



SOLID WASTE MANAGEMENT FACILITY STANDARD PERMIT

Issued by the NH Department of Environmental Services, Waste Management Division (Department)
pursuant to RSA 149-M

I. PERMIT/FACILITY IDENTIFICATION:

Permit No.: DES-SW-SP-15-002
Permittee: Town of Hillsborough, NH
Facility Name: Hillsborough Municipal Landfill
Facility Location: 45 Municipal Drive, Hillsborough, NH
Facility Type: Unlined Landfill
Service Type: Limited Public

II. FILE REFERENCE/RECORD OF APPLICATION:

Date(s) Received: March 10, 2015 and April 13, 2015
WMD Document Log #(s): 16018 and 16152

III. TERMS AND CONDITIONS: See pages 2-4, attached.

IV. AUTHORIZATION: Pursuant to RSA Chapter 149-M:9, this permit is hereby issued to the permittee identified in Section I above for administrative purposes described in Section III, item 1, Purpose and Scope, attached. This authorization is based, in part, on information and representations provided to the Department by the permittee, in documents referenced in Section II above. If the information is false, misleading or incomplete, the permit may be revoked or suspended in accordance with Part Env-Sw 306 of the Rules.

BY EXERCISING ANY RIGHTS UNDER THIS PERMIT, THE PERMITTEE HAS AGREED TO ALL TERMS AND CONDITIONS OF THE PERMIT. Failure to comply with these terms and conditions could result in civil or criminal penalties, suspension or revocation of the permit. No liability is incurred by the State of New Hampshire by reason of any approval of this solid waste facility. Approval by the Department is based on plans and specifications supplied by the permittee. No warranty/guarantee is intended or implied by reason of any advice given by the Department or its staff.

This permit shall not eliminate the permittee's obligation to obtain all requisite federal, state or local permits, licenses or approvals, or to comply with all other applicable federal, state, district and local permits, ordinances, laws, approvals or conditions relating to the facility.


Michael J. Wimsatt, P.G., Director
Waste Management Division

July 22, 2015
Date



Section III: Terms and Conditions

1. **Purpose and Scope**: The purpose of this permit is to:
 - a. Replace Administrative Order #00-17 (AO #00-17) issued by the Department on July 11, 2000 to establish the provisions for closure and post-closure care of the Hillsborough Municipal Landfill pursuant to RSA 149-M and the NH Solid Waste Rules (Rules), thereby allowing AO #00-17 to be terminated and this permit to better serve as the regulatory mechanism for administering those provisions;
 - b. Consolidate into one document all provisions of AO#00-17; the Landfill Closure Plan Approval issued pursuant to the order on August 12, 2002; and Post-Closure requirements specified in letters dated May 31, 2010, July 14, 2010, April 18, 2011, June 12, 2012 and April 8, 2013.
 - c. Authorize the installation of a solar array on the landfill cap, pursuant to the application referenced in Section II on page one of this permit; and
 - d. Address closure and post-closure requirements only. Nothing in this permit authorizes operation of the landfill or any increase in landfill footprint or placement of waste into areas that do not currently contain waste.
2. **Citations and Definitions**: This permit has been prepared on the basis of the New Hampshire Solid Waste Rules (Rules), Env-Sw 100-2000, effective July 1, 2014.
3. **Regulatory Requirements**: The permittee shall comply with the requirements of RSA 149-M, the Rules, and the terms and conditions of this permit, as may be amended or modified from time to time.
4. **Closure Requirements**: This facility is subject to closure in accordance with the following provisions:
 - a. RSA 149-M;
 - b. The Rules;
 - c. The terms and conditions of this permit; and
 - d. The Approved Closure Plan of Record, which on the date of this permit is the closure plan approved by the Department on August 12, 2002 (ref. WMD Document Log #200200174) with the modifications proposed in the application for solar array approval cited in Section II on page one of this permit and the requirements in (i) – (vi) below, which the permittee shall consolidate into one document to be submitted to the Department as specified in condition 6. below.
 - (i) The permittee shall conduct semi-annual cap inspections and document the findings as part of its annual facility report.
 - (ii) Gas monitoring at the six (6) existing gas monitoring wells shall be conducted on a semi-annual basis in April and November for methane, carbon dioxide, and oxygen. Monitoring of the ambient air on the landfill's south side near GMW-2 shall be conducted. Additionally, buildings on site shall be monitored for landfill gas. The gas monitoring data shall be reported annually.
 - (iii) Settlement monitoring of the landfill to monitor differential settlement of the cap shall be conducted on an annual basis.
 - (iv) Groundwater and surface water monitoring shall be in accordance with the most current



Groundwater Management Permit approved by the Department of Environmental Services.

(v) General Maintenance and Erosion Control:

- The permittee will maintain drainage facilities, detention basins, ponds, swales, ditches and other erosion/sedimentation controls. The integrity of the final capping system shall be maintained by detecting and preventing any adverse impacts.
- Damage to the cap and gas vents shall be repaired immediately by a qualified technician.
- Damage to access roads shall be repaired by the permittee.
- Immediately upon detection of a failure of the capping system that may result in a release of pollutants to the environment, the permittee shall notify the department, repair the capping system and replace vegetation as necessary to maintain the integrity of the landfill surfaces.
- All drainage swales shall be adequately maintained to prevent excess vegetation growth or erosion in order to control excess water due to precipitation.

(vi) Additional Requirements Pertaining to Solar Array:

- The permittee shall perform bi-annual inspections of the cap area beneath and within the vicinity of the solar array for signs of irregular settlement.
- The permittee shall ensure that biannual mowing and maintenance of the vegetated area surrounding and in the vicinity of the solar array system is performed. These activities shall be completed in a manner to support a healthy and erosion resistant vegetated surface.
- The permittee shall ensure snow removal around the perimeter of the panels to allow shedding of snow from the panels and to prevent snow drifting and piling over panels is performed.
- At the end of the contract between the permittee and the solar array project developer, the permittee shall ensure that all equipment and ballast blocks (including crushed gravel) are removed and that the landfill cap is restored to its original condition.

5. Solar Array Approval: The permittee is hereby authorized to construct the solar array as proposed in the application referenced in Section II on page one, subject to the following:

- a. The permittee shall comply with the construction requirements in Env-Sw 1104, including but not limited to filing a Notice of Intent to Construct per Env-Sw 1104.02 and satisfying the reporting requirements in Env-Sw 1104.07.
- b. Pursuant to Env-Sw 1104.06, a qualified professional engineer knowledgeable in landfill design and construction (the "Engineer") shall supervise the overall construction of the solar array. The Engineer shall be present at the site at all times during the removal of the 9-inch vegetative layer



- and replacement with a layer of non-woven geotextile overlain with 15-inches of compacted crushed gravel, placement of ballast block; rack/panel construction; and when construction equipment (including small, off-road vehicles) is operating on the landfill.
- c. Prior to construction, all gas vents, landfill gas monitoring wells, groundwater monitoring wells, and other above-ground structures and appurtenances in the vicinity of the solar array will be flagged and protected from equipment and construction activities.
 - d. All equipment and solar arrays shall be stored and staged off the landfill cap area and transported using the gravel road as needed. Temporary storage of equipment and solar array parts will be limited to the gravel road.
 - e. Temporary erosion controls (e.g., compost wattles) shall be used to minimize erosion and sedimentation of disturbed areas. All disturbed vegetated areas will be temporarily stabilized using erosion matting or similar temporary stabilization products. All disturbed areas shall be restored following the completion of construction activities.
 - f. To protect against construction impacts to the cap, low ground pressure equipment shall be used to transport the solar array system parts on the cap surface. The equipment shall use the existing gravel road for the majority of travel and enter the vegetated cap area at points closest and perpendicular to the gravel road to limit travel on the vegetated surface. Turning of equipment shall be limited and shall be performed in large sweeping arcs to limit impacts to the vegetated surface and capping system layers. If necessary, temporary gravel roads shall be constructed on vegetated surfaces to support equipment and then removed and the vegetated surface restored after use.
 - g. Any damage to the cap or wear of the vegetative layer that occurs during construction shall be promptly repaired.
 - h. Removal of the 9-inch vegetated layer shall be performed with a low ground pressure mini-excavator using an experienced operator. The operator shall be assisted, as necessary, by a laborer(s) to limit disturbance of the underlying 12-inch drainage layer, panel pipe and flexible membrane liner.
 - i. The permittee shall ensure that all necessary precautions are taken to protect the health and safety of workers and the general public during both construction and maintenance of the solar array. A copy of the site-specific Health & Safety Plan for the construction and maintenance of the solar array shall be submitted to the Department prior to beginning of any construction work and shall include protocols for monitoring of landfill gas as needed and for modifying work practices if landfill gas is detected at levels deemed unsuitable.
6. No later than September 1, 2015, the permittee shall submit to the Department in .pdf format a single document that is the Approved Closure Plan of Record as described in condition 4.d. above, with a signed statement certifying it is a true and accurate copy.