



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

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

This is an electronic facsimile of a document on file with the Massachusetts Department of Environmental Protection

September 22, 2016

Eric Arnold
Executive Director
Hale Reservation Trust
80 Carby Street
Westwood, MA 02090

Jonathan Mancini
BWC Buckmaster Pond, LLC.
137 Newbury Street, 4th Floor
Boston, MA 02116

Re: DOVER – Solid Waste Management/COR
Dover Landfill
55 Powissett Street
FMF# 132299

BWP SW36 / Post-Closure Use – Solar Power Generating Facility
Transmittal Number: X271387

Approval and Authorization to Construct

Dear Mr. Arnold and Mr. Mancini:

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 SW36 *Post-Closure Use – Major*, Transmittal Number: X271387 (the “Application”), for the post-closure use of the Dover Landfill located at 55 Powissett Street, Dover, Massachusetts (the “Landfill”). The Application was prepared and submitted to MassDEP on behalf of BWC Buckmaster Pond, LLC (“BWC”) and Hale Reservation Trust (“Hale”) by Kennedy/Jenks Consultants (“Kennedy/Jenks”) of Tewksbury, Massachusetts.

The Application proposes the installation of a 1.6 megawatt (MW) solar photovoltaic power generating facility (the “PV Facility”) on a 6.5 acre portion of the approximately 10.7 acre Landfill. Included with the Application are design plans for the solar array and an engineer’s report describing and supporting the design of the facility.

This information is available in alternate format. Call the MassDEP Diversity Office at 617-556-1139. TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

The Landfill is privately owned by Hale. The Landfill was operated as a municipal solid waste landfill by the Town of Dover (the “Town”) under a 50-year lease agreement between the Town and Hale from approximately 1937 to 1987. When the Landfill ceased operation in 1987, the Town capped the Landfill with a low-permeability soil cap. At that time the Town purchased a portion of the closed Landfill from Hale and permitted and constructed a municipal solid waste transfer station at this location. The Application proposes no changes to the Town’s transfer station.

Construction of the Landfill cap was completed in the Spring of 1989. Quality control testing conducted in June 1989 indicated that the low permeability layer in portions of the final cap did not meet the approved design requirements. In an effort to secure MassDEP approval of the Landfill closure, the Town had the consulting firm of Tata & Howard prepared a Comprehensive Site Assessment dated May 2003 (the “2003 CSA”) for the Landfill. The intent of the 2003 CSA was to assess the existing environmental conditions relative to groundwater, surface water, and potential gas migration; evaluate the existing Landfill cap and provide a qualitative assessment of the risks posed by the Landfill relative to the final disposition of the site.

Based on the conclusions of the 2003 CSA, and pursuant to 310 CMR 19.113 *Alternative Landfill Final Cover System Design*, the MassDEP determined that the landfill cap as constructed adequately protects the public health, safety and the environment and therefore the Landfill is considered closed.

Hale entered into a lease arrangement with BWC for the installation and operation of the PV Facility.

The proposed PV Facility will consist of approximately 3,710 solar modules. The solar modules will be supported by galvanized steel trays (ballast trays) and concrete foundation ballasts will be utilized to stabilize the panels from sliding and wind uplift. The system will be connected to the Eversource electric utility grid. The proposed PV Facility will be enclosed with a perimeter fence installed and supported using ballast blocks set on the ground surface of the Landfill cap.

Ongoing maintenance and monitoring of the Landfill will continue. BWC will be responsible for the mowing and maintenance of the vegetative cover of the Landfill within the fenced area of the PV Facility. Maintenance of the remainder of the Landfill and routine environmental monitoring of the site will continue to be performed by the Town pursuant to the Landfill’s existing environmental monitoring plan, prepared as part of 2003 CSA. The design and layout of the solar modules will allow for the continued environmental monitoring at the site.

Additional details on the proposed project can be found in the Application and the Fact Sheet attached hereto as Attachment 1.

DECISION

MassDEP has determined that the Application is administratively and technically complete and that, subject to the terms and conditions of this decision and permit, the proposed post-closure use complies with the applicable requirements of 310 CMR 19.000, the Massachusetts Solid Waste Regulations (the “Solid Waste Regulations”). The Application demonstrates pursuant to 310 CMR 19.143(3) that the installation and operation of the solar PV Facility as proposed and approved by this decision:

- Will not result in a disturbance of the Landfill cap that could cause an adverse impact to public health, safety or the environment;

- Will not impair the integrity or functioning of the final cover, the components of the containment system, the Landfill gas control system, and the environmental monitoring systems; and
- Provides for the maintenance of the Landfill cap's storm water drainage facilities, basins, swales, and other erosion/sedimentation controls.

Therefore, in accordance with M.G.L. Chapter 111, § 150A and 310 CMR 19.143, MassDEP approves the application and issues this Post-Closure Use Permit subject to Hale's and BWC's compliance with 310 CMR 19.000 and the following conditions, imposed by MassDEP pursuant to 310 CMR 19.043(1) *Items Subject to Conditions* and 310 CMR 19.142(7) *Additional Measures*. This decision is a Post-Closure Use Permit pursuant to 310 CMR 19.143 *Post-Closure Use of Landfills*. Hale and BWC 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. The Permittee shall assure 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.
3. 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.
4. Not less than seven (7) days prior to commencing construction pursuant to the Application and this permit, the Permittee shall notify MassDEP in writing of the scheduled date of the commencement of construction at the site. In addition, the notification shall include:
 - a. The projected schedule for completion of the major construction milestones of the PV Facility;
 - b. The name and contact information of an on-site contact for the construction;
 - c. A health and safety plan for MassDEP's files that includes, but is not limited to:
 - i. protocols for monitoring for landfill gas (methane, hydrogen sulfide, etc.) as needed;
 - ii. protocols for modifying work practices if landfill gas is detected at levels of concern (action levels);
 - iii. instruction and training of all personnel working on the site regarding the potential health and safety hazards at the Landfill including, but not limited to those associated with landfill gas;
 - iv. instruction and training of all personnel in compliance with the conditions of this permit and how to perform authorized activities in a manner that is not hazardous to public health, safety, and the environment: and
 - d. The National Pollutant Discharge Elimination System (NPDES) Notice of Intent and Stormwater Pollution Prevention Plan (SWPPP) for the project.

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

5. The Permittee shall not commence construction of the PV Facility until it has provided the plans and notification to MassDEP and the Town of Dover Board of Health pursuant to Condition 4 above.
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. The Permittee shall maintain a minimum ten (10) foot radius buffer between the closest edge of the Landfill Array and existing gas venting structures.
9. 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.
10. 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.
11. All disturbance of the Landfill shall be limited to the proposed excavations and installations as depicted and described in the Application and the approved plans and this permit. The Permittee and any other 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 Landfill cap.
12. 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.
13. Prior to construction of the PV Facility, any suspect settlement areas on the Landfill project area shall be surveyed to determine the lowest spot. The surrounding area should be surveyed to find the “relief point” defined as the lowest surrounding area where ponded water would flow off the Landfill cap. The elevation difference is defined as the “pond value”. Minor settlement shall be defined as less than 12 inch pond values. Any Landfill project area that has undergone minor settlement shall be corrected by the placement of additional vegetative support soil to promote runoff and the area shall be reseeded. Any area repaired should be surveyed and the location marked on a plan and submitted and submitted as part of the construction certification report pursuant to paragraph 16.

Major settlement is defined as a pond value of 12 inches or more. When this occurs, the final cover system must be repaired to prevent water from ponding above the low permeability layer. The Applicant may either:

- a. Strip off the final cover soils above the low permeability layer, inspect and repair the low permeability layer if/as necessary, place low permeability soil as necessary to promote runoff, replace final cover soils; or
- b. Expose the low permeability soil or geomembrane in a trench around the perimeter of the settled area. Fill the area with soil to form slopes promoting runoff. Cap the area with a new low permeability membrane, geosynthetic clay liner (GCL), or low permeability soil layer that ties into the existing low permeability layer at the identified perimeter. Place new drainage sand and vegetative support material over the new cap area.

Areas of minor settlement may be repaired as routine maintenance, provided the Permittee reports the settlement to MassDEP and states the intention to perform repairs, and provides to MassDEP the final survey results and a summary letter report within 60 days of completing the repairs. Any proposal to conduct major settlement repair must be submitted to MassDEP together with an application, category BWP SW25 *Corrective Action Design*, which shall include, without limitation, detailed information of the proposed repair.

14. 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.
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. The Permittee shall cause to be recorded with the Registry of Deeds, or if the land is Registered Land, with the registry section of the land court for the district in which it lies, a Record Notice of Landfill Operation complying with 310 CMR 19.141. The Notice shall include the Facility Master File Facility Number as part of identification of the MassDEP file for the Landfill.
17. Prior to commencing operation of the PV Facility, and in no event on or before ninety (90) days after the date of completion of the construction of the PV Facility, the Permittee shall submit for review and approval by MassDEP a construction certification report, as an application category BWP SW45 *Alternative Review Process*, that includes, but is not limited to:
 - a. As-built plans for the final as constructed PV Facility amended to incorporate all modifications and alterations, if any, made during construction;
 - b. A narrative, prepared by the Engineer of Record that discusses in part, any modifications made to the design of the PV Facility;
 - c. Certifications by Hale, BWC, and the Engineer of Record pursuant to 310 CMR 19.011; and
 - d. A copy of the Notice of Landfill Operation, pursuant to 310 CMR 19.141, as recorded in the registry of deeds or in the registry section of the land court for the district wherein the Landfill lies in accordance with M.G.L. c. 111, sec 150A.

18. Prior to commencing operation of the PV Facility, the Permittee shall establish, obtain and continuously maintain thereafter, a Financial Assurance Mechanism (“FAM”) for the Landfill in the amount of \$144,000 in order that sufficient funds are available to properly decommission the solar PV array system, and all of its appurtenant structures and features, and to properly restore the Landfill to its original condition. This financial assurance obligation shall be met by using any of the approved methods authorized in 310 CMR 19.051 and shall be “in-place” at least thirty (30) days prior to the start of operation.
19. On or before thirty (30) days after the date the PV Facility ceases operation, the Permittee shall submit to MassDEP an application pursuant to 310 CMR 4.00 and 310 CMR 19.000 for the decommissioning of the PV Facility and the restoration of the Landfill cap and appurtenances thereto. The application shall include, but not be limited to, a narrative, plans and schedule for the decommissioning of the PV Facility and the restoration of the Landfill’s cap and appurtenances.²
20. 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.
21. This permit is effective on the date signed by MassDEP below, except as provided by the Notice of Appeal Rights below and 310 CMR 19.033(4) (b). This permit shall expire on December 31, 2036, provided that MassDEP may amend the term of the permit in accordance with a modification pursuant to 310 CMR 19.033 or 310 CMR 19.034. The Permittee shall submit to MassDEP on or before June 30, 2036 either an application to renew the permit or notice of its intent to close the PV Facility. Wherein the Permittee elects to close the facility, the Permittee shall submit an application for the decommissioning of the PV Facility and the restoration of the Landfill cap and appurtenances thereto pursuant to paragraph 19, above.
22. The Permittee shall not deviate from this permit and the approved design plans. Hale and BWC 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.
23. No transfer of this permit shall be permitted except in accordance with the requirements of 310 CMR 19.044.
24. During the first year after completion of construction of the PV Facility, the Permittee shall ensure that inspections of the Landfill final cover system are conducted on a quarterly basis. Pursuant to 310 CMR 19.142(6), inspections shall be conducted by a Third-Party Inspector registered with MassDEP, pursuant to 310 CMR 19.018. Quarterly inspection reports shall be submitted to MassDEP within fourteen (14) days of completion. Following the first year of operation of the PV Facility, and if no problems have been documented, inspections of the

² Appurtenances include, but are not limited to storm water controls, landfill gas control structures, landfill gas and groundwater monitoring wells.

Landfill shall be performed on an annual basis and shall be submitted to MassDEP within fourteen (14) days of completion.

NOTICE OF RIGHT TO APPEAL

BWC Buckmaster Pond, LLC (“BWC”) and Hale Reservation Trust (“Hale”) 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 Hale and BWC 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 Hale and BWC to exercise the right provided in this section shall constitute a waiver of Hale’s and BWC’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

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 phone number 978-694-3317.

Sincerely,

Sincerely,

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

Richard J. Spieler
Environmental Engineer
Solid Waste Management

Mark G. Fairbrother
Section Chief
Solid Waste Management

MGF/RJS/rjs

Enclosure: Fact Sheet and Communication for Non-English Speaking Parties

Cc: Susan Ruch, Deputy Regional Director, NERO, Bureau of Air and Waste

Max E. Lamson
Kennedy/Jenks Consultants
Email: maxlamson@kennedyjenks.com

Dover Board of Health
Town of Dover
P.O. Box 250
Dover, MA 02030

Craig Hughes (Dover Highway Department)
Email: streets@doverma.org

Kevin D. Batt
Anderson & Krieger LLP
One Canal Park, Suite 200
Cambridge MA 02141