



Dover, NEW HAMPSHIRE

Building Climate Resiliency through Simpler, Lower-cost Green Infrastructure Designs

Lessons Learned and Recommendations:

- Green infrastructure can be flexible and adaptable to the local maintenance culture.
- Involve owners to ensure green infrastructure designs align with community expectations and maintenance resources.
- Put the Department of Public Works in the driver's seat to experiment and develop green infrastructure approaches.

What they did, and why:

Green infrastructure (GI) improves water quality by reducing and filtering stormwater runoff. It can also help build climate resiliency in communities by decreasing flooding and providing for more sustainable water resources (e.g., increased base flow and aquifer storage) during droughts.

The Dover Department of Public Works & Utilities (DPW) and the University of New Hampshire Stormwater Center collaborated on a multi-year effort to install GI in the Berry Brook watershed. Through this project they adapted conventional GI to make it simpler, less costly to maintain, and user-friendly for daily DPW operations.

Rain gardens are planted with turfgrass instead of ornamental perennials and fronted with catch basins to keep sediment and trash out of the garden. Maintenance requires mowing and catch basin cleaning.

Another adaptation, the "Boulinginator," is a subsurface gravel filter that mimics the storage and filtration of a porous asphalt system, but is paved with standard asphalt.

Runoff enters the system through inlets connected to the catch basin system and no special equipment is required for maintenance. These systems are both highly adaptable for densely developed areas and effective for capturing runoff volume and pollutant loads.

Benefits:

- Dover is achieving comparable pollution reduction results and reducing runoff from impervious cover while using simpler GI installations that are less costly to maintain than conventional systems.
- The DPW has changed its thinking about stormwater. Employees are involved in installations. Crews are developing and implementing new ideas with maintenance in mind.
- The close partnership between the University staff and city employees has resulted in new and innovative adaptations to conventional designs.

"I was really concerned about maintenance. We don't have the funds to add another maintenance activity. One thing we're good at doing is cleaning catch basins we can mow... we're good at sweeping streets... "

*Bill Boulanger
Deputy Director, Public
Works & Utilities
Dover, NH*

"...there's a whole world of 'simple' out there that we could be doing before we need to get too complex"

*Dr. James Houle
Program Director,
University of New
Hampshire Stormwater
Center*