

RECOMMENDED FINAL DETERMINATION

TO: Betsey Wingfield, Deputy Commissioner

FROM: Yvonne Bolton, Bureau Chief
Bureau of Materials Management and Compliance Assurance (MM&CA)
79 Elm Street, Hartford, CT 06106-5127

SUBJECT: Final Determination Recommendation to renew with modifications the *General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activity*

The Department is reissuing the *General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activity* (“construction general permit”) with modifications. This is a reissuance of the construction general permit that was last issued *with modification* on August 21, 2013, effective October 1, 2013 and subsequently reissued *without modification* effective October 1, 2018 and again reissued *without modification* effective October 1, 2019. The current permit expired on September 30, 2019 and was extended by order of the Commissioner to December 30, 2020. The construction general permit was first issued on October 1, 1992 and authorizes stormwater discharges from construction activities based on the amount of land disturbed by the activity. Authorized construction activities must register for the general permit, prepare and implement a Stormwater Pollution Control Plan and conduct inspections. This general permit *with modifications* is reissued for the period of December 31, 2020 through December 30, 2025. Current registrants are required to reregister to maintain authorization under the general permit.

On December 31, 2019 and January 2, 2020, DEEP published the attached Notice of Tentative Decision to reissue the construction general permit *with modifications*. The attached public notice was published in the Hartford Courant, Connecticut Post, New Haven Register, Waterbury Republican-American, and New London Day on December 31, 2019 and in the Willimantic Chronicle on January 2, 2020. This notice included a forty-five (45) day comment period for interested parties to submit comments on this reissuance *with modifications*. In addition, the Department held a public informational meeting on January 8, 2020 to review the reissuance of, and the proposed modifications to, the construction general permit.

The Department received a petition for hearing, and 204 written comments and emails during the 45-day public notice period that closed on February 18, 2020, which are addressed in the attached Response to Comments. Department Staff met with a workgroup of consulting engineers, representatives from the solar industry, and other intervening parties from June through October 2020 to reach agreement revisions to the draft construction general permit. An agreement was subsequently reached and the petition for hearing was withdrawn on October 23,

2020. In conjunction with the response to comments discussed above, the Department Staff made certain additional editorial or clarifying changes to the draft construction general permit.

Therefore, I recommend that you adopt the Tentative Decision and issue the referenced revised construction general permit.

Date: 12/15/2020

Yvonne Bolton

Yvonne Bolton
Chief, MM&CA

YB/KLA

ORDER

Pursuant to the authority granted to me by Governor Ned Lamont's Executive Orders 9A and 7M, issued on September 8, 2020, and March 25, 2020, respectively, in furtherance of his Declaration of Public Health and Civil Preparedness Emergency of March 10, 2020, which was renewed on September 1, 2020, and the new public health and civil preparedness emergencies declared on September 1, 2020 as a result of the coronavirus disease outbreak in the United States and Connecticut, I hereby extend the expiration date of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ("General Permit") for 90 days. This extension is retroactive and shall begin effective October 1, 2020, making December 30, 2020 the new expiration date of the General Permit.

October 22, 2020

Date



Katherine S. Dykes
Commissioner of Energy and Environmental
Protection

Notice of Tentative Decision to Reissue the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

The Department of Energy and Environmental Protection (DEEP) hereby gives notice of a tentative decision to reissue *with* modifications the ***General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (construction general permit)***. The Department previously reissued the construction general permit *without modifications*, such permit to be effective from October 1, 2019 and expiring September 30, 2020. This proposed reissuance *with modifications* will become effective on October 1, 2020. DEEP will hold a public informational meeting at DEEP Headquarters, 79 Elm Street, Hartford in the Gina McCarthy Auditorium on January 8, 2020 at 1:30 pm to discuss the proposed general permit.

Further information on the general permits is available on the DEEP website at <http://www.ct.gov/deep/publicnotices> or may be obtained at the Bureau of Materials Management and Compliance Assurance of the Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT from 8:30 a.m. – 4:30 p.m., Monday through Friday. Direct questions about the general permits to Christopher Stone, P.E. at (860) 424-3850 or chris.stone@ct.gov.

/s/Katherine S. Dykes
Commissioner

Date: 12/19/2019

Notice of Tentative Decision Intent to Reissue the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

TENTATIVE DECISION

The Department of Energy and Environmental Protection (DEEP) hereby gives notice of a tentative decision to reissue with modifications the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (construction general permit).

The current construction general permit became effective on October 1, 2013. It has been reissued without modifications on October 1, 2018 and October 1, 2019, and will expire on September 30, 2020. By this public notice, the Department intends to reissue the construction general permit with modifications to become effective on October 1, 2020. The Department is seeking public comment on this notice of tentative decision to reissue the construction general permit with modifications.

COMMISSIONER'S FINDINGS/REGULATORY CONDITIONS

In accordance with applicable federal and state law, the Commissioner has made a tentative decision that reissuance of the construction general permit would not cause pollution of the waters of the state. The Department will require existing permittees authorized under the current construction general permit to reregister as part of this reissuance. Current permittees must continue to implement, maintain, and update all elements of their Stormwater Pollution Control Plan as specified in the current construction general permit to ensure that the discharge will not cause pollution.

CONSTRUCTION GENERAL PERMIT

The purpose of the construction general permit is to protect waters of the state from stormwater runoff and dewatering wastewaters discharging from construction activities. The DEEP first issued the construction general permit on October 1, 1992. The permit has been reissued with modifications since that initial issuance. The construction general permit contains requirements to develop and implement a Stormwater Pollution Control Plan (SWPCP). Permittees must implement, maintain and update their SWPCP, perform regular inspections and conduct stormwater monitoring. The SWPCP contains requirements for the permittee to describe and manage their construction activity, including implementing erosion and sediment control measures as well as other control measures to reduce or eliminate the potential for the discharge of stormwater runoff pollutants both during and after construction.

COMMISSIONER'S AUTHORITY

The Commissioner is authorized to issue this general permit pursuant to sections 22a-430 and 22a-430b of the Connecticut General Statutes (CGS) and the Water Discharge Permit Regulations (section 22a-430-3 and 4 of the Regulations of Connecticut State Agencies). The Commissioner is authorized to approve or deny any registration under this general permit pursuant to CGS section 22a-430b.

PUBLIC COMMENT & INFORMATIONAL MEETING

Prior to making a final decision to reissue the proposed general permit, the Commissioner shall consider written comments from interested persons that are received within 45 days of this public notice. In addition, **DEEP will hold a public informational meeting at DEEP Headquarters, 79 Elm Street, Hartford in the Gina McCarthy Auditorium on January 8, 2020 at 1:30 pm** to discuss the proposed general permit. Written comments should be directed to: Christopher Stone, P.E., Water Permitting and Enforcement Division, Bureau of Materials Management and Compliance Assurance, Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127 or may be submitted via electronic mail to: chris.stone@ct.gov.

Interested persons may obtain a copy of this public notice and the general permit on the DEEP website at www.ct.gov/deep/publicnotices. The general permit is also available for inspection at the DEEP Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division, 79 Elm Street, Hartford, CT from 8:30 – 4:30, Monday through Friday. Questions may be directed to Christopher Stone at 860-424-3850 or chris.stone@ct.gov.

PETITIONS FOR PUBLIC HEARING

The Commissioner may hold a public hearing prior to issuing the proposed general permit if in the Commissioner's discretion the public interest will be best served thereby, and shall hold a hearing upon receipt of a petition signed by at least twenty-five persons. Petitions should include the name of the general permit noted above and also identify a contact person to receive notifications. Petitions may also identify a person who is authorized to engage in discussions regarding the proposed general permit and, if resolution is reached, withdraw the petition. Original signed petitions may be scanned and sent electronically to deep.adjudications@ct.gov or may be mailed or delivered to: DEEP Office of Adjudications, 79 Elm Street, 3rd floor, Hartford, CT 06106-5127. All petitions must be received within the comment period noted above. If submitted electronically, original signed petitions must also be mailed or delivered to the address above within ten days of electronic submittal. If a hearing is held, timely notice of such hearing will be published in a newspaper of general circulation.

/s/Katherine S. Dykes

Katherine S. Dykes

Commissioner

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action and Equal Opportunity Employer that is committed to complying with the Americans with Disabilities Act. To request an accommodation contact us at 860-418-5910 or deep.accommodations@ct.gov.

Draft Permit and Fact Sheet: www.ct.gov/deep/stormwater

Comments for Public Notice of Reissuance of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
DEEP Response to Comments

The *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* effective October 1, 2019, was set to expire on September 30, 2020. On December 31, 2019 and January 2, 2020 the Commissioner published Notice of a Tentative Determination to reissue this General Permit (“the General Permit”) with a number of changes. This Notice issued by the Commissioner triggered a 45 day period, expiring on February 18, 2020, for receipt of public comments. In addition, on January 8, 2020 the Department held a public informational meeting to review the reissuance of the General Permit.

On February 14, 2020, SolarConnecticut (“SolarConn”) filed a petition requiring that the Department hold a hearing regarding the General Permit.¹ Save the Sound and Steve Trinkaus intervened as parties in that matter and RENEW Northeast was granted status as an intervenor. After numerous discussions between Staff of the Department (“Staff”), the parties, and the intervenor a resolution was reached. Additional changes to the General Permit have been made as a result of that resolution.

This document identifies the public comments received and provides the Department’s response to those comments. Modifications made to the General Permit in response to a comment are in ***bold italics***.

Archeological Consulting Services – Gregory F. Walwer, Ph.D.

Email sent January 7, 2020

- (1) Comment: Modifications need to be made to the permit registration form to clarify the process for conducting cultural resource surveys to comply with the historic preservation provisions of the General Permit.

Response: It is not clear from the comment what changes the commenter believe should be made, making a response somewhat difficult. It is also not clear whether the commenter is referring to the actual form used for registration or section 4(c) of the General Permit which concerns the content of a registration. The registration form is itself not part of the General Permit. Also, see Response to Comment (3).

- (2) Comment: The contact information in Appendix G for the State Historic Preservation Office (SHPO) is incorrect.

Response: ***DEEP will correct the Appendix G contact information.***

¹ On February 28, 2020, Solar Conn filed an amended Petition.

- (3) Comment: The soil criteria in Appendix G should include non-rocky fine sandy loams for determining the potential for prehistoric period archaeological resources.

Response: Appendix G, Historic Preservation Review, was prepared in consultation with SHPO. DEEP has further consulted with SHPO regarding appropriate soil types as well as other issues in Appendix G. **DEEP has modified Appendix G to reflect input by SHPO.**

Email with attachment sent January 22, 2020

- (4) Comment: On-line links to review new registrations have not been functioning correctly.

Response: The Department is aware of the software problems that have been experienced by users of the website. These issues have been addressed.

- (5) Comment: Incomplete and/or inaccurate registrations posted online must have a mandatory corrective procedure. The comment period should be extended to 30 days past the time of a corrected registration being available.

Response: With this public notice, DEEP is extending the public comment to thirty (30) days, which is in line with EPA's procedures. There is no mandatory "corrective procedure" for incomplete or inaccurate registrations nor has there been one in any prior construction general permit. Under section 4(f) of the General Permit, the public comment period begins from the date a registration is posted by the commissioner. DEEP understands that to mean the date posted by the Commissioner and that the posting is accessible to the public, so the time for public comment will only begin from the time the registration becomes available for review. **DEEP will revise section 4(f) of the General Permit as follows to make this clear:**

“(f) Availability of Registration and Plan

The commissioner shall post on the DEEP website a list of registrations submitted. Plans will be posted electronically with the corresponding registration. On or before thirty (30) days from the date **such registration is accessible to the public through** posting by the commissioner, members of the public may review and comment on a registration and/or Plan.”

- (6) Comment: See Comment (3).

Response: See Response to Comment (3).

- (7) Comment: See Comment (2)

Response: See Response to Comment (2).

- (8) Comment: In Step 4 of Appendix G add the statement, “For questions regarding the completion of Appendix G or Question #10 on the General Permit Registration Form, consult with SHPO Staff Archaeologist.”

Response: See Response to Comment (3).

- (9) Comment: See Comment (1).

Response: See Response to Comment (1).

Industrial Water/Wastewater Consultancy, LLC – Jay Kulowiec

Email sent January 8, 2020

- (10) Comment: In the Eligible Activities section, the words “surface water” have been struck. Does this mean that site developments that will be able to re-infiltrate storm water and dewatering water to ground water are also required to get this permit?

Response: This comment concerns the section titled “Eligible Activities”, Section 3(a) of the General Permit. The commenter correctly notes the reference to surface waters in Section 3(a) of the General Permit has been deleted. The wording in this section was changed to more clearly reflect the nature of the activity that is being permitted. The nature of discharge(s) to groundwater is addressed under section 3(b)(6) of the General Permit. In this section, stormwater discharged entirely to groundwater is not required to be covered under this General Permit. To gain this exemption from coverage under the General Permit, all stormwater must discharge to groundwater under all conditions prior to the start of construction. Implementation of infiltration measures during construction would not meet this condition. Also, see the Response to Comment (103).

- (11) Comment: Is a solar array project that has been completed and has point source storm water discharges to surface waters considered an "industrial activity" that is required to register for the GP for industrial activities?

Response: Obviously this comment is beyond the scope of issues regarding the proposed General Permit. Nevertheless, the currently issued Industrial Stormwater General Permit, only covers power generation from steam electric power generation facilities with coal handling facilities and would not include a solar array. This could change in the future.

Trinkaus Engineering – Stephen D. Trinkaus, P.E.

Email with attachment sent February 5, 2020. (Unless otherwise noted, all of Mr. Trinkaus’s comments concerned Appendix I of the General Permit).

- (12) Comment: Paved access driveways, gravel access driveways, concrete or bituminous concrete pads for electrical equipment, and solar panels should be considered 100% impervious for the purposes of calculating the required Water Quality Volume (WQV), the Groundwater Recharge Volume (GRV), and all stormwater management computations.

Response: The Department does not agree with this comment. While under Appendix I, roadways, gravel surfaces and transformer pads must be considered impervious for purposes of calculating WQV, doing so should be sufficient to manage the stormwater discharges from these items. Requiring these items to be considered impervious for all GRV or for all stormwater computations may result in the unnecessary overdesign of the measures used to manage stormwater discharges from these items.

While the Department understands that many believe solar panels should be considered directly connected impervious area, a consensus on this issue has not yet emerged. Solar arrays consist of rows of solar panels that are elevated above the ground and grouped together with a gap between individual panels as well as vegetated expanses between rows of panels and, therefore, may not necessarily function as a continuous directly connected impervious surface. The degree to which runoff from solar panels will discharge to the surface or have an opportunity to break up and actually infiltrate into the ground is a function of various factors, including the orientation of the panels (parallel vs perpendicular to the slope), panel unit spacing, panel row spacing, soil characteristics, slope, and vegetation. A number of these factors have been built into that part of Appendix I addressing whether solar panels are considered impervious for purposes of calculating the WQV.

At this point, with respect to solar panels themselves, the Department has decided to maintain the provisions in Appendix I as proposed. To require that solar panels be considered impervious for all stormwater calculations may well result in the unnecessary overdesign of the measures used to manage stormwater from such panels. This is an area, however, where future developments may result in a change in the Department's approach.

- (13) Comment: Soil types should be obtained from the Natural Resource Conservation Service Websoil Survey and verified by the excavation of a sufficient number of test holes within the area of the soil array and any stormwater practice in the field.

Response: Appendix I, *Design Requirements for Post-Construction Stormwater Management Measures*, (3)(d) requires surveyed soil mapping to confirm soil types.

- (14) Comment: The soil class for determining the Runoff Coefficient Number (RCN) should be increased by one soil class (Hydrologic Soil Group or HSG) if there is any disturbance of the ground or regrading within the solar array which is equal to or less than 2 feet higher or lower from the original ground surface. A Class B soil for pre-development conditions would become a Class C soil for post-development conditions.

Response: To address issues associated with compaction of soils from construction equipment and activities, in section 3(c) of the Design requirements for post-construction stormwater management measures section of the General Permit, DEEP proposed that the infiltrative capacity of any stormwater management measure reflect a one step reduction in the HSG. This requirement would have been necessary in all situations, not just when, as

suggested by the commenter, there was disturbance or regrading equal to or less than two (2) feet.

Upon further consideration, to address compaction, DEEP has decided that this one step change in HSG will be required in areas where grading exceeds a two (2) foot difference between existing and proposed grades. For the remainder of the site, a half step change in HSG will be needed. This approach will require a change in HSG where the risk of compaction is greatest and avoid unnecessary overdesign of post-construction stormwater management controls.

Section 3(c) of the Design requirements for post-construction stormwater management measures in Appendix I of the General Permit is modified to read as follows:

“(c) Is able to determine and confirm the infiltrative capacity of any stormwater management measures ~~and, in addition, reflects a reduction of the Hydrologic Soil Group present on-site by one (1) step (e.g. soils of HSG B shall be considered. In addition, in areas where grading exceeds a two (2) foot difference between existing and proposed grades, the runoff curve number shall increase by one full HSG (e.g. runoff curve number for soils of HSG B shall be considered HSB C). For the remainder of the entire site, the runoff curve number associated with the Hydrologic Soil Group present on-site shall increase by one half (1/2) the difference between the Hydrologic Soil Group present on-site and the next higher Hydrologic Soil Group (e.g. half the difference between the runoff curve number for HSG B versus HSG C)~~ to account for the compaction of soils that results from extensive machinery traffic over the course of the construction of the array; and”

- (15) Comment: The soil class for determining the Runoff Coefficient Number (RCN) should be increased by two soil classes (HSG) if there is any disturbance of the ground or regrading within the solar array which is greater than 2 feet higher or lower from the original ground surface. A Class B soil for pre-development conditions would become a Class D soil for post-development conditions.

Response: The Department does not agree with the comment. As revised, see the response to comment (14). The requirement to increase by one soil class is adequately conservative for calculating post-construction runoff. Furthermore, it is impractical to track cut and fill within soil groups on a site to identify areas of greater than two (2) feet grade change to determine which parts of a mapped soil type will be increased by a single soil class and which will increase by two (2) soil classes. Based on experience, a large portion of the soils within large-scale solar array projects are already Class C or D soils so, with Class D soils as the highest class designation, these soils will all be classified as Class D even without the increase of a second soil group.

- (16) Comment: All disturbed areas within the area of the solar array and the areas cleared or disturbed to provide full solar exposure shall be vegetated with an appropriate seed mixture containing native plants.

Response: DEEP recognizes the importance of re-vegetating disturbed areas. While Section 5(b)(2)(A)(i) of the General Permit requires appropriate seed mixtures, there is currently no provision requiring the use of native plant species. ***The General Permit will be modified to require native for all activities (Section 5(b)(2)(a)(i)) and will additionally require pollinator-friendly plantings for solar arrays (Section 3 of Design and construction requirement in Appendix I).***

- (17) Comment: Vegetated surface under and between the rows of solar panels should be modelled either as Meadow in Fair Condition or Lawn in Fair Condition (50% to 75% coverage) on the modified soil class for post-development conditions. It takes a minimum of two to three years for vegetated surfaces to be fully established, so using Fair Condition is a more accurate representation of the ground surface in determining the post-development runoff conditions.

Response: DEEP agrees that vegetation – and regrowth after construction - is critical to the success or failure of post-construction stormwater management measures. Put differently, without the regrowth of vegetation post-construction at solar arrays the sites' post-construction stormwater management measures alone will almost always be inadequate. Rather than requiring any specific modeling requirement that would have to be used everywhere, regardless of the conditions at a particular site, DEEP has addressed the issue raised by the commenter in another manner. DEEP has revised section (7) in the Design and construction requirements of Appendix I to require that following final stabilization, sites be inspected for two full growing seasons before a Notice of Termination can be submitted. This should be adequate time to determine if vegetation, so necessary for management of stormwater, is fully established at a site to achieve final stabilization. Again, a Notice of Termination can only be submitted after verification that such vegetation is present and fully established.

Section 7 of the Design and construction requirements of Appendix I of the General Permit is modified to read as follows:

“(7) The ~~registrant~~ ***Permittee*** shall ensure, after completion of a construction project, that a Notice of Termination is filed in compliance with Section 6 of this general permit, including the requirement that such Notice of Termination be signed by a District representative certifying that such District representative has personally conducted a Post-Construction Inspection and Final Stabilization Inspection in accordance with Section 6(a) of this general permit and verified compliance with the requirements of that section. ***The Notice of Termination shall not be submitted until two (2) full growing seasons have passed following final stabilization. Monthly post-construction inspections shall be conducted by the***

qualified inspector following final stabilization until the Notice of Termination is submitted.”

- (18) Comment: All Stormwater management basins, Stream Channel Protection requirements, and on-line and off-line stormwater practices should be designed in full compliance with the standards defined in the 2004 Stormwater Quality Manual (SQM).

Response: Section 5(b) of the current and proposed General Permit requires permittees to design sites in accordance with the 2004 Stormwater Quality Manual.

- (19) Comment: Peak rate attenuation should be provided for the Water Quality storm (1” of rainfall per 24 hours), the 1-year, 2-year (reduced to 50% of pre-development peak), and 10-year, 24-hour rainfall events using NOAA 14 data.

Response: Section 5(b)(2)(C) of the General Permit requires infiltration of the WQV with no discharge. With the exception of the 1-year storm attenuation, the criteria listed by the commenter are already included in the SQM provisions for peak flow control. Given the retention of the WQV, the requirements of the SQM, and attenuation of the 2, 25, 50, and 100-year storms specifically required in Appendix I, the addition of peak rate attenuation for the 1-year storm is not necessary.

- (20) Comment: Overflow provisions for passing the 25 year/24-hour rainfall event, 50-year/24-hour rainfall event and the 100-year/24-hour rainfall event using NOAA 14 data should be incorporated into the design of all stormwater basins.

Response: The 25-year and 50-year storm events would have to be contained within a stormwater basin; the SQM requires that any discharge from such storm events must be included in the discharge calculations and stream channel protection for the basin discharge. If overflows from a 25-year and 50-year storm event were to be addressed by appropriate spillways or weirs, the discharge velocity, rate, and stream channel protection measures, under the General Permit, the provisions of the SQM would still apply. In addition, the SQM contains provisions to address a 100-year emergency spillway. The General Permit will require use of NOAA Atlas 14 for rainfall data.

- (21) Comment: Conveyance systems such as Dry Swales, Wet Swales or Riprap Swales should be used to convey runoff from the perimeter of the solar array to an appropriately designed stormwater basin. All swales shall be designed in full compliance with the specifications found in the SQM. Flow velocities within the swales shall be non-erosive for the surface material (grass, stone, etc.). Field stone check dams shall be used to maintain non-erosive flow velocities.

Response: While DEEP agrees that swales are required to be designed in accordance with the SQM, it does not agree that the swales noted by the commenter are always appropriate or should be required for all sites. DEEP does not want to be so prescriptive as to always require the use of such swales to the detriment of other conveyance measures that could be

equally effective dependent upon the nature of a particular site. The other recommendations noted by the commenter, regarding the design of swales, flow velocities and use of check dams are already included in the SQM or the 2002 Connecticut Guidelines for Soil Erosion & Sediment Control (E&S Guidelines) and as such, are required by Section 5(b)(1) and (2) of the General Permit.

- (22) Comment: Flow velocities for all stormwater discharges from stormwater basins should be reduced by appropriate outlet protection sized in accord with the CT DEP Guidelines for Soil Erosion and Sediment Control “2002 Guidelines” and shall be reduced to non-erosive velocities for the 25-year rainfall event using NOAA 14 data.

Response: Section 5(b) of the General Permit requires that the design of control measures be in accordance with the SQM and E&S Guidelines. Section (e) in the design requirements for post-construction stormwater management measures in Appendix I already includes a requirement to provide non-erosive velocities for an engineered stormwater management system.

- (23) Comment: Discharges from all stormwater basins should be to either a) a well-defined stable wetland boundary or watercourse (intermittent or perennial) or b) an upland area where it must be shown that the discharge will remain as overland flow and not become concentrated flow. Measures defined in the 2004 Manual should be used to convert concentrated flow to overland flow. If flows are not directed to a defined wetland or watercourse, non-erosive velocities must be provided when the runoff leaves the site under control of the applicant.

Response: Section 1 of the Design requirements for post-construction stormwater management measures of Appendix I requires non-erosive flow at the property line and Section 5(b)(1) of the General Permit requires compliance with the SQM. In addition, modifications to Appendix I made in response to other comments will implement wetland and watercourse buffers that will serve to ensure that discharges to wetlands and watercourses remain non-erosive.

- (24) Comment: The vertical clearances of the panels to the ground surface are based upon the angle of the panels and the specifications of the manufacturers. This standard is too prescriptive (one size fits all) to work in the real world.

Response: This comment concerns section (2) of the Design and construction requirements in Appendix I. DEEP disagrees that this is too prescriptive. The purpose of this requirement is to properly address the erosive potential of runoff falling from the panels. This section does not limit the height of the panels; rather, it says that the panels should be “at an adequate height” to support vegetative growth beneath them and that, if the panels are greater than ten feet above the ground, proper non-vegetative control measures will be implemented below the drip line to prevent erosion from panel runoff. The vast majority of solar arrays use panels at a fixed angle. This makes it very simple to know the lowest vertical clearance (i.e. height from the lower edge) of the panels. Even if variable angle

panels are utilized, the lowest vertical clearance can be based on the average of the adjustable angle.

- (25) Comment: A third party review of the erosion control/phasing plan and stormwater management plan shall be done by a licensed professional engineer with proven significant expertise in these fields. In my experience, the Conservation Districts do not have the expertise to evaluate the design of the stormwater management systems for these projects.

Response: The role of the Districts is different depending upon whether a project is locally approvable or locally exempt. For locally exempt projects, DEEP is responsible for undertaking review of the Plan, and at DEEP's request the Districts will inspect the site, a critical role for which the Districts are particularly well-suited. Inspection of a site will not require that the Districts evaluate the design of stormwater management measures.

For locally approvable projects, however, the Districts role is different and the Districts will be involved in evaluating the Plan for compliance with the requirements of the General Permit. This review of compliance may include evaluation of the design of stormwater management measures. DEEP disagrees with the commenter that the Districts do not have the expertise to do so with respect to locally approvable projects. The Memorandum of Agreement (MOA) between DEEP and the Districts in Appendix E of the general permit outlines the qualifications required for District personnel to review plans. The MOA also includes a provision for DEEP to provide appropriate training to the Districts and states that DEEP has final decision-making authority on permit compliance. A District may also consult with DEEP staff if they require assistance in their review. Note that for locally approvable projects the Districts will also have a role in undertaking inspection of the site.

Ultimately, regardless of who reviews a Plan, the Permittee remains responsible for compliance with the General Permit and any issues regarding the actual engineering or design of measures need to be addressed by the designing qualified professional.

- (26) Comment: The Licensed Professional Engineer shall perform the required inspections of the site during the active construction period as required by the 2002 E&S Guidelines. This requirement is acceptable.

Response: DEEP had proposed in Section (4) of the Design and construction requirements of Appendix I of the General Permit, that a qualified professional engineer undertake all routine inspections for the duration of construction project until a Notice of Termination, pursuant to section 6 of the General Permit, has been submitted.

With the finalization of the General Permit, DEEP is further refining and improving this inspection requirement. Among the changes incorporated into the General Permit include requiring that the designing qualified professional ("DQP"), the engineer who designed the stormwater management measures, conduct plan implementation and routine inspections instead of allowing any qualified professional engineer to conduct inspections. In addition, while the DQP does not need to conduct every inspection, the person who will conduct

other inspections, the qualified inspector, must be chosen by the DQP. The DQP must seal and certify to the accuracy of inspections, regardless of who undertakes the inspection, as well as certifying that the stormwater control measures installed at a site have been done so in accordance with the Stormwater Pollution Control Plan for the site.

- (27) Comment: A minimum of five (5) day notice shall be provided by the Licensed Professional Engineer for the project to the CT DEEP prior to commencement of any construction activity on the site, including the cutting of trees. This requirement is acceptable.

Response: It is not clear what section of the General Permit the commenter believes imposes such a five (5) day notice requirement. DEEP is not aware of any such language in the General Permit. Section 3 of the Design and Construction Requirements section in Appendix I already would require that the designing Qualified Professional Engineer (QPE), along with the appropriate District, conduct a pre-construction meeting before beginning any construction activity and for that reason, a five (5) day notice to DEEP is not necessary.

- (28) Comment: A bond is a good idea. However, the \$15,000/acre is excessive. The purpose of a bond of this type is to ensure that the approved design is constructed per the design in the field. A bond of \$ 2,000/acre is more than adequate for the correction of any erosion issue during the construction period when an appropriate erosion control plan has been designed and approved.

Response: DEEP does not agree with this comment. The letter of credit proposed in Appendix I needs to be for an amount sufficient to address a total failure of the implementation of construction and post-construction measures on a site, including repairing damages done to a site, or potentially moving panels that have already been installed, not just ensuring that stormwater management measures are constructed as originally designed. In fact, conditions at a site may have worsened or changed so that changes in the originally designed measures are needed. Requiring a bond of \$2,000 per acre is wholly inadequate.

A letter of credit is required, rather than a bond, because in the case of failure at a construction site, time is of the essence. A bond can take a good deal of time to redeem and the conditions of the bond would not be under the sole control of the Commissioner. A letter of credit can be redeemed in a short amount of time at the discretion of the Commissioner. The risks and consequences of total failure will vary from site to site depending on topography, geology, soils, hydrology, and other factors. DEEP has researched this issue and obtained estimates from consultants and members of the solar industry. The average of these estimates is \$15,000/acre. The amount is designed for a worst-case scenario. In a general permit, we do not have the option of customizing certain requirements. If a potential registrant feels that the amount is excessive, it can propose a lesser amount under an individual permit.

DEEP has considered this and other comments regarding the financial assurance requirement proposed in the general permit. As proposed, Section 8 of the Design and construction requirements of the Appendix I requires a registrant to secure a letter of credit for \$15,000 for each acre of disturbance. ***The Department is making two changes to this proposal.***

First, DEEP will allow for a smaller per acre amount of assurance to better accommodate the economics associated with smaller projects. Specifically, DEEP will require only \$7,500.00 per acre of disturbance at sites with a total disturbance of less than twenty (20) acres. ***Second, the General Permit will incorporate step downs or reductions in the amount of assurance required as the risks posed by projects decrease.*** A forty percent (40%) reduction can occur once all perimeter controls, initial erosion and sediment control measures, and construction stormwater traps, basins, swales, and other control measures have been installed, functioning and stabilized in accordance with the general permit and the Plan. A second forty percent (40%) reduction can occur only upon a determination by the Commissioner or, after designation of a District by the Commissioner, a representative from such District, that all post-construction stormwater management measures specified in the Plan have been installed, functioning and stabilized in accordance with the general permit and the Plan. These revisions should still provide DEEP with the necessary financial assurance, while allowing the amount – and cost – of such assurance to be reduced commensurate with a reduction in the risks posed by a project.

- (29) Comment: The listed requirements in (1), (2), (3) (a to e inclusive) of the design requirements for post-construction stormwater management measures can be eliminated as they are addressed in previous comments.

Response: DEEP does not agree that the requirements noted by the commenter are unnecessary and has retained them in the General Permit. See also the Responses to Comments (13) - (15), (18) - (20), (22), and (23).

- (30) Comment: Solar arrays should not be permitted on slopes greater than 15% as measured along the alignment of the row of solar panels.

Response: DEEP agrees with the commenter that sites with slopes greater than 15% present significant stormwater management challenges, including, but not limited to, increased risk of channelization, creation of erosive velocities, and increased risk of sedimentation, to name a few. For this reason, Section (1) of the Design and construction requirements of Appendix I proposed specific rules for calculating water quality volume at sites with slopes greater than 15%. DEEP has not found it necessary, however, to prohibit solar arrays on sites with slopes greater than 15%. In fact, even if the General Permit contained the prohibition requested by the commenter, a person seeking to place solar panels on a site with slopes greater than 15% could submit an application for an individual permit.

Having said that, the General Permit is intended to function more as a streamlined permit mechanism, especially for sites that do not present the challenges present at sites with

slopes greater than 15%. While DEEP is not making sites intended for solar arrays with slopes greater than 15% ineligible for the General Permit, given the challenges posed by such slopes, on a site specific basis DEEP may invoke section 22a-430b of the General Statutes and require the filing of an application for an individual permit for such a site.

- (31) Comment: A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared by the applicant which fully complies with the E&S Guidelines.

Response: DEEP agrees. This is required by section 5(b) of the General Permit.

- (32) Comment: The SWPPP shall be reviewed by a Qualified Licensed Professional Engineer (per the General Permit) and a written statement of acceptance shall be provided by the Qualified Licensed Professional Engineer.

Response: DEEP agrees. This is required by Section 3(b)(11) of the General Permit for Locally Approvable project. DEEP staff or the appropriate State agency, as applicable, conduct the Plan review for Locally Exempt projects.

- (33) Comment: Appropriate and adequate erosion control measures should be implemented on the site to reduce the slope length of disturbed areas to prevent the concentrated flow down a long earth slope.

Response: DEEP agrees. This is addressed in Section 1(b) of the Design and Construction Requirements in Appendix I, which states that “runoff remains as sheet flow across the entire site.” In addition, Section 1 of the Design requirements for post-construction stormwater management measures in Appendix I requires “... non-erosive conveyance of runoff on the site, to the property line of the site or downgradient from the site ...”.

- (34) Comment: The area to be disturbed (stump removal and/or grading) for the solar array should be limited to five (5) acres at one time. The area must be stabilized with vegetation (75% vegetative cover over the area) prior to moving to the next phase.

Response: While in general DEEP agrees with this comment, see Section 5(b)(1)(B)(iii) of the General Permit which states that “[w]herever possible, site construction activities shall be phased to avoid the disturbance of over five acres at one time.” DEEP has also found that due to the nature, scale, and timeline of solar construction projects, this type of phasing may not always be practical. The necessity to develop and implement stormwater management measures when large areas are being disturbed at one time was certainly part of the rationale for adding Appendix I to the General Permit. See also the Response to Comment (69).

- (35) Comment: If the area to be disturbed at one time is more than five (5) acres, the requirements of Part 1: Large Construction Site Sequences found on pages 4-2 to 4-5 of the E&S Guidelines should be fully complied with.

Response: To the extent that the provisions cited by the commenter are applicable, consistency with these requirements is already required by various provisions in section 5(b) of the General Permit.

- (36) Comment: Permanent stormwater basins should be constructed in the early phases of the project, vegetated with appropriate seed mixture or plugs so that they are ready to accept stormwater when the array is constructed.

Response: ***DEEP agrees with this comment and while such sequencing will also be specified in the Plan, DEEP will modify Section 5(b)(1)(B)(iii) to add the following:***

“In addition, permanent stormwater control measures, including, but not limited to, stormwater basins should be constructed, where practicable, in the early phases of the construction sequence.”

- (37) Comment: Permanent stormwater basins should NOT be used as temporary sediment basins or traps during the active construction period as they cannot be stabilized appropriately to accept post-development runoff.

Response: DEEP disagrees. While the SQM recommends this, it is merely a recommendation. DEEP believes there may be cases where, with proper design, the conversion of sediment basins to permanent post-construction basins may be possible and even appropriate.

- (38) Comment: Short-term and long-term maintenance specifications and plans should be provided for all components of the stormwater management system for the solar array.

Response: Sections 5(b)(2)(A)(iii) and 5(b)(2)(C) of the General Permit already require that the plan includes requirements for addressing short- and long-term maintenance of construction and post-construction measures.

Trout Unlimited – Sal DeCarli & John Kovach

Email with attachment dated February 7, 2020

General Comment

The one-hundred (100) foot buffer proposed in Appendix I is a commendable step forward in reducing the impacts of solar projects on wetland, watercourses, and vernal pools. However, the impacts of clearing and development are not limited to solar projects. All development has the potential to impact wetlands, watercourses, and vernal pools. Coldwater Fish Resources (CFRs) are particularly sensitive to landscape modifications along riparian corridors and a single development site has the potential to irreversibly change a watercourse. These impacts to CFRs cannot be mitigated/replicated elsewhere like a wetland or vernal pool. Once the thermal properties of a watercourse are changed (and the species extirpated), it cannot be reversed. Consequently, we make the following recommendations.

- (39) Comment: We propose an additional definition in Section 2 of the General Permit as follows: “Coldwater Fish Resource (CFR)” means a waterbody (stream, river, or tributary thereto) with documented populations of wild brown trout (*Salmo trutta*) or wild brook trout (*Salvelinus fontinalis*) as documented by CT DEEP in the last ten (10) years.

Response: DEEP agrees that protection of cold water fisheries is a necessity. Rather than Coldwater Fish Resource, the term Cold Water Stream Habitat is the term used by DEEP to refer to these resources. DEEP water monitoring and fisheries staff recently conducted and published a study on cold water stream habitat in conjunction with USGS. As a result of this study, cold water stream habitat watersheds were identified throughout the state based on the presence of cold water fish species and seasonal stream temperatures. DEEP staff developed an interactive mapping application for Cold Water Stream Habitat based on this study. No definition of this term is necessary as it is defined on the webpage referenced in the modified language below. ***DEEP will include a requirement in Section 3(b) for a 100-foot buffer to be maintained between any construction activity and any stream classified as Cold Water Stream Habitat as follows:***

“(15)Cold Water Stream Habitat

A Permittee shall maintain a one-hundred (100) foot undisturbed buffer between any construction activity and any stream, river, or tributary that is included within a Cold Water Stream Habitat watershed as defined at: <https://portal.ct.gov/DEEP/Water/Inland-Water-Monitoring/Cold-Water-Stream-Habitat-Map>. The buffer shall consist of undisturbed soil and well-established existing vegetation.”

- (40) Comment: We propose a new subsection under Section 5(a) General Conditions as follows:

Impacts to Coldwater Fish Resources (CFRs)

A one-hundred (100) foot buffer shall be maintained between any project and a CFR. The buffer shall consist of undisturbed soil and existing vegetation. Fisheries data is available online through the University of Connecticut (UConn) Connecticut Environmental Conditions Online (CTECO) or by contacting CT DEEP Fisheries Division.

Response: See Response to Comment (39).

- (41) Comment: We propose a new subparagraph under Section 5(b)(2)(D) Other Controls as follows: The one-hundred (100) foot buffer adjacent to any CFR must be maintained post-construction and supplemented with additional plantings as necessary to maintain the canopy/stream cover.

Response: As stated in the previous comments, DEEP agrees with the commenter on the importance of cold water stream habitats. The general permit cannot dictate measures for properties not owned by the permittee or require a permittee to perpetually maintain the plantings and health of the buffer beyond the termination of permit authorization. However, we can provide for a final review of the cold water stream habitat buffer to be conducted prior to permit termination. ***DEEP will include this new subparagraph as Section 5(b)(2)(D)(vi) of the General Permit.***

(vi) Cold Water Stream Habitat

For construction activities within a Cold Water Stream Habitat watershed, as specified in Section 3(b)(15), the one hundred (100) foot undisturbed buffer specified in that section must be verified post-construction and, where such buffer is located within the boundaries of the construction site, supplemented with additional plantings as necessary to maintain canopy/stream cover.

Connecticut Fund for the Environment – Katherine Klaus/Roger Reynolds

Email with attachment sent February 12, 2020

- (42) Comment: The General Permit broadly requires compliance with the 2002 E&S Guidelines and the 2004 Stormwater Quality Manual (SQM). However, this broad obligation is insufficient. Engineers commonly supplant, rather than supplement, these guidance documents with their own judgment, leading to decisions that do not comply with accepted best practices. DEEP can address this problem by calling attention to specific requirements from the E&S Guidelines and SQM and expressly mandating compliance with these requirements. For example, the permit could require that all swales and stormwater management basins be designed in compliance with the SQM. The permit could also mandate compliance with the SQM's stream channel protection and peak runoff attenuation requirements. These provisions should be part of the Stormwater Pollution Control Plan ("Plan") under Section 5(b)(1)(A) or (B) of the General Permit.

Response: Sections 5(b)(1)(A) and (B) of the General Permit enumerate the contents of the Plan for all projects and already cite the need to comply with E&S Guidelines and the SQM. So swales and stormwater management basins must be designed in accordance with the SQM. DEEP has used this approach in the General Permit for quite some time and is not aware of it being the source of problems. To identify and emphasize all the possible elements of these guidance documents that might apply to any project would be too cumbersome and confusing. DEEP depends on the knowledge and expertise of the Qualified Professional Engineer (QPE) designing the project to be familiar with these documents and their appropriate use. See the Responses to Comments 18, 21, 31, 33, 35, and 38.

- (43) Comment: Erosion control barriers such as silt fences are critical for intercepting sediment from disturbed sites during construction. In Connecticut, the Guidelines generally require that one erosion control barrier be implemented to achieve this protective purpose.

However, these barriers often fail due to inadequate installation or maintenance. As a result, it is generally more effective to implement multiple barriers that provide several lines of defense against erosion and sedimentation. The General Permit should require two rows of erosion control barriers during construction activities on sites with sensitive conditions, such as proximity to waterbodies and steep slopes.

Response: DEEP agrees with this comment and supports additional protection measures for wetlands and steep slopes. EPA includes similar provisions for wetland protection in its construction general permit. DEEP will include language to provide additional protection where disturbance is on slopes greater than 8% or is within 50 feet of a wetland, watercourse, including vernal pools. *The following paragraph will be added between the first and second paragraphs of Section 5(b)(2)(A)(i):*

“Regardless of any provisions for erosion control barriers prescribed in the Guidelines, the Permittee shall ensure that two rows of erosion control barriers are installed and maintained on sites with slopes equal to or greater than eight percent (8%) within the contributing drainage area to such barrier. Notwithstanding the foregoing, use of two rows of erosion control barriers shall not be required on the sites specified in this paragraph when: (i) the Commissioner determines, for a limited section or portion of such erosion control barriers, that it is necessary to accommodate animal crossing or animal movement; (ii) the Commissioner approves a Plan that includes an erosion control system whose performance is equivalent to, or exceeds, two rows of erosion control barriers; or (iii) for linear projects, the Commissioner has determined that two rows of erosion control barriers, when compared to one row, will cause greater adverse impact to wetlands, waters, or other sensitive resources. In such situation the Commissioner may approve a Plan with one row of erosion control barriers or an alternative erosion control system. When implementing this paragraph the Commissioner may consider the contributing disturbed area, drainage area, length of the slope, flow conditions to maintain sheet flow, the efficacy of the proposed barrier, any adverse impacts from the use of one or two rows of erosion control barriers, and any other factor the Commissioner deems necessary.”

In addition, a new subparagraph (ii) will be added to Section 5(b)(2)(A):

“(ii) Wetland Protection

Where site disturbance occurs within fifty (50) feet upgradient of a wetland, wetlands, or waters as defined in Section 2 of the general permit, respectively, a double row of sediment barrier (e.g. hay bales, silt fence, wattles, etc.) shall be installed in accordance with the Guidelines between the disturbed area and any such downgradient wetland, wetlands or waters.”

- (44) Comment: DEEP's proposed stormwater permit acknowledges the challenge of soil compaction during construction in Appendix I, under Section 3(c) of the "design requirements for post-construction stormwater management measures." In this Section, the permit requires that hydrologic analyses reduce the hydrologic soil group of the site by one step to account for compaction. This soil compaction, however, is not limited to the construction of solar arrays-all construction causes soil compaction. Therefore, this provision would be more appropriately placed within the requirements of the General Permit. Soil group reductions should apply to stormwater modeling and calculations for *all* covered construction projects.

Response: DEEP does not believe such a requirement is appropriate or necessary in the General Permit. The nature of construction activities varies a great deal for different types of construction projects around the state. Most projects do not include the densely developed homogenous type of construction activity present in a solar array. The majority of sites do not have the same potential for compaction as a solar array. For this reason, we are including this measure only in Appendix I for solar arrays.

- (45) Comment: The one-step reduction in hydrologic soil group proposed in Comment 44 may be insufficient in some cases. A two-step reduction would be more appropriate where sites are regraded by more than two feet. This reduction is recommended for both cutting and filling activities because both significantly reduce soil quality. Cutting removes soil organic matter, decreasing stability and infiltration capacity, thereby increasing erosion potential. Fill material also typically has a lower infiltration capacity because it is more compact. Accordingly, where cutting and filling is significant, a two-step reduction in soil quality is fitting.

Response: See the Response to Comments (14) and (15).

- (46) Comment: Under the "design and construction requirements" for solar projects, Section 1 explains when roadways, gravel surfaces, transformer pads, and solar panels ("solar infrastructure") will be considered impervious cover. This Section states that on post-construction slopes above 15%, or on slopes under 15% that fail to meet certain conditions, solar infrastructure is considered impervious only for the purposes of calculating the water quality volume. The triggers for this designation are acceptable, but the designation's function should be broadened. The amount of impervious cover at a site is typically used for other calculations in addition to the water quality volume, including for example groundwater recharge volume. This designation should therefore be expanded to cover all stormwater calculations.

Response: See the Response to Comment (12).

- (47) Comment: Under the solar "design and construction requirements," Section 1(b) should require that designs ensure sheet flow runs downgradient towards stormwater management features. Moreover, compliance with this provision must be inspected with sufficient

regularity from design to construction and beyond. DEEP also must be able to enforce compliance with this provision, and enforceability should be made explicit in this Section.

Response: It is a misnomer to say that section 1(b) of the Design and construction requirements of Appendix I imposes or requires any particular design relative to sheet flow. There is no such requirement. Section (1)(b) specifies a condition that if not met will require that solar panels be considered effective impervious cover and will affect the stormwater calculations for a project. With respect to inspections, the General Permit requires inspections. See for example sections 5(b)(1)(vi) and 5(b)(4). It is not clear what the commenter means by suggesting that inspections must be conducted from construction *and beyond*. Inspections are required up until permit termination as specified in the General Permit. With regard to enforcement, all of the provisions of the General Permit are equally enforceable and DEEP sees no reason to highlight such enforceability for a particular provision. Also, see the Response to Comment (23).

- (48) Comment: Under the solar "design and construction requirements," Section 1(c), bullet point 1 states, "appropriate vegetation shall be established as indicated in Figure 1." This language should be removed and replaced. Figure 1 depicts short, homogeneous, grassy vegetation. Stating that vegetation must match this illustration is limiting - it implies that only grasses may be established. However, other vegetation may provide greater runoff absorption or co-benefits for the ecosystem.

Response: It is a misnomer to say that the first bullet of section 1(c) of the Design and construction requirements of Appendix I imposes a requirement regarding vegetation. There is no such requirement. The first bullet of section (1)(c) specifies a condition regarding vegetation that if not met will require that solar panels be considered effective impervious cover and will affect the stormwater calculations for a project. In short, the first bullet of section 1(c) does not establish an enforceable requirement regarding vegetation.

That said, there is no reference in this section or in Figure 1 one that states the vegetation must be grass. Figure 1 merely represents where vegetation is to be established. What appropriate vegetation is will be determined by the design professional and any other professional (i.e. landscape architect) that will evaluate appropriate ground cover for the site conditions. See also the Response to Comments 16 and 49 regarding appropriate vegetation. ***To provide clarification, the first bullet in section (1)(c) of the Design and Construction Requirements section of Appendix I will be amended to read as follows:***

- “For slopes less than or equal to 5%, appropriate vegetation shall be established ~~as indicated in Figure 1, below~~ that will ensure sheet flow conditions and that will provide sufficient ground cover throughout the site; and”

- (49) Comment: Under the solar "design and construction requirements," Section 1(d), additional language about vegetation should be added to encourage supplemental sustainable practices. First, this Section should state that vegetation must be native. Second, this

Section should state that pollinator-friendly vegetation is encouraged. Third, this Section should state that agrivoltaics (agriculture co-located with solar arrays) is allowable, provided that it complies with the letter and the spirit of the Stormwater Permit.

Response: It is a misnomer to say that section 1(d) of the Design and construction requirements of Appendix I imposes a requirement regarding vegetation. There is no such requirement. Section (1)(d) specifies a condition regarding vegetation that if not met will require that solar panels be considered effective impervious cover and will affect the stormwater calculations for a project. In short, Section 1(d) does not establish an enforceable requirement regarding vegetation.

Regarding native and pollinator-friendly plantings, see Response to Comment (16). With respect to agrivoltaics, there is nothing in the General Permit or in section 1(d) prohibiting use of crops under solar panels, so no additional language is needed. The use of agrivoltaics can be encouraged in guidance.

- (50) Comment: Under the solar "design and construction requirements," Section 1(d) should prohibit the use of chemical fertilization, herbicides, or pesticides except as necessary to establish vegetation. These chemicals are inconsistent with the sustainable mission of solar arrays. They cause harm to human health and the environment, creating problems ranging from eutrophication to cancer.

Response: See the Response to Comment (49) regarding whether section 1(d) imposes enforceable requirements. However, DEEP agrees that this is appropriate not just for solar development but for all development. That said, ***DEEP has added the following language to Section 3 of the design and construction requirements in Appendix I and Section 5(b)(2)(A)(i):***

“With respect to such vegetation, the Permittee shall not use chemical fertilization, herbicides, or pesticides except as necessary to establish such vegetation.”

- (51) Comment: Under the solar "design requirements for post-construction stormwater management measures," Section 1 should be reworded to state, "Post-construction stormwater control measures shall be designed and constructed to provide permanent stabilization and non-erosive conveyance of runoff *on the site*, to the property line of the site, or downgradient from the site *so as to protect on and off-site water resources*" (added language italicized). As written, the provision fails to account for on-site conveyances and water resources. The supplementary language suggested here provides clarity and added protection.

Response: DEEP agrees with the commenter that the suggested change helps clarify DEEP's intent. ***Section 1 of the Design Requirements for Post-Construction Stormwater Management Measures will be modified as follows:***

“(1) Post-construction stormwater control measures shall be designed and constructed to provide permanent stabilization and non-erosive conveyance of runoff ~~to the property line of the site or downgradient from the site on the site, to the property line of the site or downgradient from the site to ensure protection of on- and off-site wetland, wetlands, and waters (as those terms are defined in Section 2 of the general permit) or other natural resources.~~”

Rivers Alliance of Connecticut – Alicea Charamut

Email with attachment sent February 13, 2020

- (52) Comment: Updates and modifications to stormwater management programs highlight the dire necessity to update DEEP’s Stormwater Quality Manual.

Response: The updating of the Stormwater Quality Manual is beyond the scope of issues regarding the renewal of the General Permit.

- (53) Comment: The permit must specifically state that a certified Erosion and Sediment Control Plan, that addresses erosion and sediment control during construction as well as post-construction, must be part of the Stormwater Control Plan.

Response: It is not clear from the comment what purpose would be served by requiring a separate “erosion and sediment control plan” and what might be the contents of any such plan. While the General Permit does not require a separate erosion and sediment control plan the Stormwater Pollution Control Plan must be prepared in accordance with the E&S Guidelines, must address erosion and sediment control, and must be prepared and certified to by a qualified professional. See sections 5(b)(1)(A), 5(b)(2)(A), section 5(b)(7)(C), and section 3(b)(9), among other sections. This provides the necessary assurance that erosion and sediment control issues at a site are being addressed without requiring a separate plan.

- (54) Comment: Independent, third party inspections by a qualified professional are critical.

Response: DEEP agrees. Section 5(b)(1)(B)(vi) and 5(b)(4) of the General Permit contain provisions for third party inspections. For solar arrays, the Design and Construction Requirements section of Appendix I further requires that the inspections must be done by a Qualified Professional Engineer with additional inspections by a Conservation District representative.

- (55) Comment: Rivers Alliance agrees with the comments of the Connecticut Council of Trout Unlimited on adding conditions to protect Coldwater Fish Resources (CFRs).

Response: See Response to Comments 39-41.

- (56) Comment: Regarding the Memoranda of Agreement between DEEP and Conservation Districts, it is vital that the Conservation Districts have a role in providing technical assistance on erosion and sediment control for construction projects. The Districts are a

neutral third party with the expertise to assist with review of E&S plans and conduct inspections during construction and through final stabilization. With the expected rapid loss of staff at DEEP over the next few years, DEEP should be relying more on Districts for erosion and sediment control issues.

Response: While DEEP agrees and certainly recognizes and respects the expertise of the Districts, with respect to locally exempt projects we want to be clear that DEEP will continue to review Plans, including, but not limited to, erosion and sediment control provisions.

(57) Comment: Rivers Alliance supports Comments (12), (16), (46), and (50).

Response: See Responses to Comments (12), (16), and (50).

(58) Comment: It is essential that (1)(e) under “Design and construction requirements” remains as a condition in this section of the permit or, perhaps, further improved. This condition requires that a 100-foot buffer be maintained between any part of the solar array and any wetlands or waters. To improve this condition, the buffer should be vegetated and a 150 foot buffer would be even better.

Response: Section 1 of the Design and construction requirements of Appendix I proposed that if certain conditions were not met, all of the solar panels in an array would have to be considered impervious for when calculating Water Quality Volume (WQV). One of these conditions was maintenance of a 100 foot buffer between any part of an array and a wetland or waters. As proposed then, the General Permit provided a choice: either maintain a buffer or, if the buffer is not maintained, treat the solar panels as impervious when calculating stormwater quality volume.

The Department agrees that these provisions as proposed were not sufficiently protective of wetlands or waters. For example, under the General Permit as proposed a solar array that discharges to a wetland could be built right up to the edge of that wetlands. This was not the result DEEP intended.

Consistent with the commenter’s suggestion DEEP improved the protections in Appendix I for wetlands and waters. DEEP has added both setback and undisturbed buffer requirements to provide greater protection to wetlands and waters. Significantly, compliance with these requirements is not an option that can be traded off through treatment of solar panels as impervious when calculating the WQV. The wetlands/waters provisions have been moved out of section (1) of Appendix I and into a new section (2) so maintaining the specified setbacks and undisturbed buffers are required, not optional.

While the wetlands/waters requirements have been significantly strengthened, DEEP did not adopt the commenter’s suggestion of requiring a 150 foot buffer. Instead, the General Permit requires an undisturbed buffer of at least fifty (50) feet between any construction activity at a site and any wetland or waters that, prior to or after construction, is located downgradient of such construction activity. If the buffer is not comprised of existing dense

herbaceous vegetative ground cover the undisturbed buffer shall be at least one-hundred (100) feet. This fifty (50) foot or one hundred (100) foot buffer can be reduced by fifty percent (50%) if certain conditions are satisfied. In addition, this section includes a 100 foot setback between any solar panel and a downgradient wetland or waters and a fifty foot setback between any solar panel and downgradient property boundary.

Finally, in addition to other provisions, Appendix I now contains a provision that would allow the commissioner, prior to the approval of a registration, to determine that the 100 foot-setback or any buffer required under this section is not adequate to protect water quality or natural resources (i.e., a vernal pool, cold-water perennial streams, perennial headwater seeps or similar sensitive wetland or waters, or other sensitive habitat), and reject or disapprove the registration, or may impose additional terms and conditions in the approval of such registration. See also Response to Comment (41). *In summary, the wetlands/waters provisions of Appendix I and Section 5(b)(2)(D)(vi) of the General Permit have been significantly strengthened as outlined above and included in the final General Permit.*

Mary Keane – Private citizen

Email sent February 14, 2020

(59) Comment: Please protect our water. It is already challenged by population and construction.

Response: DEEP agrees. The General Permit is intended to provide that protection.

The Jonah Center for Earth and Art – John C. Hall

Email with attachment sent February 14, 2020

(60) Comment: The Jonah Center supports the comments of Connecticut Fund for the Environment, Rivers Alliance, and The Nature Conservancy.

Response: The Nature Conservancy submitted no comments. See the Responses to Comments (42) – (51) from Connecticut Fund for the Environment and Comments (52) – (58) from Rivers Alliance of Connecticut.

Gregory Plante – Private citizen

Email sent February 15, 2020

(61) Comment: Supports the comments of Trout Unlimited. See Trout Unlimited Comments (39) – (41).

Response: See the Response to Comments (39)-(41).

Rowan M. Lytle – Private citizen

Email sent February 15, 2020

- (62) Comment: Supports the comments of Trout Unlimited. See Trout Unlimited Comments (39)-(41).

Response: See the Response to Comments (39)-(41).

United Illuminating – Todd Berman

Email with attachment sent February 17, 2020

- (63) Comment: Our concern relates to the modified definition of "Effective Impervious Cover" that includes "gravel surfaces" as impervious. UI respectfully requests the Connecticut Department of Energy and Environmental Protection (CTDEEP) consider or retain an applicant's ability to make a demonstration that, given the appropriate compaction and gravel size of a "gravel surface," some infiltration and retention benefits from that surface could still be realized. UI's concern relates to the gravel yard design and operation of some of the new substation projects we are planning. UI believes more flexibility is needed in the definition language, or as an alternative, some other structural change to allow for designers using gravel surfaces to retain demonstrable and appropriate runoff coefficients in their design plans and execution.

Response: This comment concerns section 2 of the General Permit and the definition of "effective impervious cover." The portion of the definition cited by the commenter refers to "compacted soils or gravel surfaces." It was the Department's intention that the term "compacted" modified both soils and gravel surfaces. The Department will revise the definition to make this clear. Provided the gravel is not compacted it should not be considered "effective impervious cover." ***DEEP will modify this definition to clarify the reference to "compacted" gravel surfaces and to clarify the difference between impervious cover and effective impervious cover as follows:***

"Effective Impervious Cover" is the area of impervious cover that is hydraulically connected to a surface water by means of continuous paved surfaces, gutters, swales, ditches, drain pipes or other conventional conveyance and detention structures that do not reduce runoff volume. Impervious cover is a surface composed of any material that impedes or prevents infiltration of water into the soil. Impervious surfaces shall include, but are not limited to, roofs, solid decks, driveways, patios, sidewalks, parking areas, tennis courts, concrete or asphalt streets, or compacted soils or compacted gravel surfaces."

Connecticut Association of Conservation Districts – Denise Savageau

Email with attachment sent February 18, 2020

- (64) Comment: In Section 2 Definitions, we recommend changing "Guidelines" to "E&S Guidelines". This offers clarity in the body of the permit as to which guidelines are being referred to. Although, the definition includes "as amended", it is likely that any future update will have a new title (e.g. 2021 Connecticut Guidelines for Soil Erosion and

Sediment Control). Language should be included that would provide for any subsequent revision of the 2002 E&S Guidelines.

Response: The term “Guidelines” has been in the general permit for many years. DEEP is not aware of the use of this term creating any confusion. DEEP doesn’t see any benefit to changing the term. In addition, the term “as amended” is sufficient to include any future changes to the Guidelines.

- (65) Comment: We recommend substituting the following language for the definition of qualified inspector. “ “Qualified Inspector” means an individual possessing either (1) a bachelor’s degree in hydrology, engineering (agricultural, civil, environmental, or chemical), landscape architecture, geology, soil science, environmental science, natural resources management, or a related field and two years of professional and field experience, or (ii) the EnviroCert International, Inc. designation as a Certified Professional in Erosion and Sediment Control (CPESC), Certified Erosion, Sediment and Stormwater Inspector (CESSWI), or a Certified Professional in Stormwater Quality (CPSWQ); or (2) five years of demonstrable and focused experience in erosion and sediment control plan reading, installation, inspection and/or report writing for residential and commercial construction projects in accordance with the Guidelines; or (3) certification by the Connecticut Department of Transportation (DOT).” This change recognizes the various disciplines that are often involved in erosion and sediment control and also the certification process.

Response: The language cited in the comment is taken from the Memoranda of Agreement between DEEP and the Districts included in Appendices E & F. While DEEP has agreed that, for the purposes of those memoranda, these criteria are appropriate when referring to District personnel, DEEP does not agree that it is appropriate or necessary to apply this expanded definition to all qualified inspectors. Holding one of the referenced degrees outside the realm of the Districts does not ensure expertise in construction inspection. In addition, while certification by EnviroCert is valuable, it still must be accompanied by appropriate experience.

- (66) Comment: As written, the definition of qualified soil erosion and sediment control professional limits this to a landscape architect or professional engineer. It excludes soil scientists, wetland scientists, agronomists, geo-hydrologists, and land use planners who actively work in not only inspecting but also reviewing, designing, and implementing E&S controls. By definition it even excludes USDA NRCS Soil Conservationists, who are specifically trained in erosion and sediment control. The following language is recommended:

“Qualified soil erosion and sediment control professional” means an individual having one or more of the following minimum qualifications: (i) a bachelor’s degree in hydrology, engineering (agricultural, civil, environmental, or chemical), landscape architecture, geology, soil science, environmental science, natural resources management, or a related field and two years of professional and field experience, or (ii) the EnviroCert

International, Inc. designation as a Certified Professional in Erosion and Sediment Control (CPESC), Certified Erosion, Sediment and Stormwater Inspector (CESSWI), or a Certified Professional in Stormwater Quality (CPSWQ). Such qualified soil erosion and sediment control professional shall remain in good standing with the Connecticut Department of Consumer Protection and the Commissioner.

Response: Within the General Permit, the term “Qualified soil erosion and sediment control professional” is used to determine the qualifications of the person designing (or reviewing the design of) a construction project covered by this permit. This qualification goes beyond just designing or reviewing erosion and sediment control measures. Merely having a degree in the disciplines listed by the commenter does not qualify a person to design all the elements and stormwater control measures, including engineered measures, required by the General Permit for a Stormwater Pollution Control Plan (Plan). Likewise, certification as CPESC, CESSWI, or CPSWQ does not mean that a person so certified is qualified to design a project and develop a Plan. These certifications are primarily focused on erosion and sediment control and not on the full design process including engineered stormwater management measures. To ensure qualification as a designer and/or reviewer of a Plan the person certifying must have a license issued by the state and subject to state law qualifying them as a professional engineer or landscape architect in addition to the requisite experience developing these designs.

- (67) Comment: The language of the Small Construction section defers E&S and stormwater controls to municipalities for projects under 5 acres. The last sentence of this section raises some concerns. It reads: *“In the absence of such municipal commission approval, the permittee shall register with the DEEP under the requirements for a Locally Exempt Project and comply with all applicable conditions of this General Permit.”* This seems to imply that if a municipality denies a permit, DEEP will consider the action under a Locally Exempt Project application. Perhaps it should state, that “In the absence of municipal review” rather than “In the absence of municipal approval”.

Response: This comment concerns section 3(d) of the General Permit. DEEP did not intend that those denied authorization by a municipal commissioner could or should then be able to apply to DEEP for approval. ***DEEP agrees with the need for clarification and will change the wording of the last sentence of section 3(d) to read:***

“In the absence of ***such a*** municipal commission ~~*approval*~~ ***to review and approve such activity***, the permittee shall register with the DEEP under the requirements for a Locally Exempt Project and comply with all applicable conditions of this general permit.”

- (68) Comment: It is important that the permit strongly reflects the need for erosion and sediment controls during the construction process. Often, the emphasis by the designer is to focus on the final design and not the controls needed during construction. Unfortunately, this is when the most damage to the water resource can occur. It is also important to recognize that E&S controls and stormwater management during construction may look very different

from the final, stabilized stormwater control plan. As such, it is recommended that greater emphasis be placed on the development and implementation of an E&S control plan as a separate but integral part of the overall stormwater control plan. We recommend that the language in Section 5(b)(1)(A) be amended as follows: “The Plan shall consist of site plan drawings and a narrative, that includes both (a) an erosion and sediment control plan to be implemented during construction and (b) a stormwater control plan as part of the final design.”

Response: The proposed preamble paragraph for Section 5(b) of the General Permit clearly states that, “The permittee shall ensure that the design and implementation of the Plan minimizes: (1) soil erosion and sedimentation during and after construction; and (2) stormwater pollution caused by use of the site after construction is completed.” This adequately states the importance of E&S controls as equally important with post-construction measures. Also, see the Response to Comment 53.

- (69) Comment: Section 5(b)(1)(B)(iii) states “Wherever possible, site construction activities shall be phased to avoid the disturbance of over five acres at one time”. Use of “wherever possible” here is very weak and could allow for activities to be more environmentally detrimental based on disturbing larger portions of sites and leaving more open to stormwater impacts than would otherwise be needed. I suggest deleting “Wherever possible” from the sentence.

Response: DEEP agrees that disturbance of more than five acres at a time can be problematic. However, it is not always possible to limit disturbance to 5 acres. In fact, there are instances where it is not practical or even advisable to adhere to this limit. However, it should be followed whenever it is feasible. **DEEP will modify this sentence to use the term “practicable” rather than “possible”.** See also the Response to Comment 34.

- (70) Comment: In discussing Soil Stabilization and Protection, Section 5(b)(2)(A)(i) says “...disturbed portions of the site are minimized and stabilized.” We recommend that the following text be added at end of this sentence as follows: “...throughout the duration of the site work for the project.” It’s important to show that stabilization is not only critical at the end of the project.

Response: DEEP agrees that it is critical that disturbed portions of a site be minimized and stabilized throughout a project. While the provision cited by the commenter has always been interpreted in this manner, DEEP will make the requested edit. **The first paragraph of section 5(b)(2)(a)(i) of the general Permit is revised to read:**

“The Plan shall include a narrative and drawings of interim and permanent soil stabilization practices for managing disturbed areas and soil stockpiles, including a schedule for implementing the practices. The Permittee shall ensure that existing vegetation is preserved to the maximum extent practicable and that disturbed portions of the site are minimized and stabilized **throughout the duration of construction activity at the site.**”

- (71) Comment: In Section 5(b)(3), Additional Protection for Impaired Waters, we recommend that language be changed to include source water protection areas (drinking water supplies). Change language to read “Additional Protection for Impaired and Source Waters” and update the rest of the section to reflect this change. This would be in keeping with the implementation of the newly adopted State Water Plan. Additionally, add source water in the definition section using EPA’s definition of source water.

Response: The section cited specifically targets watersheds for streams impaired for sediment, turbidity, and other construction-related impairments as identified in Section 3(b)(13) of the General Permit. There are only a limited number of watersheds that fall in these categories in the state. The stringent phasing and stabilization measures in this section are designed to protect these streams already impacted by construction activities in accordance with Section 303(d) of the federal Clean Water Act and the DEEP Integrated Water Quality Report. Due to the large number of source waters in the state, it is neither practical nor necessary to apply these measures to the much larger category of public water supply watersheds.

- (72) Comment: In Appendix A (threatened and endangered species), why is there a switch to a limited two-year determination from a one-year determination in the current version of the permit?

Response: This change reflects that DEEP’s Wildlife Division now issues two-year determinations instead of their previous one-year determination.

- (73) Comment: In Appendix B (LID practices) why does DEEP only "strongly encourage" use of LID measures here? Municipalities are requiring LID in their MS4 permits. Shouldn’t DEEP do the same?

Response: The MS4 General Permit does not “require” that developers use LID measures. Rather, under that permit municipalities must require developers to “consider the use of LID and runoff reduction practices . . . prior to the consideration of other practices. . .”. Section 5(b)(2)(C)(ii)(a) does require the use of runoff reduction, LID or other measures to achieve the permit’s WQV retention requirements. ***To maintain consistency, DEEP will modify the sentence in Appendix B to say,***

“In order to reduce the impact of development and address stormwater quality issues, the Department ~~***strongly encourages***~~ ***requires*** the use of Low Impact Development (LID) measures ***in accordance with Sections 5(b)(2)(C)(i) and (ii).***”

- (74) Comment: In Appendix C (Aquifer protection areas) the following language is found: “The Stormwater Pollution Control Plan (“the Plan”) **should** consider measures to reduce or mitigate potential impacts to both ground water (aquifers) and surface waters, . . .”. It needs to be stronger. The use of "should" makes it optional, and we recommend it be replaced with “must.”

Response: ***DEEP agrees with this comment and will change the wording in the first sentence of Appendix C from “should” to “shall”.***

- (75) Comment: In Appendix H, the Wild and Scenic Rivers list is incomplete. Farmington (Lower) River & Salmon Brook and Wood & Pawcatuck Rivers should be added.

Response: ***DEEP agrees and will add the Farmington (Lower) River & Salmon Brook and Wood & Pawcatuck Rivers to the last paragraph of Appendix H.***

- (76) Comment: Regarding Appendix I, it is good to see that guidelines for solar arrays have been developed. They should be amended to be more comprehensive and cover the following: Site selection considerations; special considerations for developing E&S control plans and SWPCPs for large solar arrays; temporary measures for preventing impacts through the site clearing/construction process.

Response: DEEP agrees that requirements specifically for solar arrays are needed. DEEP's experience with General Permit compliance at such sites has not been good. Currently, in the context of the General Permit, while the General Assembly has enacted certain siting requirements, DEEP has not yet developed additional siting requirements of its own. Appendix I includes special considerations and temporary measures for E&S plans and SWPCPs for solar arrays, as well as emphasizing those measures that already exist in the General Permit that apply to large construction sites also apply to solar arrays. See also Response to Comment 35.

- (77) Comment: Appendix I makes the assumption that sheet flow is the existing condition on the site. It also assumes that this condition can be maintained during construction and into final design. Keeping or improving sheet flow on sites is an admirable goal but may be difficult to maintain throughout the construction process even if it is feasible post-construction. A detailed E&S plan should be developed showing existing flow conditions and how water will flow over the site DURING construction and until final stabilization is realized.

Response: This comment concerns Section 1(b) in the Design and Construction Requirements in Appendix I of the General Permit. It is a misnomer to say that Section 1(b) imposes a sheet flow requirement or that it assumes sheet flow will be maintained during construction and into final design. There is no such requirement. Rather, Section (1)(b) specifies a condition regarding sheet flow that if not met will require that solar panels be considered effective impervious cover and will affect the stormwater calculations for a project. In short, Section 1(b) does not establish an enforceable requirement regarding sheet flow.

Finally, section 5(b)(2) of the General Permit requires that the Plan include and address E & S controls. This would include flow conditions and how water will flow both during construction and through to final stabilization.

- (78) Comment: The solar array guidelines give very specific recommendations in Section 1(c) under construction design. It may be better to refer to the E&S Guidelines and/or reference best management practices than to be so prescriptive. Erosion and sediment controls during construction are not only determined by percent slope, but also by length of slope (sometimes more important) and type of soil. These same considerations should determine final design and stabilization.

Response: Similar to the last comment, Section 1(c) in the Design and Construction Requirements of Appendix I of the General Permit does not impose *any* requirements. Rather, if the conditions in Section 1(c) are not met, the calculation for stormwater management must assume that the solar panel are effective impervious cover. So the purpose of Section 1(c) is not to specify post-construction slope requirements but rather to specify what must be taken into account regarding stormwater calculations.

The provisions under Section 1(c) of Appendix I are not included in their specificity within the E&S guidelines. DEEP intends this appendix to be more prescriptive than the E&S guidelines for certain elements. The E&S guidelines provisions for soils and slope will still apply and in some cases will be upgraded by the appendix.

Finally, section 5(b)(2) of the General Permit requires that the Plan include and address E & S controls. This would include, but not be limited to, the factors noted by the commenter, namely, percent of slope, length of slope and type of soil.

- (79) Comment: This permit provides for the Districts to be involved in both the locally approvable and locally exempt process assisting the DEEP with its water quality mission. As a neutral third party, the Districts are able to provide unbiased review and inspection services during the construction process through final stabilization. As presented, the locally exempt MOA restricts the Districts to conducting inspections only. It may be prudent to make sure that this permit does not limit the assistance that Districts can provide to DEEP. Districts are capable of reviewing and making recommendations on E&S control plans if DEEP needed this assistance. It is recommended that DEEP and the Districts further review the MOA's as part of this process to ensure that future needs can be met without modifying the permit.

Response: DEEP is committed to our partnership with the Districts. We will continue to explore the possibilities of this partnership as we implement the General Permit.

SolarConnecticut – Michael Trahan

Email with attachment sent February 18, 2020

- (80) Comment: Based on the Department's public commentary, DEEP seems to have identified four solar projects that have had "significant" stormwater discharge issues associated with their construction, such that cease and desist orders were issued. One of those incidents took place before the Department issued its September 8, 2017 guidance document, "Stormwater Management at Solar Farm Construction Projects." Since the issuance of that

guidance, we understand that according to the Department, the other three incidents have the same root cause – the construction contractor failed to properly follow the designs for the solar construction. If so, amending the General Permit to require additional conservatism in design (such as changing hydrologic soil groups, altering the definition of imperviousness, etc.) would not appear to address the root issue. Increased inspections and/or increased financial assurances may be warranted in certain situations, and would be responsive to the Department’s expressed concerns, but increased design standards would not rectify the problems the Department speaks to in its prior-issued cease and desist orders.

Response: As suggested by the commenter, the Appendix I of the General Permit includes specific inspection and financial assurance requirements for solar projects. Appendix I also includes, however, measures to address design issues as well as construction oversight. Based on the Department’s experience, the failures observed to date do show that, in addition to contractor errors, there have been design deficiencies for solar projects that failed to anticipate and address the impacts of such large contiguous disturbed areas.

Moreover, some measures in Appendix I were based on similar measures or best practices implemented in other states, including some recommended by engineering consultants, and reflect DEEP’s continuing – and deepening - understanding of the best means to manage stormwater at solar array projects. In short, Appendix I was not simply a reaction to construction contractor failures. See also the Response to Comment (191).

- (81) Comment: The Draft General Permit, as currently drafted, does not provide enough clarity for when project developers will need to register under the General Permit if a solar development will disturb between one to five acres of land. The application of the General Permit is fairly clear for projects that will disturb more than five acres; however, smaller solar projects do not have clarity as to when the requirements for registration under the General Permit apply to them.

Response: It is not clear if the commenter was aware of section 3(d) of the General Permit but that section addresses the registration requirements for sites between one and five acres, including smaller solar projects. If a 1-5 acre site is reviewed and approved by a local land use commission, it is considered Locally Approvable and does not need to submit a registration for the General Permit. If the project is not reviewable by a local land use commission, it is considered Locally Exempt and must register for the General Permit. Also, see the Response to Comment (67).

- (82) Comment: There are currently a significant number of solar generation projects registered under the General Permit, but there is no guidance from the Department as to how these projects should be treated assuming the Draft General Permit is enacted as written. Forcing such projects into a new regulatory regime makes little to no sense. The Department should “grandfather” such projects that were designed to be compliant with current requirements and should explicitly state that such projects will continue to be deemed compliant with applicable regulations, even after the Draft General Permit is approved.

Response: When a new permit is issued, DEEP has always “grandfathered” existing permitted sites for certain sections of their previous permit upon reregistration. Section 4(c)(3) of the general Permit requires re-registration of existing projects. In addition, section 5(b)(5)(C) of the General Permit states that a permittee already registered under the previous permit must update their Plan only for certain measures. ***To highlight this, DEEP will modify the language in Section 4(a) of the General Permit as follows:***

“With the exception noted in the “Small Construction” section (Section 3(d)) of this general permit, any person or municipality which initiates, creates, originates or maintains a discharge described in the “Eligible Activities” section (Section 3(a)) of this general permit shall file with the commissioner a registration form (***or, for existing permittees, a re-registration form***) that meets the requirements of

Also, to section 4(c)(3), the following sentence will be added:

“The permittee’s Plan shall be updated in accordance with Section 5(b)(5)(C).”

- (83) Comment: SolarConn is hard-pressed to understand why the Department has linked the need for a wetlands buffer to the construction of solar arrays when it does not do so for other construction projects. While we recognize such buffers are often desirable, SolarConn also recognizes that the amount of a buffer is dependent on a wide variety of factors, such that a “one size fits all” restriction does not appear to be appropriate. Such a wide buffer throughout a site may have the unintended consequence of limiting water flow into wetlands, thus causing them to dry up.

Response: This comment concerns section 1(e), Design and construction requirements as it was proposed in Appendix I. For revisions regarding the wetlands provisions in Appendix I see the Response to Comment (58).

The inclusion of buffer for wetlands and water in the context of solar array projects is a recognition that, unlike the vast majority of other construction projects, factors such as the amount of disturbance at one time, the volume of water discharged, the frequently long disturbed slopes draining to wetlands and waters, and the potential increase in the temperature of such discharges, result in need for wetlands and waters to have special protection from erosion and sedimentation during construction. Simply put, a buffer is needed to protect wetlands and waters from these potential impacts. The buffer should not direct runoff away from a wetland or waters or deprive this resource of runoff from its watershed. The ability to customize this buffer would be contrary to the purpose of a General Permit. Such modifications may be sought within the structure of an individual permit.

- (84) Comment: SolarConn is concerned with the arbitrary, binary identification of whether a solar project should be considered impervious. If a project meets certain requirements, it is considered by the Department to be 100% pervious, however, if it fails to meet such

requirements, it is considered to be 100% impervious. There is no middle ground. However, it is accepted that even in situations where panels are close together, there will be some level of infiltration into the ground. The panels will not act as an impervious stretch of road might for purposes of stormwater calculations.

Response: In general, the steeper a site becomes the less infiltration there is before surface runoff starts to occur. Other factors, including, but not limited to, slope length, soil type, soil compaction, soil moisture content, rainfall intensity, and vegetation, also affect infiltration and runoff. For solar arrays, there are the added elements of intermittent rows of elevated impervious surface, row spacing, row orientation with respect to slope, and additional runoff velocity (i.e. panel height) of runoff falling from the panels. While there is an argument that panels should not be treated the same as a parking lot or roadway, there is an equally compelling argument that the runoff on these slopes will be increased beyond the amount that would occur from the same slope without any panels. Moreover, while the commenter takes issue with the approach used in the permit, no alternative is offered.

In fact, the permit does not make a simple binary choice as suggested by the commenter. Nor are the provisions of the permit arbitrary. Panels are “100% pervious” for slopes less than 15% but only if the conditions specified in the Design and Construction Requirements in section 1(a)-(e) are met. These conditions gradually increase measures to reduce runoff and encourage infiltration so as to reduce the effect of the impervious panels as slope increases. If all of the conditions in section 1(a)-(e) are not met, the solar panels have be treated as effective impervious cover. Once slopes exceed 15%, these measures have reached the limit of their effectiveness and the full effect of the panels must be included in calculating the Water Quality Volume (WQV). The Minnesota Pollution Control Agency has developed guidelines for solar array construction that include a calculator that reflects this relationship. This calculator demonstrates that the slope, soils, and rainfall affect the degree to which the impervious panels contribute to runoff. The impervious surface of the panels cannot be discounted in runoff calculations simply because it is elevated or simply because there are gaps between panels.

- (85) Comment: With regard to financial assurance mechanisms, while some form of financial assurance may be appropriate, we object with both the amount and the inflexibility as to the form of the financial assurance. At \$15,000 per acre of disturbance, the Department is requiring financial assurance that will be equal to roughly \$75,000 per megawatt of solar capacity. The potential for harm is far less than the amount the Department is calling on providers to submit.

Response: DEEP appreciates the commenter’s perspective but notes that no justifications were provided for the commenter’s conclusion. The amount of the financial assurance was based upon information provided to the Department by those with experience with solar projects. In addition, a letter of credit was chosen as the form of financial assurance based on the relative ease, when compared with other assurance mechanisms, to access the funds, especially when needed on short notice. The Department has, however, made revisions to

the financial assurance requirements in Appendix I that should address some of the concerns raised by this commenter. See the Response to Comments (28) and (86).

- (86) Comment: By requiring project developers to provide the Department with a letter of credit, the Department has assured that developers will be required to provide the most expensive form of financial assurance. The Department failed to consider other mechanisms for financial assurance that may be cheaper, such as providing a surety bond. Requiring such high levels of financial assurance, and through such expensive means will likely cause developers to look at constructing projects in other, more favorable jurisdictions, or will result in those developers raising the prices of their bids when Connecticut next seeks to procure renewable energy through the RFP process. This requirement may well cost Connecticut jobs, adversely impact the Connecticut ratepayer, or more likely, do both.

Response: It is incorrect to say that DEEP did not consider other mechanisms for financial assurance. DEEP considered a range of mechanisms and settled on a letter of credit since this mechanism provides the easiest access to funds. The purpose of the letter of credit is to address the failure of stormwater management measures at a solar project under construction. When such failures occurs, environmental damage is already imminent or occurring. Reaction time and the ability to mobilize to immediately cease and mitigate ongoing damage are paramount. The process of calling in a surety bond takes considerably longer than activating a letter of credit. Assuming there are no issues requiring activation, the letter of credit is returned to the developer at the end of the project. The Department has, however, made revisions to the financial assurance requirements in Appendix I that should address some of the concerns raised by this commenter. See the Response to Comment (28).

- (87) Comment: There is no parameter for the amount of the site with slopes over 15%. If a site has 90% grades less than 5% and only 10% of the site has grades greater than 15%, is the intent for the whole site to be subject to the proposed alterations to water quality volume (WQV) calculations? We respectfully request that the Department clarify its position on this matter.

Response: The design and construction requirements in Section (1) of Appendix I refer to slopes on the site and not the site as a whole. For sites with portions that are greater than and less than 15% slopes, the portions of the site with slopes >15% would be subject to the requirements for sites with greater than 15 % slopes and the portions of the site with slopes less than 15% would be subject to the requirements for slopes less than 15%. So in the commenter's example, the fact that 10% of the site has slopes that > 15% would not mean that solar panels in portions of the site where the slopes are less than 15% would have to be treated as effective impervious cover. Also, see Response to Comment (30).

- (88) Comment: Sheet flow usually occurs in the headwaters of a stream near the ridgeline that defines the watershed boundary. Typically, sheet flow occurs for no more than 100 feet

before transitioning to shallow concentrated flow. It is unrealistic for any site in the pre- or post- condition to have runoff remain as sheet flow across a site based on the definition of sheet flow. After the first 50-100 feet of sheet flow on site, stormwater runoff is considered to be shallow concentrated flow. In cases of existing hayfields that have grades of over 5% and are functioning today, the installation of other level spreaders, terraces, or berms could have the undesirable effect of increasing the potential for erosion and sedimentation.

Response: While the commenter did not identify the source of its comment, it apparently concerns Section 1(b), Design and construction requirements in Appendix I. The commenter, however, has misread Appendix I. Section 1(b) in the Design and construction requirements section does not impose any sheet flow requirements. Rather, if the conditions in Section 1(b) regarding sheet flow are not met all of the stormwater calculations must assume that the solar panel are effective impervious cover. So the purpose of Section 1(b) is not to specify a sheet flow requirements but rather to specify what must be taken into account regarding stormwater calculations. Moreover, with respect to the commenter's claim that it is unrealistic to maintain sheet flow based upon the definition of sheet flow, it is not clear what definition of sheet flow is referred to in the comment, there is no definition of that term in the General Permit.

Finally, DEEP notes that construction of the solar array will disturb any existing hayfield or other site during construction regardless of its current flow regime. DEEP does not agree that on hayfields with slopes greater than 5% the installation of stormwater control measures, if properly done, would increase erosion and sedimentation. To the contrary, with the use of grading, gravel berms, and other measures, sheet flow can be reestablished and optimized on slopes on slopes greater than 5%, especially during construction. Also, see Response to Comment (77).

- (89) Comment: For the bullets in Section 1(c) of Design and Construction Requirements in Appendix I there is no guidance on what percentage of site at certain percent grades would require the items being proposed below, e.g., if a 10-acre site has 5%-10% grades over less than 5% of the site is the entire site bound by the requirements of 5%-10% grades?

Response: These slope-based requirements apply anywhere the specified slopes occur. Different measures may be required at different locations on the site, as appropriate. Also, see Response to Comment (87). ***DEEP will delete the words "sites with" in the third bullet under Section 1(c) of Design and Construction Requirements in Appendix I.***

- (90) Comment: The requirement for fourth bullet under Section 1(c) should not be limited to areas that are equal to or greater than 10% and less than 15%; it should apply to any solar project regardless of the percent grades. In any event, such controls will become more prevalent in projects with grades upwards of 10%.

Response: DEEP believes the measures listed in the first three bullets, while not "engineered" measures, are adequate to protect their respective slopes. DEEP agrees that the requirements specified in the fourth bullet are applicable to all projects. The fourth

bullet reflects the understanding that slopes less than 10% may not require engineered control measures but for slopes greater than 10%, engineered control measures will be required and should be included in the Plan.

- (91) Comment: Section 4 requires that a Professional Engineer serve as the inspector for routine (weekly) inspections. Such a requirement will likely increase cost to solar projects, without providing a concomitant benefit. For all other types of construction projects, under the Guidelines, a qualified inspector is considered to be someone with five years of demonstrable and focused experience in erosion and sediment control plan reading, installation, inspection and/or report writing for residential and commercial construction projects. No degree or other certifications are required. There is no rationale for why such an individual would be unable to perform such a function for solar projects. This also removes a lot of qualified individuals that could perform this work, potentially creating a shortage of available inspectors that could actually delay necessary inspections.

Response: This comment concerns Section 4 of the Design and construction requirements proposed in Appendix I. Reliance on a P.E for inspections was specifically intended to elevate the qualifications of those inspecting solar projects. As the commenter noted in Comment (80), having others perform inspections has not been sufficient to prevent egregious non-compliance.

The scale and amount of disturbed area in most solar arrays goes well beyond that of the vast majority of residential and commercial construction projects. These large projects are more likely to include engineered controls all of which are designed by a P.E. A few solar projects have been undertaken where non-P.E. inspectors have failed to note egregious non-compliance with a P.E.'s design. If stormwater controls are not constructed as designed, or fail or require modification or repair, a professional engineer is best equipped to both recognize and address these issues. There are more than a sufficient number of professional engineers in Connecticut and fewer than a dozen solar projects under construction at one time. Inspector availability will not be a problem. ***The Department has, however, made revisions to the inspection requirements in Appendix I that should address some of the concerns raised by this commenter.*** See the Response to Comment (26).

- (92) Comment: In Section (2) of Design Requirements for Post-Construction Stormwater Management Measures in Appendix I, it should be noted that there is a small gap between all of the panels on a piece of racking, and depending on the panel orientation and configuration on the rack, there may be several edges where water falls to the ground rather than one concentrated runoff at the lower edge of the entire rack structure. Also, the panels are at different angles as they follow the natural contours of the land as much as possible. That being said, it is unclear how rows being perpendicular to the contours may result in higher runoff, and the Department should provide justification/calculations for its contention regarding higher runoff from rows being perpendicular to applicable contours.

Response: As an initial matter, it should be clarified that the Department did not “contend” that there is higher runoff from rows of panels that are perpendicular to the contours of a site. The portion of the General Permit cited by commenter states that “rows perpendicular to the contours *may* result in higher runoff. In addition, as enumerated in previous responses, the General Permit has a very limited ability to customize requirements for different sites and permittees. While some arrays may have significant gaps between panels, others may not. A permittee may request an individual permit when the General Permit cannot accommodate an alternate design. In addition, the angle and orientation of the panels may also have an influence on whether or not runoff can flow from one panel to the next. In accordance with prevailing best engineering judgement, when rows are perpendicular to the contours runoff from the drip edge of the panel rows will be less likely to exhibit sheet flow (drip edge parallel to contours) and more likely to concentrate more quickly as a point source (drip edge perpendicular to contours). As discussed in the E & S Guidelines and SQM, sheet flow is more likely to infiltrate and is likely to have less surface discharge than point source runoff.

- (93) Comment: It is unclear what criteria the Department is using to determine site specific soil mapping. While it may be appropriate for solar projects, it appears to be equally appropriate for any construction project. It should not be specific to just solar. Thus, the requirement should be removed from Appendix I and placed in the Draft General Permit or removed altogether.

Response: DEEP has a number of general permits for different activities, different types of discharges and different requirements. So the notion that there are specific requirements for solar arrays is in keeping with the numerous general permits issued by DEEP. The large areas of contiguous disturbed soil inherent in the construction of large solar arrays is significantly greater than the vast majority of other construction projects. This makes the determination of soil types, along with their susceptibility to erosion and suitability for infiltration, of greater importance in developing the erosion and sedimentation control plan and post-construction design measures for these sites. Permittees can begin with the NRCS soils maps but will need to have a soils scientist confirm the soil types and extent within the specific project site.

- (94) Comment: Determining the infiltrative capacity of any stormwater management measure is not an issue through field tests.

Response: Unfortunately, it is not clear what part of the General Permit is being referred to by the commenter. Neither Appendix I nor any other part of the General Permit refers to field testing for infiltrative capacity. However, the SQM in Section 11-P3 does call for “field permeability tests” for the design of infiltration practices. Infiltrative capacity of a site is based upon factors such as slope gradient, soil moisture, depth to saturated soils (i.e., groundwater elevation), depth to bedrock, soil type and compaction. See Appendix I, Design requirements for post-construction stormwater management measures, Section 3(c).

(95) Comment: With regard to the reduction of the Hydrologic Soil Group (HSG) present on-site by one (1) step (e.g. soils of HSG B shall be considered HSG C) to account for the compaction of soils that results from extensive machinery traffic during construction of the array: Is the Department concerned about potential unintended consequences resulting from changing the hydrologic soil group when modeling stormwater runoff for post-conditions? It is possible that by doing this, a project would be over-detaining runoff for a large site, resulting in downstream wetlands or agricultural properties seeing a significant change in hydrology and function? Is the Department basing this change on any academic research? The Vermont Agency of Agriculture has provisions to address soil compaction by testing before and after construction. Compaction can be measured by performing a soil bulk density test for the topsoil (A horizon). Alternatively, to measure surface and subsurface hardness, penetrometer readings can be taken using a field penetrometer with field penetration resistance measured in psi. If bulk density is higher than tested originally, subsoiling, plowing or other methods of decompaction should be employed to alleviate soil compaction. Soil material should not be spread or driven on by heavy machinery when it is very wet, otherwise, soil compaction could be severe. In addition, Vermont's 2017 Stormwater Treatment Standards includes post-construction requirements that are intended to ensure that the post-construction runoff coefficient remains the same as the pre-construction runoff coefficient for the remaining soils on site. While this mainly pertains to commercial development that will have more impact than a solar project, some provisions may be worth considering for solar projects.

Response: Soil compaction during construction is well-documented, as seen in cases like the DEEP Jordan Cove study where construction compaction interfered with the infiltrative capacity of installed LID measures. We have also seen this effect firsthand with previous solar array sites. The proper design of post-construction stormwater management measures is to ensure that downstream sites, including wetlands and farmland, do not experience a measurable increase or decrease from pre-construction to post-construction conditions. The requirement to increase the HSG by one group is meant to more accurately reflect the post-construction runoff characteristics of the site for the design of long-term stormwater management measures. In a state that receives approximately 50 inches of precipitation a year, it is also not practical to restrict the operation of heavy equipment to times when the soil is not wet. The Vermont Agency of Agriculture methods cited are to address compaction of farm land and assume that significant cutting and filling is not conducted. Agricultural fields are typically located in areas without significant slopes and do not involve substantial grading. In addition, Vermont's recently reissued stormwater construction general permit includes a site evaluation process that would likely exclude large scale solar projects from general permit coverage. A solar construction site may have slopes up to and exceeding 15% and may have grading that removes the A horizon entirely. In addition, the use of subsoiling or plowing to decompact a site would mean the entire site could be redisturbed just at the time when it should be well on its way to full stabilization with fully constructed rows of solar panels adding to site runoff. ***The Department has, however, made revisions to the HSG Soil Group requirements in Appendix I that should address some of the concerns raised by this commenter. See the Response to Comment (14).***

(96) Comment: *Construction Activities* definition was changed to include pile driving and soil compaction among other items. Solar Connecticut believes that this change is beneficial for the Draft General Permit.

Response: DEEP concurs.

(97) Comment: *Disturbance* definition was changed to clearly state that construction activity on existing established ground would be considered disturbance. This is also a positive change to the Draft General Permit.

Response: DEEP concurs.

(98) Comment: *Effective Impervious Cover* definition now includes compacted soils. What is the definition of compacted soils? If the Permit is going to state that compacted soils are Effective Impervious Cover, then Appendix I Number 1 does not really matter, and every site should have to address the Water Quality Volume calculations as identified in Appendix I Number 1.

Response: The beginning of the cited definition states that effective impervious surface is “a surface composed of any material that impedes or prevents natural infiltration of water into the soil.” If compacted soils meet this criteria they are considered impervious. It is not clear why the commenter has concluded that compacted soils renders unnecessary or meaningless, Section (1) of Appendix I, Design and Construction Requirements. Section 1 mentions roadways, gravel surfaces and transformer pads, and solar panels, not compacted soils. Also, see Response to Comment 63.

(99) Comment: *Final Stabilization* definition was added, which is also a positive change to the Draft General Permit.

Response: DEEP concurs.

(100) Comment: *Grab Sample* can be removed from the definitions. All references to this were removed from the General Permit.

Response: ***DEEP concurs and will remove this definition.***

(101) Comment: The Department should consider adding definitions for Engineered and Non-Engineered Corrective Actions.

Response: The E&S Guidelines incorporated by reference into the General Permit already define engineered and non-engineered measures.

(102) Comment: The Department should consider adding Peak Flow or Peak Flow Control as a definition.

Response: The Stormwater Quality Manual incorporated by reference into the General Permit already defines these terms.

- (103) Comment: Section 3(b)(6) is still unclear with the removal of text. Are infiltration practices considered discharges entirely to ground water? If so, there should be a storm event listed here.

Response: The commenter’s question concerns Section 3(b)(6) of the General Permit which states that “[t]he general permit authorizes the construction activity and associated discharges ...provided: (6) the stormwater is *not* discharged entirely to groundwater.” As such, any stormwater discharges that do not go entirely to groundwater, would require coverage under the General Permit. To be clear, if there would be any discharge that is not entirely to groundwater from any size storm before, during, or after construction, coverage under this permit is required. In addition, EPA’s policy is that permit coverage is required for a site with any such discharges from any size storm. See also Comment 10. ***To clarify this issue, DEEP will revise section 3(b)(6) of the General Permit so that it reads as follows:***

“(6) Discharge to Groundwater

The stormwater is *not* discharged entirely to groundwater ***under all conditions before, during or after construction.***”

- (104) Comment: Section 3(b)(10) adds locally exempt projects (including solar arrays) to District review and certification process. The first paragraph needs to be revised for locally exempt projects, as Appendix F clearly states that the Department is required to initiate the review by the Districts. Are fees for this in addition to the Department permit fees?

Response: DEEP agrees that first sentence of section 3(b)(10) of the General Permit requires revision. Plan review and certification by the District is not required for locally exempt projects. DEEP will accordingly will revise section 3(b)(10) of the General Permit. District fees are in addition to any DEEP fees. **Section 3(b)(10) of the General Permit will be revised as follows:**

“(10) Plan Review and Certification by a District ***for Locally Approvable Projects***

For ~~locally exempt projects (including solar arrays) and any~~ locally approvable Plans not reviewed in accordance with Section 3(b)(11), below, the registrant has submitted to the commissioner a written certification by the appropriate regional District for the review of the Stormwater Pollution Control Plan pursuant to Appendix E ~~or Appendix F, as appropriate~~, which, at a minimum, complies with the following requirements:

(A) the Plan Review Certification must be signed by the District. Information on the District review process is outlined in the Memorandum of Agreement provided in Appendix E ~~or F, as appropriate~~. In cases where the District is unable to complete review of the Plan within the time limits specified in the Memorandum of Agreement in Appendix E, a notice to that effect signed by the District may be submitted in lieu of the certification.”

(105) Comment: Section 3(b)(15)(D) states that the permittee shall provide evidence of submittal of financial assurance to the town in which the project is being developed for both locally approved and locally exempt projects subject to the jurisdiction of the CSC. For locally exempt projects that go through CSC what type of financial assurance is to be provided? Is this in addition to the letter of credit required by the Department for solar projects? Is the financial assurance just for erosion and sedimentation control and stormwater features? Would this requirement be imposed prior to issuance of a permit or prior to the start of construction?

Response: Based on this comment, DEEP is reconsidering the need for this provision. Larger solar projects are an example of locally exempt projects that go through the Connecticut Siting Council (“CSC”) for which the General Permit requires financial assurance. The financial assurance requirements for such projects are set forth in detail in Appendices I and J, so there is no reason to impose any additional requirements in Section 3(b)(16)(D) (formerly 3(b)(15)(D)) regarding such requirements. With respect to whether the financial assurance is just for erosion and sedimentation, see the response to Comments (28), (85) and (86). This financial assurance must be provided to DEEP prior to approval of a registration, not prior to construction. Finally, for locally approvable projects, the permittee is required to comply with any town financial assurance requirements. Since the requirement originates with the town, so does the need to oversee compliance with this town requirement. *For that reason, DEEP has modified this section as follows:*

*“(D) For locally approvable projects, ~~t~~The permittee shall ~~provide evidence of submittal of~~ indicate whether any financial assurance ~~to~~ was required by the town in which the project is being conducted *and, if so, indicate what type of assurance was required and in what amount. for locally approvable projects and also for any locally exempt projects subject to approval by the Connecticut Siting Council. (CGS 8-12 and CGS 16-50g, et seq.)*”*

(106) Comment: In Section 3(d), Small Construction, if a solar array’s disturbance is under five acres of disturbance and is reviewed by the municipality pursuant to the requirements of section 22a-329 of the Connecticut General Statutes, is Appendix I required to be followed? Is a solar array project required to register under the General Permits if it meets the requirements of this section?

Response: If a solar array’s disturbance is under 5 acres total and is approved by a local land use commission, it is considered Locally Approvable. Pursuant to Section 3(d) of the General Permit, it is not required to register under the General Permit or comply with the

elements of the General Permit, including Appendix I. Compliance with local erosion and sedimentation control provisions and any other municipal requirements is required in this situation. However, if a solar array project's disturbance is under 5 acres total, but is subject to review by the Connecticut Siting Council ("CSC"), then it is considered Locally Exempt and is subject to registration and other applicable requirements of the General Permit, including Appendix I.

(107) Comment: Should the date in Section 3(g)(2)(C) be October 1, 2020 not October 1, 2019?

Response: ***DEEP will correct the date to December 31, 2020.***

(108) Comment: Section 4(c)(2)(D) states that boundary or lot surveys should not be included in the submitted Plan. Without these items, how is the Department to evaluate the requirement of Appendix I that states "For an engineered stormwater management system, demonstrates no net increase in peak flows, erosive velocities or volumes, or adverse impacts to downstream properties".

Response: Section 4(c)(2)(D) specifies that an electronic copy of a SWPCP should be submitted, except for certain specified items including "boundary or lot surveys". This section means that Plan sheets that contain the A-2 boundary survey information should not be submitted. The boundary survey itself is not related to erosion and sediment control or stormwater management on the site. Property lines should still be shown on the Plan's appropriate sheets. ***DEEP will clarify this by amending section 4(c)(2)(D) to read as follows:***

"(D) Include an electronic copy of the Stormwater Pollution Control Plan (Plan) (or a web address where the electronic Plan can be downloaded) for the commissioner's review. The electronic Plan shall be in Adobe™ PDF format or similar publicly available format in common use. DO NOT INCLUDE in this electronic copy any pages or other material that do not pertain to stormwater management or erosion and sediment control (such as electrical and lighting plans, A-2 boundary or ***similar*** lot surveys, building plans, non-stormwater related detail sheets, etc.)."

(109) Comment: Section 4(c)(2) states the 60- or 90-day periods cited in subsection (A) will not begin until all required elements have been submitted. What is the required time frame for the Department to inform an applicant that all required elements have been or have not been submitted?

Response: The EZFile registration software is designed, as much as possible, to not allow submission of an incomplete registration. While there is no required timeframe, once a registration has successfully been submitted through EZFile, stormwater staff will generally conduct a sufficiency review within 60 or 90 days and notify the registrant of any deficiencies.

(110) Comment: In Section 4(d)(2)(J)(viii), Registration Form, will the EZFile system be updated to provide a section for solar development for use in verifying that the plan has been developed in accordance with the provisions of Appendix I?

Response: There are currently no plans to update the EZFile system as suggested by the commenter. The Department intends to continue to provide timely review and response to registrations (see Response to Comment (109)). Regardless of whether or not EZFile is updated, the permittee is responsible for certifying compliance with the entire permit, which includes Appendix I.

(111) Comment: In Section 5(b), Stormwater Pollution Control Plan, the Department should consider adding “and their contractors and subcontractors” after the word “permittee” in the second sentence of the first paragraph.

Response: The sentence noted by the commenter concerns the requirement that the Permittee perform all actions required by and maintain compliance with the SWPCP. The Permittee submits a registration, not its contractors or subcontractors. It is the Permittee’s ultimate responsibility to ensure that it performs the actions required by and maintains compliance with the Plan, including, but not limited to, any actions or omissions of its contractors and subcontractors.

(112) Comment: In the second sentence of Section 5(b)(1)(A), remove “2004 Connecticut” as Stormwater Quality Manual is already defined.

Response: ***DEEP agrees and will change the reference.***

(113) Comment: Also in the second sentence of Section 5(b)(1)(A) after Stormwater Quality Manual, consider adding “, including WQV and Peak Flow Control,”

Response: There are many measures in the Stormwater Quality Manual that should be followed. DEEP doesn’t believe it is necessary to single out just a few.

(114) Comment: In Section 5(b)(1)(B)(vi), Inspections, the end of this section states that an inspection checklist should be included in the plan and references checklists located at www.ct.gov/deep/stormwater, but no checklists are located at this link. Please provide the specific checklists that the Department is referring to.

Response: ***DEEP will ensure that the referenced checklist(s) are available when the General Permit is reissued.***

(115) Comment: Section 5(b)(1)(B)(vii), Contractors, states that only contractors and subcontractors that have the potential to cause pollution to water of the State need to be identified. Please consider removing “that have the potential to cause pollution to water of the State” as any contractor that drives onto an active construction site has the potential to cause pollution to waters of the State if not properly informed.

Response: DEEP does not believe this change is necessary. Not all contractors on a project have the potential to pollute waters of the state. As an example, a contractor conducting interior electrical work in a building on a construction site would not have a reasonable expectation of causing pollution to waters of the state. This requirement is in the current general permit and has not been an issue for registrants or DEEP.

- (116) Comment: In Section 5(b)(2), Stormwater Control Measures, the link to the DOT Qualified Products List is invalid.

Response: **DEEP will fix the link.**

- (117) Comment: In Section 5(b)(2)(A)(i), Soil Stabilization and Protection, the requirement, “Temporary or permanent vegetation or other ground cover shall be maintained at all times to prevent erosion and soil compaction during construction activities.” was added to this section. Should the following be added after compaction “, in undisturbed or inactive areas,”?

Response: This comment concerns the fourth paragraph, a new provision, in section 5(b)(2)(A)(i) of the General Permit. DEEP agrees with this comment and will add the language similar to that recommended by the commenter to clarify that maintaining temporary or permanent vegetation is not required in areas undergoing active construction. **The fourth paragraph of section 5(b)(2)(A)(i) is modified to read as follows:**

“Temporary or permanent vegetation or other ground cover shall be maintained at all times **in all areas of the site, except those undergoing active disturbance, in order** to prevent erosion and soil compaction during construction activities.”

- (118) Comment: In Section 5(b)(2)(A)(ii), Structural Measures, the Department should consider the following change to the first sentence in Paragraph 2. Replace “be installed” with be designed and installed”.

Response: The sentence that is the subject of the comment requires that for certain discharges, a temporary sediment trap or temporary sediment basin shall be installed in accordance with the Guidelines. Although Section 5(b)(2) already requires stormwater control measures, including temporary sediment traps or basins, to be designed in accordance with the Guidelines. For clarification, **DEEP will change the language as recommended by the commenter.**

- (119) Comment: In Section 5(b)(4)(A), Plan Implementation Inspections, to comply with the changes made to the first sentence of Paragraph 1, The Department should consider adding “each phase of the” before each instance of “construction activity” in the second sentence in Paragraph 1. To comply with the changes made to the first sentence of Paragraph 1, The Department should consider removing “for the initial phase of construction” from the end of the second sentence in Paragraph 1.

Response: This comment concerns planned implementation inspection. The first sentence of section 5(b)(4)(A) concerns requirements for “each phase” of construction. DEEP agrees with the commenter that the “each phase of construction” requirement, should be, but is not followed through in the remainder of this paragraph. ***As such, DEEP will change the first paragraph of Section 5(b)(4)(A) of the General Permit as follows:***

“(A)Plan Implementation Inspections

Prior to commencement of each phase of the construction activity on the site, the permittee shall contact the designing qualified professional and, ~~for solar arrays subject to Appendix I,~~ the appropriate District, *where applicable,* to ~~inspect the site ensure that all required inspections are conducted.~~ ***For each phase of construction, the site shall be inspected at least once within the first thirty (30) days of construction activity and no more than at least three times, with three (3) days or more between inspections,*** within the first ninety (90) days of construction activity to confirm compliance with the general permit and proper initial implementation of all control measures designated in the Plan for ~~the initial~~ ***each*** phase of construction. The following conditions shall apply:”

- (120) Comment: In Section 5(b)(4)(B), Routine Inspections, under (i), reference to inspections only needed to occur once a month for three months remains, whereas later in the General Permit that is changed.

Response: The commenter’s reference to “later in the permit” refers to the final stabilization inspection requirements in Section 6(a) requiring final stabilization for one full growing season rather than three months. ***DEEP agrees with this comment and is moving the provisions for post-construction and final stabilization inspections from Section 6(a) to Section 5(b)(4), including the requirement to achieve final stabilization for one full growing season.***

- (121) Comment: Under 5(b)(4)(B)(iii), the term engineered, and non-engineered corrective actions are identified but there are no definitions for these terms.

Response: See Response to Comment (101).

- (122) Comment: In Section 5(b)(5), Keeping Plans Current, the following statement was added to Section (A): “If the amount of disturbed area increases from the amount specified on the original registration for the site or there are changes to engineered or non-engineered construction or post-construction control measures, that have the potential to increase the quantity or amount of pollutants in the site’s stormwater discharges, the permittee shall submit a new registration to the commissioner in accordance with Section 4 of this general permit.” Are there parameters that the Department uses to determine if a change has the potential to increase the quantity or amount of pollutants from a site? Would these need to go through the same review time frame as the initial submittal? This change could impact

the overall schedule of a project and the amount of time that disturbed soils are exposed. Does this apply to engineered or non-engineered corrective actions after the fact?

Response: We have had a number of permitted sites that significantly modified their scope once a registration was approved and construction started. DEEP believes the permittee should have fully assessed a site, including the amount of disturbance necessary, and developed the necessary construction and post-construction control measures before they submit a registration. Plans can and should be modified to address current conditions on a site. However, if the amount of disturbance increases or there are new control measures implemented that increase the potential for the discharge of pollutants from the site, a new registration should be submitted (pursuant to all requirements of a new registration) so DEEP has the opportunity to review the new Plan. ***To clarify this section further, DEEP will remove the comma after “measures” in the phrase “post-construction control measures”.***

- (123) Comment: Section 5(b)(9), Plan Submittal, states that boundary or lot surveys should not be included. Without these items how is the Department to evaluate the requirement of Appendix I that states “For an engineered stormwater management system, demonstrates no net increase in peak flows, erosive velocities or volumes, or adverse impacts to downstream properties”.

Response: Site plans already include property lines and boundary surveys are not necessary for stormwater calculations or to identify downstream properties. Also, see Response to Comment (108).

- (124) Comment: Deletion of Section 5(b), Turbidity Monitoring, is a positive change that results in cost and time savings for project developers.

Response: DEEP concurs.

- (125) Comment: In Section 5(c)(3)(A), Inspection Reports, a reference should be added stating that reports should be submitted pursuant to Section 5(c)(3)(C).

Response: Section 5(c)(3)(A) of the General Permit requires, among other things, that certain inspection reports be submitted to the Commissioner upon request. In response to the comment, DEEP will revise this section to clarify how the reports should be submitted. DEEP will also clarify when such reports have to be provided. ***Section 5(c)(3)(A) of the general permit has been reconfigured. The new Section 5(c)(1)(C) is revised as follows:***

“(C) Inspection records must be retained as part of the Plan for a period of five (5) years after the date of inspection. In addition, ~~the~~ the following inspection reports shall be kept on-site with the Plan and shall be submitted to the Commissioner upon request.”

In addition, a new Section 5(c)(2) has been added with a subsection 5(c)(2)(A) as follows:

“(2) Reporting

(A) The reports specified in this section shall be provided to the Commissioner within the timeframe specified in any request by the Commissioner, and if no timeframe is specified, no later than thirty (30) days after the date of any such request. If requested by the Commissioner, the reports shall be submitted to the Commissioner using NetDMR in the manner specified in subsection (B), below.”

(126) Comment: Section 5(f), Duty to Correct and Report Violations, has been revised to state that if a violation occurs on site all construction activities need to cease. This may not be an issue for a small site but it could be an issue for a larger site with multiple crews and trades working. Suggest modifying the provision to require ceasing construction activities in the area of the violation.

Response: Ceasing construction activity only in the area of the violation will not be an effective deterrent if construction has already ceased in an area but there is an ongoing violation in that area. If there is a violation anywhere on the site all resources must be focused on addressing the violation and mitigating any damage or pollution before construction can continue.

(127) Comment: Section 6(a), Notice of Termination, was amended to remove “three months following the final stabilization” and add “one full growing season (i.e. April through October) in the year following the”. Under this revision, if a site completes construction and seeds in early May of a given year and is fully established and stable by June, monthly monitoring would need to continue through October of the following year. This would result in an additional 15 monthly inspections. Suggested alternate language: A project shall be considered complete after all post-construction measures are installed, cleaned and functioning and the site has achieved final stabilization (as defined in Section 2) through the end of the following seeding window as defined in the Guidelines, following the cessation of construction activities. Section (a) should have a reference to the (1) Post-Construction Inspection required below.

Response: While DEEP appreciates the comment, experience has shown that full establishment of vegetation can take a year or more before a site is truly stabilized. The requirement is two growing seasons for solar projects under Appendix I. (See Response to Comment (17).) DEEP has seen many sites that were determined to have achieved final stabilization only to see vegetation fail over the winter after the first growing season. Inspection once a month is not an onerous requirement and is a valuable tool to ensure a site is fully stabilized before permit coverage is terminated. If vegetative cover does fail after the initial planting season, the permittee will still be covered by the General Permit and bound to ensure that a site has a vegetative cover before coverage under the General Permit could be terminated.

(128) Comment: The first sentence in Section 6(a)(2), Final Stabilization, should be clarified to remove potentially contradictory references to “final stabilization”, e.g., the qualified inspector should confirm that the site has maintained stabilization.

Response: ***DEEP agrees with this comment; the second reference to “final stabilization” in the first sentence of this section of the General Permit will be modified to “such stabilization is maintained.” Also, see Response to Comment (120).***

(129) Comment: Section 3(b)(10), Plan Review and Certification by the District, requires that locally exempt projects be reviewed by the District. However, Appendix F (Locally Exempt) does not include any requirements that are included in Appendix E (Locally Approved) covering the Components of the SWPCP Review, Plan Review Timeframes.

Response: DEEP agrees that section 3(b)(10) of the General Permit as written requires that for both locally exempt and locally approvable projects the District provide a certification regarding review of a Plan. For locally exempt projects, however, DEEP and not the Districts performs that review. ***For modification of this section, see Response to Comment (104).***

(130) Comment: Appendix F Section V.A., Responsibilities of DEEP, states that The Department is responsible for formal review of all locally exempt SWPCP submitted as part of the CGP. This contradicts Section 3(b)(10) which provides for plan review and certification by the District. No plan review certificate is included as part of Appendix F but is required per Section 3(b)(10).

Response: See Response to Comments (104) and (129).

Tighe & Bond – Brian Huntley, P.E.

Email with attachment sent February 18, 2020

(131) Comment: Appendix I, Section 1 indicates that “...all solar panels in the array shall also be considered effective impervious cover for the purposes of calculating the WQV...” dependent on ground surface slopes and additional requirements in subsections (a) through (e). Solar panels are not sources of Total Suspended Solid (TSS) as the runoff does not come into contact with sediment loads. Therefore, there is no sediment to remove from stormwater that comes in contact with the panels. Runoff from solar panels can be considered “clean” for purposes of WQV calculations. We recommend that for the purposes of water quality treatment design, only impervious surfaces which are subject to potential pollutant loading (ie. gravel or paved access road) are considered “impervious” for purposes of this aspect of design.

Response: DEEP does not agree with this suggested revision. Stormwater at the time it strikes a solar panel may not contribute sediment to the runoff from the site, but after such stormwater comes in contact with the ground it certainly can – and often does – increase the amount and rate of runoff, which can exacerbate erosion and sedimentation associated

with sediment loading. For that reason, the General Permit specifies conditions, which if not met, require that solar panels be treated as impervious for calculating water quality volume. This approach is important especially when it comes to steeper slopes where erosion and sedimentation are more prevalent.

- (132) Comment: Requirement (1)(c) indicates that, on slopes of 5-10%, practices such as level spreaders, terraces or berms should be implemented to ensure long term sheet flow conditions. It is our opinion that these measures should be implemented on a case-by-case basis in areas susceptible to shallow concentrated flow or rilling conditions as determined by the Engineer. In those situations, the direction of the slope as it compares with the rows of panels should be taken into consideration and measures should be designed and included as determined by the Engineer.

Response: The second bullet to Section 1(c), Design and construction requirements in Appendix I does not impose any sheet flow requirements nor require the use any particular stormwater management practices. Rather, if the conditions in section 1(c) regarding sheet flow are not met, the calculation of water quality volume must assume that the solar panel are impervious. So the purpose of section 1(c) is not to specify a sheet flow requirements but to specify design criteria if these sheet flow provisions are not met.

In addition, for those engineers seeking to avoid having to consider solar panels as impervious, the bulleted item noted by the commenter does not require the use of any specific stormwater practices. What is required is that an engineer use stormwater practices that ensure long term sheet flow conditions. Which particular practices are used to meet this standard is up to the engineer.

While the orientation of the panels to the slope will likely effect runoff characteristics, it does not preclude the use of level spreaders. In areas where the panel rows are perpendicular to the contours, a combination of berms and level spreaders may be necessary to achieve non-erosive sheet flow. These elements are of particular concern in areas where long slope length poses a particular challenge to maintaining non-erosive flows.

- (133) Comment: Also, in Section 1(c), the installation of multiple measures (e.g. level spreaders as contemplated in the draft document) throughout the site increase the maintenance requirements substantially as compared to established vegetation. Each of these measures has the potential of becoming a concentrated discharge point that can increase the potential for erosion and impacts to off-site properties if there is settlement, damage or animal burrows that could create a breach of the impoundment, causing more damage than if they were not used.

Response: See the Response to Comment (132). While it is not clear which provisions of Section 1(c), Design and construction requirements in Appendix I this comment relates to, Section 1(c), while prescriptive for some slopes, requires an engineer's judgment for others. Site conditions on certain sites will dictate whether more significant stormwater

management and E&S measures are needed. As the slope of a site increases, so does the need for more significant stormwater measures. More management measures means more maintenance and inspections. An increase in maintenance is not a reason to omit E&S and stormwater management measures and in a number of cases mere vegetation alone will be inadequate.

- (134) Comment: Requirement (1)(c) also indicates that solar panels may not be installed on slopes greater than 15%. Our experience has shown that appropriately managed sites can utilize slopes up to 20% and provide stable, vegetated surfaces beneath the array.

Response: See Response to Comment (30). The referenced section does not prohibit installation on slopes greater than 15%; rather, it places conditions on such installations. However, it is also important to note those seeking to develop sites on slopes greater than those that may present a challenge for coverage under the General Permit may seek to do so in an individual permit. The General Permit is seeking to streamline authorizations that are straight-forward and more easily managed; it does not establish the rules applicable for those applying for an individual permit.

- (135) Comment: Vegetation growth, as a form of stormwater management, can only be achieved through a suitable topsoil material and proper seed usage. Many solar developments that require tree clearing do not have adequate on-site topsoil for reuse, and large quantities of topsoil must be imported to the site in order to achieve a stable vegetative ground cover. We recommend DEEP consider a requirement for solar developments to provide a minimum of 4-inch depth of topsoil, whether imported to the site or spread from within the site, to encourage suitable vegetative growth.

Response: DEEP agrees with this commenter. Topsoil and assuring its preservation are some of the critical components to encouraging and achieving adequate vegetation on a site. The requirement for 4 inches or more of topsoil is already included in the Guidelines. As such, no modification to the general permit is necessary.

- (136) Comment: Requirement (3)(a) indicates the hydrologic analysis must evaluate pre- and post-construction stormwater flows for 2, 25, 50 and 100-year storm events. The 2004 Connecticut Stormwater Quality Manual provides a table of Design Rainfall Amounts by County. The table includes rainfall amounts for the 1-year, 2-year, 10-year, 25-year, and 100-year 24-hour storm events. Appendix I does not indicate the recommended or required source of the rainfall amount data, specifically for the 50-year storm event; we therefore recommend that the hydrologic analysis be required for the storm events included in the table (2-year, 10-year, 25-year, and 100-year 24-hour storm events).

Response: This comment concerns section (3)(a) in the Design requirements for post-construction stormwater management measures in Appendix I. With respect to the source of rainfall data, Section 2, Definitions, in the General Permit defines an “*x-year, 24-hour rainfall event*” that would include all of the stormwater frequency events noted in the

comment, by using NOAA Atlas 14, Volume 10, Version 2, Point Precipitation. That is the source for all rainfall data, including for a 50 year storm event.

- (137) Comment: Requirement (3)(c) indicates a need for a reduction in infiltrative capacity to account for the compaction of soils over the course of the array construction. It is our opinion that a reduction in the infiltrative capacity based on the surveyed hydrologic soil group (HSG) would not accurately reflect the conditions that result from soil compaction and also does not encourage contractors to utilize best practices to minimize compaction and encourage vegetation growth on the site as a whole. Rather than reducing the infiltration capacity across the site, we recommend that the actual soil properties of the site for infiltration be determined by the Engineer through field investigations and/or USGS Soil Mapping, and the project should include measures such as tilling or scarifying compacted soils to improve the conditions of the soil and encourage appropriate vegetation growth that will provide the benefits of encouraging infiltration, maintaining sheet flow and providing site stabilization.

Response: This comment concerns section (3)(c) in the Design requirements for post-construction stormwater management measures in Appendix I. Compaction of soils can be a problem at sites constructing solar arrays, especially as a result of the repeated movement of equipment through the narrow spaces defined by the rows of the array. Requiring use of best management practices, as suggested by the commenter, could be an option although the commenter has not provided any concrete suggestions.

Vegetative growth is critical to the ability to file a Notice of Termination and as such, is required regardless of the change in HSG. At this point, DEEP has decided to not pursue testing of soil to determine compaction (see the Response to Comment (95)), but may consider that approach in the future. Finally, the Department has made revisions to the HSG Soil Group requirements in Appendix I that may address some of the concerns raised by this commenter. See also the Response to Comment (14).

- (138) Comment: In areas where a stormwater management measure (such as a basin) is developed by excavation, the compacted soils would be removed during the construction of the feature. In areas where a stormwater management feature is developed by the addition of a berm rather than excavation, a requirement to till the area where infiltration is proposed would adequately reduce compaction. Finally, vegetation growth is vital for recharge. Ensuring the medium in which the vegetation is planted is conducive to vegetative growth would further promote recharge in areas of stormwater management features.

Response: This comment is apparently a further elaboration on the previous comment regarding section (3)(c) in the Design requirements for post-construction stormwater management measures in Appendix I, especially as it concerns compaction. The design of stormwater infiltration measures is addressed in the Stormwater Quality Manual including evaluation of infiltrative capacity. DEEP agrees that vegetation requires an appropriate medium. See Response to Comment (135). In addition, as was noted in response to the

prior comment, vegetative growth is critical to the ability to file a Notice of Termination and as such, is required regardless of the change in HSG. Moreover, in areas where a stormwater management feature is developed by the addition of a berm rather than excavation, nothing in the General Permit would prevent tilling, as suggested by the commenter, in the area where infiltration is proposed if doing so helps reduce compaction.

Connecticut River Conservancy – Kelsey Wentling

Email with attachment sent February 18, 2020

(139) Comment: DEEP mandates adherence with the 2004 Connecticut Stormwater Quality Manual and the 2002 Connecticut Guidelines for Soil Erosion throughout the General Permit. Such reference to the manuals allows for general interpretation of the manuals, which may allow registrants to override established best management practices with their own judgement. DEEP should specify sections of the manuals when referencing them so as to avoid ambiguity.

Response: As has been noted in response to other comments, it is not practical to reference sections of the guidance manuals for every possible usage in the permit. Construction projects are not all the same and the requirements for different sites may use different measures to address the same issue. We depend on the professional judgement of licensed professionals to determine the best means of addressing a given issue. In addition, this approach in the General Permit has been in place for many years and DEEP is not aware of systemic problem with registrants overriding best management practices.

(140) Comment: Additionally, both manuals were published over 15 years ago and therefore are in need of updating. Where the manuals do not provide up-to-date guidance, DEEP should direct engineers and developers to the appropriate sources or add updates to these manuals to integrate recent studies and best practices.

Response: The referenced manuals were both updated in 2011 to include information on Low Impact Development (LID). The DEEP recently began preliminary discussions for updating the Guidelines and SQM. Regardless of such updates, the Plans rely upon the professional judgement of the design professionals who may utilize the latest methodologies.

(141) Comment: Same as Comment (72).

Response: See the Response to Comment (72).

(142) Comment: Same as Comment (46).

Response: See the Responses to Comments (12) & (131).

(143) Comment: Under Appendix I, Section 1, the GP requires that solar arrays allow for the growth and maintenance of vegetation beneath and between the panels. DEEP should

strengthen this section by requiring vegetative cover at 90% uniform coverage. Such requirements have been implemented in other states and represent a commitment to preserving and maintaining the health of soils and waters of the state.

Response: This comment apparently concerns section (2) in the Design requirements for post-construction stormwater management measures in Appendix I. Section (2) should be adequate to address the coverage requirements. Also see the Response to Comment (127).

(144)Comment: Similar to Comments (16), (17), (49) & (50).

Response: See the Response to Comments (16), (17), (49) & (50).

(145)Comment: Appendix I, Section 3(a) stipulates that “the permittee shall conduct a hydrologic analysis that: (a) Evaluates 2, 25, 50 and 100-year storm post-construction stormwater flows.” With increases in precipitation due to climate change, DEEP should consider requirements for analysis that includes additional recurrence intervals such as 200 and 500 year storms.

Response: The updated rainfall precipitation data (NOAA Atlas 14) referenced in the definition of “*x-year, 24-hour rainfall event*” in Section 2 of the General Permit reflects the increases in rainfall caused by climate change, so by utilizing this source DEEP is accounting for changes in climate. It is not necessary or reasonable to evaluate stormwater discharges for 200- or 500-year storms; evaluation up to the 100-year storm is adequate to protect on- and off-site resources.

Southwest Conservation District – Chris Sullivan, Executive Director

Email sent February 18, 2020

(146)Comment: In Section 5(a)(3) Toxicity to Aquatic and Marine life, this section needs to clearly state that the Permittee shall pay for the toxicity testing to be sure there is no harm to the receiving waters as is mandated in the text of the permit.

Response: Section 5(a)(3) of the General Permit is a prohibition; it prohibits a registrant from causing pollution due to acute or chronic toxicity. This section does not impose a requirement that a permittee pay for, or even conduct toxicity testing of their discharge or of any receiving water. Construction activities vary over time in their scope and intensity, the nature of their discharge may change over the course of the project. As such, it is impractical and unreasonable to require ongoing toxicity testing throughout the course of a project. Any permittee who has a concern about the toxicity can of course, undertake testing; any such testing would be at the Permittee’s expense.

If toxicity or an impact to the biological integrity of a waterbody or an impact to human health is observed, the permittee will be in violation of the General Permit, required to correct the deficiencies causing the impacts and be subject to enforcement.

(147) Comment: There are a few locations in the permit where a URL is included and it doesn't appear to be hyperlinked via underlined text (i.e. (Section 5(b)(1)(B)(vi)(b) "At minimum such checklists,")).

Response: ***DEEP will fix all of the hyperlinks in the General Permit.***

(148) Comment: Section 5(b)(2)(A)(iii) Suggest to insert the word "covering" between "conditions" and "all" in the first sentence. This clause is unclearly written as it stands in the proposed text.

Response: DEEP agrees that the sentence could use a minor clarification, although not necessarily the one suggested by the commenter. ***DEEP will clarify with punctuation and revise section 5(b)(2)(A)(iii) to place a comma after "maintain" and change "conditions" to "condition" with comma following "condition".***

(149) Comment: Section 5(b)(2)(C)(i)(a) close to the end of this section (7th line from the end) "If retention of the half...describing", we suggest to STRIKE "the" in front of the word "half".

Response: ***DEEP agrees with this comment and will strike the word "the" as noted by the commenter.***

(150) Comment: Section 5(b)(3)(A) "no more than 3 acres may be disturbed." This is stronger language than non-impaired waters text earlier in proposed document. I would encourage this more protective standard for all waters (not just impaired ones) that receive direct discharges from construction activities.

Response: The purpose of Section 5(b)(3) is to impose additional requirements to protect waters of the state that are listed as impaired in the DEEP Water Quality Standards where the pollutant of impairment is sediment, siltation, turbidity, or total suspended solids. For projects not discharging to these impaired waterbodies, the standard five acre phasing, when implemented with appropriate control measures, has been accepted nationwide as adequate to protect most waters. However, in the case of impaired waters, the further restriction to three acre phasing is considered protective of these more sensitive waters. Expansion of more restrictive three acre phasing is not necessary to protect waters other than impaired waters.

(151) Comment: Section 5(b)(9)(B) the completed registration form for the General Permit shall be submitted to the listed municipal and water company entities as Standard Procedure. It isn't clear how these entities would be aware of a submitted registration form in order to know to request this information. I would suggest to strike the words "upon request".

Response: Section 5(b)(9)(B) applies to Locally Approvable projects. By definition, these projects have already been reviewed and approved by a local land use commission before they begin construction. Most, if not all, towns also include a provision in their approval process requiring developers to register and comply with the DEEP construction General

Permit. Given that the towns have already reviewed the plans and are aware of the General Permit, we don't believe it is necessary to require submission of the SWPCP to the town unless the town requests it.

(152) Comment: Regarding the Districts' MOA, in Appendix E (II)(A)(1) I do not believe that I need nor do I want two hard copies of the submitted SWPCP. One hard copy and the e-copy are sufficient in my opinion.

Response: This provision was included in the current MOA (Appendix E – Locally Approvable) at the request of the Districts and the MOA has been signed by all parties. At this point, DEEP cannot make further substantive revisions to the MOA.

(153) Comment: Appendix E(II)(B)(1) District meeting 30 calendar days after submission to issue review and determination. I would suggest changing calendar days to work days for deadline.

Response: See the Response to the previous Comment.

(154) Comment: Appendix E(V)(B) Contact info for SWCD is inaccurate. We no longer utilize a fax number and our phone is 203-859-7014. Email is csullivan@conservect.org. This contact information needs to be updated in every section of the permit and appendices.

Response: ***DEEP will correct the contact information.***

Council on Environmental Quality – Peter Hearn, Executive Director

Email with attachment sent on February 18, 2020

(155) Comment: The CEQ supports the improved awareness of the status of construction at permitted sites that is provided by the proposed requirement in Section (5) of Appendix I that copies of all inspection checklists and inspection reports be submitted electronically to DEEP.

Response: DEEP concurs.

(156) Comment: In Commissioner Katie Dykes' "20 BY 20" initiative, Goal 13 is to accelerate "e-governance" integration at the Department of Energy and Environmental Protection (DEEP). The incorporation of this goal into the Draft Permit by mandating digital submission of all registrations and reports is a welcome change that portends improved efficiency and transparency in the implementation of the Draft Permit.

Response: DEEP concurs.

(157) Comment: The increase from 15 days to 30 days in the period for public review and comment after a registration is submitted is likely to increase stakeholder engagement, also

a goal of 20 BY 20 (Goal #16). The requirement for posting site plans on the DEEP website is a welcome improvement in transparency.

Response: DEEP concurs.

- (158) Comment: Also related to improved transparency is the condition that a “qualified professional” must remain in good standing with the Department of Consumer Protection. This requirement breaks the “silo phenomenon” that government is often criticized for.

Response: DEEP concurs.

- (159) Comment: Given DEEP’s skeletal staffing, the inclusion of review by Conservation Districts of both locally exempt and locally approvable projects is an improvement. This is an appropriate application of the 20 BY 20 Goal 18, “Seek Opportunities for Innovative Partnerships to Enhance Services”.

Response: While the Districts have a role to play in both locally exempt and locally approvable projects, it is not clear what the commenter means when referring to “review” by the Districts of locally exempt projects. The Districts will inspect locally exempt projects, but review – in the sense of approval - of these projects is reserved to DEEP. With this clarification, DEEP concurs with the comment.

- (160) Comment: The definition of who qualifies as a “qualified soil erosion and sediment control professional” should be reconsidered since many who have expertise in soils and erosion control appear to be excluded.

Response: See the Response to Comment (66).

- (161) Comment: In the Draft Permit, construction of solar arrays is singled out as a special category that has conditions which are not required at all construction sites. The history of excessive erosion at some solar sites warrants such special consideration.

Response: DEEP concurs.

- (162) Comment: Section 3(d) of Appendix I references the material on page 23 of a DEEP instruction document, which indicates that the permittee must describe the design storm frequency, intensity, volume and duration using data obtained from the *CT Department of Transportation Drainage Manual* as revised. The definitions in Section 2 of the General Permit indicates that the rainfall data should be obtained from the *National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 10, Version 2, Point Precipitation Frequency Estimates*. The Draft Permit needs to clarify whether the Connecticut Department of Transportation Drainage Manual storm frequency data supersedes the NOAA data as shown in the General Permit definition section. Whichever measure is chosen, to provide the maximum flexibility for the future, the Draft Permit should add a

provision that the Commissioner may substitute another source should a better model become available.

Response: This comment concerns section 3(d) of the Design requirements for post-construction stormwater management measures in Appendix I. There is no inconsistency. DOT published Engineering Bulletin EB-2015-2 on November 3, 2015, which states that DOT will use NOAA Atlas 14 rainfall estimates, which is the same as proposed in the General Permit. The General Permit is reissued every five years. DEEP will evaluate the most current source of rainfall data at reissuance to determine if a change is warranted. Since rainfall frequency data is developed from decades of data, five years is not an excessive time between such evaluations.

- (163) Comment: Since web links can change over time, the URL reference in section 3(d) of Appendix I to the material on page 23 of the *Instructions for Completing a Permit Application for Programs Administered by the Inland Water Resources Division* should be replaced with the insertion of that textual material into Appendix I.

Response: ***DEEP is deleting this link as part of the revisions to Appendix I.***

- (164) Comment: Non-erosive conveyance of runoff only to the property line or downgradient from the site does not necessarily lower non-point pollution or off-site erosion. Appendix I must be clear that there should not be an increase in the stormwater discharge volumes compared to the pre-existing conditions prior to the installation of the solar arrays. In some cases the methods described, such as the differing requirements for erosion control techniques on slopes of 5% and 10%, though necessary, might not be sufficient to meet that goal.

Response: As an initial matter, it is worth noting that the slope provisions in section 1(c) of the design and construction requirements of Appendix I do *not* impose substantive standards that must be met. These slope provisions, if not met, require that solar panels be treated as effective impervious cover for purposes of certain stormwater calculations.

Nevertheless, Section 1 of the Design requirements for post-construction stormwater management measures of Appendix I requires a permittee to “provide permanent stabilization and non-erosive conveyance of runoff to the property line of the site or downgradient from the site.” We believe that this makes it clear that the runoff from the site cannot cause “off-site erosion.” Since erosion and sedimentation would be the only “non-point pollution” leaving the site, this non-erosive conveyance would also reduce potential non-point pollution. In addition, section 3(e) of Design requirements for post-construction stormwater management measures of Appendix I requires, that the hydrologic analysis for engineered stormwater management systems, must demonstrate “no net increase in peak flows, erosive velocities or volumes, or adverse impacts to downstream properties”. Regardless of the slopes on any given part of the site, the design professional must meet these requirements. So, if engineered erosion control techniques for any part of

the project prove to be inadequate, the design professional must address any inadequacies to maintain compliance with the General Permit.

- (165) Comment: Differentiating the rainfall impacts of solar panels that are greater than 10 feet above ground at their lowest clearance compared to those that are less than 10 feet above ground at their lowest clearance will not guarantee achievement of stormwater management objectives. Regardless of the height of the lowest elevation of the solar panels, it must be clear that both vegetative and non-vegetative control measures are required to guarantee no net increase of flow from the site.

Response: This comment concerns section 2 of the Design and construction requirements in Appendix I. The purpose of the 10 foot threshold in section 2 is to reduce the impact velocity of panel runoff falling from a significant height.

DEEP agrees that the height of the panels alone will not guarantee achievement of stormwater management objectives and that most often vegetative and non-vegetative control measures are necessary. Other provisions of the General Permit require the use of such measures. For example, consistent with the comment, section 2 also requires that panels “be at an adequate height to support vegetative and maintenance beneath and between the panels.” This applies regardless of the height of the panels. In addition, section 1 of Design requirements for post-construction stormwater management measures of Appendix I requires that post-construction stormwater control measures “be designed and constructed to provide permanent stabilization.” Such measures often rely upon both vegetative and non-vegetative controls. There are additional requirements in Section 5 of the General Permit. Also, see the Response to the previous Comment relating to no net increase of flow.

- (166) Comment: Though the Draft Permit treats gravel surfaces as impervious, it allows for the impervious solar panel surfaces to be treated as though they are pervious if their installation meets the conditions listed in Sections (a) through (e) of Section 1 in Appendix I. Some aspects of provisions (a) through (e) could prove to be inadequate to control erosion.

Response: While the commenter notes that certain aspects of section 1(a) to (e) of the Design and Construction requirements of Appendix I may be inadequate, no detail, or information on the alleged inadequacy of any provision has been provided, making a response somewhat difficult.

With respect to whether solar panels should or should not be considered impervious, there is a growing consensus that the degree of “connectedness” varies based on factors such as slope, soil type, panel construction, panel height and panel row orientation. The Minnesota Pollution Control Agency has developed a solar panel calculator that recognizes this relationship along with recommendations on construction and post-construction stormwater management measures. Appendix I was developed following discussions with, and review of materials from, the states of Minnesota, Maryland, Virginia, North Carolina and Pennsylvania as well as local consultants. DEEP believes that the combination of these

measures in Appendix I will reduce the potential impacts of large scale solar arrays. However, as stated previously, the permittee and their design professional are ultimately responsible for reducing and eliminating potential impacts and maintaining compliance with the General Permit.

(167) Comment: In the second bullet point of Section (1)(c) there is a requirement that erosion control material be applied on slopes greater than 8% when a rainfall greater than 0.5 inches is predicted within 24 hours. This requires a level of expertise on the part of the weather prognosticators and a responsiveness on the part of developers that might be unrealistic.

Response: This comment concerns the third bullet, not the second, in section 1(c) of the Design and construction requirements in Appendix I.

As an initial matter it must be pointed out that the third bullet in section (1)(c) does not, however, impose any requirements for the placement of materials when slopes at a site are greater than 8%. Rather, if the conditions in the third bullet are not met the calculation of water quality volume must assume that the solar panel are impervious.

Having said that, in order to not have to treat panels as effective impervious cover, the third bullet says erosion control materials must be applied within 24 hours if a rainfall greater than 0.5 inches is predicted. While weather prediction is by no means an exact science, the accuracy increases significantly inside of a 24 hour window. This 24 hour period is adequate time for permittees to undertake protective control measures.

(168) Comment: Bullet point four of Section (1)(c) requires that for slopes between 10% and 15% stormwater control measures are designed to provide non-erosive conveyance of runoff to the property line of the site or downgradient from the site. Non-erosive conveyance of runoff to the property line or downgradient from the site does not necessarily lower non-point pollution or off-site erosion.

Response: This comment concerns the fourth bullet in section 1(c) of the Design and construction requirements in Appendix I.

As an initial matter it must be pointed out that the fourth bullet in section (1)(c) does not, however, impose any requirement for stormwater controls on slopes between 10% – 15%. Rather, if the conditions in the fourth bullet are not met the calculation of water quality volume must assume that the solar panel are impervious. Also, see Response to Comment (164).

(169) Comment: The letter of credit amount (\$15,000 per acre) should be adjustable and appropriate for the location. Not all construction will be on flat land. The amount should vary as slopes increase beyond 5%. There is no reason a developer should guarantee more, or less, than those anticipated costs. The financial guarantee should cover the costs of regrading, re-seeding, repairs to erosion controls and remediating off-site damage. The

amount should reflect the actual costs to be anticipated if a developer fails to complete his/her responsibilities for stormwater management.

Response: DEEP established conditions in the general permit that can, to the greatest extent possible, be easily administered. Trying to customize the amount of financial assurance to each site would be administratively burdensome and run counter to DEEP's intention in issuing the General Permit. Moreover, the amount of the financial assurance in Appendix I was developed based upon input from those with experience in this work. The Department has, however, made revisions to the financial assurance requirements in Appendix I that should address some of the concerns raised by this commenter. See also the Response to Comments (28), (84), and (85).

(170) Comment: While the siting of solar arrays has often proved problematic with regard to erosion, there are other construction sites that have been problematic as well. DEEP should mandate some of the special requirements for Construction of Solar Arrays for other construction types. These include: apply erosion controls from Appendix I at all slopes greater than 15%; maintain a 100' buffer at wetlands; use Conservation Districts to review plans and conduct inspections.

Response: While the commenter notes that there have been problems with erosion at other construction sites, no detail or information on these problems has been provided, making a response somewhat difficult. At this point, DEEP remains of the view that the provisions cited by the commenter are not necessary for projects other than solar arrays. That may, of course, change in the future. The primary issue with solar arrays is the vast expanse of disturbed soils and raised panels as well as the long slopes typical of such projects. These conditions are unique to solar arrays. For Locally Approvable projects DEEP will continue to allow local wetland commissions to regulate wetlands and buffers. In addition, Conservation Districts are already an option for Locally Approvable projects.

(171) Comment: Appendix I states "(2) Orientation of panels shall be considered with respect to drainage pattern, flow concentration, drainage area and velocity (i.e. rows perpendicular to the contours may result in higher runoff)." This section would be improved if it were more inclusive of various solar technologies and engineering requirements. For some solar arrays an engineered stormwater management system that is more sophisticated than is represented in Figures 1 and 2, should be required.

Response: While the commenter suggests that section (2) of the Design requirements for post-construction stormwater management measures in Appendix I would be improved if it were more inclusive of various solar technologies and engineering requirements, no detail or specifics has been provided. It is not clear what additional solar technologies or engineering requirements the commenter would like to see included. In addition, Figures 1 and 2 in Appendix I are illustrations to identify where vegetation needs to be established, (see comment 48) and the general dimensions of the panels and their placement. They have not been provided for and are not intended to represent engineered stormwater management systems. There is nothing in the General Permit or Appendix I that precludes using

engineered stormwater management measures. As a matter of fact, the permit states that it is required, where necessary.

- (172) Comment: The treatment of solar arrays as pervious appears to be based on guidelines from other states such as Minnesota, Maryland and North Carolina. The experience of those states may not be appropriate for Connecticut which, generally, is less flat than Minnesota and Maryland and has longer periods of freezing than does North Carolina. Long term monitoring and evaluation of all sites approved under the Draft Permit is recommended. To anticipate the need for modification of conditions (a) through (e), the Draft Permit should specify that those are subject to modification by the Commissioner, if necessary.

Response: Under Conn. Gen. Stat. § 22a-430b, the Department retains the authority to modify the General Permit if needed, so no additional language in the General permit is needed. In addition, to address any need to modify a Plan or correct deficiencies, Section 5(b)(5) of the General Permit already states that the commissioner may inform the permittee at any time that the Plan and/or site do not meet one or more of the requirements of the General Permit and the permittee must address the deficiencies.

With respect to long-term monitoring and evaluation, DEEP also notes that Section 6(a) of the General Permit requires all permitted sites to have achieved final stabilization, including post-construction and final stabilization inspections, for one full growing season before the permit can be terminated. For solar arrays, monthly inspections once the site has achieved final stabilization should be adequate monitoring. ***DEEP will modify the inspection requirement in Appendix I to include monthly inspections from final stabilization until permit termination in response to this and other comments.***

Connecticut Department of Transportation – Adam Fox, P.E., Environmental Compliance

Email with attachment sent on February 18, 2020

- (173) Comment: The DOT sets the state industry standards for design and construction with many layers of independent project oversight and checks and balances that meet the intent of the proposed language in the revised General Permit. The DOT's process for the contractor's responsibility to attend preconstruction meetings, clearing and grubbing meetings, and site inspections (throughout the life of the project and post construction) is restrictive and set by both the construction contract and specifications. The DOT's Construction Manual sets forth the independent contractor oversight by a multilevel process that involves Department District Construction Inspectors, District Environmental Coordinators, and personnel from the Environmental Resource Compliance Unit within the Office of Environmental Planning. This unit is in a separate Department Bureau (Policy and Planning) from Construction (Engineering and Construction) who perform independent site inspections to ensure compliance with the contract. For these reasons, the DOT requests that the following subsection be included in the revised General Permit under Section 3(b)(15)(G) to address the unique nature of the DOT's operations that also meets the intent of the General Permit:

- i. *Permittee shall conduct a preconstruction meeting with the contractor that conveys the design, site inspection, erosion and sediment control, and contract requirements for the project prior to earth disturbance.*
- ii. *The District Environmental Coordinator shall conduct the Plan Implementation Inspection(s) pursuant to Section 5(b)(4)(A) and shall submit such Plan Implementation Inspection report(s) to the commissioner confirming compliance with the General Permit and proper initial implementation of all control measures designated in the Plan for the initial phase of construction.*
- iii. *The State is not required to provide financial assurance.*

Response: DEEP agrees that separate language should be utilized for projects by DOT and other State agencies. **Section 3(b)(16) (formerly 3(b)(15)) is modified to include a subparagraph (G) as follows:**

“(G) Specific Provisions Applicable to Projects Conducted by State Agencies

- (i) Permittee shall conduct a preconstruction meeting with the contractor that conveys the design, stormwater control measures, plan implementation and routine site inspections, erosion and sediment controls, and contract requirements for the project prior to earth disturbance. Such meeting shall include a site walk of the project site.***
- (ii) The DOT District Engineer, District Environmental Coordinator, or the designated employee of another state agency shall conduct the Plan Implementation Inspection(s) pursuant to Section 5(b)(4)(A) of the general permit and shall submit such Plan Implementation Inspection report(s) to the Commissioner confirming compliance with the general permit and proper initial implementation of all control measures designated in the Plan for the initial phase of construction.***
- (iii) The State is not required to provide evidence of financial assurance.”***

(174) Comment: For the same reasons, the DOT also requests a revised Section 6(a)(3) as follows:

(3) Department of Transportation Projects

Once all post-construction stormwater measures have been installed in accordance with the Post-Construction Stormwater Management section (subsection 5(b)(2)(C)) and cleaned of any construction sediment or debris, the District Engineer or his designee and/or District Environmental Coordinator will inspect the site to confirm compliance with the post- construction stormwater management requirements.

Response: *DEEP agrees and will add the following subsection to the newly modified Section 5(b)(4)(C), "Post-Construction Inspection" (see also Response to Comment 120):*

“(iii) For projects conducted by state agencies, once all post-construction stormwater measures have been installed in accordance with the Post-Construction Stormwater Management section (subsection 5(b)(2)(C)) and cleaned of any construction sediment or debris, the DOT District Engineer or his/her designee and/or DOT District Environmental Coordinator, or the designated employee of another state agency, will inspect the site to confirm compliance with the post-construction stormwater management requirements of the general permit.”

(175) Comment: In Section 3(b)(13)(A)(i), "Impaired Waters Site Clearance (Land Development or Redevelopment)". The DOT suggests providing an appendix with a list of the impaired waterbody segments that apply to these impairments (consistent with the Industrial GP).

Response: The list of impaired waters is in the State's most recent Integrated Water Quality Report. This list remains available on the DEEP Stormwater webpage. The purpose for keeping the list on the webpage rather than on the permit is that the impairments are based on the DEEP Water Quality Standards, which are updated every two years. The permit is only updated every five years and sometimes longer. With the list on-line, it can be updated as needed, which is more expedient than keeping the list in the permit.

(176) Comment: The first paragraph of Section 4(h), "Additional Notification", would require the Department to send the municipality a copy of registration with all attachments for every discharge into a town MS4. The Department believes this is unnecessary and, given the large number of DOT projects, suggests adding language "upon request", mirroring language in the paragraph below which is for discharges into DOT MS4.

Response: DEEP appreciates the concern, which could be burdensome, but is concerned if the change sought by the commenter is made, a town would have no knowledge of a discharge. Rather than requiring submission of a registration and all attachments, *DEEP will revise this section to simply require a notification for all registrants. The first paragraph of section 4(h) of the General Permit is modified to read as follows:*

*“For discharges authorized by this general permit to a regulated municipal separate storm sewer system, a **notification that a copy of the registration has been submitted to the Department and all attachments thereto** shall also be submitted to the owner and operator of that system.*

(177) Comment: In Section 5(b)(2)(A)(i), "Soil Stabilization", the second paragraph is conflicting as it says "as specified in Chapter 5 of the Guidelines" ... inactive for 14 days whereas the guidelines state 30 days. The Department suggest changing back to 30 days to coincide with the guidelines.

Response: Based on our experience with 28 years of regulating construction sites, DEEP

believes that 14 days is a more appropriate interval and that leaving an inactive disturbed area unprotected for a month is not advisable. To clarify any apparent discrepancy between the E & S guidelines and the General Permit, **DEEP is revising the second paragraph of section 5(b)(2)(A)(i) of the General Permit as follows:**

“Where construction activities have permanently ceased or when final grades are reached in any portion of the site, stabilization and protection practices as specified in Chapter 5 of the Guidelines or as approved by the commissioner or his/ her designated agent shall be implemented within seven days.

Notwithstanding any provisions of the Guidelines, areas Areas that will remain disturbed but inactive for at least fourteen calendar days shall receive temporary seeding or soil protection within seven days in accordance with the Guidelines unless site conditions warrant shorter time periods for these provisions.”

(178) Comment: In Section 4(c)(3), "Re-registration", could DEEP provide anticipated effective date? The DOT has over 100 active applications that will need to be re-registered; therefore, early notification will be helpful in meeting the 120 day timeframe without creating bulk submittals to the ezfile system.

Response: Unfortunately, DEEP cannot provide an expected date that the General Permit will be finalized and reissued. In the past, there has been a period of anywhere from 30 days to a year between the date of issuance and the effective date. Once the permit is final and the issuance date and effective date are tentatively determined, we are open to discussing the best means of re-registering sites with DOT.

(179) Comment: In the second paragraph of Section 5(b)(2)(A)(ii), "Structural measures", the DOT has had numerous questions regarding this language. The DOT suggests replacing "For points of discharge from disturbed sites with total contributing drainage area of between two and five acres" with "required where two to five acres of disturbed soil drain to a common location" (same for greater than five acre language). In the third paragraph, what is meant by "Any such exception"? Suggest clarification or example of such "exception".

Response: The language noted by the commenter in section 5(b)(2)(A)(ii) of the General Permit is in the current General Permit. No change material to this comment was proposed. While the DOT notes “numerous questions” regarding this language, no details or examples of problems with the current language were identified. It is DEEP’s belief that the language cited by the commenter is reasonably clear and no modification has been made.

(180) Comment: Will proposed modifications to the General Permit require modifications to the SWPCP Review Checklist (DEEP-WPED-LIST_015 Rev. 8/21/13)? Will DEEP provide a form or example of the "Plan Implementation Checklist" as referenced in Section 5(b)(1)(B)(vi) and add as an attachment?

Response: These checklists noted by the commenter will be updated once the permit is

reissued. They will be available on the DEEP Stormwater webpage.

(181)Comment: In Section 2, the definition of "x-year, 24-hour rainfall event", The Department suggests adding "as revised" to capture all revisions by NOAA.

Response: ***DEEP agrees with this comment as will add "as amended" in this definition as suggested by the commenter.***

(182)Comment: Same as Comment (100).

Response: See Response to Comment (100).

(183)Comment: In Section 3(f), "Effective Date", change the date to 2020.

Response: ***DEEP will change the date noted by the commenter to the date when the General Permit becomes effective.***

(184)Comment: In Section 4(c)(3), change reference to 4(d)(1)(A)(iii).

Response: This comment concerns section 4(c)(3) of the General Permit and a reference in the second to last sentence to the fee for re-registration. ***DEEP agrees with the comment and will make the correction noted by the commenter.***

Gian A. Moresi – Private citizen

Email sent February 18, 2020

(185)Comment: Supports the comments of Trout Unlimited. See Trout Unlimited Comments (39)-(41).

Response: See Response to Comments (39)-(41).

Eversource Energy – Robert Deptula, Supervisor Licensing and Permitting

Email with attachment sent February 18, 2020

(186)Comment: Historically, Eversource's projects have been considered "locally exempt" because the company falls under the jurisdiction of the Connecticut Siting Council, as opposed to the local inland wetland commissions. The draft Construction General Permit language now specifies that a stormwater pollution control plan (SWPCP or Plan) "*For locally exempt projects (including solar arrays)*" must have a Plan Review Certification by the appropriate regional Soil and Water Conservation District (District) upon submittal of the Construction General Permit registration to the CT DEEP. In addition to incorporating this additional (and somewhat open ended) cost for review by a District, Eversource would now need to add the 30 - 60-day District review period into our existing 60-90 day permitting schedule, resulting in a potential 150-day review period. This could prove to be disruptive to Eversource's urgent electric reliability projects, so we therefore ask CT DEEP

to reconsider if District Review is required for linear utility projects, or at the very least, allow concurrent CT DEEP and District review.

Response: This comment concerns section 3(b)(10) of the General Permit. DEEP understands that Eversource's understanding that its projects are not subject to local jurisdiction and as such, none of its projects qualify as locally approvable. DEEP agrees that the language in section 3(b)(10) does not reflect its intention for locally exempt projects: the Districts will not be reviewing Locally Exempt projects. See Responses to Comments (104) and (129).

(187) Comment: Section 3(b)(15) of the draft Construction General Permit language specifies that, *"In the case of solar arrays and any other projects that may be reviewed by a District, the preconstruction meeting and site walk shall also include the appropriate District personnel."* It is unclear if this requirement to engage the Districts for preconstruction meetings, which has both cost and schedule implications, is meant to apply to all locally exempt projects, including linear electric transmission line or substation projects. Further, given the nature of Eversource's linear utility projects, there will likely be projects that span the auspices of multiple Districts. Procedures for addressing such instances should be included in the final Construction General Permit.

Response: This comment concerns section 3(b)(15)(A) of the General Permit. DEEP has made a number of modifications to this paragraph (see below). As was the case before these modifications and is still the case, Eversource is subject to these preconstruction meeting and site walk requirements. For projects spanning more than one District, only a single District will be required to attend. For clarification, ***DEEP has modified this section as follows:***

"Prior to the commencement of any construction activity, the Permittee shall conduct a preconstruction meeting with the qualified professional who designed the project, the qualified inspector who will be conducting inspections, and all site contractors and subcontractors to be involved in construction. Such meeting shall convey the design, stormwater control measures, erosion and sediment controls, plan implementation and routine site inspections, and contract requirements for the project prior to earth disturbance. Such meeting shall also include a site walk of the project site. In the case of solar arrays and any other projects that may be reviewed and/or inspected by a District, the preconstruction meeting and site walk shall also include the appropriate District personnel. The Permittee shall ensure that the date of such meeting and a report summarizing the meeting shall be prepared and retained in the Permittee's Plan."

(188) Comment: Another apparent conflict of language pertains to the requirement in Appendix F that Plan implementation inspections be performed by the District, which is not mandated by the inspection provisions of the language of Construction General Permit itself. This should be clarified in the final Construction General Permit.

Response: DEEP does not agree with this comment. Section 5(b)(1)(vi)(a), Plan Implementation inspections, provides that:

“The Plan shall include a Plan Implementation inspection checklist and identification of the designing qualified professional (*and District personnel, as appropriate*) conducting such inspections, their responsibilities and procedures pursuant to subsection 5(b)(4)(A) below.” (italics added for emphasis).

The Department agrees that the reference to plan implementation inspections in the first sentence of section 5(b)(4)(A) of the General Permit does not match up well with the language of section 5(b)(1)(vi)(a) quoted above. Section 5(b)(4)(A) suggests that conferring with the Districts is limited to solar array projects. ***To make these sections more consistent, DEEP is modifying the first sentence of section 5(b)(4)(A) of the General Permit as follows:***

“Prior to commencement of each phase of the construction activity on the site, the permittee shall contact the designing qualified professional and, ~~for solar arrays subject to Appendix I,~~ the appropriate District, *where applicable*, to ***ensure that all required inspections of the site are conducted***~~inspect the site....”~~

(189) Comment: The draft Construction General Permit language specifies the SWPCP must identify the designing qualified professional engineer, District personnel (as appropriate), and the qualified inspector (including documentation of the qualifications of the inspector). However, it is unclear if this would be a requirement for Plan approval by either the appropriate District and/or CT DEEP, or if this information can be included after approval of the Plan but prior to the start of construction.

Response: These elements are listed either in Section 3(b), Requirements for Authorization, Section 4(d), Contents of Registration, or Section 5(b), Stormwater Pollution Control Plan, and all are part of the registration and/or the SWPCP. However, only the qualified professional and District personnel must be identified in the registration and Plan submitted for approval. The qualified inspector must be included in the Plan, which can be done after registration approval. If any of this information changes, notification must be given to DEEP under section 5(b)(5), Keeping Plans Current. ***To make this clear, DEEP is modifying Section 5(b)(5)(A) as follows:***

“... The Plan shall also be amended whenever there is an addition of or a change in contractors or subcontractors at the site, ***the designing qualified professional, District personnel***, or a change in design, construction, operation, or maintenance at the site which has not otherwise been addressed in the Plan....”

(190) Identification of the specific qualified inspector in the SWPCP document anywhere from 90-120 days prior to construction may not always be feasible for Registrants and/or their contractors. Additionally, with the qualifications for the Qualified Inspector being clearly

defined within the Construction General Permit, it seems unnecessary for Registrants to identify a specific qualified inspector that far in advance of construction.

Response: The permittee is responsible for identifying the Qualified Inspector and their qualifications in the Plan. However, this is not a requirement when submitting a registration.

RENEW Northeast, Inc. – Francis Pullaro, Executive Director

Email with attachment sent February 18, 2020

(191)Comment: The current General Permit requirements have been effective in regulating stormwater management from solar projects of all sizes. The Department has successfully permitted many solar projects through to construction. While there have been instances of non-compliance, RENEW respectfully submits that the compliance issues highlighted by the Department in its January 8, 2020, presentation occurred in limited circumstances where the terms of the General Permit were disregarded. This does not mean that the terms of the current General Permit are ineffective, or that an entire Appendix devoted solely to solar development is necessary. Many of the Department’s proposals will increase costs to Projects that are already land and cost constrained. The Revised General Permit, as proposed, could also significantly affect projects in the midst of ongoing regulatory approvals as well as those about to begin construction. RENEW urges the Department to implement meaningful substantive and process revisions to the proposed Revised General Permit to ensure regulatory certainty regarding current and future stormwater compliance obligations for the Connecticut solar industry.

Response: It is not clear how the commenter concluded that the General Permit has been successful in regulating solar projects. To be sure DEEP has approved registrations, but problems do not arise until after a registration has been approved when construction is undertaken or projects are completed. DEEP respectfully disagrees with the premise that current General Permit has been effective in regulating solar projects of all sizes. To the contrary, the number of large solar projects that have successfully been constructed without stormwater management failures is unfortunately in the minority. DEEP agrees that some of these failures occurred because the terms of the General Permit were disregarded. But it has also been the experience of DEEP that terms of the General Permit did not adequately address, and were never intended to address, the type of large scale construction associated with solar arrays, or the measures specified in the General Permit needed to be more tailored to the environmental challenges posed by solar array construction. Simply put, the environmental objectives of the general permit that solar facilities must meet have not changed. What has changed are the design assumptions and application of stormwater management techniques and engineering principles and practices to meet those requirements, as well as the Department’s knowledge and experience with respect to the ability of different techniques and engineering practices to meet the underlying environmental requirements.

Ensuring “regulatory certainty” regarding the stormwater compliance obligations of the solar industry is exactly what DEEP has striven for and what is intended with the proposed General Permit. This outreach to the solar industry began in September 2017 and has continued as the Department has provided outreach intended to make clear its expectations for solar projects. This attempt to provide regulatory certainty and predictability continued in January of 2020 when the Department made available detailed guidance specifically for solar projects. Many of the elements of that guidance have been included in the general Permit. Given these past outreach efforts, most solar projects currently in the approval process or preparing to begin construction are already following the provisions of Appendix I and the DEEP solar guidance. DEEP remains optimistic that with the issuance of the General Permit three mutually shared goals can be achieved: One – environmental protection will be enhanced; Two – regulatory certainty and predictability will have been provided; and Three – Connecticut will remain a leader in promoting and using solar power.

- (192) Comment: The Department proposes requirements regarding the vertical clearance of panels, panel configuration, panel orientation and effectively prohibits installation on post-construction slopes greater than 15 percent. While the Department has exclusive jurisdiction over stormwater management, the Connecticut Siting Council maintains exclusive jurisdiction over the location and type of electric generating facilities.

Response: Unfortunately, the commenter does not identify where it believes the General Permit imposes such requirements. The General Permit, including Appendix I does not require any specific vertical clearance, panel configuration, or panel orientation. The General Permit does address certain stormwater issues that relate to the height of solar panels, the orientation of panels or the slopes on the land on which solar panels are placed. These provisions all relate to stormwater concerns and as such are clearly within DEEP’s jurisdiction. The requirements also do not prohibit installation on slopes greater than 15 percent. The General Permit in no way intrudes upon or conflicts with the jurisdiction of the Siting Council.

- (193) Comment: The revised General Permit fails to specify a bright line effective date for the proposed changes. As the Department is aware, solar projects take years to develop, permit and construct. The Department’s Bureau of Energy and Technology Policy has selected multiple solar projects in competitive Requests for Proposals, some of which were selected in 2016 and designed based on the applicable standards in effect at that time. These projects remain in the permitting process, either before the Siting Council, or in some cases before the Department. Additional time is needed to incorporate the revisions into early stage projects. In addition, the Department proposes that sites that registered under the previous version of the General Permit must re-register. The Department fails to specify what requirements Re-Registrants will be subject to. The Department should provide a Re- Registration form for stakeholder review and should be clear and transparent regarding the Re- Registration Requirements.

Response: The General Permit will have a clear Effective Date; see section 3(f) of the General Permit. As of that date all of the requirements of the General Permit will be effective and will apply to all projects that do not have approved registrations before the effective date. For projects already authorized under the general permit, Section 5(b)(5)(C), “Keeping Plans Current”, specifies which sections of the permit will be effective and what parts of the Plan must be updated to remain in compliance. See also the Response to Comment (82).

As stated in the Response to Comment (191), as a result of the Department’s outreach efforts most projects currently in design and/or in the General Permitting process are already aware of the requirements in Appendix I as they are provided in the current solar guidelines. Projects for which this process doesn’t address their issues or that wish to utilize alternate measures may avail themselves of the individual permit process.

Once the General Permit has been finalized and reissued, registration dates, reregistration dates and reregistration forms will be included in the General Permit.

(194)Comment: The definition of “solar array” in Section 2 of the Revised General Permit is unclear. The Department has proposed to define “solar array” as “an on-the-ground installation of arrays of photovoltaic cell panels, supporting structures and related equipment for the production of electricity.” Does the Department intend to include access roads, perimeter fences or for solar facilities in this definition?

Response: The purpose of the definition of “solar array” is to identify what types of facilities would be subject to Appendix I and any other requirements for solar arrays. It is not intended to define all the elements that make up a solar project, or the scope of a solar array project subject to the General Permit, as those will vary from site to site. The installation of elements such as access roads and perimeter fences are already governed by other sections of the General Permit, see for example the definition of “Site” in section 2 of the General Permit.

(195)Comment: The Department proposes a minimum one hundred-foot buffer between any part of the solar array and any “wetland,” “wetlands” or “water” as defined in Title 22a of the Connecticut General Statutes. As discussed above, this requirement ignores the exclusive jurisdiction of the Connecticut Siting Council regarding the placement of electric generating facilities. In addition, this requirement fails to account for wetlands that may exist offsite, or already impacted low- value wetlands that are less ecologically valuable. The appropriate agency to engage in this regulatory balancing is the Siting Council. As a result, this provision should be removed from the Final Revised General Permit.

Response: DEEP does not agree with this comment. DEEP is not regulating the placement of solar panels per se, but rather is regulating the discharges from construction activity under the authority of both state and federal law, a distinction not recognized by the commenter. Section 402(p) of federal Clean Water Act and Section 22a-430b of the

General Statutes provides DEEP with the authority to regulate such discharges in the context of a general permit. Finally, the commenter does not provide any support for the conclusion that the Connecticut Siting Council “exclusive” jurisdiction somehow preempts the Commissioner from exercising the authority granted the Commissioner in section 22a-430b. DEEP is not aware of any support for this assertion.

Finally, in a similar vein, DEEP is unaware of any provision that provides the Siting Council with “exclusive” jurisdiction to balance – presumably to disregard – stormwater from construction activity at solar array projects that discharges into what the commenter refers to as “low-value” wetlands or off-site wetlands. Discharges from such construction activity are subject to regulation by the Commissioner in the General Permit under section 22a-430b, regardless of whether the wetlands receiving such discharges are off-site or considered “low-value” however that term might be defined.

The Department has not removed but has revised the wetlands provisions in Appendix I. See the Response to Comment (58).

(196) Comment: The Department proposes a significant financial assurance requirement of \$15,000 per acre of disturbance. RENEW urges the Department to review this proposal in light of other existing financial assurance requirements, such as those for Hazardous Waste. A per-acre requirement structured as the Department proposes unnecessarily impacts large-scale solar projects.

Response: The Department has made revisions to the financial assurance requirements in Appendix I that should address some of the concerns raised by this commenter. See also the Response to Comments (28), (85), (86) and (169).

(197) Comment: The Department should not single out solar developers to provide financial security. If the Department believes financial security is necessary, it should require all Registrants to provide some form of financial assurance. In addition, the Department should also allow flexibility in the type of financial assurance instrument, including a surety bond, insurance, or corporate guarantee.

Response: Financial assurance may also be required for locally approvable projects by municipalities (see modifications to Section 3(b)(16)(D) of the General Permit). In addition, DEEP has a number of general permits which impose different requirements for different types of activities. So the imposition of different requirements, like a financial assurance, only for certain activities, such as solar arrays, is not unusual; it is the norm. As has been discussed above, there are many reasons that the DEEP has determined to require financial assurance for solar projects, including, but not limited to, stormwater management failures at such projects. See the Responses to Comments (86), (169), and (191). Finally, with respect to the rationale for requiring a letter of credit and not some other financial assurance mechanism, see the response to comments (28), (85) and (86).

(198) Comment: The Department proposes to extend the permitting timeline for all registrants through October of the year following the cessation of construction activities. This

requirement is unduly burdensome, particularly on solar developers, and has the potential to impact project financing timelines and will only serve to increase Project costs and make the cost of solar energy more expensive, and will not ensure that Projects follow the terms of the General Permit.

Response: See the Response to Comment (127).

Save the River-Save the Hills, Inc. – Deb Mosher-Dunn, Vice President

Emails with attachments sent February 18, 2020

(199) Comment: Save the River-Save the Hills endorses Trinkaus Engineering's comments submitted on February 5, 2020.

Response: See the Responses to Comments (12)-(38).

Norwalk River Watershed Association – Louise Washer, President

Email with attachment sent February 18, 2020

(200) Comment: The NRWA supports the comments of the Rivers Alliance.

Response: See the Responses to Comments (52)-(58).

(201) Comment: The NRWA supports the comments of Trinkaus Engineering.

Response: See the Responses to Comments (12)-(38).

(202) Comment: The General Permit must state that a certified Erosion and Sediment Control Plan must be part of the Stormwater Pollution Control Plan.

Response: See the Response to Comment (53).

(203) Comment: The NRWA supports the comments of Trout Unlimited.

Response: See the Response to Comments (39)-(41).

(204) Comment: It is vital that the Conservation Districts have a role in providing technical assistance on erosion and sediment control for construction projects.

Response: See the Response to Comment (56).

DEEP MINOR ADMINISTRATIVE CHANGES

In conjunction with the response to comments discussed above, upon review the Department is making certain changes to the draft general permit. The vast majority of these are editorial or clarifying changes. For example, the Department is changing the definition of Commissioner, since the reference in the current permit is incorrect, or has added new definitions to make the

terms and conditions of the general permit clearer. A similar change, made in a number of places, makes clear that when the general permit refers to a section, it means a section of the general permit. In addition to these editorial or clarifying changes, the Department notes that it is making the following revisions and other corrections:

- 1) In the definitions, the Department is updating the definition “Effective Impervious Cover”. The Department is including new definitions for “DOT”, “Designing qualified professional”, “General Permit”, “Soil Scientist”, “Waters”, and “Wetland”. The Department is deleting the definition of “SIC Code”.
- 2) In Section 4(c)(3) and appropriate sections throughout the general permit, requirements were added to specify what provisions of the new permit would (and would not) apply to Permittees already authorized under the previous permit when they re-register their sites for coverage under the new permit.
- 3) In section 4(h), a time period of five (5) days was added to provide the additional notification specified in the general permit.
- 4) In section 4(i), revisions were made to clarify that the Commissioner may disapprove a registration for non-compliance with the general permit, that any rejection or disapproval of a registration shall be in writing and state the reasons for such rejection or disapproval, that the Commissioner may require an individual permit pursuant to Conn. Gen. Stat. § 22a-430b(c), and that when approving a registration the commissioner may include in any such approval any term or condition the Commissioner deems necessary to protect human health and the environment. These clarifications all reflect the current practice of the Department in implementing the general permit.
- 5) In Section 5(b)(2)(D) regarding the storage of the storage of chemical and petroleum products, provision were added to clarify the requirements of this section and to ensure that materials are stored on an impermeable base that is free of gaps and cracks, can contain any leaks or spills and accumulated precipitation until the collected materials is detected and removed.
- 6) In Section 5(b)(4)(A), a provision was added to specify a minimum of three days between Plan implementation inspections conducted within the first ninety (90) days.
- 7) A new Section 4(c)(4) has been added to specify that no new registrations shall be submitted for this general permit on or after October 1, 2025.
- 8) The template for the financial assurance letter of credit for solar projects in Appendix J has been modified for clarification.
- 9) The following edits were made to correct section cross-references:
 - a) Section 2 – add space in definition of “Stormwater Pollution Control Plan”
 - b) 3(b)(11)(C)(i) – change reference from 4(c)(2) to 4(c)(1)

- c) 3(b)(12)(F) – change references from 3(c)(1), 3(g)(1)(A) and 4(c)(1)(A)(i) to 3(c), 3(g)(1)(B) and 4(c)(2)(A)(i)
- d) 4(a) – change reference from 4(c) to 4(d)
- e) 4(a) – change 6th line “Sections 3(c) and 4(c)(1)(A), respectively.” to “Section 4(c) and 4(d)(1)(A), respectively.”
- f) 4(c)(1)(C) – change “Requirements of Authorization” to “Requirements for Authorization”.
- g) 4(c)(1)(E) – change “Plan Review Certification” required by Section 5(b)(8)” to “plan review certification required by either Section 5(b)(10) or 5(b)(11)”
- h) 4(c)(3)(A)(ii) – change reference from 4(c)(1)(A)(iii) to 4(d)(1)(A)(iii)
- i) 4(e) – change reference from 3(c)(2) or (3) to 4(d)(2) or (3)
- j) 4(i)(1) – change reference from 4(c)(1) to 4(d)(1)
- k) 4(i)(2) – change reference from “Requirements for Registration” to “Requirements for Authorization”
- l) 5(b)(1)(B)vii)(a) – change reference from 3(b)(15) to 3(b)(16)
- m) 5(b)(1)(B)vii)(b) – change reference from 3(b)(15) to 3(b)(16)(B)
- n) 5(b)(8) – change reference from 3(c) to 4(c)