



August 7, 2019

Daniel Compitello  
Delaware River Solar  
130 North Winton Road #415  
Rochester, NY 14610

**Re: Review of Lakeside Engineering Comment Memo  
Delaware River Solar LLC Solar Energy Facility Project – Yellow Mills Road  
Town of Farmington, Ontario County, New York**

**Dear Mr. Compitello:**

We are in receipt of the review letter from Lakeside Engineering PC, dated August 1, 2019 for the proposed Yellow Mills Solar Energy Facility Project in the Town of Farmington. As requested, this correspondence provides an assessment of the items brought up by Lakeside. We have provided the following responses to address the concerns posed in the Lakeside letter in support of the issuance of a “Negative Declaration of Significant Adverse Impact” (“Neg Dec”) by the Town of Farmington Planning Board as Lead Agency, pursuant to the New York State Environmental Quality Review Act (SEQRA). As such, we offer the following comments:

*STORM WATER POLLUTION PREVENTION PLAN (SWPPP)*

*Lakeside Comment:* Information concerning project erosion control management, construction sequencing and details of final proposed construction storm water improvements is generally lacking. I do not believe the plan as proposed will meet requirements of the New York State Standards and Specifications for Erosion and Sediment Control.

**Bergmann Response:** Delaware River Solar is required to obtain a State Pollutant Discharge Elimination System General Permit (GP-0-15-002) through the NYSDEC pursuant to Section 402 of the Clean Water Act. The NYSDEC outlines its stormwater standards through its detailed guidance in the NYS Stormwater Manual & Standards and Specifications for Erosion and Sediment Control Manual. The Town of Farmington is an MS4 community so the Town will have to review and approve the Stormwater Pollution Prevention Plan (SWPPP) for compliance with the NYSDEC regulations. The applicant has provided various details and notes consistent with the NYS Stormwater Manual on how stormwater and disturbed areas will be addressed which the Town has reviewed. Moreover, the NYDEC is an involved agency in this action, has had the opportunity to review this information, and, to our knowledge, has not identified any material adverse impacts relating to stormwater. For these reasons we feel that any potential significant adverse environmental impacts as a result of stormwater pollution have been described and assessed sufficiently for SEQR purposes and will be properly mitigated.

*Lakeside Comment:* A SWPP plan (sic) in accordance with the New York State Storm Water Pollution Discharge Elimination System (SPDES) requirements must be spelled out in detail before the project can be fully evaluated and it can be determined whether special variances to the regulations or determination of positive environmental impact need be made. At this time no such plan has been offered nor application made to show requirements can be met for this critical piece of the construction process.



**Bergmann Response:** Many items that are required to be in a SWPPP have been provided on the site plans in the form of details and notes throughout the review process by the Town of Farmington Planning Board over the past year. As detailed therein the applicant is proposing to utilize a bioretention area to manage the runoff associated with the proposed roadway. This is an acceptable practice for these types of projects to meet the requirements outlined in the NYSDEC General Permit (GP-0-15-002). In addition, Delaware River Solar is required to obtain a State Pollutant Discharge Elimination System General Permit (GP-0-15-002) through the NYSDEC pursuant to Section 402 of the Clean Water Act. The NYSDEC is the authorizing agency with respect to the issuance of this General Permit. Construction activities cannot begin prior to the issuance of a General Permit. All required items and standards related to the General Permit, including the preparation of a SWPPP, precede the issuance of General Permit and will be met. The Town of Farmington is an MS4 community so the Town will have to review and approve the SWPPP for compliance with the NYSDEC regulations regardless. Adherence to the requirements of the SWPPP and General Permit all pursuant to the information and details provided during the review process and assessed the by Town, provides mitigation of potential significant adverse environmental impacts that might otherwise result from stormwater pollution.

*Lakeside Comment: A detailed construction sequence description and erosion control practices shall be laid out in the Erosion Management and Construction Plan (EM&CP) portion SWPPP report. At this time, it is unclear whether the developer intends to meet these requirements or will be able to do so. No written plan nor drawings with details have been provided which would allow us to determine compliance of the project with these requirements.*

**Bergmann Response:** Delaware River Solar will be required to meet the specific standards in order to obtain coverage under the State Pollutant Discharge Elimination System General Permit (GP-0-15-002) through the NYSDEC pursuant to Section 402 of the Clean Water Act. This permit requires that specific standards be implemented as a condition to the granting of this permit. Some of these standards include sequence of operations describing the intended order of construction activities, as well as a description of the erosion and sediment control practices to be implemented. The Town of Farmington is an MS4 community so the Town will have to review and approve the SWPPP for compliance with the NYSDEC regulations. The applicant has and does agree to comply with such requirements. Thus, adherence to the permit requirements will result in mitigation of potential significant adverse environmental impacts as a result of erosion and sediment.

*Lakeside Comment: Construction activities seeking authorization under the SPDES General Permit must include owner's, professional's and trained contractor's certified written understandings of the requirements and ability to meet same.*

**Bergmann Response:** Delaware River Solar will obtain a State Pollutant Discharge Elimination System General Permit from the NYSDEC which includes a SWPPP. Through both obtaining and adhering to the SPDES General Permit prior to and during construction, the required standards including those listed above will be met. The Town of Farmington is an MS4 community so the Town will have to review and approve the SWPPP for compliance with the NYSDEC regulations regardless. Therefore, potential significant adverse environmental impacts associated with construction activities will be mitigated through the process of obtaining the required and necessary permit documents.

*Lakeside Comment: Areas of disturbance shall not remain so for greater than one (1) week without*



*temporary soil stabilization measures being put in place. The developer needs to define how this objective will be met.*

**Bergmann Response:** The NYSDEC provides guidance in the NYS Standards and Specifications for Erosion and Sediment Control Manual as to these requirements. The standards require soil covering practices be implemented as part of the soil stabilization measures. The applicant has provided a stockpile location and agrees to comply with such requirements. Adherence to the permit conditions and standards will mitigate any potential environmental impacts associated with soil stabilization.

*Lakeside Comment: Hydrological calculations and the ability of the project and area to handle increased post development flows have not been provided. Potential impacts of the direct increased sheet flow of storm water into the wetland areas is required to be evaluated and mitigated as necessary. The developer's attorney has made the argument that the project will not impact storm water flows as the water will flow down the panels into the ground, which is permeable. However, existing soil conditions will not necessarily result in immediate absorption. The panels themselves are impervious and will concentrate storm water flows much as a paved parking lot would. The geotechnical report indicates that the ponding is already an issue on the project site, and this issue will only be made worse by the solar panel installation, given the number and dense massing of the project. Any pollutants on the panels could quickly wash off and be rapidly delivered to nearby waters. The project site is in close proximity to two (2) NYSDEC and two federal water bodies, so this could be a potential issue during storm events. Natural vegetative ground cover may not be sufficient to capture and filter storm water as soil and slope conditions vary throughout the site.*

**Bergmann Response:** The NYSDEC and the regulations outlined in the State Pollutant Discharge Elimination System General Permit (GP-0-15-002) do not consider ground mounted solar panels – those proposed in this action - as impervious area. Accurately determining impervious areas is key to addressing stormwater volumes and rates. As proposed, the solar panels will be fix-tilted and mounted on posts and elevated above the ground at angles facing south. There is spacing between each of the panels which allows stormwater to maintain normal flow patterns. The tilt and angle of the panels act to break raindrop velocity falling from the sky, before this water is absorbed by the ground, having no impact on normal flow patterns. No grading is proposed in the areas where the panels will be installed and therefore the existing hydrological patterns and soil conditions will not be affected. As such the runoff Curve Number in the areas of panel installations will remain the same. Any increases to impervious areas will be addressed through the General Permit and New York State Stormwater manuals from the NYSDEC. The purpose to the NYSDEC's General Permit for stormwater is to maintain water quality, reduce runoff volume, protect existing channels and provide flood control. All these factors have been assessed during the year long review of this application, and will be further subject to the requirements associated with the issuance of any NYSDEC general permit, which the applicant agrees to and will be required to meet. The Town of Farmington is an MS4 community so the Town will have to review and approve the SWPPP for compliance with the NYSDEC regulations. Therefore, the comprehensive review and requirement to adhere to the required permit conditions will mitigate potential significant adverse environmental impacts related to stormwater for this site.

*Lakeside Comment:*

*PROJECT GEOTECHNICAL REPORT AND STRUCTURAL ISSUES*



*The project geotechnical report includes a number of issues for which it is felt special requirements may be necessary:*

- 1. A perched surface groundwater table to less than four (4) feet depth in portions of the project/Frost susceptibility of on-site soils,*
- 2. Cobbles and boulders of a size to cause refusal of their ability to advance their soil auger during the course of their work,*
- 3. A principal aquifer beneath the project site/Clearing and grubbing of the entire site solar array area and possible 'major site regrading operations', and*
- 4. Seismic design suitable for site Classification D under ASCE 7-10 guidelines using a risk factor IV, high risk/General effect of structural loadings such as snow and wind on the project.*
- 5. The perched groundwater table can be expected to cause a number of impacts, creating concerns regarding the site's suitability for construction.*

**Bergmann Response:** The geotechnical report presents that out of 23 soil boring locations:

- 7 soil boring locations with perched groundwater approximately 4 feet or shallower; and
- 16 soil borings where groundwater was encountered below 4 feet, of which 3 soil boring locations were locations where groundwater was not encountered

Therefore, the majority of the investigated locations have observed groundwater at depths below 4 feet and below the frost line based on the geotechnical report. The report also documents that the soils are suitable for construction based on the test results and recommendations provided in the report. As such, significant adverse impacts associated with groundwater are not anticipated. Our responses to "2" through 4" are detailed in comments below.

*Lakeside Comment: The soils will be likely to exhibit substantial frost heaving during periods of freezing weather. This condition warrants special structural practices be employed for the work as discussed in the geotechnical report. No special construction is shown nor even indicated for concrete slab on grade construction most susceptible to frost heave damage. Frost heave could damage these structures and cause separation of wiring and conduit into the pads, resulting in equipment failures, possible electrical fires and so forth.*

**Bergmann Response:** The geotechnical report provides documentation that addresses the potential for frost heave impacts. See the text section recommendation number 3 below from the geotechnical report Page 5. Also refer to Table 4 – Soil Properties on page 5 of the report.

"We understand that the preferred foundation system would consist of the light-weight steel 1-beams or C-channel. While it is our opinion that this type of system is viable for the soil conditions expected, pre-augering of each hole should be expected due to cobbles, boulders, and very dense soil conditions that will limit the penetration depths. The racking system design should account for frost impact and potential heaving of the racks. For preliminary estimating of the pile performance, assume the soil properties outlined in Table No. 4 below. We recommend performing uplift and lateral load tests to confirm that the required design resistance is developed and that production piles be installed using equipment and methods similar as those used during the test pile installation process."



*Lakeside Comment:* There is a great deal of concern with local fire fighters' abilities to handle such electrical fires and exactly how training will take place to local firemen by the project developer. This has not been spelled out.

**Bergmann Response:** The project summary prepared by Delaware River Solar for the Farmington Town Board and Planning Board dated August 21, 2018 states that, "Fire protection at the Project Site will include safety measures to ensure the safeguarding of human life, preventing injury, and preserving property. The local fire departments will be contacted to review the site plan and will also be provided a walk-through of the facility upon completion of construction to be shown the location of critical equipment and disconnect procedures." The facility will meet all local, state, federal and local electric utility safety and fire codes applicable for this type of project. As a result, this concern has been addressed by the project developer as part of the application, and poses no significant adverse impact to the environment or the community.

*Lakeside Comment:* Another concern of the moist wet soil conditions is the effect it may have on the proposed post type solar panel foundation design. The project site will be covered in impervious surfaces, which will limit the soil's ability to properly drain. A zinc coating has been proposed for steel posts. While zinc coated posts are less susceptible to corrosion, rainwater and water condensation can corrode zinc coated steel over time. The project is supposed to be in service for at least thirty (30) years, so corrosion of the steel posts poses a potential significant environmental issue. The proposed channel foundation members are of relatively thin construction. The opportunity for severe corrosion and weakening of these members is therefore in place. Such weakening could have devastating impacts on the final facility installation long term integrity. It is believed that stainless steel posts should be used to mitigate the corrosion possibility.

**Bergmann Response:** The project site's ability to drain will not be affected due to the fact that the ground cover will not be changed. The panels will be post mounted, and elevated above the ground, and therefore the native ground beneath the panels will remain the same. The panels are not stapled to the ground using the steel posts, in an attempt to cover the ground. No changes to the existing drainage patterns on the project site will result. Additionally, zinc posts are used throughout the Town of Farmington for public signage, guardrails, guy-wires for poles and other practical public uses and are rated to have longer expected lifespans than 30 years. Detailed environmental impact statements are not typically prepared for these uses of zinc in public rights-of-way and pose no additional significant adverse impact to the environment than the zinc posts proposed for use on this project. Furthermore, the Geotechnical report states that "a corrosive environment is not present on this parcel", and testimony from the geotechnical engineer provided that the galvanized steel used is commonly used throughout the area.

*Lakeside Comment:* The geotechnical report indicates that soil corrosivity is low based on current conditions. It is unclear how soil conditions (including PH) could change over time as a result of the project.

**Bergmann Response:** Based on the completed pH chemical test results documented in the geotechnical report the soil corrosivity is low and these Site soils present a low probability of impacts to proposed support steel used in foundation elements such as piles, see page 6 recommendation number 4. The geotechnical report also approves reuse of site soils (see page 5 recommendation number 2) for construction phases of this project based on the physical test results documented in the report in accordance with the recommended placement and compaction requirements. It is unlikely that the soil corrosivity has changed significantly over



the course of the current landowner's tenure with the parcel and there is unlikely to be a significant change due to the installation of the project. The use of road salt on municipal highways and private driveways is more likely to affect soil chemistry than the proposed project. See foundation Design's report text section below from page 5 of their report and refer to Table 3 on page 5 that documents the results that are well below potential corrosive evaluation criteria.

"As part of this evaluation, we performed laboratory testing to assess the corrosive environment on-site. This testing consisted of soluble chloride concentrations, soluble sulfates concentrations, pH determinations and lab resistivity testing. Chloride and sulfate levels were very low, below the detectable limits. Table No. 3 below summarizes the test results. Although the soil resistivity values are somewhat low, the pH values are near neutral. Based on these results, we do not anticipate a corrosive environment on this parcel."

*Lakeside Comment: Electrical conduit is proposed at four feet (4 feet) depth. The geotechnical report mentions that ground water intrusion was found as shallow as 2.5 feet. How will water in conduit trenches be dealt with during the construction work? Will there be any direct discharges onto site wetlands? Will soil erosion and sediment control be practiced on any pumped discharges? How will conduit construction be protected against flooding and possible failure if conduit and cable are fully submerged in the final construction condition?*

**Bergmann Response:** The geotechnical report presents that out of 23 soil boring locations:

- 7 soil boring locations with perched groundwater approximately 4 feet or shallower; and
- 16 soil borings where groundwater was encountered below 4 feet, of which 3 soil boring locations were locations where groundwater was not encountered

Therefore, the majority of the investigated location have observed groundwater at depths below 4 feet (under the ground) and below the frost line based on the geotechnical report. The report also documents that the soils are suitable for construction based on the test results and recommendations provided in the report. There will be no discharges onto site wetlands. Construction of water and conduit trenches will conform to regular site inspections under the SWPPP and the NYSDAM Guidelines for Agricultural Mitigation for Solar Energy Projects (4/2018), and the Town Code. An environmental monitor will be present during construction to ensure adherence to these standards. Water, when present, will be diverted and or pumped to silt trapping devices, which are typically a sediment basin or sediment pillow, and are items that are addressed in the SWPPP if needed. The site groundwater is predominantly seasonal.

*Lakeside Comment: Cobbles and boulders were found on this site under the project geotechnical report which could cause refusal of the ability of the developer to install foundation piles to adequate depths for structural integrity. Pre- auguring of the pile locations was recommended by the geotechnical consultant with refusal still being a possibility in such locations. Does the developer have a plan in place for dealing with such instances? Might open cut excavation be needed? How did the developer conclude that there were only stones present on the site when the geotechnical consultant found cobbles and boulders common to the subsoils? What impact will the cobbles and boulders have on site and trenching work? How will they be handled?*

**Bergmann Response:** The recommendations of the geotechnical report will be followed. Soil boring depths of completion of rotary augered drilling boreholes indicated that the majority of the depths of the soil boring were to approximately 20 feet. The shallowest depth of auger drilling refusal was 12.5



feet. Several of the test boring logs indicate that augers were advanced through cobbles and boulders. Therefore, it appears that auger drilling is a feasible installation method for pre-drilling foundation elements if required as detailed in the geotechnical report. No significant adverse impact is anticipated associated with the installation of the foundation piles.

*Lakeside Comment: What special technique of foundation/bedding protection is offered for plastic conduit that could be adversely affected by large stones placed against the conduit walls? Such large stones tend to push through the conduit walls in time causing failure. Multiple failures could be devastating to this project. A special bedding such as with sand encasement is believed to be warranted for this critical application.*

**Bergmann Response:** The geotechnical report addresses requirements for utility conduit bedding protection and support of structural improvements such as transformer pad installation, see Pages 6 and 7 that present recommendations numbers 6 and 7. The geotechnical report recommends that transformer pad and other support equipment on mat foundations and undercutting the pad to a 48-inch depth and backfilling with a non-frost susceptible material such as No. 2 crusher-run stone. This report also recommends using imported uniform bedding in trenches for utility conduits to protect them from potential localized hot spots that could burn out wiring if native soils are used for trench backfill / bedding. Therefore, as documented in the report, on-site soil reuse is not to be used for backfilling trench electrical conduit. Details of the geotechnical report recommendations number 6 and 7 are presented below.

6. “Construct the transformer pad and other support equipment on mat foundations. Remove all surface topsoil from under the new equipment. We recommend placing at least 12-inches of granular material under the mat slabs. N.Y.S.D.O.T. Item 304.12 (No. 2 crusher-run stone) meets this criterion. Rework and re-compact the underlying native soil to structural fill standards outlined in Paragraph No. 2 above prior to installing the stone base course. Design the mat foundations based on an uncorrected Modulus of Subgrade Reaction,  $K_{vi}$ , of 250 psi/in at the bottom of slab/top of stone; the structural engineer should adjust this subgrade value for the size of the mat.

Frost may heave the pad, potentially separating pipe conduit at joints. To protect the pad, we suggest 1.) undercutting the pad to a 48-inch depth and backfilling with a non-frost susceptible material such as No. 2 crusher-run stone subbase (NYSDOT Item 304.12) or 2.) installing a high-density insulation board under the pad. Under the insulation approach, extend the board horizontally 48-inches in each direction beyond the edge of the pad. Cover the board with a minimum of six inches of soil. If insulation board is used, we suggest using a 2-inch thick, Type IV, V, VI or VII XPS board.

7. The measured in-place soil thermal resistivity values ( $Rho$ ) documented at a 36-inch depth ranged from 25.0 to 122.5°C\*(cm/W), representative of the highly variable soil conditions in the upper portion of the soil profile. As part of this design, we have not developed dry- out curves (plots of  $Rho$  versus density and  $Rho$  versus moisture) to assess further variability of these values.

Due to the highly variable test result, we do not recommend backfilling the electric trenches using the on-site soil. We are concerned that localized hot spots may develop that burn out the wiring. We recommend backfilling with an imported processed, uniform material that would allow for more consistent design values to be used.”



As these items have already been covered by reports previously submitted to and reviewed by the Planning Board, Town Staff and the Town's consultant, this comment brings no additional information to the Planning Board that has not already been reviewed. No significant adverse impact associated with the proposed placement of electrical wiring and conduit in accordance with applicable local, state and federal codes is anticipated

*Lakeside Comment. A principal unconfined ground water aquifer is located beneath the project site. Topsoil stripping and general grading could impact this aquifer from the position of general recharge and maintenance of prime condition. The developer has indicated grading and soil excavation will be limited to that necessary for electrical work and road construction; however, I believe that the severe slopes found within portions of the work will be required to be dealt with in order to construct the solar racks in the relatively level manner required. This could present large changes in drainage patterns and flow rates not reported in nor solution proposed for in the developer's information.*

**Bergmann Response:** A section of the Principal Aquifer named Fairport-Lyons Aquifer is mapped on this site. This section of aquifer below the site is controlled by inter-drumlin outwash channels with significantly less yield than the bedrock filled sections of the Fairport-Lyons Aquifer that is not mapped below the site. Although Principal Aquifers are an important groundwater resource, it should be noted that New York State Principal Aquifers have substantially less yield than Primary Aquifers that are used by municipalities for drinking water supply. Significant grade changes are not proposed within the area of the solar panels and racking system that would change protection of the water quality by the overlying soils in the aquifer from construction of the solar farm.

*Lakeside Comment: How will weeds and plant growth be managed during the life cycle period of the project? Even if the general site is continuously mowed, the fencing and the numerous steel piles embedded in the ground present obstacles requiring special attention. It seems inevitable that herbicides will be used in generous quantities to keep weed and brush growth from impacting the integrity and possible future use of the solar panels themselves. Obviously then it is necessary to discuss the potential impact of such method of weed treatment being employed. More discussion on this topic is needed so that a general understanding can be obtained and then the process fully analyzed and commented upon.*

**Bergmann Response:** According to Delaware River Solar, vegetation may need to be trimmed or cut back to avoid shading of the solar arrays. Shading inspections will be done semi-annually, and trimming will occur as needed. This would include growth maintenance of ground cover, existing vegetation and screening vegetation. Ground cover will be either mowed and trimmed, as needed, or sheep may be utilized to graze the solar array area. Herbicides will not be used to regularly manage vegetation. In the event the use of herbicides becomes necessary to prevent fast growing invasive species, the Project Owner will provide the Town Code Enforcement Officer with the proposed herbicide type, manufacturer and application schedule for approval before any application is made. The Town is encouraged to limit allowable herbicides to those found suitable for school and day care facilities by the NYSDEC. <http://www.dec.ny.gov/chemical/41822.html>. Any placement of approved herbicides to control invasive species will be conducted by personnel licensed by NYSDEC to do so.



The project may opt to utilize sheep to graze inside the perimeter fencing, to manage vegetation in lieu of or in addition to mowing. The project will obtain any required permits and town approvals as required. If sheep are used, the project would contract a sheep farmer to manage the sheep brought to the site. The following is a general description of process, which cannot be finalized until the site plans and designs are completed to determine the acreage available for grazing:

- Sheep will be located on the Project Site, inside perimeter fencing, where they would graze for a period of time (TBD based on acreage).
- The Project Site will be separated into “grazing sections” by use of low “restraining fencing” such that the sheep will rotate through grazing areas (TBD based on acreage).
- The sheep contractor will rotate sheep over various sites (i.e. the sheep are not on the Project Site continuously but rotated to among sites to manage vegetation).
- Sheep are not on the Project Site during the winter months.
- A small shed may be constructed within the Project Site to house sheep
- A portable water tank may be brought onsite, to provide drinking water to the sheep

*Lakeside Comment:* Site seismic design values have been given in the geotechnical report but are not mentioned in any of the developer’s project information. Precise calculations are necessary to prove that the solar farm can stand up to the greatest seismic event anticipated. The panels are of course largely wide spans of tempered glass. How is the structure designed to protect the solar array from failure of any kind during an earthquake including glass breakage?

**Bergmann Response:** The racking plans will be designed and certified by a Professional Engineer in the State of New York meeting all required codes. The structural plans and calculations will be provided through the process of obtaining a building permit similar to any other type of construction project, under the jurisdiction of the Town of Farmington Building Department.

*Lakeside Comment:* These type (sic) installations are also prone to failure due to uplift from heavy winds. What safeguards will be in place to guard against such failures? Again, detailed calculations are needed to properly evaluate the effects of wind, snow and other weather conditions on the project solar arrays.

**Bergmann Response:** The racking plans will be designed and certified by a Professional Engineer in the State of New York meeting all required codes. The structural plans and calculations will be provided through the process of obtaining a building permit similar to any other type of construction project, under the jurisdiction of the Town of Farmington Building Department.

### **GENERAL COMMENTS AND CONCERNS**

*Lakeside Comment:* This land is described as high value agricultural lands and is part of the agricultural district. It appears the proposed development violates both the Ontario County Agricultural Enhancement Plan and the Town of Farmington Farmland Protection Plan. How will these plans and issues be addressed? The abundance of mitigation measures proposed indicates that the project may have significant adverse impacts on Class 1-4 soils. Does this not result in positive environmental impact and such a declaration for the project?



**Bergmann Response:** The New York State Department of Agriculture and Markets (DAGM) has reviewed the Notice of Intent to Undertake a Solar Facility Project in a Mapped Agricultural District prepared by DRS and submitted to DAGM on January 15, 2019. DAGM has issued correspondence dated April 12, 2019 stating that the “proposed action would NOT have an unreasonably adverse effect on the continuing viability of farm enterprises within the district.” The thorough review by the DAGM, NYSERDA, the NYSDEC Advisory Council on Agriculture and the Ontario County Farmland Protection Board, coupled with the commitment by the applicant to adhere to the mitigation standards set forth by DAGM for solar facilities in agricultural districts supports a determination by the Town of Farmington Planning Board as SEQRA lead agency that the project will not have a significant adverse impact on agricultural land.

*Lakeside Comment: The Department of Agriculture is an interested agency for the purpose of SEQRA review; it does not have the authority to determine whether the project may result in potentially significant environmental impacts. The Planning Board must independently determine whether the project’s impact on Class 1-4 soils may have the potential for significant environmental impacts independent of the Dept. of Agriculture and Market’s determination. The Planning Board does not have adequate information in the administrative record to determine that there will be no potentially significant impacts to land.*

**Bergmann Response:** DAGM has issued correspondence dated April 12, 2019 stating that the “proposed action would NOT have an unreasonably adverse effect on the continuing viability of farm enterprises within the district.” The thorough review by the DAGM, NYSERDA, the NYSDEC Advisory Council on Agriculture and the Ontario County Farmland Protection Board, coupled with the commitment by the applicant to adhere to the mitigation standards set forth by DAGM for solar facilities in agricultural districts, supports a determination by the Town of Farmington Planning Board as SEQRA lead agency that the project will not have a significant adverse impact on agricultural land.

*Lakeside Comment: Delaware River Solar suggests that the Planning Board does not need to analyze impacts to Class 1-4 soils or surface water because it must prepare a Stormwater Pollution Prevention Plan (SWPPP) in order to comply with NYSDEC’s SPDES General Permit. When reviewing a SWPPP, NYSDEC does not evaluate whether there will be a potentially significant environmental impact. Rather, the necessity for a SWPPP is indicative of the potential for a moderate to large impact on soils and water resources. Therefore, this information is required at this time for the purpose of the Town Planning Board to make necessary decisions and determinations for the project especially the determination of potential positive impacts on the project site.*

**Bergmann Response:** The project has been subject to a comprehensive review relating to both its potential impacts on drainage and surface water and agriculture, all as clearly shown by the record. Moreover, Delaware River Solar must meet and comply with the NYSDEC SPDES General Permit as well as the NYSDEC Stormwater Management Design Manual. Therefore, it would be a condition of the Site Plan approval that the project meet the NYSDEC requirements. The Town of Farmington is an MS4 community so the Town will have to review and approve the SWPPP for compliance with the NYSDEC regulations regardless. The Town of Farmington photovoltaic law allows solar farms on Class 1-4 soils and makes no specific prohibition against it. This, coupled with the fact that the project will not result in the irretrievable loss of farmland, and that the property can be returned to farmland after the viable life of the project concludes, supports a determination by the Town of Farmington Planning Board as



SEQRA lead agency that the project will not have a significant adverse impact on agricultural land.

*Lakeside Comment: What and how will crossing and/or other easements be provided to assure the farmer is able to cross the property?*

**Bergmann Response:** There is ample access designed into the site layout to accommodate the cattle movement across the site, both during and after construction, which has been designed in consultation with the farmer to ensure the cattle farming operations can continue unimpeded. This has been previously provided to the Town of Farmington Planning Board, and as part of the NYSDAGM Notice of Intent process in detail. There is a 60' wide cross access easement between lots 2, 3, and 4 that runs down the proposed driveway. The site layout also includes a 50' wide path directly through the solar array area, leading from the eastern grazing areas and cattle barn to the western, southern and northern grazing areas. Along the northern access road to the solar array area, a series of positionable cattle fences and crash gates are proposed, so that the farmer and solar array operator may direct cattle movement away from the access road while maintenance and operation workers are onsite. The solar array area will be entirely fenced in using a typical farm post fence, which will be surrounded by the existing electrified cattle fence, which will be rerouted and reinstalled around the system for the farmer. As a result, no significant adverse environmental impact is anticipated to be associated with the continued provision of access to the property owner for agricultural purposes.

*Lakeside Comment: The decommissioning plan does not fully address the environmental risk posed by removal and disposal of the solar panels and the toxic chemicals contained therein. Other concerns include the ability to restore the site to its pre-solar farm condition and impacts to nearby water bodies (erosion and sedimentation).*

**Bergmann Response:** PV panels are constructed of silicone, tempered glass and metals. These components are enclosed and sealed during the manufacturing process. They therefore do not mix and vaporize into the air and therefore there is little to no risk of chemicals being released into the environment during normal use. Release of any hazardous chemicals from solid state inverters is also unlikely as solar installations must conform to state, fire, safety and electric codes, and they pose little to no risk of contaminating soil or ground water. DRS has provided the Toxicity Characteristic Leaching Procedure (TCLP) laboratory analysis by an independent lab to confirm these findings. The TCLP is an EPA certified procedure to measure leachate of hazardous materials in the instance of panel breakage, and any panels that pass the TCLP procedure are considered by the EPA to be safe to dispose of in the environment. Delaware River Solar commits to using only solar panels that meet the TCLP. As such, the scientific data supports a determination by the Town of Farmington Planning Board as SEQRA lead agency that the project will not have a significant adverse impact on the land with respect to these items.

Restoration of the site will follow New York State Erosion and Sediment Control standards, and those imposed by the NYSDAGM Notice of Intent (4/12/2019), and NYSDAM Guidelines for Agricultural Mitigation for Solar Energy Projects (revised 4/19/2018). As such installation of erosion control and stabilization measures will meet state standards, as will restoration of agricultural soils.

*Lakeside Comment: How will the drainage toward roadway areas and from the roadways be handled? Will not some swales and culverts crossing roadways be needed thus concentrating the flow of storm water runoff?*



**Bergmann Response:** Stormwater from the driveway would need to be conveyed to the appropriate stormwater practice. Any roadside swales will discharge directly into a stormwater practice for treatment and infiltration. No increase in stormwater rates or volumes will result from this project. Delaware River Solar intends on obtaining a SPDES General Permit from the NYSDEC for proper stormwater management. The Town of Farmington is an MS4 community so the Town will have to review and approve the stormwater practices for compliance with the NYSDEC regulations regardless.

*Lakeside Comment: The panels themselves will add substantial impervious area to the project site. The additional storm water flow to the wetlands and off site needs to be quantified and the result of the increase evaluated for final project impacts and to determine the viability of proposed storm water runoff control techniques, i.e., the bio-retention areas.*

**Bergmann Response:** The panels will not add impervious area to the project site as they do not change the ground cover below them. A total of ONLY 1.12 acres of soil disturbance is proposed throughout the entire site layout, resulting from the square footage of the access roads, pad mounted equipment, and the area of total all steel posts. – of which, ONLY 0.13 acres will be impervious surfaces that exist post-construction. The ground cover will remain native to what is existing presently. The proposed stormwater practices are standard NYS Stormwater Manual practices. The NYS Stormwater Manual provides guidance in managing stormwater volumes and rates. The proposed stormwater practices will treat the runoff generated from the proposed access driveway ensuring that no increase in stormwater volumes or rates results from this project. Delaware River Solar intends on obtaining a SPDES General Permit from the NYSDEC for proper stormwater management. The Town of Farmington is an MS4 community so the Town will have to review and approve the SWPPP for compliance with the NYSDEC regulations regardless.

*Lakeside Comment: Has a cut and fill analysis been done for the project? It appears there may be more cutting than filling resulting in excess spoil needing to be trucked away to another site and major impacts resulting therefrom. The effects of the high construction traffic on area roadway resources has not been discussed but presents a critical concern for area residents.*

**Bergmann Response:** No major grading is proposed, apart from removing topsoil for the installation of the access driveway, and as a result, no cut/fill analysis would not be necessary. Construction is proposed to take 3-4 months. Construction traffic will not exceed 100 vehicles per hour during peak hours. As such there will not be a significant impact on traffic patterns.

*Lakeside Comment: What assurance is there that project equipment and materials will be of high quality? Will detailed project construction specifications include sections dictating the type and quality of products and materials to assure a long-lived project?*

**Bergmann Response:** The racking plans will be designed and certified by a Professional Engineer in the State of New York meeting all required codes. The structural plans and calculations will be provided through the process of obtaining a building permit similar to any other type of construction project, under the jurisdiction of the Town of Farmington Building Department. Aside from the panels, all other electrical equipment specifications are bound to Utility standardized requirements for quality, safety and performance standards. The Inverter and Transformer and all electrical wiring and components are detailed



and specified by Rochester Gas and Electric in the Interconnection Agreement for the projects and cannot be strayed from. This equipment meets the same quality standards as the equipment RG&E places in service within their own utility grid.

*Lakeside Comment:* Bio-retention facilities are proposed for the work. How will the high ground water and concentrated runoff be handled by a retention area having no outlet? It seems more likely that a storm water retention/siltation basin facility of some sort would better suit or in fact be required to obtain approval of the work under the SWPPP requirements.

Bergmann Delaware River Solar intends on obtaining a SPDES General Permit from the NYSDEC for proper stormwater management. The NYSDEC Stormwater Design Manual provides guidance on separation requirements between the groundwater table and the bottom of the stormwater practice. Any proposed stormwater practices will conform to these standards. The Town of Farmington is an MS4 community so the Town will have to review and approve the SWPPP for compliance with the NYSDEC regulations regardless.

*Lakeside Comment:* It was indicated that 'typical farm fencing' will it be installed. How will it be protected against deterioration over the thirty (30) year project life? Will not continuous and expensive painting be needed to maintain the fence integrity?

**Bergmann Response:** The typical farm fencing will need to be maintained by Delaware River Solar per the manufacturer's recommendations. Delaware River Solar has provided typical farm fencing details to the Planning Board along with manufacturers recommendation for standard practices for maintaining the fence.

*Lakeside Comment:* How will the boulders be dealt with when they are encountered for the post auguring required? How will the frost heaving of the soil be handled structurally?

**Bergmann Response:** Boulders at the ground surface will be removed and placed outside of the fenced area in upland areas or reused by the landowner as they see fit. Boulders encountered below ground that exhibit pile refusal will be augured through, or, be penetrated through using screw-type posts. Frost heaving has been discussed earlier in this comment letter, and in detail in the Planning Board review.

*Lakeside Comment:* Posts should go down minimum four (4) feet into the ground. No discussion as to the construction of the fencing has been offered to address any of the concerns. This work will also be done in close proximity to wetlands and needs to be evaluated further including potential soil erosion from open excavation. Should the entire site be surrounded in filter fabric to assure no detrimental impacts occur on wetlands, storm water retention facilities nor from generally largely disturbed areas?

**Bergmann Response:** The depths of the posts are labeled as variable according to the terrain conditions. We agree that the fence posts should be installed a minimum of four (4) feet into the ground. This is an item of construction detail. Exact locations of silt fence will need to be provided as part of the SWPPP in order to meet the conditions of the general permit.

*Lakeside Comment:* The project EAF indicates no heavy equipment will be used on this project. How will roads be excavated and other work be then so performed? The EAF question D.2.a indicates no heavy equipment is



*being used but we do not understand how that can be given the construction requirements for the project.*

**Bergmann Response:** EAF Question D.2.a asks: “Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite).” This question was answered correctly in the EAF, and no part of this question asks to indicate what type of construction equipment will be used. General site preparation, grading and installation of utilities is described in the site plan construction notes.

*Lakeside Comment:* Motion security sensors are proposed around the entire circumference of the site per the EAF. How will they be electrified? Will not conduit and major associated excavation be required for the installation?

**Bergmann Response:** The only mention in the EAF of “motion security” is noted in Question D.2.n.i, which asks: “Will the proposed action have outdoor lighting? ”, and was answered: “Motion sensor security lighting located around equipment only”. As Delaware River Solar explained in a request for additional information by the Planning Board on December 5, 2018, these motion sensor lights will be located only at the transformer and inverter locations, located well inside the array area, using dark sky compliant lighting, and will be used for site safety lighting purposes should the site need to be accessed at night by operations workers. As such, no significant adverse impact associated with site lighting is anticipated.

*Lakeside Comment:* In summary, it is my belief that enough questions remain unanswered and potential significant impacts could result from this project that a declaration of positive environmental impact should be made. It would then be the developer’s responsibility to show to the Town that potential impacts can all be mitigated through proper design and construction of the project or that project impact mitigation is not possible in some instances and the project be denied.

Please do not hesitate to contact me at 607-333-3120, or via email at [rswitala@bergmannpc.com](mailto:rswitala@bergmannpc.com), should you have any questions regarding this response.

Sincerely,

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