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

October 5, 2016

Mr. Mark Stancroft
CertainTeed Corporation, Inc.
750 East Swedesford Road
Valley Forge, PA 02081

Mr. James Smith
CertainTeed Corporation, Inc.
750 East Swedesford Road
Valley Forge, PA 02081

Mr. Greg Boyer
Dynamic Energy Solutions, LLC
1550 Liberty Ridge Drive, Suite 310
Wayne, PA 19087

RE: Approval with Conditions –
Application for: BWP SW 36 Post-Closure Use - Major
Solar Photovoltaic Array
Transmittal #: X272070

AT: Bird Inc. Landfill
Off Norfolk Street
Walpole, Massachusetts 02081
Facility ID#: 270969, Regulated Object#: 270970

Dear Mr. Stancroft, Mr. Smith, and Mr. Boyer:

On March 23, 2016, the Massachusetts Department of Environmental Protection, Solid Waste Management Section ("MassDEP") issued a Post Closure Use permit regarding construction of a solar photovoltaic ("PV") array at Area II of the Bird, Inc. Landfill ("Landfill"). That permit was superseded on July 27, 2016 to reflect changes to one Applicant's formal name and the required financial assurance mechanism. On September 2, 2016, a new application ("Application") was submitted based on major changes to the design of the PV array racking system and ballasts blocks. The September 2, 2016, Application is the subject of this Approval with Conditions.

The Application was prepared and submitted on behalf of the CertainTeed Corporation, Inc., the landfill owner, and Dynamic Energy Solutions, LLC, the developer, by Weston & Sampson ("Engineer") of Peabody, Massachusetts.

Hereinafter, CertainTeed Corporation, Inc., and Dynamic Energy Solutions, LLC shall be referred to as the "Applicants" and all construction and maintenance personnel associated with the proposed post closure use of Landfill shall be referred to as the "Applicants' Contractors".

MassDEP has noted that WGL Energy System was listed in the original permit application narrative as the "system owner". WGL has elected to not submit the signature of a "responsible party" within the BWP SW 36 Application form Part D, and accordingly MassDEP and does not consider WGL Energy System to be an Applicant.

MassDEP has determined that the Application is administratively and technically complete and hereby approves the Post-Closure Use of the Landfill for a 2.4 Megawatt (MW) DC (1.95 MW AC) solar photovoltaic (PV) array subject to the conditions 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 form assigned No. X272070, application forms for Post-Closure Use - Major (BWP SW 36) received on September 2, 2016.

B. A Weston & Sampson cover letter dated August 25, 2016, discussing the project changes, RBI Solar engineering calculations, and eight 11" x 17" (half scale) structural drawings by RBI Solar, twenty-two eight 11" x 17" (half scale) electrical drawings by Dynamic Energy, and engineering calculations by Weston & Sampson received by MassDEP on August 26, 2016. (Note: due to extent of design changes proposed, MassDEP advised the Applicant that a new permit application would be required, which was received on September 2, 2016 (Item 1 above)). Aspects of the original application, approved on March 23, 2016, and July 17, 2016, that were not superseded by the September 2, 2016 submittal are considered part of the September 2, 2016, Application.

C. A Weston & Sampson cover letter dated September 27, 2016, providing responses to MassDEP comments, revised full scale Dynamic Energy electrical drawings dated September 3, 2016, structural calculations prepared by RBI Solar, an electrical permit application, and a Commercial Building Permit issued by the Town of Walpole on September 1, 2016. Based on discussions held with Weston & Sampson on October 4, 2016, additional information will be submitted pursuant to the permit conditions herein. (refer to Condition #6 b)

D. A Weston & Sampson e-mail dated October 4, 2016, submitting a town of Walpole electrical permit for the project.

The Application is signed and stamped by Duane C. Himes, Massachusetts Professional Civil Engineer No. 32336. The RBI Solar drawings were signed and stamped by Mohammed A. Ally, Massachusetts Registered Structural Engineer No 50028. The Dynamic Energy electrical drawings were signed and stamped by Hendrik J. Burger, Massachusetts registered Electrical Engineer No. 52075.

II. APPLICATION REVIEW AND DECISION PROCESS:

The Application was submitted and reviewed pursuant to the provisions of 310 CMR 19.029(2): Applicable Permit Procedures and 310 CMR 19.033: *Permit Procedure for an Application for a Permit Modification or Other Approval*. According to these review procedures, MassDEP's decision regarding the proposed activities shall be either: a "Provisional Decision" pursuant to 310 CMR 19.033(4)(a); or a non-provisional decision pursuant to 310 CMR 19.033(4)(b). MassDEP has determined that non-provisional decision is appropriate for this Application.

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* (the "Manual").

III. SITE DESCRIPTION

The Bird Inc. Landfill is a capped and closed, unlined landfill located southwest of Norfolk Street at the end of Merchants Drive on parcel of land encompassing approximately 80 acres, in Walpole, Massachusetts (the "Site"). The Area II Landfill final cover system encompasses approximately 8 acres.

The Landfill is bordered on the north, south and west by power transmission lines and an electrical substation. It is bordered to the west by light manufacturing businesses. There are wetlands areas that consist of a stream and bordering vegetative wetlands in the power line areas.

The Bird Corporation began using Area I of the site in 1974 and began disposal in Area II in 1980. Disposal operations in Area II were discontinued in 1997. The waste disposed in Area II consisted of scrap asphalt roofing shingles, cardboard rolls, and some raw materials from processing, including fiberglass mat, stone granules, solid asphalt, defective wooden pallets, and paper wrapping materials.

Existing Final Cover System Design: The final cover system consisted of:

- a six inch thick sand gas venting layer; overlain by
- a 40 mil textured high density polyethylene (HDPE) geomembrane; overlain by
- a 12 inch thick sand drainage layer; overlain by
- a geotextile filter fabric; overlain by
- a 15 inch vegetative support layer.

The Engineer stated that, due to the nature of the waste that was disposed, it was determined at the time of final cover construction that landfill gas generation would be negligible and a standard landfill gas venting system was not required. Some landfill gas vents were installed as a precautionary measure.

Post-Closure Environmental Monitoring: Post-closure environmental monitoring is currently conducted pursuant to the procedures outlined in the Comprehensive Site Assessment ("CSA") Scope of Work Post Closure Monitoring Plan approved in 1995. The groundwater monitoring system consists of monitoring eleven groundwater monitoring wells on a semi-annual basis. Some volatile organic compounds (VOC's) have been detected in groundwater and ongoing monitoring indicates the VOC levels have been declining since the Landfill was closed.

Surface water sampling is performed at two locations. There is no landfill gas monitoring system or program.

IV. POST-CLOSURE USE PROPOSAL SUMMARY:

The Applicants propose to develop a 2.42 MW DC (1.95 MW AC) solar photovoltaic installation on the Area II Landfill consisting of the following components:

- Construction of temporary and permanent on Landfill access roads;
- Enhancement of an existing access road;
- RBI Solar galvanized steel panel support racks installed on ballast blocks on the Landfill final cover system;
- RBI Solar galvanized steel post mounted panel support racks installed outside the limits of the landfill final cover system;
- Approximately 7,020 PV modules (HYUNDAI HIS-S245T1);
- Two reinforced concrete equipment pads located outside the limits of the final cover system;
- Sixty-five HUAWEI SUN2000-30k TL inverters;
- Two 1000kVA transformers;
- Photovoltaic panel support racks interconnected and connected to the inverter/transformer using above-ground cables;
- Explosion proof underground PVC conduit for high voltage;
- New, developer supplied, utility poles; and
- New "Eversource" supplied utility poles.

The Engineer states that the array will be installed on a Landfill area of approximately 8.47 acres with a slope of less than 8% (5 degrees). The RBI Solar cap ballasted mounting system will be installed directly on the existing grass surface of the landfill final cover system. Where necessary, for leveling purposes, clean stone will be used and placed on a geotextile overlying the grass surface.

The RBI Solar module mounting system above the Landfill final cover system will consist of 126 Type B precast concrete ballast blocks measuring 9'-6" x 2'-3" x 1'-6" high weighing approximately 4810 pounds and 365 Type C precast concrete ballast blocks measuring 9'-6" x

1’-8” x 1’-6” high weighing approximately 3570 pounds. The Engineer calculated a maximum stress from the array and soils loading above the final cover system sand drainage layer to be a maximum of 521 pounds per square foot (psf) (3.6 psi), which is below the 1,000 psf (7 psi) the Engineer states is acceptable.

The RBI Solar module mounting system located outside the limits of the Landfill final cover system will consist of galvanized steel posts with a minimum of 7 feet of ground embedment.

The existing landfill gas collection and management system will not be modified by the installation of the solar array. The arrays will be set back a minimum of 10 feet from the passive gas vents. The inverters will be placed a minimum of 10 feet from the passive landfill gas vents.

The Engineer stated that due to the nature of the waste materials disposed, it was determined at the time of final cover construction that landfill gas generation would be negligible.

The solar array will utilize PV modules (39 inches by 77 inches) mounted on galvanized steel framed racks. The racking system will hold the panels at a fixed tilt of 15 degrees from horizontal. The PV modules will be mounted with 2 modules in portrait and installed 3 to 6 modules wide.

The existing elevation and grade of the Landfill will be minimally altered. The proposed design does not include any penetration of the low permeability layer of the final cover system.

All conduits will be above ground in cable trays supported on the ballast blocks and caddies, as needed. In some locations beyond the limits of the final cover system, the high voltage lines will be buried below grade in explosion proof conduits pursuant to Massachusetts Electric Code requirements. **(refer to Condition # 6)**.

Five new utility poles will be installed to support switchgear, reclosers and meters.

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). A copy of the electrical work permit was submitted to MassDEP on October 4, 2016.

As shown on the revised drawings submitted to MassDEP on September 27, 2016, a permanent access roads will be constructed leading to the top of the Landfill. Temporary access roads may be constructed to prevent damage to the Landfill final cover system and will be located as required by the PV array installation contractor. Temporary roads will be constructed by placing a woven geotextile over the existing landfill final cover system, overlain with a minimum of 18 inches of crushed gravel meeting MassDOT M1.030 Gravel Borrow Type B specifications. The permanent access road will be constructed by removing the existing vegetative support layer and placing crushed gravel above the sand drainage as necessary to achieve a minimum thickness between the top of the geomembrane and the top of the road. Where an existing access road exists, the road will be enhanced with crushed gravel to achieve a minimum thickness between the top of the geomembrane and the top of the road. The Engineer stated that the access roads will be constructed in a manner that does not affect the functionality

of the existing stormwater drainage system. Test pits of the existing Landfill final cover soils will be performed at 100 foot intervals to verify the actual thickness of the cover soils. Should the cover soils not exist as designed, the access road design will be modified to ensure adequate soil thickness above the final cover system geomembrane. The Applicants provided a table of maximum vehicle loading above various thicknesses of soils above the final cover system geomembrane.

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

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

- The modules, panel support racks, and ballasts loading will be approximately 1.7 psi and will not exceed the loading criteria of 7.0 psi that the Engineer states is appropriate for the Landfill.
- The PV array system will not cause adverse Landfill settlement. Predicted settlement was calculated as 0.14 inches.
- The PV array and ballast system is stable on a slope up to 5 degrees (8% percent).

Storm Water: The Landfill closure design did not include mid slope swales but did include a top of slope drainage swale and a perimeter drainage swale. Existing stormwater flows via sheet flow and concentrated flow to detention basins with overflow structures that flow to wetlands. No grading changes are proposed for the project by the Engineer so it is anticipated that post construction stormwater will follow the same drainage patterns as the current conditions. The PV array will modify run off characteristics of a limited portion of the Landfill by changing some of the landfill grass cover to impervious surfaces increasing stormwater runoff.

The Engineer performed stormwater modeling using HydroCAD a flow modeling software (TR-55) analysis for the 24-hour, 10 year storm event, the 24-hour, 25 year storm event and for the 24-hour, 100 year storm event.

The Engineer concluded that the existing detention basins are adequate to store runoff for the landfill for the 24-hour, 100 year storm event without overtopping. The Engineer proposed a new detention swale and storm water basin with a capacity of 4200 cubic feet in an area southeast of the Landfill final cover where tress will be cut and stormwater runoff is estimated to increase. A Notice of Intent was filed for this area and an order of Conditions was issued by the Walpole Conservation commission on January 24, 2016.

Post Closure and Post-Closure Use Operations and Maintenance: There are no proposed changes to the post closure operation and maintenance plan. The PV arrays will be set back a minimum of ten feet from the passive gas vents. As shown on Drawing PV-20, the equipment pads will be located outside the limits of the final cover system.

Dynamic Energy Solutions, LLC's obligations for maintenance of the Landfill final cover system will be within the perimeter fence to be installed as part of the project. **(refer to Condition #6)** CertainTeed Corporation will continue to maintain the rest of the Landfill outside the fence and will continue to be responsible for all post-closure environmental monitoring.

Inspections of the Landfill area containing the PV array and stormwater controls are required monthly for the first year of PV system operation and quarterly thereafter. Complete Landfill inspections are to be conducted every two years pursuant to 310 CMR 19.018(6)(b). (**refer to Condition #16**).

A "Health and Safety Plan for Operation/Maintenance of a PV Solar Facility" and a "Dynamic Energy Site Safety Plan" were submitted by the Applicants. MassDEP requires submittal of health and safety plans for its records but does not review and approve these plans.

Site Security: The Applicants state that the Bird Landfill is a privately owned landfill with restricted access. The access to the arrays will be provided though locked gates.

Decommissioning Plan: The Engineer states that the solar project will remain at the Landfill for at least 20 years. A Decommissioning Plan will be developed and include dismantling and removal of all solar panels and supporting equipment, transformers, overhead cables, equipment pad foundations, and restoration of the roads and module site s to substantially the same physical condition that existed immediately before construction of the solar project.
(**refer to Condition #18**).

V. 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 Area II of the Bird Inc. Landfill for a Solar Photovoltaic Array subject to the conditions identified herein.

VI. GENERAL PERMIT CONDITIONS:

1. Permit Limitations: The issuance of this approval is limited to the proposed Solar Photovoltaic Array at the Bird Inc. Landfill as detailed in the Application and does not relieve the Applicants from the 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 CertainTeed Corporation, 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. MassDEP shall be consulted prior to any deviation from the approved design. MassDEP may require a permit modification application for significant design modifications.

2. Regulatory Compliance: The Applicants, Engineer 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. Health and Safety: The Applicants, Engineer 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 revised copy of a site specific Construction phase health and safety plan was submitted to MassDEP (for its files) on August 26, 2016, and was supplemented on September 9, 2016.

   A copy of a site specific health and safety plan for the post-closure use OPERATIONS AND MAINTENANCE phase, was submitted to MassDEP (for its files) within the original application as Appendix E. Prior to the commencement of the PV array construction, the Applicant shall ensure that the OPERATIONS AND MAINTENANCE phase health and safety plan includes as a minimum:

   - protocols for monitoring of landfill gas as needed;
   - protocols for modifying work practices if landfill gas is detected at levels deemed unsuitable; and
   - Training for all workers, conducting maintenance activities at the Landfill regarding hazards associated with the PV array including electrical hazards.

Revised copies of the plans shall be submitted to MassDEP for its records.

4. Landfill Gas Notification Requirements:
   a. As specified in solid waste management regulations at 310 CMR 19.132 (5) (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's regional office in that covers the municipality which the facility is located within two hours of the findings; and*
      3. *Undertake the actions specified under 310 CMR 19.150, Landfill Assessment Requirements and 310 CMR 19.151: Corrective Action requirements, 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, CertainTeed Corporation shall notify MassDEP's Bureau of Waste Site Cleanup-Emergency Response Section (508) 946-2850 within two (2) hours of the exceedance as per 310 CMR 40.0321(1) (a) of the regulations.

5. 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 Applicant 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 Applicant reports 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.

6. Pre-Construction Submittals: Prior to commencing construction of the following elements of the project, the Applicant shall submit the following for MassDEP's review and approval:

   a) The revised Operations and Maintenance Phase Health and Safety Plan as specified in Condition 3.

b) A revised detail depicting the equipment slab construction and the conduits entering and exiting the electrical equipment. Given the potential for subsurface landfill gas migration in the vicinity of the proposed equipment slabs, any underground conduit and penetrations of the equipment slab must be designed to prevent landfill gas from impacting the electrical equipment. The proposed design includes a geomembrane gas migration barrier, a protective layer on both sides of the geomembrane, and a crushed stone layer between the geomembrane and the bottom of the slab installed below grade, which allows landfill gas to migrate laterally. The revised design must prevent horizontal landfill gas migration under the equipment slab.

7. Proposed Inverter/Transformer Pad (PowerStation) and Interconnection Equipment:
The Applicant, Engineer and Applicant's 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 pads or foundations. There shall be no penetration of any kind of the impermeable layer of the final cover system. Grounding methods for all equipment shall not penetrate the Landfill final cover system.

8. Notification of Construction: The Applicants shall notify MassDEP in writing (e-mail is acceptable) when the post-closure use construction commences and is completed.

9. Pre-construction Work: Prior to commencement of construction activities all landfill gas passive vents, 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.

   Prior to the installation of the proposed new utility poles, the limits of the Landfill final cover system shall be determined and clearly designated. All necessary precautions shall be taken to ensure the installation of the utility poles does not impact the Landfill final cover system. Should the Landfill final cover system be impacted, the Applicants shall notify MassDEP within 24 hours.

10. Personnel Training: The Applicants, Engineer and Applicant's 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.

11. 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 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. **(refer to Condition #15)**

12. Road Access and Low Ground Pressure Equipment: Low ground pressure equipment shall not access the final cover system from roads where the transition will result in excessive pressure and wear on the Landfill vegetative surface. The on-site engineer may allow construction of ramps as necessary.

13. 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 topsoil layer. No excavations shall penetrate the sand drainage layer or the HDPE flexible membrane layer 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.

14. Construction Precautions: All necessary precautions shall be taken to protect the Landfill storm water control system, environmental monitoring network and the Landfill gas vents and horizontal pipes. 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 Engineer shall notify MassDEP within 24 hours and provide a written plan with a schedule for repairs.

15. Certification Report: Within ninety (90) days of completing the installation of solar photovoltaic array, MassDEP shall be provided with a 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. 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, list equipment used, summarize the project in a narrative and discuss any variations from the approved Application. Should the Applicants desire a formal and written approval of the certification report, the Applicants must submit a formal BWP SW 43, Landfill Completion permit application.

16. 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. Inspections shall be conducted by a third-party consulting Massachusetts Registered Professional Engineer, or other qualified solid waste professional. The Applicant, Engineer and Applicant's 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 problems or other issues observed at the Landfill shall be reported to MassDEP and repaired immediately.

There are no proposed changes to the post closure operation and maintenance plan for the area to be maintained by the Owner and not used for the PV array. Landfill inspections shall be conducted pursuant to 310 CMR 19.018(6)(b) every two years that evaluate the entire Landfill, the environmental monitoring system and summarize the inspection and monitoring information pursuant to 310 CMR 19.018(6) and (8) and submitted pursuant to 310 CMR 19.018(8)(c).

17. Site Security: The Applicants and Applicants' Contractors must continually monitor and evaluate the potential for unauthorized access and institute all appropriate measures to prevent unauthorized access during construction and operation of the Solar Photovoltaic Array.

18. Decommissioning Plan: If the proposed project is abandoned, during or after completion of construction, the Applicants shall submit a decommissioning plan. The decommissioning and site restoration plan should include, at a minimum; dismantling and removal of all panels and supporting equipment, transformers, overhead cables, foundations and buildings and restoration of the roads and the final cover system components, including the vegetative support layer, to substantially the same physical condition that existed prior to post-closure use construction.

19. Transfer – No transfer of this permit shall be permitted except in accordance with the requirements of 310 CMR 19.044. The form established by MassDEP for permit transfers is the BWP SW 49 application form.

20. Financial Assurance: Pursuant to the provisions of 310 CMR 19.051, the Applicants shall maintain a Financial Assurance Mechanism ("FAM"), acceptable to MassDEP, in order that sufficient funds are available to properly decommission the solar PV array system and all its appurtenant structures and features, and to properly restore the Landfill/Site to its original condition (prior to the implementation of the described post-closure use activity). The FAM shall be reviewed and approved by MassDEP prior to commencement of construction of the PV array and shall be in the amount of $136,500. The FAM shall be periodically adjusted pursuant the to the provisions of 310 CMR 19.051 (6), Revisions of Estimates for Closure and Post-Closure Costs, that requires annual estimate revisions and estimate re-submittals to MassDEP every two years.

21. 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.

22. 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 Applicants 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.

VII. REVIEW OF DECISION

Pursuant to 310 CMR 19.033(4)(b), if the Applicants are aggrieved by MassDEP's decision to issue this decision, they may within twenty-one days of the date of issuance file a written request that the decision be deemed provisional, and a written statement of the basis on which the Applicants believe they are 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 days after MassDEP's receipt of the request. Such a request shall reopen the administrative record, and MassDEP may rescind, supplement, modify, or reaffirm its decision. If MassDEP reaffirms its decision, the decision shall become final decision on the effective date. Failure by the Applicants to exercise the right provided in 310 CMR 19.033(4)(b) shall constitute waiver of the Applicants' right to appeal.

VIII. RIGHT TO APPEAL

Right to Appeal: This approval has been issued pursuant to M.G.L. Chapter 111, Section 150A, and 310 CMR 19.033: Permit Procedure for an Application for a Permit Modification or Other Approval, of the "Solid Waste Management Regulations". Pursuant to 310 CMR 19.033(5), any person aggrieved by the final permit decision, except as provided for under 310 CMR 19.033(4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. Chapter 111, Section 150A and M.G.L. Chapter 30A no later than thirty days of issuance of the final permit decision to the applicant. 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 be effective in accordance with the terms of 310 CMR 19.033(3).

Notice of Appeal: Any aggrieved person intending to appeal a final permit decision to the Superior Court shall first provide notice of intention to commence such action. Said notices of intention shall include MassDEP Transmittal No. X272070 and shall identify with particularity the issues and reason why it is believed the final permit decision was not proper. Such notice shall be provided to the Office of General Counsel of MassDEP and the Regional Director for the regional office which processed the permit application, if applicable at least five days prior to filing of an appeal. The appropriate addresses to send such notices are:

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

Millie Garcia- Serrano, Regional Director
Department of Environmental Protection
20 Riverside Drive
Lakeville, MA 02347

No allegation shall be made in any judicial appeal of a final 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 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) 2847 or to Dan Connick (508) 946-2884, or write to the letterhead address.

Very truly yours,

Mark Dakers, Chief
Solid Waste Management Section

D/DC/

P:\U-Z\walpole\Bird LF\Bird LF solar apl rev 10-4-2016.docx

cc: Walpole Board of Health
135 School Street
Walpole, MA 02081

Walpole Conservation Commission
135 School Street
Walpole, MA 02081

ec: Weston & Sampson
himesd@wseinc.com

DOER, Seth Pickering
Seth.Pickering@state.ma.us

ec: DEP-Boston
ATTN: R. Blanchet
S. Weinstein
J. Doucett
T. Higgins

DEP-SERO
ATTN: M. Pinaud
M. Dakers
J. Viveiros