GREEN INFRASTRUCTURE

What does it look like in New Jersey...today?

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Water Resources Program

www.water.rutgers.edu

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The Impact of Development on Stormwater Runoff

More development → More impervious surfaces → More stormwater runoff
It is all about controlling runoff from impervious surfaces
We must deal with impacts from impervious cover

Are there impervious surfaces that you can eliminate?

If we can't eliminate it, can we reduce it?

If we can't eliminate or reduce it, can we disconnect it?

Are there impervious surfaces that you can harvest rainwater for reuse?

Are there conveyance systems that can be converted to bioswales?
Eliminate it!
Reduce It!
Disconnect It!
For 1.25 inch storm, 3,811 cubic feet of runoff = 28,500 gallons
For 1.25 inch storm, 581 cubic feet of runoff = **4,360 gallons**

Total drainage area = 3 acres

- 1 acre directly connected impervious cover
- 2 acres pervious cover

Runoff Direction

Stormwater Inlet
<table>
<thead>
<tr>
<th>Design Storm</th>
<th>Connected (gallons)</th>
<th>Disconnected (gallons)</th>
<th>Percent Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.25 inches (water quality storm)</td>
<td>28,500</td>
<td>4,360</td>
<td>85%</td>
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</table>
Impervious area is now "disconnected" from flowing directly into the storm sewer system.
Rooftop runoff is now “disconnected” from flowing directly into the storm sewer system.
Who is building Green Infrastructure in New Jersey?
Public Works Department
Greening the Department of Public Works
Parsippany-Troy Hills, Morris County and Clark, Union County
Schools
Stormwater Management In Your Schoolyard

1. Educational Lectures
2. Hands-on Activities
3. Community Level Outreach
4. Rain Gardens, Rain Barrels, Watershed Management, and Water Conservation

**Objective**
Empower students to take action in their local community.

**Partners**
Rutgers Cooperative Extension
County 4-H Youth Development Programs
AmeriCorps Watershed Ambassadors
Master Gardeners
Stormwater Management In Your Schoolyard

Birches Elementary School

Penn Tech High School

Timber Creek High School
Utilities Authority
Green Gateway and Camden SMART, Camden, NJ
Camden County Municipal Utilities Authority

Chelton Avenue Existing Conditions
April 22, 2010

[Diagram of site plan with various features labeled]

[Images of plants and murals]
PVSC's Plan for Green Infrastructure

• PVSC is dedicated to leading efforts throughout the PVSC Sewerage District to:
  1) intercept stormwater runoff
  2) reduce Combined Sewer Overflows (CSOs)
  3) manage existing water infrastructure
  4) minimize frequent flooding events

• PVSC has entered into a partnership with Rutgers Cooperative Extension (RCE) Water Resources Program to achieve these goals
PVSC’s Plan for Green Infrastructure

Green Infrastructure Program (Year 1)

3 Main Objectives:

1) Municipal Outreach and Education

2) Community-Based Technical Assistance
   (develop green infrastructure assessments for 6-9 municipalities in sewer service area)

3) Green Infrastructure Demonstration Projects

FOR MORE INFORMATION: www.water.rutgers.edu/PVSC.html
Government Leaders and Commissions
Hamilton Township, Mercer County
Flood Reduction and Stormwater Management Program

- Develop Hydrologic Model for Hamilton Township
- Conduct Inventory and Assessment of Stormwater Management Basins
- Prepare a GIS Database of Stormwater Infrastructure
- Implement Rain Garden Demonstration Projects
- Implement Detention Basin Maintenance Training, Inspection, and Monitoring Program
- Conduct Rain Barrel Workshops for residents
- Educate Municipal Officials
City of Hoboken, Hudson County
Sustainable Jersey Grant for Green Infrastructure

PROPOSED CURB EXTENSIONS

EXISTING STORM INLET

STORMWATER DRAINAGE

ONE WAY TRAFFIC

ONE WAY TRAFFIC

Quadricentennial Monument Statue
Church Square Park Basketball Court
Basketball Court
Hoboken Board of Education
City of Hoboken, Hudson County
Sustainable Jersey Grant for Green Infrastructure

Curb extension with a planted swale that captures stormwater from the gutter. Portland, OR (Credit: Abby Hall)
Princeton Township Environmental Commission
Rain Barrel Program
Community Organizations
298 Sussex Avenue Newark, NJ – Community Garden
Above Ground Cistern Installation Workshop with Rainwater Harvest Company

FOR MORE INFORMATION:
Greater Newark Conservancy
http://www.citybloom.org/
298 Sussex Avenue Newark, NJ – Community Garden
Above Ground Cistern Installation Completed
Puerto Rican Unity for Progress, Camden, NJ
Rain Garden and Rain Barrel Programs

FOR MORE INFORMATION: http://www.prupnj.org/
Contacts

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NJDEP Green Infrastructure Program
www.nj.gov/dep/gi/
Resources

- [http://www.sustainablesites.org/](http://www.sustainablesites.org/) (Sustainable Sites Initiative)
- [http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm](http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm) (USEPA)
- [http://greeninfrastructure.net/](http://greeninfrastructure.net/) (Green Infrastructure Network at The Conservation Fund)
- [http://water.rutgers.edu/](http://water.rutgers.edu/) (Rutgers Cooperative Extension Water Resources Program)
- [http://www.phillywatersheds.org/what_were_doing/documents_and_data/cso_long_term_control_plan](http://www.phillywatersheds.org/what_were_doing/documents_and_data/cso_long_term_control_plan) (Philadelphia Water Department Green City, Clean Waters Program)
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