



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

RICHARD K. SULLIVAN JR.  
Secretary

KENNETH L. KIMMELL  
Commissioner

December 22, 2011

Lincoln Hooper, Director  
Department of Highways and Maintenance  
Town of Harwich  
273 Queen Anne Road  
Harwich, Massachusetts 02645

and

Eric T. McLean, P.E.  
American Capital Energy  
15 Tyngsboro Road, Suite 4A  
North Chelmsford, Massachusetts 01863

RE: Approval with Conditions  
Application for: BWP SW 36 Post-Closure Use - Major  
Solar Photovoltaic Array  
Transmittal #:X238616

AT: Town of Harwich Municipal Landfill  
209 Queen Anne Road  
Harwich, Massachusetts  
Facility ID#: 36702, Regulated Object#: 159728

Dear Mr. Hooper and Mr. McLean:

The Massachusetts Department of Environmental Protection, Solid Waste Management Section (MassDEP), has completed its Administrative and Technical review of the referenced Post-Closure Use permit application (Application) for the Harwich landfill (Landfill). The Application was prepared and submitted on behalf of the Town of Harwich and American Capital Energy (Applicants) by Weston & Sampson Engineers, Incorporated (Weston or Engineer) of Peabody, Massachusetts.

MassDEP has determined the Application is administratively and technically complete and hereby **Approves** the Post-Closure Use of the Landfill for a 4 megawatt (MW) solar photovoltaic (PV) array subject to conditions as specified herein.

## **I. SUBMITTALS:**

MassDEP has reviewed the Application pursuant to 310 CMR 19.000: *Solid Waste Regulations*, 310 CMR 19.143: *Post-Closure Use of Landfills* and MassDEP's *Landfill Technical Guidance Manual*, May 1997 (Manual). The Application consists of the following:

- A. The permit transmittal, application forms for Post-Closure Use - Major (BWP SW 36), narrative describing the proposed use, engineering calculations, six engineering drawings and documents received by MassDEP on September 30, 2011.
- B. Supplemental Application information, prepared by Weston & Sampson, consisting of a report dated December 7, 2011, engineering calculations, engineering drawings and documents received by MassDEP on December 8, 2011.
- C. A letter report dated December 16, 2011, prepared by Weston & Sampson and received by MassDEP on December 16, 2011.

The Application is signed and stamped by Duane C. Himes, Massachusetts Professional Engineer No. 32336.

## **II. SITE DESCRIPTION & INVESTIGATIONS:**

The Harwich landfill is located on an approximately 120 acre site assigned parcel of Town owned land off Queen Anne Road in Harwich (Site). The closed unlined Landfill occupies approximately 28 acres of land on the western portion of the Site. The Town of Harwich (Town) operates a solid waste transfer station and composting operation that is located to the east of the Landfill in the central portion of the Site. The active transfer station and composting operation are not located on the Landfill's cover system. The eastern portion of the Site contains a DPW material stockpiling area, and a sand and gravel borrow area, but is largely undeveloped forest. Residential properties and Flax Pond border the Site to the south; inactive railroad borders the Site to the east; an electric company easement borders the Site to the west; and developed commercial and light industrial properties border the Site to the North along Queen Anne Road. The Landfill operations began in 1967 and ceased in 1999.

Existing Final Cover System Design: On November 10, 1999, MassDEP approved the Corrective Action Design (CAD) for the Landfill. The final cover system construction was completed in October 2000. The final cover system was installed with a minimum top slope of 5% and side-slopes no greater than 3:1. The final cover system for the Harwich landfill consists of the following components from bottom to top:

- a 6-inch sand subgrade
- a 6-inch sand gas venting layer
- a textured 40-mil High Density Polyethylene (HDPE) flexible membrane liner (FML) barrier layer
- a 18-inch thick sand drainage layer

- An 8-inch thick layer of vegetated topsoil.

On June 13, 2002, MassDEP received a Construction Certification report prepared by Weston & Sampson. On December 20, 2011 MassDEP issued an approval with conditions for the construction certification report.

The closure design incorporates a passive gas venting system consisting of 44 gas vents. The gas vents were installed in 36 inch bore holes. Four of the gas vents are located within a gas barrier trench located on the north side of the Landfill. The gas barrier trench was constructed along the north side of the Landfill that abuts an existing commercial area. The trench is 560 feet long and 3 feet wide and extends to the base of refuse and/or the water table which ever was higher. The trench was backfilled with crushed stone and a 40 mil HDPE membrane extends the full depth of the trench along the outer wall. The trench has proven to be effective in preventing off-site, subsurface migration of landfill gas.

#### Post closure Environmental Monitoring:

A Comprehensive Site Assessment (CSA) was submitted to MassDEP in May 1998. An addendum to the CSA was received by MassDEP on February 19, 1999. MassDEP approved the CSA on February 22, 1999.

Post-closure environmental monitoring (groundwater, surface water and soil-gas monitoring) is currently conducted by the Town in accordance with a post-closure environmental monitoring plan approved by MassDEP on May 12, 2011. The Town has not proposed any changes to the post-closure environmental monitoring plan based on the proposed post-closure use.

On October 15, 2007, MassDEP approved a Post-Closure Use ("PCU") permit application to use portions of the Harwich landfill for a recreational model aircraft flight area. Landfill gas characterization, near surface methane monitoring and ambient air monitoring for volatile organic compounds (VOCs) was conducted for the post closure use. This quantitative risk evaluation showed that the landfill gas did not constitute a health risk to users of the model aircraft flight area. The Applicants are requesting that the existing post closure use allowing model airplanes flying be revoked to accommodate the new post closure use.

### **III. POST-CLOSURE USE PROPOSAL SUMMARY:**

American Capital Energy (ACE or Developer), through a lease arrangement with the Town and Cape and Vineyard Electrical Cooperative, Incorporated (CVEC), proposes to develop 4 MW solar photovoltaic installation on the Landfill. Hereinafter, the Town of Harwich, American Capital Energy and all construction and maintenance personnel associated with the Town's Landfill shall be referred to as the "Applicants' Contractors". ACE in conjunction with the Town is proposing to construct and maintain a PV array on the capped Landfill, consisting of the following components:

- Temporary access roads, as needed;
- Upgrades to the permanent access road, as needed;
- Approximately 4,000 precast concrete foundations (70 inches x 40 inches by 14 inches thick) will be placed within the topsoil layer of the cover system;

- Approximately 1950 PV panel support racks (SunLink Groundmount System) will be installed on the concrete foundations;
- Approximately 17,000 PV modules (Yingli Solar Modules) will be placed on the panel support racks;
- Eight concrete pads will be installed on the sand drainage layer of the final cover system, which will support the electrical equipment, including inverters, transformers, switchboards and switchgear;
- The photovoltaic panel support racks will be interconnected using above grade cables and underground cables. The cable conduits will be above grade mounted on the panel racks, and mounted on aboveground conduit (block assemblies) supports, except for cables traversing the landfill access roads;
- Switching gear and a recording meter (25 KV switch and meter) will be mounted on a concrete pad on the sand drainage layer of the final cover system;
- The output from the PV array will be transported via electrical cables above grade on conduit supports, and will transition to overhead wiring for transmission of electricity, via several new utility poles, to the existing overhead NSTAR primary system off of Queen Anne Road.

There is an existing access road located on the final cover system consisting of the following components from top to bottom:

- 8 inches of dense graded crushed stone or gravel
- a woven filter fabric
- an 18 inch sand drainage layer
- textured 40 mil HDPE

The existing access road will be upgraded with an additional 10 inches of dense graded crushed stone or gravel, as needed, in accordance with the GSE Lining Technology LLC design manual for soil thicknesses over liners to maintain the required protection of the FML. If existing permanent access road is to be used for heavy equipment traffic, additional material will be added to provide a 36 inch separation between the FML and the access road surface. The thickness of the existing roads will be verified in the field prior to use by heavy equipment.

Temporary access roads will be constructed, if needed, during construction to minimize impact to the landfill final cover system. The temporary access roads will be constructed by placement of a woven filter fabric over the vegetative support layer, and the addition of compacted 18 inches of dense graded crushed stone. The temporary access roads will be removed within six months of completion of construction and the road areas will be restored to meet the specification of the cover system.

Most of the array will be on areas of the Landfill cap with a slope of less than 5% (2.9 degrees) but the edges may expand into areas where there is up to a 15% (8.5 degrees) slope.

The solar array will utilize PV modules (3.25-foot by 5.42-foot) mounted on galvanized steel, aluminum, or stainless steel framed racks attached to the precast concrete foundations. The racking system will hold the panels at a fixed tilt of 20 degrees from horizontal. The PV array

will use monocrystalline PV modules mounted on racks consisting of nine modules in a single row (panel layout 1 x 9) with two ballasts per rack. Each panel support rack or assembly will utilize a fully ballasted mounting system with no penetrations of the low permeability layer of the final cover system. The modules and the associated racking will be approximately 3 feet high in the front and 5 feet high in the rear. The rows of solar panels will be oriented east-west and the distance between rows will vary from approximately 4'7" to 7'5" (north-south measurement). Because the Landfill contours are not aligned with the east-west axis of the racks, the rows will be at a slight cross-slope angle.

The existing elevation and grade of the Landfill will be minimally altered. The proposed design will impact limited portions of the vegetative layer of the final cover system. The impacts result from rack ballasts installations, inverter/transformer concrete pads, switchgear pad, and above ground conduit supports.

The panels will be supported by PV racks on concrete ballasts. To install the precast concrete ballast on the slope, the vegetation and organic topsoil below each of the array ballast will be removed. The excavations will not extend to a depth beyond 8 inches, which is the average thickness of the vegetative support layer. After excavating, a layer of geotextile will be placed onto the existing final cover system sand drainage layer and then a layer of leveling stone will be placed and compacted in preparation for placement of the concrete ballast. The leveling stone will be installed such the maximum slope on the concrete ballast will be 5% or less.

The support racks will house all wiring between the modules. The electrical transmission wiring will run within cable conduits above grade, mounted on the rack assemblies where applicable, or mounted on conduit supports (block assemblies) above grade to keep the cables off the ground surface. Only at temporary road crossings will the electrical wiring run below ground. The electrical wiring that will be placed below these temporary roads will be placed in 4 inch fiberglass reinforced epoxy (FRE) cable conduits, at a minimum depth of 1 foot below the road surface. All underground cables will be sealed, have gas tight fittings, and will include flexible connections at transition points. There are no subsurface penetrations at the inverters, transformer and switchgear concrete pads. All electrical work will be designed for the most recent version of the Massachusetts electrical code (MEC) which includes and incorporates the requirements of the national electric code (NEC). Prior to construction, an electrical permit will be obtained from the local building department official, and the project will incorporate any additional electrical requirements stipulated by the building department official.

The concrete ballasts will be precast concrete slabs and will be brought into the site via pickup trucks or lightweight all-terrain forklifts. Eight concrete electrical equipment pads for the transformers/inverters will either be precast offsite or formed on site. The area beneath the concrete electrical pad will be prepared by excavating the 8 inch topsoil layer and backfilling with a minimum of 8 inches of compacted crushed stone (**refer to condition #11**).

A single concrete pad mounted 25 KV disconnect switch and recording meter will be installed on the cap. The area beneath the concrete pad will be prepared in a similar fashion to the inverter/transformer pad by excavating the topsoil and placing a minimum of 8 inches of compacted crushed stone in the area where the concrete pad is to be placed. Final concrete pad

design (dimensions) for both the inverter/transformer and the switchgear will be determined based on the final equipment selection and approval by electrical inspector and/or utility representative. The inverter/transformer and switchgear pads will be designed such the conduits feeding the switches will enter the pad above grade (**refer to condition #13**).

Geotechnical Evaluation: The Application included a geotechnical evaluation for the installation of the PV array and supporting structures on the final cover system.

The Application included an analysis of the foundations for the PV array that will bear directly on the final cover system and has considered the dead load, snow load and wind loading. The results of the geotechnical evaluation are as follows;

- The modules, ballasts (foundations), and footings do not exceed loading criteria for the Landfill cover system.
- The electrical equipment concrete pads (inverter/transformer pad) do not exceed the recommended loading criteria for the Landfill cover system.
- The PV array will not cause adverse Landfill settlement.
- The Engineer determined the potential vehicle loading on the existing and temporary access roads would not produce unacceptable loading stresses to the Landfill cover system.
- The PV array is stable on a 15% slope.
- The 4 inch FRE electrical cables conduit buried under the temporary access road and the road base soil surrounding the conduit will support the applied vehicle loads.

The anticipated maximum loading scenario racking system (ballasts, racking system, and modules) and the electrical equipment concrete pad on the Landfill surface will result in a bearing pressure ranges between 203 and 389 pounds per square foot. The bearing pressure ranges are all less than allowable 1,000 pounds per square foot (less than 7 psi).

The estimated settlement resulting from the static loads increase of the PV array ballast was 0.51 inches. The Engineer has stated the FML layer of the final cover system can undergo this distortion without impacting the integrity of the liner.

A sliding stability evaluation was performed for the concrete ballasts (foundations). A maximum slope of 15% was evaluated. The Engineer determined the factor of safety for sliding of the PV ballasts on the underlying soils was approximately 1.5 on a 15% slope.

Storm Water: The Applicants' Engineer performed storm water calculations using Hydro CAD modeling software (TR-20) analysis for the 24-hour, 25 year storm and under the 24-hour, 100 year storm. The PV array will modify run-off characteristics by the addition of impervious surfaces (i.e. ballasts and concrete pads) which represent less than 5% of the closed Landfill surface. The capacity of various elements of the Landfill storm water conveyance system were reviewed including, swales, stoned line ditches, storm water piping and detention basins. The Applicants' Engineer concluded there will be adequate capacity to properly manage the post-closure development at the Landfill and that there is no need to modify the existing storm water management system.

Post Closure and Post-Closure Use Operations and Maintenance: The Town currently implements the Landfill's post closure monitoring and maintenance plan. Post closure environmental monitoring (groundwater, surface water, and soil gas monitoring) is currently conducted by the Town in accordance with the permit application approved by MassDEP on May 12, 2011 (transmittal # X235607). Operations and maintenance for the Landfill in the area where the PV array is located up to a distance of 10 feet away from the edge of the PV array will be performed by the project Developer: American Capital Energy. The Town will maintain the remainder of the Landfill outside the 10 foot buffer around the PV array (**refer to condition #1**).

There are no proposed changes to the post closure operation and maintenance plan for the area to be maintained by the Town and not used for the PV array. Currently, the Landfill is mowed at least annually with semi-annual cover system inspections by the Town.

A post-closure use operation and maintenance plan for the post-closure use area used for the PV array was submitted with the Application. The Developer proposes to provide: site security; electrical maintenance; module cleaning; and final cover system maintenance including but not limited to, mowing, undergrowth control, pest control, and erosion control. The Developer proposes to conduct monthly inspections to check the cap for erosion and changes in vegetative growth following the first year of construction of the PV array (**refer to condition # 15**).

The Application included a Health and Safety Plan for operation and maintenance activities to be performed by employees at the Harwich landfill solar project for the operation and maintenance of the proposed PV array. The Application did not include a health and safety plan for the construction of the proposed PV array (**refer to condition #7**).

Site Security: The Landfill is fenced. If unauthorized access proves to be a problem, additional security measures will be considered including additional fencing and closed-circuit TV cameras for monitoring the Site.

Decommissioning Plan: Decommissioning and site restoration will include dismantling and removal of all panels and supporting equipment, transformers, overhead cables and foundations and restoration of the roads, and modules sites to the same physical condition that existed immediately before construction of the PV array.

#### **IV. PERMIT DECISION:**

MassDEP, having determined the information in the Application is satisfactory and in accordance with its authority granted pursuant to M.G.L. c.111, s. 150A, and 310 CMR 19.000, hereby **APPROVES** the Post-Closure Use of the Harwich Landfill for a Solar Photovoltaic Array subject to the conditions identified herein.

MassDEP, at the Applicants' request, hereby revokes the post-closure use permit application approval issued on October 15, 2007 (transmittal #W070927) for use of the Harwich landfill as a recreational model aircraft flight area.

#### **V. GENERAL PERMIT CONDITIONS:**

1. Permit Limitations: The issuance of this approval is limited to the proposed Solar Photovoltaic Array at the Harwich landfill as detailed in the Application and does not relieve the Applicants from their responsibility to comply with all other regulatory or permitting requirements. Post-Closure Use construction shall proceed in complete compliance with the approved plans, MassDEP's regulations and requirements, the Manual or as required by this Approval. This approval does not relieve the Town, as the owner of the Landfill, from its responsibility to comply with all post closure monitoring and maintenance requirements for the entire Landfill. There shall be no deviation from this Approval without prior consent from MassDEP.
2. Regulatory Compliance: The Applicants, Engineers and Applicants' Contractors shall fully comply with all applicable local, state and federal laws, regulations and policies, by-laws, ordinances and agreements. This includes but is not limited to, 310 CMR 19.142: *Post-Closure Requirements*, 310 CMR 19.143: *Post-Closure Use of Landfills*, and 310 CMR 19.043: *Standard Conditions*. Applicable federal regulations include, but are not limited to, 29 CFR Part 1910, OSHA standards governing employee health and safety in the workplace and all applicable local, state and federal electrical codes and permits, including National Electrical Code (NEC), 2011 Edition, Article 690-"Solar Photovoltaic (PV) Systems".
3. Inspection and Repair of Settlement Areas: Prior to construction of the PV array, any suspect settlement areas on the Landfill project area shall be surveyed to determine the lowest spot. The surrounding area should be then surveyed to find the "relief point" defined as the lowest surrounding area where ponded water would flow off the cap. The elevation difference is defined as the "pond value". Minor settlement shall be defined as less than a 12 inch pond value. 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 with the pond value. Any future settlement should be recorded cumulatively. If/when the total settlement reaches 12-inches, the area will be considered to have suffered major settlement and appropriate repairs to eliminate ponding shall be performed.

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 Applicants may either:

1. 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
2. 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.

Any proposal to repair minor settlement may be done as routine maintenance, provided that the Applicants report the settlement to MassDEP and state their intent to perform repairs and provides MassDEP with final survey results and a summary write up.

Any proposal to do major settlement repair must be submitted within a Corrective Action Design (BWP SW 25) permit application since disruption of the final cover system will take place and repair details must be submitted and approved.

4. Notification of Construction: The Applicant shall notify MassDEP in writing (e-mail is acceptable) when the post-closure use construction commences and is completed.
5. Oversight and Certification Report: All construction work shall be completed under the supervision of a Massachusetts Registered Professional Engineer who shall have sufficient staff on-site to provide quality assurance/quality control (QA/QC) oversight for all construction work at the Landfill. Within seven (7) months of completing the installation of solar photovoltaic array, MassDEP shall be provided with a certification report. The report shall be signed and stamped by a Massachusetts-registered professional engineer and include, at a minimum, written certification from the supervising engineer that the project was performed in accordance with MassDEP regulations, requirements and the approved Post-Closure Use permit application. At a minimum, the report shall include as-built drawings depicting all pertinent site features, equipment used etc.
6. Preconstruction Work: Prior to commencement of construction activities all Landfill gas passive vents, Landfill soil-gas monitoring wells, groundwater monitoring wells and other existing above ground structures on the Landfill cap and appurtenances shall be flagged for visibility, and protective barriers shall be placed around such structures as needed to prevent damage by vehicles accessing the area.
7. Health and Safety: The Applicants, Engineers and Applicants' Contractors are responsible to ensure all necessary precautions are taken to protect the health and safety of workers and the general public during both the construction phase and during the operation and maintenance phase of the post-closure use.

A copy of the site specific health and safety plan for the post-closure use CONSTRUCTION phase, shall be submitted to MassDEP (for its files) prior to the beginning of any construction work. The health and safety plan shall include as a minimum;

- protocols for monitoring of landfill gas (i.e. methane, hydrogen sulfide, etc.) as needed,
  - protocols for modifying work practices if landfill gas is detected at levels deemed unsuitable.
8. Vehicles Operating on the Landfill Final Cover System: Vehicles operating on the Landfill final cover system shall only operate on the designated permanent and temporary access roads, except for low-pressure construction equipment (with ground pressures of **7 psi** or less) in accordance with the remaining conditions of this permit. Low-pressure construction equipment operating off the access road shall limit turning by tracks on the vegetative

support layer as much as possible. If MassDEP determines the use of excavation equipment is creating the potential for damage to the FML, the usage of such equipment shall immediately cease upon notification by MassDEP. All operators of the vehicles entering the final cover system area shall be clearly instructed by the on-site engineer and/or the contractor of the requirements of this permit prior to arrival, to avoid damage to the landfill final cover system components. A list of low ground pressure equipment used and the pressure rating of each vehicle shall be indicated in the certification report required in condition #5.

9. Permanent and Temporary Roads and Low Ground Pressure Equipment: Low ground pressure equipment shall not access the final cover system from permanent and temporary roads where the transition will result in excessive pressure and wear on the landfill vegetative service. The on-site engineer may construct ramps as necessary.
10. Construction Precautions: All necessary precautions shall be taken to protect the Landfill storm water control system, environmental monitoring network and the Landfill gas vents. All operators of vehicles entering the area should be clearly instructed by the on-site engineer and/or the Applicants' Contractor of the permit requirements to avoid damage to the Landfill components. The on-site engineer shall observe the extent of each excavation performed on the Landfill cover system. If any damage occurs to the any Landfill components, the Applicants' Engineer shall notify MassDEP within 24 hours and provide a written plan with a schedule for repairs.
11. Integrity of the Final Cover System: All disturbances of the Landfill shall be limited to the proposed excavations and installations as depicted and described within the Application and approved plans. Excavations shall be limited to the vegetative support layer. No excavations shall penetrate the sand drainage layer during construction, including staking for concrete forms, or during operation and maintenance of the PV array without written approval by MassDEP. The Engineer and Applicants' Contractors shall ensure that vehicles operating on the Landfill surface do not compromise the integrity of the Landfill final cover system.
12. Personnel Training: The Applicants, Engineers and Applicants' Contractors shall instruct all personnel regarding the potential hazards associated with landfill gas and shall give on-the-job training involving in any activity authorized by this permit. Such instruction and on-the-job training shall teach personnel how to comply with the conditions of the permit to carry out the authorized activity in a manner that is not hazardous to public health, safety, welfare or the environment.
13. Proposed Inverter/Transformer Pad (PowerStation) and Interconnection Equipment: The Applicants stated within the permit application that manufacturers "cut sheets" for the electrical equipment were included in Appendix B for informational purposes only and were only representative of equipment that is proposed. Final equipment selection may vary based on availability and other factors at the time of construction.

If the Applicants propose to change the electrical equipment a copy of the final design for the inverter/transformer pad and any other electrical pads and protective switchgear

(interconnection equipment) proposed on-site shall be submitted to MassDEP for review and approval. The Applicant, Engineers and Applicants' Contractors are responsible to ensure that utilities/structures will not accumulate landfill gas during construction and operation. There shall be no penetrations (utility, conduits or other) at the base of any concrete footings or foundations. There shall be no penetration of any kind of the impermeable layer of the cap.

14. Landfill Gas Notification Requirements:

- a. As specified in solid waste management regulations at 310 CMR 19.132 (4) (g),

*"When, at any time, the concentration of explosive gases exceeds 10% of the lower explosive limit (LEL) in any building, structure, or underground utility conduits, excluding gas control, gas recovery and leachate collection system components, the owner/operator shall:*

- 1. Take immediate action to protect human health and safety;*
- 2. Notify the Department within two hours of the findings; and*
- 3. undertake the actions specified under 310 CMR 19.150, Landfill Assessment and 310 CMR 19.151: Corrective Action, as required by the Department."*

- b. If at any time monitoring detects the presence of any combustible gases at or in excess of 10% of the lower explosive limit at any location within a building or within any utility conduits on site or off-site, the Applicants or Applicants' contractors shall notify MassDEP's Bureau of Waste Site Cleanup-Emergency Response Section (508) 946-2714 within two (2) hours of the exceedance as per 310 CMR 40.0321(1) (a) of the regulations.

15. Post-closure Use Operation and Maintenance Plan: During the first year after completion of construction of the PV array, inspections of the Landfill final cover system shall be performed on a monthly basis. Monthly inspection reports shall be submitted to MassDEP within fourteen (14) days of completion. Following the first year of operation of the PV array, and if no problems have been documented, inspections of the Landfill shall be performed on a quarterly basis and shall be submitted to MassDEP within fourteen (14) days of completion. Pursuant to 310 CMR 19.142(6) inspections shall be conducted by a third-party consulting Massachusetts Registered Professional Engineer, or other qualified solid waste professional. The Applicants, Engineers and Applicants' Contractors shall monitor the effectiveness of the storm water management system which should include; swales, structures and any and all conveyance systems. MassDEP shall be consulted prior to any deviation from the approved storm water design. MassDEP may require a permit modification application for significant design modifications. Any erosion, settlement, security or other issues observed at the Landfill shall be reported to MassDEP and repaired immediately.

16. Entries and Inspections: In accordance with 310 CMR 19.043: *Standard Conditions*, MassDEP and its agents and employees shall have the right to inspect the Landfill and any equipment, structure or land located thereon, take samples, recover materials or discharges, have access to and photocopy records, to perform tests and to otherwise monitor compliance with this permit and all environmental laws and regulations.

17. Reservation of Rights: MassDEP reserves the right to require additional assessment or action, as deemed necessary to protect and maintain an environment free from objectionable nuisance conditions, dangers or threats to public health, safety and the environment. MassDEP reserves all rights to suspend, modify or rescind this permit if it determines the solar array compromises the integrity of the final cover system and/or results in a threat to public health, safety or the environment.

This approval pertains only to the Solid Waste Management aspects of the proposal does not negate the responsibility of the owners or operators to comply with any other local, state or federal laws, statutes and regulations or enforcement actions, including orders issued by another agency now or in the future. Nor does this approval limit the liability of the owners or otherwise legally responsible parties from any other applicable laws, statutes or regulations now or in the future.

## **RIGHT OF APPEAL**

**Right to Appeal** – This approval has been issued pursuant to M.G.L. Chapter 111, Section 150A, and 310 CMR 19.037: Review Procedures for Permit Modifications, Permit Renewals and other Approvals, of the “Solid Waste Management Regulations”. Pursuant to 310 CMR 19.037(5), any person aggrieved by the issuance of this determination may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, § 150A and M.G.L. c. 30A not later than thirty (30) days following receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such an 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 permit by a court of competent jurisdiction, the permit decision shall remain effective or become effective at the conclusion of the thirty (30) day period.

**Notice of Appeal** - Any aggrieved person intending to appeal a grant of a permit to the Superior Court shall first provide notice of intention to commence such action. Said notice of intention shall include the Department transmittal number X238616 and shall identify with particularity the issues and reason why it is believed the permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Regional Director for the regional office which processed the permit application at least five days prior to the filing of an appeal.

Office of General Counsel  
Department of Environmental Protection  
One Winter Street  
Boston, MA 02108

David Johnston, Regional Director  
Department of Environmental Protection  
20 Riverside Drive  
Lakeville, MA 02347

No allegation shall be made in any judicial appeal of a permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, 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.

Please direct any questions regarding this matter to me at (508) 946-2833 or to Mark Dakers at (508) 946-2847, or Dan Connick (508) 946-2884 or write to the letterhead address.

Very truly yours,

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.

David B. Ellis, Chief  
Solid Waste Management Section

E/MD/nd

\\dep-fp-lak-001\Home\$\mdakers\energy\Harwich\post closure use Harwich 12 22 11.doc

ec: Harwich Board of Health, Paula Champagne, CHO, RS  
[health@town.harwich.ma.us](mailto:health@town.harwich.ma.us)

Harwich Building Commissioner, Geoffrey Larson  
[glarsen@town.harwich.ma.us](mailto:glarsen@town.harwich.ma.us)

American Capital Energy, Eric McLean, PE  
[emclean@americancapitalenergy.com](mailto:emclean@americancapitalenergy.com)

Cape & Vineyard Electric Cooperative, Inc., Ron Collins  
[rcollins@cvecinc.org](mailto:rcollins@cvecinc.org)

Renewable Energy Development Partners, LLC, Hank Ouimet  
[houimet@redpllc.com](mailto:houimet@redpllc.com)

Weston & Sampson, Duane Himes, P.E.  
[himesd@wseinc.com](mailto:himesd@wseinc.com)

DOER, Seth Pickering  
[Seth.Pickering@state.ma.us](mailto:Seth.Pickering@state.ma.us)

DEP-SERO  
ATTN: J. Viveiros  
L. Carlson

DEP-Boston  
ATTN: J. Doucett  
P. Emond  
S. Weinstein  
C. Finneran