



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

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December 1, 2020

Kearsarge Haverhill, LLC
1200 Soldiers Field Road, Suite 202
Boston, MA 02134
Attention: Andrew Bernstein, Managing Partner

City of Haverhill
Department of Public Works
500 Primrose Street
Haverhill, MA 01830
Attention: Michael Stankovich, Director of Public Works

RE: HAVERHILL – Solid Waste Management
Haverhill Landfill
Old Groveland Road
FMF# 39347

BWP SW45 / Any Facility-Alternative Review
Authorization Number: SW45-0000091

Solar Power Generating Facility - Modification
Ballast Blocks on Slopes Steeper Than 15%
Conditional Approval

Dear Mr. Bernstein and Mr. Stankovich:

The Massachusetts Department of Environmental Protection, Northeast Regional Office, Bureau of Air and Waste, Solid Waste Management Section (MassDEP) has reviewed your application, category BWP SW45 *Any Facility-Alternative Review*, Application Number: 20-SW45-0033-APP (the Application), for modification of the solar photovoltaic power generating facility (PV Facility) at the Haverhill Landfill (Southern Mound) located on Old Groveland Road in Haverhill, Massachusetts (the Landfill). The Application was prepared and submitted to MassDEP on behalf of the City of Haverhill (the City) and Kearsarge Haverhill, LLC of Boston,

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

TTY# MassRelay Service 1-800-439-2370

MassDEP Website: www.mass.gov/dep

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Massachusetts (Kearsarge or the Developer) by GZA Geo Environmental, Inc. of Providence, Rhode Island (GZA).

The Application proposes the modification of the ballast block foundation designs for blocks placed on landfill slopes steeper than 15 percent. The Application includes design details for the ballast block foundation and calculations supporting the design of the modifications. Kearsarge submitted supplemental information to support the Application dated November 20, 2020.

DISCUSSION

The Landfill is jointly owned by the City and Aggregate Industries-Northeast Region, Inc. (Aggregate). Capping of the Southern Mound of the Landfill was completed in 2013 and MassDEP issued approval of the closure certification report on April 15, 2015 (Transmittal Number: X62481). The cap includes a 40-mil thick very low-density polyethylene (VLDPE) flexible membrane liner (FML) as the impervious layer over waste. The design of the landfill cap provides 20 inches of soil cover over the FML (8-inch vegetative support layer and 12-inch drainage layer), and a 6-inch gas vent layer below the FML. The final cap has been constructed over the Southern Mound only. Additional remaining corrective actions are required at the Landfill, including final capping of both the Northern Mound and the Lot 26 Ash Area. The capping and closure of the Northern Mound and Lot 26 Ash Area will be the subject of separate MassDEP review and approval.

The City has entered into a ground lease agreement with Kearsarge for installation of the PV Facility.

Construction of the PV Facility has begun in accordance with the requirements contained in the Post Closure Use Permit, Conditional Approval, Authorization Number: SW36-0000020 issued by MassDEP on December 17, 2019 (2019 PCUP). The approved design allowed the placement of ballast blocks and solar panels on landfill slopes of less than 15 percent. During construction the Developer determined that the locations of twenty-two (22) ballast blocks were on slopes ranging from 15 to 37 percent. Kearsarge notified MassDEP of the potential design change and submitted the Application to address the design modification.

As described in the Application, slope stability analyses were divided into the following five categories depending on the magnitude of the slope gradients:

- Category 1- Slopes between 15% to 20% (1 ballast block);
- Category 2- Slopes between 21% to 25% (4 ballast blocks);
- Category 3- Slopes between 26% to 30% (10 ballast blocks);
- Category 4- Slopes between 31% to 33% (4 ballast blocks); and
- Category 5- Slopes greater than 34% (3 ballast blocks).

The slope stability calculations indicated that additional construction methods will be required to achieve a minimum factor of safety of 1.5 for each of the five categories. The Application proposes

installation of ballast blocks on landfill slopes up to and including 33 percent (Category 1 through Category 4), with certain modifications to the block foundations and landfill cover above the FML. Three ballast blocks associated with Category 5 will be eliminated from the design and will not be constructed. The Application includes construction details for block placement in the Category 1 through Category 4 areas.

DECISION

MassDEP has reviewed the Application pursuant to 310 CMR 19.000, the Massachusetts Solid Waste Regulations (the Solid Waste Regulations) and approves the Application subject to the Permittee's compliance with the conditions of this decision imposed by MassDEP pursuant to 310 CMR 19.043(1), *Items Subject to Conditions*.

The decision is issued by MassDEP pursuant to M.G.L. Chapter 111, § 150A and the implementing regulations thereunder at 310 CMR 19.000 the Solid Waste Regulations. This decision does not relieve the Permittee, or any other person, of the responsibility to comply with all other applicable federal, state and local statutes, regulations and requirements. Kearsarge and the City are hereafter collectively referred to as the Permittee.

CONDITIONS

1. The Permittee shall comply with this permit and the requirements of 310 CMR 19.000, including, but not limited to, the requirements established at 310 CMR 19.043(5) *Standard Conditions*.
2. Pursuant to 310 CMR 19.043(5)(a) *Duty to Comply*, this decision does not relieve the Permittee, or any other person, of the responsibility to comply with all other applicable federal and state laws and regulations including, but not limited to, acquiring applicable permits and approvals, including local permits.
3. The Permittee shall ensure persons conducting activities¹ at the PV Facility and Landfill are familiar with the applicable provisions of this permit and the approved plans, and that all work performed at the Landfill complies with 310 CMR 19.000 and the applicable requirements of this permit.
4. The Permittee shall maintain copies of this decision and permit, the Application, the health and safety plan, and documentation that site personnel have been trained pursuant to the health and safety plan at the site during construction of the PV Facility.

¹ Activities include, but are not limited to, the construction, installation, operation, and maintenance of the PV Facility and the Landfill.

5. Required Submittals:

- a. Construction Certification Report: As required by Condition 5.a of the 2019 PCUP, the Permittee shall submit to MassDEP a construction certification report for the PV Facility. The certification report shall include, but is not limited to:
 - i. An as-built site plan showing the constructed project and identifying the locations of all ballast blocks placed in Category 1 through Category 4 areas, prepared by a Massachusetts Registered Professional Engineer;
 - ii. A report, prepared by the Engineer of Record, that discusses, in part, the construction project and any modifications made to the approved project; and
 - iii. Certifications by the Permittee and the Engineer of Record pursuant to 310 CMR 19.011.
 - b. Third-Party Inspections: The Permittee is required to conduct third-party inspections and submit inspection reports to MassDEP pursuant to Condition 26 of the 2019 PCUP. Each inspection shall include a thorough evaluation of each ballast block location constructed in Category 1 through Category 4 areas, and each inspection report shall have a detailed discussion of each ballast block area constructed under this decision.
6. All construction work shall be completed and conducted under the supervision of an independent Massachusetts Registered Professional Engineer (Engineer of Record) who shall have sufficient qualified staff on-site to provide field supervision and quality assurance/quality control for all construction activities.
 7. The Permittee and the Engineer of Record are responsible to ensure that all necessary precautions are taken to protect the health and safety of workers and the general public during the construction and operation of the PV Facility and during its decommissioning.
 8. Vehicles operating on the Landfill cap shall only be operated and parked on designated access roads, except for low-pressure construction equipment, which may operate off the access roads. All operators of vehicles entering the capped area of the Landfill shall, prior to their arrival, be instructed by the Engineer of Record or his/her designee and/or contractor of the requirements of this decision and permit, to avoid damage to the Landfill cap and appurtenances thereto.
 9. Only low ground pressure construction equipment (with ground pressures of less than 7 PSI) may operate on the Landfill cap off of the access road, and only in accordance with the conditions of this decision. Prior to use of any specific equipment off the access road on the cap, the Engineer shall document that the equipment, fully loaded, will have a ground pressure of less than 7 PSI.
 10. All disturbance of the Landfill shall be limited to the proposed excavations and installations as depicted and described in the Application and this permit. All areas disturbed during construction shall be stabilized as soon as possible upon completion of construction work in this area. The Permittee and any contractors performing work at the

Landfill shall without delay notify the Engineer of Record or his/her on-site representative upon encountering or damaging the FML component of the landfill cap.

11. If the landfill cap is damaged, the Permittee shall notify MassDEP without delay and in no case later than the close of business of the next business day after it becomes aware of any incident or such damage. This notification requirement is in addition to any other notification requirements required by statute or regulation including, but not limited to, 310 CMR 19.000 and 310 CMR 40.0000.
12. The Permittee shall comply with the notifications described in this decision and 310 CMR 19.043(5)(i), *Duty to Inform*. These notifications are in addition to, and shall not substitute for, any other notification(s) which are required pursuant to 310 CMR 40.0000, the Massachusetts Contingency Plan (the MCP), and 310 CMR 30.000, the Massachusetts Hazardous Waste Regulations or any other applicable state, federal, or local law or regulation.
 - a. The Permittee shall notify MassDEP and the Haverhill BOH within twenty-four (24) hours whenever possible, but in no case greater than within forty-eight (48) hours of the Permittee, the Engineer of Record or contractor(s), becoming aware of:
 - i. The occurrence of any conditions or events that result in off-site nuisance conditions or a threat to the public health, safety, welfare or the environment;
 - ii. The details of any incidents that resulted in the response of emergency personnel (fire, police, MassDEP Emergency Response personnel, the Occupational Health and Safety Administration, etc.) to the Facility; and
 - iii. The receipt by the Permittee of any complaint of off-site nuisance conditions attributed to the PV Facility construction.
 - b. This written notification shall be made by email to the Solid Waste Section Chief in the MassDEP's Northeast Regional Office:

Mark Fairbrother, Solid Waste Section Chief
Email: mark.fairbrother@mass.gov
Telephone: (978) 694-3298
 - c. This notice shall, at a minimum, include a description of the incident and/or complaint, the impact on the construction activities authorized by this decision, and a description of any corrective actions the Permittee has taken or intends to take to minimize the potential for a recurrence.
13. Any and all damage to the FML shall be promptly repaired. The FML shall be restored to the conditions as specified within the approved closure/post-closure plans. All work to repair damaged FML shall be completed and conducted under the supervision of the Engineer of Record who shall have sufficient qualified staff on-site to provide field supervision and quality assurance/quality control for all cap repair activities. Any and all cap repairs shall be shown on the as-built plans and discussed in the construction certification report required by Condition 5 of this decision.

14. Excess topsoil generated by the installation of the ballast blocks shall not be removed from the site. Excess topsoil shall be placed on areas off the landfill cap, stabilized with seed or other erosion control measures. The final location shall be documented in the construction certification report. All excess material not reused at the site shall be managed pursuant to applicable state, and federal regulations and policies including, but not limited to the management of solid waste pursuant to 310 CMR 19.000.
15. Pursuant to 310 CMR 19.043 *Standard Conditions*, MassDEP and its agents and employees shall have the right to inspect the Landfill, any equipment, structure or land located thereon, to take samples, to perform tests, and have access to and photocopy records, and to otherwise monitor compliance with this permit and all environmental laws and regulations administered by MassDEP.
16. MassDEP reserves the right to amend, modify, suspend or revoke this permit pursuant to 310 CMR 19.036 *Department's Modification, Suspension, or Revocation of a Permit*. This does not limit or restrict MassDEP from implementing any other applicable authority at the Landfill including, but not limited to authority pursuant to 310 CMR 40.0000.
17. The Permittee shall not deviate from this permit and the approved design plans. The Permittee shall notify MassDEP prior to any modification(s) of the design and of any significant changes in the project schedule. MassDEP may, at its sole discretion, require the Permittee to submit an application to MassDEP for review and approval for any modification/alteration to the design. In the event that MassDEP determines that a permit application is required for a modification, the Permittee shall submit such application to the MassDEP in accordance with the schedule specified by MassDEP.

NOTICE OF RIGHT TO APPEAL

The City of Haverhill and Kearsarge Haverhill, LLC (hereinafter collectively referred to as the Applicant) are hereby notified that it may within twenty-one (21) days of the date of issuance file a request that this decision and permit be deemed a provisional decision under 310 CMR 19.033(4)(b), by submitting a written statement of the basis on which the Applicant believes it is aggrieved, together with any supporting materials. Upon timely filing of such a request, the decision shall be deemed a provisional decision with an effective date twenty-one (21) days after the MassDEP's receipt of the request. Such a request shall reopen the administrative record, and the MassDEP may rescind, supplement, modify, or reaffirm its decision. Failure by the Applicant to exercise the right provided in this section shall constitute a waiver of the Applicant's right to appeal.

Appeal. Any person aggrieved by the issuance of this decision may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, s. 150A, and M.G.L. c. 30A, not later than thirty (30) days following the date of issuance of the final decision. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed

by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the decision by a court of competent jurisdiction, the decision shall remain effective.

Notice of Action. Any aggrieved person intending to appeal this decision to the Superior Court shall first provide notice to the MassDEP of their intention to commence such action. Said notice of intention shall include the MassDEP's file number and shall identify with particularity the issues and reasons why it is believed the decision was not proper. Such notice shall be provided to the Office of General Counsel of the MassDEP and the Regional Director for the regional office which processed the application at least five (5) days prior to the filing of an appeal. The appropriate addresses to which to send such notices are:

General Counsel
Massachusetts Department of Environmental Protection
One Winter Street – 3rd Floor
Boston, MA 02108

and

Eric Worrall, Regional Director
Massachusetts Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

No allegation shall be made in any judicial appeal of this decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in those regulations, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

Should you have any questions relative to this approval, please contact Richard Spieler at (978) 694-3317.

Sincerely,

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Mark G. Fairbrother
Section Chief
Solid Waste Management

Richard J. Spieler
Environmental Engineer
Solid Waste Management

MGF/RJS/rjs

Enclosure: Communication for Non-English Speaking Parties

cc: Haverhill Board of Health
City Hall
4 Summer Street
Haverhill, MA 01830

Stephanie Herbster
Environmental and Land Manager
Aggregate Industries-Northeast Region, Inc.
1715 Broadway
Saugus, MA 01906

Ryan DaPonte, P.E. (GZA Geo Environmental, Inc.)
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Bruce Haskell, P.E. (Langdon Environmental, LLC)
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Janet Waldron, MassDEP-Boston/BWSC

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