



Digging Connecticut...

...while Protecting Its Waters and History: Recommendations for Reducing Impacts of Earthmoving

Rain • Runoff • Construction • Mining • Archaeology • Solar Farms • Rare Species

A Special Report of the Council on Environmental Quality

December 4, 2015 Discussion Draft

In Short

Connecticut's effort to reduce the pollution in stormwater that flows from construction and industrial sites almost certainly has improved the quality of streams and rivers (though such improvements mostly are conjectured, not measured). Several complaints to the Council have pointed out, however, that the state's efforts are incomplete, illogical or flawed.

Of all earthmoving activities in the state, the one with potentially the greatest environmental impact – the clearing and mining of land for the extraction of sand, gravel or rock – may avoid state regulation altogether.

Any would-be violator of state stormwater control laws can be fairly confident that he or she will not be caught or, if caught, will not face financial penalties.

The flawed regulatory structure that evolved over many years is not the one that would be designed today. The Council on Environmental Quality offers 14 recommendations (see page 13) aimed at building a more logical, efficient and effective approach to protecting Connecticut's environment – including historic and archaeological resources – from the effects of large earthmoving activities. These actions will clarify the permitting process to make it more effective and enforceable, enhance public access to information, improve requirements for mines and solar farms, and close the gaps by which parties avoid regulation or enforcement.

Three Cases

Residents of East Lyme, Madison and Suffield spoke to the Council in 2015 about three separate cases that illustrate deficiencies in the state's regulation of mining and in the permitting process for controlling pollution from stormwater runoff. One of the complaints concerned the protection of historic and archaeological sites, a protection that is tied to the regulation of stormwater.

The Council investigated all three complaints and found them to be rooted strongly in fact. The realities of regulation simply do not match the expectations of citizens who might read the relevant statutes, permits and related documents. There are gaps and deficiencies that could be fixed with adequate resources, simpler procedures and, in some cases, amendments to laws.

Citizens presented detailed reports of the following incidents or cases:

1. During a spring rain, a surge of stormwater and sediment flowed from a solar-energy facility under construction, polluting and altering nearby streams.
2. Developers submitted inaccurate or incomplete information on archaeological and historic resources to obtain stormwater permits, with no consequences.
3. A company received approval to open a sand and gravel mine with no state input or oversight, despite its location over an important aquifer.

Because all the complaints concern the regulation of earthmoving activities, the Council decided to address all three in one report. Together, these cases reveal a pattern of common problems.

1. Washout: Lessons from Water Pollution at a Solar Farm

A lot of rain fell on East Lyme in late March, 2014, but it was an amount (about four inches) that should be expected every few years.¹ To the dismay of neighbors, much dirt was washed into their streams from the site of a nearby solar energy facility that was under development. The streambed itself was changed. The pollution could have – should have – been avoided.

The solar energy project, exempt from local permitting requirements, received approval from the Connecticut Siting Council. It also was required to register for DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (known more simply as the "Construction General Permit"). The general permit appears to limit construction to five acres at any one time:

“Wherever possible, the site shall be phased to avoid the disturbance of over five acres at one time.”

A close reading of that requirement, however, suggests that the phrase “wherever possible” counters the mandatory (“shall”) nature of the requirement, even though, in a strict sense, most things are possible.

In any event, approximately 30 acres were cleared and graded, and the solar panels were

Stormwater is...

...the water that flows over the ground during a rain event, including water from melting snow and ice. What begins as rainwater picks up pollutants of all sorts as it flows over pavement, lawns and construction and mining sites on its way to the nearest stream.

Stormwater is the most common source of water pollution impairing Connecticut's streams.

What Is a Registrant?

How General Permits Work

This report refers to permit *registrants*, not applicants. This is because the developer, mining company or landowner who is subject to stormwater regulations usually is not required to apply for a permit. The permit is a general permit, which means that DEEP has already issued the permit for everyone who qualifies. The developer registers to be covered by the general permit, and in doing so agrees to abide by the terms and conditions of the general permit. (Some projects are too large to qualify for a general permit and so their developers must apply for their own individual permits.)

DEEP issues general permits for 55 categories of pollution, activities and structures. This use of general permits, as opposed to the bygone practice of requiring each regulated entity to apply for its own permit, generally is regarded as a big benefit for the regulated world. They also reduce the bureaucratic burden on DEEP; without general permits, the Department would be a grim mire of delayed permits numbering in the thousands.

DEEP updates and re-issues each general permit every five years or so.

Most of the general permits are essentially self-implementing for the regulated party: complete the paperwork and go. Some, such as the general permit for stormwater at construction sites, allow for limited public review and comment.

For general permits to yield their intended environmental benefits, there must be honesty among the registrants and enforcement capability within DEEP to bring the dishonest or confused into compliance. It is fortunate that honesty appears to be commonplace, as enforcement is in short supply.

erected on bare ground. The Siting Council inspected the site and concluded that the runoff from the panels and bare earth overwhelmed the stormwater controls.²

Five months later, DEEP issued a Notice of Violation. As noted elsewhere in this report, NOVs are informal enforcement tools that carry no penalty.

The Town of East Lyme, while lacking permitting authority, issued a cease and desist order because of the pollution of offsite wetlands and watercourses. The case extended for months, a considerable burden for a town and its residents who had no permitting jurisdiction over the project.

This example illustrates at least four weaknesses in Connecticut's regulation of stormwater: weak enforcement tools, no actual standards for turbidity, outdated rainfall expectations, and no provisions for the unique potential problems caused by large solar energy installations.

Weak Enforcement Tools

The Construction General Permit was written and adopted to include mandatory requirements, but compliance borders on the voluntary. Penalties are assessed for violations only on the rarest of occasions, if ever. No registrations are revoked. Occasionally an alleged violator receives a Notice of Violation (NOV) which, though considered an informal enforcement tool, is more like an educational tool or a reprimand because it does not include a penalty. Usually, upon receipt of an NOV, the violator does what he or she should have been doing all along.

Registrants for the Construction General Permit are required to self-report problems to DEEP within five days of their occurrence, but such reporting occurs very rarely, if ever. The lack of such reports does not mean that compliance hovers anywhere near 100 percent. DEEP is required by the USEPA to inspect ten percent of registrants each year. Staff shortages in Federal Fiscal Year (FFY) 2015 required DEEP to lower that inspection rate to five percent.

Of the 21 sites inspected by DEEP in FFY 2015, violations were found at four. The sites with violations were inspected because of complaints or incomplete registrations. It is hard to extrapolate from such a small sample size. Nonetheless, if one assumes that some violations would not or could not be observed by third parties and therefore would not be reported, the data suggest that dozens of violations go undetected each year.

When DEEP discovers a violation, its enforcement options are severely restricted. The common enforcement tool is the NOV which, as stated above, carries no penalty. Going to court to seek a penalty is an extraordinary use of DEEP staff time that is seldom pursued for stormwater violations. Any would-be violator can be fairly confident that he or she will not be caught and, if caught, will not face financial penalties.

The Construction General Permit states that a registration can be revoked, but revocation does not occur. The statute that authorizes general permits (CGS Section 22a-430b(c)) can be interpreted to prohibit DEEP from revoking a registration for a general permit until it has issued an individual permit for the discharge, but there are other possible interpretations. (For example, it is possible that this restriction on DEEP's authority applies only when DEEP seeks to require an individual permit for a site, and not when DEEP seeks to revoke a registration for submitting false information.) Whether or not that law actually does limit revocation is a question that has not been tested.

Unless the law is changed to equip DEEP with an effective enforcement tool, compliance with the Construction General Permit will remain a voluntary endeavor.

Turbidity: No Limit

Turbidity is a measure of the relative clarity or cloudiness of water. High turbidity (cloudiness) occurs when much soil or other material is suspended in the water.

A major purpose of stormwater management at construction sites is to reduce the amount of soil that is discharged to nearby streams. Permit registrants are required to monitor turbidity levels. How much turbidity is too much? There actually is no standard. The only violation would be for failure to monitor the turbidity levels, not for creating any excessive level of turbidity.

The United States Environmental Protection Agency issued numerical limits on turbidity in 2009 and repealed them in 2014, opting for an approach that, like Connecticut's, depends on best management practices for controlling turbidity. Nonetheless, but the potential for appropriate numerical limits still exists.

Breaking News

It's Going to Rain

The company developing a solar-energy facility in East Lyme wrote to DEEP to report that on March 30, 2014 the area experienced "unprecedented rainfall which subsequently caused an unforeseen erosion and sediment control event at the project area." Was it unprecedented and unforeseen? A review of rainfall records for New London County shows that it was far from unprecedented. The four or so inches that fell that day was surpassed by an inch or more during a storm four years before (to the day), which itself was not close to the record (seven-plus inches on September 21, 1961).

Unforeseen? Using the federal precipitation-frequency guidance in effect at the time, one should have been expecting four inches to fall in a day at least once every five years, and probably more often.

Further review of the record one-day rainstorms for New London County for each month of the year from 1941 to 2010 reveals that most (eight of twelve) of the record storms occurred since 1991.³ Does this mean that rainfalls are heavier now than they used to be? In October 2015, this question was answered with an unequivocal "Yes!" Prior to October, engineers relied on a National Weather Service document that was published in 1961. Updated in October 2015, the data confirm what has been predicted by many: rainfalls are getting heavier, and heavy rains are becoming more frequent. In 1961, most of the state would have expected a four-inch one-day rainfall every five years or so; in some northwestern towns, that five-year storm would have brought less than four inches. Now, all portions of the state can expect the five-year storm to bring well over four inches and, in some northwestern Connecticut towns, close to five inches.

This significant increase in rainfall intensity has large implications for water quality, and especially for the control of pollution from stormwater runoff. And if predictions regarding climate change continue to hold true, rain in this region will intensify even more.⁴

Certifications Not Audited

The credibility of general permits relies greatly on the certifications provided by registrants and licensed engineers (or other professionals). This is especially true for the Construction General Permit. The General Assembly charged DEEP in 2012 with auditing a percentage (10 percent was the goal) of such certifications and reporting the results to the General Assembly by 2014 (CGS 22a-430b(f)). That mandate has not been fulfilled; no report was completed.

It's Not Always Sunny: the Runoff Problems of Solar Farms

Large photovoltaic developments – commonly known as solar farms – are unique facilities that do not fit well into existing permit requirements. The few requirements imposed at present are not adequate.

The petition to the Connecticut Siting Council for approval of the East Lyme facility listed only two regulatory requirements: Siting Council approval and registration for the Construction General Permit. That was sufficient until it rained.

When the Siting Council was considering the petition for the East Lyme facility, it solicited the advice of DEEP, as it always does. Part of DEEP's recommendation reads, "DEEP recommends that adherence to the O&M Plan [Operation and Management Plan] be incorporated as a condition of any Council approval of this project and that the reports of the specified inspections be provided to the Council to verify that the on-going inspection and maintenance activities contemplated in Appendix F [Stormwater Management] are being carried out." The Siting Council declined to implement the recommendation. When asked, Siting Council staff stated that they did not wish to receive such reports, as they viewed DEEP as the agency with the expertise in stormwater. Siting Council staff nonetheless continued to inspect the project site for compliance with the approved plans, and in November 2015 noted several "concerns" that were required to be addressed by the site developer. Multiple visits from Siting Council staff and DEEP inspectors (as discussed on page 3) to a single project site constitute a significant deployment of resources that should be avoidable.

The 30-acre installation in East Lyme is just one among several solar farms being built as a product of state energy policy. Some solar farms, such as one approved in 2015 to be built in Sprague, would convert 134 acres of low-runoff woodland habitat into many acres of impervious surface (the solar panels) alternating with channels of low vegetation.⁵

Maryland and Pennsylvania agencies have published special guidelines for managing stormwater at solar farms. “The goal is to try to replicate the predevelopment condition after the construction is finished,” states the latter.⁶



Maryland Department of the Environment Stormwater Design Guidance – Solar Panel Installations

“Revisions to Maryland’s stormwater management regulations in 2010 require that environmental site design (ESD) be used to the maximum extent practicable (MEP) to mimic natural hydrology, reduce runoff to reflect forested wooded conditions, and minimize the impact of land development on water resources. This applies to any residential, commercial, industrial, or institutional development where more than 5,000 square feet of land area is disturbed. Consequently, stormwater management must be addressed even when permeable features like solar panel installations exceed 5,000 square feet of land disturbance.”

2. Archaeology and Water Pollution: A Difficult Relationship

The Construction General Permit requires registrants to certify that their projects will not imperil prehistoric or historic sites of interest or the habitat of rare species of plants and wildlife. The implementation of those requirements – especially the one for historic sites – is a loose and confusing patchwork of steps and checklists that does not actually mirror the language of the requirements. The opportunities for errors and misrepresentations are many and significant.

While enforcement is limited for water pollution violations, it is virtually nonexistent for failure to properly assess impacts to historic and archaeological sites. DEEP does not claim expertise in historic preservation or archaeology, and the State Historic Preservation Office (SHPO), within the Department of Economic and Community Development, is not charged with enforcement.

The Council was presented with examples of Construction General Permit registrations that would appear to inaccurately represent the potential impacts to historic and archaeological resources. Such misrepresentations could largely be avoided through a combination of greater transparency, tighter documentation, simpler requirements and, on rare occasions, some possibility of enforcement.

The review of archaeological resources in connection with stormwater regulation is complicated in its details. An example of an unexpected feature is the fact that the

presence of certain soil types alone will trigger the need for an archaeological review. These soil types occur near waterways where the probability of prehistoric human activity is relatively high. In some regards, this is not a complicated requirement, as soil types are ascertained more easily than some potential historic resources. Even so, the Council is aware of registrants presenting wrong information about soil types and avoiding the necessary detailed review.

Some of the misinformation in registrations can be tied to the complicated and unclear nature of the registration form, as well as of the entire permit. When approving the Construction General Permit in 2013, the DEEP Hearing Officer wrote,

“I note that the revised permit is 45 pages long plus 30 pages of incorporated attachments... The permit would benefit from a subsequent review from the perspective of readability and organization.”

The Council reviewed registrations that answered “Yes” to “Verify that the site of the proposed activity [has] been reviewed for historic and/or archaeological resources,” and then checked “No” for both “(a) The review indicates the proposed site does not have the potential for historic/ archaeological resources, OR (b) The review indicated historic and/ or archaeological resource potential exists and the proposed activity is being or has been reviewed by the Offices of Culture and Tourism.” Note that a “No” response to (a) means that there IS potential for historic or archaeological resources, and thus the sequence of Yes and No’s submitted by the registrant makes no sense. Is it confusion or evasion?

Transparency is important because of the large number of residents with knowledge of historic resources who could view the information online if the information was posted online as originally intended. The Construction General Permit states that registrations will be posted on the website along with the stormwater management plans if the latter are available electronically. However, registrations are not posted on the DEEP website. DEEP publishes a monthly *list* of registrations received (usually numbering between five and twenty). If a member of the public requests a listed registration to review, and that registration is for a project that was approved by a municipality, then DEEP in turn requests a copy from the registrant and makes it available to the requestor. Only then does the clock *start* for the public review and comment period. This convoluted process, perhaps one of the most “un-LEAN” in all of state government, consumes DEEP staff time and delays development projects.

There is some good news: After a long delay in deploying the necessary technology, DEEP now is receiving stormwater registrations electronically, which would in theory make posting on the website more efficient and likely to happen.

As noted above, the Construction General Permit states that a registration can be revoked for submittal of inaccurate information, but revocation does not occur.

If a registrant attempts to adhere completely to the spirit and letter of the permit, the exact outcome still can remain a mystery to state agencies and the public. If the registrant's initial "prescreening" concludes that there is some potential for impacts to historic or archaeological resources, the registrant is directed to contact SHPO and to indicate to DEEP that a review has been or is being conducted. There is no requirement to submit SHPO's ultimate recommendations to DEEP, nor does DEEP follow up to ascertain adherence to any such recommendations.

The requirement to consider potential impacts to historic and archaeological resources does not mesh well with DEEP's fields of expertise. Nonetheless, federal law (under which DEEP must regulate stormwater) requires such consideration, and all Connecticut state agencies have a statutory responsibility to

"review, in consultation with the Department of Economic and Community Development, their policies and practices for consistency with the preservation and study of the state's archaeological sites and sacred lands and sites. Such review shall include preparation of an **evaluation document** which specifies projects and programs requiring detailed consultation to identify and protect archaeological sites and sacred lands and sites." (CGS Section 10-387)

DEEP has not fulfilled the requirement to prepare such an evaluation document (as highlighted in the above statute). DEEP is not unique among state agencies in this deficiency. This point is revisited in the section below on mining.

Stormwater, Rare Species and Archaeology: Does the Connection Make Sense?

When a business plans to create or expand a facility, it must take steps to limit pollution to nearby waterways. Does it make sense that the business might also be required to hire an archaeologist and an ornithologist to assess potential impacts not directly associated with water quality? Yes, it makes sense, because DEEP is required to ensure, under various laws, that its programs are consistent with the preservation of historic resources and rare species. Presiding over the extermination of those resources would be a peculiar role for DEEP. Yet tying the study and protection of historic and biological resources to specific water pollution permits might be far from the most efficient path available.

3. State Regulation of Mining Sites: Nothing Ado About Much

A mining company can remove the vegetation and wildlife from dozens of acres of land lying over a significant aquifer, haul away the earth and obliterate archaeological artifacts with little or no state oversight and with no requirement to restore the land.

It was not intended to be so. Since 1972, The Department of Energy and Environmental Protection (DEEP) has had a statutory mandate to “provide for minimum state-wide standards for the mining, extraction, excavation or removal of earth materials of all types” (CGS Section 22a-5), but this has not been done.

Consequently, DEEP does not regulate mining directly and holds only a few modest tools that could minimize harm from mining. A tool that DEEP thought was available, the water diversion act, was removed from DEEP’s toolbox in July, 2015. The Connecticut Supreme Court ruled that “the water diversion act does not authorize the department’s attempts to regulate the plaintiff’s excavation activities.”⁸ At issue was DEEP’s attempt to regulate the environmental effects of a mining excavation when the company applied for a water diversion permit. The Court said that DEEP’s jurisdiction was limited to the diversion itself, not the effects of the mining operation, and DEEP could not require the applicant to provide such things as a plan to mitigate impacts to wetlands.

“...the water diversion act does not authorize the department’s attempts to regulate the plaintiff’s excavation activities.”

Connecticut Supreme Court, 2015⁸

DEEP’s other indirect regulatory tools are similarly limited. *Some* sand and gravel mines are required to register for the General Permit for the Discharge of Stormwater Associated with Industrial Activity (or more simply, the “Industrial General Permit”), which would require the mine to control and monitor the quality of the water that is discharged to waterways. The effect of this sole requirement is limited by three factors:

- Mines that do not comply. It appears that some active sand and gravel mines have not registered for the Industrial General Permit, but the Council cannot determine how many might be in violation of that requirement. There is no state census of sand and gravel mines. Such operations are required to register with the federal Mine Safety and Health Administration (MSHA). MSHA records indicate 46 active mines in the state. Of those, 13 have not registered for the Industrial General Permit. An operation that contains all of its stormwater on site would not be required to register, so absence of a

permit does not necessarily mean the operation is in violation. Also, some mines apply for an individual permit, not the general permit (see *What is a Registrant?* on page 3). If a company is found to be operating without a permit, the consequences are likely to be minimal.

- Weak enforcement tools. Except in extraordinary cases, an alleged violator receives a Notice of Violation (NOV), which carries no financial penalty. The recipient of an NOV gets thirty days to respond. Fines are rare to nonexistent. DEEP does not have the authority to order a violator of general-permit requirements to cease and desist. In fact, if DEEP seeks to cancel an alleged violator's registration for a General Permit, its authority to do so might be limited by statute (see page 4).
- Mines with no need to register. If stormwater is not expected to leave the property, the mining company does not need to register for the Industrial General Permit. Many mines are depressions in the landscape; regardless of the acreage cleared, many of these mines require no state permit.

Where one finds high-yield aquifers that supply public drinking water, one often finds sand and gravel. However, mining of sand and gravel is not listed as one of the land uses that are regulated under state and municipal aquifer protection regulations. In the Suffield case, an interesting twist is the reliance on the underlying aquifer for public drinking water in Massachusetts but not in Connecticut. This year, DEEP added the cross-border aquifer to its statewide aquifer map "for informational purposes only." Again, even if an aquifer protection area were to be designated, any state regulatory obligations would not apply to removal of sand and gravel.

Other regulations that could apply to sand and gravel mines include limits on dust, but enforcement is undertaken only when a problem is observed; no dust permit is required in advance. Another is, in theory, a state-approved municipal river protection ordinance that would include "restrictions on earth-moving for mining or other purposes," but river protection is another program that exists only in statute. DEEP never completed the model ordinance which is mandated by statute:

"Model river protection ordinance. The Commissioner of Energy and Environmental Protection...shall prepare a model river protection ordinance...Such model ordinance may include, but need not be limited to, recommendations for...restrictions on earth-moving for mining or other purposes." (CGS Section 25-102xx)

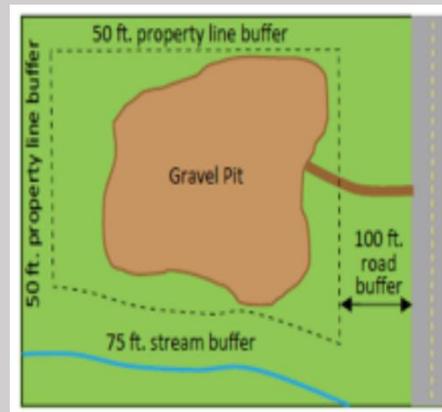
The Role of Towns in Regulating Mining

In the 1990s, the Southwest [Connecticut] Conservation District prepared model municipal regulations for earth excavation activities. No one knows how many towns have adopted such regulations. Using federal grant funds administered by DEEP, the Rivers Alliance of Connecticut surveyed approximately 50 towns in 2007 and found that more than one in five said they did not have a regulation for excavation. For many proposed sand and gravel operations, municipal permit requirements, if any exist, would be the only such requirements. Information provided to the Council reveals that some towns which purport to regulate mining use an approach that is, at best, incomplete.

Other States Regulate Mining

New York, Maine, and Massachusetts are among the northeastern states that regulate mining with requirements to protect aquifers, restore wildlife habitat and/or minimize other impacts. New York requires restoration plans for all mines, and Maine has the following requirements:

- **Registration** with the Department of Environmental Protection
- **Buffer** and set-back requirements
- **Maximum size** restrictions (10 acres working)
- **Drainage** must be on site not to off site location
- **Depth to water** table cannot be less than five feet of cover
- **Fuel storage** must be inside a covered structure
- **Reclamation** must coincide with mining activity



Recommendations...

The regulatory structure that has developed over many years is not one that would be designed today. The following recommendations are aimed at building a more logical, efficient and effective approach to protecting Connecticut's environment, including streams, historic and archaeological resources and rare species, from negative effects of large earthmoving activities.

...for Stormwater Permitting and Enforcement

1. **Simplify and clarify the Construction General Permit.** Specifically, when this and other stormwater general permits are revised and renewed, DEEP should

- eliminate such phrases as “where possible” in conjunction with “shall,” reduce in number the 75+ pages of the permit, and eliminate wording that requires a “no” to assert the affirmative in the checklist of the historic resources section,
- incorporate by reference the 2015 National Weather Service data on precipitation frequency to replace the 1961 data cited in the Construction General Permit, and
- include limits on turbidity (cloudiness) in stormwater discharges.

2. **DEEP should adopt a new general permit for solar farms** or adopt special guidelines for them under existing permits.

If DEEP concludes that it does not have sufficient authority to adopt this recommendation, the **General Assembly** should authorize DEEP to adopt such a permit.

3. **DEEP should adopt regulations for a new enforcement tool** (administrative penalties) that would create the possibility that violators of stormwater regulations might face and pay financial penalties without a protracted court case.

If DEEP concludes that it does not have sufficient authority to adopt this recommendation, the **General Assembly** should authorize DEEP to adopt such a tool.

4. **The General Assembly should authorize DEEP to order a violator of a general permit requirement to cease and desist.**

5. **DEEP should clarify its authority to revoke** the stormwater general permit registration if a registrant provides inaccurate information.

If DEEP concludes that it does not have sufficient authority to adopt this recommendation, the **General Assembly** should authorize DEEP to adopt such clarification.

...for Public Information

6. **DEEP should post all stormwater general permit registrations on its website.**
7. **DEEP should post inspection results online.**
8. **DEEP should audit the veracity of ten percent of the certifications** submitted with Construction General Permit registrations, as required by CGS Section 22a-430b.

...for Preventing Destruction of Historic and Archaeological Sites

See also #14 Below

9. **The Construction General Permit should be revised by DEEP to require that all registrations be reviewed by the State Historic Preservation Officer (SHPO),** and that the registration shall include the SHPO's conclusions.

If DEEP concludes that it does not have sufficient authority to adopt this recommendation, the **General Assembly** should authorize DEEP to adopt such a requirement.

10. **The Industrial General Permit should be revised by DEEP to include the same protections for archaeological and historic resources** that are included in the Construction General Permit (excepting sites where no earthmoving is involved).

If DEEP concludes that it does not have sufficient authority to adopt this recommendation, the **General Assembly** should authorize DEEP to adopt such a requirement.

11. **DEEP should fulfill its statutory obligation** (CGS Section 10-387) to determine which of its programs require "detailed consultation **to identify and protect archaeological sites.**"

...for Regulation of Mining

12. **DEEP should fulfill its statutory obligation (CGS Section 22a-5) to develop minimum standards for mining.**

13. **DEEP should adopt a new permit program for mining sites**, including sand and gravel mining, to implement the standards, and should remove mining from the Industrial General Permit.

The new permit should include provisions for review of archaeological, groundwater, surface water and ecological resources, unless another new process is used to regulate those impacts (see Recommendation #13, below).

If DEEP concludes that it does not have sufficient authority to adopt this recommendation, the **General Assembly** should authorize DEEP to adopt such a permit.

The Bigger Picture: Should Connecticut Separate Endangered Species and Historic Resources from Stormwater Permits?

14. **The General Assembly should adopt meaningful protections for endangered species and historic resources as stand-alone statutes** as an alternative to the current process of imposing them only on registrants for stormwater permits and applicants for a few other permits.

Notes

1. According to an April 30, 2014 assessment prepared for the site developer by a consultant, 3.6 inches of rain fell on March 30, 2014. Slightly more than one inch had fallen on the previous day, for a two-day total of about 4.7 inches. The assessment is an attachment to the minutes of the May 5, 2014 hearing of the East Lyme Inland Wetlands Agency at <http://eltownhall.com/wp-content/uploads/2014/03/May-5-2014-Show-Cause-Hearing-Minutes.pdf> A November 21, 2014 evaluation prepared for an affected landowner by the Eastern Connecticut Conservation District puts the two-day total at “approximately 3.83 inches.”

2. Letter from Connecticut Siting Council, April 7, 2014 at http://www.ct.gov/csc/lib/csc/pendingproceeds/petition_1056/pe1056-20140407-siteconditionsltr.pdf

3. The following are the heaviest one-day rainfalls recorded in New London County between 1941 and 2010 for each month of the year, as recorded at official weather stations.

U.S. Department of Commerce
National Oceanic & Atmospheric Administration

Precipitation
Daily Extreme Maximum By Month

Connecticut / New London County		POR For Element EMXP: 1941 to 2010
Month	Precipitation (inches)	Location(s) / Date(s)
1	3.35	Jewett City (063857/99999): 01/24/1998
2	3.05	Colchester 2 W (061499/99999): 02/02/1973
3	5.54	Norwich Pub Utility Plant (065910/99999): 03/30/2010
4	4.28	Norwich Pub Utility Plant (065910/99999): 04/13/2004
5	4.31	Norwich Pub Utility Plant (065910/99999): 05/13/2006
6	6.30	Groton (063207/99999): 06/05/1982
7	4.81	Norwich Pub Utility Plant (065910/99999): 07/02/2009
8	5.21	Norwich Pub Utility Plant (065910/99999): 08/19/1991
9	7.43	Groton (063207/99999): 09/21/1961
10	6.18	Norwich Pub Utility Plant (065910/99999): 10/15/2005
11	3.55	Pachaug Forest (066131/99999): 11/12/1947
12	4.24	Jewett City (063857/99999): 12/12/2008

Source: National Climatic Data Center at <http://www7.ncdc.noaa.gov/CDO/cdoextremesdata.cmd>

4. 2014 National Climate Assessment, U.S. Global Change Research Program at <http://nca2014.globalchange.gov/report/our-changing-climate/heavy-downpours-increasing>
5. "Site development would require the clearing of 134 acres of trees or the removal of approximately 21,130 trees with a diameter of six inches or greater..." Connecticut Siting Council Staff Report re: Petition No. 1178, September 17, 2015 at http://www.ct.gov/csc/lib/csc/pending_petitions/1_petitions_1144through1200/pe1178-dcltr-energy-sprague.pdf
6. *Information to use in the Determination of Stormwater Management (SWM) Impacts for Solar Projects*, PA DEP SERO WSHD SW DR rev. 10/4/2011 at <http://www.chesco.org/documentcenter/view/7375>
7. Kenneth M. Collette, Hearing Officer, Department of Energy and Environmental Protection, Proposed Final Decision in the Matter of the General Permit for Discharge of Stormwater and Dewatering Wastewater from Construction Activities, August 15, 2013, page 8, at http://www.ct.gov/deep/lib/deep/adjudications/decisions_pdf/081513gpconstructionstormwaterproposedfinaldecision.pdf
8. *Tilcon Connecticut, Inc. v. Commissioner of Environmental Protection*, 317 Conn. 628 (2015) at <http://www.jud.ct.gov/external/supapp/Cases/AROCR/CR317/317CR65.pdf>

About the Council on Environmental Quality

The duties of the Council on Environmental Quality (CEQ) are described in Sections [22a-11 through 22a-13](#) of the Connecticut General Statutes.

The Council is a nine-member board that works independently of the Department of Energy and Environmental Protection (except for administrative functions). The Chairman and four other members are appointed by the Governor, two members by the President Pro Tempore of the Senate and two by the Speaker of the House. The Council's primary responsibilities include:

1. Submittal to the Governor of an annual report on the status of Connecticut's environment, including progress toward goals of the statewide environmental plan, with recommendations for remedying deficiencies of state programs.
2. Review of state agencies' construction projects.
3. Investigation of citizens' complaints and allegations of violations of environmental laws.

In addition, under the Connecticut Environmental Policy Act (CEPA) and its attendant regulations, the Council on Environmental Quality reviews Environmental Impact Evaluations that state agencies develop for major projects. The Council publishes the [Environmental Monitor](#), the official publication for scoping notices and environmental impact evaluations for state projects under CEPA. The *Environmental Monitor* also is the official publication for notice of intent by state agencies to sell or transfer state lands.

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