

Delaware Recyclable Products, Inc.  
Industrial Waste Landfill  
Permit Modification Application

Geosyntec Consultants  
PERMIT MODIFICATION APPLICATION  
Vertical Expansion

PART VIII

ENVIRONMENTAL ASSESSMENT  
REPORT



*Prepared for*  
**DELAWARE RECYCLABLE PRODUCTS, INC.**  
246 Marsh Lane  
New Castle, Delaware 19720

**PERMIT MODIFICATION  
APPLICATION**

**PART VIII – ENVIRONMENTAL  
ASSESSMENT REPORT**

*for*

**VERTICAL EXPANSION  
DRPI Industrial Landfill  
New Castle, Delaware**



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## **1 INTRODUCTION**

### **1.1 Terms of Reference**

This Environmental Assessment Report (EAR) was prepared to present an assessment of potential environmental impacts and planned measures to mitigate identified environmental concerns associated with the expansion of the Delaware Recyclable Products, Inc. (DRPI) Landfill, which is located in New Castle, Delaware. This EAR addresses the requirements of the Delaware Regulations Governing Solid Waste (DRGSW), specifically Section (§) 4.2.1.6 (i.e., Environmental Assessment) as implemented by the Delaware Department of Natural Resources and Environmental Control (DNREC). In this Part of the Permit Modification Application (PMA), the existing environmental setting and conditions are presented, as well as an evaluation of the potential environmental impacts posed by the Vertical Expansion project. Where potential environmental impacts are identified, the proposed techniques to mitigate such impacts are presented.

This EAR was prepared by Geosyntec Consultants in Columbia, Maryland in 2004, revised in 2005 as part of the Cell 6 Expansion. The current EAR (Version 3) is largely unchanged except as it relates to the vertical expansion and slightly revised disposal footprint near the entrance that provided more buffer to neighboring residents.

### **1.2 Purpose and Scope**

The purpose of this environmental assessment is to address the administrative requirements of the DRGSW §4.2.1.6. As described in DRGSW §4.2.1.6, the environmental assessment must include a detailed assessment of the following factors:

- Air Quality;
- Water Quality;
- Stream Flow;
- Fish and Wildlife;
- Plants;
- Threatened and Endangered Species;
- Water Uses;
- Land Uses;
- Aesthetics;
- Traffic;
- Public Health and Safety;
- Cultural, Recreational, and Natural Areas;
- Historic Sites;
- Social and Economic Factors; and

- Soil Quality.

Because the landfill operations associated with the Vertical Expansion will be consistent with the current landfill operations, and the Vertical Expansion area is in areas previously utilized for waste disposal, the findings of prior environmental assessments were used to evaluate specific factors that would not be affected by the Vertical Expansion. Reports of prior environmental assessments are provided in the following documents:

- “*Permit Application for Cell 6 Expansion, DRPI Industrial Landfill, New Castle Delaware – Delaware Recyclable Products, Inc. – Part 8.0 – Environmental Assessment Report*”, prepared by Geosyntec Consultants, of Columbia, Maryland, in March, 2004;
- “*Construction Permit Application Proposed Cell 5 Landfill Expansion – Delaware Recyclable Products, Inc. – Section 6.0 – Environmental Assessment*”, prepared by Duffield Associates, Inc., of Wilmington, Delaware, in September, 1998;
- “*Environmental Assessment C & J Associates Permit Application Marsh Lane New Castle, Delaware*”, prepared by WIK Associates, Inc., in March 1993, and revised by Crystal Clear, Ltd. in June 1994; and
- “*Environmental Assessment Delaware Recyclable Products, Inc., New Castle, Delaware*”, prepared by Duffield Associates in September 1994.

To complete this evaluation, Geosyntec supplemented historical information with data collected during: (i) a site reconnaissance performed on 25 February 2004; (ii) interviews with persons knowledgeable about the DRPI Landfill and its operations; (iii) correspondence with federal, state, and local officials; and (iv) reviews of applicable site records provided by DRPI, permits, and published literature.

### **1.3 Organization of Report**

The remainder of this report is organized as follows:

- Section 2 presents a summary of the DRPI Landfill background, development history, and summary of the Vertical Expansion project;
- Section 3 provides the findings of the detailed analysis of potential impacts for each factor specified in DRGSW §4.2.1.6; and
- Section 4 presents a summary of the findings and the conclusions of this assessment.

## **2 SITE BACKGROUND**

### **2.1 Introduction**

This section provides a description of the development and operational history of the DRPI Landfill. The purpose of this section is to provide an understanding of the DRPI Landfill conditions and the historical and proposed operations as a basis for understanding the evaluation of potential environmental impacts (Section 3) that may occur as a result of the Vertical Expansion.

### **2.2 Location**

The DRPI Landfill is located between U.S. Route 13 and Interstates 495 and 295 at Fernhook and Marsh Lane in New Castle, Delaware (**Figure VIII-1**). The site is approximately one mile south of the City of Wilmington and is accessible from U.S. Route 13. The Vertical Expansion is located entirely within the existing boundary of the landfill. Based on a comparison of land use records maintained by New Castle County and the proposed limits of the Vertical Expansion, which is shown on the Permit Drawings, the Vertical Expansion will occur on all or portions of the following twelve parcels (all zoned as heavy industrial) identified by New Castle County with the following parcel identification numbers: 1000400001, 1000400002, 1000400004, 1000400006, 1000400007, 1000400008, 1000900010, 1000900021, 1000900022, 1000900023, 1000900026, and 1000900027.

The land use of properties surrounding the existing DRPI Landfill is as follows:

- residential, commercial, and industrial properties to the east and the south;
- undeveloped wooded areas and marshland to the southwest;
- railways and marshland to the west; and
- Interstate 495 to the north.

The DRPI Landfill is located approximately two miles northeast of the Wilmington Airport and twenty miles southwest of the Philadelphia International Airport.

### **2.3 Land Use History**

The DRPI Landfill property was previously operated as a sand and gravel pit from about 1954 until about 1982. During that period, sand and gravel of the underlying Columbia Formation were excavated to approximately the top of the Potomac Formation. The DRPI Landfill was initially permitted in 1983 for construction demolition debris (CDD) management and has been used for CDD disposal since 1985. The DRPI Landfill currently includes six disposal cells having a combined area of approximately 146 acres. Cells 1, 2, and 3 were unlined but are currently being lined with overlay liner, whereas Cells 4, 5, and 6 have composite liners with leachate collection.

have composite liners with leachate collection. The DRPI Landfill also serves as a recycling facility associated with the management of pavement and vegetative wastes.

## **2.4 Vertical Expansion**

The Vertical Expansion consists of various engineered components that will provide additional disposal capacity and extend the active life of the DRPI Landfill. The Vertical Expansion area will include all DRPI Landfill Cells 1 through 6 and will consist of approximately 146 acres. The limits of the Vertical Expansion are shown on the Permit Drawings.

As part of the Vertical Expansion permit modification, a liner will be constructed over the remainder of Cells 1-3 which will serve as a final cover system over the unlined cells from above which the Vertical Expansion will extend. Details pertaining to the design are provided on the Permit Drawings and in the Engineering Report (PMA Part VI). Therefore, not only will the Vertical Expansion increase the disposal capacity of the DRPI Landfill, the construction of liner system over previously unlined waste materials will serve to minimize many potential long-term impacts to human health and the environment. Following completion of waste disposal activities in Vertical Expansion area, a final cover system will be installed over the Vertical Expansion area.

The proposed activities will also include upgrades to existing leachate pump stations, environmental control, and monitoring systems including the LFG management system, the leachate management system, and the groundwater and LFG migration monitoring systems, as well as many other infrastructure improvements.

### **3 ENVIRONMENTAL ASSESSMENT**

#### **3.1 Introduction**

In accordance with DRGSW §4.2.1.6, the environmental assessment must include a detailed assessment of fifteen factors, as identified in Section 1.2 of this EAR. This section presents a summary of the findings of the assessment for each of these factors based on information presented in previous EARs and recent evaluations. Except for data obtained as part of the hydrogeologic assessment and included in the assessment of groundwater quality impacts, field data collection, such as sampling and analysis of environmental media or subsurface investigation, was not performed as part of this environmental assessment.

The following presents the potential impacts and, as necessary, the proposed mitigation measures that are planned as part of the Vertical Expansion. For ease of review, the remainder of this section was organized into subsections, each describing the assessment findings for one of the fifteen factors evaluated in accordance with DRGSW §4.2.1.6.

#### **3.2 Air Quality**

##### **3.2.1 Landfill Gas**

LFG is generated by anaerobic decomposition of organic materials within the waste, which if uncontrolled may affect air quality and worker and/or public health and safety. To mitigate these concerns, a LFG management system will be constructed in the Vertical Expansion area and modifications and/or upgrades to the existing LFG management system operating in existing Cells 1 through 6 will also be implemented.

The LFG management system for the DRPI Landfill will be designed and constructed in accordance with DRGSW §6.5. LFG management includes the following elements:

- extraction of LFG from the waste mass by means of vertically drilled wells and/or horizontal extraction trenches;
- transmission of LFG from the landfill to flare(s) through a piping system; and
- combustion of the LFG in a utility flare(s) or through an on-site LFG-to-energy system.

Plans and details of the LFG management system are presented on the Permit Drawings. Implementation of the LFG control system is expected to mitigate concerns related to air quality and/or public health and safety. These measures will be verified by inspection and maintenance of the system as described in the Operation and Maintenance Plan (PMA Part V), and perimeter LFG monitoring as described in the Engineering Report (PMA Part VI) and in the Hydrogeologic Assessment Report (PMA Part VII).

An expansion will be done to the LFG control system in the waste disposal areas located in portions of the Vertical Expansion area, minimizing risks associated with LFG emission and/or migration that may be currently occurring. Therefore, due to the proposed measures described above, the Vertical Expansion is not anticipated to negatively affect air quality with respect to LFG.

### **3.2.2 Odor Control**

Most common and objectionable odors related to landfill sites are associated with putrescible wastes. Because the DRPI Landfill is an industrial waste landfill, odors associated with incoming wastes are generally not an issue. Odors may be caused by the generation of LFG within the landfill following disposal. However, regular inspection and maintenance of the LFG management system, described above, should minimize odors from the landfill. If odors become a problem at the landfill (i.e., odor complaints are received), an on-site evaluation will be performed by DRPI personnel who will identify appropriate remedial actions to be taken. Typical remedial actions include reviewing the efficiency of the existing LFG management system, installing additional LFG wells, or identifying specific incoming waste streams that may be a source of odors.

Due to the nature of the waste materials that will be disposed in the Vertical Expansion area and the operation of an active LFG management system, impacts to air quality related to odors are not expected to be a significant concern. The site has already submitted a permit application for a second flare that will provide both additional landfill gas destruction capacity and redundancy for the facility.

### **3.2.3 Dust Control**

Dust may be generated by wind, dumping, construction activities, or vehicular traffic. Several engineering controls will be implemented to minimize dust generation at the DRPI Landfill including: (i) paving of heavily traveled perimeter roads; (ii) limiting the area of disturbance and using temporary vegetation to cover disturbed areas; and (iii) application of water on roadways, staging areas, construction zones, and unloading areas. Dust control measures are described in the Operation and Maintenance Plan (PMA Part V).

As a result of the control measures described above, impacts to air quality through dust generation are expected to be minimal. The site has designed the main access roads up onto the landfill itself to be as far away from residents as practical as an additional precautionary measure.

### **3.3 Water Quality**

#### **3.3.1 Stormwater Quality and Management**

Surface water bodies near the DRPI Landfill may be affected by stormwater runoff from disturbed or excavated areas, the active disposal area, and the vehicle maintenance area. Erosion and sedimentation control of stormwater during construction and operation will be consistent with applicable state regulations and local ordinances.

Stormwater will be controlled during construction, operation, and throughout the post closure care period, through a series of engineered drainage control features. The Stormwater Management Plan for the DRPI Landfill is described in the Engineering Report. In addition, a Stormwater Pollution Prevention Plan (SWPPP) for the DRPI Landfill is provided in **Appendix V-F** of the Operation and Maintenance Plan. The Vertical Expansion includes upgrades to stormwater management for the overall area that are expected to minimize erosion and sedimentation in adjacent streams. Therefore, the Vertical Expansion and related stormwater quality controls are expected to improve the quality of stormwater runoff from the site.

Locally-sourced soils (mostly loamy clay materials) are typically used on areas that require weekly cover. It should be noted, however, that site practice is to cover outside slopes in a much more timely fashion, which will continue through the vertical expansion.

#### **3.3.2 Groundwater Quality**

A protective liner barrier was placed over Cells 1 through 3, which were originally unlined, such that filling above these areas could proceed as part of a previous expansion. Additional buffer was provided in the Cell 6-2 reduction and an environmental cap was placed to prevent infiltration into any unlined areas. Following closure of the landfill, a low-permeability cover system will be constructed over the entire Vertical Expansion area. The low-permeability cover system will also be expanded to encompass the limits of waste in the former waste disposal area on the adjacent property. This design feature will enhance containment of site wastes and is expected to significantly reduce leachate generation versus the existing conditions. Therefore, the Vertical Expansion is expected to provide better protection of groundwater quality at and near the DRPI Landfill versus the current conditions.

#### **3.3.3 Leachate Quality**

Leachate is generated as rainwater percolates through the waste materials during operation of the active cells and, to a much lesser extent, following closure. Leachate generated in the Vertical Expansion area will be managed properly to minimize potential impacts to groundwater and surface water quality. A liner system over Cells 1-3 that is designed to restrict leachate migration

### **3.3.3 Leachate Quality**

Leachate is generated as rainwater percolates through the waste materials during operation of the active cells and, to a much lesser extent, following closure. Leachate generated in the Vertical Expansion area will be managed properly to minimize potential impacts to groundwater and surface water quality. A liner system over Cells 1-3 that is designed to restrict leachate migration into the underlying unlined cells was part of the lateral reduction (2014). The Vertical Expansion also includes extension and upgrades to the existing leachate management system to further minimize potential impacts to groundwater quality. Details of the leachate management system design are provided on the Permit Drawings in the Engineering Report.

Leachate collected in the leachate management system is pre-treated on-site and discharged to the New Castle County sewer system. Ultimately, the pre-treated leachate is transmitted via the sewer system to the New Castle County publicly owned treatment works (POTW) for final treatment and discharge. To ensure that pre-treatment requirements are met, periodic leachate sampling is performed in accordance with the existing leachate sampling requirements. The pre-treatment operations will be modified as necessary to address constituent concentrations identified in the leachate samples to ensure that pre-treatment standards are attained prior to transmission to the POTW. In addition, as part of the waste disposal permit requirements, semi-annual raw leachate samples will be obtained.

Leachate seeps or breakouts may also occur that could potentially affect surface water and/or groundwater quality. Periodic inspections of the operations will be performed by site employees as described in the Operation and Maintenance Plan. If a leachate seep were identified, then the control measures described in the Operation and Maintenance Plan will be implemented.

## **3.4 Stream Flow**

### **3.4.1 Wetlands**

In some areas of the DRPI Landfill property, particularly outside of the presumed existing limits of waste, wetland areas are present. However, as discussed previously, the Vertical Expansion area will be built over the existing permitted waste cells. No wetlands are present at the existing waste cells and no impacts to wetlands are expected from the vertical expansion. A wetlands evaluation report is included as **Appendix VIII-A**.

### **3.4.2 Stormwater Discharges**

Stormwater generated at the DRPI Landfill will be managed in accordance with the stormwater management design described in the Engineering Report. In addition, DRPI prepared and

### **3.4.3 Floodplain**

The proposed activities are outside of the 100-year floodplain (i.e., above El. 10 ft-mean sea level (msl), as indicated on the Floodplain Map included as **Figure VIII-2**.

### **3.5 Fish and Wildlife**

The Vertical Expansion will occur over the existing waste cells which were constructed over land that has historically been used for heavy industrial purposes, including a sand and gravel pit and a former waste disposal area. In addition, the DRPI Landfill is located in a generally urbanized area of New Castle County, an area which is not considered to be an ideal habitat for macro fauna. Therefore, the Vertical Expansion is not anticipated to significantly affect fish or wildlife on or adjacent to the DRPI Landfill property.

Regardless, the existing waste in the Vertical Expansion area is currently contained beneath an interim soil cover. Mechanisms such as erosion of the existing soil cover or burrowing may expose wildlife that do pass through or inhabit the property to constituents in the waste. Following closure of the DRPI Landfill, a final closure system, which will include a geomembrane, geocomposite drainage system, and a minimum of two feet of soil cover, will serve as a barrier to direct contact with the waste. Additionally, the final cover design will be graded and vegetated to minimize erosion. Therefore, completion of the Vertical Expansion is expected to be more protective of wildlife and promote wildlife habitat than the existing conditions.

### **3.6 Plants**

The portion of the Vertical Expansion area that overlies Cells 1, 2, and 3 was revegetated with grass. Although construction of the vertical expansion will require removal of the vegetation, this area will be revegetated in a similar manner following closure of the Vertical Expansion area.

As described by WIK Associates, Inc. [1994], much of the Vertical Expansion area was previously used as a sand and gravel quarry and, as such, natural vegetation was removed during those operations. In general, the Vertical Expansion area is currently sparsely vegetated with some small trees, weeds, grasses, and isolated wet areas dominated mainly by Phragmites. Construction of the Vertical Expansion area and ultimate, final closure of the DRPI Landfill will include revegetation. Therefore, no significant impacts to plant ecosystems are anticipated.

### **3.7 Threatened or Endangered Species**

No threatened or endangered species are known to inhabit the DRPI Landfill property. As indicated by previous environmental assessments performed on adjacent properties, the Vertical Expansion is not anticipated to impact threatened or endangered species.

### **3.8 Water Uses**

#### **3.8.1 Surface Water Use**

On-site surface water sources (e.g., sediment basins, natural depressions that collect water) may be used for dust control. No other on-site surface water uses are expected. On 14 February 2018, Geosyntec issued a Freedom of Information Act (FOIA) request to DNREC Water Resources Division, requesting that a search of surface water intakes be performed in a ¼-mile radius from the Vertical Expansion area. On 19 February 2018, Geosyntec received a response to that request, which is provided as **Appendix VIII-B** to this EAR. No mention of surface water intakes was made in the response, nor were other types of surface water uses identified in the previous environmental assessments performed. Therefore, the Vertical Expansion is not expected to affect surface water usage in the DRPI Landfill area.

#### **3.8.2 Groundwater Use**

On 14 February 2018, Geosyntec issued FOIA request to DNREC Water Resources Division requesting that a search of groundwater wells be performed within a ¼-mile radius from the Vertical Expansion area. On 19 February 2018, Geosyntec received a response to that request, which is provided as **Appendix VIII-B** to this EAR. A total of 140 wells were identified of which 88 are active, pending, or completed (i.e., 52 are abandoned, expired or voided). A number of the wells are identified by property address and thus several wells may be located at a single point shown within a given parcel. Of the wells identified, no domestic or public use wells were identified by DNREC. One industrial well identified in the search results (located on the Certified Concrete property), is on one of the properties on which the Vertical Expansion is located. Waste Management has no record of this well on their property and assumes, based on inspections and available information, that it has been decommissioned in accordance with the Delaware Regulations Governing the Construction and Use of Wells. Therefore, the Vertical Expansion is not anticipated to impact groundwater uses in the DRPI Landfill area.

### **3.9 Land Use**

According to information obtained from the New Castle County Planning and Zoning Department, the parcels that make up the Vertical Expansion area are zoned “Heavy Industrial”. This zoning designation is consistent with the industrial landfill use.

The Vertical Expansion includes construction of a modern, lined landfill cell that will be constructed over existing unlined waste disposal cells. The Vertical Expansion includes construction of a final cover system over the entire permitted area and is considered to be a Brownfield development where historical environmental impairments are mitigated and the property is returned to productive use.

The DRPI Landfill is designed in a manner that minimizes future environmental impairment through the incorporation of environmental control systems, such as liner, cover, leachate management systems, and LFG management systems, such as that proposed for the Vertical Expansion. In addition, as described in the Closure Plan, a significant portion of the final cover area will be graded at a four percent slope to promote efficient stormwater management control.

Further, because the available disposal capacity of Cells 1 through 6 at the DRPI Landfill is decreasing, and continued waste disposal capacity for CDD waste is necessary for the citizens of Delaware, expansion of the DRPI Landfill in an area with historically similar land use, is considered preferable to developing a new facility in an undeveloped (i.e., Greenfield) or alternative setting.

### **3.10 Aesthetics**

#### **3.10.1 Visual**

The current appearance of the Vertical Expansion area is that of a heavy-use industrial site for waste management. As shown on **Figure VIII-1**, and as previously discussed, the DRPI Landfill is located in an industrial area. As such, there are a limited number of residences that will have open sight lines of the landfill. For these residences, which are located to the south of the DRPI Landfill property, a vegetative buffer will be planted for visual screening. The berm will be vegetated with conifer trees and grasses to obstruct the view of the landfill.

The final configuration of the DRPI Landfill incorporates a maximum elevation of 190 ft-msl. Currently, the maximum grades extend to between 110 and 130 ft-msl. Although the height of the DRPI Landfill will be 60 feet higher than the existing permit elevation (i.e., 130 ft-msl), the proposed tree buffer is expected to minimize visual aesthetic impacts to neighbors south and southeast of the DRPI Landfill property.

### **3.10.2 Noise**

The construction and operation of the Vertical Expansion area will generate noise similar to any heavy construction project. Generally, noise sources will be limited to the construction area and access roads used to transport materials to the area. Noise control measures are outlined in the Operation and Maintenance Plan.

No noise increase is expected from the continued operation of heavy equipment and truck traffic as part of ongoing landfill operations since there is no change proposed to increase maximum daily intake volumes. Existing noise sources include concrete mixing, pavement recycling, and road noise from adjacent highways, including major interstate highways. Additionally, as discussed above, a buffer of trees will be planted, which, upon maturation, will provide additional buffering to noises generated on site.

The landfill footprint at Cell 1 and Cell 2B is greater than 200 ft from the property line and, therefore, landfilling activities are not expected to pose noise impacts to adjacent neighbors. Should noise or other nuisances become a problem, DRPI will meet with the neighbors adjacent to the property in that area to discuss impacts and other alternatives will be evaluated.

### **3.10.3 Odors**

As discussed in Section 3.2.2, odors are not anticipated to be of concern at the DRPI Landfill due to the nature of the waste material that is accepted and the operation of a LFG management system.

### **3.10.4 Litter**

DRPI conducts regular litter management activities, but some windblown litter from the active cells or incoming trucks may accumulate on the grounds of the DRPI Landfill. To mitigate this potential, the Vertical Expansion includes fencing around the property perimeter, which will serve to minimize off-site litter. In addition, landfill personnel will routinely monitor the grounds and will collect and dispose of on-site litter in the active cell. Manual litter collection will be performed at the discretion of DRPI management based on daily visual observations. DRPI also purchased 10 Bull-manufactured portable litter fence modules to help control wind-blown debris closer to the active disposal area. Six inches of compacted operational cover material will be placed over the surface of the compacted industrial waste at least once every week. Additionally, to minimize the migration of litter, on windy days, or when strong wind is forecast for the area, DRPI will immediately work the waste into the working face of the landfill, and cover with six inches of approved, compacted operational cover at the end of operations for the day. Following final disposal operations, a final cover system will be installed, which will greatly reduce the potential generation or migration of litter.

### **3.11 Traffic**

The Vertical Expansion is intended to replace existing disposal space; an increase in daily tonnage is not anticipated. Therefore, traffic conditions related to operations of the expanded landfill are not expected to be different than existing conditions.

### **3.12 Public Health and Safety**

#### **3.12.1 Emergency Planning and Health and Safety**

DRPI is committed to performing site operations in a manner that minimizes risks to worker and public health and safety. To that end, DRPI prepared and has implemented various operation plans that outline the requirements for site work with respect to emergency actions and common health and safety concerns (e.g., LFG, dust, fires, hazardous materials, etc.). Examples of these efforts include the following: (i) Emergency Action and Contingency Plan; (ii) Confined Space Entry Plan; (iii) Waste Identification and Response Plan; (iv) Lockout/Tagout Plan; (v) Fire Prevention Plan; and (vi) Site Health and Safety Plan. Each of these plans has been updated within the past two years and copies of all are maintained in the DRPI Landfill administrative office.

Each site worker is required to review and understand the requirements of each of these plans. In addition, DRPI has implemented a training program to update and refresh site workers regarding health and safety concerns. The training program and schedule are described in the Operation and Maintenance Plan. Due to DRPI's commitment to safety, worker training, and contingency planning, no significant impacts to public health and safety are anticipated.

#### **3.12.2 Landfill Gas**

LFG is generated as waste materials degrade in the landfill or volatile components of the waste vaporize. If not properly addressed, LFG can migrate to the shallow subsurface and may present a health and safety concern should they accumulate within a building. Methane is a major component of LFG and may present problems because it can potentially become an explosive or asphyxiate hazard at elevated concentrations.

As discussed in Section 2.4, DRPI is planning extensive upgrades to the LFG management system in both the existing landfill cells and in the existing unlined waste area beneath the Vertical Expansion area (i.e., Cells 1-3). These upgrades should mitigate LFG migration concerns and are expected to be more protective than the existing conditions because LFG management will be expanded to waste disposal areas not currently addressed. In addition, routine perimeter LFG migration monitoring will be performed to verify that off-site migration does not occur.

### **3.12.3 Vectors**

Rodents, vermin, birds, and other disease vectors are not expected to be problematic at the DRPI Landfill because there is no food source in the waste stream. Historically, vectors have not been a problem at the DRPI Landfill.

Regardless, if vector control becomes necessary during operation of the Vertical Expansion, the vector control measures described in the Operation and Maintenance Plan will be implemented. Following closure of the DRPI Landfill, the landfill cover system will serve as a physical barrier between potential scavenger-type vectors (e.g., birds, rodents, flies, etc.) and final grading of the cover system will be performed in a manner that minimizes the standing water; thereby controlling mosquito populations.

### **3.13 Cultural, Recreational, and Natural Areas**

As previously discussed, the DRPI Landfill property before 1983 was operated as a sand and gravel mine. During that time, up to 200 feet of native materials were removed. As such, the natural conditions have been modified. Additionally, the area underneath the Vertical Expansion was subsequently filled with waste material. The Vertical Expansion is not anticipated to disrupt cultural, recreational, or natural areas.

### **3.14 Historic Sites**

Due to the previous industrial activities on the DRPI property, including use as a sand and gravel mine prior to 1983, any historic artifacts once on the landfill property are either beneath the waste disposed of on-site or were removed during mining operations.

### **3.15 Social and Economic Factors**

DRPI Landfill contributes significantly to the local community and the local and state economies.

In its immediate neighborhood, DRPI Landfill has been a longtime supporter of the Minquadale Civic Association, which represents residents in about 400 households near the landfill. This support has taken the form of monetary payments to the organization and the donation of a substantial amount of waste container, transport, and waste disposal services each year. These courtesy services also are extended to residents of the nearby Minquadale Village mobile home park and residents of Littleworth, Fernwood, Lovelace and Central avenues. The monetary and service donations in the immediate community have helped make life more affordable and the neighborhood cleaner for these residents.

DRPI Landfill employs 12 full-time environmental professionals whose salary and benefits have a positive economic impact on the local and state economy. Spending related to the operation of the landfill, which predominantly takes place with local business partners who supply equipment parts and repairs, temporary labor, fuel, consulting, construction and custodial services, has a multiplier effect in the local economy where it helps create and maintain jobs and additional economic activity.

DRPI Landfill each year pays more than \$120,000 in property taxes and state fees, government revenues that support jobs and services.

DRPI supports its neighbors in other ways. Each year, the landfill provides donations to the Minquadale Fire Company, the Minquadale Fire Company Ladies Auxiliary, Delaware Volunteer Fire Association, and periodically supports fundraisers and community events conducted by these and other organizations. As part of the permit application process, DRPI has been communicating with the adjacent property owners through the Minquadale Civic Association and the Minquadale Village Homeowners Association who have provided letters of support for this permit application. The letters of support are included as an attachment to the Letter of Intent.

Approval of DRPI Landfill's Vertical Expansion project will allow the facility to continue to offer convenient and economical waste disposal services in the market it serves.

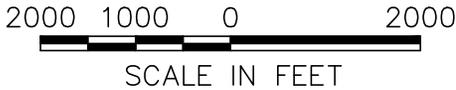
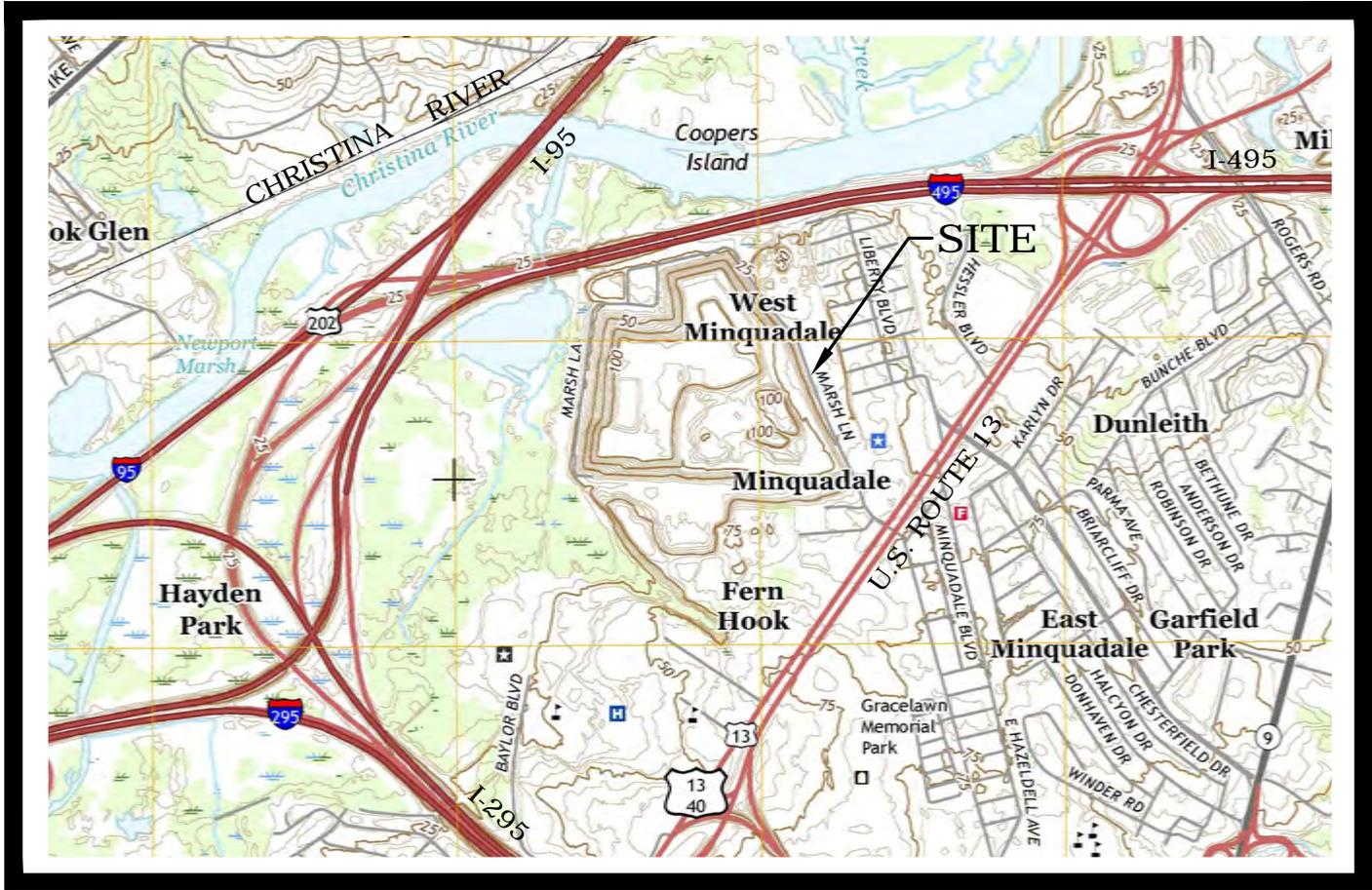
### **3.16 Soil Quality**

The Vertical Expansion will be located above the existing permitted landfill footprint. The industrial waste landfill has been designed and constructed in accordance with the DRGSW as a lined industrial waste landfill. The vertical expansion is not expected to impact underlying soils or soils outside the footprint of waste. Therefore, soil quality conditions related to operations of the expanded landfill are not expected to be different than existing conditions.

## **4 CONCLUSIONS**

The Vertical Expansion of the DRPI Landfill will provide additional industrial waste disposal capacity to the citizens of Delaware. The continued operation of the DRPI Landfill is consistent with historical and current land use and will provide safe and efficient long-term industrial waste management for the citizens of Delaware well into the future. The proposed design features, including expansion of the leachate, LFG, and stormwater management systems, minimize potential impacts to environmental conditions. In addition, the Vertical Expansion will improve environmental conditions in the near and long term on the unlined cells. Therefore, the findings of this environmental assessment indicate that the Vertical Expansion does not significantly adversely impact the environment; rather, it will provide continued operation of the DRPI Landfill and will mitigate environmental impact resulting from the unlined cells by improving groundwater quality.

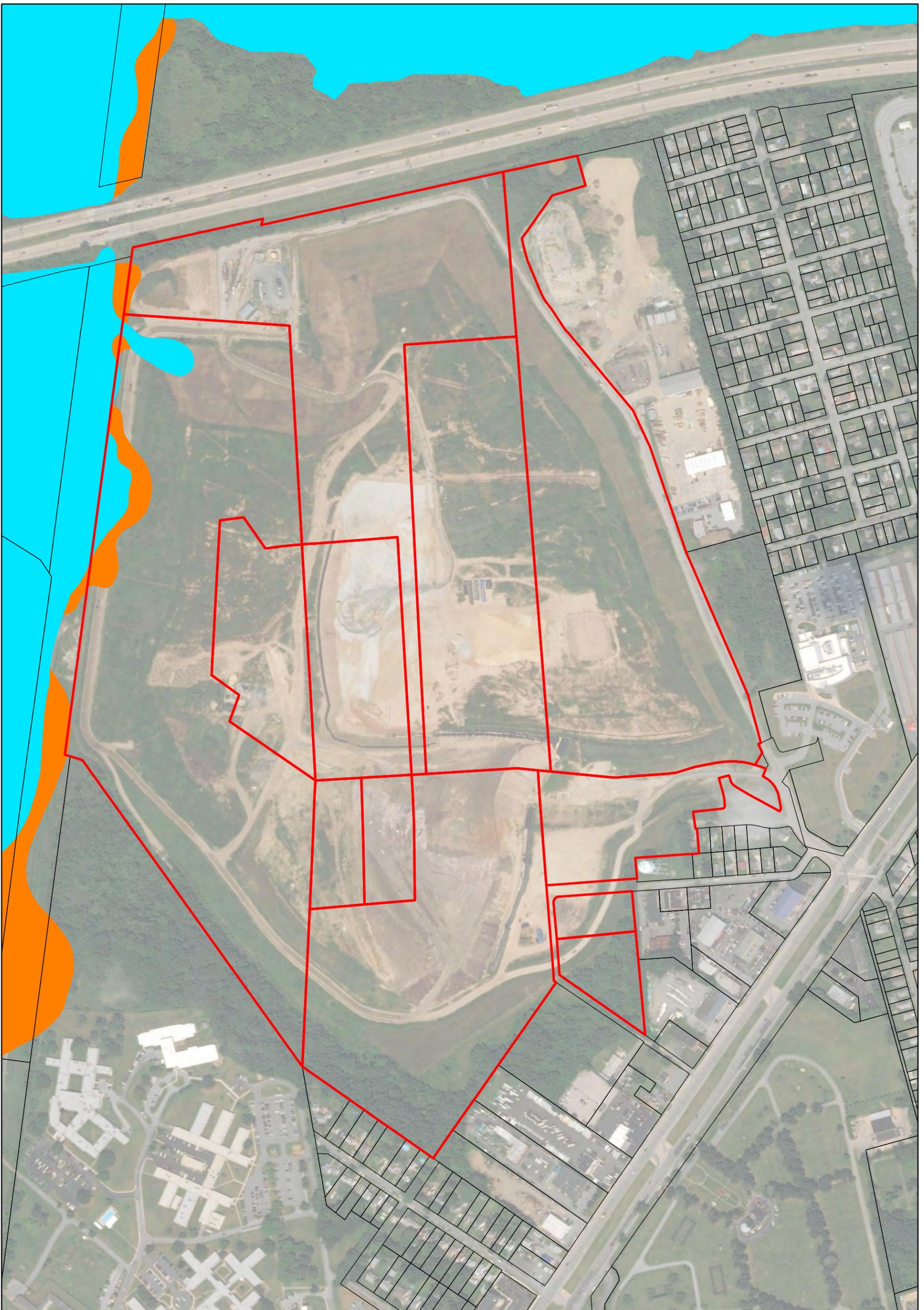
# FIGURES



**SITE LOCATION PLAN**  
 DELAWARE RECYCLABLE PRODUCTS, INC.  
 NEW CASTLE, DELAWARE

**Geosyntec**  
 consultants  
 COLUMBIA, MARYLAND

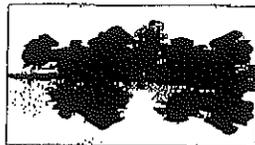
DATE:	JULY 2018
PROJECT NO.	ME1571
DOCUMENT NO.	
FILE NO.	1571F004-SITE
FIGURE NO.	VIII-1



<p><b>Legend</b></p> <p> <span style="color: cyan;">■</span> 1% Annual Chance Flood Hazard  <span style="color: orange;">■</span> 0.2% Annual Chance Flood Hazard  <span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px;"></span> Facility Parcels  <span style="border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Parcels         </p> <p>Notes: Parcels provided by the State of Delaware.</p>	<div style="text-align: center;"> <p><b>FEMA Flood Hazard Zones</b></p> <p>Environmental Assessment DRPI Vertical Expansion New Castle, Delaware</p>   </div>	<p style="text-align: center;"><b>Geosyntec</b> consultants</p> <p style="text-align: center;">Columbia, Maryland      July 2018</p> <p style="text-align: right;"><b>Figure VIII-2</b></p>
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## APPENDIX VIII-A

# WETLANDS EVALUATION REPORTS GREAT VALLEY ENVIRONMENTAL (2005) AND WIK ASSOCIATES (1991)



GREAT VALLEY ENVIRONMENTAL, INC.  
POST OFFICE BOX 87 - DEVAULT, PA 19432 - PHONE/FAX: 610-469-9788

February 14, 2005

Mr. Matt Williams  
Delaware Recyclable Products, Inc.  
198 Marsh Lane  
New Castle, DE 19720-1174

**Subject: Results of Site Investigation for Delaware Recyclable Products, Inc.  
Petrillo Brother's Inc. Property - Proposed Landfill Expansion  
New Castle Hundred, New Castle County, Delaware**

Dear Mr. Williams:

I submit the following for your consideration regarding the results of an investigation for jurisdictional waters or wetlands at the above-referenced property. The "Property Mosaic-Proposed Landfill Expansion Plan Prepared for Delaware Recyclable Products, Inc.", prepared by Vandemark & Lynch, Inc., Sheet 1, revision 1 is included with this letter report (Attachment 1). Sheet 1 details site topographic and physical features. On 01/19/05 Parcels 1 and 2 were partially investigated to document the environmental conditions on the property, excluding the outer reaches of the properties along the southern and western property boundaries. The majority of the property, to the west, has already been investigated and does not include wetlands (See letter from WIK Associates Inc., dated December 18th 1991, enclosed as Attachment 2).

Most of the site was once a gravel quarry and concrete operation, which evolved into a Dry Waste Landfill that predated regulations and appears not to be final capped. The remaining approximately 6 acres is a metal fabrication and salvaging facility operation. The majority of the site consists of the old landfill, which includes a storage area (for old abandoned equipment), old-fields, and waste areas crisscrossed by cartpaths. The topography is highly altered and irregular, as are subsurface conditions, which include landfilled waste products and a malfunctioning leachate collection system. Other portions of the site include industrial buildings and parking lots and storage areas. A man-made ditch in uplands, bordering the entrance road drains to the west, then off site to the north (Ditch 1). Another drainage ditch in uplands exists behind the existing Summit Steel facility, and is associated with a malfunctioning stormwater and leachate drainage system (Ditch 2). According to the U. S. Army Corps of Engineers (USACOE), these features are not Jurisdictional Waters or Wetlands 33 CFR 328.3, 1999 SOP.

## REGULATORY BACKGROUND

The following is a brief summary of the wetlands regulations for Delaware, followed by the results of the site investigation.

Wetlands are "Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions including swamps, marshes, bogs and similar areas." Diagnostic environmental characteristics of wetlands include vegetation, soils, and hydrology. Wetlands have the following general characteristics:

**Vegetation:** The prevalent vegetation consists of macrophytes that are typically adapted to areas having hydrologic and soil conditions described in the preceding definition of "wetlands." Hydrophytic species, due to morphological, and/or reproductive adaptation(s), have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soils conditions.

**Soil:** Soils are present and have been classified as hydric, or they possess characteristics that are associated with reducing conditions.

**Hydrology:** The area is inundated either permanently or periodically at mean water depths  $\leq$  6.6 feet, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.

By applying the principles outlined in "1987 Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1)" with guidance provided by the ACOE memorandum dated 6 March 1992, *Clarification and Interpretation of the 1987 Manual*, wetlands are identified in the field using the "three parameter" approach which requires investigation of vegetation, soils, and hydrology. A minimum of one positive wetland indicator from each parameter must be found in order to make a positive wetland determination. Under certain circumstances, where one or more criterion is absent or disturbed the manual provides additional techniques used to identify wetlands.

### WETLAND VEGETATION

The "National List of Plant Species That Occur in Wetlands: Northeast (Region 1), 1988" rates species of macrophytes based on their affinity or avoidance for/of anaerobic soils as follows:

#### Plant Indicator Status Categories

<u>Indicator Category</u>	<u>Indicator Symbol</u>	<u>Definition</u>
Obligate Wetland Plants	OBL	Plants that occur almost always (estimated probability >99%) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1%) in nonwetlands.
Facultative Wetland Plants	FACW	Plants that occur usually (estimated probability >67% to 99%) in wetlands, but

		also occur (estimated probability 1% to 33% in nonwetlands).
Facultative Plants	FAC	Plants with a similar likelihood (estimated probability 33% to 67%) of occurring in both wetlands and nonwetlands.
Facultative Upland Plants	FACU	Plants that occur sometimes (estimated probability 1% to 33%) in wetlands, but occur more often (estimated probability 67% to 99%) in nonwetlands.
Obligate Upland Plants	UPL	Plants that rarely occur (estimated probability 1%) in wetlands, but occur almost always (estimated probability 99%) in nonwetlands under natural conditions.

Indicator categories are further refined using the ± suffix where a "+" indicates a frequency toward a "wetter" rating and "-" indicates a tendency toward a "drier" rating. A plant community is considered hydrophytic if greater than 50% of the dominant plants from all strata (herb, shrub, woody vine, or tree) are rated OBL, FACW, or FAC. If a plant community is dominated by FAC species, non-dominant species must be considered. The plant community is considered hydrophytic if more than 50% of the dominant from all strata are OBL, FACW, or FAC (excluding FAC-).

### **HYDRIC SOILS**

Hydric soils are defined as a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. Hydric soils that occur in areas having positive indicators of hydrophytic vegetation and wetland hydrology are wetland soils. Field investigation of soils are conducted by obtaining a soil sample which penetrates below the "A" horizon, or to a depth of ten inches (whichever is shallower). GVE typically evaluates soils to a depth of at least 24 inches throughout the investigation area). The soil is examined for hydric soil indicators with soil color being the primary indicator of a hydric condition. Soil color is characterized by three features: hue, value, and chroma. Hue refers to the soil color in relation to red, yellow, blue, etc. Value refers to the lightness of the hue, and chroma refers to the strength of the color. Soil colors are determined by use of a Munsell (Munsell Color, 1994). The soil is matched to the closest soil color chip in the Munsell book. If the predominant color (matrix) is found on the gley pages, the soil is hydric. If the soil is nongleyed and the matrix chroma is 0 or 1, the soil is hydric. If the matrix chroma is 2 and other colors (mottles) are present within the matrix, the soil is hydric. Soils with matrix chromas of 3 or greater are nonhydric.

### **WETLAND HYDROLOGY**

Wetland hydrology is present when the area is inundated either permanently or periodically at

mean water depths  $\leq 6.6$  feet, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation. Hydrology is often the least exact of the parameters, and indicators of wetland hydrology are often difficult to find in the field. It is essential to establish that a wetland area is periodically inundated or has saturated soils during the growing season. Indicators of wetland hydrology may include: drainage patterns, drift lines, sediment deposition, watermarks, stream gage data and flood predictions, historic records, visual observation of saturated soils, and visual observation of inundation.

### ***SITE VEGETATION***

Phragmites (*Phragmites australis*, FACW) is one of the dominant plants throughout the site, growing up between concrete rubble, macadam; on top of the old landfill; and on sideslopes and drainageways. Multiflora rose (*Rosa multiflora*, FACU), blackberry (*Rubus allegheniensis*, FACU-), box elder (*Acer negundo*, FAC+), black cherry (*Prunus serotina*, FACU), also grow throughout the site, while sparse ground cover included onion grass (*Allium schoenoprasum*, FACU), Japanese honeysuckle (*Lonicera japonica*, FAC-), evening primrose (*Oenothera biennis*, FACU-), and Canada goldenrod (*Solidago canadensis*, FACU). No obligate (OBL) wetland plants were identified at the site. Ditch 1 is dominated by Phragmites, and Ditch 2 supports no plant growth.

### ***SITE SOILS***

The U. S. Department of Agriculture, Soil Survey of New Castle County, Delaware, (1970) classifies the majority of soil within the study area as Gravel Pit (Gp). According to the Hydric Soil List - New Castle County, Delaware, dated 12/15/87 indicates this soil type typically contains hydric soils in the floor of the quarry pit. Because the pit has been filled as part of the landfill activity, hydric soils have been largely removed or filled on the site. Field investigations of the soils in the ditches indicate non-hydric soil colors of 10YR 5/4 and 10YR 4/4, with areas of recent sediment and silt deposition. Othello soils are also mapped along the southern property boundary

### ***SITE HYDROLOGY***

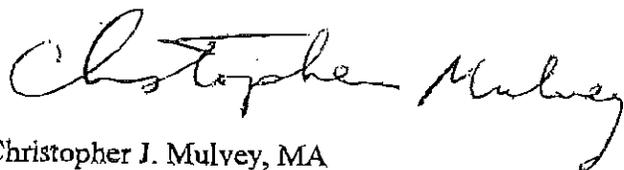
Hydrology within Ditch 1 is dependent upon intermittent stormwater runoff from the east, which then flows off the site through a 12" culvert to the north. Ditch 2 includes input from a malfunctioning stormwater and leachate management system and stormwater from the east portion of the site. No aquatic life was observed in either ditch, and natural wetland hydrology was not present.

### ***CONCLUSION***

The ditches depicted on the plan are non-wetland due to a predominance of invasive vegetation and absence of hydric soils and true wetland hydrology. The Army Corps should perform a Jurisdictional Determination for their concurrence. Although no activities are planned for the perimeter of the property to the south, this area should be investigated in the spring in order to determine if jurisdictional wetlands or waters occur along the property boundaries. Please feel

free to call if you have any questions or require any further information.

Sincerely,

A handwritten signature in cursive script that reads "Christopher Mulvey". The signature is written in black ink and is positioned above the printed name and title.

Christopher J. Mulvey, MA  
President

*WIK Associates, Inc*

December 18, 1991

C & J Associates  
Mr. Leon Wolford  
Post Office Box 628  
New Castle, Delaware 19720

RE: Notification of the Non-Existence of Wetlands  
C & J Associates Property - Proposed Dry Waste Disposal Facility  
New Castle County, Delaware

Dear Mr. Wolford:

The referenced property is located south of U.S. Route 495 between U.S. Routes 13 and 95 in New Castle County, Delaware. The portion of the property to be developed as a Dry Waste Disposal Facility and located within the perimeter indicated on Figure 1 was evaluated for the existence of wetlands in accordance with Federal, State and County regulations and policy. The *Corps of Engineers Wetlands Delineation Manual*, dated January 1987, was specifically used as a basis for this analysis. The review included an analysis of available background data and maps as well as an on-site investigation.

The following information was reviewed: a letter from the Delaware Department of Natural Resources and Environmental Control (DNREC), National Wetland Inventory map and New Castle County Soil Survey map.

The DNREC letter (Appendix 1) is addressed to Petrillo Brothers, Inc. and dated April 8, 1985. This letter confirms that no wetlands under State of Delaware jurisdiction are present and grants approval for Petrillo Brothers, Inc. to expand the inert solid waste operation on the subject site. The letter also acknowledges receipt of a U.S. Army Corps of Engineers letter which confirmed that no wetlands under Federal jurisdiction are present on the Proposed Dry Waste Disposal Facility.

The review of the National Wetland Inventory map, Wilmington South, Del.-N.J. quadrangle (Figure 2), indicated the presence of wetlands near the southwestern boundary of the referenced property outside of the perimeter of the Proposed Dry Waste Disposal Facility. These wetlands are classified as Palustrine Forested Broad-leaved Deciduous Seasonal (PFO1C). Two (2) areas mapped as Palustrine Open Water Semipermanent Excavated (POWFx) were noted on the NWI map within the perimeter of the Proposed Dry Waste Disposal Facility. These ponded areas appear to represent excavations which have collected and stored runoff from the adjacent land surface.

The review of the New Castle County Soil Survey map (Figure 3) indicated that the soils on the property have been largely mapped as Gravel Pits and Quarries (Gp) and Othello silt loam (Ot). The remainder of the property has been mapped as Matapeake-Sassafras-Urban land complex on 0 to 5 percent slopes (MsB) and Tidal Marsh

(Tm). Gravel Pits and Quarries are areas from which the soil has been completely removed in order to excavate gravel and sand. The Othello silt loam consists of poorly drained, nearly level soils. The Matapeake-Sassafras-Urban land complex on 0 to 5 percent slopes largely consists of soils which have been excavated or covered by fill during residential and commercial development. Tidal Marsh consists of areas that are regularly flooded by tidal waters. The above map units, excluding MsB, are included on the New Castle County hydric soil list. Areas mapped as Othello silt loam and Tidal Marsh are not included within the Proposed Dry Waste Disposal Facility.

The on-site investigation of the Proposed Dry Waste Disposal Facility was conducted on December 17, 1991. The subject site consists of an ongoing quarry/concrete operation which includes several buildings surrounded by paved areas. Much of the surface area of the site has been altered by gravel pit operations and/or paving. Vegetated areas were noted primarily along portions of the eastern, southern and western property boundaries and in the northwestern corner of the site. A silt collection pond, several other excavated ponds, a drainage ditch and several areas of low relief were noted during the on-site investigation.

Wetland on-site investigations consider a property's hydrology, soils and vegetation types. Wetland characteristics of each of these three parameters must be present or inferred to identify an area as a wetland. Several areas, including the drainage ditch and ponds, appeared to possess the characteristics necessary in order to classify them as wetlands. However, based on Federal regulations, these areas are not considered "Waters of the United States" (including wetlands) by the U.S. Army Corps of Engineers.

The Corps of Engineers does not consider the following two types of waterbodies "Waters of the United States" (including wetlands):

- 1) "Non-tidal drainage and irrigation ditches excavated on dry land." (33 CFR Part 328.3 (a))
- 2) "Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction is abandoned and the resulting body of water meets the definition of waters of the United States." (33 CFR Part 328.3 (e))

The drainage ditch, which possesses wetland characteristics, was excavated in dry land. Therefore, this ditch should not be considered wetlands based on Federal regulations (item 1 above). The excavated ponds, including the area of open water noted on the NWI map, have been created in dry land incidental to construction activities and/or for the purpose of obtaining sand and gravel. Mr. Leon Wolford, C & J Associates, described the subject site as a "...functioning operation" during discussions with WIK Associates, Inc. personnel. Therefore, the excavated ponds should not be considered wetlands based on Federal regulations (item 2 above). No wetland areas were identified on the Proposed Dry Waste Disposal Facility based on the on-site investigation.

Based on our review of the DNREC letter certifying the non-existence of Federal or State wetlands, published maps, the on-site investigation and a review of Federal regulations, WIK Associates, Inc. finds that no wetlands are present on the Proposed Dry Waste Disposal Facility.

L. Wolford  
File: 659.1

December 18, 1991

Please note that the New Castle County Wetlands Protection Policy, effective February 14, 1990, requires that plans submitted to the County must be accompanied by a copy of this letter. In addition, the policy requires that the following statement appear on the submitted plans:

"This site has been examined by WIK Associates, Inc. on December 17, 1991, and no wetlands were found to exist."

WIK Associates, Inc. is pleased to provide this service. If you have any questions concerning our recommendations or findings please contact me at 302-322-2558.

Sincerely,

WIK Associates, Inc.



Steven J. Baumgardner  
Program Manager

SJB  
FILE 659.1

Figure 1  
Site Map Indicating Perimeter of  
Proposed Dry Waste Disposal Facility

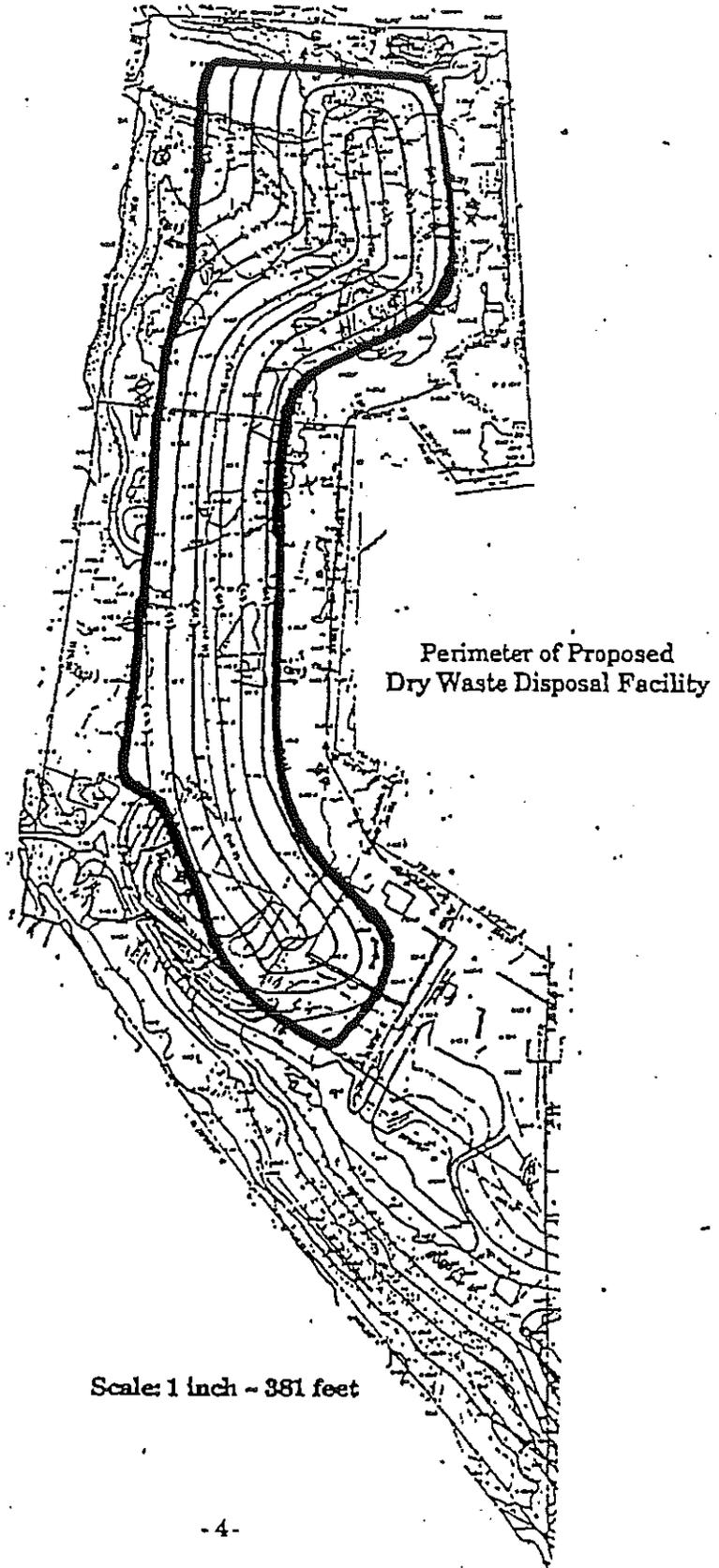




Figure 3  
Soil Survey Map  
New Castle County



Scale: 0.75 inch - 1,000 feet

L. Wolford  
File: 659.1

December 18, 1991

Appendix 1  
DNREC Letter

APR 15 1985



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
& ENVIRONMENTAL CONTROL  
DIVISION OF ENVIRONMENTAL CONTROL  
WATER RESOURCES SECTION.  
89 KINGS HIGHWAY  
P.O. BOX 1401  
DOVER, DELAWARE 19903

TELEPHONE: (302) 736-476

April 8, 1985

Mr. Charles A. Petrillo, Jr.  
Petrillo Bros., Inc.  
P.O. Box 710  
Wilmington, DE 19899

Dear Mr. Petrillo:

We are in receipt of the letter from the U. S. Corps of Engineers certifying that the area in which you wish to expand your inert solid waste disposal operation (Approval SWA-83/03) is not a Federal Wetlands. Mr. Dave Hardin has also confirmed the area is not State Wetlands.

You are hereby granted approval to expand the operation. Disposal shall be allowed only in the two areas you designated on the map which accompanied your letter of March 30, 1984, i.e. the existing site and the expansion site. This Approval is not for the disposal of asbestos at this site.

All conditions of your March 12, 1984 Approval must be followed at both sites. Failure to do so will be considered a violation of the Delaware Solid Waste Disposal Regulations; subject to a fine from \$1,000 to \$10,000 under Title 7, Chapter 60 of the Delaware Code.

Thank you for your cooperation. Should you have any questions regarding this Approval, please contact Mr. Matthew P. Brill of my staff at 736-4781.

Sincerely,

William G. Razor  
Supervisor/Environmental Engineer  
Solid Waste Management Branch

WGR:MPB:klr

cc: Alan H. Simpson  
Eileen M. Hack  
Matthew P. Brill

# APPENDIX VIII-B

## DNREC RESPONSE TO FOIA REQUEST



<b>Legend</b> <b>Well Type</b> <ul style="list-style-type: none"> <li><span style="color: pink;">●</span> Geothermal - Closed Loop</li> <li><span style="color: green;">●</span> Industrial - Standard</li> <li><span style="color: blue;">●</span> Monitor - Direct Push</li> <li><span style="color: orange;">●</span> Monitor - Standard</li> <li><span style="color: cyan;">●</span> Observation - Standard</li> <li><span style="color: purple;">●</span> Soil Borings - Standard</li> <li><span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Facility Parcels</li> <li><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parcels</li> </ul>		 	<b>Wells within Quarter-Mile</b> Environmental Assessment DRPI Vertical Expansion New Castle, Delaware	
<small>Notes:          Well locations overlap due to geolocation methods. Number of points on the map does not accurately reflect the number of wells.          Wells provided via FIOA request.          Parcels provided by the State of Delaware.</small>			Columbia, Maryland	July 2018

**TABLE VIII-B-1  
Wells Located Within 0.25-mile Radius from the Vertical Expansion  
DRPI Industrial Landfill  
New Castle, Delaware**

Permit Number	Well Type	Owner	Total Depth (metres)	Well Status	Estimated Construction Date	Screen Top (metres bgs)	Screen Base (metres bgs)	Screen Material	Well Diameter (inches)	Latitude	Longitude	Owner Address
229875	Observation - Standard	Waste Management, Inc	15.00	Completed		3.5	13.2	PVC	2.0	39.709800	-75.577506	
229876	Observation - Standard	Waste Management, Inc	16.00	Completed		5.0	15.0	PVC	2.0	39.709800	-75.577506	
229877	Observation - Standard	Waste Management, Inc	15.00	Completed		3.5	13.5	PVC	2.0	39.709800	-75.577506	
233600	Monitor - Standard	Waste Management, Inc	28.00	Completed		25.0	28.0	PVC	2.0	39.713496	-75.575403	246 Marsh Lane, New Castle, DE 19720 US
233601	Monitor - Standard	Waste Management, Inc	35.00	Completed		29.0	35.0	PVC	2.0	39.713496	-75.575403	246 Marsh Lane, New Castle, DE 19720 US
233602	Monitor - Standard	Waste Management, Inc	34.00	Completed		28.0	34.0	PVC	2.0	39.713496	-75.575403	246 Marsh Lane, New Castle, DE 19720 US
239871	Monitor - Standard	Waste Management, Inc	26.00	Completed		6.0	22.0	PVC	2.0	39.710693	-75.570149	246 Marsh Lane, New Castle, DE 19720 US
239872	Monitor - Standard	Waste Management, Inc	26.00	Completed		5.0	22.0	PVC	2.0	39.710693	-75.570149	246 Marsh Lane, New Castle, DE 19720 US
239873	Monitor - Standard	Waste Management, Inc	34.00	Completed		5.0	30.0	PVC	2.0	39.710693	-75.570149	246 Marsh Lane, New Castle, DE 19720 US
239874	Monitor - Standard	Waste Management, Inc	32.00	Completed		5.0	28.5	PVC	2.0	39.710693	-75.570149	246 Marsh Lane, New Castle, DE 19720 US
239875	Monitor - Standard	Waste Management, Inc	32.00	Completed		5.0	28.5	PVC	2.0	39.710693	-75.570149	246 Marsh Lane, New Castle, DE 19720 US
239876	Monitor - Standard	Waste Management, Inc	22.00	Completed		5.0	17.0	PVC	2.0	39.710693	-75.570149	246 Marsh Lane, New Castle, DE 19720 US
249720	Monitor - Standard	New Castle County Police	0.00	Completed	2/20/2015	104.0	114.0	PVC	2.0	39.708120	-75.567575	87 Reads Way, New Castle, DE 19720 US
249721	Monitor - Standard	New Castle County Police	0.00	Completed	4/20/15	65.0	75.0	PVC	2.0	39.708120	-75.567575	87 Reads Way, New Castle, DE 19720 US
249897	Monitor - Standard	New Castle County Police	0.00	Completed	3/9/2015	50.0	60.0	PVC	2.0	39.707552	-75.568886	87 Reads Way, New Castle, DE 19720 US
232916	Geothermal - Closed Loop	Lsms2 LLC	170.00	Completed		0.0	0.0		0.0	39.703819	-75.571370	2217 North DuPont Highway, New Castle, DE 19720 US
218961	Soil Borings - Standard	Lenfest New Castle County	0.00	Permit Expired		0.0	0.0		0.0	39.702919	-75.570739	200 Cresson Boulevard, Oaks, PA 19452 US
208961	Observation - Standard	Baron, William	40.00	Well Abandoned	7/7/2005	0.0	0.0		0.0	39.706292	-75.567749	2331 North DuPont Highway, New Castle, DE 19720 US
210706	Monitor - Direct Push	Baron, William	36.00	Well Abandoned	7/30/2005	0.0	0.0		0.0	39.706543	-75.568065	2331 North DuPont Highway, New Castle, DE 19720 US
217425	Monitor - Standard	Baron, William	39.00	Well Abandoned		29.0	39.0	PVC	2.0	39.706706	-75.567972	2331 North DuPont Highway, New Castle, DE 19720 US
63902	Industrial - Standard	Certified Concrete	78.00	Active	3/5/1986	68.0	78.0	PVC	4.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
79123	Observation - Standard	Delaware Recycl,	35.50	Active	6/29/1989	19.4	29.4	PVC	4.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
79124	Observation - Standard	Delaware Recycl,	60.00	Well Abandoned	6/30/1989	0.0	0.0		0.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
79125	Observation - Standard	Delaware Recycl,	77.00	Active	9/26/1989	66.8	76.8	PVC	4.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
79126	Observation - Standard	Delaware Recycl,	60.50	Active	9/26/1989	49.0	59.0	PVC	4.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
79127	Observation - Standard	Delaware Recycl,	27.00	Active	9/26/1989	17.0	27.0	PVC	4.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
82502	Observation - Standard	Delaware State,	21.00	Active	4/27/1990	0.0	0.0		0.0	39.708018	-75.572771	DuPont Highway, New Castle, DE 19720 US
82503	Observation - Standard	Delaware State,	21.00	Active	4/26/1990	0.0	0.0		0.0	39.708018	-75.572771	DuPont Highway, New Castle, DE 19720 US
82504	Observation - Standard	Delaware State,	26.00	Active	4/27/1990	0.0	0.0		0.0	39.708018	-75.572771	DuPont Highway, New Castle, DE 19720 US
84787	Observation - Standard	Delaware Recycl,	22.00	Active	11/15/1990	7.0	22.0	PVC	2.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
84788	Observation - Standard	Delaware Recycl,	31.00	Active	11/26/1990	15.0	30.0	PVC	2.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
84789	Observation - Standard	Delaware Recycl,	21.00	Well Abandoned	11/15/1990	0.0	0.0		0.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
84790	Observation - Standard	Delaware Recycl,	34.00	Active	11/21/1990	19.0	34.0	PVC	2.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
84791	Observation - Standard	Delaware Recycl,	21.00	Active	11/26/1990	6.0	21.0	PVC	2.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
84792	Observation - Standard	Delaware Recycl,	100.00	Active		0.0	0.0		0.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
84793	Observation - Standard	Delaware Recycl,	87.00	Active	11/15/1990	76.5	86.5	PVC	4.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
84794	Observation - Standard	Delaware Recycl,	100.00	Active		0.0	0.0		0.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
89692	Observation - Standard	Pettrillo,	15.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89693	Observation - Standard	Pettrillo,	50.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89694	Observation - Standard	Pettrillo,	50.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89695	Observation - Standard	Pettrillo,	50.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89696	Observation - Standard	Pettrillo,	50.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89697	Observation - Standard	Pettrillo,	15.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89698	Observation - Standard	Pettrillo,	15.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89699	Observation - Standard	Pettrillo,	15.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89700	Observation - Standard	Pettrillo,	15.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89701	Observation - Standard	Pettrillo,	15.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
89702	Observation - Standard	Pettrillo,	15.00	Permit Expired		0.0	0.0		0.0	39.708018	-75.572771	South DuPont Highway, New Castle, DE 19801 US
92727	Observation - Standard	C&j Associates,	15.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
92728	Observation - Standard	C&j Associates,	15.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US

**TABLE VIII-B-1  
Wells Located Within 0.25-mile Radius from the Vertical Expansion  
DRPI Industrial Landfill  
New Castle, Delaware**

Permit Number	Well Type	Owner	Total Depth (metres)	Well Status	Estimated Construction Date	Screen Top (metres bgs)	Screen Base (metres bgs)	Screen Material	Well Diameter (inches)	Latitude	Longitude	Owner Address
92729	Observation - Standard	C&j Associates,	15.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
92730	Observation - Standard	C&j Associates,	24.00	Well Abandoned	10/8/1992	8.0	18.0	PVC	2.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
92731	Observation - Standard	C&j Associates,	15.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
92732	Observation - Standard	C&j Associates,	15.00	Active		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
92733	Observation - Standard	C&j Associates,	19.00	Active	1/14/1992	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
92734	Observation - Standard	C&j Associates,	34.00	Active	10/5/1992	22.0	32.0	PVC	2.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
92735	Observation - Standard	C&j Associates,	54.00	Active	10/5/1992	39.0	54.0	PVC	2.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
92736	Observation - Standard	C&j Associates,	74.00	Well Abandoned	33884	57.0	72.0	PVC	2.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
92737	Observation - Standard	C&j Associates,	50.00	Active		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
93316	Monitor - Standard	C&j Associates,	78.00	Well Abandoned	33941	68.0	78.0	PVC	4.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96502	Observation - Standard	C&j Associates,	31.00	Active	34200	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96503	Observation - Standard	C&j Associates,	33.00	Active	34204	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96504	Observation - Standard	C&j Associates,	25.00	Active	34198	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96505	Observation - Standard	C&j Associates,	43.00	Active	34204	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96507	Observation - Standard	C&j Associates,	16.00	Active	34198	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96508	Observation - Standard	C&j Associates,	44.00	Active	34201	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96509	Observation - Standard	C&j Associates,	19.00	Active	34198	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96510	Observation - Standard	C&j Associates,	21.00	Active	34197	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96511	Observation - Standard	C&j Associates,	29.00	Active	34200	0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96512	Observation - Standard	C&j Associates,	25.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96513	Observation - Standard	C&j Associates,	25.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96514	Observation - Standard	C&j Associates,	25.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96515	Observation - Standard	C&j Associates,	25.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
96516	Observation - Standard	C&j Associates,	25.00	Voided		0.0	0.0		0.0	39.708018	-75.572771	PO Box 628, New Castle, DE 19720 US
99850	Monitor - Standard	Delaware Recycl,	37.00	Active	5/31/1994	7.0	37.0	PVC	1.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
99851	Monitor - Standard	Delaware Recycl,	37.00	Active	34485	0.0	0.0		0.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
99852	Monitor - Standard	Delaware Recycl,	37.00	Active	34486	7.0	37.0	PVC	1.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
100477	Monitor - Standard	De Recyclable Pri,	30.00	Active		0.0	0.0		0.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
100478	Monitor - Standard	De Recyclable Pri,	32.00	Active	7/13/1994	20.0	30.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
100479	Monitor - Standard	De Recyclable Pri,	47.00	Well Abandoned	7/14/1994	28.0	38.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
100480	Monitor - Standard	De Recyclable Pri,	30.00	Well Abandoned		0.0	0.0		0.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
100481	Monitor - Standard	De Recyclable Pri,	18.00	Active	34535	8.0	18.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
100483	Monitor - Standard	De Recyclable Pri,	35.00	Active	7/25/1994	15.0	35.0	PVC	4.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
100484	Monitor - Standard	De Recyclable Pri,	30.00	Active		0.0	0.0		0.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
100485	Monitor - Standard	De Recyclable Pri,	27.00	Well Abandoned	7/15/1994	15.0	25.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
100486	Monitor - Standard	De Recyclable Pri,	37.00	Active	7/26/1994	23.0	33.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
100498	Observation - Standard	Delaware Recycl,	35.00	Well Abandoned	7/18/1994	0.0	0.0		0.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
100499	Observation - Standard	Delaware Recycl,	35.00	Well Abandoned	7/14/1994	0.0	0.0		0.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
100500	Observation - Standard	Delaware Recycl,	35.00	Well Abandoned	7/14/1994	0.0	0.0		0.0	39.708018	-75.572771	200 Marsh Lane, New Castle, DE 19720 US
104743	Monitor - Standard	Sanifill, Inc,	31.00	Active	7/28/1995	25.5	30.5	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104744	Monitor - Standard	Sanifill, Inc,	26.00	Active	7/27/1995	5.5	25.5	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104745	Monitor - Standard	Sanifill, Inc,	35.00	Active	34918	18.0	33.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104746	Monitor - Standard	Sanifill, Inc,	26.00	Active	34907	5.5	25.5	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104751	Monitor - Standard	Sanifill, Inc,	41.00	Active	34899	5.0	40.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104752	Monitor - Standard	Sanifill, Inc,	45.00	Active	34899	3.0	43.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104753	Monitor - Standard	Sanifill, Inc,	41.00	Well Abandoned	34900	35.0	40.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104754	Monitor - Standard	Sanifill, Inc,	28.00	Well Abandoned	7/17/1995	2.0	27.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104755	Monitor - Standard	Sanifill, Inc,	33.00	Well Abandoned	7/14/1995	6.0	31.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104756	Monitor - Standard	Sanifill, Inc,	28.00	Well Abandoned	7/18/1995	2.0	27.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104757	Monitor - Standard	Sanifill, Inc,	28.00	Active	7/18/1995	0.0	0.0		0.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US

**TABLE VIII-B-1  
Wells Located Within 0.25-mile Radius from the Vertical Expansion  
DRPI Industrial Landfill  
New Castle, Delaware**

Permit Number	Well Type	Owner	Total Depth (metres)	Well Status	Estimated Construction Date	Screen Top (metres bgs)	Screen Base (metres bgs)	Screen Material	Well Diameter (inches)	Latitude	Longitude	Owner Address
104758	Monitor - Standard	Sanifill, Inc,	30.50	Active	7/24/1995	3.0	28.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104759	Monitor - Standard	Sanifill, Inc,	20.00	Active		0.0	0.0		0.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104760	Monitor - Standard	Sanifill, Inc,	26.00	Active	7/25/1995	3.0	23.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104761	Monitor - Standard	Sanifill, Inc,	26.00	Well Abandoned	7/20/1995	3.0	23.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104762	Monitor - Standard	Sanifill, Inc,	46.00	Active	7/24/1995	4.0	44.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104763	Monitor - Standard	Sanifill, Inc,	41.00	Active	7/21/1995	4.0	39.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
104772	Monitor - Standard	Sanifill, Inc,	120.00	Active	8/1/1995	95.0	110.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
108336	Monitor - Standard	De Recyable Pri,	31.00	Active	6/28/1996	26.0	31.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
108337	Monitor - Standard	De Recyable Pri,	29.00	Active	6/28/1996	9.0	29.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
108338	Monitor - Standard	De Recyable Pri,	31.00	Well Abandoned	6/28/1996	11.0	31.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
108339	Monitor - Standard	De Recyable Pri,	32.00	Active	6/28/1996	3.0	32.0	PVC	2.0	39.708018	-75.572771	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
158755	Observation - Standard	Shell Oil Products Company	50.00	Active	6/23/1998	30.0	50.0	PVC	4.0	39.706420	-75.567842	8206 Terminal Road, Lorton, VA 22079 US
158756	Observation - Standard	Shell Oil Products Company	45.00	Active	6/23/1998	25.0	45.0	PVC	4.0	39.706420	-75.567842	8206 Terminal Road, Lorton, VA 22079 US
158757	Observation - Standard	Shell Oil Products Company	45.00	Well Abandoned	6/24/1998	25.0	45.0	PVC	4.0	39.706420	-75.567842	8206 Terminal Road, Lorton, VA 22079 US
162033	Observation - Standard	Waste Management, Inc	24.00	Well Abandoned	12/11/1998	3.0	23.0	PVC	2.0	39.709671	-75.577832	
162035	Observation - Standard	Waste Management, Inc	24.00	Active	12/11/1998	3.0	24.0	PVC	2.0	39.709671	-75.577832	
162036	Observation - Standard	Waste Management, Inc	38.00	Active	12/9/1998	7.0	37.0	PVC	2.0	39.709671	-75.577832	
162037	Observation - Standard	Waste Management, Inc	28.50	Active	12/9/1998	3.0	28.0	PVC	2.0	39.709671	-75.577832	
162038	Observation - Standard	Waste Management, Inc	24.50	Active	12/9/1998	4.0	24.0	PVC	2.0	39.709671	-75.577832	
162039	Observation - Standard	Waste Management, Inc	42.00	Active	12/9/1998	20.0	40.0	PVC	2.0	39.709671	-75.577832	
162040	Observation - Standard	Waste Management, Inc	27.00	Active	12/21/1998	8.0	25.0	PVC	2.0	39.709671	-75.577832	
162041	Observation - Standard	Waste Management, Inc	37.00	Active	12/8/1998	14.0	34.0	PVC	2.0	39.709671	-75.577832	
164759	Observation - Standard	Waste Management, Inc	76.00	Active	4/28/1999	60.0	75.0	PVC	2.0	39.712999	-75.574639	246 Marsh Lane, New Castle, DE 19720 US
164760	Observation - Standard	Waste Management, Inc	101.00	Well Abandoned	4/30/1999	84.5	99.5	PVC	2.0	39.712999	-75.574639	246 Marsh Lane, New Castle, DE 19720 US
168685	Monitor - Direct Push	Lenfest New Castle County	30.00	Permit Expired	11/4/1999	0.0	0.0		0.0	39.703045	-75.571105	200 Cresson Boulevard, Oaks, PA 19452 US
171369	Observation - Standard	Clifton Mill Associates	32.00	Active	5/17/2000	3.5	29.5	PVC	2.0	39.710371	-75.568405	200 Marsh Lane, New Castle, DE 19720 US
171370	Observation - Standard	Clifton Mill Associates	23.00	Active	5/18/2000	2.5	22.5	PVC	2.0	39.710371	-75.568405	200 Marsh Lane, New Castle, DE 19720 US
171371	Observation - Standard	Clifton Mill Associates	23.00	Active	5/18/2000	2.5	22.5	PVC	2.0	39.710371	-75.568405	200 Marsh Lane, New Castle, DE 19720 US
171372	Observation - Standard	Clifton Mill Associates	22.50	Active	5/18/2000	2.5	22.0	PVC	2.0	39.710371	-75.568405	200 Marsh Lane, New Castle, DE 19720 US
171373	Observation - Standard	Clifton Mill Associates	39.00	Well Abandoned	5/19/2000	17.5	33.5	PVC	2.0	39.710371	-75.568405	200 Marsh Lane, New Castle, DE 19720 US
171401	Monitor - Direct Push	San Fill, Inc	12.00	Well Abandoned	4/10/2000	7.0	12.0	PVC	1.0	39.710091	-75.568800	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
175079	Observation - Standard	Waste Management, Inc	35.00	Active	10/20/2000	15.0	35.0	PVC	2.0	39.712150	-75.578216	
180355	Observation - Standard	Waste Management Inc	155.00	Active	8/19/2001	136.0	151.0	PVC	2.0	39.707887	-75.573460	190 Marsh Lane, New Castle, DE 19720 US
180426	Observation - Standard	Waste Management Inc	146.00	Active	8/14/2001	121.0	141.0	PVC	2.0	39.707887	-75.573460	190 Marsh Lane, New Castle, DE 19720 US
191215	Monitor - Direct Push	Clifton Mill Associates	40.00	Well Abandoned		0.0	0.0		0.0	39.708922	-75.567713	200 Marsh Lane, New Castle, DE 19720 US
192568	Observation - Standard	San Fill, Inc	41.50	Well Abandoned	3/27/2003	5.0	40.0	PVC	2.0	39.711388	-75.569165	201 Marsh Lane, Suite 200, New Castle, DE 19720 US
197623	Observation - Standard	Waste Management Inc	25.00	Permit Expired		0.0	0.0		0.0	39.704597	-75.575132	190 Marsh Lane, New Castle, DE 19720 US
197624	Observation - Standard	Waste Management Inc	85.00	Permit Expired		0.0	0.0		0.0	39.705237	-75.574900	190 Marsh Lane, New Castle, DE 19720 US
197625	Observation - Standard	Waste Management Inc	60.00	Permit Expired		0.0	0.0		0.0	39.703852	-75.573369	190 Marsh Lane, New Castle, DE 19720 US
205408	Geothermal - Closed Loop	New Castle County Police	0.00	Pending		0.0	0.0		0.0	39.708018	-75.572771	87 Reads Way, New Castle, DE 19720 US

Delaware Recyclable Products, Inc.  
Industrial Waste Landfill  
Permit Modification Application

Geosyntec Consultants  
PERMIT MODIFICATION APPLICATION  
Vertical Expansion

PART IX

TOPOGRAPHICAL AND SITE  
LOCATION MAPS

## IX. TOPOGRAPHICAL AND SITE LOCATION MAPS

According to the Delaware Regulations Governing Solid Waste (DRGSW) Section 4.2.1.7, the permit application for a solid waste facility must include topographical and site locations maps of the proposed landfill. These maps must show topographic evaluations surveyed with reference to mean sea level along with relevant narrative descriptions. The information required by DRGSW 4.2.1.7.1 through 4.2.1.7.4, and the locations where the information is presented are identified below:

- *The legal boundaries of the property as determined by a survey performed by a registered surveyor; the names of the present owners of the proposed site and of all adjacent lands; and a description of all title, deed, or usage restrictions affecting the proposed permit area.*

The legal boundaries of the property are presented on Drawing 3 (i.e., Existing Site Conditions Plan) and the names of present owners and usage restrictions are presented in Part IV (i.e., Proof of Property Ownership) of the Permit Modification Application Drawings.

- *The boundaries of the facility over the estimated total life of the proposed operation, including the boundaries of land that will be affected in each sequence of disposal activity.*

These are presented in Drawing 4 (i.e., Site Development Plan) and Drawing 21 (i.e., Waste Filling Sequence) of the Permit Modification Application Drawings

- *The boundaries of land where solid waste will be stored at any time over the estimated total life of the proposed operation.*

These are presented in Drawing 4 (i.e., Site Development Plan) of the Permit Modification Application Drawings.

- *The locations and names of all water supply wells or surface water intakes within ¼ mile of the disposal site boundaries.*

To the best of our knowledge, no water supply wells or surface water intakes are located within ¼ mile of the disposal site boundaries. This issue is addressed in Section 3.8.2 of Part VIII (i.e., Environmental Assessment Report).

Delaware Recyclable Products, Inc.  
Industrial Waste Landfill  
Permit Modification Application

Geosyntec Consultants  
PERMIT MODIFICATION APPLICATION  
Vertical Expansion

## PART X

# PROOF OF ZONING APPROVAL AND FEDERAL, STATE, AND LOCAL PERMITS

## **X. PROOF OF ZONING APPROVAL AND FEDERAL, STATE AND LOCAL PERMITS**

This section presents, Proof of Zoning and applicable Federal, State, and Local Permits that are addressed in DRGSW §4.2.1.7.5, which lists permit requirements and administrative procedures for solid waste facilities. Proof of Zoning for each of the properties associated with DRPI Landfill is presented in Attachment X-1. The Exhibit Plan showing the locations of each parcel by number (Table X-1) and is also included in Attachment X-1 for reference. All of the properties listed are zoned for Heavy Industrial use. Related Permits and approvals are listed below and are included in Attachment X-2 as noted:

### Wastewater Discharge Permit WSP 89-076, Revision 7

The New Castle County Department of Public Works Wastewater Discharge Permit WDP 89-076, Revision 9 included in Part V, Appendix B (Leachate Pretreatment). The permit expires on November 4, 2021.

### State of Delaware Department of Natural Resources & Environmental Control Division of Air Quality Permit APC-2013/0106-Construction

The Division of Air Quality Permit for the Cell 6 gas extraction system, APC-2013/0106-Construction is included in Attachment X-2. Final permits to amend APC-2013-0106 to increase the flowrate to its existing flare and install a new flare were received in a letter dated August 31, 2018 and are included in Part V, Appendix D (DRPI LFG Odor Control System). The permit for the second flare is APC-2018-0075-Construction and expires August 21, 2021.

### Wetlands Approvals/ Permits

The Wetlands Evaluation Report has not been updated for this Permit Renewal. The Wetland Evaluation Report is included in Section VIII the Environmental Assessment Report, Appendix VIII-A.

### NPDES Stormwater Discharge Permit

The Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) General Permit Program is included in Attachment X-2. Permit coverage began on March 7, 2011. An application for continued coverage dated November 29, 2015 was received by DNREC in a letter dated March 4, 2016 and is also included in Attachment X-2.

### Sediment and Stormwater Plan Approval

A three-year extension was granted to the Sediment and Stormwater Plan per DNREC correspondence dated March 24, 2016, included in Attachment X-2. Updated calculations to the Stormwater Management Plan are included in Appendices VI-G, Volume 2 of the Vertical Expansion Application.

Delaware Recyclable Products, Inc.  
Industrial Waste Landfill  
Permit Modification Application

Geosyntec Consultants  
PART X: PROOF OF ZONING  
Vertical Expansion

# TABLE

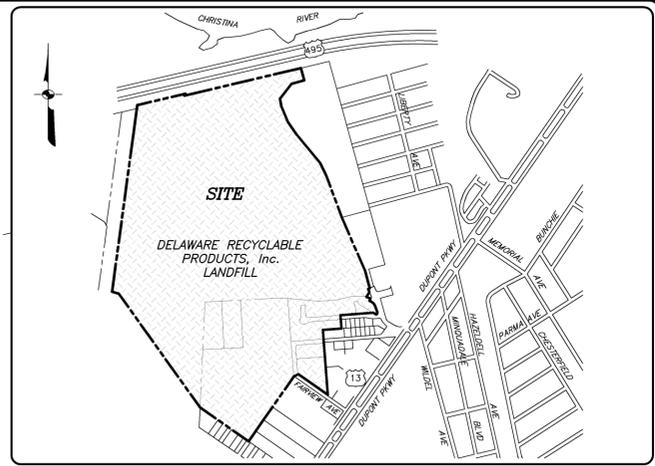
**Table X-1**

**Proof of Zoning**

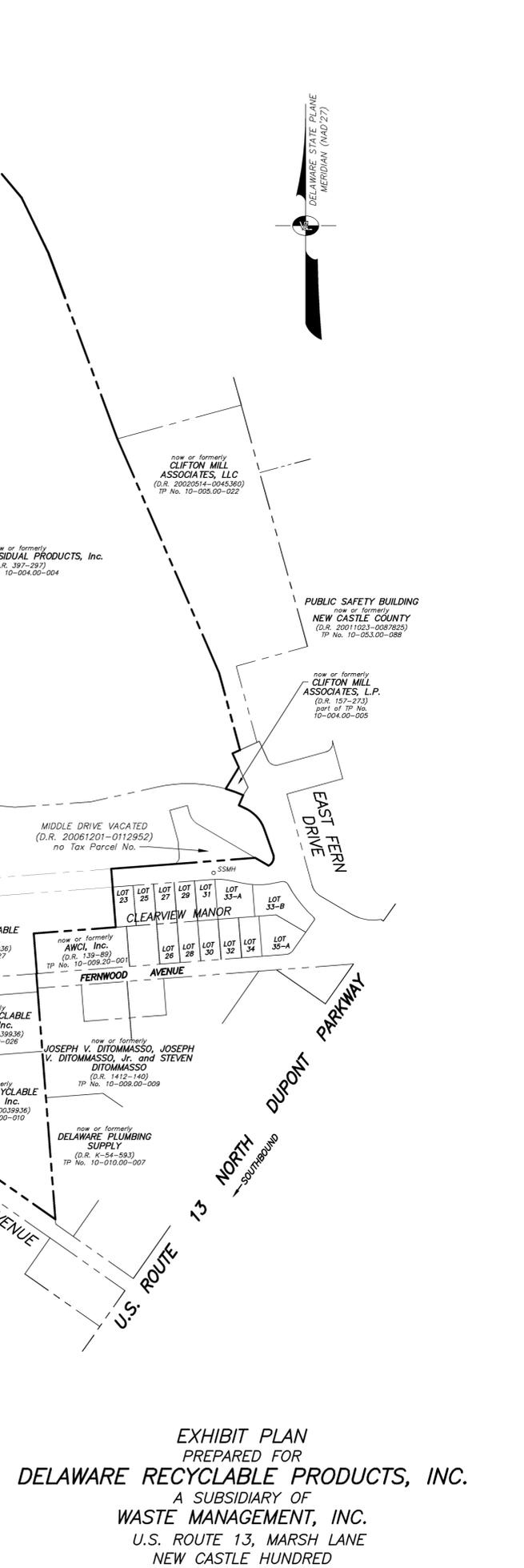
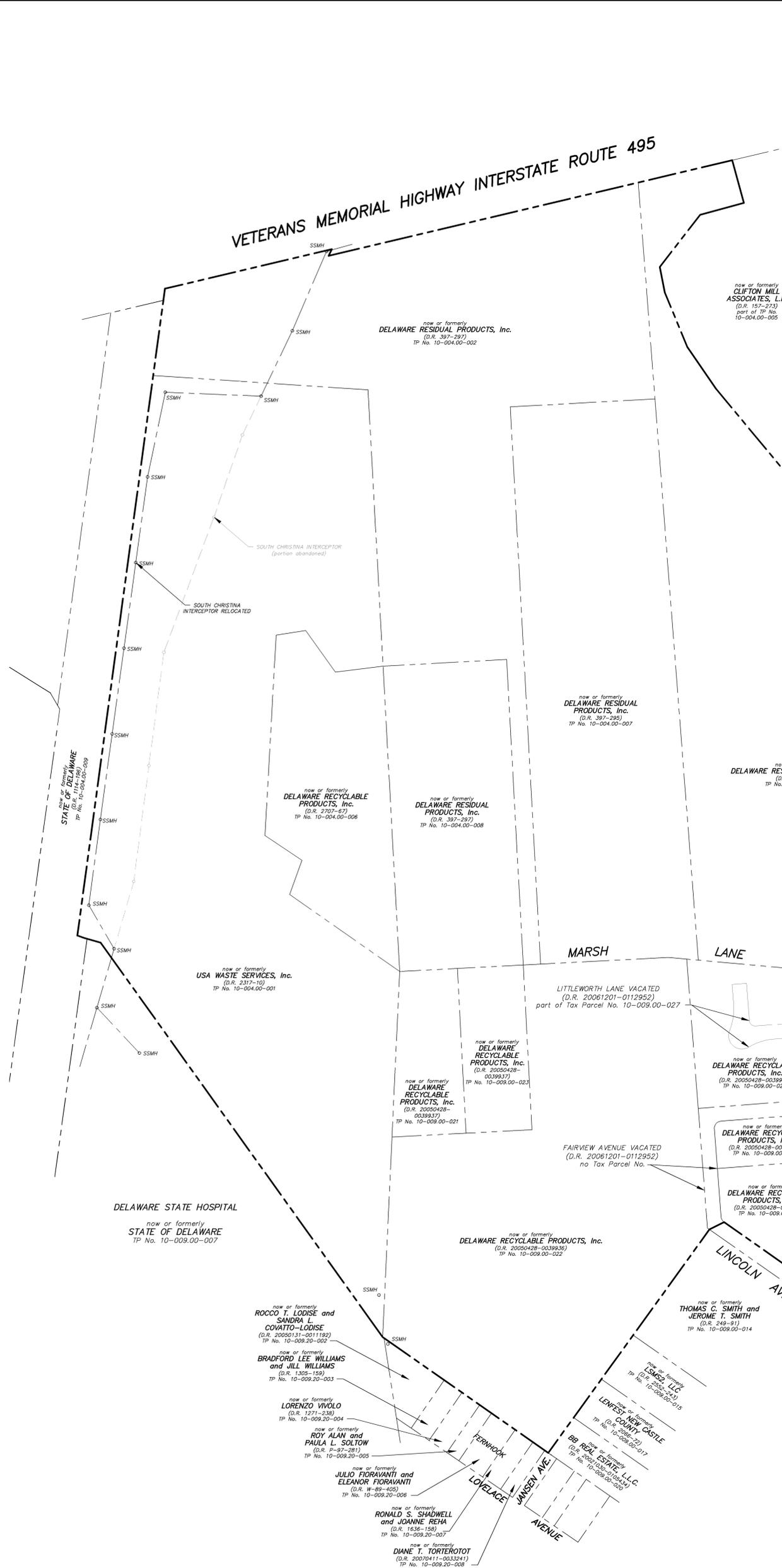
**Vertical Expansion, DRPI Industrial Waste Landfill  
 Permit Modification Application  
 Delaware Recyclable Products, Inc.**

<b>ID Number</b>	<b>Tax Parcel Number</b>	<b>Owner</b>	<b>Deed Record</b>	<b>Zoning</b>
1	10-004.00-001	USA Waste Services, Inc.	2317-10	Heavy Industrial
2	10-004.00-002	Delaware Residual Products, Inc.	397-297	Heavy Industrial
3	10-004.00-004	Delaware Recyclable Products, Inc.	397-297	Heavy Industrial
4	10-004.00-006	Delaware Residual Products, Inc.	2707-67	Heavy Industrial
5	10-004.00-007	Delaware Residual Products, Inc.	397-295	Heavy Industrial
6	10-004.00-008	Delaware Residual Products, Inc.	397-297	Heavy Industrial
7	10-009.00-010	Delaware Recyclable Products, Inc.	20050428-0039936	Heavy Industrial
8	10-009.00-021	Delaware Recyclable Products, Inc.	20050428-0039937	Heavy Industrial
9	10-009.00-022	Delaware Recyclable Products, Inc.	20050428-0039936	Heavy Industrial
10	10-009.00-023	Delaware Recyclable Products, Inc.	20050428-0039937	Heavy Industrial
11	10-009.00-026	Delaware Recyclable Products, Inc.	20050428-0039936	Heavy Industrial
12	10-009.00-027	Delaware Recyclable Products, Inc.	20050428-0039936	Heavy Industrial

ATTACHMENT X-1  
  
PROOF OF ZONING



ZONING MAPS 37 and 43 **LOCATION PLAN** SCALE: 1" = 1100'



**LEGEND:**

D.R.	DEED RECORD
MF.	MICROFILM (COUNTY RECORD)
TP No.	TAX PARCEL NUMBER
o SSMH	SANITARY SEWER MANHOLE
---	PROPERTY LINE
- - -	ADJOINING PROPERTY LINE

- NOTES:**
- The purpose of this plan is to show the tax parcels that comprise Delaware Recyclable Products, Inc. Landfill and surrounding adjoiners.
  - Horizontal Datum: Delaware State Grid (NAD 27)
  - Boundary reference is based on various historical survey, existing plans and records which have been correlated to this plan data and does not represent a boundary survey performed at this time.
  - This survey has been performed without benefit of a title bringdown, report or commitment.

SCALE: 1" = 200' ~ DATE: OCTOBER 9, 2007



**EXHIBIT PLAN**  
 PREPARED FOR  
**DELAWARE RECYCLABLE PRODUCTS, INC.**  
 A SUBSIDIARY OF  
**WASTE MANAGEMENT, INC.**  
 U.S. ROUTE 13, MARSH LANE  
 NEW CASTLE HUNDRED  
 NEW CASTLE COUNTY, DELAWARE

SCALE: 1" = 200' ~ DATE: OCTOBER 9, 2007

**VANDEMARK & LYNCH, INC.**  
 ENGINEERS - PLANNERS - SURVEYORS  
 4305 MILLER RD./PO BOX 2047  
 WILMINGTON, DE 19899/(302) 764-7635

PERMANENT FILE 102/350	QA REVIEW	APPROVED BY
SURVEYED BY K. GOLDSTONE	PROJECT MANAGER J. KELLEHER	REFERENCE DRAWINGS 28924-F
PROJECT NO. 18553.39	FILE NO. 38973-L	SHEET 1 OF 1
VANDEMARK & LYNCH, INC. IS NOT RESPONSIBLE FOR ANY MODIFICATION MADE TO THIS PLAN AND/OR CADD FILE WITHOUT ITS WRITTEN AUTHORIZATION.		REVISION 1

L:\vancat\wms\Drawings\NARC - 445138973\Drawings - 4/9/07\012 10-16-15 AM, A. Kachy, Goldstone

**Parcel # 1000400001**

Property Address: 600 MARSH LA  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO SUBD  
 Owner: USA WASTE SERVICES INC  
 C/O WASTE MANAGEMENT  
 Owner Address: P.O. BOX 1450  
 CHICAGO, IL 60690-1450  
 Municipal Info: Unincorporated

Lot #: B-5	Property Class: INDUSTRIAL
Location:	Lot Size: 49.09
Map Grid: 10203500	Lot Depth: 0
Block:	Lot Frontage: 0
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 006216	

**Related Project Plans**

	A/P No.	Project Name	Work Type	Status
<a href="#">Details</a>	19981641	DELAWARE RECYCLABLE PRODUCTS	UTILITY PLAN	Withdrawn
<a href="#">Details</a>	20030417	DELAWARE RECYCLABLE PRODUCTS	UTILITY PLAN	COMPLETE
<a href="#">Details</a>	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE

**Permit History**

	A/P No.	Permit Type	Status
<a href="#">Details</a>	5525	RES PLUMB & HEAT REPLACEMENT	Closed

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FLOODPLAIN-LU
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- WETLANDS-LU
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
PETRILLO BROS INC	M46 386	N	Y	5/2/1946	\$10.00
USA WASTE SERVICES INC	2317 10	Y	N	8/20/1997	\$2,700,000.00

**Tax/Assessment Info**

**Assessment**

Land: 134100  
 Structure: 942500  
 Homesite: 0  
 Total: 1076600  
 County Taxable: 1076600  
 School Taxable: 1076600

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$7,712.44	\$0.00	\$0.00	10/6/2010	\$16,504.28
2011A	\$0.00	\$0.00	9/30/2011	\$7,777.57	\$0.00	\$0.00	9/30/2011	\$16,224.37
2012A	\$0.00	\$0.00	9/26/2012	\$7,745.71	\$0.00	\$0.00	9/26/2012	\$15,890.62
2013A	\$0.00	\$0.00	9/19/2013	\$7,745.06	\$0.00	\$0.00	9/19/2013	\$19,981.70
2014A	\$0.00	\$0.00	9/23/2014	\$7,774.88	\$0.00	\$0.00	9/23/2014	\$20,340.21

County Balance Due: \$0.00  
 School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Commercial Structure Characteristics**

**Building #: 06**

Occupancy: GENERAL OFFICE	# of Stories: 2	Year Built: 1974
Struct Class: WOOD-FRAME	Quality: AVERAGE	Condition: AVERAGE
Floor Level: ALL	Grnd Flr Area: 180	Total Flr Area: 360
Ext Wall Type: WOOD SIDING	Wall Height: 8	Perimeter: 108
AC %: 50	Heat %: 90	Rentable Units: 2
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtng: NONE	Eff. Yr Built: 1973

**Building #: 03**

Occupancy: GENERAL WAREHOUSE	# of Stories: 1	Year Built: 1968
Struct Class: MASONRY-WALL	Quality: AVERAGE	Condition: AVERAGE
Floor Level: FIRST	Grnd Flr Area: 2236	Total Flr Area: 2236
Ext Wall Type: CONCRETE-BL	Wall Height: 10	Perimeter: 190
AC %: 0	Heat %: 90	Rentable Units: 3
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtng: NONE	Eff. Yr Built: 1968

**Building #: 05**

Occupancy: GENERAL WAREHOUSE	# of Stories: 1	Year Built: 1968
Struct Class: MASONRY-WALL	Quality: AVERAGE	Condition: AVERAGE
Floor Level: FIRST	Grnd Flr Area: 1600	Total Flr Area: 1600
Ext Wall Type: CONCRETE-BL	Wall Height: 10	Perimeter: 160
AC %: 0	Heat %: 0	Rentable Units: 1
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtng: NONE	Eff. Yr Built: 1968

**Building #: 02**

Occupancy: GENERAL OFFICE	# of Stories: 2	Year Built: 1970
Struct Class: MASONRY-WALL	Quality: AVERAGE	Condition: AVERAGE
Floor Level: ALL	Grnd Flr Area: 720	Total Flr Area: 1440
Ext Wall Type: CONCRETE-BL	Wall Height: 8	Perimeter: 232
AC %: 90	Heat %: 90	Rentable Units: 2
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtng: NONE	Eff. Yr Built: 1968

**Building #: 01**

Occupancy: REPAIR BODY SHOP	# of Stories: 1	Year Built: 1970
Struct Class: PRE-ENC-STL	Quality: FAIR	Condition: AVERAGE
Floor Level: FIRST	Grnd Flr Area: 15184	Total Flr Area: 15184
Ext Wall Type: METAL	Wall Height: 15	Perimeter: 500
AC %: 0	Heat %: 90	Rentable Units: 1
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtng: NONE	Eff. Yr Built: 1968

**Building #: 04**

Occupancy: GENERAL OFFICE	# of Stories: 2	Year Built: 1968
Struct Class: WOOD-FRAME	Quality: FAIR	Condition: AVERAGE
Floor Level: ALL	Grnd Flr Area: 320	Total Flr Area: 640
Ext Wall Type: METAL	Wall Height: 8	Perimeter: 144
AC %: 50	Heat %: 90	Rentable Units: 2
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtng: NONE	Eff. Yr Built: 1968

**Parcel # 1000400002**

Property Address: 250 MARSH LA  
 NEW CASTLE, DE 19720-  
 Subdivision: DEL RECYCLABLE PRODS  
 Owner: DELAWARE RESIDUAL PRODUCTS I  
 C/O WASTE MANAGEMENT  
 Owner Address: P.O. BOX 1450  
 CHICAGO, IL 60690-1450  
 Municipal Info: Unincorporated

Lot #: D5	Property Class: INDUSTRIAL
Location:	Lot Size: 32.83
Map Grid: 10203500	Lot Depth: 2706.50
Block:	Lot Frontage: 60
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 200108140066051	

**Related Project Plans**

	A/P No.	Project Name	Work Type	Status
<a href="#">Details</a>	20000903	DELAWARE RECYCLABLE PRODUCTS	MINOR LAND DEVELOPMENT	RECORDED/RESOLV
<a href="#">Details</a>	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE
<a href="#">Details</a>	20100613	220 MARSH LN		COMPLETE

**Permit History**

	A/P No.	Permit Type	Status
<a href="#">Details</a>	200907043	COMMERCIAL BUILDING PERMIT	Closed
<a href="#">Details</a>	200115584	PLUMBING PERMIT	Closed
<a href="#">Details</a>	200114342	COMMERCIAL BUILDING PERMIT	Closed

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FLOODPLAIN-LU
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- WETLANDS-LU
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
DELAWARE RESIDUAL PRODUCTS I	397 297	Y	Y	7/1/1986	\$1,508,112.00

**Tax/Assessment Info**

**Assessment**

Land: 164200  
 Structure: 92600  
 Homesite: 0  
 Total: 256800  
 County Taxable: 256800  
 School Taxable: 256800

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$1,839.64	\$0.00	\$0.00	10/6/2010	\$3,936.75
2011A	\$0.00	\$0.00	9/30/2011	\$1,855.17	\$0.00	\$0.00	9/30/2011	\$3,869.98
2012A	\$0.00	\$0.00	9/26/2012	\$1,847.57	\$0.00	\$0.00	9/26/2012	\$3,790.37
2013A	\$0.00	\$0.00	9/19/2013	\$1,847.42	\$0.00	\$0.00	9/19/2013	\$4,766.21
2014A	\$0.00	\$0.00	9/23/2014	\$1,854.53	\$0.00	\$0.00	9/23/2014	\$4,851.72

County Balance Due: \$0.00  
 School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

## Sewer History as of 9/30/2014 3:07:24 AM

Tax Year	Principal Due	Penalty Due	Date Paid	Amount Paid
2007S1	\$0.00	\$0.00	3/7/2007	\$18,040.28
2007S2	\$0.00	\$0.00	5/16/2007	\$13,111.63
2007S3	\$0.00	\$0.00	9/12/2007	\$18,591.46
2007S4	\$0.00	\$0.00	12/19/2007	\$17,090.20
2008S1	\$0.00	\$0.00	3/19/2008	\$17,871.05
2008S2	\$0.00	\$0.00	6/25/2008	\$14,947.54
2008S3	\$0.00	\$0.00	8/26/2008	\$9,858.12
2008S4	\$0.00	\$0.00	12/11/2008	\$12,442.34
2009S1	\$0.00	\$0.00	3/10/2009	\$9,007.56
2009S2	\$0.00	\$0.00	5/20/2009	\$8,998.27
2009S3	\$0.00	\$0.00	9/8/2009	\$6,483.13
2009S4	\$0.00	\$0.00	3/29/2010	\$9,451.46
2010S1	\$0.00	\$0.00	3/29/2010	\$8,210.14
2010S2	\$0.00	\$0.00	6/7/2010	\$14,315.75
2010S3	\$0.00	\$0.00	9/3/2010	\$19,828.86
2010S4	\$0.00	\$0.00	12/13/2010	\$8,772.61
2011S1	\$0.00	\$0.00	6/6/2011	\$4,846.77
2011S2	\$0.00	\$0.00	6/6/2011	\$9,427.88
2011S3	\$0.00	\$0.00	9/21/2011	\$20,434.52
2011S4	\$0.00	\$0.00	11/30/2011	\$14,813.26
2012S1	\$0.00	\$0.00	3/19/2012	\$22,906.71
2012S2	\$0.00	\$0.00	6/8/2012	\$22,334.74
2012S3	\$0.00	\$0.00	9/6/2012	\$7,745.30
2012S4	\$0.00	\$0.00	12/6/2012	\$14,453.97
2013S1	\$0.00	\$0.00	3/26/2013	\$18,594.61
2013S2	\$0.00	\$0.00	6/12/2013	\$31,817.58
2013S3	\$0.00	\$0.00	9/11/2013	\$34,735.27
2013S4	\$0.00	\$0.00	12/31/2013	\$67,261.33
2014S1	\$0.00	\$0.00	4/8/2014	\$37,758.38
2014S2	\$0.00	\$0.00	6/4/2014	\$51,319.58
2014S3	\$0.00	\$0.00	9/10/2014	\$74,445.83

Balance Due: \$0.00

These amounts are valid through the last day of the month. Statutory penalty will accrue on the first day of next month.

## Commercial Structure Characteristics

## Building #:

Occupancy: GENERAL OFFICE	# of Stories: 1	Year Built: 2010
Struct Class: WOOD-FRAME	Quality: LOW-COST	Condition: AVERAGE
Floor Level: FIRST	Grnd Flr Area: 1440	Total Flr Area: 1440
Ext Wall Type: ALUM-VINYL	Wall Height: 8	Perimeter: 144
AC %: 0	Heat %: 0	Rentable Units: 0
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtnng:	Eff. Yr Built: 1983

**Parcel # 1000400004**

Property Address: 1101 MARSH LA  
 NEW CASTLE, DE 19720-  
 Subdivision: DEL RECYCLABLE PRODS  
 Owner: DELAWARE RESIDUAL PRODUCTS I  
 C/O WASTE MANAGEMENT  
 Owner Address: P.O. BOX 1450  
 CHICAGO, IL 60690-1450  
 Municipal Info: Unincorporated

Lot #: D1	Property Class: INDUSTRIAL
Location:	Lot Size: 33.63
Map Grid: 10203500	Lot Depth: 2706.50
Block:	Lot Frontage: 959.80
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 010878	

**Related Project Plans**

Details	A/P No.	Project Name	Work Type	Status
	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- WETLANDS-LU
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
DELAWARE RESIDUAL PRODUCTS I	397 297	Y	Y	7/10/1986	\$1,508,112.00

**Tax/Assessment Info**

**Assessment**

Land: 168200  
 Structure: 0  
 Homesite: 0  
 Total: 168200  
 County Taxable: 168200  
 School Taxable: 168200

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$1,204.94	\$0.00	\$0.00	10/6/2010	\$2,578.50
2011A	\$0.00	\$0.00	9/30/2011	\$1,215.11	\$0.00	\$0.00	9/30/2011	\$2,534.77
2012A	\$0.00	\$0.00	9/26/2012	\$1,210.13	\$0.00	\$0.00	9/26/2012	\$2,482.63
2013A	\$0.00	\$0.00	9/19/2013	\$1,210.03	\$0.00	\$0.00	9/19/2013	\$3,121.79
2014A	\$0.00	\$0.00	9/23/2014	\$1,214.69	\$0.00	\$0.00	9/23/2014	\$3,177.80

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Parcel # 1000400006**

Property Address: 651 MARSH LA  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO SUBD  
 Owner: DELAWARE RECYCLABLE PRODUCTS INC  
 C/O WASTE MANAGEMENT  
 Owner Address: P O BOX 1450  
 CHICAGO, IL 60690-1450  
 Municipal Info: Unincorporated

Lot #: B-4	Property Class: INDUSTRIAL
Location:	Lot Size: 8.19
Map Grid: 10203500	Lot Depth: 1043.80
Block:	Lot Frontage: 439.80
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 006216	

**Related Project Plans**

Details	A/P No.	Project Name	Work Type	Status
	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- WETLANDS-LU
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
NEW CASTLE HOT MIX INC	L113 386	N	N	5/1/1946	\$10.00
DELAWARE RECYCLABLE PRODUCTS INC	2707 67	Y	N	9/1/1999	\$137,500.00
					\$2,000,000.00

**Tax/Assessment Info**

**Assessment**

Land: 41000  
 Structure: 56700  
 Homesite: 0  
 Total: 97700  
 County Taxable: 97700  
 School Taxable: 97700

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$699.89	\$0.00	\$0.00	10/6/2010	\$1,497.74
2011A	\$0.00	\$0.00	9/30/2011	\$705.81	\$0.00	\$0.00	9/30/2011	\$1,472.34
2012A	\$0.00	\$0.00	9/27/2012	\$702.92	\$0.00	\$0.00	9/27/2012	\$1,442.05
2013A	\$0.00	\$0.00	9/19/2013	\$702.86	\$0.00	\$0.00	9/19/2013	\$1,813.31
2014A	\$0.00	\$0.00	9/23/2014	\$705.56	\$0.00	\$0.00	9/23/2014	\$1,845.84

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Commercial Structure Characteristics**

**Building #: 01**

Occupancy: GENERAL OFFICE	# of Stories: 1	Year Built: 1972
Struct Class: MASONRY-WALL	Quality: AVERAGE	Condition: AVERAGE
Floor Level: FIRST	Grnd Flr Area: 360	Total Flr Area: 360
Ext Wall Type: CONCRETE-BL	Wall Height: 8	Perimeter: 84

AC %: 0	Heat %: 90	Rentable Units: 1
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtnng: NONE	Eff. Yr Built: 1973

**Building #: 02**

Occupancy: GENERAL OFFICE	# of Stories: 2	Year Built: 1979
Struct Class: MASONRY-WALL	Quality: AVERAGE	Condition: AVERAGE
Floor Level: ALL	Grnd Flr Area: 400	Total Flr Area: 800
Ext Wall Type: CONCRETE-BL	Wall Height: 8	Perimeter: 160
AC %: 0	Heat %: 90	Rentable Units: 1
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtnng: NONE	Eff. Yr Built: 1978

**Building #: 03**

Occupancy: GENERAL OFFICE	# of Stories: 1	Year Built: 1991
Struct Class: MASONRY-WALL	Quality: AVERAGE	Condition: AVERAGE
Floor Level: FIRST	Grnd Flr Area: 525	Total Flr Area: 525
Ext Wall Type: WOOD SIDING	Wall Height: 8	Perimeter: 92
AC %: 0	Heat %: 90	Rentable Units: 1
Bsmt: 0	Bsmt Util: NO BSMT	
Year Renov: 0	Renov Rtnng: NONE	Eff. Yr Built: 1983

**Parcel # 1000400007**

Property Address: 1031 MARSH LA  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO SUBD  
 Owner: DELAWARE RESIDUAL PRODUCTS I  
 C/O WASTE MANAGEMENT  
 Owner Address: P.O. BOX 1450  
 CHICAGO, IL 60690-1450  
 Municipal Info: Unincorporated

Lot #: D3	Property Class: COMMERCIAL
Location:	Lot Size: 23.30
Map Grid: 10203500	Lot Depth: 1953.20
Block:	Lot Frontage: 546.90
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 007325	

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- WETLANDS-LU
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
DELAWARE RESIDUAL PRODUCTS I	397 295	Y	N	7/1/1986	\$419,328.00

**Tax/Assessment Info**

**Assessment**

Land: 116500  
 Structure: 0  
 Homesite: 0  
 Total: 116500  
 County Taxable: 116500  
 School Taxable: 116500

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$834.57	\$0.00	\$0.00	10/6/2010	\$1,785.95
2011A	\$0.00	\$0.00	9/30/2011	\$841.62	\$0.00	\$0.00	9/30/2011	\$1,755.66
2012A	\$0.00	\$0.00	9/26/2012	\$838.17	\$0.00	\$0.00	9/26/2012	\$1,719.54
2013A	\$0.00	\$0.00	9/19/2013	\$838.10	\$0.00	\$0.00	9/19/2013	\$2,162.24
2014A	\$0.00	\$0.00	9/23/2014	\$841.33	\$0.00	\$0.00	9/23/2014	\$2,201.03

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Parcel # 1000400008**

Property Address: 1001 MARSH LA  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO SUBD  
 Owner: DELAWARE RESIDUAL PRODUCTS I  
 C/O WASTE MANAGEMENT  
 Owner Address: P.O. BOX 1450  
 CHICAGO, IL 60690-1450  
 Municipal Info: Unincorporated

Lot #: D4	Property Class: COMMERCIAL
Location:	Lot Size: 10.44
Map Grid: 10203500	Lot Depth: 1061.80
Block:	Lot Frontage: 428.30
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 007325	

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
DELAWARE RESIDUAL PRODUCTS I	397 297	Y	Y	7/1/1986	\$1,508,112.00

**Tax/Assessment Info**

**Assessment**

Land: 52200  
 Structure: 0  
 Homesite: 0  
 Total: 52200  
 County Taxable: 52200  
 School Taxable: 52200

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$373.95	\$0.00	\$0.00	10/6/2010	\$800.22
2011A	\$0.00	\$0.00	9/30/2011	\$377.10	\$0.00	\$0.00	9/30/2011	\$786.65
2012A	\$0.00	\$0.00	9/26/2012	\$375.55	\$0.00	\$0.00	9/26/2012	\$770.47
2013A	\$0.00	\$0.00	9/19/2013	\$375.52	\$0.00	\$0.00	9/19/2013	\$968.83
2014A	\$0.00	\$0.00	9/23/2014	\$376.97	\$0.00	\$0.00	9/23/2014	\$986.21

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Parcel # 1000900010**

Property Address: 200 FAIRVIEW AV  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO SUBD  
 Owner: DELAWARE RECYCLABLE PRODUCTS INC  
 720 E BUTTERFIELD RD  
 Owner Address:  
 LOMBARD, IL 60148  
 Municipal Info: Unincorporated

Lot #: 1	Property Class: INDUSTRIAL
Location:	Lot Size: 2.50
Map Grid: 10203500	Lot Depth: 460.50
Block:	Lot Frontage: 440.50
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 013285	

**Related Project Plans**

	A/P No.	Project Name	Work Type	Status
<b>Details</b>	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
PETRILLO BROS INC	A67 433	N	Y	11/23/1960	\$0.00
DELAWARE RECYCLABLE PRODUCTS INC	20050428 0039936	Y	Y	4/27/2005	\$10.00

**Tax/Assessment Info**

**Assessment**

Land: 25000  
 Structure: 0  
 Homesite: 0  
 Total: 25000  
 County Taxable: 25000  
 School Taxable: 25000

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$179.09	\$0.00	\$0.00	10/6/2010	\$383.25
2011A	\$0.00	\$0.00	9/30/2011	\$180.61	\$0.00	\$0.00	9/30/2011	\$376.75
2012A	\$0.00	\$0.00	9/26/2012	\$179.87	\$0.00	\$0.00	9/26/2012	\$369.00
2013A	\$0.00	\$0.00	9/19/2013	\$179.85	\$0.00	\$0.00	9/19/2013	\$464.00
2014A	\$0.00	\$0.00	9/23/2014	\$180.54	\$0.00	\$0.00	9/23/2014	\$472.33

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Parcel # 1000900021**

Property Address: 1000 MARSH LA  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO SUBD  
 Owner: DELAWARE RECYCLABLE PRODUCTS INC  
 720 E BUTTERFIELD RD  
 Owner Address:  
 LOMBARD, IL 60148  
 Municipal Info: Unincorporated

Lot #: B-2	Property Class: INDUSTRIAL
Location:	Lot Size: 3
Map Grid: 10203500	Lot Depth: 575.20
Block:	Lot Frontage: 200
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 006216	

**Related Project Plans**

	A/P No.	Project Name	Work Type	Status
<b>Details</b>	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE

**Permit History**

	A/P No.	Permit Type	Status
<b>Details</b>	200801149	HVAC PERMIT	Closed
<b>Details</b>	200701176	DEMOLITION PERMIT	Closed

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
DEPT OF COMM AFF & ECON DEV	M108 95	N	N	12/1/1979	\$200,000.00
C & J ASSOCIATES	994 74	N	N	2/15/1990	\$10.00
C & J ASSOCIATES	2246 156	N	N	2/26/1997	\$1.00
TBI INC	2246 160	N	Y	3/17/1997	\$10.00
DELAWARE RECYCLABLE PRODUCTS INC	20050428 0039937	Y	Y	4/27/2005	\$10.00

**Tax/Assessment Info**

**Assessment**

Land: 132000  
 Structure: 549500  
 Homesite: 0  
 Total: 681500  
 County Taxable: 681500  
 School Taxable: 681500

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$4,882.06	\$0.00	\$0.00	10/6/2010	\$10,447.40
2011A	\$0.00	\$0.00	9/30/2011	\$4,923.29	\$0.00	\$0.00	9/30/2011	\$10,270.21
2012A	\$0.00	\$0.00	9/26/2012	\$4,903.12	\$0.00	\$0.00	9/26/2012	\$10,058.94
2013A	\$0.00	\$0.00	9/19/2013	\$4,902.71	\$0.00	\$0.00	9/19/2013	\$12,648.64
2014A	\$0.00	\$0.00	9/23/2014	\$4,921.59	\$0.00	\$0.00	9/23/2014	\$12,875.58

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Parcel # 1000900022**

Property Address: 1030 MARSH LA  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO SUBD  
 Owner: DELAWARE RECYCLABLE PRODUCTS INC  
 720 E BUTTERFIELD RD  
 Owner Address:  
 LOMBARD, IL 60148  
 Municipal Info: Unincorporated

Lot #: B-3	Property Class: INDUSTRIAL
Location:	Lot Size: 28.64
Map Grid: 10203500	Lot Depth: 1267.40
Block:	Lot Frontage: 566.40
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 006216	

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- WETLANDS-LU
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
PETRILLO BROS INC	M46 386	N	Y	Not Available	\$0.00
DELAWARE RECYCLABLE PRODUCTS INC	20050428 0039936	Y	Y	4/27/2005	\$10.00

**Tax/Assessment Info**

**Assessment**

Land: 286400  
 Structure: 572800  
 Homesite: 0  
 Total: 859200  
 County Taxable: 859200  
 School Taxable: 859200

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$6,155.06	\$0.00	\$0.00	10/6/2010	\$13,171.53
2011A	\$0.00	\$0.00	9/30/2011	\$6,207.04	\$0.00	\$0.00	9/30/2011	\$12,948.14
2012A	\$0.00	\$0.00	9/26/2012	\$6,181.61	\$0.00	\$0.00	9/26/2012	\$12,681.79
2013A	\$0.00	\$0.00	9/19/2013	\$6,181.09	\$0.00	\$0.00	9/19/2013	\$15,946.75
2014A	\$0.00	\$0.00	9/23/2014	\$6,204.89	\$0.00	\$0.00	9/23/2014	\$16,232.86

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Parcel # 1000900023**

Property Address: 1000 MARSH LA  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO SUBD  
 Owner: DELAWARE RECYCLABLE PRODUCTS INC  
 720 E BUTTERFIELD RD  
 Owner Address:  
 LOMBARD, IL 60148  
 Municipal Info: Unincorporated

Lot #: B-7	Property Class: INDUSTRIAL
Location:	Lot Size: 3
Map Grid: 10203500	Lot Depth: 572.40
Block:	Lot Frontage: 228.30
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 006216	

**Related Project Plans**

Details	A/P No.	Project Name	Work Type	Status
	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
ADCO METALS INC	R119 306	N	N	9/1/1982	\$49,000.00
C & J ASSOCIATES	994 71	N	N	2/15/1990	\$232,035.00
TBI INC	2246 160	N	Y	3/17/1997	\$10.00
DELAWARE RECYCLABLE PRODUCTS INC	20050428 0039937	Y	Y	4/27/2005	\$10.00

**Tax/Assessment Info**

**Assessment**

Land: 75000  
 Structure: 45000  
 Homesite: 0  
 Total: 120000  
 County Taxable: 120000  
 School Taxable: 120000

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$859.64	\$0.00	\$0.00	10/6/2010	\$1,839.60
2011A	\$0.00	\$0.00	9/30/2011	\$866.90	\$0.00	\$0.00	9/30/2011	\$1,808.40
2012A	\$0.00	\$0.00	9/26/2012	\$863.35	\$0.00	\$0.00	9/26/2012	\$1,771.20
2013A	\$0.00	\$0.00	9/19/2013	\$863.28	\$0.00	\$0.00	9/19/2013	\$2,227.20
2014A	\$0.00	\$0.00	9/23/2014	\$866.60	\$0.00	\$0.00	9/23/2014	\$2,267.16

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Parcel # 1000900026**

Property Address: 320 FAIRVIEW AV  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO IND PARK  
 Owner: DELAWARE RECYCLABLE PRODUCTS INC  
 720 E BUTTERFIELD RD  
 Owner Address:  
 LOMBARD, IL 60148  
 Municipal Info: Unincorporated

Lot #: 2	Property Class: INDUSTRIAL
Location:	Lot Size: 1.27
Map Grid: 10203500	Lot Depth: 163.10
Block:	Lot Frontage: 334.80
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 013285	

**Related Project Plans**

	A/P No.	Project Name	Work Type	Status
<a href="#">Details</a>	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE
<a href="#">Details</a>	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
PETRILLO BROS INC	A63 433	N	Y	11/23/1960	\$10.00
DELAWARE RECYCLABLE PRODUCTS INC	20050428 0039936	Y	Y	4/27/2005	\$10.00

**Tax/Assessment Info**

**Assessment**

Land: 12700  
 Structure: 0  
 Homesite: 0  
 Total: 12700  
 County Taxable: 12700  
 School Taxable: 12700

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$90.98	\$0.00	\$0.00	10/6/2010	\$194.69
2011A	\$0.00	\$0.00	9/30/2011	\$91.75	\$0.00	\$0.00	9/30/2011	\$191.39
2012A	\$0.00	\$0.00	9/26/2012	\$91.38	\$0.00	\$0.00	9/26/2012	\$187.45
2013A	\$0.00	\$0.00	9/19/2013	\$91.37	\$0.00	\$0.00	9/19/2013	\$235.71
2014A	\$0.00	\$0.00	9/23/2014	\$91.72	\$0.00	\$0.00	9/23/2014	\$239.94

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

**Parcel # 1000900027**

Property Address: 0 FERNWOOD AV  
 NEW CASTLE, DE 19720-  
 Subdivision: PETRILLO SUBD  
 Owner: DELAWARE RECYCLABLE PRODUCTS INC  
 720 E BUTTERFIELD RD  
 Owner Address:  
 LOMBARD, IL 60148  
 Municipal Info: Unincorporated

Lot #: B-6	Property Class: INDUSTRIAL
Location:	Lot Size: 8.50
Map Grid: 10203500	Lot Depth: 519.60
Block:	Lot Frontage: 391.80
Census Tract: 152.00	Street Finish:
Street Type:	
Water:	
Microfilm #: 006216	

**Related Project Plans**

	A/P No.	Project Name	Work Type	Status
<a href="#">Details</a>	19981641	DELAWARE RECYCLABLE PRODUCTS	UTILITY PLAN	Withdrawn
<a href="#">Details</a>	20030417	DELAWARE RECYCLABLE PRODUCTS	UTILITY PLAN	COMPLETE
<a href="#">Details</a>	20060648	DELAWARE RECYCLABLE PRODUCTS		COMPLETE

**District & Zoning Info**

**Districts**

- **COUNCIL 10 - JEA P STREET**
- **COLONIAL SCHOOL DIST-TRES**
- NORTH OF C&D CANAL
- DE REP 16-JAMES JOHNSON
- TRAFFIC ZONE T103 (YR2000)
- DE SEN 13-DAVID B MCBRIDE
- FIRE/RESCUE - MINQUADALE
- SEWER DISTRICT NORTHERN-ASMT
- PLANNING 2 - NEW CASTLE

**Zoning**

- HI - UDC - HEAVY INDUSTRIAL

**Sales History**

Owner	Deed	Current Owner?	Multi?	Sale Date	Sale Amount
PETRILLO BROS INC	M46 386	N	Y	5/2/1946	\$10.00
DELAWARE RECYCLABLE PRODUCTS INC	20050428 0039936	Y	Y	4/27/2005	\$10.00

**Tax/Assessment Info**

**Assessment**

Land: 8500  
 Structure: 0  
 Homesite: 0  
 Total: 8500  
 County Taxable: 8500  
 School Taxable: 8500

**Tax History as of 9/30/2014 3:07:03 AM**

Tax Year	County				School			
	Principal Due	Penalty Due	Date Paid	Amt Paid	Principal Due	Penalty Due	Date Paid	Amt Paid
2010A	\$0.00	\$0.00	10/6/2010	\$60.89	\$0.00	\$0.00	10/6/2010	\$130.31
2011A	\$0.00	\$0.00	9/30/2011	\$61.40	\$0.00	\$0.00	9/30/2011	\$128.10
2012A	\$0.00	\$0.00	9/26/2012	\$61.15	\$0.00	\$0.00	9/26/2012	\$125.46
2013A	\$0.00	\$0.00	9/19/2013	\$61.15	\$0.00	\$0.00	9/19/2013	\$157.76
2014A	\$0.00	\$0.00	9/23/2014	\$61.38	\$0.00	\$0.00	9/23/2014	\$160.59

County Balance Due: \$0.00

School Balance Due: \$0.00

These amounts are valid through the last day of the month. For accounts with delinquent balances, statutory penalty will accrue on the first day of next month.

# ATTACHMENT X-2

## PERMITS



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

April 30, 2013

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

**Permit: APC-2013/0106-CONSTRUCTION**

Delaware Recyclable Products, Inc. (DRPI)  
Gas Extraction System for Industrial Waste Landfill: Cell No. 6  
246 Marsh Lane  
New Castle, DE 19720

ATTENTION: Dan Bergan  
District Manager

Dear Mr. Bergan:

Pursuant to 7 **DE Admin. Code** 1102, Section 2, approval of the Department of Natural Resources and Environmental Control (the Department) is hereby granted for the continuation of construction of Cell No. 6 and extension of the gas extraction system located at the DRPI industrial waste landfill at 246 Marsh Lane, New Castle, Delaware, in accordance with the application submitted on Form Nos. AQM-1, AQM-2, AQM-4.3 and AQM-5 dated March 15, 2013 signed by Dan Bergan, and emails describing construction status from Bruce Fahs, Gas Operations Manager, dated March 18, 2013 and March 22, 2013. The construction includes completion of Cell Nos. 6-2a and 6-2b with condensate pump stations, gas collection trenches under the existing landfill liner, vertical gas wells and completion of a 12" diameter header connecting Cell Nos. 6 and 1.

This permit is issued subject to the following conditions:

**1. General Provisions**

- 1.1 This permit expires on April 30, 2016. If the equipment covered by this permit will not be constructed by April 30, 2016, an application for renewal of this construction permit must be submitted by January 30, 2016.
- 1.2 The project shall be constructed in accordance with the application described above. If any changes are necessary, revised plans must be submitted and supplemental approval issued prior to actual construction.
- 1.3 Representatives of the Department may, at any reasonable time, inspect this facility.
- 1.4 This permit may not be transferred to another location or to another piece of equipment or process.
- 1.5 This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. Approval (or disapproval) of

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Printed on  
Recycled Paper

**Permit: APC-2013/0106-CONSTRUCTION**

**Delaware Recyclable Products, Inc.**

April 30, 2013

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the permit transfer will be provided by the Department in writing. A request for a permit transfer shall be received by the Department at least thirty (30) days before the date of the requested permit transfer. This request shall include:

- 1.5.1 Signed letters from each person stating the permit transfer is agreeable to each person; and
  - 1.5.2 An Applicant Background Information Questionnaire pursuant to 7 Del.C., Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.
- 1.6 The applicant shall, upon completion of the construction, installation, or alteration, request that the Department grant approval to operate.
- 1.6.1 A separate application to operate pursuant to 7 **DE Admin. Code** 1102 does not need to be submitted to the Department for the equipment or process covered by this construction permit. Upon a satisfactory demonstration by an on-site inspection that the equipment or process complies with all of the terms and conditions of this permit, the Department shall issue approval to operate the equipment or process.
  - 1.6.2 The applicant shall notify the Department sufficiently in advance of the demonstration and shall obtain the Department's prior concurrence of the operating factors, time period, and other pertinent details relating to the demonstration.
  - 1.6.3 The provisions of 7 **DE Admin. Code** 1102 Sections 2.1 and 11.3 shall not apply to the operation of equipment or processes for the purposes of initially demonstrating satisfactory performance to the Department following construction, installation, modification, or alteration of the equipment or processes.
- 1.7 The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to 7 **DE Admin. Code** 1102, and, when applicable 7 **DE Admin. Code** 1125, and receiving approval of such application from the Department; except as exempted in 7 **DE Admin. Code** 1102 Section 2.2.

**2. Emission Limitations**

- 2.1 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1100 and the following:
- 2.1.1 Carbon Monoxide (CO) Emissions  
CO emissions shall not exceed 55.1 tons per twelve (12) month rolling period.
  - 2.1.2 Nitrogen Oxide (NO<sub>x</sub>) Emissions  
NO<sub>x</sub> emissions shall not exceed 10.12 tons per twelve (12) month rolling period.
  - 2.1.3 Non-methane Organic Compound (NMOC) Emissions:  
NMOC emissions shall not exceed 12.74 tons per twelve (12) month rolling period.

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**Delaware Recyclable Products, Inc.**

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- 2.1.4 Volatile Organic Compound (VOC) Emissions:  
VOC emissions shall not exceed 10.19 tons per twelve (12) month rolling period.
- 2.1.5 Sulfur Oxides (SO<sub>x</sub>) Emissions:  
SO<sub>x</sub> emissions shall not exceed 87.0 tons per twelve (12) month rolling period.
- 2.2 Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution.
- 2.3 The emission of visible air contaminants from this facility shall not exceed:
  - 2.3.1 For the flare, zero (0) opacity, except for periods not to exceed five (5) minutes during any consecutive two (2) hour period, as stated in 40 CFR Method 22.
  - 2.3.2 For the facility, emission of visible air contaminants shall not exceed twenty percent (20%) opacity for an aggregate of more than three (3) minutes in any one (1) hour period, or more fifteen (15) minutes in any twenty-four (24) hour period.

**3. Operational Limitations**

- 3.1 The owner or operator shall comply with the following operational limits:
  - 3.1.1 The landfill gas flow rate to the flare shall not exceed 1,100 scfm on one-hour rolling average.
  - 3.1.2 The project shall be constructed in accordance with the application and air permits as well as the Delaware Regulations Governing Solid Waste.
  - 3.1.3 The collection system shall be operated such that all collected gases at the blower/fan are vented to the open flare. In the event the collection system or open flare is inoperable, the following action shall be taken:
    - 3.1.3.1 The system blowers shall be shut down.
    - 3.1.3.2 The main header valve shall automatically close and stop the flow of gas to the flare.
- 3.2 If emissions of SO<sub>x</sub> exceed 80 tons per rolling twelve month period, the facility shall notify the Department within fifteen (15) calendar days from the monthly emissions calculation and perform an analysis of hydrogen sulfide/sulfur oxide emission control technologies. The analysis must include the environmental technologies and technological feasibility. If control technologies are determined to be feasible then the facility must propose a schedule within one hundred twenty (120) days from the date of notification. The proposed schedule is subject to Department approval for permitting and implementation.
- 3.3 At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating

**Permit: APC-2013/0106-CONSTRUCTION**

**Delaware Recyclable Products, Inc.**

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procedures are being used shall be based on information available to the Department which may include, but is not limited to, monitoring results, visible emissions observations, review of operating and maintenance procedures, and inspection of the source.

- 3.4 All structural and mechanical components of the equipment or process covered by this Permit shall be maintained in proper operating condition.
- 3.5 The flare shall be equipped with a temperature indicator and recorder to measure and record the gas temperature in the flare stack and a flow monitor to indicate the flow of the landfill gas. The following shall be maintained:
  - 3.5.1 The temperature indicator and recorder shall be operational when the flare is in operation.
  - 3.5.2 The flare shall be operated with a flame present at all times.
  - 3.5.3 The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
  - 3.5.4 The flare temperature control shall automatically shut down the flare if the stack temperature drops below 300 degrees Fahrenheit.
  - 3.5.5 When the flare is in operation, gas flow shall be monitored and recorded.
  - 3.5.6 The flare shall be operated at all times when the collected gas is routed to the device. In the event the flare is inoperable the gas mover system will shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour.
- 3.6 The flare shall be equipped with a flame arrester to prevent flashback to the landfill.
- 3.7 The flare shall have a NMOC destruction efficiency of at least 98%.
- 3.8 The owner or operator shall not cause or allow land clearing, land grading (including grading for roads), excavation, or the use of non-paved roads on private property unless methods, such as the application of water or the use of other techniques approved by the Department, are employed to control dust emissions when the Department determines that such activities could emit dust in quantities sufficient to cause air pollution.
- 3.9 The owner or operator shall not cause or allow stockpiling or other storage of material or transport to or from a storage facility in such a manner as may cause a condition of air pollution. The owner or operator shall not cause or allow visible particulate emissions of any material being transported by a motor vehicle.

**4. Testing and Monitoring Requirements**

- 4.1 The Department reserves the right to require that the owner or operator perform emission tests using methods approved in advance by the Department.
- 4.2 The landfill gas shall be analyzed for hydrogen sulfide concentrations at least once a month using Department approved methods.

**Permit: APC-2013/0106-CONSTRUCTION**

**Delaware Recyclable Products, Inc.**

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- 4.3 When the flare is in operation, a flow meter shall be used to continuously monitor and record gas flow rate to this unit.
- 4.4 Conduct an odor survey once a week around the perimeter of the landfill.
- 4.5 In response to substantiated odor complaints, quantitative measuring of hydrogen sulfide shall be conducted around the perimeter of the landfill as soon as possible. If odor is detected beyond the perimeter of the landfill, the company shall take immediate actions to remediate the problem.
- 4.6 Once a month, conduct visible emissions monitoring to demonstrate compliance with Condition 2.3. The visible emissions monitoring on the flare shall be conducted during day-light hours when this unit is in operation.

**5. Record Keeping Requirements**

- 5.1 The owner or operator shall maintain all records necessary for determining compliance with this permit in a readily accessible location for five (5) years and shall make these records available to the Department upon written or verbal request.
- 5.2 The following information shall be recorded, initialed and maintained in a log:
  - 5.2.1 Odor survey results as per Condition 4.4. This shall include at a minimum the presence or absence of odor, wind direction, and the ambient air temperature during the survey.
  - 5.2.2 Visible emission monitoring results as outlined by Condition 4.6.
  - 5.2.3 Daily hours of flare operation.
  - 5.2.4 Reason(s) why the landfill gas collection system and/or flare is (are) inoperable.
  - 5.2.5 The net stack temperature when flare is in operation.
  - 5.2.6 Inspection and maintenance records of flare. Inspection and maintenance shall be performed as recommended by the manufacturer.
  - 5.2.7 The quantity of auxiliary fuel (propane) used (monthly).
  - 5.2.8 Daily and rolling twelve (12) month total gas flow (scfm) to the flare.
  - 5.2.9 Monthly and rolling twelve month emissions of oxides of nitrogen, sulfur oxides, carbon monoxide, non-methane organic compounds and volatile organic compounds. Emissions shall be calculated based on the amount of landfill gas combusted and the following emission factors: For oxides of nitrogen and carbon monoxide, emissions shall be calculated using emission factors from AP-42 Section 13.5 (Industrial Flares). NMOC and VOC emissions shall be calculated based on 40 CFR Section 60.752(b)(2)(iii)(B) and AP-42 Section 2.4.4.1 (Municipal Solid Waste Landfills), as applicable. Sulfur oxides emissions shall be based on hydrogen

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**Delaware Recyclable Products, Inc.**

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sulfide sampling results. The emissions calculation shall be completed and recorded by the end of each calendar month for the previous month.

5.2.10 Hydrogen sulfide concentration monitoring results as outlined by Condition 4.2. This shall include the calibration records of hydrogen sulfide monitoring device.

5.2.11 Odor complaints or landfill gas collection system upset.

5.2.12 Daily compliance inspection of the landfill pursuant to Conditions 3.8 and 3.9.

5.3 No later than July 31, 2013, the Company shall submit to the Department a fugitive dust control measures plan. The plan shall address the operating requirements of Conditions 3.8 and 3.9 and a copy of the plan shall be maintained on site.

**6. Reporting Requirements**

6.1 Emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department immediately upon discovery by calling the Environmental Emergency Notification and Complaint number, (800) 662-8802.

6.2 In addition to complying with Condition 6.1 of this permit, any reporting required by 7 DE Admin. Code 1203 "**Reporting of a Discharge of a Pollutant or an Air Contaminant**", and any other reporting requirements mandated by the State of Delaware, the owner or operator shall, for each occurrence of excess emissions, within thirty (30) calendar days of becoming aware of such occurrence, supply the Department in writing with the following information:

6.2.1 The name and location of the facility;

6.2.2 The subject source(s) that caused the excess emissions;

6.2.3 The time and date of the first observation of the excess emissions;

6.2.4 The cause and expected duration of the excess emissions;

6.2.5 For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and

6.2.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

6.3 The Company shall submit a summary report to the Department semi-annually, including the following information:

6.3.1 Statement of compliance or non-compliance with the emission limitations outlined by Condition 2.1 of this permit.

6.3.2 Hydrogen sulfide monitoring results as outlined by Condition 4.2. The semi-annual reports shall be submitted as follows:

**Permit: APC-2013/0106-CONSTRUCTION**

**Delaware Recyclable Products, Inc.**

April 30, 2013

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Report	Time covered	When to submit
Semi-annual report #1	January-June of each calendar year	By July 31 <sup>st</sup> of each calendar year
Semi-annual report #2	July-December of each calendar year	By January 31 <sup>st</sup> of the current calendar year for the previous calendar year.

6.3.3 Odor survey as per Condition 4.5 and the actions taken to remediate the odor problem.

6.4 One original and one copy of all required reports shall be sent to the address below:

Division of Air Quality  
Blue Hen Corporate Center  
655 S. Bay Road, Suite 5 N  
Dover, DE 19901

**7. Administrative Conditions**

7.1 This permit shall be made available on the premises.

7.2 Failure to comply with the provisions of this permit may be grounds for suspension or revocation.

Sincerely,



Paul E. Foster, P.E.  
Program Manager  
Engineering & Compliance Branch

PEF:TMH:JPK  
F:\EngAndCompliance\JPK\jpk13037 DRPI Cell No. 6 CONST Permit.doc

pc: Dover File





REPLY TO  
ATTENTION OF

## DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS  
WANAMAKER BUILDING, 100 PENN SQUARE EAST  
PHILADELPHIA, PENNSYLVANIA 19107-3390

NOV 13 2013

Regulatory Branch  
Application Section I

SUBJECT: CENAP-OP-R-2010-0536 (NWPS 7, 13)  
Project Name: Delaware Recyclable Products Waste Management

Latitude and Longitude: 39.71394 and -75.5761

Daniel Bergan, District Manager  
DRPI Landfill  
246 Marsh Lane  
New Castle, Delaware 19720

Dear Mr. Bergan:

This is in regard to your company's proposal to authorize, after-the-fact, the existing bank stabilization (rip-rap) and outfall structure with rip-rap, on the Delaware Recyclable Products, Inc. (DRPI) Landfill property, known as tax parcel number 10-004.00-001, at 246 Marsh Lane, in New Castle County, Delaware.

Under current Federal regulations, a Department of the Army permit is required for work or structures in navigable waters of the United States and/or the discharge of dredged or fill material into waters of the United States including adjacent and isolated wetlands. Based upon our review of the information you have provided, it has been determined that the proposed work is approved by the existing Department of the Army Nationwide Permits (NWP) described below.

### **Nationwide Permit #7: Outfall Structures and Associated Intake Structures.**

Activities related to the construction or modification of outfall structures and associated intake structures, where the effluent from the outfall is authorized, conditionally authorized, or specifically exempted by, or otherwise in compliance with regulations issued under the National Pollutant Discharge Elimination System Program (Section 402 of the Clean Water Act). The construction of intake structures is not authorized by this NWP, unless they are directly associated with an authorized outfall structure.

**Notification:** The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

### **Nationwide Permit # 13: Bank Stabilization.**

Bank stabilization activities necessary for erosion prevention, provided the activity meets all of the following criteria:

- (a) No material is placed in excess of the minimum needed for erosion protection;
- (b) The activity is no more than 500 feet in length along the bank, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;
- (c) The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or the high tide line, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;
- (d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects;
- (e) No material is of a type, or is placed in any location, or in any manner, that will impair surface water flow into or out of any waters of the United States;
- (f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and,
- (g) The activity is not a stream channelization activity.

This NWP also authorizes temporary structures, fills, and work necessary to construct the bank stabilization activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate. Invasive plant species shall not be used for bioengineering or vegetative bank stabilization.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the bank stabilization activity: (1) involves discharges into special aquatic sites; or (2) is in excess of 500 feet in length; or (3) will involve the discharge of greater than an average of one cubic yard per running foot along the bank below the plane of the ordinary high water mark or the high tide line. (See general condition 31.) (Sections 10 and 404)

You are advised that this verification of NWP authorization is valid until the Nationwide Permits expire on March 18, 2017, unless the NWP authorization is modified, suspended, or revoked prior to this date. In the event that the NWP authorization is modified during that time period, this expiration date will remain valid, provided the activity complies with any subsequent modification of the NWP authorization.

It is noted that CZM consistency from the State is only required for those activities in or affecting a State's coastal zone. Additionally, some of the NWPs do not involve a discharge of dredged or fill material, and as such, do not require a 401 WQC. If the State has denied the required WQC and/or not concurred with the Corps' CZM consistency determination, the NWP

authorization is considered denied without prejudice until an individual project specific WQC and/or CZM approval is obtained. This approval must be obtained in order for the activity to be authorized under the NWP and a copy provided to this office before work begins. Any project specific conditions required by the State for the WQC and/or CZM approval will automatically become part of the NWP authorization.

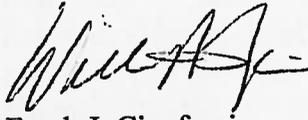
You should carefully note that this NWP authorization is based upon your agreement to comply with the terms and conditions of this NWP (Enclosure 1) including any and all attached project specific special conditions listed below. Initiation of any authorized work shall constitute your agreement to comply with all of the NWP's conditions. You should also note that the authorized work may be subject to periodic inspections by a representative of this office. The verification of a Nationwide Permit including all general and special conditions is not subject to appeal.

#### PROJECT SPECIFIC SPECIAL CONDITIONS:

1. All work performed in association with the above noted project shall be conducted in accordance with the project plans identified as "Wetlands Plan...", dated November 1, 2011, last revised November 9, 2012, sheets 1 through 3; and "Exhibit Plan...", dated October 26, 2012, last revised August 6, 2013, sheets 1 through 5. All plans prepared by Vandemark & Lynch, Incorporated.
2. Construction activities shall not result in the disturbance or alteration of greater than **0.07 acre of waters and 0.007 acre of wetlands of the United States.**
3. Any deviation in construction methodology or project design from that shown on the above noted drawings or repair plan must be approved by this office, in writing, prior to performance of the work. All modifications to the above noted project plans shall be approved, in writing, by this office. No work shall be performed prior to written approval of this office.
4. This office shall be notified prior to the commencement of authorized work by completing and signing the enclosed Notification/ Certification of Work Commencement Form (Enclosure 2). This office shall also be notified within 10 days of the completion of the authorized work by completing and signing the enclosed Notification/Certification of Work Completion/Compliance Form (Enclosure 3). All notifications required by this condition shall be in writing. The Notification of Commencement of work may be sent to this office by facsimile or other electronic means; all other notification shall be transmitted to this office by registered mail. Oral notifications are not acceptable. Similar notification is required each time maintenance work is to be done under the terms of this Corps of Engineers permit.
5. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

Also enclosed is a pre-addressed postal card (Enclosure 4) soliciting your comments on the processing of your application. Any comments, positive or otherwise, on the procedures, timeliness, fairness, etc., may be made on this card. If you should have any questions regarding this matter, please contact Bryan Bellacima at (215) 656-6732 or write to the above address.

Sincerely,



Frank J. Cianfrani  
Chief, Regulatory Branch

Enclosures

Copies Furnished:

DDNREC, Wetlands and Subaqueous Lands (Holmes)  
DDNREC, Coastal Zone Management Program (Dover, DE)  
USFWS (Annapolis, MD)  
USEPA, Region III (Philadelphia, PA)  
NMFS (Sandy Hook, NJ)

Mr. Jeff Shanks  
DRPI Landfill  
246 Marsh Lane  
New Castle, Delaware 19720

Mr. Brian P. Bolvin, P.E.  
Site Engineer  
Waste Management  
1000 New Ford Mill Road  
Morrisville, PA 19067





STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL  
**DIVISION OF WATER**  
89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

SURFACE WATER  
DISCHARGES SECTION

PHONE: (302) 739-9946  
FAX: (302) 739-8369

**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
GENERAL STORM WATER PERMIT PROGRAM**

March 4, 2011

Delaware Recyclable Products, Inc.  
Daniel H. Bergan  
246 Marsh Lane  
New Castle, DE 19720

**RE: Authorization to Discharge Under the NPDES General Storm Water Permit Program at  
Delaware Recyclable Products, Inc.**

Dear Mr. Bergan:

The Department of Natural Resources and Environmental Control (DNREC) has approved your request for Full Coverage under the NPDES Storm Water General Permit Program. This approval means the site, located at 246 Marsh Lane, New Castle, DE 19720 is authorized to discharge storm water to a surface water body of the State, and must comply with Section 9.1 of "The Regulations Governing Storm Water Discharges Associated with Industrial Activities", 7 Del. Admin. C. §7201. Permit coverage began on March 7, 2011 and will expire on March 5, 2016, upon which a new Notice of Intent (NOI) form must be submitted to DNREC for review and approval within 60 days of the expiration date in order to continue permit coverage.

Any changes in facility operations or contact information will require the Storm Water Plan (SWP) to be amended. A signed copy of the SWP must be maintained at the facility and on file at DNREC (digital or hard copy accepted). NOI forms and other resources can be found online at:  
<http://www.wr.dnrec.delaware.gov/Information/SWDInfo/Pages/SWDSStormWater.aspx>.

Please maintain this approval on file at the facility at all times. If you have any questions or require further assistance, please contact Steve Mann at (302) 739-9946 or by e-mail at [Stephen.Mann@state.de.us](mailto:Stephen.Mann@state.de.us).

Sincerely,

Robert G. Underwood  
Program Manager  
Surface Water Discharges Section



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL  
**DIVISION OF WATER**  
89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

SURFACE WATER  
DISCHARGES SECTION

PHONE: (302) 739-9946  
FAX: (302) 739-8369

March 4, 2016

Waste Management of Delaware, Inc., Wilmington Hauling  
Jeff Shanks  
300 Harvey Drive  
Newport, DE 19804

**RE: Receipt of Application for Coverage by Waste Management of Delaware, Inc.,  
Wilmington Hauling Under the National Pollutant Discharge Elimination System  
(NPDES) Industrial Stormwater General Permit Program**

Dear Mr. Shanks:

The Surface Water Discharges Section has received your application, dated November 19, 2015, requesting coverage under the General Permit Program for stormwater discharges associated with industrial activities. The Department will review your application for stormwater coverage and upon completion of that review will either request additional information or issue an authorization of permit coverage for a period not to exceed five (5) years. If the industrial stormwater regulations are revised within that timeframe, you will be required to re-submit updated information per the new regulation when promulgated.

If you have any questions regarding the permit renewal process, please feel free to contact me at (302) 739-9946 or by email to [Bill.Tanner@state.de.us](mailto:Bill.Tanner@state.de.us).

Sincerely,

A handwritten signature in cursive script that reads "Bill Tanner".

Bill Tanner  
Environmental Scientist  
Surface Water Discharges Section

*Delaware's good nature depends on you!*



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
DIVISION OF WATERSHED STEWARDSHIP  
89 Kings Highway  
DOVER, DELAWARE 19901

OFFICE OF THE  
DIRECTOR

PHONE: (302) 739-9921  
FAX: (302) 739-6724

**SEDIMENT AND STORMWATER PLAN APPROVAL**

Tracking No.: 2005-002, Ext. #2, Rev. #4

Issued To: Mr. Brian Bolvin, PE  
Delaware Recyclable Products, Inc.  
246 Marsh Lane  
New Castle, DE 19720

March 24, 2016

Dear Mr. Bolvin,

Your revised plans and extension request for DRPI Cell 6 Expansion, Stages 2 Through 6, as submitted by your authorized agent, Paul Whitty, PE of Golder Associates, have been reviewed and evaluated regarding the Sediment and Stormwater Management requirements of this Division and are approved with conditions (see attached).

**Approval of a Sediment and Stormwater Plan does not grant or imply a right to discharge stormwater runoff. The owner/developer is responsible for acquiring any and all agreements, easements, etc., necessary to comply with State drainage and other applicable laws.**

**NOTE: Effective July 1, 2004, all State and Federal projects will require inspection services by an approved Certified Construction Reviewer.**

This plan approval pertains to compliance with the *Delaware Sediment and Stormwater Regulations*, effective January 1, 2014, and accompanying Technical Documents. Please understand that the approval of this plan does not relieve you from complying with any and all federal, state, county, or municipal laws and regulations.

We provide technical assistance, environmental education, and training to those we regulate. If we may be of any assistance to you, regarding the sediment and stormwater aspects of this project, please contact us at the address and number listed above.

Very truly yours,

A handwritten signature in cursive script that reads "Randell K. Greer".

Randell K. Greer, PE  
Engineer VI

cc: Jamie Rutherford, Program Manager II  
Brad Richardson, DNREC/DWHS  
Paul Whitty, Golder Associates

*Delaware's good nature depends on you!*

## CONDITIONS OF APPROVAL

### NOTIFICATION

1. This approved plan will remain valid for 3 years from the date of this approval unless specifically extended or renewed by DNREC Sediment and Stormwater Program.
2. Submittal of the Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activities together with this approval of the detailed Sediment and Stormwater Plan provide this project with Federal permit coverage to be authorized to discharge storm water associated with construction activities. It is the owner's responsibility to ensure that permit coverage remains valid throughout construction by submitting the NOI fee annually as requested.
3. Notify the DNREC Sediment and Stormwater Management Section of your intent to begin construction in writing five (5) days prior to commencing. Failure to do so constitutes a violation of the approved plan.

### CHANGES

4. This project is to be undertaken in accordance with the plans submitted and as approved. If changes are necessary at any time during the completion of the project, submit revised plans, prior to further construction, to the DNREC Sediment and Stormwater Program for review and approval of the revision.
5. Should ownership change during the construction period, a revised plan must be submitted for approval showing the new owner's signature on the owner's certification. In addition, a Transfer of Authorization form must be submitted to DNREC to transfer Federal permit coverage to the new owner.

### CONSTRUCTION AND CLOSEOUT

6. Effective July 1, 2004, all State and Federal projects require construction review services by a Certified Construction Reviewer throughout construction.
7. A pre-construction meeting must take place before any land disturbing activity begins. The meeting may take place on site and be attended by the owner, contractor, design consultant, Certified Construction Reviewer and DNREC Sediment and Stormwater Program Construction Reviewer. The owner or the owner's designee shall contact the DNREC Construction Reviewer to schedule the pre-construction meeting.
8. Keep available on-site, during all phases of construction, a copy of the approved Sediment and Stormwater Management Plan.
9. Any sediment transported off-site to roads or road rights-of-way including ditches shall be removed. Any damage to ditches shall be repaired and stabilized to original condition.
10. Grading shall not impair surface drainage, create an erosion hazard, or create a source of sediment to any adjacent watercourse or property owner.
11. Failure to implement the permanent stormwater management practices as mentioned herein constitutes a violation of the conditions of this plan approval; it may result in the suspension or revocation of building permits or grading permits issued by the local jurisdiction; and it may result in legal action by the DNREC to bring the site into compliance with the approved Sediment and Stormwater Management Plan and the *Delaware Sediment and Stormwater Regulations*.
12. The permanent stormwater management facility or facilities must be constructed and accepted by DNREC Sediment and Stormwater Program prior to final closeout of the project site. Post construction verification documentation of the stormwater management facility or facilities must be completed as soon as construction of the facility or facilities is complete so that any necessary modifications may be made during the construction period.



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
DIVISION OF WATERSHED STEWARDSHIP  
89 Kings Highway  
DOVER, DELAWARE 19901

OFFICE OF THE  
DIRECTOR

PHONE: (302) 739-9921  
FAX: (302) 739-6724

**SEDIMENT AND STORMWATER PLAN APPROVAL**

Tracking No.: 2005-002, Ext. #2, Rev. #4

Issued To: Mr. Brian Bolvin, PE  
Delaware Recyclable Products, Inc.  
246 Marsh Lane  
New Castle, DE 19720

March 24, 2016

Dear Mr. Bolvin,

Your revised plans and extension request for DRPI Cell 6 Expansion, Stages 2 Through 6, as submitted by your authorized agent, Paul Whitty, PE of Golder Associates, have been reviewed and evaluated regarding the Sediment and Stormwater Management requirements of this Division and are approved with conditions (see attached).

**Approval of a Sediment and Stormwater Plan does not grant or imply a right to discharge stormwater runoff. The owner/developer is responsible for acquiring any and all agreements, easements, etc., necessary to comply with State drainage and other applicable laws.**

**NOTE: Effective July 1, 2004, all State and Federal projects will require inspection services by an approved Certified Construction Reviewer.**

This plan approval pertains to compliance with the *Delaware Sediment and Stormwater Regulations*, effective January 1, 2014, and accompanying Technical Documents. Please understand that the approval of this plan does not relieve you from complying with any and all federal, state, county, or municipal laws and regulations.

We provide technical assistance, environmental education, and training to those we regulate. If we may be of any assistance to you, regarding the sediment and stormwater aspects of this project, please contact us at the address and number listed above.

Very truly yours,

Randell K. Greer, PE  
Engineer VI

cc: Jamie Rutherford, Program Manager II  
Brad Richardson, DNREC/DWHS  
Paul Whitty, Golder Associates

*Delaware's good nature depends on you!*

## CONDITIONS OF APPROVAL

### NOTIFICATION

1. This approved plan will remain valid for 3 years from the date of this approval unless specifically extended or renewed by DNREC Sediment and Stormwater Program.
2. Submittal of the Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activities together with this approval of the detailed Sediment and Stormwater Plan provide this project with Federal permit coverage to be authorized to discharge storm water associated with construction activities. It is the owner's responsibility to ensure that permit coverage remains valid throughout construction by submitting the NOI fee annually as requested.
3. Notify the DNREC Sediment and Stormwater Management Section of your intent to begin construction in writing five (5) days prior to commencing. Failure to do so constitutes a violation of the approved plan.

### CHANGES

4. This project is to be undertaken in accordance with the plans submitted and as approved. If changes are necessary at any time during the completion of the project, submit revised plans, prior to further construction, to the DNREC Sediment and Stormwater Program for review and approval of the revision.
5. Should ownership change during the construction period, a revised plan must be submitted for approval showing the new owner's signature on the owner's certification. In addition, a Transfer of Authorization form must be submitted to DNREC to transfer Federal permit coverage to the new owner.

### CONSTRUCTION AND CLOSEOUT

6. Effective July 1, 2004, all State and Federal projects require construction review services by a Certified Construction Reviewer throughout construction.
7. A pre-construction meeting must take place before any land disturbing activity begins. The meeting may take place on site and be attended by the owner, contractor, design consultant, Certified Construction Reviewer and DNREC Sediment and Stormwater Program Construction Reviewer. The owner or the owner's designee shall contact the DNREC Construction Reviewer to schedule the pre-construction meeting.
8. Keep available on-site, during all phases of construction, a copy of the approved Sediment and Stormwater Management Plan.
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11. Failure to implement the permanent stormwater management practices as mentioned herein constitutes a violation of the conditions of this plan approval; it may result in the suspension or revocation of building permits or grading permits issued by the local jurisdiction; and it may result in legal action by the DNREC to bring the site into compliance with the approved Sediment and Stormwater Management Plan and the *Delaware Sediment and Stormwater Regulations*.
12. The permanent stormwater management facility or facilities must be constructed and accepted by DNREC Sediment and Stormwater Program prior to final closeout of the project site. Post construction verification documentation of the stormwater management facility or facilities must be completed as soon as construction of the facility or facilities is complete so that any necessary modifications may be made during the construction period.

Delaware Recyclable Products, Inc.  
Industrial Waste Landfill  
Permit Modification Application

Geosyntec Consultants  
PERMIT MODIFICATION APPLICATION  
Vertical Expansion

PART XI

CLOSURE PLAN &  
FINANCIAL ASSURANCE



*Prepared for*

**DELAWARE RECYCLABLE PRODUCTS, INC.**

246 Marsh Lane

New Castle, Delaware 19720

**PERMIT MODIFICATION  
APPLICATION**

**PART XI – CLOSURE AND  
POST-CLOSURE PLAN**

*for*

**VERTICAL EXPANSION**

**DRPI Industrial Landfill**

**New Castle, Delaware**

*Prepared by*

**Geosyntec** 

consultants

10211 Wincopin Circle, 4<sup>th</sup> Floor

Columbia, Maryland 21044

Geosyntec Project No.: ME1571

July 2018

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- Table XI-1: Final Closure Construction Cost Estimate
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- Table XI-4: Approach for Evaluating the Need for Continued Post-Closure Care

**ATTACHMENTS**

- Attachment XI-1: Financial Assurance Documentation

## **1 INTRODUCTION**

### **1.1 Terms of Reference**

This Closure/Post-Closure Plan (Closure Plan) addresses the landfill closure and post-closure care requirements for the expansion of the Delaware Recyclable Products, Inc. (DRPI) industrial waste landfill located in New Castle, Delaware (DRPI Landfill). The DRPI Landfill is owned by DRPI, a subsidiary of Waste Management, Inc. In this Closure Plan, the requirements of the Delaware Regulations Governing Solid Waste (DRGSW), Section (§) 6.10 and 6.11 (i.e., Closure and Post-Closure Care, respectively), are addressed.

This Closure/ Post-Closure Plan was prepared by Geosyntec Consultants Inc. (Geosyntec) of Columbia, Maryland in October 2004 and last revised by Golder Associates Inc. (Golder) in October 2014 and March 2015 to include the addition of an alternate final cover system, in addition to updated closure/post-closure costs. This revision relates to the vertical expansion. All other sections of the document remain unchanged.

### **1.2 Regulatory Requirements and Closure Plan Organization**

This Closure Plan has been prepared to meet the closure and post-closure care requirements for industrial landfills, as defined in DRGSW §6.10 and 6.11, and related sections. Closure Plan content requirements are provided in DRGSW 6.10.3. Closure Plan content requirements, and the location where each requirement is addressed in this Closure Plan, are as follows.

- Section 1 presents definitions and an overview of closure and post-closure activities for the DRPI Landfill;
- Section 2 describes the methods, procedures, and processes that will be used during closure activities (DRGSW §6.10.3.1);
- Section 3 discusses pre-closure activities (DRGSW §6.10.3.3);
- Section 4 provides a description of the closure system components, including landfill gas (LFG) management (DRGSW §6.10.3.2 and 6);
- Section 5 presents the Post-Closure Plan for the DRPI Landfill (DRGSW §6.10.3.5); and
- Section 6 provides closure and post-closure cost estimates for the DRPI Landfill (DRGSW §6.10.3.4).

Please note that standards for construction quality assurance (CQA) required for closure (DRGSW §6.10.3.7) are provided in the site CQA Plan submitted in the Engineering Report.

### **1.3 Definitions**

The following definitions are used throughout this Closure Plan. These definitions are consistent with the definitions presented in DRGSW §3.0, but have been clarified to better describe activities that will be performed for closure and post-closure care of the DRPI Landfill.

- “*Final Closure*” is defined as cessation of waste disposal operations at the DRPI Landfill and completion of the final cover system over the last increment of active waste disposal areas. The activities to be performed during final closure (as described in this section) are intended to minimize the need for further maintenance of the landfill and to prevent the release of solid waste, leachate, or LFG constituents to the environment, as required by DRGSW 6.10.1. The development of post-closure uses (if any) will occur at this time.
- “*Pre-Closure*” is defined as closure activities that will be performed after cessation of waste disposal operations at a portion of the DRPI Landfill, but before the cessation of all waste disposal operations.
- “*Interim Landfill Cover*” is defined as a temporary cover system placed over the final grading layer after final waste grades are achieved in an area of the landfill. Long-term interim cover is not required but may be used at DRPI’s discretion to minimize infiltration of rainwater and the release of LFG during the period between cessation of waste disposal operations and construction of the final cover system.
- “*Post-Closure Care*” is defined as the maintenance and monitoring activities that will be performed during the 30-year post-closure care period (as required by DRGSW 6.11). Post-closure care includes all activities that will be performed following closure, such as: (i) operation of the leachate, LFG, and stormwater management systems; (ii) long-term maintenance; and (iii) environmental monitoring.

In this Closure Plan, the “Drawings” refer to the Drawing package entitled, “*Vertical Expansion, Design Modification Application, DRPI Industrial Waste Landfill, New Castle, Delaware,*” prepared by Geosyntec Consultants, dated July 2018. A reduced-size set of the Drawings is included in the Engineering Report of the Vertical Expansion Permit Modification Application (PMA).

### **1.4 Overview of Closure and Post-Closure Activities**

#### **1.4.1 Introduction**

The DRPI Landfill will be closed according to the closure requirements of the DRGSW. In this section, an overview of the activities that will be performed during closure and post-closure of the DRPI Landfill and references for the location in this Closure Plan where these activities are described in more detail.

## 1.4.2 Required Submittals and Notifications

DRPI will make several submittals and notifications, as required by DRGSW §6.10.2, to describe its intentions for closure and post-closure care to the Department of Natural Resources and Environmental Control (DNREC) and the public. These submittals and notifications are identified below.

- As required under DRGSW §6.10.2.1, this Closure Plan was prepared, and is being submitted, as part of this permit modification application. The engineering design and layout of the final closure system is described in more detail in the Engineering Report of the Vertical Expansion PMA.
- As required by DRGSW §6.10.2.2, written notification of DRPI's intent of final closure of the DRPI Landfill will be provided to DNREC at least 180 days before the date of final receipt of waste. The anticipated date of final receipt of waste for the DRPI Landfill, based on the proposed final configuration of the Site shown on Drawing 13, is approximately 2042. Therefore, in early 2042, DRPI will set a preliminary date for notification of intent to close the DRPI Landfill. Please note that this date is subject to change based on actual waste receipts. Closure will take place only after waste filling has achieved the final configuration shown on Drawing 13.
- DRPI will not commence final closure of the DRPI Landfill until a closure permit has been issued, as required by DRGSW §6.10.2.4. When DRPI issues a notification of intent to close the DRPI Landfill, a closure schedule and a revised Closure Plan will also be submitted to DNREC, as required under DRGSW §6.10.2.2. After the final closure permit has been issued, the Closure Plan will be executed as described in the terms of the permit.
- A copy of this Closure Plan will be maintained at the DRPI Landfill facility at all times during facility operation and throughout the post-closure care period, as required by DRGSW §6.10.2.5.
- A notification in the deed to the DRPI Landfill property will be made at the time of closure, as required under DRGSW §6.11.5. The notification will indicate that the land has previously been used as a solid waste disposal site and that the use of the land is restricted by DRGSW.

## 1.4.3 Closure Construction Activities

Final closure of the DRPI Landfill will include several activities that are intended to minimize the need for further maintenance of the landfill and minimize the potential for release of industrial waste, leachate, and LFG constituents. Final closure construction activities will include the following features: (i) the final cover system; (ii) the LFG management system; and (iii) the

stormwater management system. Construction activities associated with each of these features are briefly described below.

- *Final Cover System.* DRPI will construct a final cover system over the waste disposal areas after waste in an area has been filled to the final permitted grades. As described previously, closure activities may be performed in stages involving closure of portions of the landfill that have been filled to final grades, but before the entire DRPI Landfill is filled and closed. It is assumed that such “Pre-Closure” activities can be performed as a normal part of facility operations without obtaining a closure permit, as is currently performed at the DRPI Landfill. The final cover system cross-section is shown on Drawings 22 and 23. The cover system will be constructed in stages as the facility is developed. It is expected that, at the time of final disposal of waste at DRPI Landfill, there will be about 40 acres of area that has not yet been closed. Depending on the cover system selected, construction of the final cover will be performed over a period of approximately one to two years after the end of disposal operations at the DRPI Landfill, during which time the permanent LFG management system and the stormwater management system will also be constructed.
- *LFG Management System.* Before construction of the final landfill cover, DRPI will construct the remaining portions of the LFG management system, if it is not already installed at the time of final closure. The design of the LFG management system is illustrated on Drawings 24 through 27A. As shown on the Drawings, the LFG management system will consist of a series of horizontal collection trenches and vertical gas extraction wells that will be installed in phases throughout the operating life of DRPI Landfill. At the time of final closure or closure of a portion of DRPI Landfill, the adequacy of the LFG management system will be confirmed and, if modifications are needed to provide adequate collection of LFG in an area, then the modifications will be designed and constructed at that time.
- *Stormwater Management System.* Concurrent with the construction of the final cover system, the stormwater management system will be constructed. The design of the stormwater management system is illustrated on Drawings 13 through 20. During construction and filling of DRPI Landfill, stormwater management features will also be used for sediment control. After closure (i.e., after all disturbed areas have been seeded and stabilized), the stormwater management system features will be used only for stormwater management.

## **2 METHODS, PROCEDURES, AND PROCESSES FOR LANDFILL CLOSURE**

### **2.1 Introduction**

In this section, the methods, procedures, and processes that will be employed to close the DRPI Landfill are presented. The methods, procedures, and processes described in this section have been selected to meet the performance requirements of DRGSW 6.10.1.1 and 2, which are:

- minimize the need for further maintenance of the landfill; and
- minimize the post-closure release of industrial waste, leachate, and LFG to the surface water, groundwater, or atmosphere.

In the following sections, descriptions of the methods, procedures, and processes that will be used to minimize the post-closure release of industrial waste (Section 2.2), leachate (Section 2.3), and LFG (Section 2.4) to the surface water, groundwater, or atmosphere. Also, the need for long-term maintenance of the landfill is addressed in Section 2.5.

### **2.2 Containment of Industrial Waste**

The design of DRPI Landfill provides for containment of industrial waste throughout the period of landfill operation, closure, and post-closure care, and minimizes the possibility for release of industrial waste to the environment. Design features that will provide for containment of industrial waste through the closure and post-closure periods include the liner system and the final cover system. These features are described below.

- *Liner System.* The liner system is designed to contain and prevent a release of industrial waste (including any liquids that may exist in the landfill) to the environment. As shown on Drawings 6 and 7, the liner system extends beneath industrial waste disposal areas (with the exception of 5.0-acres remaining from Cells 1, 2, and 3 with overlay liner still to be installed on top of an older, unlined portion of the landfill). The design and operation plan for the DRPI Landfill include techniques that are intended to minimize the possibility of damage to the liner system during the life of the landfill, including: (i) thorough CQA measures to ensure proper liner system construction; (ii) specific operation measures for waste placement and final cover construction that will minimize the possibility of liner system damage; and (iii) monitoring of DRPI Landfill during operation and after closure to identify problems with the liner system. Using these techniques, DRPI Landfill will effectively contain industrial waste throughout the post-closure period.
- *Final Cover System.* The final cover system to be constructed at DRPI Landfill is described in Section 4.4 of this Closure and Post-Closure Plan and illustrated on Drawing 13.

### **2.3 Leachate Management**

The design of the DRPI Landfill Vertical expansion provides for leachate management throughout the landfill operation, closure, and post-closure care periods and minimizes the possibility for release of leachate from the landfill to the environment. Design features of the leachate management system include: (i) the liner system; (ii) the leachate collection, removal and transmission system; (iii) leachate pre-treatment system; and (iv) the final cover system. These features are described below.

- *Liner System.* The liner system will provide containment of leachate throughout the post-closure care period. The liner system is designed to be an effective barrier to leakage of leachate into the environment. The liner, coupled with a leachate collection system (see below) is designed to minimize the head of leachate (i.e., thickness of leachate) on the liner, work in conjunction to minimize the volume of leakage through the liner system.
- *Leachate Collection, Removal, and Transmission System.* Leachate is collected from disposal areas by gravity and flow to a sump located in Cell 6. From the sump, leachate is removed from the landfill and transmitted through a forcemain to the leachate storage tank. The leachate collection and removal system will be operated throughout the post-closure care period to remove leachate that is collected in the sumps. The transmission piping system will consist of a double-walled, high-density polyethylene (HDPE) pipe and will include a secondary containment (i.e., witness) pipe. The double-walled piping system will allow detection of leakage within the piping system and will provide for containment of leachate outside of the lined landfill.
- *Leachate Pre-Treatment System.* Throughout the post-closure period, leachate that is removed from the landfill will be transmitted to leachate storage tanks, where it will be pre-treated prior to discharge to the New Castle County Sewer System. The leachate pre-treatment system currently treats for hydrogen sulfide (H<sub>2</sub>S). If, in order to meet applicable New Castle County sewer discharge standards, additional pretreatment is required during the post-closure care period, DRPI will pursue applicable permits and modify the system to maintain its ability to discharge into the New Castle County sewer system.
- *Final Cover System.* Final cover will be constructed over all areas of the landfill that receive industrial waste. The final cover system will be maintained throughout the post-closure period. The final cover will reduce the amount of infiltration that enters the landfill, thereby minimizing the amount of leachate that is generated during the post-closure period. The final cover will also prevent the release of leachate from the landfill sideslopes.

## **2.4 LFG Management**

The design of DRPI Landfill provides for LFG management throughout the operation, closure, and post-closure care periods and minimizes the possibility for release of LFG from the landfill to the environment. Design features of LFG management system include the landfill liner system, the final cover system, and the LFG collection trenches, wells, header piping, and flare. These features are described below.

- *Landfill Liner System.* The landfill liner system will prevent the release of LFG by eliminating the possibility of downward or lateral migration of LFG into the ground beneath the landfill and subsequent lateral migration of gas.
- *Final Cover System.* The final cover system will cover the waste as is designed to prevent the discharge of LFG to the atmosphere at concentrations exceeding applicable state and federal emissions guidelines. The final cover system will be tied into the liner system at the perimeter berm to provide complete containment of LFG.
- *LFG Management System.* As described in Section 1.4.3 of this Closure Plan, the LFG management system will be operated as needed throughout the post-closure care period. The system will consist of a network of vertical and horizontal wells that are connected to transmission pipes that convey the LFG from the landfill to a flare. The LFG collection and extraction features as well as the flare will be fully automated and will operate continuously.

## **2.5 Long-Term Landfill Maintenance**

The DRPI Landfill closure system was designed to minimize maintenance throughout the post-closure care period, as required by DRGSW §6.10.1.1. The features of the design that minimize maintenance include:

- durable, hearty grasses that slow down stormwater runoff and, thus, minimize the potential for erosion of the final cover system soils;
- drainage terraces to limit the length of stormwater sheet flow on the landfill slopes and, thus, limit erosion of the final cover system soils;
- relatively flat drainage channels to route drainage from the final cover system at low, non-erosive velocities;
- drainage features that transition gradually (instead of abruptly) to prevent concentrations of flow that may damage the cap; and

- armored downchutes that are able to convey stormwater runoff off the final cover system without erosion despite being constructed perpendicular to the landfill slopes.

### 3 PRE-CLOSURE ACTIVITIES

Pre-closure activities as defined in Section 1.3 of this Closure Plan, are activities performed after cessation of waste disposal operations in parts of DRPI Landfill. Pre-Closure activities will be performed in order to: (i) minimize generation of leachate and LFG; (ii) enhance LFG collection prior to final closure of the Site; and (iii) enhance stormwater management. As described in the Operation and Maintenance Plan, DRPI Landfill will be developed in several phases. As a result, at any point in time, different areas of the landfill may be closed, fully developed, partially-developed, or under construction. The phased development of the landfill is illustrated on Drawing 21.

Pre-closure of the landfill may include any or all of the following activities:

- final landfill grading, as necessary to comply with the final cover system contours shown on Drawing 13;
- placement of interim cover over portions of the DRPI Landfill;
- placement of the final cover system over the surface of the previously-placed intermediate cover;
- revegetation of the final cover system;
- construction of portions of cover access roads and cover terraces;
- establishment of the stormwater management system on the final cover system; and
- installation of LFG features and connection of these features to the flare.

DRPI will evaluate site conditions and will perform pre-closure activities as required to meet the following goals: (i) minimize the generation of leachate requiring treatment and disposal; (ii) control LFG emissions; and (iii) minimize the need for maintenance of the landfill intermediate cover or final grading layer. DRPI will discuss specific pre-closure activities with DNREC prior to implementation.

## **4 DESCRIPTION OF CLOSURE SYSTEM COMPONENTS**

### **4.1 Introduction**

The closure system will consist of several components, including, a LFG management system, a stormwater management system, and a final cover system. The leachate management system, which will be operated during the post-closure period, is not considered to be a closure system component because it will have already been constructed and in operation before final closure. In this section, the LFG management, stormwater management, and final cover system components of the closure system are described.

### **4.2 LFG Management System**

LFG will be managed by removing the gas from the landfill primarily through a network of horizontal collection trenches and vertical extraction wells that will be routed to a flare. Enhancements to the LFG system will be installed, if needed, to control LFG after closure of DRPI Landfill. Active gas collection will be operated until LFG emission control is no longer necessary. Release of LFG will be prevented by the final cover system. In addition, a LFG monitoring program (which is described in Section 6.4.4 of this Closure Plan) will be implemented to monitor for the presence of LFG outside the limits of the landfill.

### **4.3 Stormwater Management System**

At final closure, the stormwater management system at the DRPI Landfill will be modified to meet post-closure goals. During operation of the landfill, the system will have the dual purposes of stormwater management and erosion and sediment control. After final closure, the primary purpose of the system will shift from erosion and sediment control (because disturbed areas will be stabilized) to stormwater management (i.e., conveyance of stormwater to a permitted discharge location). To modify the stormwater management system for long-term post-closure use, sediment will be cleaned from the basins and the low-flow sediment dewatering devices will be removed.

### **4.4 Final Cover System**

The final cover system at the DRPI Landfill will consist of the following components listed from the top down:

- 24-in. thick protective soil cover layer, the uppermost 6-in. being suitable for establishing vegetation (i.e. topsoil);
- synthetic drainage layer;
- 50-mil HDPE or LDPE Super Gripnet geomembrane; and
- 6-in thick grading layer placed as daily or intermediate cover material.

An alternate final cap system may be used consisting of the following components, listed from top to bottom:

- 6-in. thick layer of vegetative growth material (topsoil or equivalent);
- 18-in. thick layer of granular borrow soil (vegetative rooting layer);
- 8 oz./s.y. non-woven geotextile;
- 50-mil combination HDPE or LLDPE geomembrane/drainage layer; and,
- 6-in thick grading layer placed as daily or intermediate cover material.

Illustrations of the final cover system are provided in Drawing 14.

The final cover system at DRPI Landfill is designed to minimize stormwater infiltration into landfilled wastes, provide a barrier to LFG migration out of the landfill, and to provide a physical separation between the finished ground surface and waste.

#### **4.5 Alternate Vegetative Strategies for Capped Slopes**

The primary vegetation strategy for the closure slopes is grass; however, alternative vegetation strategies are also proposed with this Vertical Expansion permit application. Waste Management proposes to use natural succession planting in an effort to make the slopes appear natural and more aesthetically pleasing. This type of planting may also provide a benefit to improve stormwater control and wildlife habitat. This will be achieved by direct seeding of native shrub and tree species, and planting of tree species whips, seedling, and potted or balled-and-burlapped shrubs and trees.

## **5 POST-CLOSURE CARE**

### **5.1 Regulatory Requirements**

This Closure Plan addresses the requirements of DRGSW §6.10.3.5 and §6.11. As required by DRGSW §6.11.2, maintenance will be performed for the final cover system, all vegetation associated with the DRPI Landfill, the leachate management system, the groundwater monitoring system, the LFG management system, the stormwater management system, and other miscellaneous site features, as described below. An inspection schedule for post-closure maintenance is presented on Table XI-3. In addition, groundwater, storm water, leachate, and LFG will be monitored as described in Section 6.4 of this Closure Plan. In this section, operation, maintenance, and monitoring of the landfill throughout the 30-year post-closure care period are described.

### **5.2 Post-Closure Operation**

During the post-closure care period, leachate and LFG will continue to be generated at the landfill. Accordingly, the leachate management system and the LFG management system will be operated, maintained, and monitored routinely as described in the Operation and Maintenance Plan. Operation of the leachate and LFG management systems will be performed in accordance with the procedures described in the Operation and Maintenance Plan until such time that leachate and LFG are either not produced or are produced in limited quantities or with limited concentrations such that they are not harmful to human health or the environment. At that time, DRPI will demonstrate to DNREC (using the approach described in Section 5.6 of this Closure Plan) that management of leachate and LFG is no longer necessary and, upon DNREC's approval, will cease operation of the leachate and LFG management systems.

### **5.3 Post-Closure Maintenance**

#### **5.3.1 Access Roads**

On-site access roads will be maintained in a passable condition at all times during the post-closure period. As shown on the Drawings the access roads will have gravel surfaces except for the entrance access road, which will be paved. All access roads will be inspected quarterly for conditions that would prevent passage of vehicles (such as ruts, ponded water, washouts, gullies, ice or other frozen precipitation, or obstacles). If needed, then repairs will be made to keep the access roads at the DRPI Landfill passable.

#### **5.3.2 Vegetation**

All vegetation will be maintained in a condition that will minimize the potential for erosion and will help screen the site from public view. During the post-closure period, maintenance will

consist of inspections, quarterly and after major storm events (24-hour, 25-year storm return frequency), to identify locations of excessive erosion, washouts, poor vegetation density, and damaged vegetation. If required, then the identified areas will be regraded and/or revegetated.

During landscaping inspections, all on-site slopes will be inspected for stability. The inspector will attempt to identify signs of sloughing, toe bulging, tension cracks at the tops of slopes, and other conditions that may indicate potential slope instability. If areas of potential instability are identified, then DNREC will be notified and appropriate remedial measures will be implemented.

### **5.3.3 Stormwater Management System**

The stormwater management system, consisting of all drainage terraces, channels, culverts, sedimentation basins, and associated sedimentation basin structures, will be maintained in a condition that allows continuous control of storm water at the site. During the post-closure period, drainage ditches, terraces, channels, culverts, and stormwater basins will be inspected quarterly and after major storm events (i.e., 24-hour, 10-year storm return frequency or greater) for conditions that would restrict flow, such as:

- washouts;
- excessive sediment;
- dislodged riprap; or
- gullies or erosion.

Washouts, excessive erosion, and gullies will be repaired by regrading the areas to the proper elevations (as shown on the Drawings), revegetating, or applying riprap.

### **5.3.4 Leachate Management System**

Routine maintenance will be performed on the leachate collection system to prevent clogging of the system. Maintenance will consist of cleaning all accessible leachate collection pipes. Cleaning will be performed every four years during the post-closure care period (unless experience indicates a lesser cleaning frequency is acceptable) until the leachate collection and leachate transmission, removal, and storage systems are taken out of service (as described in Section 6.6 of this Closure Plan).

The components of the leachate removal and transmission system will be routinely inspected and maintained during the post-closure period to ensure that the system functions properly and that leachate is not released to the environment. Inspections of the leachate removal and transmission system (i.e., leachate pumps, riser houses, and leachate transmission lines) will be performed quarterly to check for: (i) malfunctioning pumps, meters and valves; (ii) broken lines; and (iii)

damaged leachate riser houses. In addition, the electrical controls for the leachate transmission system will be checked to ensure that they are functioning properly.

Leachate will be sampled quarterly and will be tested to determine the concentration of chemical constituents. If, during the post-closure period, the chemical constituents in the leachate do not exceed the parameters concentrations identified in the permit for the facility, then the leachate collection system will be taken out of service. However, the leachate collection system will be left in place in the event that these features are needed at a future date.

### **5.3.5 LFG Management System**

The LFG management system will be routinely inspected and maintained to provide continuous collection, transmission, and destruction of LFG. LFG collection/extraction and transmission system components including well heads, header pipes, condensate wells, boots between the wells and final cover geomembrane, and the flare, will be inspected on a quarterly basis during the post-closure period for signs of damage to the components and for evidence of leaks in the gas transmission lines. Based on experience with similar gas management systems at other facilities, routine maintenance involves tightening or replacement of fittings, and occasional replacement of well heads. Details of maintenance procedures for the LFG management system are included in the Operation and Maintenance Plan of this Permit Amendment.

### **5.3.6 Environmental Monitoring System**

The components of the environmental monitoring system (i.e., groundwater monitoring wells, surface water monitoring stations, leachate monitoring ports, and LFG monitoring locations) will be inspected during each sampling event. The components will be inspected for damage and will be repaired or replaced, as necessary.

### **5.3.7 Miscellaneous Site Activities**

Maintenance of other site features will be performed during the post-closure period on a routine basis, as described below.

- The site perimeter fence will be inspected quarterly for breaks in the fence and to ensure that the gates are working properly. The fence and gates will be repaired as needed to provide continuous access control around the entire site.
- The scales (if still in operation) will be inspected and calibrated at least annually.
- Buildings (including the office building, scale house, and maintenance building) will be inspected annually and will be maintained to provide continuous support for landfill maintenance and monitoring activities.

Also, as required by DRGSW §6.11.3:

- standing water will not be allowed to accumulate on the landfill;
- open burning will not be performed on the landfill;
- no activity that has not been approved in advance by DNREC will be performed at the landfill; and
- access to the landfill will be limited to only those persons who are engaged in approved post-closure activities.

## **5.4 Post-Closure Monitoring**

### **5.4.1 Introduction**

In this section, the activities that DRPI will perform to monitor DRPI Landfill throughout the post-closure care period are described. These activities include monitoring of groundwater, surface water, LFG, and leachate. The sampling and analysis for environmental monitoring services will be performed by either DRPI or by its contractor. Presented in the following sections are the specific monitoring procedures required by DRGSW §6.4.4, §6.5.3, §6.6.4, and §6.7.

### **5.4.2 Groundwater Monitoring**

Groundwater will be monitored throughout the post-closure care period, as required in DRGSW §6.7 and as specified in the permit. The site-specific groundwater monitoring requirements will be reviewed periodically during the post-closure care period.

- All monitoring wells will be maintained and protected in accordance with the “*Regulations Governing the Construction of Water Wells*”.
- Abandonment of monitoring wells due to construction activities will be performed in accordance with the terms of “*Regulations Governing the Construction of Water Wells*”.

### **5.4.3 Surface Water Monitoring**

Surface water will be monitored to evaluate compliance with the requirements of DRGSW §6.6.4. Surface-water monitoring will be performed in accordance with the requirements of the DRPI Landfill NPDES permit.

### **5.4.4 LFG Monitoring**

LFG will be monitored as required by DRGSW §6.5.3. The control and management of LFG will be performed in conformance with: (i) the Delaware Regulations Governing the Control of Air Pollution; (ii) the DRGSW; and (iii) the current permit issued pursuant to the Delaware

Regulations Governing the Control of Air Pollution. Also, as shown in the Operation and Maintenance Plan, odors will be prevented from escaping the site boundary through the use of engineered collection and/or combustion systems. The post-closure gas monitoring procedures are described below.

- Gas monitoring will be performed: (i) in confined spaces (i.e., buildings on the landfill property within 500 ft. of the landfill); and (ii) outside the landfill, in either gas monitoring probes or groundwater monitoring wells that have screen intervals above the water table.
- Quarterly monitoring parameters of the extraction system will include gas composition (methane, oxygen, carbon dioxide, and balance gas), pressure, gas flow, gas temperature, and liquid levels in the condensate handling system.
- Gas monitoring shall be performed in accordance with the approved permit, and will include gas composition (as listed above), inlet and outlet pressures, gas flow, flare temperature, pressure drops across water knockouts and flame arresters, and liquid levels in the condensate knockout tank. Results of gas monitoring will be submitted to DNREC as part of the annual report for the facility.

#### **5.4.5 Leachate Monitoring**

Leachate will be monitored as required by DRGSW §6.4.4. The specific post-closure leachate monitoring procedures are described below.

- The leachate monitoring system is designed to measure the rate and quantity of leachate flow and to allow sampling of the leachate; such measurements and samples will be made during the post-closure care period.
- Test methods used to analyze samples will be those described in the most current legal edition of EPA Publication SW-846 “*Test Methods for Evaluating Solid Waste – Physical and Chemical Methods*”. If SW-846 does not contain a test method for a required parameter, that parameter will be tested according to methods described in the most recent edition of the EPA Publication “*Methods of Chemical Analysis for Water and Wastes*”, or “*Standard Methods for Examination of Water and Wastewater*”.

#### **5.5 Post-Closure Use**

The future use of the DRPI Landfill is discussed in this section as required by DRGSW §6.10.3.5.3. DRPI currently plans to use the site as a grassed hill with the option for treed sideslopes.

## **5.6 Duration of Post-Closure Care**

Post-closure care will be provided in accordance with the requirements of DRGSW §6.11.1. These requirements include the following:

- the duration of post-closure care will be 30 years after the completion of closure;
- DNREC may remove required elements of the Post-Closure Plan if it determines that they are no longer needed to protect human health and the environment;
- at any time after the first five years of the post-closure period, DNREC may reduce the length of post-closure care if it determines that such care is not needed to protect human health and the environment;
- prior to the end of post-closure care, DNREC may extend the post-closure care period if it determines that an extended period is necessary to protect human health and the environment; and
- DNREC will require actions to mitigate threats to human health and the environment if evidence exists of a contaminant release that could significantly threaten human health or the environment.

Based on these requirements, a performance-based approach will be applied to the duration of post-closure care at the DRPI Landfill. In general, this will consist of implementing the following approach.

- First, the requirements of the Post-Closure Plan as described in Sections 6.1 through 6.5 of this Closure Plan, will be implemented beginning at the completion of closure.
- At any time after the first year of post-closure care, an evaluation will be made of the need to continue post-closure care for each of the four post-closure care components (i.e., leachate management, LFG management, groundwater monitoring, and final cover systems). The approach for evaluating the need for continued post-closure care is outlined on Table 4. Depending on the outcome of the evaluation, the Post-Closure Plan may be revised with approval by DNREC so that it better reflects the actual threat of the landfill to human health and the environment.
- If changes are made to the Post-Closure Plan as a result of the evaluation of the need for continued post-closure care, then a demonstration will be made to DNREC that the changes are reasonable based on the available information and the evaluations. No changes in post-closure care will be made before DNREC formally approves such changes to the Closure Plan and the permit for the facility. If the outcome of the evaluation is inconclusive (e.g., no change to the Post-Closure Plan is indicated by the data and evaluations), then post-closure care will continue as required in the Post-Closure Plan.

- Additional evaluations of the need for continued post-closure care may be performed when additional data exist that could result in a different outcome of the evaluation. This includes evaluation outcomes that could indicate the need for a longer post-closure period or additional elements of the Post-Closure Plan.

## **5.7 Facility Contact**

The facility contact is as follows:

Mr. Richard Klonowski  
Delaware Recyclable Products, Inc.  
246 Marsh Lane  
New Castle, Delaware 19720  
Phone: (302) 468-8178  
Cell: (302) 476-5530  
Fax: (302) 655-4945

## 6 COST ESTIMATES

### 6.1 Introduction

In this section, cost estimates are presented for final closure system construction and post-closure care for the DRPI Landfill. The cost estimates are presented to address the requirements of DRGSW §6.10.3.4. Costs for construction, operation, and any activities related to interim closure or pre-closure of the DRPI Landfill, are not addressed in this estimate.

### 6.2 Closure Construction Cost Estimate

An estimate of closure construction cost for the final cover system is included on **Table XI-1**. The closure cost estimates include those costs that will be incurred during: (i) construction of the remaining 126.7-acre area final cover system for DRPI Landfill; (ii) removal of construction equipment from the site; and (iii) establishment of the permanent LFG management system enhancements. The revised estimated closure cost for the facility is \$21,633,829 (**Table XI-1**).

### 6.3 Post-Closure Care Cost Estimate

An estimate of the post-closure cost for maintenance of the candidate closure systems for the DRPI Landfill is presented on **Table XI-2**. The post-closure cost estimate includes the costs for:

- environmental quality monitoring (i.e., sampling and analysis of groundwater, surface water);
- inspection of the final cover system, LFG management system, stormwater management system, leachate collection system, and perimeter road;
- leachate removal, storage, and hauling; and
- maintenance of the above-referenced systems.

The revised estimated Post-Closure Cost for the facility is \$11,233,433 shown on **Table XI-2**. This estimate is based on a 30-year post-closure care period, as required by DRGSW §6.11.1.1.

### 6.4 Financial Assurance

The DRPI provides documentation of compliance with the requirements of a State-approved Financial Assurance Mechanism for closure and post-closure care by 31 December of each year. This certification is provided for the DRPI's most recent fiscal year, which ends on 30 June of each year. The financial assurance certification for the next year will be based on the least expensive DNREC-approved closure and post-closure option for the DRPI Landfill. As described in Sections 6.2 and 6.3, the closure and post-closure cost estimates are provided on **Tables XI-1** and **XI-2**, respectively. A copy of the 2019 Financial Assurance submitted to DNREC is included in **Appendix XI-A**

Delaware Recyclable Products, Inc.  
Industrial Waste Landfill  
Permit Modification Application

Geosyntec Consultants  
PART XI: CLOSURE AND POST-CLOSURE PLAN  
Vertical Expansion

# TABLES

**Table XI-1 - Closure Cap Cost Estimate  
DRPI Landfill  
New Castle, Delaware**

Total remaining area to be capped with Predominant Cap Type | 126.7 | Average cap increment size, acres | 16

	Item	Comments, or, Enter Remaining Site Quantity	Units	Unit Cost	T ft	% of Area	Average Quantity per Acre	Average Cost Per Acre		
Admin.	Construction drawings		per cap inc.	35,000.00	-	-	0.06	2,215		
	Bid package		per cap inc.	5,000.00	-	-	0.06	316		
	FAS 143 Third-party const. Mgmt. % of total						4%	6,049		
Earthwork	Mobilization: earthwork contractor		per cap inc.	40,000.00	-	-	0.06	2,532		
	CQA/surveying - earthwork & soil cap		per cap inc.	70,000.00	-	-	0.06	4,430		
	Erosion and sediment control		per cap inc.	25,000.00	-	-	0.06	1,582		
	Fine grading	127	acre	14,250.00	-	100%	1.00	14,250		
	Access road		LS					2,500		
Geomembrane	Mobilization - geosynthetics contractor		per cap inc.	4,000.00	-	-	0.06	253		
	CQA/surveying - geosynthetics		per cap inc.	120,000.00	-	-	0.06	7,595		
	Anchor trench: <i>rem. site qty. =</i>	10,000	ft	4.10	-	-	78.93	324		
	Geomembrane - material	Agru 50 mil HDPE Sup	sf	0.37	-	114%	49,658.40	18,225		
	Geomembrane - installation	Agru 50 mil HDPE Sup	sf	0.13	-	105%	45,738.00	5,854		
	Geomembrane - Freight	Calculated Average	sf	0.05	-	-	49,658.40	2,433		
	Gas well boots	15	acre	277.00	-	100%	1.00	277		
	Extrusion Welds	3,765.00	lf	5.44		100%	27.58	150		
	Material Testing	Shear Testing	ls					750		
	Drainage and Cover Layers	Nonwoven geotextile - material	8 oz. textile	sf	0.07	-	114%	49,658.40	3,426	
Geotextile - installation, heat bonded		8 oz. textile	sf	0.06	-	105%	45,738.00	2,607		
Geotextile - Freight		8 oz. textile	sf	0.01	-	112%	48,787.20	488		
Protective cover soil		Stockpile/Off Site	cy	20.00	1.50	104%	2,516.79	50,336		
Topsoil		Stockpile/Off Site	cy	20.00	0.50	104%	838.93	16,779		
Vegetation and seeding		Lump Sum	acre	2,900.00	-	104%	1.04	3,016		
Downspouts: <i>rem. site qty. =</i>		7	each	30,810.65	-	-	0.06	1,702		
Other permanent erosion control		Lump Sum	acre	4,800.00	-	100%	1.00	4,800		
Terraces		135,000.00	cy	7.00			989.01	6,923		
Gas Collection		10,475	acre					10,935		
<b>Average Cap Unit Cost Per Acre</b>								<b>170,748</b>	<b>8.65%</b>	
<b>Cost per Acre 2017</b>								<b>157,154</b>	<b>-0.54%</b>	
<b>Cost per Acre 2016</b>								<b>158,002</b>		

(1) Assumes that closure of the DRPI landfill will be performed in 16-acre events.

Table 1b - Total Capping Cost

AREA DESCRIPTION	TOTAL AREA (acres)	CAPPED AREA (acres)	AREA REMAINING TO BE CAPPED (Acres)
Cells 1, 2 and 3	41.2	9.6	31.6
Cell 4	31.7	9.6	22.1
Subcell 5A	6.7	0	6.7
Subcell 5B	7.5	0	7.5
Subcell 5C	7.9	0	7.9
Subcell 5D	8.1	0	8.1
Subcell 5E	8.2	0	8.2
Subcell 6-1A	10.2	0	10.2
Subcell 6-1B	10	0	10
Subcell 6-2A	12	0	12
Subcell 6-2B	2.4	0	2.4
<b>TOTAL</b>	<b>145.9</b>	<b>19.2</b>	<b>126.7</b>

Acres to be capped based on Golder Associate Capping Sequence Plan Drawing dated August 31, 2015.

<b>Total Capping Cost</b>	<b>\$21,633,829</b>
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**Table XI-2 - Post-Closure Cost Estimate  
DRPI Landfill  
New Castle, Delaware**

<b>Closure Construction and Certification</b>				<b>Units</b>	<b>Unit Cost</b>	<b>Quantity</b>	<b>Annual Cost</b>	<b>One-Time Cost</b>	
Drainage and site work				LS	\$25,000	1		\$ 25,000	
Engineering, As-built drawings				LS	\$25,000	1		\$ 25,000	
Post Closure Care Plan				LS	\$15,000	1		\$ 15,000	
Demobilization and Demolition				LS	\$50,000	1		\$ 50,000	
Third Party Management in accordance with FASB 143				%		4%		\$ 4,600	
							<b>\$ -</b>	<b>\$ 119,600</b>	
<b>Post Closure Operation, Maintenance, and Administration</b>				<b>Units</b>	<b>Unit Cost</b>	<b>Quantity</b>	<b>Annual Cost</b>	<b>One-Time Cost</b>	
General (incl mowing, etc)				annual	\$48,000	1	\$ 48,000		
Third Party Inspections/Report				annual	\$2,500	1	\$ 2,500		
Third Party PM				annual	\$37,100	1	\$ 37,100		
Insurance				annual	\$2,100	1	\$ 2,100		
Permits				annual	\$7,000	1	\$ 7,000		
							<b>\$ 96,700</b>	<b>\$ -</b>	
<b>Post Closure Groundwater and Surface Water Monitoring</b>				<b>No. Points /Wells</b>	<b>Unit Cost</b>	<b>Annual Frequency</b>	<b>Annual Cost</b>	<b>One-Time Cost</b>	
Surface Water sampling and analytical				2	\$500	2	\$ 2,000		
Number of groundwater wells				14					
Groundwater analytical, semi-annual parameters				14	\$180	2	\$ 5,040		
Groundwater analytical, annual parameters				6	\$180	1	\$ 1,080		
Groundwater well sampling, per well				34	\$410		\$ 13,940		
Groundwater Analytical QA and statistics				each	\$600	2	\$ 1,200		
Report Preparation				each	\$10,000	2	\$ 20,000		
Well redevelopment accrual, each well every 10 years				14	\$500	0.10	\$ 700		
Monitoring point decommissioning, year after post-closure period				14	\$3,000		\$ -	\$ 42,000	
							<b>\$ 43,960</b>	<b>\$ 42,000</b>	
<b>Post Closure Leachate Management</b>				<b>Units</b>	<b>Unit Cost</b>	<b>Est. Quantity</b>	<b>Annual Cost</b>	<b>One-Time Cost</b>	
<b>On-Site Treatment Plant</b>							\$ 31,600		
<b>Other Operating Costs and Decommissioning</b>									
Leachate Sampling , analysis and reporting							\$ 5,000		
Leachate Line Cleaning				Each	\$8,000	1	\$ 8,000		
Operation, maintenance, decomm of collection, delivery and storage system							\$ 44,900		
Leachate collection and storage system decommissioning								\$ 75,000	
							<b>\$ 89,500</b>	<b>\$ 75,000</b>	
<b>Post Closure LFG Management and Air Emissions Monitoring</b>							<b>Annual Cost</b>	<b>One-Time Cost</b>	
Active GCCS repair and replacement				GCCS area, acres	146		\$ 23,931		
				Unit cost, \$/acre	\$10,935				
				Annual % r&r	1.5%				
Blower Type				Multi-stage Centrifugal	No of Blowers:	2			
Blower maintenance, repair and replacement accrual							\$ 4,000		
Flare maintenance, repair and replacement accrual							\$ 5,750		
Blower electricity							\$ 7,389		
System operation and inspection							\$ 32,000		
Air emissions monitoring and testing							\$ 25,000		
Gas migration monitoring: testing, reporting, probe maintenance and repair							\$ 17,500		
Passive system and Decommissioning of GCCS								\$ 90,000	
							<b>\$ 115,570</b>	<b>\$ 90,000</b>	
<b>Summary of Postclosure</b>							<b>Annual Cost</b>	<b>One-Time Cost</b>	
<b>Total Closure Cost</b>							<b>\$ 345,730</b>	<b>\$ 326,600</b>	
<b>Post Closure Period (years)</b>							<b>30</b>		
<b>Total Discounted Annual Closure Cost</b>							<b>\$ 10,371,907</b>		
<b>Contingency (1)</b>							<b>5%</b>	<b>\$ 518,595</b>	<b>\$ 16,330</b>
<b>Total Post Closure Costs</b>								<b>\$ 11,233,433</b>	

(1) 5% Contingency Per DNREC Recommendation 6-Jul-07 Letter to DRPI

**TABLE XI-3**

**POST-CLOSURE  
MAINTENANCE INSPECTION SCHEDULE**

**DRPI Vertical Expansion  
New Castle, Delaware**

<b><u>Item</u></b>	<b><u>Inspection Frequency</u></b>
Access Roads	Quarterly
Vegetation	Quarterly and after major storm events <sup>(1)</sup>
Storm-Water Management System	Quarterly and after major storm events <sup>(1)</sup>
Equipment	Monthly
Leachate Management System	Quarterly
Leachate Storage Area	Monthly (during use)
Leachate Pre-Treatment Area	Monthly (during use)
Landfill Gas Management System	Quarterly
Environmental Monitoring System	During sampling events
Security Fence and Signs	Quarterly
Perimeter Fence	Quarterly
Landfill Scales	Annually
Buildings	Annually

Note: (1) "Major storm events" are defined as the 24-hour, 10-year, or greater, storm return frequency.

**TABLE XI-4**  
**APPROACH FOR EVALUATING THE NEED FOR CONTINUED POST-CLOSURE CARE**  
**DRPI Vertical Expansion**  
**New Castle, Delaware**

Component of Post-Closure Care (PCC)	Purpose of PCC Component	Criteria for Demonstrating that PCC of Component is no Longer Necessary (as per DRGSW 5.11.1.3)	Demonstration Approach
Leachate Management System (LMS)	Contain and treat leachate to prevent adverse impacts of leachate to surface water and ground water.	<ul style="list-style-type: none"> <li>• No risk of impacts from uncontrolled releases of leachate.</li> <li>• In addition, operation of LMS must not be necessary to maintain geotechnical stability.</li> </ul>	Show that uncontrolled releases of leachate of current quality and quantity will not violate water quality standards in receiving surface-water or groundwater. Also, show that geotechnical stability is not affected.
Landfill Gas (LFG) Management System	Control of potential impacts of landfill gas with regard to: <ul style="list-style-type: none"> <li>• Compliance with Clean Air Act;</li> <li>• Lateral migration (explosive potential);</li> <li>• Groundwater / Vadose Zone; and</li> <li>• Odor.</li> </ul>	No potential for future violation of DRGSW 5.5.1.2 (i.e., no potential for lateral gas migration problems) and no potential for future exceedance of Clean Air Act standards.	Show that annual volume and quality of gas generated at site is such that elimination of gas management will not result in violation of DRGSW 5.5.1.2 or any other applicable Federal or State regulation or permit requirement.
Groundwater Monitoring System	Verify that there are no unacceptable impacts to groundwater from leachate release or gas migration from site.	Status of leachate and gas evaluations is such that potential impacts to groundwater are acceptable (i.e., time required for impacts to have been detected has passed).	Confirm that ground-water monitoring has been performed at least as long as the time required for impacts for hypothetical leachate and gas release to have been detected at compliance location.
Final Cover System	Control of one or more of the following: <ul style="list-style-type: none"> <li>• Infiltration (i.e., generation of leachate);</li> <li>• Gas emission / migration;</li> <li>• Direct exposure to waste; and/or</li> <li>• Geotechnical stability.</li> </ul>	Loss of, or changes to, cover integrity must not adversely affect any of the purposes listed. Long-term condition of cover must be compatible with end-use obligations for the site.	Evaluate effect of cover integrity on all other aspects of PCC and end-use. Ensure compatibility between cover maintenance program and requirements for cover from other PCC components.

Delaware Recyclable Products, Inc.  
Industrial Waste Landfill  
Permit Modification Application

Geosyntec Consultants  
PART XI: CLOSURE AND POST-CLOSURE PLAN  
Vertical Expansion

# ATTACHMENT XI-1

## FINANCIAL ASSURANCE DOCUMENTATION



WASTE MANAGEMENT

DRPI Landfill  
246 Marsh Lane  
New Castle, Delaware 19720  
(302) 655-1360  
(866) 659-1232 Fax

February 1, 2019

Michael A. Melito  
Environmental Scientist  
State of Delaware – DNREC, Dover  
Department of Natural Resources and Environmental Control  
Solid & Hazardous Waste Management Section  
89 Kings Highway  
Dover, DE, 19901

**Subject: Delaware Recyclable Products, Inc. (DRPI)  
Financial Assurance – Closure and Post-Closure Costs  
New Castle, Delaware  
Permit SW-15/02**

Dear Mr. Melito:

Attached are the updated closure and post-closure cost estimates for DRPI. The current amounts are \$20,112,147 and \$10,742,924, respectively. The updated estimates are \$21,633,829 for closure and \$11,233,433 for post-closure for a total of 32,867,262.

After receiving approval of the revised amounts, a new letter of credit will be issued.

If you have any questions or require any additional information, please contact me at (215) 428-4384.

Sincerely,

A handwritten signature in blue ink, appearing to read 'B. Bolvin', with a long horizontal flourish extending to the right.

Brian P. Bolvin, PE  
Waste Management  
Site Engineer

Enclosure

cc: Richard Klonowski – WM  
Andy Sokol, PG- Taylor GeoServices, Inc.

*From everyday collection to environmental protection, Think Green® Think Waste Management.*

**R I D E R**

To be attached to and form part of:

Bond Number            1000830566  
dated                      10/8/2010

issued by the            U.S. SPECIALTY INSURANCE COMPANY  
in the amount of        \$30,854,396.00

on behalf of             DELAWARE RECYCLABLE PRODUCTS, INC.  
(Principal)

and in favor of         DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL  
CONTROL  
(Obligee)

Now therefore, it is agreed that in consideration of the premium charged, the attached bond shall be amended as follows:

**The bond amount shall be amended:**

**FROM:**            **Closure:**            **\$20,112,147**  
                         **Post-Closure:** **\$10,742,924**  
                         **Total:**                **\$30,855,071**

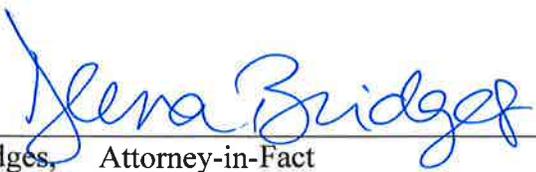
**TO:**                **Closure:**            **\$21,633,829**  
                         **Post-Closure:** **\$11,233,433**  
                         **Total:**                **\$32,867,262**

It is further understood and agreed that all other terms and conditions of this bond shall remain unchanged.

This Rider is to be Effective this 19th day of February, 2019.

Signed, Sealed & Dated this 19th day of February, 2019.

DELAWARE RECYCLABLE PRODUCTS, INC.  
(Principal)

By:   
Deena Bridges, Attorney-in-Fact

U.S. SPECIALTY INSURANCE COMPANY  
(Surety)

By:   
Donna Williams, Attorney-in-Fact

POWER OF ATTORNEY

AMERICAN CONTRACTORS INDEMNITY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Robbi Morales, Lisa A. Ward, Lupe Tyler, Michael J. Herrod, V. DeLene Marshall, Tina McEwan, Donna Williams or Melissa L. Fortier of Houston, Texas

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed \*\*\*\*\*Seventy Five Million\*\*\*\*\* Dollars (\$ \*75,000,000.\* ).

This Power of Attorney shall expire without further action on November 3, 2019. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.

Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 1st day of November, 2016.

AMERICAN CONTRACTORS INDEMNITY COMPANY U.S. SPECIALTY INSURANCE COMPANY

Corporate Seals



By: Daniel P. Aguilar, Vice President

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Los Angeles SS:

On this 1st day of November, 2016, before me, Sabina Morgenstein, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal.

Signature (Seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this 19th day of February 19, 2019

Corporate Seals



Signature of Kio Lo

Kio Lo, Assistant Secretary

Bond No. 1000830566
Agency No. 16404

**POWER OF ATTORNEY**

**KNOWN ALL MEN BY THESE PRESENTS** that Waste Management, Inc. and each of its direct and indirect majority owned subsidiaries (the "WM Entities"), have constituted and appointed and do hereby appoint Deena Bridges, KD Conrad, Vanessa Dominguez, Melissa Fortier, Michael J. Herrod, Jennifer L. Jakaitis, Patricia A. Rambo, Lupe Tyler, Susan A. Welsh, Donna Williams, and Misty Wright of Aon Risk Services, Inc., each its true and lawful Attorney-in-fact to execute under such designation in its name, to affix the corporate seal approved by the WM Entities for such purpose, and to deliver for and on its behalf as surety thereon or otherwise, bonds of any of the following classes, to wit:

1. Surety bonds to the United States of America or any agency thereof, and lease and miscellaneous surety bonds required or permitted under the laws, ordinances or regulations of any State, City, Town, Village, Board or any other body or organization, public or private.
2. Bonds on behalf of WM Entities in connection with bids, proposals or contracts.

The foregoing powers granted by the WM Entities shall be subject to and conditional upon the written direction of a duly appointed officer of the applicable WM Entity (or any designee of any such officer) to execute and deliver any such bonds.

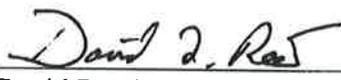
The signatures and attestations of such Attorneys-in-fact and the seal of the WM Entity may be affixed to any such bond, policy or to any certificate relating thereto by facsimile and any such bond, policy or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the applicable WM Entity when so affixed.

**IN WITNESS WHEREOF**, the WM Entities have caused these presents to be signed by the Vice President and Treasurer and its corporate seal to be hereto affixed. This power of attorney is in effect as of February 19, 2019.

Witness:

  
\_\_\_\_\_

On behalf of Waste Management, Inc. and  
each of the other WM Entities

  
\_\_\_\_\_  
David Reed  
Vice President and Treasurer

**STANDBY TRUST AGREEMENT dated 9-23-2013**

Delaware Recyclable Products, Inc., Grantor

Wells Fargo Bank, N.A., Trustee

**SCHEDULE A**

(Revised 2/18/19)

<b>FACILITY NAME:</b>	Delaware Recyclable (DRPI) 246 Marsh Lane New Castle, DE 19720
<b>PERMIT NUMBER:</b>	SW-05/01
<b>CLOSURE COST ESTIMATE:</b>	\$ 21,633,829
<b>POST CLOSURE COST ESTIMATE:</b>	\$ 11,233,433
<b>TOTAL PENAL SUM OF BOND:</b>	\$ 32,867,262



Aon Risk Services Southwest, Inc.  
5555 San Felipe St., Suite 1500  
Houston, TX 77056

February 19, 2019

Nicole E. Hill (302) 739-9403  
DNREC - Solid and Hazardous Waste Management Branch  
89 Kings Highway  
Dover, DE 19901

**RE: Updated Financial Assurance for DRPI Permit #SW - 05/01  
Bond # 1000830566**

Dear Ms. Hill:

Enclosed please find a bond rider and revised Schedule A of the Standby Trust Agreement for the above-reference site. These enclosures demonstrate updated financial assurance for the closure and post-closure obligation for the above-referenced site.

If you have any questions, feel free to contact -

Diana Seng, Director of Treasury and Financial Assurance  
Waste Management, Inc.  
1001 Fannin Street,  
Houston, TX 77002  
(713) 265-1322  
[dseng@wm.com](mailto:dseng@wm.com)

Sincerely,

A handwritten signature in blue ink that reads 'Deena Bridges'. The signature is written in a cursive, flowing style.

Deena Bridges  
enclosures

ORIGIN ID:HOUA (832) 476-5681  
DEENA BRIDGES  
AON CORPORATION  
5555 SAN FELIPE ST  
HOUSTON, TX 77056  
UNITED STATES US

SHIP DATE: 19FEB19  
ACTWT: 0.06 LB  
CAD: 103350849W/SX13300  
DIMS: 11x6x1 IN  
BILL SENDER

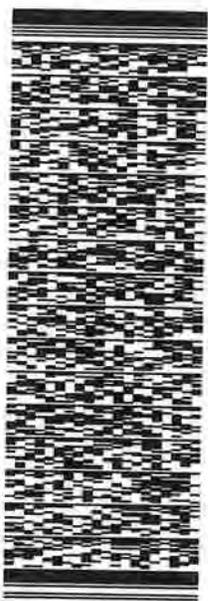
TO NICOLE HILL  
DNREC - WASTE MANAGEMENT BRANCH  
89 KINGS HWY

DOVER DE 19901

REF:

PO: (302) 739-9403  
NW

DEPT:



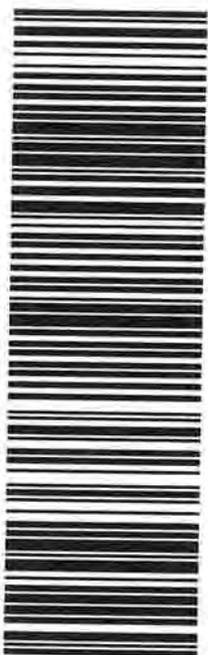
REL#  
3785346

TRK# 7855 6139 8983  
0201

WED - 20 FEB 12:00P  
PRIORITY OVERNIGHT

**XB DOVA**

19901  
DE-US PHL



565J20E3D23AD

Fold Here - Please fold or cut in half

2/19

Bond 1000830566

**From:** [Gaw, Connie](#)  
**To:** [Aon-WM Houston](#); [Misty Wright](#); [Deena Bridges](#)  
**Cc:** [Bolyin, Brian](#); [Seng, Diana](#); [Lanzini, Neal](#); [Campos, Olinda](#)  
**Subject:** Delaware Recyclable (DRPI) Bond 1000830566 Annual Update - 2/20/19  
**Date:** Monday, February 18, 2019 1:40:03 PM  
**Attachments:** [FW DRPI Closure and Post Closure Cost - Update.msg](#)  
[DE - Delaware DNREC.DOC](#)  
[DE - Delaware Recyclable Products, Inc Sched A.PDF](#)

Hi AON,

Please handle the following:

- Effective 2/19/19, new amounts are

Closure	\$21,633,829
Post-Closure	\$11,233,433
Total	\$32,867,262

- Using the attached cover letter template, overnight the bond rider & revised Schedule A of the Standby Trust Agreement to the Obligee.
- Scan copy of submittal to us.

Feel free to contact us should you have any questions.

Thanks,

**Connie Gaw**  
 Financial Assurance Analyst  
[cgaw@wm.com](mailto:cgaw@wm.com)

**Waste Management**  
 1001 Fannin Street  
 Houston, TX 77002  
 Tel 713 512 6536

Increase Rider  
 from 30,855,071.00  
 to 32,867,262.00

Delaware Recyclable Products, Inc.  
Industrial Waste Landfill  
Permit Modification Application

Geosyntec Consultants  
PERMIT MODIFICATION APPLICATION  
Vertical Expansion

# PART XII

## SITING CRITERIA

## **PART XII. SITING CRITERIA**

Delaware Regulations Governing Solid Waste (DRGSW) Section 4.2.1.9 requires that an application to operate an industrial landfill include “*proof that the facility meets the siting criteria required by Section 6.1*”. The siting requirements, and the manner in which these requirements are addressed, are presented in Section 2.2 of the Engineering Report (Part VI).