



RUTGERS UNIVERSITY

Water Resources Program

New Jersey Agricultural Experiment Station



Green Infrastructure

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Christopher C. Obropta, Ph.D., P.E.
Extension Specialist in Water Resources

obropta@rutgers.edu

www.water.rutgers.edu



Rutgers Cooperative Extension

Rutgers Cooperative Extension (RCE) helps the diverse population of New Jersey adapt to a rapidly changing society and improves their lives through an educational process that uses science-based knowledge.





***Our mission is to identify
and address water
resources issues by
engaging and
empowering
communities to employ
practical science-based
solutions to help create a
more equitable and
sustainable New Jersey.***

New Jersey

- Most densely populated state
- 21 counties, 565 municipalities
- 95% of our waterways are impaired
- 21 Combined Sewer Communities
- Harmful Algal Blooms (HABS) in many of our lakes
- Hammered by Ida, Henri, Sandy, and a bunch of nor'easters
- Climate change is real – more severe storms and sea level rise

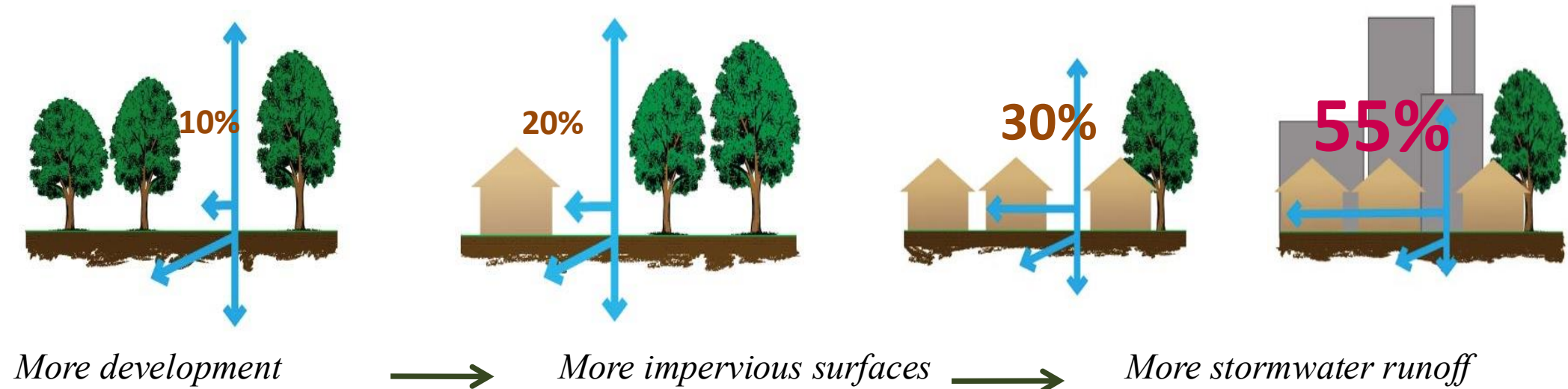


What is stormwater?



Stormwater is the water from rain or melting snows that can become “runoff,” flowing over the ground surface and returning to lakes and streams.

The Impact of Development on Stormwater Runoff



Insight to current problem

- Stringent stormwater regulations on new development has not improved water quality
- We must retrofit existing older development with stormwater management to improve the health of our waterways and reduce flooding
- Green infrastructure is a great tool to retrofit existing older development

GREEN INFRASTRUCTURE IN NEW JERSEY



Green infrastructure is ...

...an approach to stormwater management that is cost-effective, sustainable, and environmentally friendly.

Green infrastructure projects:

- capture,
- filter,
- absorb, and
- reuse

stormwater to restore the natural water cycle.



Green Infrastructure

Stormwater management practices that protect, restore, and mimic the native hydrologic condition by providing the following functions:

- Infiltration
- Filtration
- Storage
- Evaporation
- Transpiration



Bioretention Systems

- Rain Gardens
- Bioswales
- Stormwater Planters
- Curb Extensions
- Tree Filter Boxes

Permeable Pavements

Rainwater Harvesting

- Rain Barrels
- Cisterns

Dry Wells

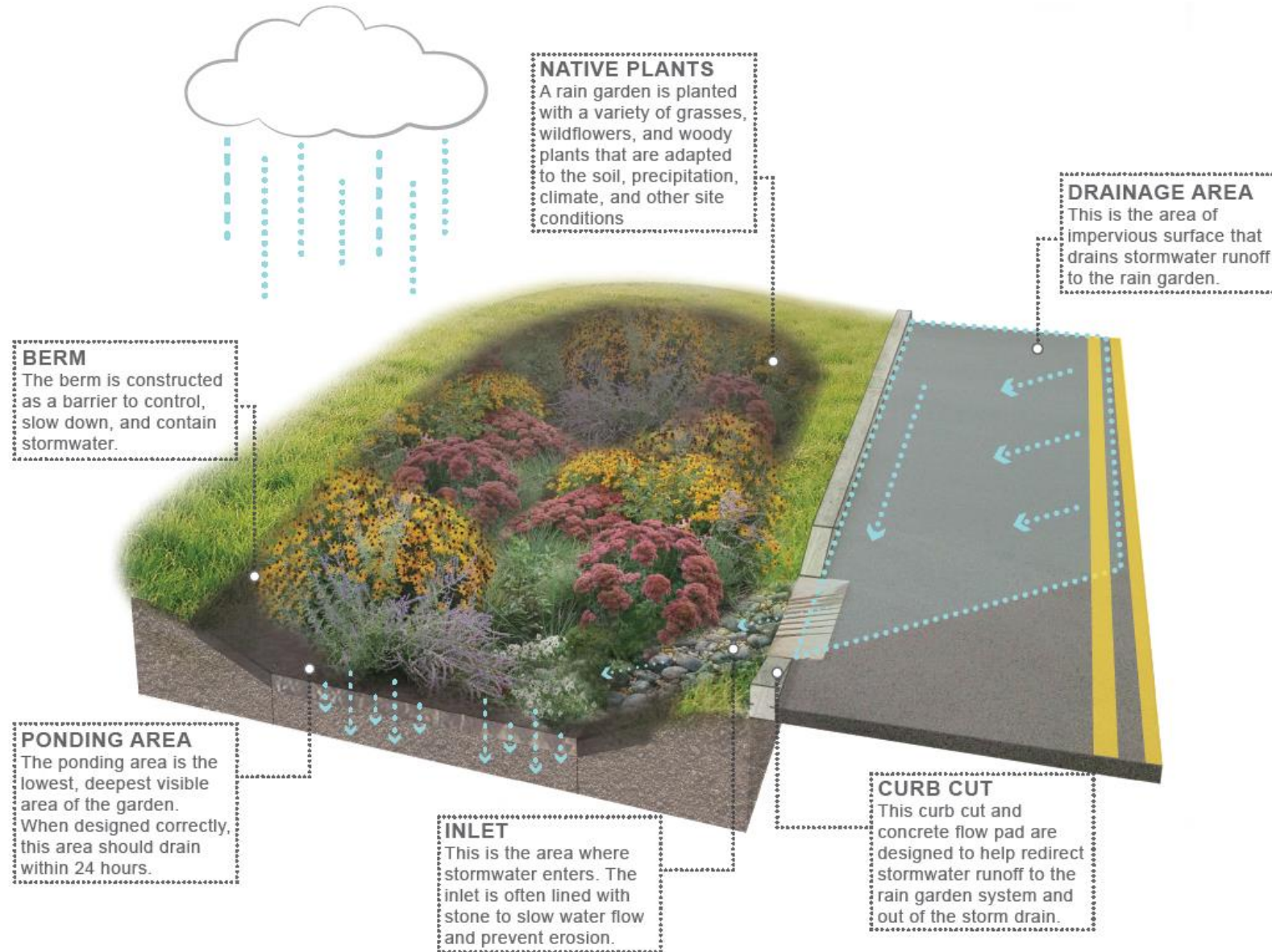
Rooftop Systems

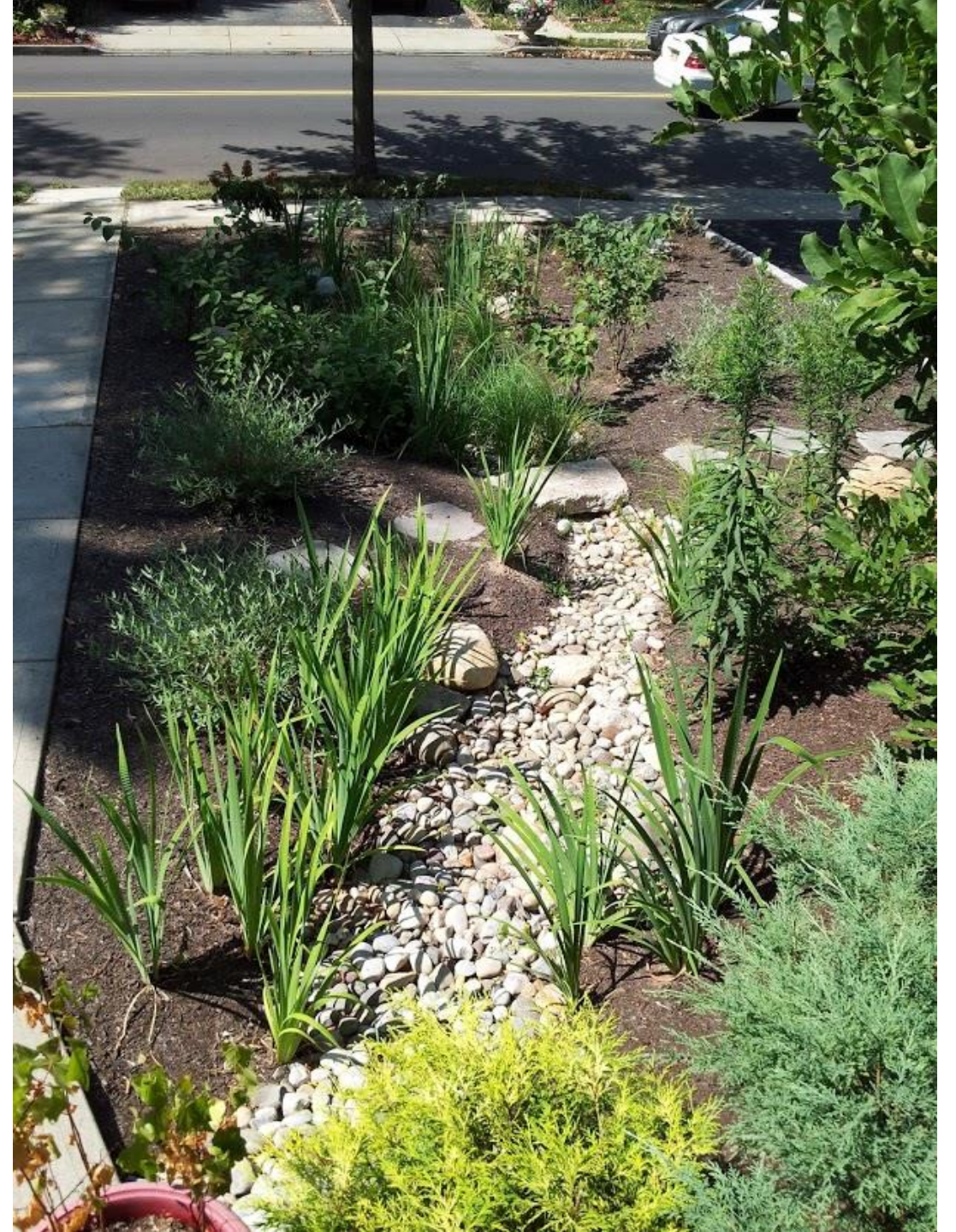
- Green Roofs
- Blue Roofs

Green Infrastructure Practices



Rain Gardens







































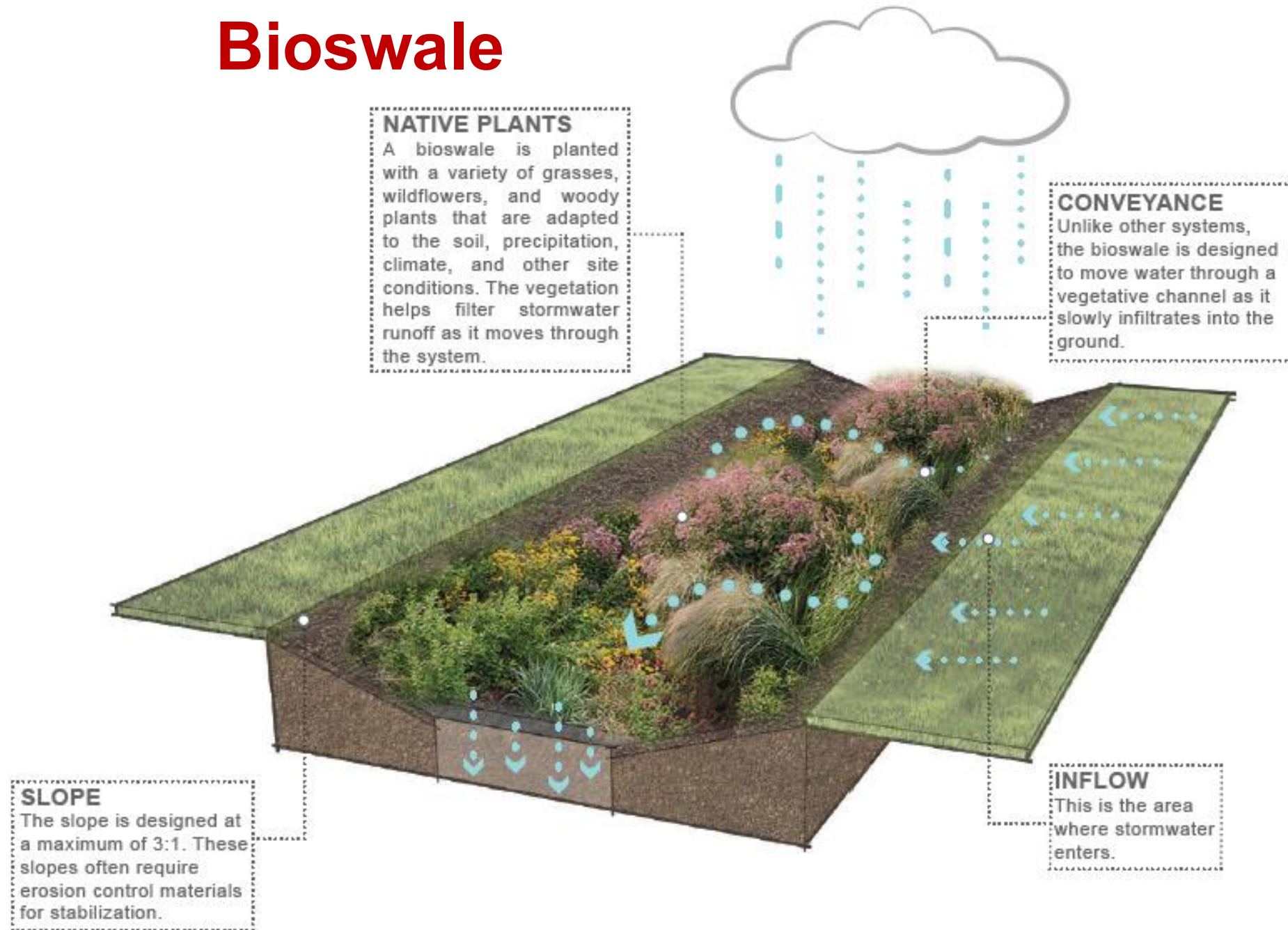






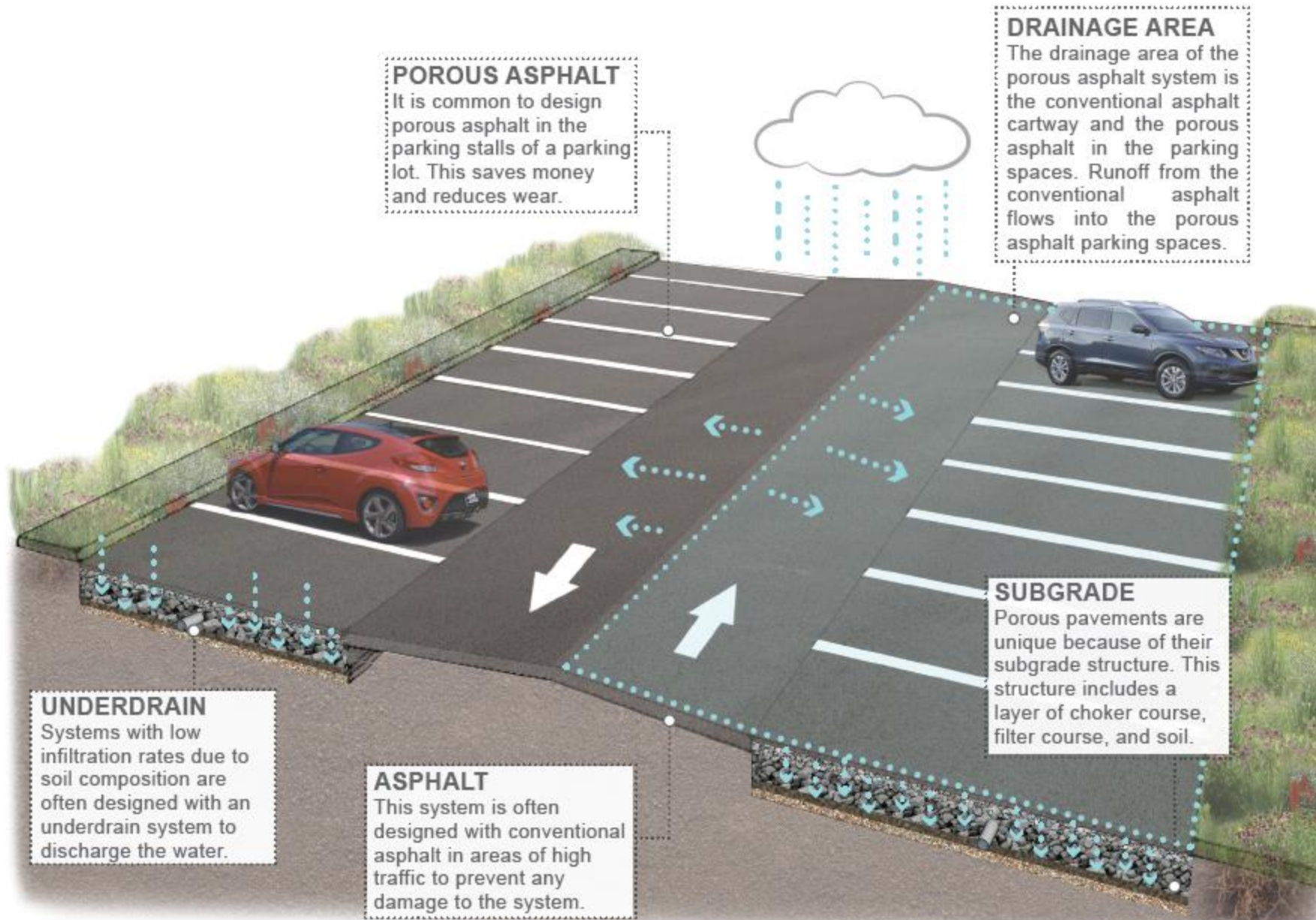


Bioswale





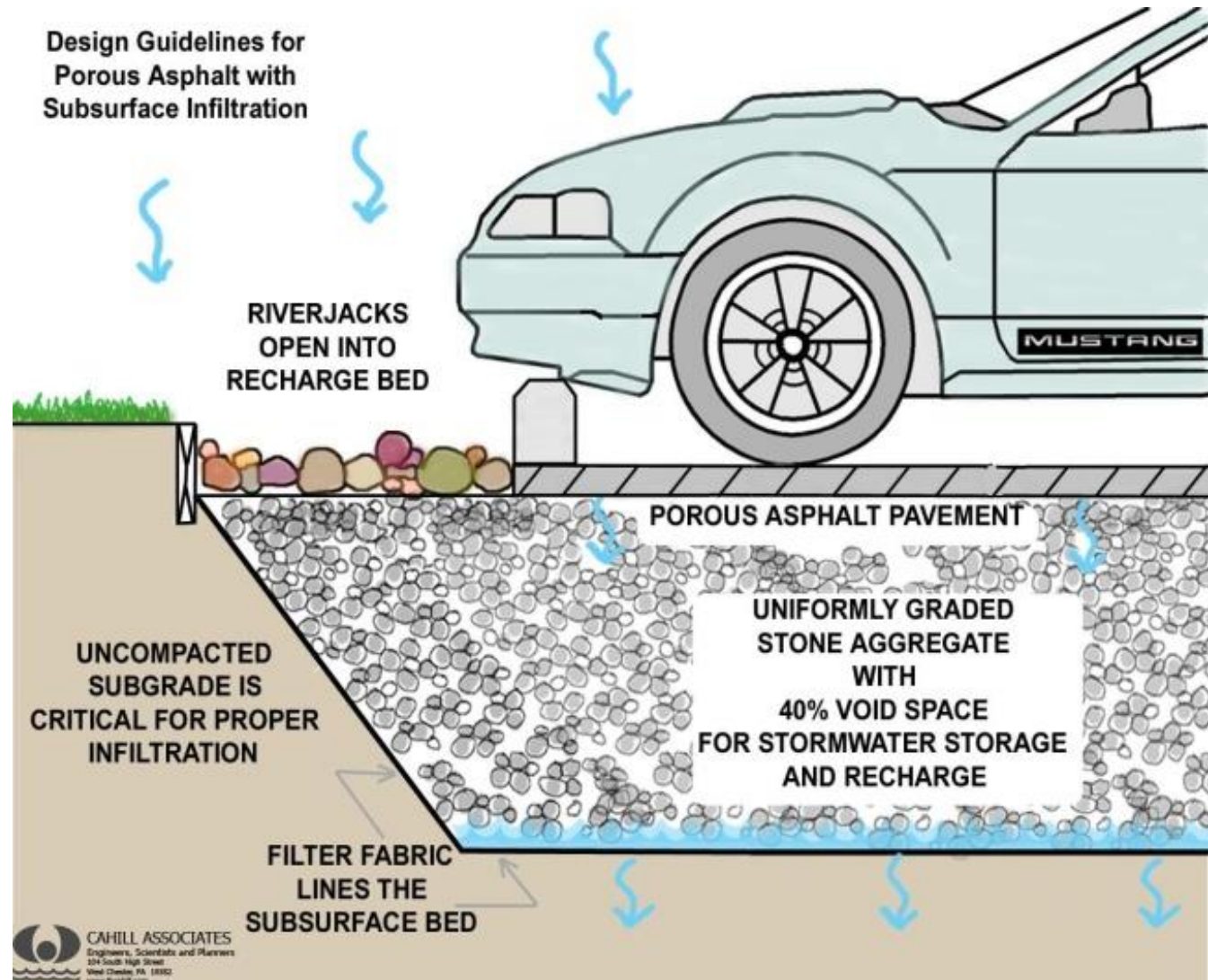
Permeable Pavement



ADVANTAGES

- Manage stormwater runoff
- Minimize site disturbance
- Promote groundwater recharge
- Low life cycle costs, alternative to costly traditional stormwater management methods
- Mitigation of urban heat island effect
- Contaminant removal as water moves through layers of system

COMPONENTS



Porous Asphalt





Pervious Concrete

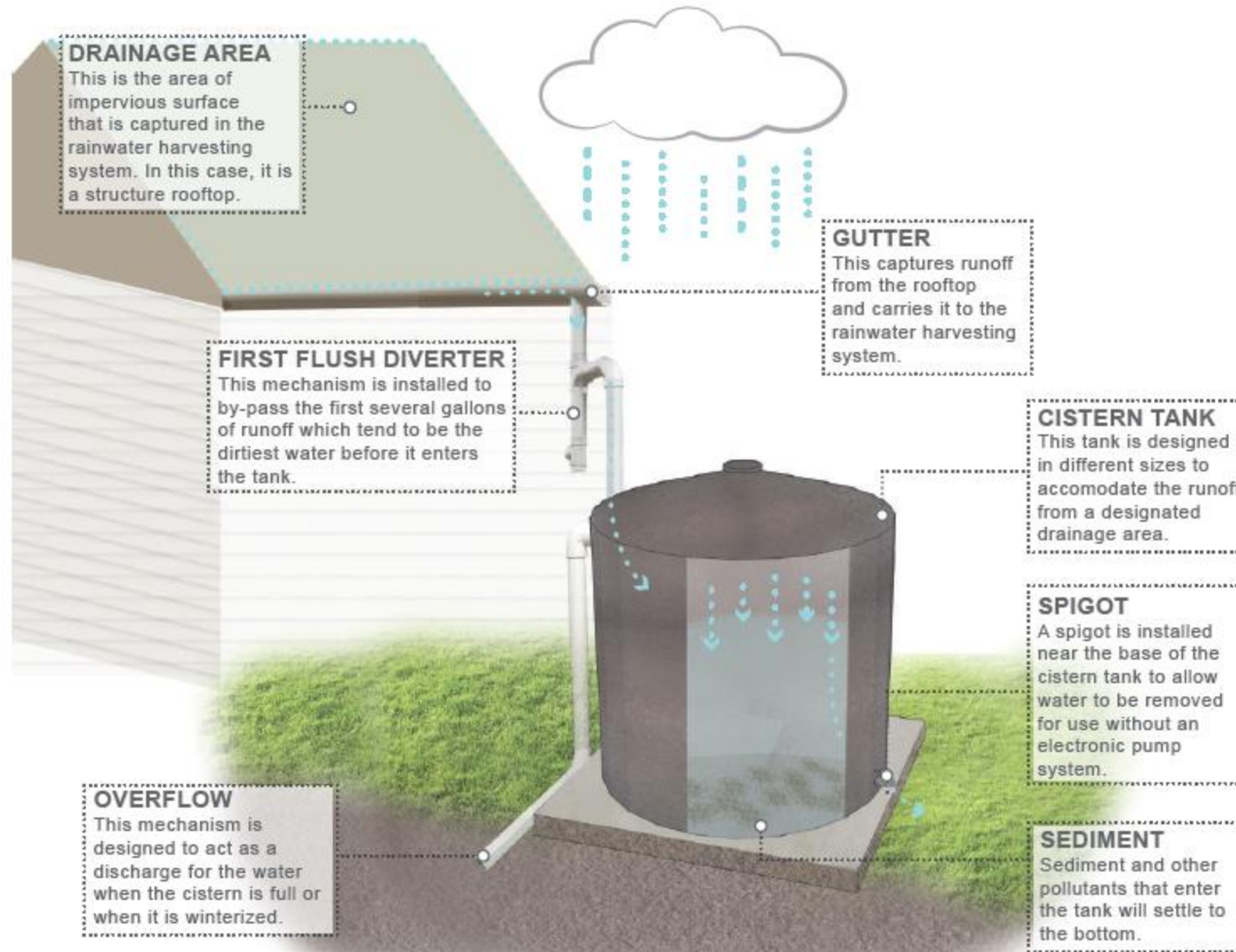


Permeable Pavers



Grass Pavers

Rainwater Harvesting Systems



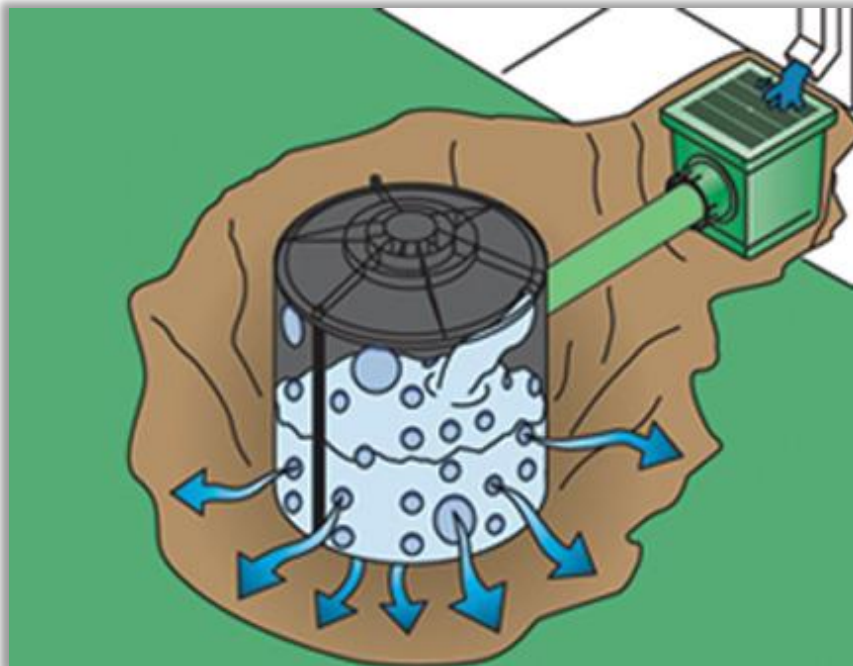
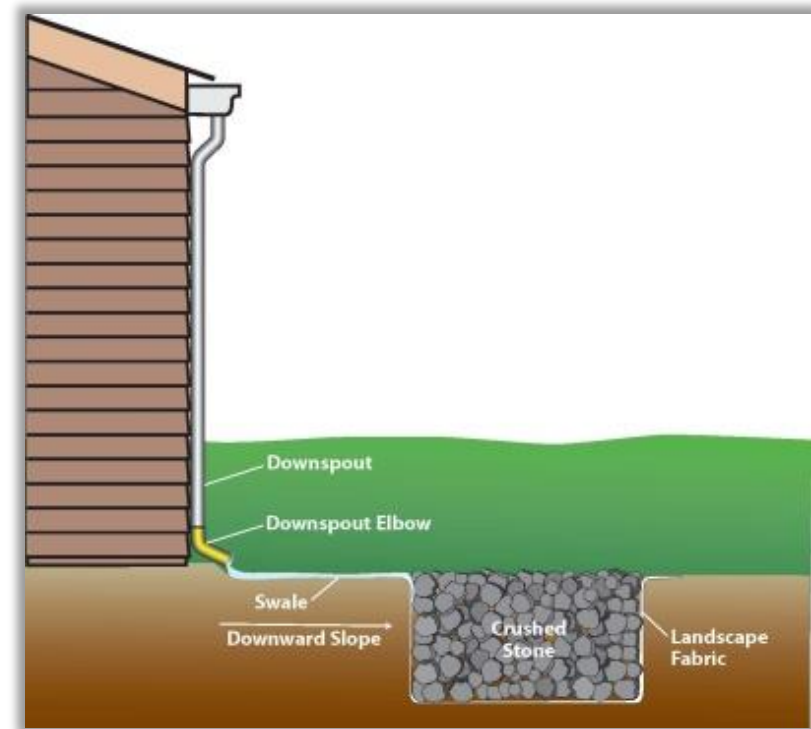
Rain Barrels



Cisterns



Dry Wells



What tools are available to help?

1. Green Infrastructure Champions Training Program (10 two-hour online classes)
2. Rain Garden Commercial – video and/or PowerPoint (15 minutes)
3. Rain Educational PowerPoint Presentation (45 minutes)
4. Rain Garden Design Session (45 minutes)
5. Rain Garden Design Manual
6. Rain Garden App
7. Green Infrastructure Guidance Manual for New Jersey
8. Trained Green Infrastructure Champions

Coming Soon ...

How to Reduce Your Stormwater Utility Fee

A Guidance Manual on how to reduce your stormwater contribution from the Rutgers Cooperative Extension Water Resources Program





For more information, contact Chris and Hollie:

Chris Obropta, Rutgers University, obropta@rutgers.edu
and Hollie DiMuro, Rutgers University, Hollie.DiMuro@rutgers.edu