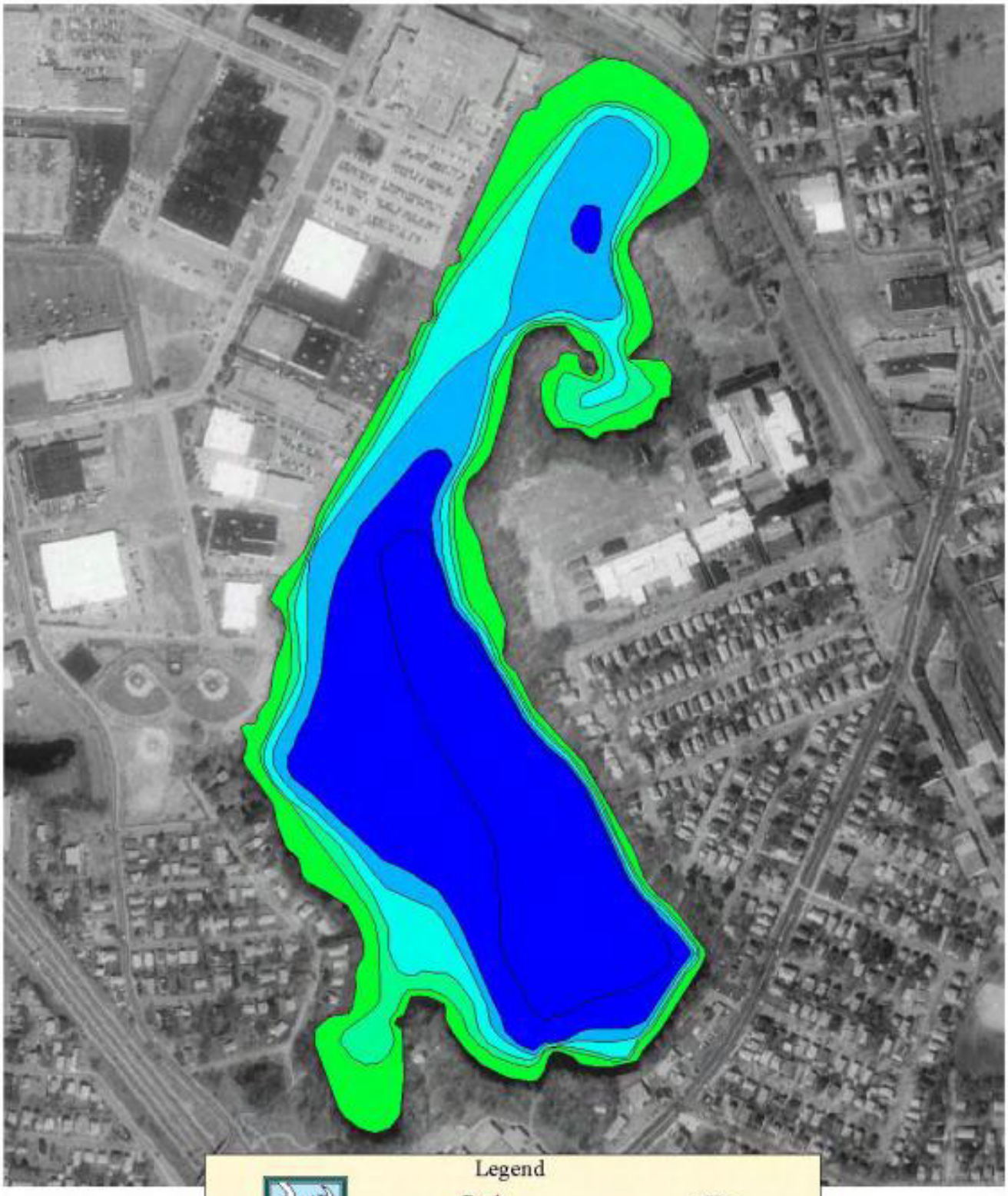
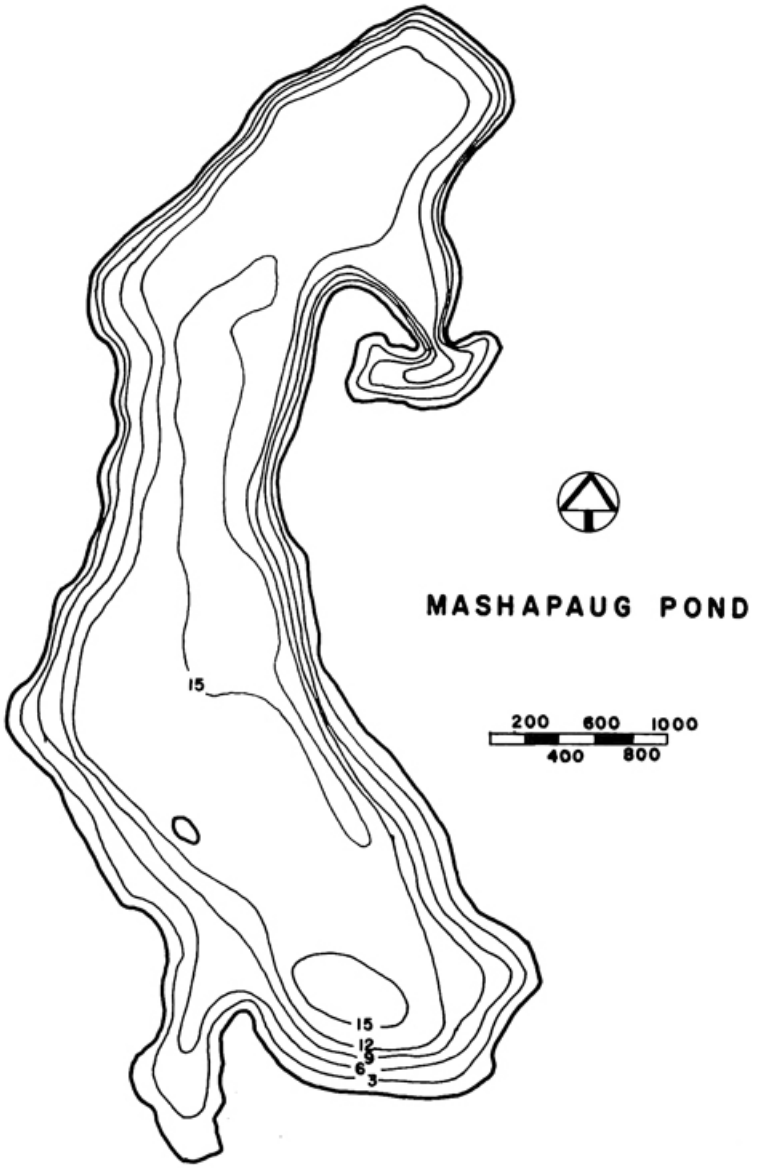
A Brief Introduction to Some of the Social, Cultural and Policy Issues Related to [what is now] Providence's Huntington Industrial Park


Elmwood Station
GORHAM MFG. CO.
AMERICAN ENAMEL CO.
CRINS ST.
LAWTON ST.
HOLBROOK ST.
ADELAIDE ST.
DOWNING ST.
CRESCENT
ALBERT ST.
ELMWOOD ST.
STIBLEY ST.
HELME ST.
AVE.
ARDOENE
ROBERTS ST.
LEXINGTON
ATLANTIC
LENOX
GALLATIN
WARRINGTON
SACKETT
THACKERY
RUSSELL
BARTLETT
ELMWOOD
GARFIELD
NEVILLE ST.
FENNER
CRANSTON AVE.
MASHAPAUG P

The neighborhood has been called by many names—Across the Tracks, Over the Bridge, West Elmwood and the West End—and its story is tied to urban renewal, a changed geography and bitter displacement.


Legend
Depth
0 Feet
0 - 3 Feet
3 - 6 Feet
6 - 9 Feet
9 - 15 Feet
0.03 0 0.03 0.06 0.09 Miles
Data Source: ESS
RI Department of
Environmental Management
Office of Water Resources
RIGIS

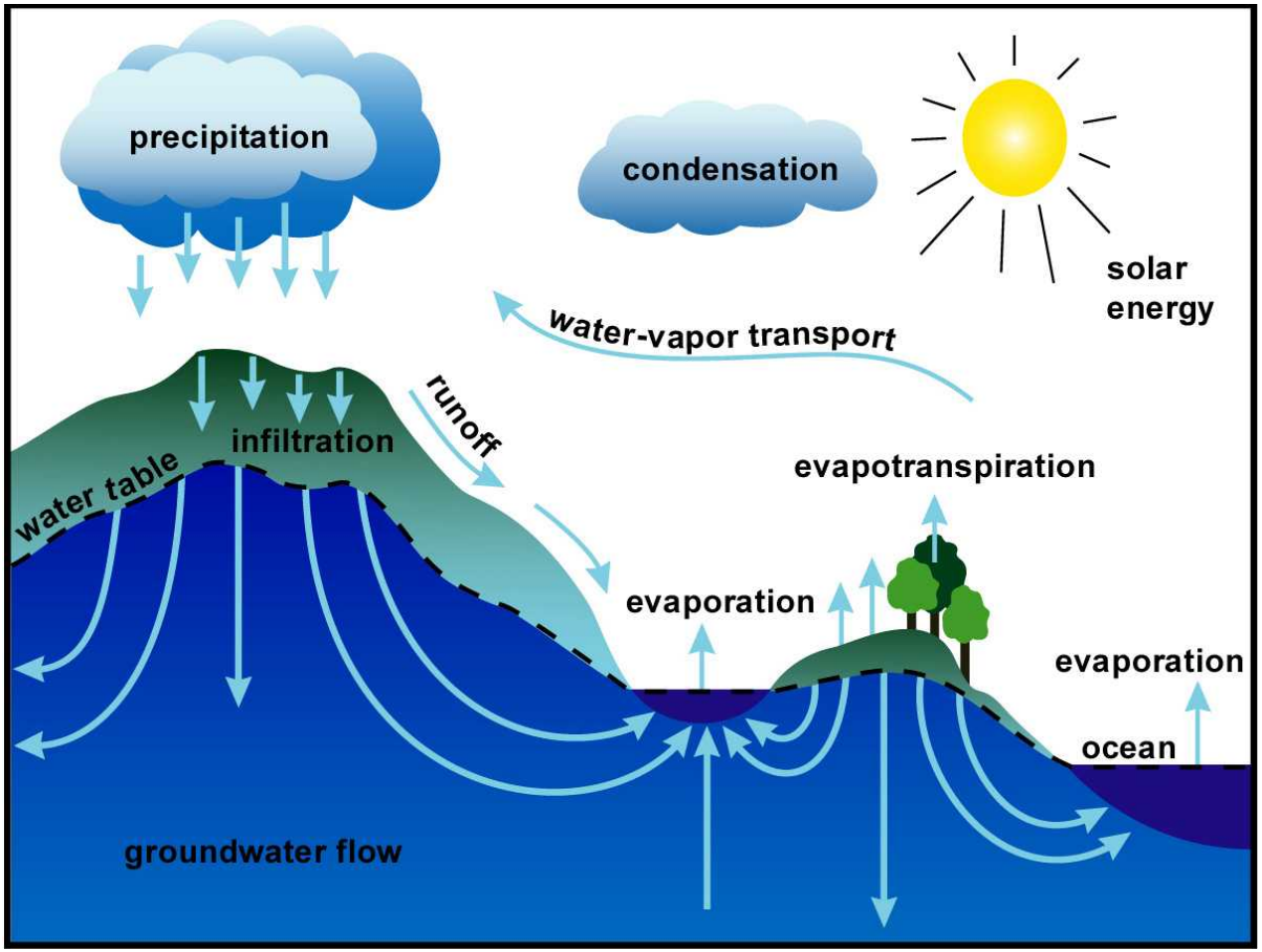


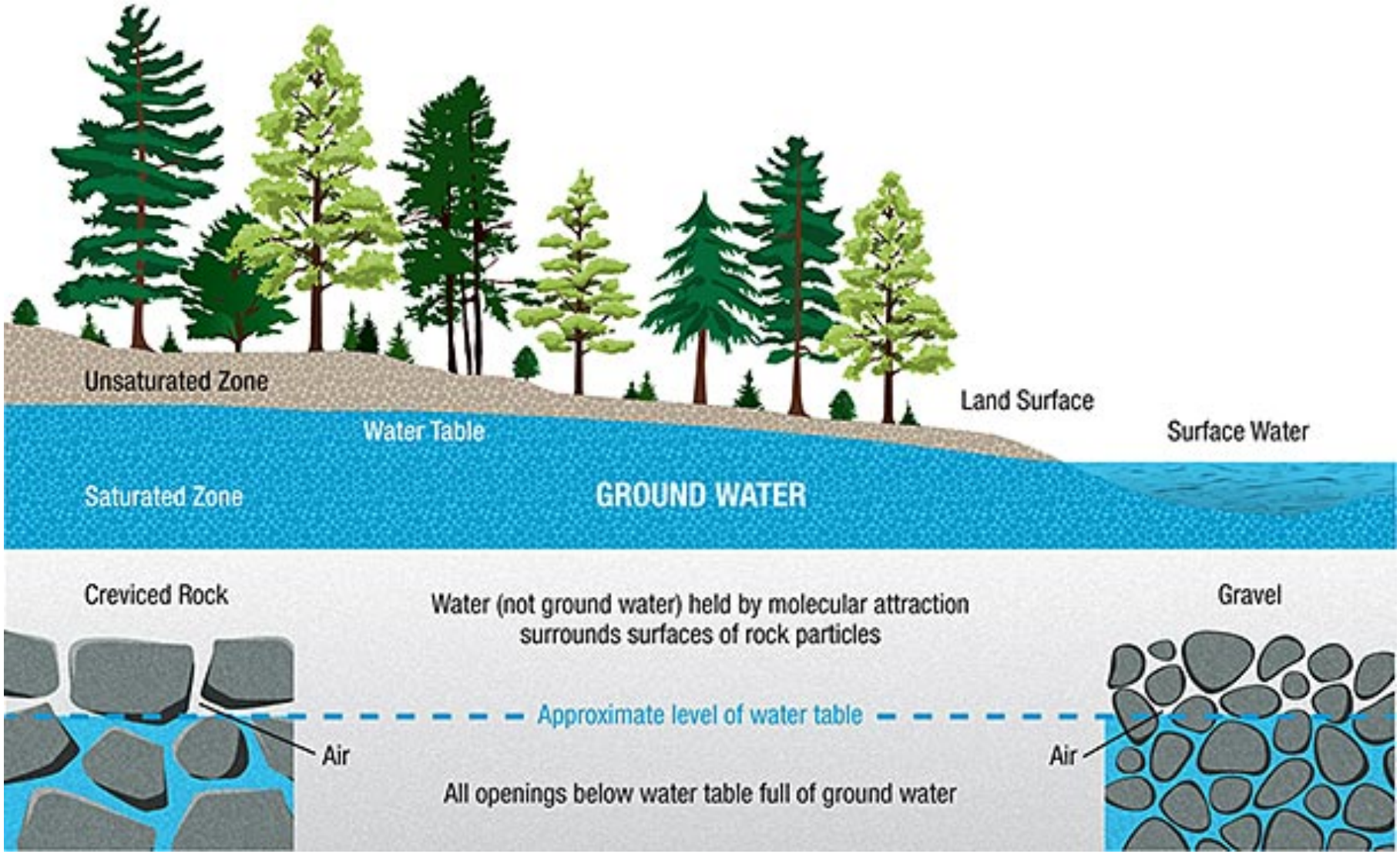
Let's Talk About **Stormwater**

Urban Pond Procession Artists' and Educators' Workshop

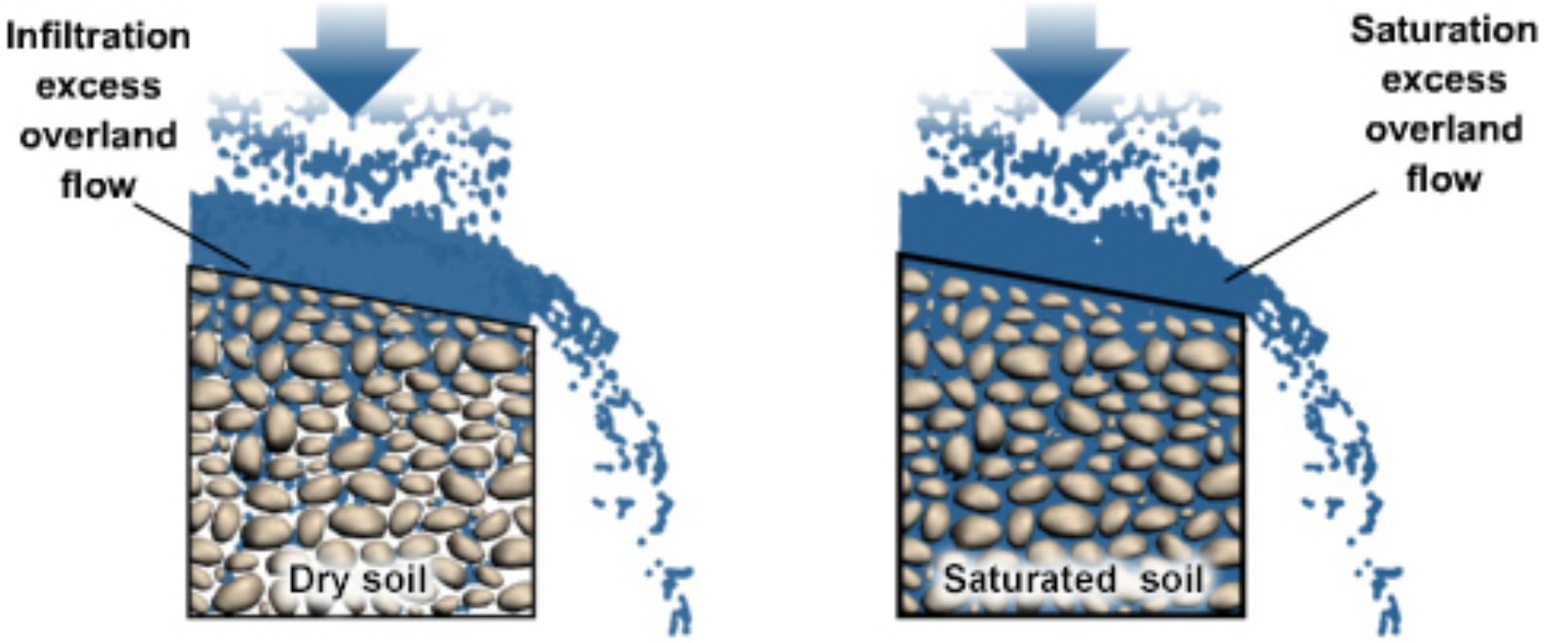
January 25, 2014

Clouds → Mashapaug

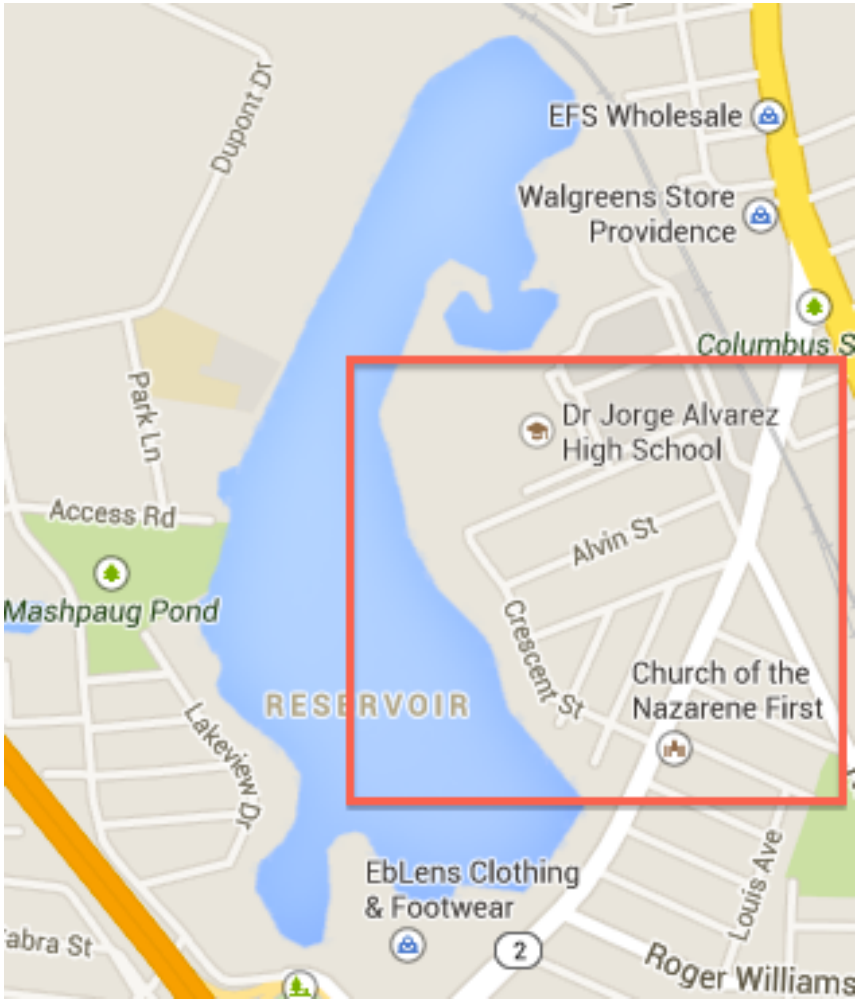



Unsaturated Zone
Water Table
Land Surface
Surface Water
Saturated Zone
GROUND WATER
Creviced Rock
Water (not ground water) held by molecular attraction
surrounds surfaces of rock particles
Gravel
Approximate level of water table
Air
Air
All openings below water table full of ground water

Types of surface runoff

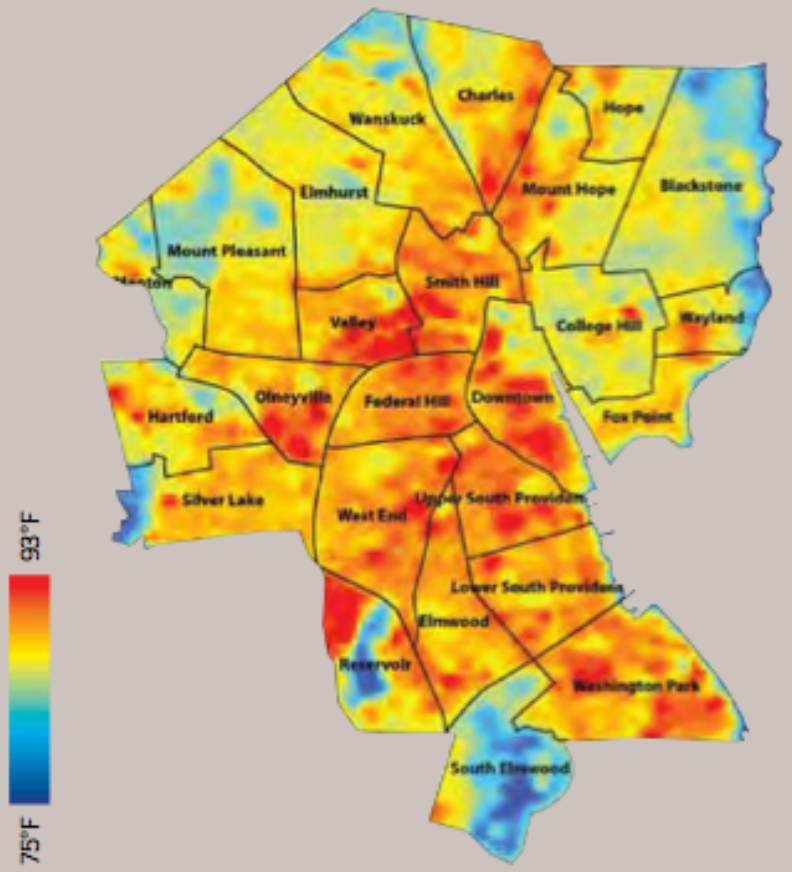


Note: Enlarged soil particles are not drawn to scale.

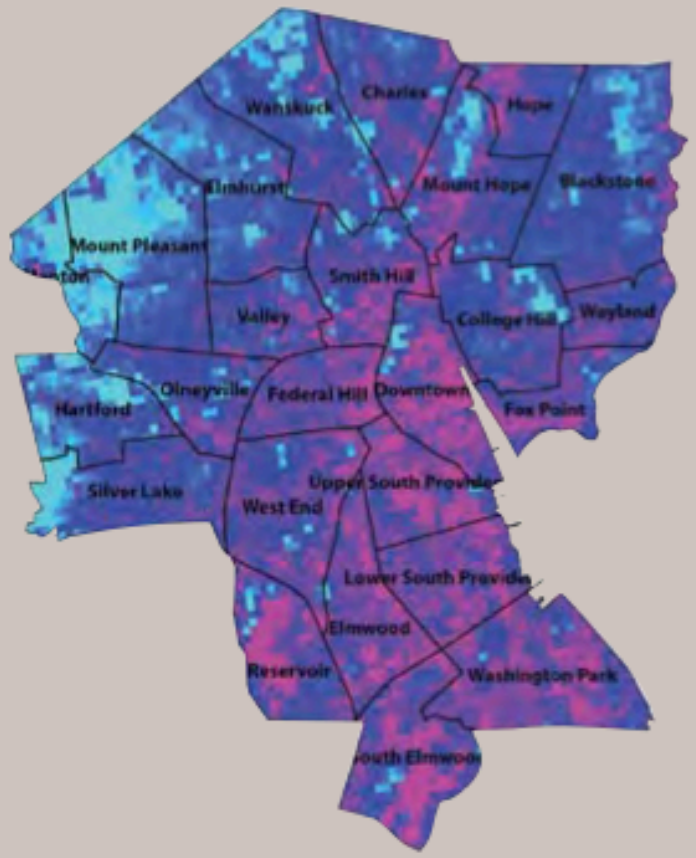


Impervious surfaces are marked in black on this map.

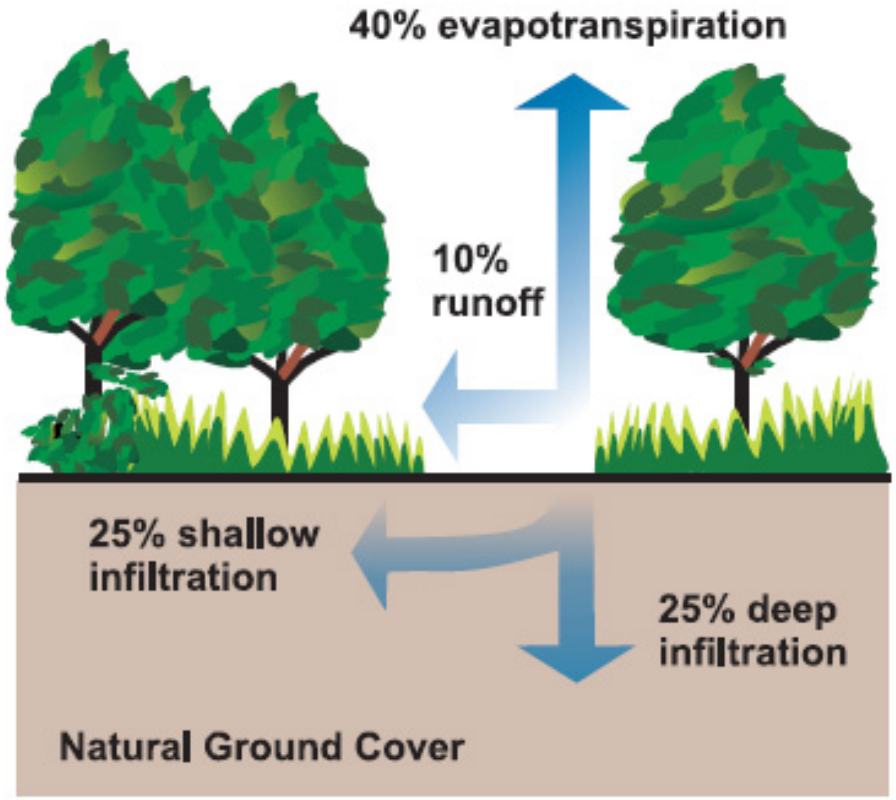
Daytime Surface Temperature
August 3, 2006, 11:20am

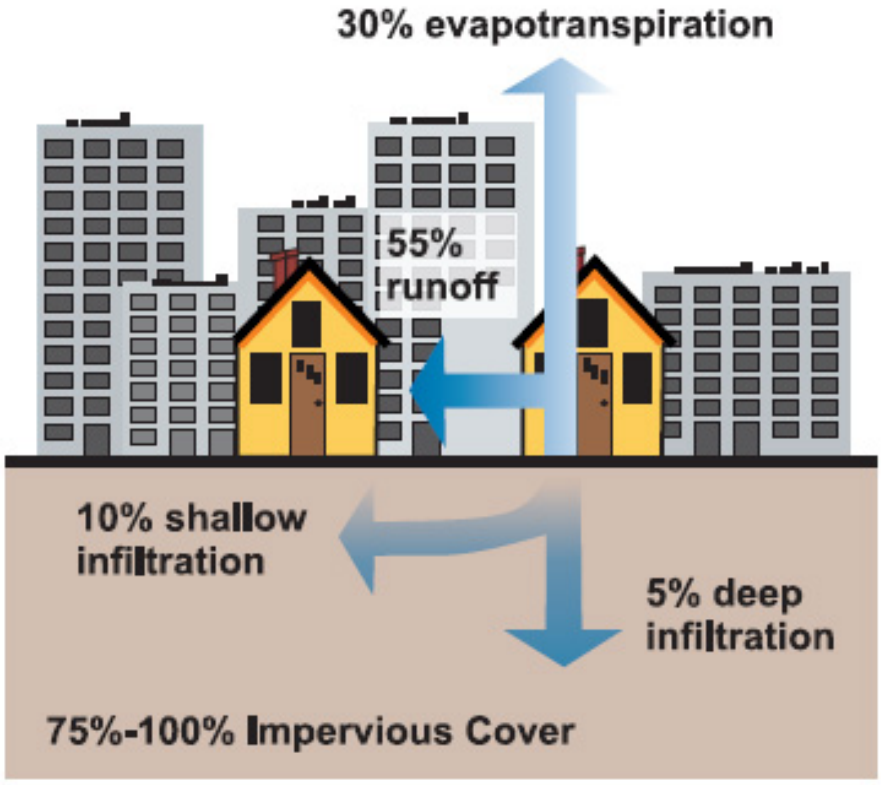


Nighttime Surface Temperature
July 24, 2005, 10:49pm



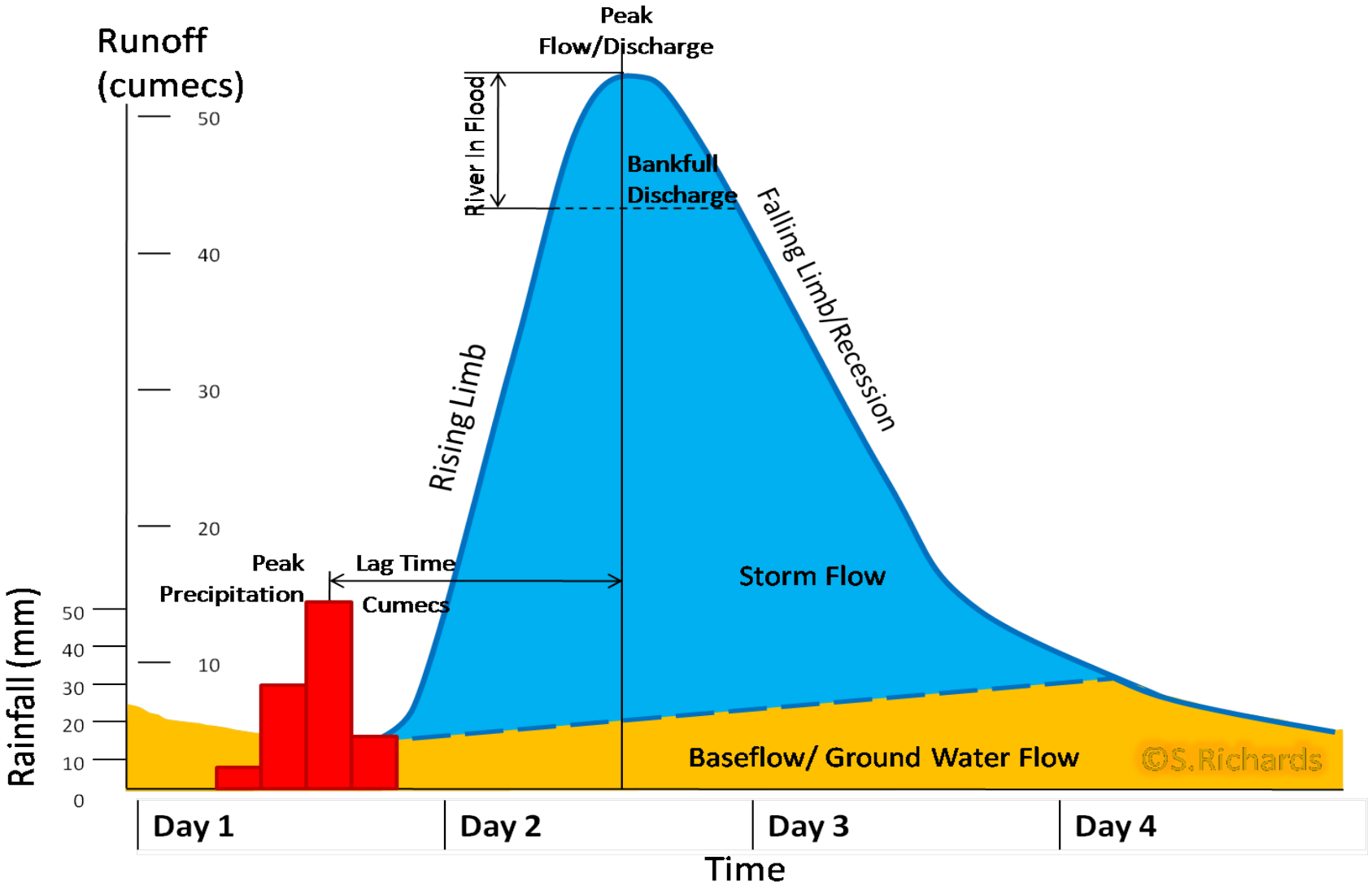
Dupont Street in the Providence Industrial Park has a travel width of approximate 40 feet. Reducing the paving to between 28 and 32 feet would result in a significant runoff and pollutant load reduction


40% evapotranspiration
10%
runoff
25% shallow
infiltration
25% deep
infiltration
Natural Ground Cover

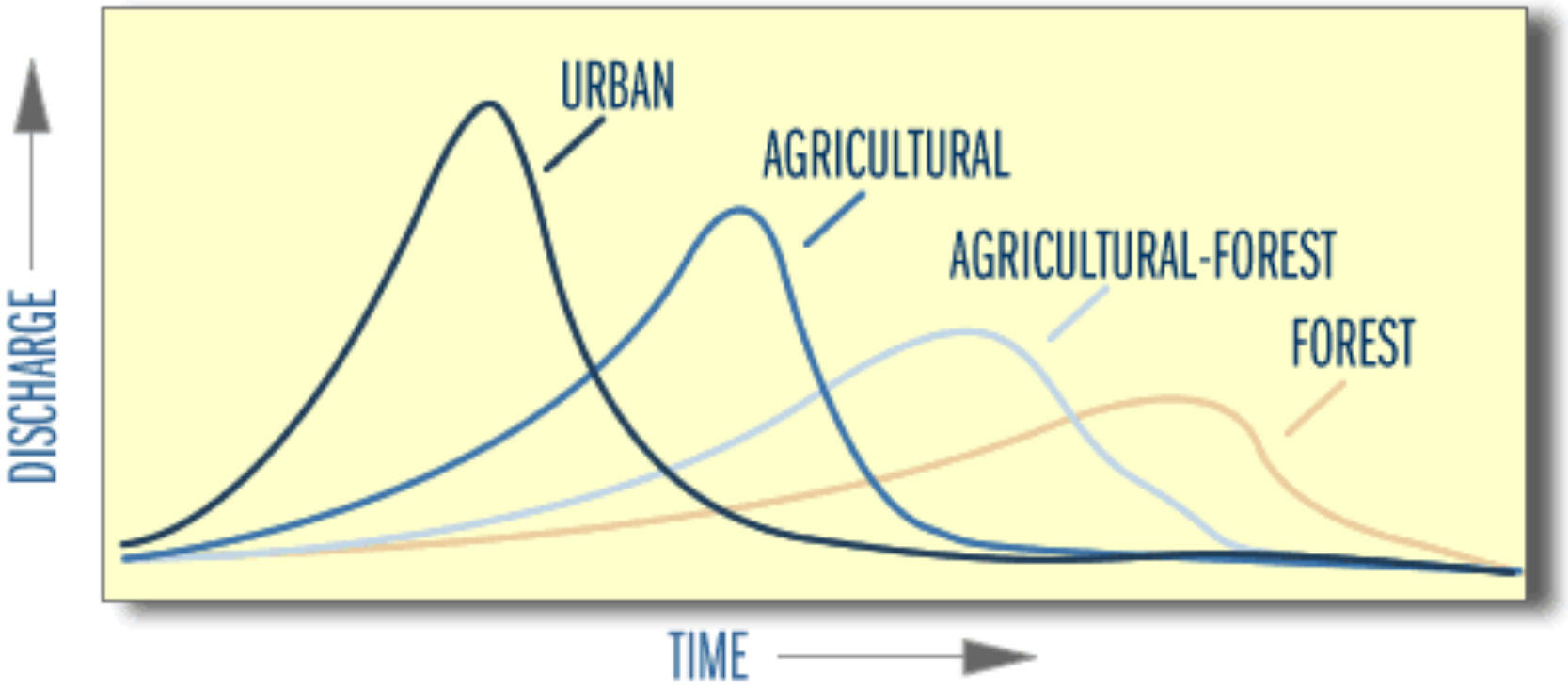

30% evapotranspiration
55%
runoff
10% shallow
infiltration
5% deep
infiltration
75%-100% Impervious Cover

Runoff might carry:

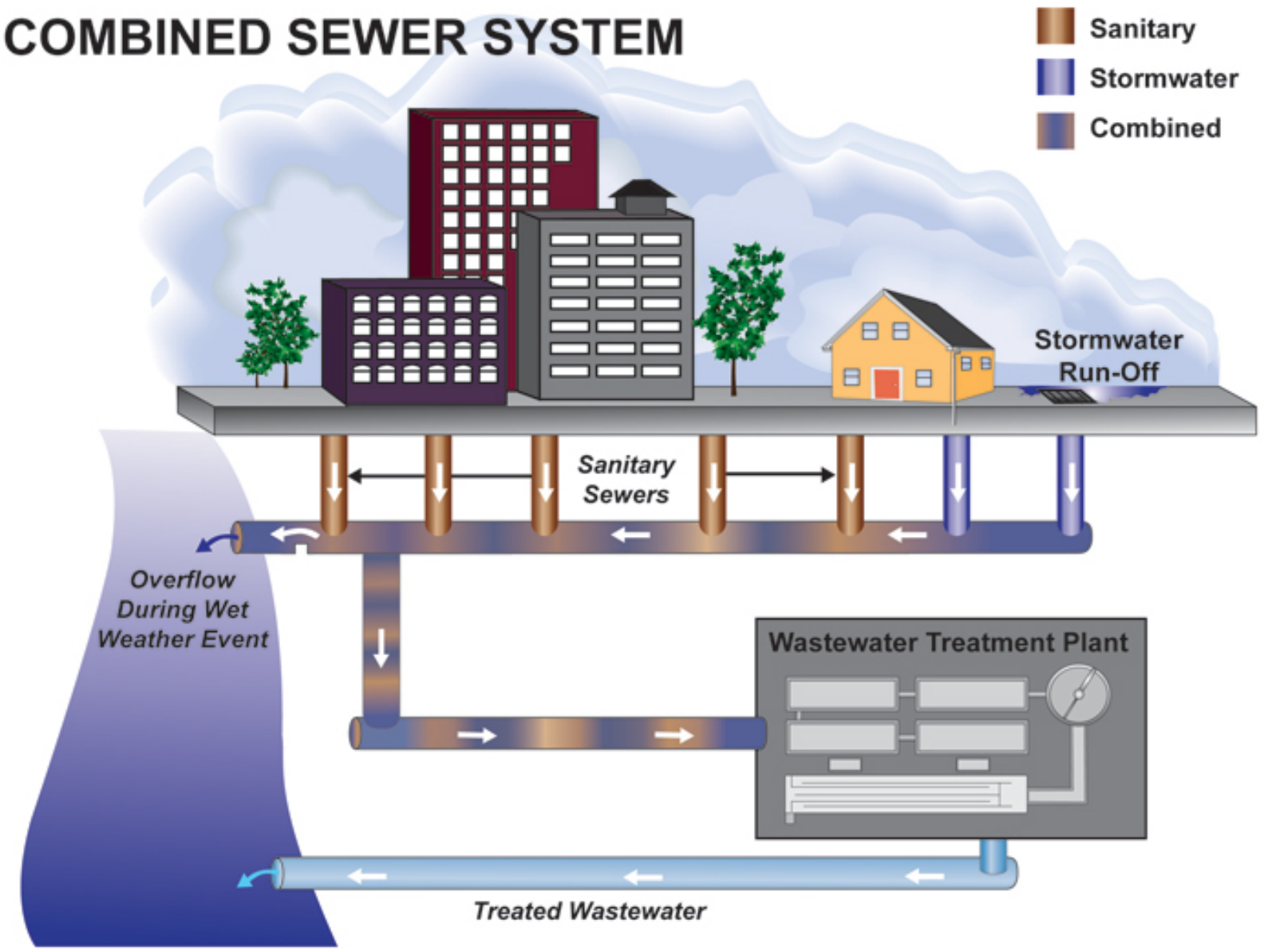
- Oil, grease and toxic chemicals from cars
- Pesticides and fertilizers
- Pet waste
- Road salts
- Heavy metals from cars and roof shingles
- Sediments
- Hot water


Runoff
(cumecs)
50
40
30
20
10
Peak
Flow/Discharge
River In Flood
Bankfull
Discharge
Falling Limb/Recession
Rising Limb
Peak
Precipitation
Lag Time
Cumecs
Storm Flow
Rainfall (mm)
50
40
30
20
10
0
Baseflow/ Ground Water Flow
©S.Richards
Day 1
Day 2
Day 3
Day 4
Time

STORMWATER DISCHARGES FROM VARIOUS LAND COVERS



We need infrastructure changes


COMBINED SEWER SYSTEM
Sanitary
Stormwater
Combined
Stormwater
Run-Off
Sanitary
Sewers
Overflow
During Wet
Weather Event
Wastewater Treatment Plant
Treated Wastewater

Green infrastructure

Uses vegetation, soils and natural processes to soak up and store stormwater.

Planter boxes

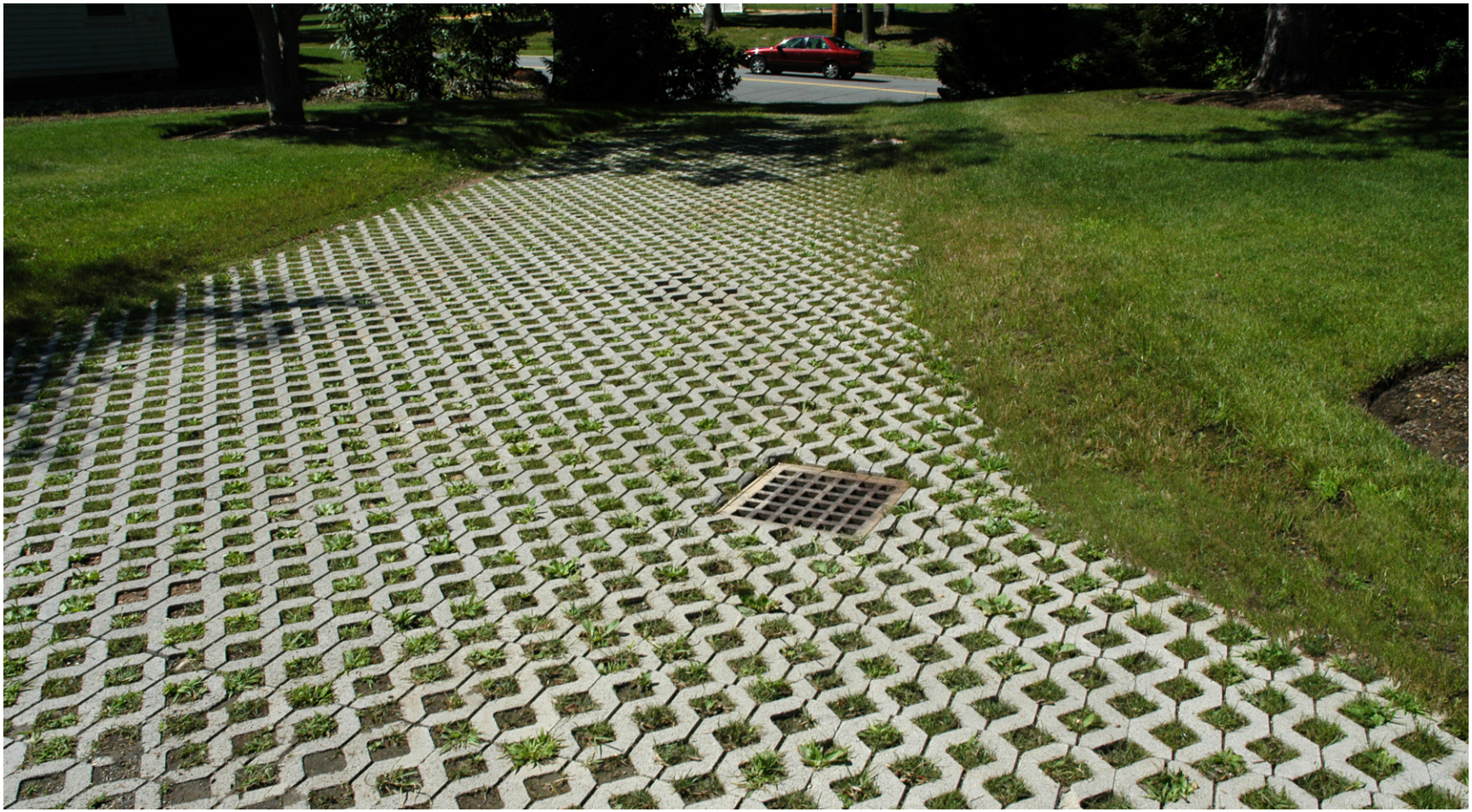
Green roofs

Rain gardens

Rain barrels

Bioswales

Permeable pavement



Reservoir Triangle Geoblock

Images from Environmental Justice League of RI and Groundwork Providence

Images from Environmental Justice League of RI and Groundwork Providence

Above ground planters can artificially create ‘ground’ when there is little available and still keep water away from sensitive foundations.

Flow through planters can accept some roof runoff and irrigate several species that can thrive in both wet and dry situations. Planters are made to spill over when the appropriate water level is reached.

Images from Environmental Justice League of RI and Groundwork Providence

Providence gets grant to reduce stormwater runoff

October 26, 2013 12:03 AM

BY RICHARD SALIT
JOURNAL STAFF WRITER
rsalit@providencejournal.com

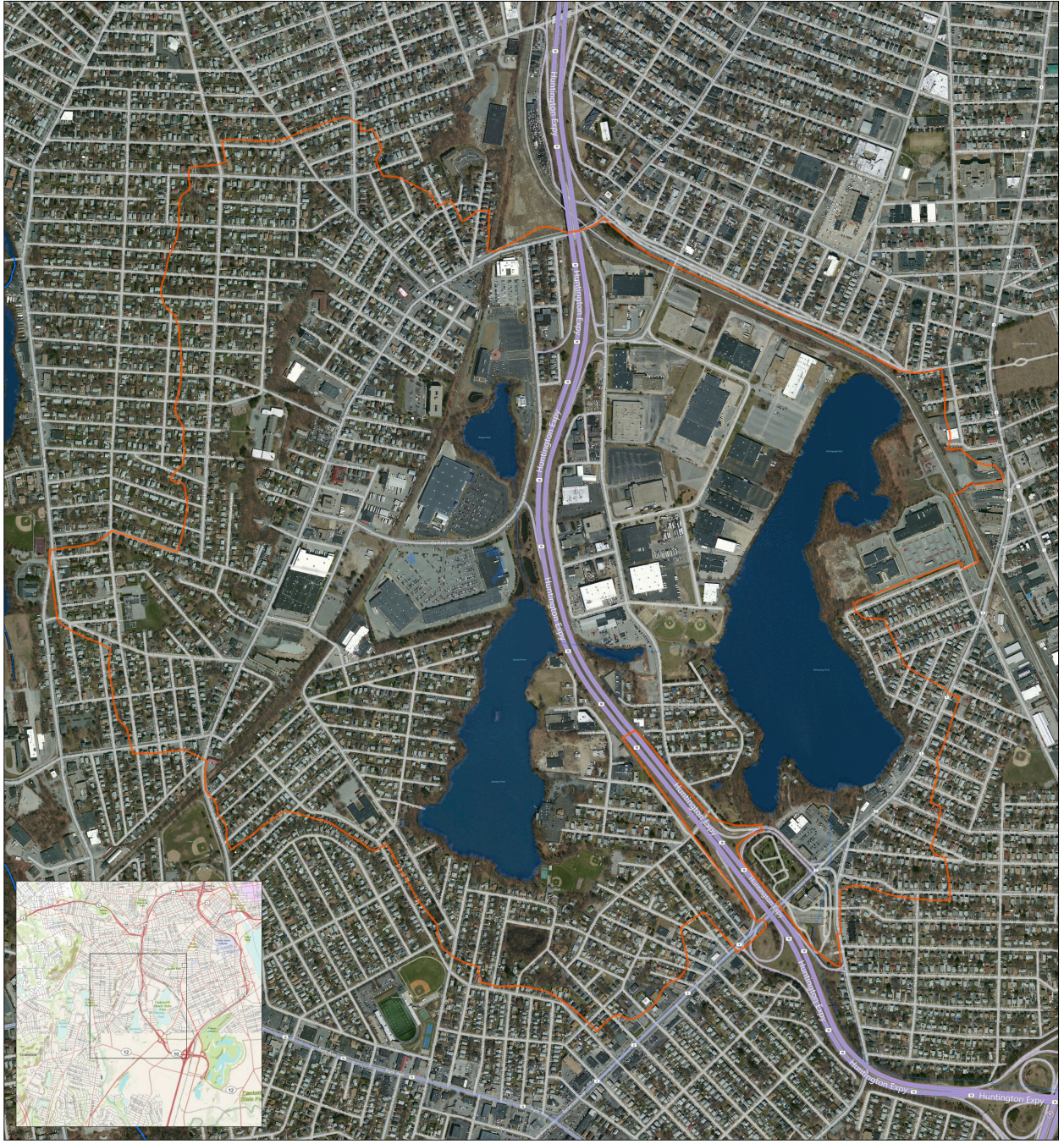
McCarthy announced that Providence was among four cities chosen to share $400,000 to devote to "green infrastructure" solutions to stormwater. The approach, she said, beautifies urban communities, creates jobs, curbs pollution and enhances resiliency to climate change.

"Green infrastructure is a new way of doing business," she said, adding that managing contaminated runoff is "one of the most significant challenges" facing the nation.

The $75,000 will be used by the City of Providence to pay for public stormwater projects that can serve as models. No projects have been singled out, said Sheila Dormody, the city's first sustainability coordinator.

Dormody said one likely target will be an area where stormwater issues are already being addressed — Mashapaug Pond and the system of ponds at Roger Williams Park. Other possibilities include city streets slated for improvements, including roundabout plans for Fountain Street, and on the East Side near the Seekonk River.

Roger Williams Park



Questions about this map?
Paul Jordan
RI Dept of Environmental Management
401-222-2776 x4315
paul.jordan@dem.ri.gov

0 1,000 2,000 Feet

Watershed Of Mashapaug Pond