STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
A PETITION FOR A DECLARATORY	:	PETITION NO. 1425
RULING THAT A CERTIFICATE OF	:	
ENVIRONMENTAL COMPATIBILITY AND	:	
PUBLIC NEED IS NOT REQUIRED FOR THE	:	
CONSTRUCTION, OPERATION AND	:	
MAINTENANCE OF A 1.9 MWAC SOLAR	:	
PHOTOVOLTAIC PROJECT AT 360	:	
GAYLORD MOUNTAIN ROAD IN	:	
HAMDEN, CONNECTICUT	:	NOVEMBER 10, 2020

PRE-FILED TESTIMONY OF BRAD PARSONS

Q1. Please state you name, occupation and business address.

A. My name is Bradley J. Parsons, P.E. I am the Manager of Civil Engineering for All-Points Technologies Corporation. My business address is 567 Vauxhall Street Extension – Suite 311 in Waterford, CT. A copy of my resume is attached.

Q2. What are your responsibilities related to the Gaylord Mountain Solar Project (the "Gaylord Solar Project")?

A. I am the civil engineer of record for the Project responsible for the development of project plans addressing site grading and drainage, storm water control plans, soil erosion and sediment control plans, site utility plans, related construction design details and construction phasing.

Q3. In addition to the above-captioned petition, what other relevant experience do you have in the development of ground mounted solar generating facilities either in Connecticut or elsewhere?

A. I have provided engineering design and project oversight for more than 30 ground-based solar generating facilities in Connecticut and Massachusetts over the last five (5) years. These projects were located on public and/or private (previously undeveloped) land. My role in these projects included project design, permitting, and construction monitoring.

In addition to solar projects referenced above, I have served as an Independent or Owners Engineer for the review of Civil Site Plans and Permits for the development of solar projects across the United States. These projects range in size and complexity, from 2 MW up to 171 MW in capacity. My responsibilities included the review of all civil drawings, permits, and Storm Water Pollution Control Plans (SWPCP). As the Owner's representative, I provided an independent peer review of the project design and offered recommendations on how to improve each project.

Q4. Please describe the storm water control improvements that have been designed for the Gaylord Solar Project?

A. Our primary goal in the design of storm water control plan for the Gaylord Solar Project was to effectively manage the increase in post-development runoff created site development, including the removal of 12-acres of trees and brush and converting the project area to meadow, needed for the installation of the solar arrays.

The storm water controls for the Project were designed to meet the requirements of CT DEEP Appendix I. The major components associated with this SWPCP include the reductions in one full hydrologic soil group (HSG) within the proposed limits of disturbance, one large stormwater management basin along the eastern portion of the project area; a rip-rap lined swale in the northeastern portion of the project area to facilitate flow to the storm water basin; and the use of twin outlet control structures with

a low flow orifice and grate top. The basin is designed to provide the necessary water quality treatment volume for the additional "impervious area", as required by the Connecticut Department of Energy and Environmental Protection (DEEP) Stormwater Guidelines - Appendix I. A rip-rap swale and level spreader will also be installed along the southwest corner of the project area to intercept potential over-land flows from an existing culvert within the Eversource transmission line right of way and promote sheet/shallow concentrated flows down the existing slope.

These proposed stormwater control improvements designed for the Gaylord Solar Project have been designed such that the post-development peak discharges to the waters of the State of Connecticut for the 2-, 25-, 50- and 100-year storm events are less than the existing (pre-development) peak discharges.

Q5. Do these proposed storm water design improvements meet the criteria for a Construction Stormwater General Permit or will the Project be required to apply of an Individual Permit under DEEP's storm water management program?

A. To address this question completely, I need to explain some of the recent history related to DEEP recent efforts to modify and renew the Stormwater General Permit.

The stormwater improvements for the Gaylord Solar Project were designed meet the criteria for a Construction Stormwater General Permit in place earlier this year including DEEP's Guidance Regarding Solar Arrays, dated January 8, 2020, commonly referred to as Appendix I. Although not formally adopted as a part of the renewed Stormwater General Permit, DEEP was encouraging solar developers to comply with this new "guidance".

In January of 2020, DEEP also issued a formal public notice regarding its intent to renew the Stormwater General Permit with the Appendix I requirements and solicited public comment. During the public comment period, several stakeholders (solar developers; environmental groups; and interested parties) requested that DEEP hold a public hearing on the proposed general permit revisions, particularly the Appendix I requirements, prior to the renewal of the general permit. Following the public hearing the stakeholders and DEEP entered into negotiations from June of 2020 through and into October of 2020. (The existing Construction Stormwater General Permit was due to expire on September 30, 2020). Through these negotiations, the January 2020 version of Appendix I was revised. DEEP determined that it would extend the existing Stormwater General Permit through the end of 2020 (including the Appendix I guidance), and renew the general permit, officially, in January of 2021 with the modified Appendix I requirements. Only those projects that filed their stormwater permit application with DEEP prior to October 1, 2020 would be subject to the January 2020 guidance.

The Gaylord Solar Project was submitted to the to the Siting Council on August 7, 2020. The Petitioner has not yet submitted its Construction Stormwater General Permit with DEEP. This means that the Gaylord Solar Project will be subject to the renewed general permit and the revised Appendix I requirement that will go into effect in January 2021. As discussed in the Petition and in the Petitioners responses to Council interrogatories (q. 56), the Gaylord Solar Project team had significant communication with DEEP stormwater group in May and June of this year and made significant changes to the layout and design of the Project to address DEEP's comments. Nevertheless, the current stormwater design does not comply with all of the new Appendix I requirements. More

specifically, the revised Appendix I requirement (No. 2) states that solar panels cannot be within 100 feet of a wetland that is downgradient of the panel. As such, we anticipate that the Project will be required to apply for an Individual Permit.

Q6. Are you confident that the project will comply with DEEP's requirements for a stormwater individual permit? Explain.

A. I am confident that, with the measures incorporated into the stormwater design, along with the proposed Resources Protection Plan that the Gaylord Solar Project will be eligible for a DEEP Stormwater Individual Permit.

One of the main measures that was included in the current stormwater design plan for the Gaylord Solar Project is the full reduction of an entire HSG. The newly issued Appendix I only requires a ½ drop in HSG when grade is not changing by more than 2 feet, which is the case for a majority of the Gaylord Solar Project site. In addition, the solar panels were rotated to run parallel with the contours and during construction silt sock will be installed every 70 feet along the slope. This, together with the development and adherence to an aggressive Resources Protection Plan are measures that go above and beyond the Appendix I requirements. Finally, the Petitioner has agreed to have further conversation with DEEP.

Q7. Will the storm water improvements described above result in significant adverse impacts to surrounding residential properties and the drainage systems in place on area roadways?

A. No. The proposed stormwater management systems will not result in significant adverse impacts to surrounding residential properties or the current drainage system in Gaylord Mountain Road. It is important to emphasize that the proposed stormwater management

system discharges towards Gaylord Mountain Road and Wetland 3, just as the current overland stormwater flow at the property does today. Furthermore, as discussed in more detail in the Petitioners responses to Council interrogatories, the stormwater management basin that is being installed to the west of Gaylord Mountain Road has been designed to reduce the 100-year Peak Stormwater Discharge. The stormwater calculations also consider the initial Appendix I requirement regarding HSGs and post-development stormwater calculations as described above. This reduction of a full HSG exceeds industry standards and currently proposed DEEP guidance, resulting in an increase in the size of the stormwater basin to hold more water, further protecting Gaylord Mountain Road and properties downgradient.

Q8. Please describe, in detail, the proposed construction phasing for the Gaylord Solar Project? How will this phasing plan reduce or eliminate, to the extent possible, storm water impacts.

A. The proposed construction phasing was included as part of the Petition – Exhibit H Environmental Assessment, Appendix A Project Plans, Sheet EC-1 Sedimentation and Erosion Control Notes.

First and foremost, the Petitioner would expect that the recommended sequence of construction would become a condition of the Council's approval of the Gaylord Solar Project. The notes on the Project Plans state very clearly that any changes may require further regulatory approvals prior to implementation. This condition limits the contractor's ability to make changes without returning to the Council for additional approvals. The proposed sequence of construction is also consistent with the DEEP 2002 Erosion and Sedimentation Control Guide. In addition, the newly issued Appendix I

requires that the permittee hire the stormwater inspectors so there is no conflict of interest with the contractors. Weekly inspections will ensure construction sequencing and the site improvements are completed in accordance with the approved plan.

Phase 1 requires that the contractor only clear those trees required to install perimeter soil erosion and sediment controls, followed by the installation of the perimeter controls. After the perimeter controls are in place, the contractor will secure the remaining areas where erosion control measures are required (including the swales and sediment/stormwater control basin). Upon completion of the installation of the sediment basin and associated swales the contractor would be able to move onto Phase 2.

Phase 2 the contractor would clear and grub the remainder of the of the site and then temporarily hydroseed all of the disturbed areas and allow for a minimum of thirty (30) days of stabilization.

Phase 3 involves the installation of the solar panels, electrical conduit, and electrical equipment. Upon completion of the installation of the Project's solar components, any remaining site work would occur, and the final grade would be established and stabilized. The site would not be considered "stabilized" per the DEEP and the Stormwater Permit, (whether an Individual or General Permit), until grass growth had achieved 70% coverage on the site. Additionally, the Project would not be able to issue a Notice of Termination of said permit until the site had been permanently stabilized, with no active erosion, for a period of three months after the Project had achieved initial stabilization.

Q9. Please discuss the comments and recommendations provided by the Connecticut Department of Public Health related to the potential impacts the Project may have on the public water supply watershed (Mill River system) of Lake Whitney

Reservoir, an active source of public drinking water for the Regional Water Authority?

With regards to the Lake Whitney Reservoir, the Project is approximately 44,000 feet, or over 8 miles, from the reservoir via streams, brooks and rivers. As is the case today, upon Project completion, storm water that leaves the site will flow through unnamed water courses east of Gaylord Mountain Road before reaching Eaton Brook and ultimately the Mill River.

Pursuant to the USGS Steam Statistics, the total drainage area that can reach Eaton Brook (including the project site and remote areas to the north, south, and east of the project site) measures 524.8 acres (0.86 square miles). Drainage from 37.6 acres of the 524.8 acres (including the Project Area) reach Gaylord Mountain Road and Wetland 3. Therefore, the Project's drainage area represents only 7.2% of the total area that currently drains into Eaton Brook.

Furthermore, per the USGS Steam Statistics, the total drainage area of Eaton Brook as it enters the Mill River is approximately 1,504 acres (2.35 square miles). That means that the Gaylord Solar Project Area drainage area constitutes only 2.5% of the total drainage area that ultimately reaches the Mill River.

The overall impact of the drainage area associated with the construction of the Gaylord Solar Project in the Mill River watershed is on a similar level as any other development project within the watershed. The erosion and sedimentation control measures identified on the Project plans will substantially limit the amount of potential impact on the Mill River water system that drains to Lake Whitney.

While the Project will result in the unavoidable removal of a portion of a mature hardwood forest, the methodology proposed to complete this clearing has been carefully designed to minimize potential impacts to water quality during the site preparatory/construction process. Two important design considerations will mitigate potential adverse impacts to water quality: limiting stump removal to either sheering or stump grinding; and, phasing the construction sequence to allow for complete vegetative stabilization post clearing prior to completing the remainder of work. As the proposed solar use for the Property will result in the conversion of forest to meadow/open field and/or early successional scrub/shrub (particularly along the peripheries of the Project), the net impact to water quality leaving the Project site will be minimal. It is important to note that the meadow/open field habitat proposed at the Project is not like the manicured lawns that you might find in a developed residential or commercial area. Meadows, just like forests, can have similar beneficial effects on storm water quality. In fact, from a stormwater engineering perspective, the values used for predicting direct runoff and/or infiltration from forests and meadow/open field habitat are equal or nearly equal in all HSGs.

A comprehensive SWPCP has been developed to treat construction and post-construction stormwater generated at the site, incorporating the proposed tree clearing and cover-type conversion, and demonstrates the Project will not have a significant negative impact on water quality within the watershed.

Direct temporary impacts to wetlands associated with the Project are limited to tree clearing within Wetland 5. Trees removed within Wetland 5 would be done in a manner which will not result in soil compaction or physical disturbance to the resource, which

may include, but is not necessarily limited to, using machinery to reach from upland areas and/or hand felling. No tracking will occur within Wetland 5 and tree stumps will be left in place to further minimize potential ground disturbance and the potential for unintentional impacts to Wetland 5 or its associated water quality. Adequate wetland buffers have been established for the remaining wetlands on-site which, combined with the proposed SWPCP and Resources Protection Plan, are anticipated to protect and preserve these resources' water quality input/output. All Soil Erosion and Sedimentation Control Measures will meet the requirements of the DEEP 2002 Erosion and Sedimentation Control Manual.

A spill prevention plan has been proposed and is included in the Resources Protection Plan provided as Appendix B of the Environment Assessment. This Plan details several safeguards, including installation and maintenance of erosion and sedimentation controls, management of refueling and fuel storage procedures (no hazardous materials will be used), spill prevention and response protocols, and requirements for supplying and maintaining a fuel spill remediation kit. This Plan also specifies any refueling or fuel storage activities will be located on an impervious surface, incorporating secondary containment, a minimum distance of 100 feet from wetland resources to further protect to water quality and on-site wetland resources.

Finally, The Petitioner does not intend to store any fuel and other hazardous materials on the Property after construction of the solar facility is complete.

Q10. Has Gaylord Solar or its agents reached out to the RWA to discuss the project and its related concerns for potential impacts to the RWA's watershed lands?

Yes. Shortly after receiving notice of the RWA's interest in the Project and the filing of it request to intervene in Petition No. 1425, Gaylord representatives reached out to the RWA and offered to arrange a meeting between the RWA engineers and the Gaylord engineers to discuss its concerns with the Project. The RWA did not respond to this offer.

Q11. Is Gaylord willing to work with RWA personnel to review any concerns they may have regarding construction of the project and allow RWA personnel to periodically inspect the project site, during and after construction to ensure the drinking water quality in not being adversely impacted?

A. Yes. Gaylord remains committed to develop the proposed solar facility in a manner that will result in little or no impact to the RWA property or the important drinking water resources in the area.

Bradley J. Parsons, P.E.

Subscribed and sworn to before me
this 10th day of November 2020

Commissioner of the Superior Court