Strategies for Disconnection

UCONN | UNIVERSITY OF CONNECTICUT

How to get started unplugging your impervious surfaces

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MS4 IC Disconnect Requirements

(a.k.a Retrofit)

Towns & Institutions must:

- develop a plan to reduce directly connected impervious area (DCIA) by 2% by 2022
- work to meet that goal to the MEP
- track & report progress
- 5 year look back to 2012



Retrofit program to reduce DCIA

MS4 Retrofit Program

	Getting to 2%: Case Studies in Impervious Cover Disconnection November 14, 2019	'ear 5	Year 6 (next permit)
Track disconnection	In this webinar, we highlight disconnection strategies from East Lyme and the UConn Storrs Campus. Vic Benni from East Lyme shares his method (and spreadsheet) for calculating total Directly Connected Impervious Area (DCIA) and describes some of the Low Impact Development (LID) installations they have used to get to the 2% disconnection goal. Then, Mike Dietz covers how he tracks impervious cover at UConn and highlights some of the LID practices treating stormwater runoff in Storrs.	•	
1% annual disconnect goal	UCONN shift a state at a state		
	Paused 0:06:52 / 1:09:00 ♠ 1x € 100 € 27 €	cts from retrofit plan	

https://nemo.uconn.edu/ms4/tools/webinars.htm

Directly Connected Impervious Area



https://www.phila.gov/water/PDF/SWRetroManual.pdf





LID/Green Infrastructure Practices

Bioretention/rain gardens







LID/Green Infrastructure Practices

Bioretention (streetside applications)







LID/Green Infrastructure Practices

Permeable Pavements











LID/Green Infrastructure Practices

Green roofs





Developing a 2% Disconnect/Retrofit Plan

Start with Municipal properties

- town hall
- parks
- schools
- senior/community centers
- fire/police stations
- roadways/driveways

Look at your "re . . ."

Consider prioritizing priority area

Think about maintenance



Strategies for incentivizing private action (homeowners, businesses, etc.)

But what goes where?

Using the type of impervious cover to think about disconnections

- 1 ft resolution 2012 IC
- By town & by basin
- On NEMO MS4 site and CT ECO Map Viewers
- 3 categories
 - Building
 - Road
 - Other



https://s.uconn.edu/CTMS4Map



Statewide IC Breakdown









Buildings (roofs)





Roads





UConn Student Retrofit Plan for Norwich

Data Analysis



DCIA and Land Use (Acres)

More specifically - where is the DCIA within each land class?



LID/Green Infrastructure Practices

Sheet Flow/Disconnects





Looking for specific opportunities

Lessons from the "Stormwater Corps"

- IC disconnection plans
- Undergrad-powered
- Academic Year Program
- Summer Corps

For More Info:

About the Stormwater Corps

Stormwater runoff is a growing problem for Connecticut communities. Whether it's in response to repeated flooding, water pollution, the "MS4" stormwater permit or all of the above, town officials are looking for ways to start "disconnecting" impervious cover using low impact development (LID) practices, also known as green stormwater infrastructure (GSI).

But where to start? In an effort to help towns get a handle on these issues, CLEAR faculty from the award-winning NEMO Program have created the Stormwater Corps, a program that combines classroom instruction on stormwater management with projects in the community that develop an impervious cover disconnection "action plant" for town officials. Read Moren...

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Considerations when looking for opportunities

- 1. Town or other public properties
- 2. Large expanses of IC
- 3. Education / signage potential
- 4. Minimal infrastructure complications
- 5. Cost
- 6. Maintenance
- 7. The "RE" factor: renovations, redevelopment, repaving, reconstruction (what's near the top of your Capital Improvement Plan?)

Tools to Help:

MS4 Viewer

- IC by watershed (basin) and town
- Priority MS4 areas

Google Maps

- Building labels
- Imagery
- Street view

CT ECO Advanced Viewer

- Imagery
- Contours
- Elevation (lidar)
- Waterways
- soils

STEP 1. Use online imagery & data to identify possible options

Google Maps & Street View

Waterford High School

STEP 1. Use online imagery & data to identify possible options

Mansfield Community Center

STEP 1. Use online imagery & data to identify possible options

E.O. Smith High School

Note taking

Step 2. Field verification / fine-tuning

Drain gazing

Lots of help on your smart phone

clinometer

Urban drainage is often complicated

Directly Connected?

CLEAR's Mike Dietz goes the extra mile to understand urban drainage.

MS4 Disconnection Workshop Series, December 2020

Questions?

