



# CT STORMWATER PROGRAM Construction Stormwater Permitting

- 1992 CT Authorized by EPA to develop CGP
  - Most recent reissuance 2013
  - Regulates construction >1 acre
  - DEEP Stormwater staff inspects & enforces
  - Locally approvable Mostly private construction
    - Reviewed by Qualified Professional Engineer
  - Locally exempt Mostly state/federal
    - Reviewed by DEEP Stormwater staff
    - Solar bypasses local approval Siting Council
  - Considered Locally exempt



### CT STORMWATER PROGRAM Solar Array Construction



- Extremely large (>100 ac) disturbed area
- Design makes phasing difficult/impractical
- Frequently on hillsides (slopes)
- Contract timelines too short (< 1 year)</p>
- Designs not adequate to protect large areas
- Contractors not following plans
- Lack of independence = unreliable inspections
- Soil compaction increases runoff
- Ineffective/untimely corrective actions
- Inadequate post-construction controls





Sprague - 200 acre clear cut







Lebanon - no stabilization







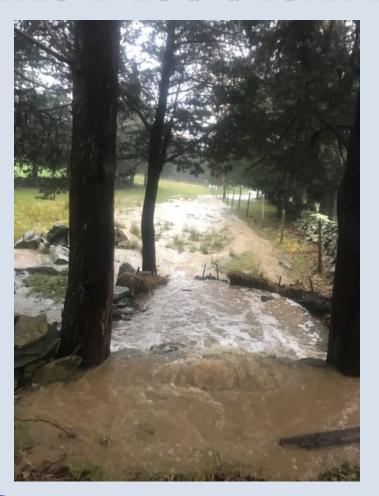




Sprague - "Finished" basin

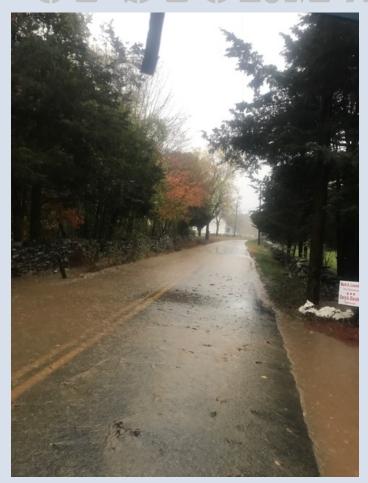






Fusion Solar - Sprague







#### Fusion Solar - Sprague







East Lyme – Basin failure





**East Lyme – sediment deposits** 





East Lyme – stream bank high flow undercutting







#### **East Lyme – Post-construction erosion**



### CT STORMWATER PROGRAM Enforcement



#### **Enforcement Actions Taken**

- **Three major enforcement cases**
- **Cease and desist orders**
- **Consent orders**
- **Penalties from \$200,000 \$575,000**
- Letters of credit \$15,000 per acre
- **Two year closeout process**



## CT STORMWATER PROGRAM Solar Construction



**How to Address Problems?** 



Review other large projects



Review other states' procedures

- MN, MD, PA, NH
- Minnesota solar calculator?



**NEIWPCC Stormwater Workgroup** 



**Discussions with consultants** 



# CT STORMWATER PROGRAM CGP Solar Appendix I



**Design & Construction Measures** 



>15% considered all impervious



Increase stabilization as slopes increase



Provide adequate spacing between rows



**Qualified PE for routine inspections** 



Inspection reports submitted to DEEP



District conducts periodic inspections



**District conducts Post-Const/Final Inspections** 



Registrant provides letter of credit



## CT STORMWATER PROGRAM CGP Solar Appendix I

**Post-Construction Design Measures** 













- Ex. HSG A → B, HSG B → C, etc.



### CT STORMWATER PROGRAM Helpful Links



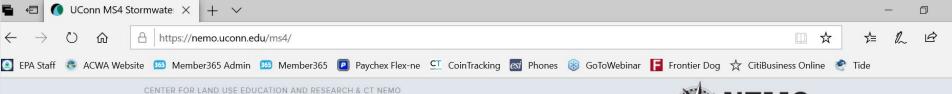
www.ct.gov/deep/stormwater



https://nemo.uconn.edu/ms4/



### CT STORMWATER PROGRAM Helpful Links





Connecticut MS4 Guide Basics ▼ Tasks ▼ Tools ▼ This guide was developed by NEMO program staff within the UConn Center for Land Use Education and Research with funding from the Connecticut Department of Energy and Environmental Protection (DEEP). It is part of a broad outreach effort to provide guidance, **Public Education** Public **Illicit Discharge** training, tools and other support to help Involvement **Detection &** & Outreach Connecticut MS4 communities and Elimination institutions comply with the revised MS4 general permit. This website is frequently updated and materials will be added throughout the 5-year project period (Fall 2016 - Fall 2021) based on deadlines for various requirements and community needs



**Construction Site** Stormwater **Runoff Control** 



Post-construction Stormwater Management



Pollution Prevention & Good Housekeeping

or requests.

Monitoring Mapping

**Legal Authorities** 

https://nemo.uconn.edu/ms4/tasks/idde.htm

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