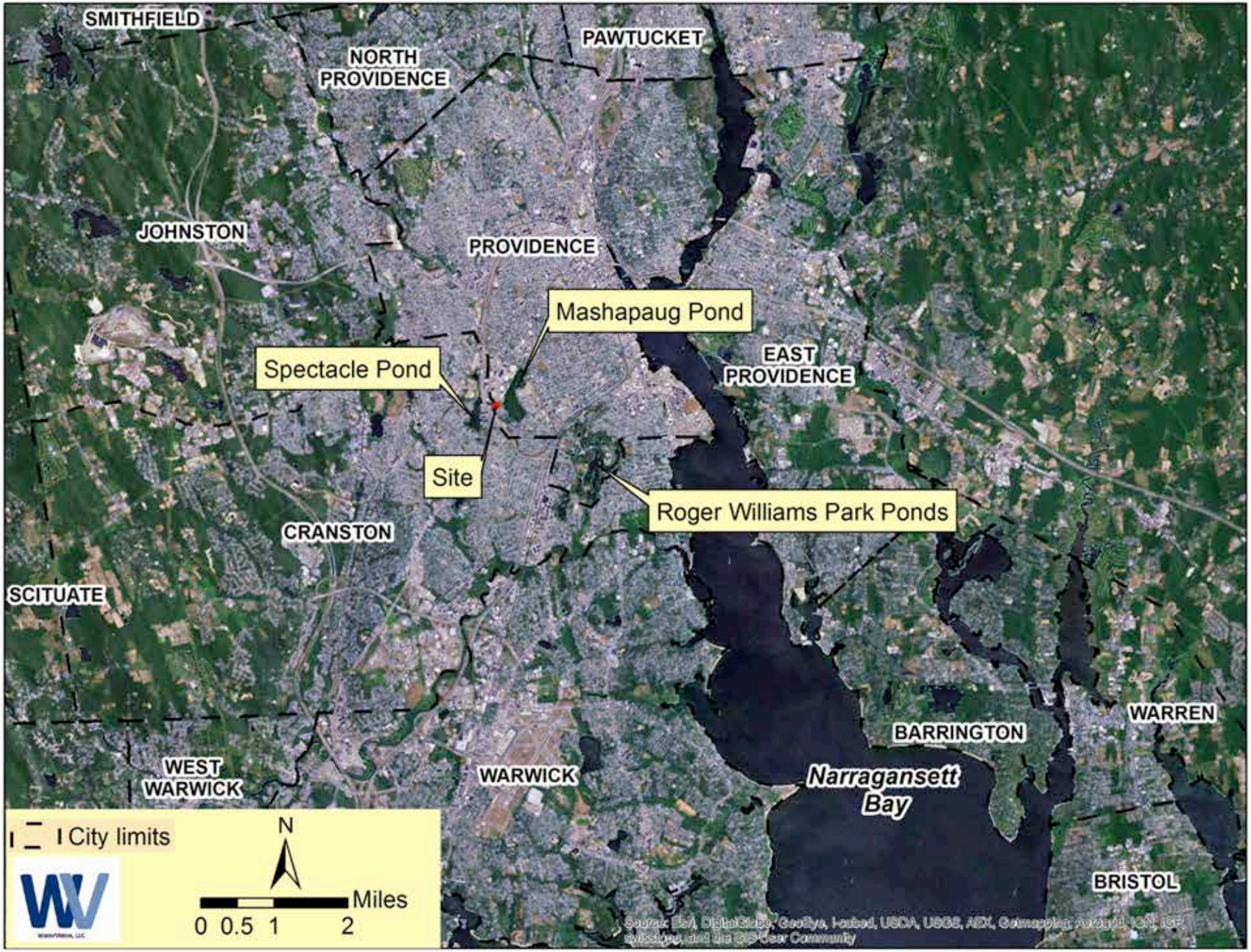
Mashapaug Pond Green Infrastructure Education and Outreach Project Kickoff Meeting

February 12, 2014

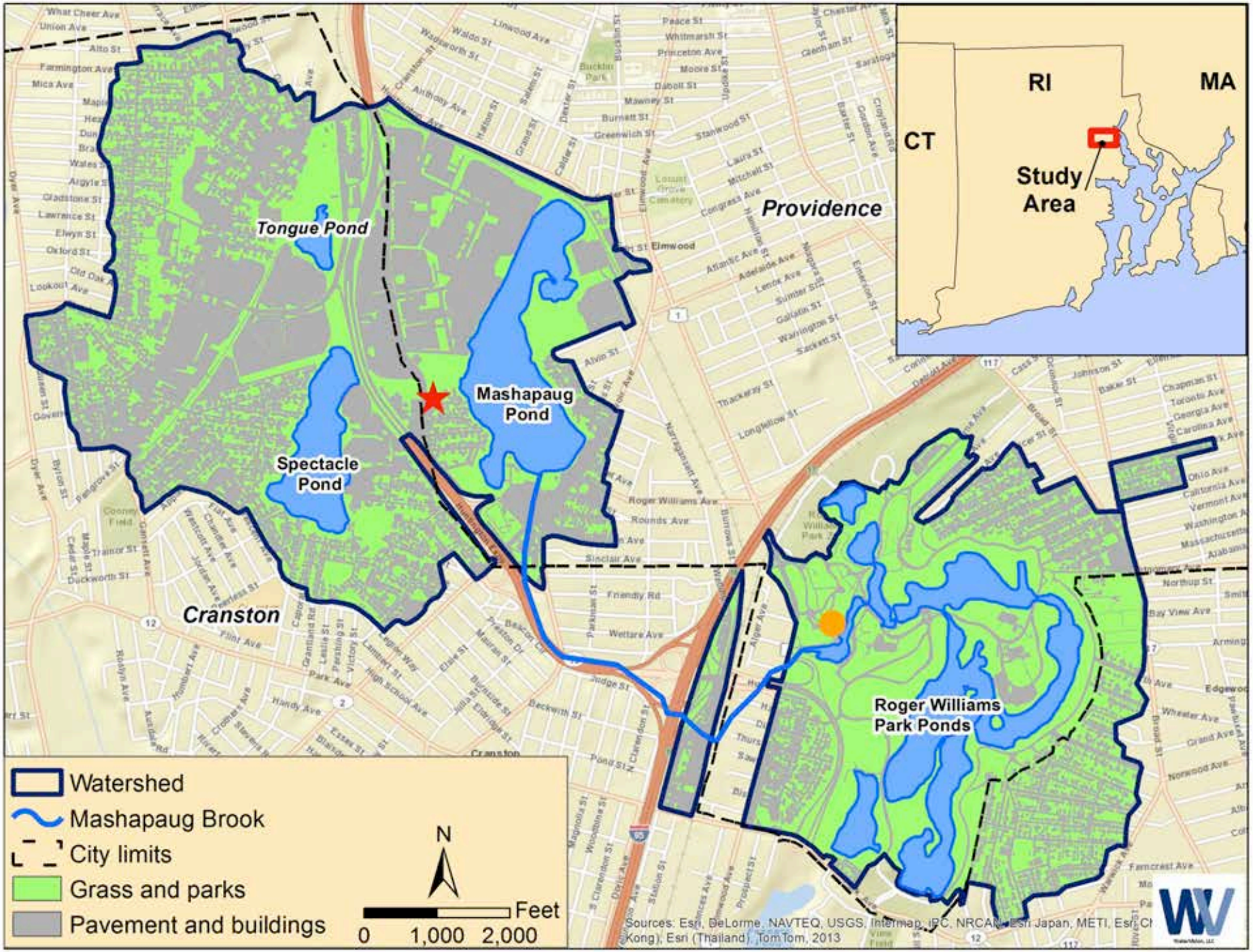
WaterVision, LLC

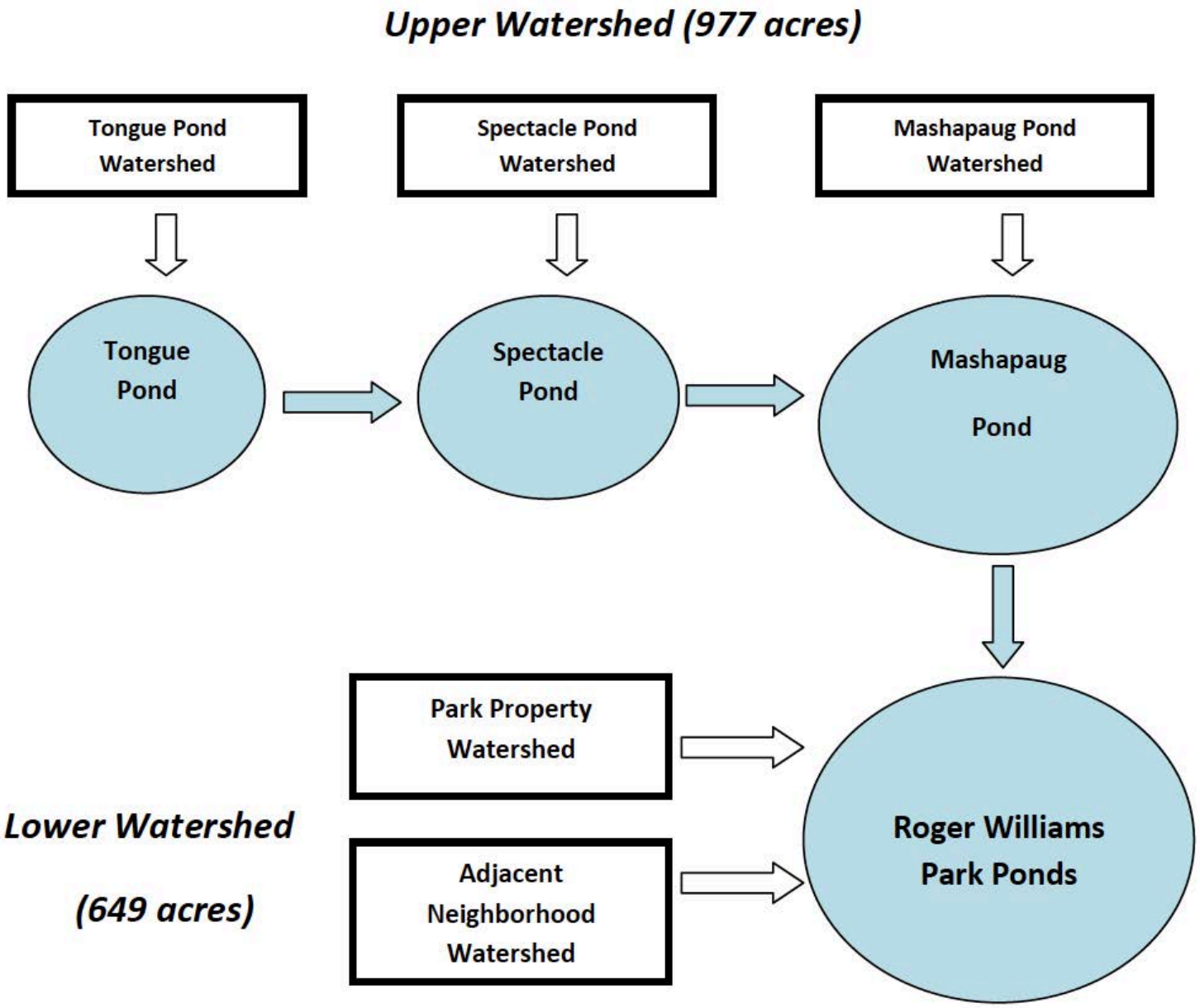

SMITHFIELD
NORTH PROVIDENCE
PAWTUCKET
JOHNSTON
PROVIDENCE
Mashapaug Pond
Spectacle Pond
EAST PROVIDENCE
Site
Roger Williams Park Ponds
CRANSTON
SCITUATE
WARREN
BARRINGTON
WEST WARWICK
WARWICK
Narragansett Bay
BRISTOL
City limits
N
Miles
0 0.5 1 2

What is Green Infrastructure?

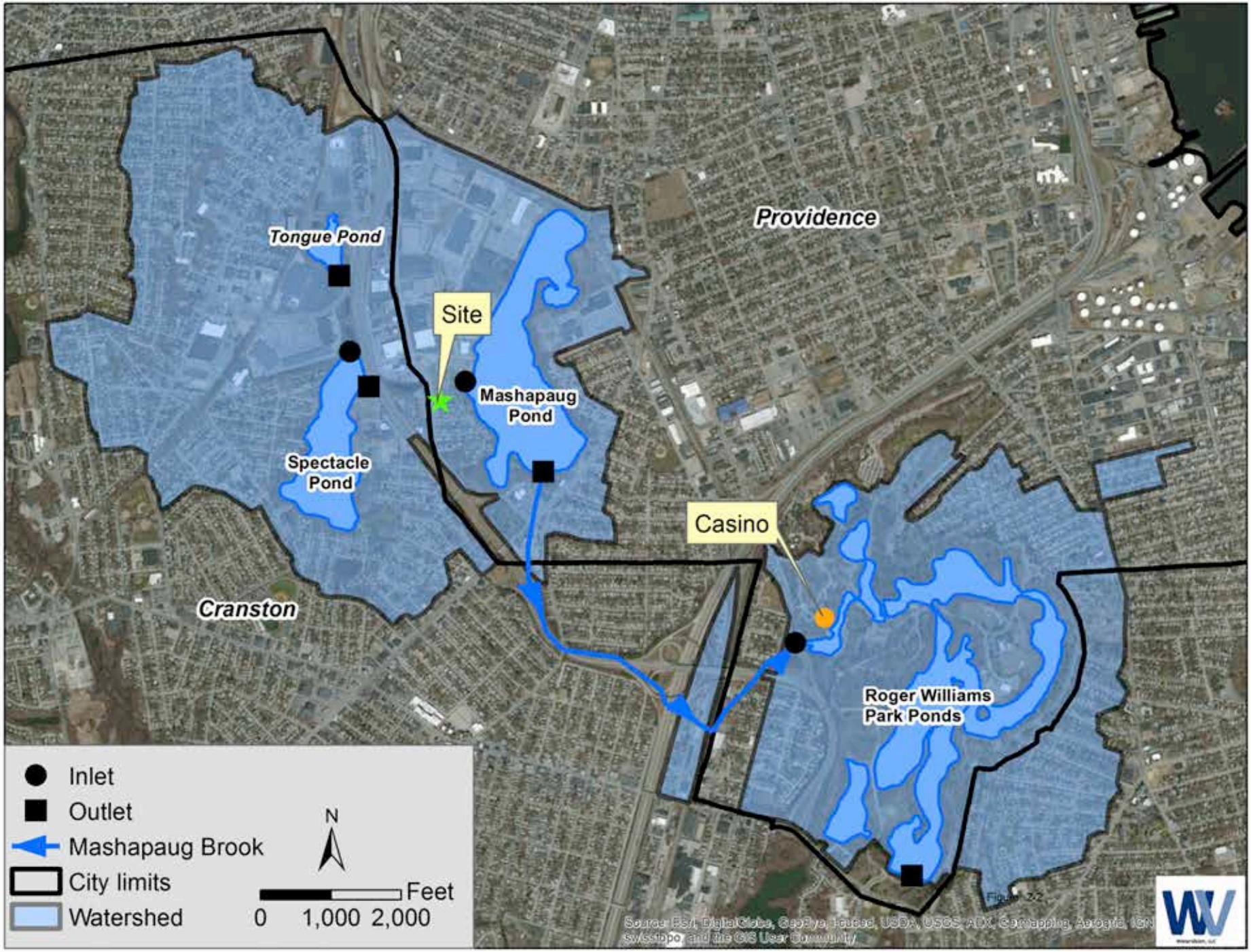
Stormwater runoff is a major cause of water pollution in urban areas. When rain falls in undeveloped areas, the water is absorbed and filtered by soil and plants. When rain falls on our roofs, streets, and parking lots, however, the water cannot soak into the ground, instead it is drained through engineered collection systems and discharged into nearby waterbodies delivering trash, bacteria, heavy metals, and other pollutants from the urban landscape, degrading the quality of the receiving waters. - EPA GI website

Green Infrastructure is a network providing the "ingredients" for solving urban and climatic challenges by building with nature. The main components of this approach include stormwater management, climate adaptation, clean water and healthy soils, as well as increasing quality of life through recreation and providing shade and shelter in and around towns and cities. - Wikipedia


Tongue Pond
Mashapaug Pond
Spectacle Pond
Providence
Cranston
Roger Williams Park Ponds
RI
MA
CT
Study Area
Watershed
Mashapaug Brook
City limits
Grass and parks
Pavement and buildings
N
Feet
0 1,000 2,000
Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013



Source: Horsley Whitten Group, 2013


Providence
Tongue Pond
Site
Mashapaug Pond
Spectacle Pond
Casino
Cranston
Roger Williams Park Ponds
Inlet
Outlet
Mashapaug Brook
City limits
Watershed
N
Feet
0 1,000 2,000

Mashapaug Pond Green Infrastructure Project

Problem Overview

- Mashapaug Pond watershed is highly developed and highly impervious
- Mashapaug Pond is impaired - low dissolved oxygen and excess phosphorus
- Downstream Roger Williams Park Ponds received excess nutrient loadings from the upper watershed areas
- Several studies including the 2007 Mashapaug Pond TMDL (RIDEM 2007) and the RWPP Water Quality Management Plan (HWG, 2013) found that green infrastructure projects (e.g., stormwater system retrofits) are needed to restore the watershed and ponds

Mashapaug Pond Green Infrastructure Project

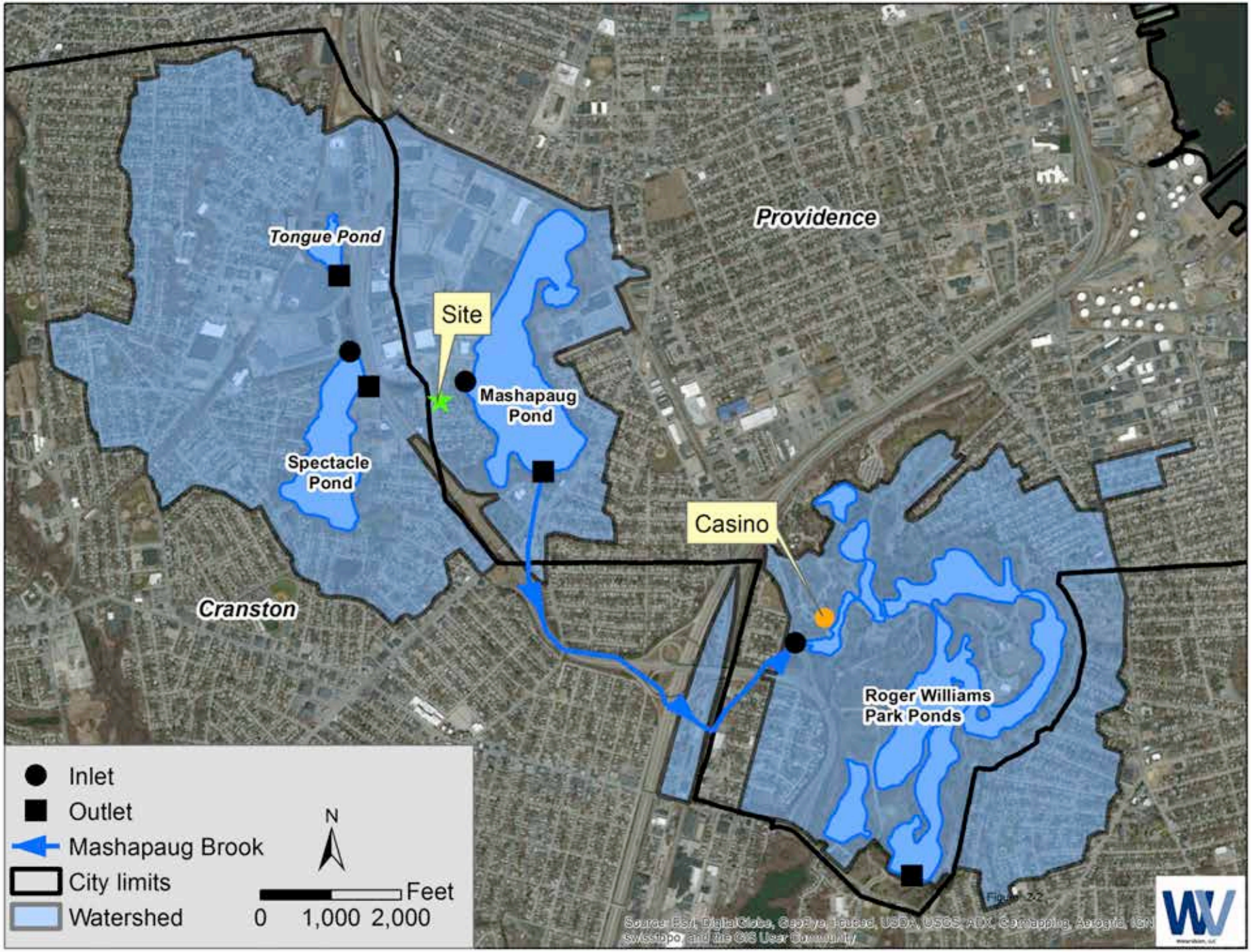
Overall Goal: Restore Mashapaug Pond and the Roger Williams Park Ponds

Cultural Goals:

- Showcase green infrastructure techniques
- Conduct community outreach resulting in increased awareness and support for more green infrastructure projects

Technical Goals:

- Restore pre-development hydrology to site
- Reduce loadings of phosphorus and other pollutants from Mashapaug Pond


Providence
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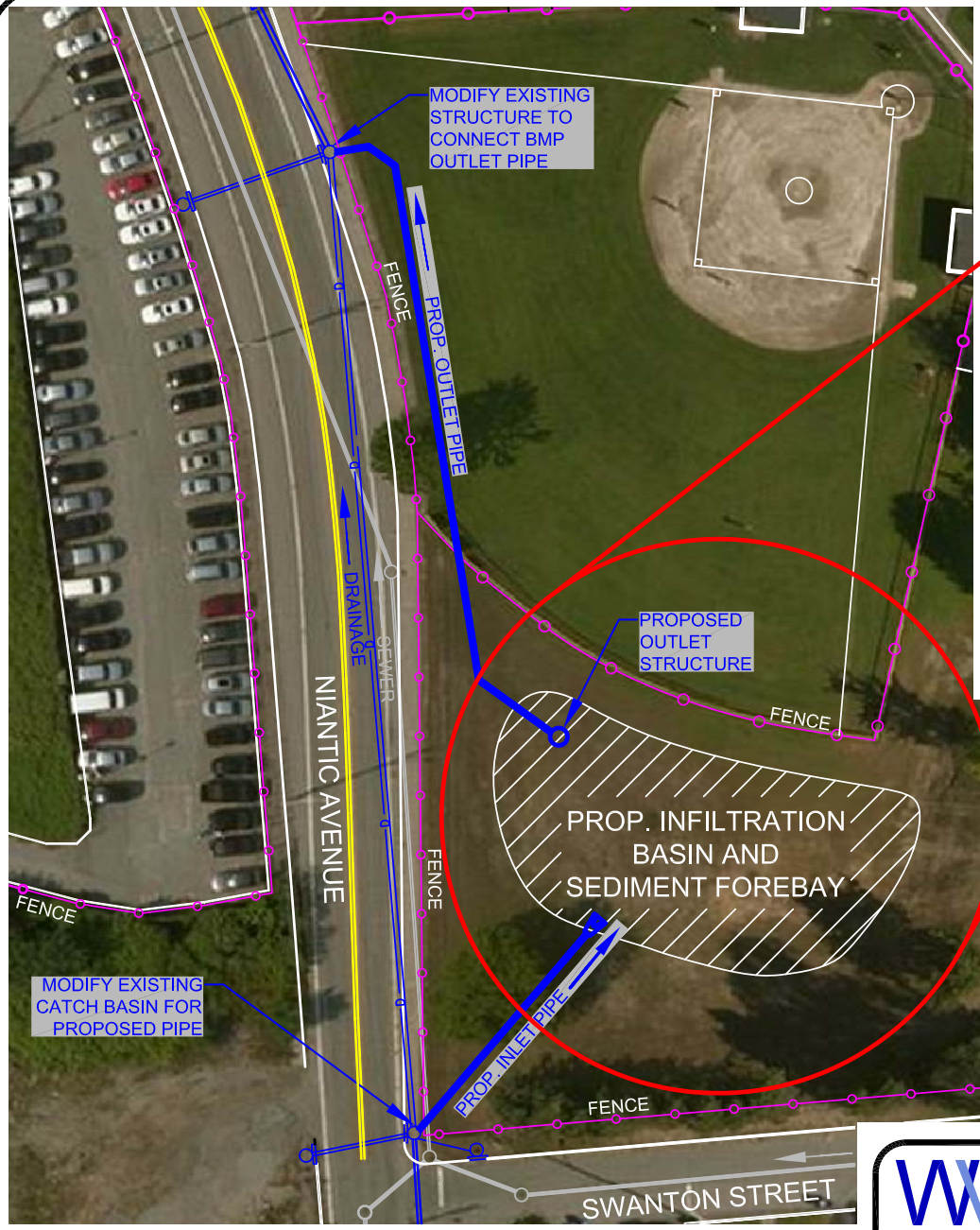
Cranston
Roger Williams Park Ponds
Inlet
Outlet
Mashapaug Brook
City limits
Watershed
N
Feet
0 1,000 2,000


Cranston
Providence
Spectacle Pond
Site
Mashapaug Pond
City limits
N
Feet
0
250
500

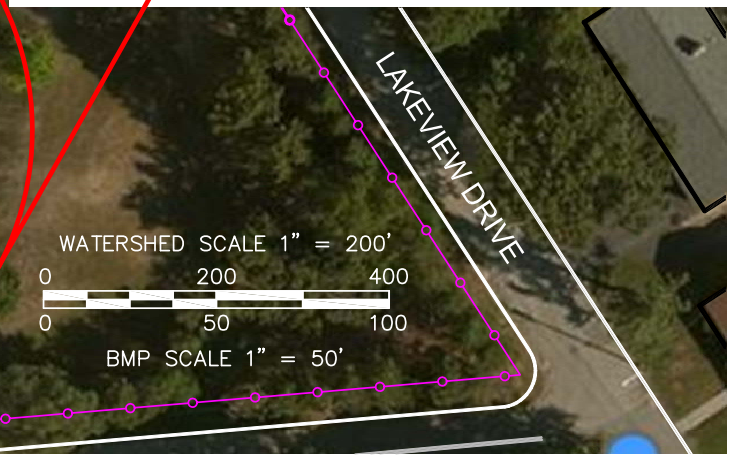
Contributing Drainage Area

WaterVision, LLC
481 GREAT ROAD, SUITE 3
ACTON, MA 01720

COMPREHENSIVE ENVIRONMENTAL, INC.
21 DEPOT STREET
MERRIMACK, NH 03054



BMP Watershed



Option 1: Connect to Existing Drainage Structure

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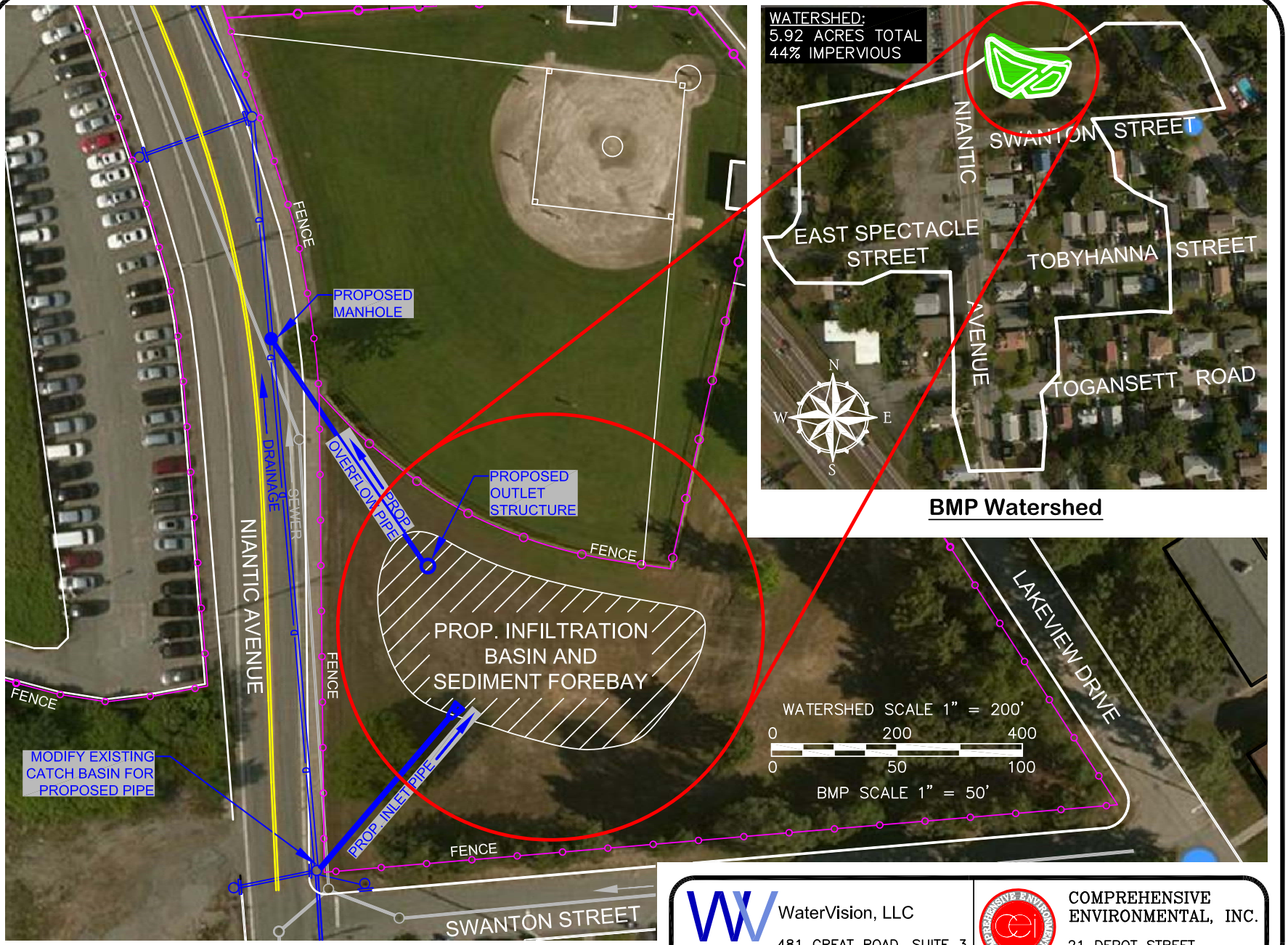

Option 2: Construct New Drainage Structure

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Mashapaug Pond Green Infrastructure Project

Next Steps

- Perform bacteria sampling on stormwater lines (EPA/DPW)
- Perform confirmatory test pit to verify suitable soils and depth to groundwater (CEI/Parks)
- Select desired conceptual design alternative (all stakeholders)
- Advance BMP design process

Mashapaug Pond Green Infrastructure Project

Coordination Topics

- Schedule for construction; spring thaw and other constraints
- Access to Little League fields and scheduling constraints
- Clean downstream catch basin and verify invert depth/elevation
- Removal of part of the fence
- Roadway work; paving, trenching, etc.
- Types of plantings desired and surface treatment (mulch, grass)
- Permits required?

Determine construction schedule, sequential steps, and work performed by each party

WaterVision, LLC

Mashapaug Pond Green Infrastructure Project

Volunteer and In-kind Services Opportunities

- Removal of fencing
- Roadway work
- Site grading work
- Contributing soils and other materials
- Providing plants
- Providing labor to place plants
- Conducting and supporting education and outreach

WaterVision, LLC