

STATE OF DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL DIVISION OF WASTE AND HAZARDOUS SUBSTANCES SOLID AND HAZARDOUS WASTE MANAGEMENT SECTION

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Permit SW-19/<mark>02</mark> Permit Type: Industrial Waste Landfill

Effective Date:	December 30, 2019	
Date Issued:	December 30, 2019	
Expiration Date:	December 30, 2029	
Permittee:	Delaware Recyclable Products, Inc 246 Marsh Lane New Castle, Delaware 19720	

Pursuant to 7 <u>Del. C.</u>, Chapter 60, Section 6003 and Delaware's *Regulations Governing Solid Waste*, Waste Management Corporation is hereby granted approval to operate the Delaware Recyclable Products, Inc. industrial waste landfill located near Marsh Lane in New Castle, Delaware, subject to the terms and conditions of this permit. All terms and conditions of this permit are enforceable by the Department of Natural Resources and Environmental Control.

Michael A. Melito Environmental Scientist III Solid & Hazardous Waste Management Section (302) 739-9403 Date

Jason W. Sunde Environmental Program Administrator Solid & Hazardous Waste Management Section (302) 739-9403 Date

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I. GENERAL CONDITIONS

- A. Pursuant to Sections 4.2 and 6.0 of Delaware's *Regulations Governing Solid Waste* (DRGSW), the Department of Natural Resources and Environmental Control (Department) hereby issues Permit SW-19/02 to Delaware Recyclable Products, Inc. (DRPI), for the continued operation and construction of the industrial waste landfill located near Marsh Lane in New Castle, Delaware. This permit incorporates the requirements of, and replaces permit SW-15/02.
- B. This permit applies to:
 - 1. Vertical expansion of the landfill and all ancillary features outlined in the Engineering Report, Volume 2 of 3 of the *Permit Modification Application (Volumes 1, 2 and 3) for Vertical Expansion, DRPI Industrial Landfill, New Castle, Delaware*, prepared by Geosyntec Consultants, dated July 2018 and last revised April 2019.
 - 2. Construction required to extend the vertical limits of the DRPI landfill from the previously approved final elevation of 130 feet mean sea level (MSL) to 190 feet MSL.
 - 3. Geomembrane capping including:
 - a. Final geomembrane cap construction over cells 1, 2, 3, 4, 5, and 6.
 - 4. Operation and maintenance of the DRPI landfill, including Cells 1, 2, 3, 4, 5, and 6.
 - 5. Environmental monitoring, recordkeeping, and reporting for DRPI.
 - 6. The final cover system.
- C. This permit was issued in accordance with the following documents submitted by the DRPI:
 - 1. Secretary's Order No. 2019-WHS-0048 issued by the Department on December 29, 2019.
 - 2. DRPI letter of intent dated July 20, 2018.
 - 3. The Solid Waste Management Facility Application for the Delaware Recyclable Products Landfill (DRPI), dated July 16, 2018.
 - 4. The *Permit Modification Application (Volumes1, 2 and 3) for Vertical Expansion, DRPI Industrial Landfill, New Castle, Delaware*, prepared by Geosyntec Consultants dated July 2018 and last revised April 2019.
 - 5. All previously approved and applicable documents, applications or correspondence.
 - 6. Other plans, letters, procedures and policies specifically referenced in this permit.
- D. This permit is issued subject to the following general conditions:
 - 1. Construction and operations at DRPI shall be conducted in compliance with all federal, state, county, and municipal environmental statutes, ordinances, and regulations, including, but not limited to: Delaware's *Regulations Governing Solid Waste*, Delaware's *Regulations Governing Hazardous Waste*, Delaware's *Regulations Governing the Control of Water Pollution*, Delaware's *Surface Water Quality Standards*, and Delaware's *Regulations Governing the Control of Air Pollution*.

- 2. Access to the DRPI site by unauthorized persons shall be prevented by barriers, fences, and gates, or other suitable means (DRGSW, Section 6.9.2.4). Access for the purpose of disposal of solid waste shall be limited to those times when an attendant is on duty and to those persons authorized to use the site for the disposal of solid waste. The Department may, at any reasonable time, enter the DRPI landfill to verify compliance with the permit and DRGSW. (7 <u>Del. Code</u>, Section 6024).
- 3. This Permit may be revoked upon violation of any condition of the permit or any requirement of DRGSW, after notice and opportunity for hearing in accordance with 7 <u>Del. Code</u>, Chapter 60.
- 4. Permit $SW-\frac{19}{02}$ incorporates the requirements of, and replaces Permit $SW-\frac{15}{02}$.
- 5. Permit SW-19/02 shall expire no later than December 30, 2029.
- 6. A copy of the most current version of this permit shall be maintained in both the scalehouse and the on-site office at DRPI.

II. CONSTRUCTION

- A. Planning, design, and construction
 - 1. The planning and design of the DRPI landfill construction shall be consistent with DRGSW.
 - 2. The landfill shall be constructed in accordance with the application package and the following engineering plans:
 - The Permit Modification Application (Part VI Engineering Report) for Vertical *Expansion, DRPI Industrial Landfill, New Castle, Delaware* prepared by Geosyntec Consultants dated July 2018 and last revised April 2019.
 - 3. Construction Quality Assurance activities for the vertical expansion of landfill and all constructed components shall be in accordance with the most recent *Construction Quality Assurance Plan* (CQA) approved by the Department. DRPI shall report any deviation from the CQA to the Department's Solid and Hazardous Waste Management Section no later than the next business day following discovery.
 - 4. Prior to the installation of any geotextile or geomembrane at each sub-cell, DRPI shall provide the qualifications of the Geosynthetic Installer's Superintendent and Master Seamer to the Department.
 - 5. DRPI shall submit final certification documentation to the Department in accordance with the approved *Construction Quality Assurance Plan*.
 - 6. No waste may be placed into each newly lined area (sub-cell) until DRPI has received written approval from the Department.
- B. Surface water management system
 - 1. Sediment and stormwater control must comply with Delaware's *Sediment and Stormwater Regulations*.
 - 2. The run-off control system from the active portion of the landfill shall be designed to collect and control at least the water volume from a 25-year, 24-hour storm event.
 - 3. Run-off from the areas receiving waste shall be channeled to the leachate collection system.

- 4. Run-off from closed cells shall be directed to stormwater detention basins or other sedimentation control devices approved by the Department.
- 5. Discharge from the detention basin shall be in compliance with all applicable federal, state, county, and local regulations.
- 7. Stormwater basins shall be cleaned as needed in order to maintain design capacity.
- C. Final cover phased capping
 - 1. A report for each phase or area capped shall be provided to the Department within 60 days of completion. The report shall certify that the phase was capped in accordance with the Design Specifications, Technical Specifications and the CQA plan contained in the Engineering Report (Volume 2 of 3), of the *Permit Modification Application (Volumes1, 2 and 3) for Vertical Expansion, DRPI Industrial Landfill, New Castle, Delaware* prepared by Geosyntec Consultants dated July 2018 and last revised April 2019.
 - 2. Upon closure of the landfill or landfill cell, a capping system shall be installed that will control emissions of gas, promote vegetative cover, and minimize infiltration and percolation of water into, and prevent erosion of, the waste throughout the post-closure care period.
 - 3. The capping system shall be designed in accordance with DRGSW.
 - 4. At the conclusion of all phases of capping on the DRPI landfill Cells 1 through 6, DRPI shall provide the Department a Certification Final Report. The Certification Final Report shall be completed by a third party CQA Consultant and submitted for Department review within 60 days after all phases of capping on the DRPI landfill Cells 1 through 6 have been completed.

III. OPERATIONS

- A. Operations at DRPI shall be conducted in accordance with this permit and the *Operation and Maintenance Plan* (the Operations Plan) revised March 2019.
- B. DRPI shall be operated in a manner that will preclude degradation of adjacent land, air, surface water, or groundwater.
- C. Waste capacity. Consistent with the Solid Waste Management Facility Application (7/16/19), DRPI shall accept no more than 2400 tons of waste for disposal at the landfill each day.
- D. Staffing. Sufficient numbers and types of personnel, as specified in the Operations Plan, shall be available at the site to ensure capability for operation in accordance with DRGSW and the Operations Plan.
- E. Equipment. Equipment necessary to ensure the operations of the landfill in accordance with the Operations Plan and the requirements of DRGSW shall be maintained at the site by DRPI.
- F. Acceptable wastes. DRPI is permitted to accept an industrial waste stream consisting of the

following materials:

- 1. Construction/demolition debris including roofing materials, wood, metal, drywall, carpeting, upholstery, foam rubber, conduit, laminated wood products, rock, brick, concrete, ceramics, glass, asphalt paving, and incidental asphalt products.
- 2. Dry waste as defined by DRGSW. This includes plastic, rubber, lumber, trees, and vegetative matter.
- 3. Non-hazardous industrial waste solids if approved by the Department. Waste characterization representative of the waste stream shall be required.
- G. Unacceptable wastes. DRPI shall not accept for disposal the following prohibited wastes:
 - 1. Hazardous waste.
 - 2. Asbestos.
 - 3. Creosote treated materials.
 - 4. Regulated infectious waste.
 - 5. Licensed radioactive material (as described in the Delaware Radiation Control Regulations), and any radioactive material considered source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954.
 - 6. Electrical transformers.
 - 7. Putrescible wastes.
 - 8. Municipal solid waste.
 - 9. Municipal solid waste ash.
 - 10. Liquid waste as restricted by 40 CFR Part 258.28.
- H. Inspection procedures
 - 1. DRPI shall inspect each incoming load at the scale house and again at the working face of the landfill. Before the load leaves the scale house for the landfill, the scale house operators will ensure all paperwork and manifests are properly reviewed. All site employees at the working face will be trained to identify and immediately report the disposal of any questionable materials. When the driver returns to the scale house and before the driver leaves the facility, all paperwork and manifests will be double checked. Loads shall be rejected based upon the following criteria:
 - a. Otherwise acceptable loads containing small amounts of municipal solid waste, creosote treated materials, or sealed containers holding non-hazardous liquids may either be rejected or hand-sorted by DRPI to remove the unacceptable waste. If the load is rejected, a rejection notice shall be issued to the hauler and generator. If DRPI chooses to hand-sort, then the unacceptable waste recovered shall be given to the hauler for proper disposal and no rejection notice issued.
 - b. Loads containing small amounts of suspected, regulated asbestos-containing material (less than the NESHAP threshold limit of one cubic yard) shall be rejected and a rejection notice issued to the hauler and generator. The load shall be adequately wetted prior to departure. In the event that the hauler accumulates 7 rejections for asbestos during one month or the generator accumulates 2 rejections for asbestos

during one week, they shall be temporarily suspended from using the facility. In order to regain dumping privileges at DRPI, the suspended hauler or generator shall submit a written plan for Department approval detailing how their waste handling procedures will be modified to exclude asbestos.

- c. Loads containing excessive amounts of suspected, regulated asbestos containing material (more than the NESHAP threshold limit of one cubic yard) shall be adequately wetted, isolated, and the Department notified (1-800-662-8802) immediately. DRPI shall issue a rejection notice to the hauler and to the generator and both shall be suspended from using the facility. In order to regain dumping privileges at DRPI, the suspended hauler or generator shall resolve all fines, penalties, and costs associated with the clean-up of the material, as well as submit a written plan for Department approval detailing how their waste handling procedures will be modified to exclude asbestos.
- d. Loads containing infectious waste, regulated hazardous waste, radioactive waste, or electrical transformers shall be isolated and the Department notified immediately (1-800-662-8802). DRPI shall issue a rejection notice to the hauler and generator and both shall be suspended from using the facility. In order to regain dumping privileges at DRPI, the suspended hauler or generator shall resolve all fines, penalties, and costs associated with any clean-up of the material, as well as submit a written plan for Department approval detailing how their waste handling procedures will be modified to exclude these materials.
- 2. All materials accepted by DRPI for disposal shall be subject to inspection by the Department's on-site Compliance Inspector, who shall be present during the operating hours of the landfill. The Department has the right to modify this requirement temporarily if needed to avoid disrupting operations at the landfill. DRPI shall reimburse the Department (within 30 days of the date of an itemized statement submitted by the Department) for its reasonable costs incurred in hiring or retaining the Department Compliance Inspector (Consent Order dated 1/30/90).
- I. Scavenging. Scavenging on the landfill is prohibited.
- J. Salvaging operations. Salvaging operations for materials including cardboard, metal, wood, plastics, tree debris, stumps, and concrete is allowed.
 - 1. Salvaging shall be conducted in accordance with the Operations Plan and in a manner protective of human health and the environment.
 - 2. Facility salvaging operations shall not interfere with the proper disposal of wastes.
 - 3. Stockpile areas shall be inspected at least once each operating day to ensure that unwanted materials (such as trash) have not been deposited. Such materials shall be removed for proper disposal no later than the next business day.
 - 4. DRPI may salvage other materials as approved by the Department.
- K. Operational cover. DRPI shall cover the working face a minimum of once a week. On windy days, or when strong wind is forecast for the area, DRPI shall immediately cover the working face. Cover shall consist of a minimum of six inches of clean fill or other material acceptable

to the Department. The Department may require that certain loads be covered immediately if needed to prevent nuisance conditions.

- L. Intermediate cover. Any area that receives operational cover and is not expected to receive either additional solid waste or a capping system within six months shall be covered with intermediate cover. Intermediate cover shall consist of at least 12 inches of compacted soil (total), or an alternative material approved by the Department.
- M. Initial lift placement. DRPI shall take all precautions necessary to protect the landfill liner system during placement of the initial lift of waste. These precautions shall include:
 - 1. Protective cover over the liner system shall be a minimum of 24 inches thick.
 - 2. Landfill compactors and hauling equipment shall not be allowed to operate directly on the protective cover.
 - 3. The first lift of waste shall be no more than 5 feet thick.
 - DRPI personnel shall be trained regarding their responsibilities for protecting the liner system.
- N. Waste transportation and scale requirements
 - 1. Waste transportation permit. DRPI shall not accept waste from solid waste transporters hauling waste in vehicles having a gross vehicle weight of 26,000 pounds or more, unless the hauler has a valid Transporter's Permit issued by the Department's Solid and Hazardous Waste Management Section (DRGSW, Section 7.0).
 - Overweight vehicles. DRPI shall notify the Department's on-site Compliance Inspector immediately once a vehicle is determined to be overweight (reference 21 <u>Del. C.</u>, Section 4502) at the scale. DRPI shall provide a copy of the weigh ticket for the overweight vehicle and the following information to the Department:
 - a. Waste hauler.
 - b. Transporter permit number.
 - c. Driver's name.
 - d. Manufacturer's Gross Vehicle Weight Rating.
 - 3. Scale certification. DRPI shall ensure that the Delaware Department of Agriculture has inspected and certified the scale and that the certification is maintained.
- O. Litter control. Litter shall be controlled and collected in accordance with the Operations Plan. Controls shall include daily inspections for litter, compaction of waste upon receipt, use of fences and other barriers, and routine litter collection. Scattered and wind-blown litter shall be collected as frequently as necessary to maintain an aesthetically desirable environment. DRPI shall prevent litter from migrating off-site. The DRPI personnel shall collect any off-site litter which has migrated from the landfill site immediate.
- P. Dust and mud control. Dust control measures shall be provided to minimize potential nuisance dust to adjacent landowners. Site access and entrance roads shall be cleaned with water and swept as needed to minimize the potential for mud being tracked onto public roads.

Fugitive dust emissions shall not be emitted in such quantities as to cause or create a condition of air pollution (injurious to human, plant, or animal life or unreasonably interfering with the enjoyment of life and property) from material-handling operations, the stockpiling of materials or vehicular traffic entering or leaving the facility. This includes along Marsh Lane adjacent to the New Castle County Public Safety Building and along the commercial/industrial properties which in turn are adjacent to the West Minquadale community. The paved surface of Marsh Lane shall be kept clean of dust-causing dirt and mud by employing methods such as water tanker/sprinkler trucks. These methods will also be employed on non-paved roads to control fugitive dust emissions.

- Q. Health and safety. DRPI shall maintain and comply with the *Health and Safety Plan* approved by the Department.
 - 1. Employees at the site shall work under appropriate health and safety guidelines established by the Occupational Safety and Health Administration.
 - 2. Use of personal protective equipment shall be in accordance with 29 CFR Part 1910.132, as a minimum.
 - 3. First aid equipment shall be maintained and available in the scale house, in the pretreatment building, and in the maintenance building.
 - 4. Emergency telephone numbers of nearby ambulance, hospital, police and fire services shall be prominently displayed by at least one telephone in each of the following on-site locations: the maintenance office, the scale house and the administrative office.
 - 5. Any confined space entry done by employees or contractors shall be done in accordance with 29 CFR Part 1910.146.
- R. Contingency. DRPI shall maintain a current emergency response plan (reference, *Operation and Maintenance Plan*, revised March 2019). That plan shall include emergency contacts, reaction to spills, fires and other emergencies.
- S. Training. All employees (except the secretary) assigned duties at the DRPI shall receive, as a minimum, the training listed below. Unless otherwise specified by a nationally recognized training provider (for example, the American Red Cross as a training provider for First Aid), training shall be required initially and annually thereafter. Initial training for waste screening shall be completed within 60 days of hiring and all other initial training shall be completed within 180 days of hiring.
 - 1. Operational and contingency procedures.
 - 2. Waste screening.
 - 3. Health and safety procedures.
 - 4. Fire prevention and protection.
 - 5. Emergency first aid.
 - 6. CPR training.

IV. ENVIRONMENTAL MONITORING AND GROUNDWATER CONTROL SYSTEM MANAGEMENT

A. Surface water management and monitoring

- 1. The DRPI shall maintain a surface water management system to prevent erosion of the waste and cover, prevent the collection of standing water, minimize surface water runon into the waste, and minimize run-off from the waste. DRPI shall maintain coverage under the National Pollutant Discharge Elimination System (NPDES) for stormwater discharge.
- 2. Stormwater management. DRPI shall properly operate, manage and maintain all structures and basins designed to manage stormwater and shall take all reasonable steps to minimize or prevent any discharge of pollutants into surface waters.
- 3. In the event a leachate seep is found to be contaminating surface water, DRPI shall sample the impacted surface water and the downstream stormwater pond at both the inlet and the outfall (if discharging). DRPI shall record their visual observations and sample in accordance with the *Updated Groundwater, Surface Water, and Leachate Monitoring and Reporting Program Plan (June 2009).*
- 4. Semi-annually, during April and October, water quality samples shall be collected from Outfall 001 and Outfall 002. These samples shall be analyzed in the field for:

Temperature	pH
Specific Conductance	Turbidity

In addition, these samples shall be analyzed in the laboratory for the following indicator parameters:

pH	Ammonia
Total Suspended Solids	Total Petroleum Hydrocarbons
Chemical Oxygen Demand	Biological Oxygen Demand
Iron	Lead
Copper	Zinc
Arsenic	Manganese
Barium	Vanadium
Selenium	

Monitoring parameters may be removed at the Department's discretion if detectable parameters are below the levels of concern.

B. Groundwater monitoring

- 1. General requirements
 - a. All monitoring wells shall be maintained, and protected in accordance with the "Regulations Governing the Construction and Use of Wells".
 - b. Installation or abandonment of any well shall be performed in accordance with the "Regulations Governing the Construction and Use of Wells". The Department must

be notified and appropriate documentation submitted upon the installation or abandonment of any wells.

c. Groundwater monitoring shall be done in accordance with the approved *Updated Groundwater, Leachate and Stormwater Monitoring and Reporting Program Plan* (*June 2009*). The following monitoring wells are currently included in that plan:

Semi-annual Sampling	Water Level Measurements Only Semi-Annually	Annual Sampling	
Shallow Zone Monitoring Wells	Shallow Zone Monitoring Wells	Deep and Shallow Zone Monitoring Wells	
C4-N1S	P-8S	MW-4D(R)	
C4-E1S(R)	MW-4S(R)	MW-7D	
C5-N1S	MW-8S	MW-9D	
C5-W1S(R)	MW-7S	MW-101D	
C5-W2(S)		DMW-2	
MW-101(S)		MW-102S	
		DMW-1	
		MW-1S	

MW – Monitoring Wells

C - Cell, N - North, W - West

D-Deep, S-Shallow, R-Replacement

- 2. Water level measurement
 - a. Semi-annually, during April and October, DRPI shall measure water levels in all monitoring wells referenced above. Maps shall be prepared for each aquifer showing wells drilled in the aquifer and water elevations in each well and the groundwater control system. Contour lines shall be drawn showing the potentiometric surface of each aquifer and the directions of groundwater flow. Maps shall include the outline of each active and closed sub-cell on DRPI property. This information shall be submitted as part of the annual report requirements for DRPI.
- 3. Groundwater monitoring
 - a. Frequency
 - (1) Semi-Annually, during April and October, DRPI shall collect groundwater samples from shallow zone monitoring wells C4-N1S, C5-N1S, C5-W1S(R), C5-W2(S), MW-101(S), C4-E1S(R), for laboratory analysis. The resulting data shall be reported to the Department within 60 days of the sampling date.

- (2) Annually, during April, DRPI shall collect groundwater samples from deep zone monitoring wells MW-4D(R), MW-7D, MW-9D, MW-101D, and DMW-2, MW-102S, MW-1S and DMW-1 in addition to the wells noted in Condition 3.a.(1) above for laboratory analysis. The resulting data shall be reported to the Department within 60 days of the sampling date.
- b. Analytical requirements
 - (1) DRPI Shall measure for the following field parameters in all groundwater samples at the time of collection:

Specific Conductance	Temperature	рН
Dissolved Oxygen	REDOX	Turbidity

(2) All groundwater samples shall be laboratory analyzed for the following parameters:

Sodium	Calcium
Chloride	Sulfate
Alkalinity	Chemical Oxygen Demand
Specific Conductance	Total Dissolved Solids
Nitrate-Nitrogen	Dissolved Iron
Barium	Lead
Vanadium	
	Chloride Alkalinity Specific Conductance Nitrate-Nitrogen Barium

- (3) All samples shall be collected in a manner that minimizes sample turbidity. Any sample collected to be analyzed for metals with turbidity of greater than 10NTU shall be field filtered.
- C. Groundwater control system management and performance monitoring
 - 1. Groundwater control system management
 - a. Weekly inspection shall be conducted and documented by DRPI to verify proper functioning of all groundwater control system components.
 - b. The system shall be cleaned and maintained in accordance with the Operations Plan or more frequently if required to maintain proper functioning.
 - c. The system shall be designed and operated to maintain a five-foot separation distance between the liner and the groundwater table.
 - 2. Groundwater control system performance monitoring
 - a. The groundwater control system shall be capable of measuring the rate and quantity of flow from each cell on a daily basis, and shall be capable of sampling the water collected.
 - b. The performance standard of the groundwater control system shall be that the

groundwater elevation is maintained at least five feet below the liner.

- c. Groundwater control system monitoring shall be done in accordance with the approved *Updated Groundwater*, *Surface Water*, *and Leachate Monitoring and Reporting Program Plan (June 2009)*.
- d. DRPI shall measure and record the depth of water and the quantity of water pumped from each groundwater control system sump where a pump is installed each operating day.
- e. Semi-annually, in April and October, DRPI shall measure the water level in every groundwater sump.
- f. Semi-annually, in April and October, DRPI or DRPI's contractor shall collect a water sample from the groundwater control system for Cell 4A, Cell 5A and Cell 6 Groundwater Control Drain. The resulting data shall be reported to the Department within 60 days of the sampling date.
- g. DRPI or DRPI's contractor shall collect water samples from each of the cell sumps listed above. At the time of the collection, DRPI shall measure the following field parameters of the samples:

Specific Conductance	Temperature	рН
Dissolved Oxygen	REDOX	Turbidity

Additionally, DRPI or DRPI's contractor shall analyze these samples in the laboratory for the following parameters:

Magnesium	Sodium	Calcium
Potassium	Chloride	Sulfate
pH	Alkalinity	Chemical Oxygen Demand
Total Organic Carbon	Specific Conductance	Total Dissolved Solids
Ammonia-Nitrogen	Nitrate-Nitrogen	Dissolved Iron
Dissolved Manganese	Barium	Lead
Arsenic	Vanadium	

- D. Leachate collection, treatment, disposal & monitoring
 - 1. Operational procedure
 - a. DRPI shall operate and maintain the leachate collection, transmission, and storage system, including all alarm systems in accordance with this permit and the operating and maintenance plan approved by the Department. DRPI shall clean-up all leachate spills immediately or within a time frame approved by the Department, on a case-by-case basis.
 - b. The leachate pretreatment facility shall be operated and maintained in accordance with the Department approved operations and maintenance manual.
 - c. Daily (each operating day) inspections shall be conducted and documented by DRPI to verify proper functioning of the leachate collection system, leachate force main, and leachate pretreatment facility components. To ensure proper functioning, the pumps shall also be inspected every operating day. The results of the inspection

shall be recorded in the facility log and shall be submitted with the semi-annual monitoring report.

- d. The system shall be cleaned and maintained in accordance with the Operations Plan approved by the Department or more frequently if required to maintain proper functioning.
- e. The system shall be designed, operated, and maintained so that there is no more than one foot of head on the liner outside of the sump.
- f. DRPI shall prevent leachate seeps from side slopes.
- g. DRPI shall maintain all necessary permits and approvals for leachate management. Disposal must be done in a manner which does not cause adverse environmental impact.
- 2. Leachate monitoring
 - a. The leachate monitoring system shall be capable of measuring the rate and quantity of leachate flow through each leachate pump, and shall be capable of sampling the leachate at each leachate riser vault.
 - b. Leachate monitoring shall be done in accordance with the approved *Updated Groundwater*, *Surface Water*, *and Leachate Monitoring and Reporting Program Plan* (*June 2009*).
 - c. DRPI shall measure and record the depth of leachate and the quantity of leachate pumped from each leachate sump each operating day.
 - d. Semiannually, in April and October, DRPI shall measure and record the leachate level in every leachate collection system sump.
 - e. Semi-annually, in April and October, a leachate sample shall be collected from cells 3, 4A, 5A, and 6-1A. The data shall be submitted to the Department within 60 days of the sampling date. DRPI or DRPI's contractor shall collect leachate samples from each of the cells listed above. At the time of the collection, the DRPI shall measure the following field parameters of the samples:

Specific Conductance	Temperature	pН
Dissolved Oxygen	REDOX	Turbidity

Additionally, DRPI or DRPI's contractor shall analyze these samples in the laboratory for the following parameters:

рН	Alkalinity	Chemical Oxygen Demand
Total Organic Carbon	Specific Conductance	Total Dissolved Solids
Lead	Magnesium	Sodium
Calcium	Potassium	Chloride
Sulfate	Ammonia-Nitrogen	Nitrate-Nitrogen
Dissolved Iron	Dissolved Manganese	Barium
Arsenic	Vanadium	

- 3. Spill contingency
 - a. DRPI shall immediately notify the Department regarding any incident of a leachate spill and the action taken to mitigate any impact and remediate any contamination caused by the spill.
 - b. DRPI shall monitor all leachate collection system flowmeters, pumps, controls, recording devices and storage tanks each operating day to ensure proper functioning and to record flows. DRPI shall inspect for leakage from valves, flowmeters, connections at riser locations, and storage tanks each operating day. The results of the monitoring and inspections shall be recorded and made available to the Department within a reasonable time upon request.
- 4. Cleaning and assessment of the system: DRPI shall ensure that collection pipes are cleaned annually with a self-propelled, high pressure jetting system. DRPI shall be responsible for the identification, assessment, and reporting of all blockages encountered as well as identification of any areas found to be inaccessible during the cleanings.
- 5. Safety. On-site personnel shall not enter any confined space without taking the appropriate confined space entry precautions.

V. ANALYTICAL METHODS

A. Test methods

Test methods used for groundwater, surface water, leak detection system, and leachate samples shall be those described in the most current legal edition of EPA Publication Number SW-846. If SW-846 does not contain a test method for a required parameter, that parameter shall be tested according to methods described in the most recent edition of the EPA Publication "Methods of Chemical Analysis for Water and Wastes" or of <u>Standard Methods for Examination of Water and Wastewater</u>. All samples shall be taken using quality assurance and quality control procedures that ensure samples are representative of actual field conditions.

VI. GAS CONTROL

- A. The control and management of landfill gas must be in conformance with Delaware's *Regulations Governing the Control of Air Pollution* as well as DRGSW. The operation, maintenance, and monitoring of the gas extraction and flare systems shall be done in accordance with the current permit(s) issued pursuant to Delaware's *Regulations Governing the Control of Air Pollution*.
- B. The DRPI shall operate and maintain the gas extraction system and flares to control odors. Malodorous gaseous emissions from the landfill shall be controlled to the extent that there is no perceivable landfill odor beyond the property boundary. DRPI shall maintain a permit

for the operation of the extraction system and flares in accordance with Delaware's *Regulations Governing the Control of Air Pollution* and DRGSW.

- C. Landfill gas migration
 - 1. Semi-annually, during April and October, DRPI shall monitor for gas (percent LEL) outside the perimeters of the waste, along the site boundary, as well as in all on-site structures that are routinely occupied. Sampling shall be conducted in accordance with the Department approved Operations Plan. The concentration of landfill gas in facility structures (except gas recovery systems) and at the facility boundary shall not exceed 25% of the Lower Explosive Limit (LEL).
 - 2. Semi-annually, during April and October, DRPI shall test each gas probe for the presence of groundwater. If groundwater is encountered then the water elevation in that probe shall be measured and recorded.
- D. Landfill gas odor control system. The landfill gas control system shall be monitored in accordance with the Department approved Operations Plan, the DRPI LFG Odor Control System (appendix V-D of the application), and the current permit issued by the Department's Division of Air Quality. Monitoring of the system shall include the following:
 - 1. Monthly monitoring of the extraction system. Monitoring parameters shall include:
 - a. Gas composition, including methane, carbon dioxide, oxygen, and balance gas.
 - b. Pressure (vacuum).
 - c. Gas flow.
 - d. Gas temperature.
 - e. Liquid levels in the condensate handling system.
 - 2. Weekly monitoring of the blower/flare system. Monitoring parameters shall include:
 - a. Gas composition, including methane, carbon dioxide, oxygen, and balance gas.
 - b. Inlet pressure.
 - c. Outlet pressure.
 - d. Gas flow.
 - e. Flare temperature.
 - f. Pressure drops across water knockouts and flame arresters.
 - g. Liquid level in condensate knockout.
 - 3. Accelerated monitoring, in accordance with the Operations Plan, shall be implemented if significant odors are noted or if conditions require significant changes or repairs to the extraction system or blower/flare system.

VII. REPORTING

- A. Financial assurance.
 - 1. No later than February 28th of each year, DRPI must demonstrate adequate financial assurance for closure and post-closure care of the landfill in accordance with the requirements of DRGSW.
 - 2. DRPI shall submit with a proof of financial assurance, an updated and accurate cost estimate adjusted for inflation, facility expansions, and any other applicable requirements which impact the cost of closure and post-closure care.
 - 3. Financial Assurance Mechanism: DRPI shall maintain a financial assurance mechanism for closure and post-closure care and for corrective action, if required, in accordance with DRGSW. The Department may draw upon DRPI financial assurance funds to effect closure in accordance with DRGSW. In the event that DRPI transfers ownership of the facility and, prior to the transfer, the new owner does not establish an approved, valid financial assurance mechanism for closure and post-closure care of the facility, the Department may draw upon the DRPI financial assurance funds to affect closure and post-closure care of the landfill.
 - 4. DRPI shall provide the Financial Assurance document in two paper copies plus one copy by way of electronic media acceptable to both DRPI and the Department. The electronic copy shall be provided as a single electronic document such as a Portable Document Format (.pdf) file.
- B. Annual reporting. Annually, no later than February 28th, DRPI shall submit to the DNREC, an Annual DRPI Operations Report summarizing facility operations for the preceding calendar year. DRPI shall provide the Annual DRPI Operations Report in two paper copies plus one copy by way of electronic media acceptable to both DRPI and the Department. The electronic copy shall be provided as a single electronic document such as a Portable Document Format (.pdf) file. The report shall describe and summarize all solid waste disposal, environmental monitoring, and construction activities conducted for that period (DRGSW, section 6.9.4.). The report shall include:
 - 1. The weight and types of wastes landfilled. Industrial wastes shall be reported by type, approval number, generator, and weight.
 - 2. The weight of materials recovered and/or salvaged for reuse/recycling.
 - 3. The estimated remaining landfill capacity.
 - 4. An updated estimate of closure and post-closure care costs for the facility.
 - 5. Verification that the mechanism used for financial assurance is still valid (in accordance with section VII of this permit).
 - 6. Any intentional or accidental deviations from the approved Operations Plan or this permit.
 - 7. All construction or corrective work conducted on the site in accordance with approved plans or to achieve compliance with these regulations.
 - 8. A list of all haulers and generators that had been suspended from DRPI during the calendar

year, to include the dates and category of violations.

- 9. A list of haulers and generators that had received any rejections for transporting small amounts of asbestos or other unacceptable wastes and the dates of those rejections.
- 10. A narrative of DRPI's outreach efforts to notify customers of acceptable wastes and prohibited wastes at the facility. Written documents including letters and handouts used to provide this notification to customers shall be included.
- 11. A combined groundwater monitoring, gas monitoring, groundwater control system performance monitoring, and leachate collection system monitoring report signed by a Professional Geologist registered in Delaware. This report shall include at least the following information:
 - a. Tabulation of all data listed below from the past and all preceding years since the issuance of this permit. All data should be submitted on machine readable media in a format acceptable to the Department. Data for at least the last three years shall also be submitted on paper (unless otherwise noted below). Data submitted shall include:
 - (1) Leachate volumes collected and liquid levels each week from each operating sump (machine readable media only).
 - (2) Monthly totals for leachate volumes from each cell (i.e. Cells, 3, 4, 5, and 6).
 - (3) Leachate analytical results including field parameters.
 - (4) Groundwater control volumes collected and liquid levels each week from each operating sump as well as all other groundwater control system liquid measurements made during the past year (machine readable media only).
 - (5) Monthly totals for groundwater control system volumes from each system.
 - (6) Groundwater control system liquid analytical results including field parameters.
 - (7) Groundwater elevation and quality data including field parameters.
 - (8) Monthly rainfall totals.
 - (9) Monitoring data from landfill gas odor control system.
 - (10) Monitoring data from landfill gas migration monitoring.
 - b. Graphical presentations (quality versus time plots) of leachate, groundwater, and groundwater control system quality parameters pH, TDS, COD, TOC, chloride, sulfate, ammonia-nitrogen, and iron.
 - c. Graphical presentations (volume versus time plots) of total monthly flow from each sump of the leachate collection system and the groundwater control system. Rainfall data shall also be plotted on each graph.
 - d. Potentiometric maps for each aquifer for each groundwater monitoring event for the past year as per Section IV.B.2. of this permit.
 - e. A discussion of landfilling activities during the past year relevant to operation of the groundwater control system, the leachate collection system and the gas collection system, including at least the following information:
 - (1) Extent of the groundwater control system at the start of the previous year and a description and the date of any additions to the system and a description and the date of any significant maintenance or cleaning of the system during the

previous year.

- (2) Extent of the leachate collection system at the start of the previous year and a description and the date of any additions to the system and a description and the date of any significant maintenance or cleaning of the system during the previous year.
- (3) Extent of final cover at the start of the previous year and a description and the date of any additions during the previous year, and a description and the date of any significant maintenance or repairs conducted during the previous year.
- (4) Extent of the gas collection system at the start of the previous year and a description and the date of any additions to the system during the previous year, and a description and the date of any significant maintenance or repairs conducted during the previous year.
- (5) The active sub-cell at the start of the previous year and the date on which landfilling began in any additional sub-cells.
- (6) A description of any major construction activities during the previous year that could have potentially affected groundwater levels such as construction of a new sub-cell.
- f. A discussion of the groundwater monitoring results, including whether the results indicate a contaminant release from the landfill to groundwater or surface water.
- g. A discussion of the groundwater control system performance results, including whether the results indicate that the system is maintaining the water table five feet below the base of the liner and whether the results indicate that the liner is performing within design specifications.
- h. A discussion of the leachate collection system results, including whether the results indicate that the system is performing within design specifications.
- i. A discussion of the landfill gas odor control system (i.e. extraction system, flares, and blower) monitoring results including DRPI's appraisal of whether or not the system is performing within design specifications.
- j. A discussion of the landfill gas monitoring results (for migration).
- k. A discussion of sampling and laboratory QA/QC results.
- 1. Recommendations for future monitoring and for maintenance or modifications needed in the monitor wells, groundwater control collection system, gas collection system and/or the leachate collection system as necessary.
- C. Additional reports
 - 1. The results of weekly monitoring of the blower/flare system as well as monthly monitoring of the extraction system (wellfield) shall be submitted to the Department semi-annually.
 - 2. DRPI shall inform the Department in writing if it is unable to comply with any of the monitoring or reporting requirements.
 - 3. Upon discovery, DRPI shall report to the Department any intentional or accidental deviation from any approved plan.
 - 4. DRPI shall provide copies of each rejection notice to the Department as well as any notification of suspension issued to a generator or hauler.

- 5. Semi-Annual DRPI Environmental Monitoring Report for groundwater, groundwater control system performance monitoring, leachate monitoring, and landfill gas migration monitoring done in accordance with the requirements of Section IV of this permit shall be submitted to DNREC. DRPI shall provide the Semi-Annual DRPI Environmental Monitoring Report in two paper copies plus one copy by way of electronic media acceptable to both DRPI and the Department. The electronic copy shall be provided as a single electronic document such as a Portable Document Format (.pdf) file. The data and image files shall be provided in a format acceptable to the Department.
- D. Emergency reporting
 - 1. DRPI shall immediately notify the Department in the event of any of the following occurrences. Written notification (to include narrative, response and follow-up required) shall be submitted to the Department within 5 business days.
 - a. A leachate spill exceeding 10 gallons.
 - b. A fire or explosion involving the landfill or its control systems.
 - c. Loads containing excessive amounts of category II asbestos (more than the NESHAP threshold limit of one cubic yard).
 - d. Loads containing regulated hazardous waste, infectious waste, radioactive waste, or electrical transformers.
 - e. Gas levels of 25% LEL or greater detected at the facility boundary or within any structure which is routinely occupied.
 - f. Any violation of the Wastewater Discharge Permit issued by New Castle County.
 - g. Any violation of the permit issued pursuant to the *Regulations Governing the Control* of Air Pollution.
 - h. Damage to the landfill liner system.
 - 2. If any event listed in Section VII.D.1 of this permit occurs during business hours, DRPI should report to the Department's Solid and Hazardous Management Section by telephone to 302-739-9403. At all other times report is to be made to the Department's TOLL-FREE 24-HOUR LINE 1-800-662-8802.
 - 3. The DRPI shall submit a written notification to the Department no later than: (i) five business days following any event requiring "Emergency Reporting"; or (ii) on a date mutually agreed upon between DNREC and DRPI at the time of the event. The notification shall include the following:
 - a. Date and time of occurrence/discovery.
 - b. Date and time of reporting.
 - c. Agencies notified.
 - d. Materials and quantities involved.
 - e. Narrative describing how the incident occurred and the actions taken by DRPI and other response personnel.
 - f. Report of injuries/damage.
 - g. Proposal for follow-up or remedial actions required and schedule.

- E. Assessment of corrective measures
 - 1. DRPI shall notify DNREC within seven (7) days after verified analytical data has confirmed that a release has taken place. Confirmation samples shall be collected from the appropriate monitoring points within 14 days of receipt of written approval by the Department. These samples shall be analyzed under a priority schedule for the indicator parameters and any other parameters deemed appropriate by DRPI and DNREC. DRPI shall notify DNREC of the results of the confirmation sampling within seven (7) days of receipt of the results.
 - 2. If confirmation sampling does not indicate that a release has taken place, another round of sampling shall take place to determine whether the results of the analysis from the first or second sampling events were anomalous. This re-sampling sampling event shall take place within two (2) weeks of DRPI sending written notification to the Department of their intent to re-sample. The samples shall be analyzed under a priority schedule. DRPI shall notify DNREC of the results of the re-sampling within seven (7) days of receipt of the results.
 - 3. If the re-sampling indicates that no release has taken place, no further action shall be taken by the Department, and monitoring of the sampling location(s) shall be returned to a normal monitoring schedule. If the confirmation or re-sampling round of sampling does indicate that a release has taken place, DRPI shall perform an assessment of corrective measures within ninety (90) days of confirmation of the release. This assessment shall include:
 - a. Identification of the nature and extent of the release (which may require construction and sampling of additional wells, geophysical surveys or other measures).
 - b. Re-assessment of contaminant fate and potential contaminant receptors (wells and/or receiving streams).
 - c. Evaluation of feasible corrective measures to:
 - (1) Prevent exposure to potentially harmful levels of contaminants (exceeding performance standards).
 - (2) Reduce, minimize or prevent further contaminant releases.
 - (3) Reduce, minimize or prevent the off-site migration of contaminants.

VIII. RECORDKEEPING

- A. Recordkeeping
 - 1. Records concerning design and construction of the landfill and its components; monitoring, testing, or analytical data specified by the Department; as well as weight of wastes received shall be maintained by DRPI until the end of the post-closure period (DRGSW, section 6.9.3).
 - 2. Records of all rejections, including copies of rejection notices, shall be maintained by DRPI for a minimum of three years.
 - 3. Copies of field notes for each sample analyzed as well as laboratory data sheets for each sample analyzed shall be kept on file by DRPI and shall be available for inspection by

representatives of the Department, with reasonable notice.

4. DRPI shall maintain copies of all inspections required by the Operations Plan and this permit and those documents shall be available for review by the Department.

IX. LANDFILL CAPPING SYSTEM

- A. Capping requirements
 - 1. Upon closure of the landfill or landfill cell, a capping system shall be installed that will control emissions of gas, promote vegetative cover, and minimize infiltration and percolation of water into, and prevent erosion of, the waste through-out the post-closure care period.
 - 2. The capping system shall be designed in accordance with Section 6.8 of DRGSW and shall consist of at least the following components.
 - a. A final grading layer on the waste, consisting of at least six inches of soil, to attain the final slope and provide a stable base for subsequent system components. Operational and intermediate cover material may be used for this purpose.
 - b. An impermeable layer, consisting of at least:
 - (1) a 30 mil geomembrane underlain by an optional geotextile, or
 - (2) 24 inches of clay with a hydraulic conductivity of $1 \ge 10^{-7}$ cm/sec or thickness of equivalent material having hydraulic conductivity less than $1 \ge 10^{-7}$ cm/sec, such thickness shall be determined based on the hydraulic conductivity of 24 inches of clay with a hydraulic conductivity of $1 \ge 10^{-7}$ cm/sec.

An alternative may be used for the impermeable layer with prior approval of the Department.

- c. A final cover consisting of:
 - (1) Eighteen (18) inches of soil to provide rooting depth and moisture for plant growth, and
 - (2) Six (6) inches of topsoil or other material approved by the Department to support the proposed vegetation; or
 - (3) A suitable layer of alternative material to assure adequate rooting depth and moisture retention to support the proposed vegetation.
- 3. The capping system shall be in place 180 days following final waste disposal activity.
- 4. The capping system shall extend beyond the edge of the lined area.
- B. Final slopes.
 - 1. The grades of the final slope shall be constructed in accordance with the following minimum standards:

- a. The final grades of the top slope, after allowing for settlement and subsidence, shall be designed to promote run-off.
- b. The final grades of the side slopes shall be a maximum three horizontal to one vertical (3H: 1V).
- 2. The top and side slopes shall be maintained to prevent erosion of the capping system, and to ensure complete vegetative cover.

X. CLOSURE AND POST-CLOSURE CARE

- A. Sub-cells shall be developed in sequence as described in the phasing development drawings of the application.
- B. DRPI shall notify the Department at least 30 days prior to the date on which each sub-cell receives its last load of waste.
- C. DRPI shall notify the Department at least 30 days prior to commencing closure activities.
- D. Long-term intermediate cover (cover exposed for greater than 30 days) used on the sub-cells prior to final capping shall be stabilized with vegetation or other erosion control material approved by the Department.
- E. All components of the cap, including the gas control system shall be constructed in accordance with the CQA, closure plan, and closure schedule approved by the Department. Final certification documentation shall be completed by a third party CQA Consultant and submitted for Department review within 60 days after the capping has been completed.
- F. The capping system shall be in place no later than 180 days following final waste disposal activity.
- G. Post-closure care shall be in accordance with DRGSW. Post-closure care shall be in accordance with the post-closure care permit and the approved post-closure care plan approved by the Department.
- H. Post-closure land use. The DRPI shall implement the post-closure land use identified in Volume 2, Part XI of the permit application, only after the Department has approved all final plans for compatibility with landfill system components and cap system integrity prior to construction.
- I. Notice in deed to the property. DRPI shall record a notation on either the deed to the facility property or some other instrument that is normally examined during the title search, that will in perpetuity notify any potential purchaser of the property that the land has been used as a solid waste disposal site, and the use of the land is restricted under DRGSW.

Permit Modification Synopsis:

April 26, 2005: Permit SW-05/01 was issued.

October 31, 2006: The permit was modified to require DRPI to suspend any transporter which accumulates 7 rejections for asbestos in one month and any generator which accumulates 2 rejections for asbestos in one week. The modification also included a change in an annual reporting requirement, so that DRPI shall report a list of any haulers and generators that had received any rejections for asbestos during the past year. The modification was considered minor in accordance with Section 4.1.7 of DRGSW.

August 30, 2007: Section II.A.2 of the permit was modified to include a provision to approve of a plan to construct a groundwater interceptor trench and barrier wall in the vicinity of the DRPI landfill. The installation of the groundwater management system is to control groundwater mainly around the Cell 6 area. The modification was considered minor in accordance with Section 4.1.7 of the DRGSW.

October 20, 2009: Environmental monitoring requirements in Section IV of the permit were modified to reflect changes in the facility's *Updated Groundwater, Surface Water, and Leachate Monitoring and Reporting Program Plan* corresponding to the new cell construction. The modification included addition of some extra monitoring parameters to the requirements as DRPI was approved to accept petroleum coke gasifier slag from the Delaware City Refinery. The modification also included correction of the old numbering of DRGSW Conditions cited in the permit to address the new numbering system of DRGSW.

February 18, 2011: Section VII.A of the permit was modified to address changes in the financial assurance requirements. The modification also included the permittee's address change, and was considered minor in accordance with Section 4.1.7 of the DRGSW.

April 24, 2015: A Permit Extension until November 25, 2015, was granted in accordance with Section 4.1.6 of the DRGSW, to allow sufficient time for the review and public comment period. This permit extension is considered a minor modification.

November 23, 2015: A Permit Extension until December 31, 2015, was granted in accordance with Section 4.1.6 of the DRGSW, to allow sufficient time for the review and public comment period. This permit extension is considered a minor modification.

December 30, 2015: the DRPI Permit SW-05/01 was renewed as SW-15/02, which included modifications to the Operation & Maintenance Plan (dated April 2015) (O&M Plan). The changes to the O&M Plan relate to the reduction of the landfill's overall footprint to Cell 6-2, which provides space for the construction of a park for the surrounding Minquadale community as well as buffering the adjacent neighborhood from landfill operations. Also, the O&M Plan includes modifications to the grading of the Cells 1 through 3 overlay liner area to address existing conditions and constructability concerns of the facility, as well as updates to the facility management structure, issues related to salvaging, new scrap tire requirements, and requested updates by DNREC. The Permit Renewal includes new language pertaining to mitigating fugitive

dust emissions, particularly on Marsh Lane adjacent to the NCC Public Safety Building and along the commercial/industrial properties which in turn are adjacent to the West Minquadale community. Also, additional attention to addressing litter and odor problems in the area surrounding the DRPI landfill has been initiated by increased focus of the On-Site DNREC Compliance Officer and the Environmental Crimes Unit (ECU). There are no changes to the final maximum landfill elevation, the groundwater control plan, or the overall facility airspace.

July 1, 2019: the DRPI permit SW-15/02 was renewed as SW-19/02, which included modifications of the final maximum landfill elevation from 130 feet MSL to 190 MSL. The Operations and Maintenance Plan and the Engineering Report were updated as part of the vertical expansion of the landfill. Operational cover placement frequency was increased from once every two weeks to once a week. Sampling procedures for leachate seeps were added to the surface water management and monitoring section.

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