspection report? Yes No

If yes, is the documentation available (Please provide any available reports)? Yes No

Date of availability: _____ Case number (if applicable): _____

If an inspection was completed, did DNREC confirm odor detection? Yes No

Did DNREC find potential source(s) of odor: Yes No

Has DNREC received any similar complaints: Yes No

Were violations or administrative actions issued as a result of the odor complaint? Yes No

If yes, identify (i.e., NOV #) _____

SECTION III: INSPECTION/VERIFICATION OF COMPLAINT

Was an inspection completed at the Peninsula Compost facility? Yes No

NOTE: Please note that when possible, the individual performing the inspection should be exposed to "clean" air (such as in the office, or off-site) for at least ½ hour before completing the inspection.

Was any monitoring completed by Peninsula Compost of off-site locations? Describe locations and any findings (also attach diagram of monitoring locations):

Name of person who completed the inspection: _____

Was the source of the odor detected? Yes No If odor was detected, describe odor and

location: _____

Use the attached map provided at the end of this report to mark the location(s) where odor monitoring was completed at the facility (explain below as necessary):

Please record information on weather conditions at time of complaint.

Wind direction: _____ (Attach hard copy of data if available) Approximate wind speed: _____

Percent humidity: _____ Air temperature: _____

Special weather conditions (i.e. rain, snow, etc.): _____

Were there any activities noted at nearby/adjacent properties which may cause the odor?

Yes No

If yes, describe what was observed: _____

What were the facility operating conditions at the time of the complaint? _____

How much material (specify type) was stored on site? _____

Receiving Bldg. _____ Screening/Phase IV Areas _____

Final Compost Product Area _____ Windrow Capacity Area _____

Wood/Yard Waste Storage Area _____

At the time of the complaint, was material at the facility being: Shipped Received

If yes to either, what were the characteristics of the material being received/shipped? _____

Who was the generator of the material? _____

Were there any uncharacteristic conditions occurring at the facility at the time of the complaint?

Yes No If yes, describe the condition: _____

Was follow-up done with the complainant? Yes No Date of follow-up: _____

If odors were detected from Peninsula Compost operations, was the location monitored following the detection? (Attach all monitoring reports) Yes No

NOTE: The area where odor was detected should be inspected at least 3 consecutive times within a 24 hour period in which no odor is detected before monitoring is discontinued.

SECTION IV: CORRECTIVE ACTIONS

Were there any changes/actions immediately taken to adjust the operations at the facility?

Yes No If yes, describe: _____

Was the facility shut down? Yes No If yes, describe: _____

Were loading/unloading operations changed/ceased? Yes No If yes, describe: _____

Were there changes made to the facility operating conditions? Yes No If yes, describe: _____

Were there any changes made to storage locations? Yes No If yes, describe: _____

Describe any other action taken as a result of this incident: _____

Are there any future/additional corrective actions recommended/planned at the facility?

Yes No If yes, describe: _____

SECTION V: FOLLOW-UP

Date of follow-up: _____ Does the complainant still smell the odor? Yes No

If yes, are the conditions: the same better worse

Describe the conditions: _____

Were any follow-up actions taken with DNREC or another investigating agency? Yes No

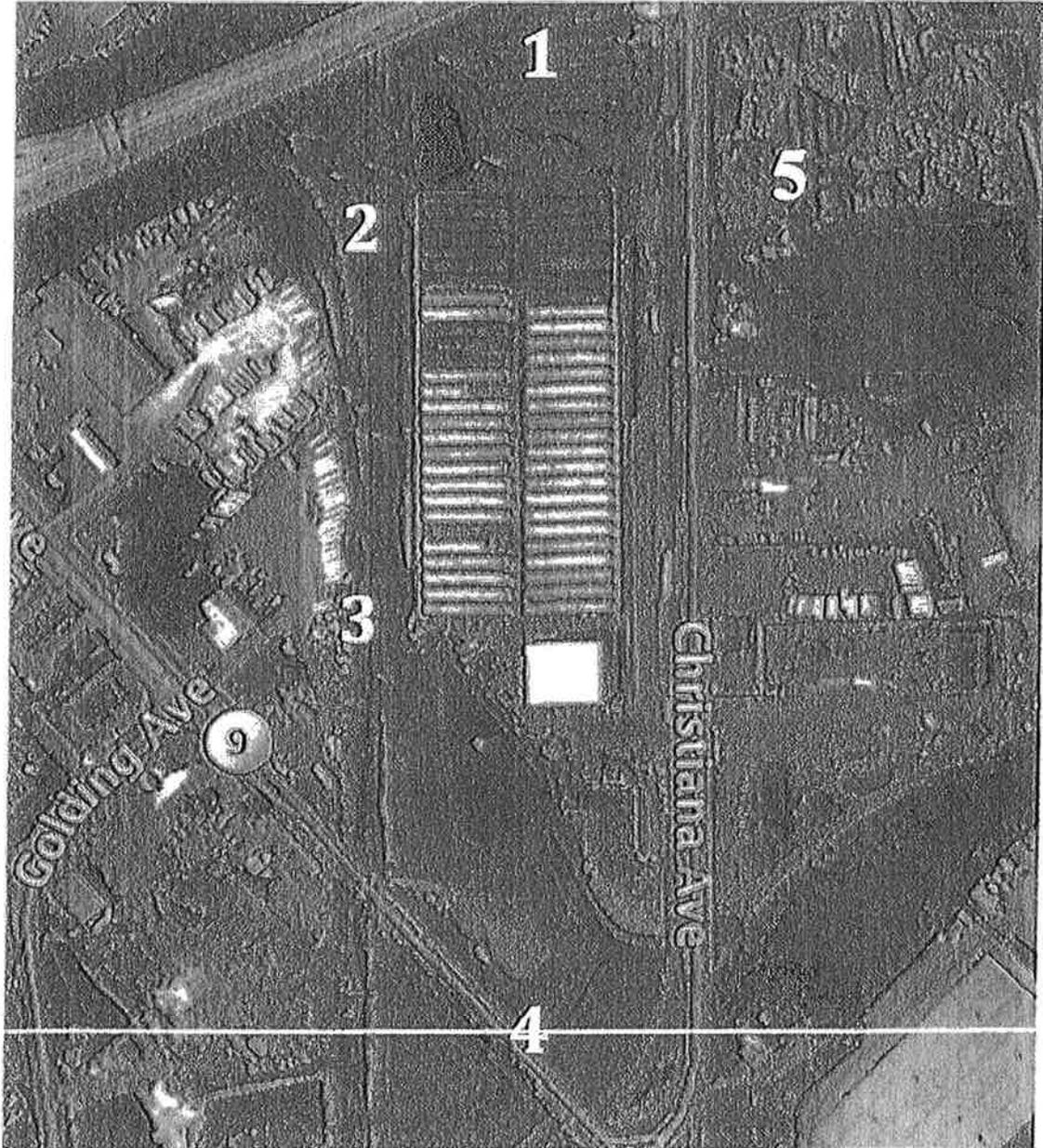
If yes, describe: _____

Were any written reports submitted by Peninsula Compost? Yes No If yes, provide copies of any reports. _____

Completed by: (Signature) _____ Date: _____

Plant Manager: (Signature) _____ Date: _____

Odor Survey Map



Comments: _____

Attachment 4

Equipment Registrations



STATE OF DELAWARE
 DEPARTMENT OF NATURAL RESOURCES
 & ENVIRONMENTAL CONTROL
 DIVISION OF AIR & WASTE MANAGEMENT

AIR QUALITY MANAGEMENT
 SECTION

156 S. STATE STREET
 DOVER, DELAWARE 19901

TELEPHONE: (302) 739 - 9402
 FAX No.: (302) 739 - 3106

July 3, 2008

Peninsula Compost Company, LLC
 801 N. Shippley Street
 Wilmington, DE 19801

ATTENTION: Whitney Hall
 Chief Operating Officer

SUBJECT: Permit: APC-2008/0165-REGISTRATION

Dear Mr. Hall:

This is in reference to your Registration Application, received by the Department May 9, 2008, requesting an air permit to operate equipment associated with a food waste composting facility at 601 Christiana Avenue in Wilmington, Delaware.

The equipment registered pursuant to the State of Delaware Regulation 1102, Section 9 consists of:

- A receiving building with an odor control biofilter,
- Windrows for the compost process, utilizing Gore Cover™ membranes, and
- A trommel screen for the finishing process.

In the Department's opinion, emissions from this source have little or no potential of causing a condition of air pollution. Therefore, since this equipment emits less than ten pounds of particulate matter per day, permits for installation and operation are not required.

If, at any time, the equipment fails to meet the requirements of Regulation 1102 Section 2.1.1, by either exceeding the emission limitation of ten pounds per day or causing a condition of air pollution, operation of said equipment shall be immediately discontinued until all necessary permits have been secured.

Records which document that the equipment meets the emission limitation of ten pounds per day registration requirements shall be maintained at the facility and made available to the Department upon request.

Peninsula Composting Company shall notify the Department before making any changes to the equipment, or any variations to operating procedures as described in the Registration Application signed and dated April 4, 2008, in order that the Department can establish that a proposed change will not affect air emissions.

See State of Delaware Regulation 1102, Section 9 for further information.

Sincerely,

Alberto Roybal
 Environmental Engineer
 Engineering & Compliance Branch

PEF:JLF:ALR
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pc: Dover File
 Michael Logan; Compliance Plus Services, Inc.; 336 South Warminster Road; Hatboro, PA 19040

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STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR QUALITY
655 S. Bay Road, Suite 5N
DOVER, DELAWARE 19901

Telephone: (302) 739 - 9402
Fax No.: (302) 739 - 3106

August 22, 2012

Peninsula Composting Company, LLC
40 Hill Road
Wilmington, DE 19806

ATTENTION: E. Andrew DiSabatine
Managing Member

SUBJECT: Permit: APC-2013/0014-Registration

Dear Mr. DiSabatine:

This is in reference to your Registration application dated July 26, 2012, in which you requested permission to operate a Morbark 1000 tub grinder at 601 Christiana Avenue, Wilmington, DE 19806.

The following equipment has been registered pursuant to 7 DE Admin. Code 1102, Section 9:

Morbark 1000 Tub Grinder
Wilmington Organic Recycling Center
601 Christiana Avenue
Wilmington, DE 19806
APC-2013/0014-Registration

In the Department's opinion, emissions from this source have little or no potential of causing a condition of air pollution. Therefore, since this equipment emits less than ten (10) pounds per day, permits for installation and operation are not required.

If, at any time, the equipment fails to meet the requirements of 7 DE Admin. Code 1102 Section 2.1.1, by either exceeding the emission limitation of ten (10) pounds per day or causing a condition of air pollution, operation of said equipment shall be immediately discontinued until all necessary permits have been secured.

Records which document that the equipment meets the registration requirements shall be maintained at the facility and made available to the Department upon request.

See 7 DE Admin. Code 1102, Section 9 for further information.

Sincerely,

Matthew A. Rendon
Environmental Engineer
Engineering & Compliance Branch

PEF:TMH:MAR
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pc: Dover File

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STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR QUALITY
655 S. Bay Road, Suite 5N
DOVER, DELAWARE 19901

Telephone: (302) 739-9402
Fax No.: (302) 739-3106

September 28, 2012

Peninsula Composting Company, LLC
612 Christiana Avenue
Wilmington, DE 19801

ATTENTION: Whitney Hall
Chief Operating Officer

SUBJECT: Permit: APC-2013/0042-Registration

Dear Mr. Hall:

This is in reference to your Registration application dated December 29, 2011, in which you requested permission to operate a mobile rotary screen at 612 Christiana Avenue, Wilmington, DE 19801.

The following equipment has been registered pursuant to 7 DE Admin. Code 1102, Section 9:

Mobile Rotary Screen
Wilmington Organic Recycling Center
612 Christiana Avenue
Wilmington, DE 19801
Permit: APC-2013/0042-Registration

In the Department's opinion, emissions from this source have little or no potential of causing a condition of air pollution. Therefore, since this equipment emits less than ten (10) pounds per day, permits for installation and operation are not required.

If, at any time, the equipment fails to meet the requirements of 7 DE Admin. Code 1102 Section 2.1.1, by either exceeding the emission limitation of ten (10) pounds per day or causing a condition of air pollution, operation of said equipment shall be immediately discontinued until all necessary permits have been secured.

Records which document that the equipment meets the registration requirements shall be maintained at the facility and made available to the Department upon request.

See 7 DE Admin. Code 1102, Section 9 for further information.

Sincerely,

Matthew A. Rendon
Environmental Engineer
Engineering & Compliance Branch

PEF:TMH:MAR

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pc: Dover File

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STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR QUALITY
855 S. Bay Road, Suite 5N
DOVER, DELAWARE 19901

Telephone: (302) 739 - 9402
Fax No.: (302) 739 - 3106

November 1, 2012

Peninsula Composting Company, LLC
612 Christiana Avenue
Wilmington, DE 19801

ATTENTION: E. Andrew DiSabatino
Managing Member

SUBJECT: Permit: APC-2013/0041-REGISTRATION

Dear Mr. DiSabatino,

This is in reference to your Registration application dated September 19, 2012, in which you requested permission to operate a ChemStation Odor Control Air Curtain at 612 Christiana Avenue, Wilmington, DE 19801.

The following equipment has been registered pursuant to 7 DE Admin. Code 1102, Section 9:

ChemStation Odor Control Air Curtain
Wilmington Organic Recycling Center
612 Christiana Avenue
Wilmington, DE 19801
APC-2013/0041-REGISTRATION

In the Department's opinion, emissions from this source have little or no potential of causing a condition of air pollution. Therefore, since this equipment emits less than ten (10) pounds per day, permits for installation and operation are not required.

If, at any time, the equipment fails to meet the requirements of 7 DE Admin. Code 1102 Section 2.1.1, by either exceeding the emission limitation of ten (10) pounds per day or causing a condition of air pollution, operation of said equipment shall be immediately discontinued until all necessary permits have been secured.

Records which document that the equipment meets the registration requirements shall be maintained at the facility and made available to the Department upon request.

Records shall include:

- Daily and 12-month rolling hours of operation
- Monthly gallons of Rainfresh Encapsulant consumed

See 7 DE Admin. Code 1102, Section 9 for further information.

Sincerely,

Matthew A. Rendon
Environmental Engineer
Engineering & Compliance Branch

PEF:TMH:MAR

F:\EngAndCompliance\MAR\mar12033- Peninsula.Compost.AirCurtain.Registration.doc

pc: Dover File

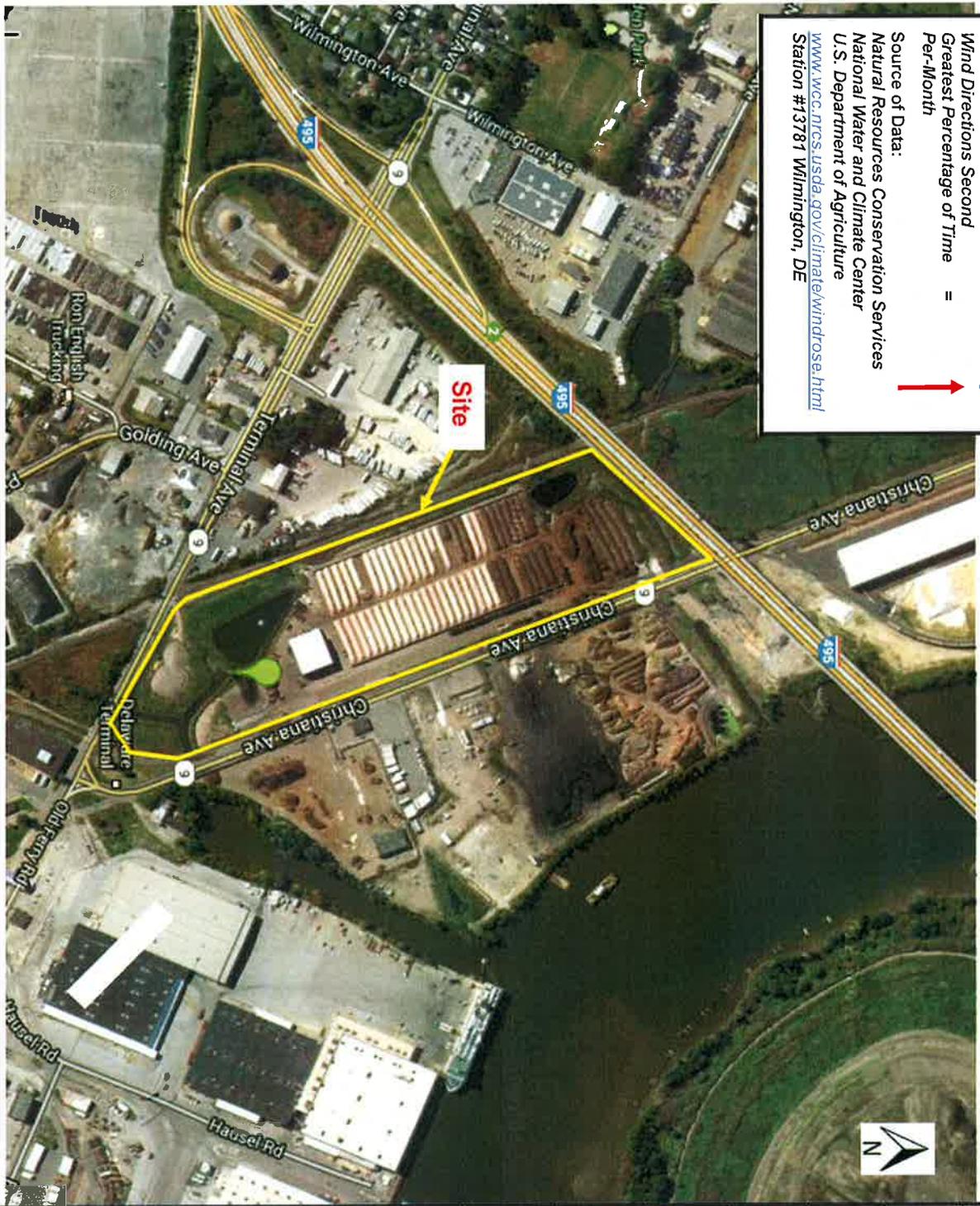
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Attachment 5

*Aerial Photograph Wind Plot
Directional Key*

Legend:
 Wind Directions Greatest Percentage of Time Per-Month = 
 Wind Directions Second Greatest Percentage of Time = 
 Source of Data:
 Natural Resources Conservation Services
 National Water and Climate Center
 U.S. Department of Agriculture
www.wcc.nrcs.usda.gov/climate/windrose.html
 Station #13781 Wilmington, DE



Wind Plot Directional Key:	
Month of January 1961 to 1990	
Month of February 1961 to 1990	
Month of March 1961 to 1990	
Month of April 1961 to 1990	
Month of May 1961 to 1990	
Month of June 1961 to 1990	
Month of July 1961 to 1990	
Month of August 1961 to 1990	
Month of September 1961 to 1990	
Month of October 1961 to 1990	
Month of November 1961 to 1990	
Month of December 1961 to 1990	

Note: Wind direction interpreted from N.R.C.S. Wind Rose Plots for Wilmington, DE (1961 - 1990 Data)

Compliance Plus Services, Inc.
 PO Box 186
 Harboro, PA 19040
 Phone: 215.734.1414 * Fax: 215.734.1424

Peninsula Composting Company, LLC
 Wilmington Organic Recycling Center Facility
 612 Christiana Avenue, Wilmington, DE 19801
 Aerial Photograph & Wind Directional Plotting

Project No.
 0240.01
Date: 5/31/2013

Scale:
 None

Approved By:
 Michael D. Logan
Drawing By: JJB

Attachment 6

*Odor Control Plan Summary
(For Distribution to Public)*

COMMUNITY FACT SHEET

Wilmington Organic Recycling Center

Peninsula Composting Company, LLC
612 Christiana Avenue, Wilmington, DE

Summary

The Delaware Department of Natural Resources and Environmental Control (DNREC) has directed Peninsula Composting Company, LLC ("Peninsula") to develop an Odor Minimization and Monitoring Plan to ensure that the composting operations conducted at the Wilmington Organic Recycling Center ("WORC") are conducted in a manner that minimizes and controls the potential to generate odors and to conduct regular inspections/ monitoring to ensure that any odors that may be produced from facility operations do not create a nuisance or significantly affect persons beyond the property boundary. This Plan is intended to ensure that the WORC site complies with Section 1119 of the Delaware Air Quality Management Regulations. The principal elements of the Plan are identified below.

Facility Odor Controls

The facility maintains both operational and engineering controls to ensure that any potential odors are adequately minimized. All material is first received and handled inside of an enclosed building equipped with an air control system that exhausts the building air through a biofilter that captures potential odors. The outdoor windrow compost area utilizes uniquely engineered membrane covers and a forced air system that controls potential odor emissions from the active compost piles. The active compost is also sloped to drain stormwater and includes a separate leachate collection and discharge system.

Inspection and Monitoring Procedures

Routine inspections are conducted daily using inspection monitoring procedures that check the facility and facility perimeters for odor nuisances. The facility and equipment is properly maintained in order to prevent and minimize potential odors.

Notification and Response to Complaints

If an odor is detected, Peninsula will immediately implement the corrective actions necessary to identify and verify any onsite source of odor and take appropriate measures to abate the cause of the odorous condition. Peninsula has established an Odor Compliant Hotline number to ensure that any community concerns are quickly addressed.

For Odor Complaints call: 1-888-486-1042 (Hotline)

Members of the public and surrounding community are encouraged to use this number to call in and report any incident of noxious- objectionable odors. Additionally, you may also contact DNREC at 1-800-662-8802 to report an odor compliant. Peninsula wants to ensure that the WORC facility continues to provide environmentally sustainable organic recycling services to the community while retaining area jobs and generating tax revenue to support City services without creating a nuisance to the surrounding neighborhood.