

Mashapaug Stormwater General Permit Stakeholder Workshop

July 30, 2025 – Virtual
July 31, 2025 – In-person



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Workshop Agenda

- ▶ Stormwater Pollution Sources in the Mashapaug Watershed and Its Impacts
- ▶ Regulatory Framework for Improving Water Quality
- ▶ Mashapaug Stormwater General Permit Overview
- ▶ Permit Issuance Process and Anticipated Compliance Schedules
- ▶ Compliance Assistance Resources
- ▶ Next Steps
- ▶ Questions/Comments/Discussion

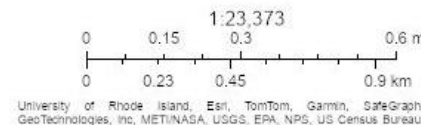
Mashapaug Watershed Facts

Mashapaug Watershed - Impervious Area



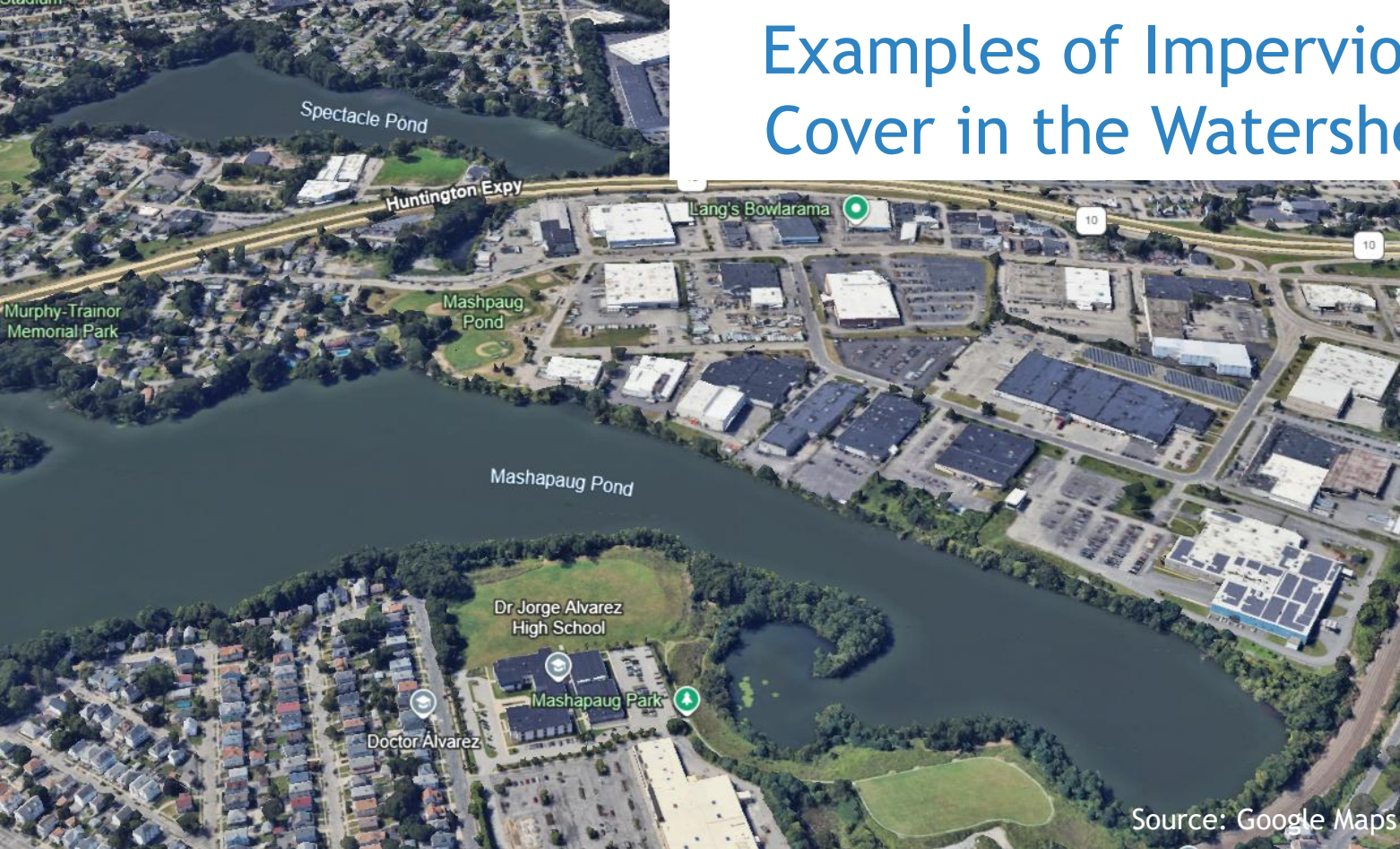
10/2/2024

Source: RIGIS: <https://www.rigis.org/>



- 1.8 square miles in size
- Located in Cranston and Providence
- Includes three (3) Freshwater Ponds (Tongue, Spectacle, and Mashapaug)
- Mashapaug Pond is the largest freshwater body in the City of Providence
- Impervious surfaces cover 61% of the Watershed.
- There are no known sewer or wastewater discharge pipes directed to the Ponds.

Examples of Impervious Cover in the Watershed



Stormwater Impacts

Water Quality—Common Pollutants and Sources

Stormwater runoff gathers pollutants as it flows across developed surfaces. Different land uses introduce various pollutants to the runoff.



NUTRIENTS

Excessive nutrients contribute to aquatic weed growth, algal and cyanobacteria blooms—impacting recreation and human and animal health. Sources include:

- » Fertilizers
- » Animal waste/organic matter
- » Detergents



BACTERIA

Disease causing bacteria can limit recreational uses and lead to shellfish harvesting closures. Sources include:

- » Animal waste
- » Human waste
- » Organic matter



METALS

Metals can impact the health of fish and humans. Sources include:

- » Industrial activities
- » Rooftops
- » Vehicles
- » Paints
- » Pesticides



SEDIMENT

Sediment can impact aquatic organisms and clog infrastructure. Sources include:

- » Construction activities
- » Erosion
- » Urban runoff



OIL AND GREASE

Oil and grease are toxic to aquatic organisms. Sources include:

- » Vehicle fueling
- » Parking lots
- » Vehicles and heavy equipment
- » Material storage



CHLORIDES

Chlorides can impact aquatic organisms. Sources include:

- » Salt and deicing activities
- » Water softeners

Illicit discharges are non-stormwater discharges to the drainage system or waterbodies that contribute to pollution. These can include sanitary sewer or floor drain connections. These can also include dumping into storm drains or cleaning activities that runoff to drains.

Regulatory Programs Both state and federal programs exist that dictate the need to manage stormwater discharges from both public and private entities. These programs exist to mitigate impacts of stormwater runoff described to left. Read more from the [US EPA](#).

Water Quantity and Climate Change



Impervious surfaces prevent rainfall from infiltrating into the ground and replenishing groundwater. In turn, waterbodies do not receive groundwater inflow critical for plants and animals during extended dry periods. Additionally, increased periods of drought reduce soil ability to absorb and capture rainfall. This combined with larger and more frequent storms results in localized flooding.

+ Larger Storms
+ Impervious Cover
= Localized Flooding



+ Periods of Drought
+ Impervious Surfaces
= Extreme Low Stream Flow and Water Levels

Water Quality Based Approach of the Clean Water Act

<input checked="" type="checkbox"/>	Monitor and Assess Surface Waters
<input checked="" type="checkbox"/>	List Impaired and Threatened Waters
<input checked="" type="checkbox"/>	Establish Maximum Pollutant Load Targets by Developing TMDLs
<input type="checkbox"/> In Progress	Implement Required Load Reductions by Controlling Point and Non-Point Sources of Pollution

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TOXIC CYANOBACTERIA ARE PRESENT

WARNING!

ALGAE ON THIS LAKE IS TOXIC.
THE LAKE IS UNSAFE FOR PEOPLE AND ANIMALS.

- DO NOT swim or play in this water.
- DO NOT drink this water.
- Keep pets and livestock away from this water.
- DO NOT eat fish from this water.
- Stay away from algae when boating.

Call your doctor or veterinarian if you or your animals have a sudden, unexplained illness or rash.



Rhode Island Department of Health
 Health Information Line: 401-222-5960 / RI Relay 711

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Mashapaug Pond and Spectacle Pond Impairments		
Use Description	Use Attainment Status	Cause/Impairment
Fish and Wildlife Habitat	Not Supporting	Chlorophyll-A (Excess Algal Growth)
Fish and Wildlife Habitat	Not Supporting	Dissolved Oxygen
Fish and Wildlife Habitat	Not Supporting	Phosphorus, Total
Fish Consumption	Not Supporting	PCBs in Fish Tissue
Primary Contact Recreation	Not Supporting	Fecal Coliform
Secondary Contact Recreation	Not Supporting	Fecal Coliform



Water Pollution
La Contaminación del Agua

Polluting the Environment
Mashapaug Pond's unusually green water is a clear sign of the pond's sickness. Storm water runoff causes algae blooms in urban, fresh water ponds by picking up pet waste and fertilizers from lawns and landscaping and carrying them into storm drains that empty into urban ponds, promoting excessive growth of cyanobacteria.

Contaminación del medio ambiente
El agua inusualmente verde de Mashapaug Pond es una clara señal de las enfermedades del estanque. El escurrimiento de aguas pluviales provoca la proliferación de algas en estanques urbanos de agua dulce por medio de la recolección de los desechos de animales domésticos y fertilizantes de césped, llevándolos a los desagües que se vacían en estanques urbanos, promoviendo el crecimiento excesivo de cianobacterias.

¿Qué es una floración de cianobacterias?
Los cuerpos de agua ricos en nutrientes pueden apoyar el crecimiento rápido de cianobacterias. Un cuerpo de agua "claro" puede volverse espeso con algas verde, azul-verde o marrón rojizo en sólo unos días. Las cianobacterias pueden crear condiciones tóxicas para los seres humanos, los animales y las plantas.

What is a cyanobacteria bloom?
Nutrient-rich bodies of water may support rapid growth of cyanobacteria. A "clear" body of water can become thick with green, blue-green, or reddish-brown algae in just a few days. Cyanobacteria can create toxic conditions for humans, animals, and plants.

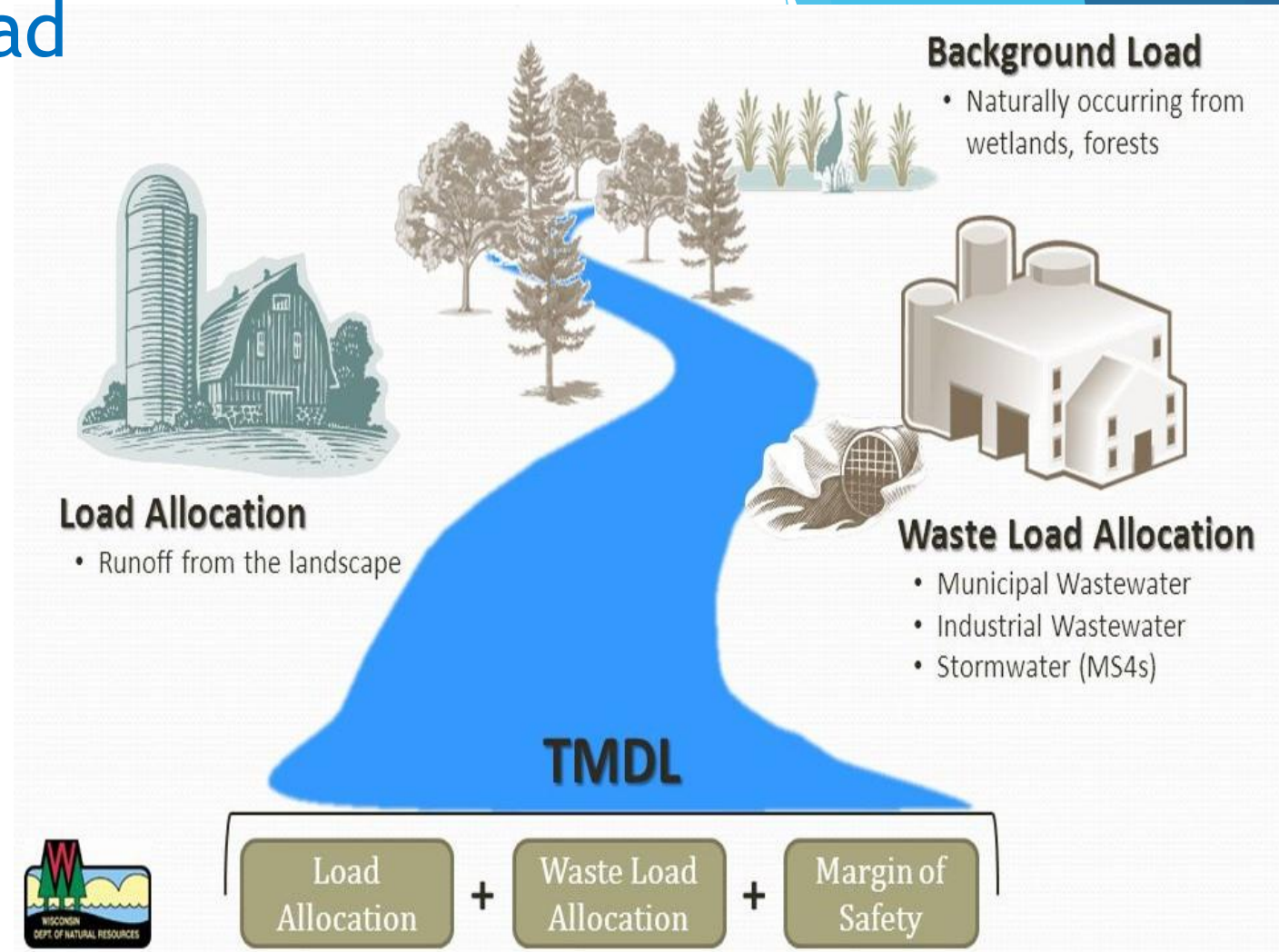



Designed by Alvarez Class of 2018

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Total Maximum Daily Load (TMDL)

- ▶ Total Maximum Daily Load (TMDL) establishes a maximum amount of a pollutant that a waterbody can receive each day in order to meet water quality standards.
- ▶ TMDLs identify sources of pollution, set limits on how much can enter a waterbody, and require a plan to reduce those pollutants and improve water quality
- ▶ Established TMDLs call for the following pollutant load reductions:
 - ▶ Mashapaug Pond: 65%
 - ▶ Spectacle Pond: 68%



What is a RIPDES Permit?

The Clean Water Act prohibits anybody from discharging "pollutants" through a "point source" into a "water of the United States" unless they have an **RI Pollutant Discharge Elimination System (RIPDES)** permit.

RIPDES stormwater permits include requirements to prevent pollution and reduce pollutant loads.



Existing RIPDES Stormwater General Permits

2003 Municipal Separate Storm Sewer System (MS4 GP)

- Applies to 34 Cities and Towns Statewide and 8 other MS4s including RIDOT
- www.dem.ri.gov/MS4

2024 Multi-Sector Industrial Stormwater (MSGP)

- Applies to Certain Industrial Sectors
- 161 Sites are currently permitted statewide
- www.dem.ri.gov/MSGP

2020 Construction (CGP)

- Applies to Construction Projects that Disturb ≥ 1 Acre
- ~600 Sites Permitted Statewide
- <https://dem.ri.gov/media/30076/download>

Residual Designation Authority (RDA)

Residual Designation Authority (RDA) is a provision of the CWA that allows RIDEM to require stormwater permits for sources not already regulated when stormwater discharges:

- ▶ Violate water quality standards
 - ▶ Significantly contribute pollutants to surface waters
 - ▶ Are linked to pollutant reductions needed in TMDLs
-
- ▶ Residual Designation can be requested by petition.
-
- ▶ Recent Mashapaug Watershed RDA Petitions sent to RIDEM:
 - ▶ November 19, 2018 - Conservation Law Foundation
 - ▶ January 31, 2024 - RI Attorney General's Office

2024 Mashapaug Watershed RDA Petition Elements

Close the Stormwater Permitting Gap by Addressing Unregulated Point Source Discharges in the Mashapaug Watershed from Properties with >1 Acre of Impervious Cover

Address Legacy Pollution and Water Body Impairments

Promote Green Infrastructure to Reduce Flooding and Adverse Impacts of More Frequent and Intense Storms

Drive Change in an Environmental Justice Community Facing Significantly Elevated Environmental and Health Burdens



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Draft Mashapaug General Permit Overview

Targets Stormwater Point Source Discharges to:

- Mashapaug Pond
- Spectacle Pond
- Tongue Pond

Permitting Strategy:

- Achieve long-term Phosphorus load reductions to the Watershed using an Adaptive Management approach, which requires:
 - Pollution Prevention/Good Housekeeping
 - Green Infrastructure Planning
 - Stormwater Control Measures/Treatment

Adaptive Management and Phased Approach

What is Adaptive Management?

- A long-term, flexible approach that allows for adjustments over time
- Focuses on continuous improvement

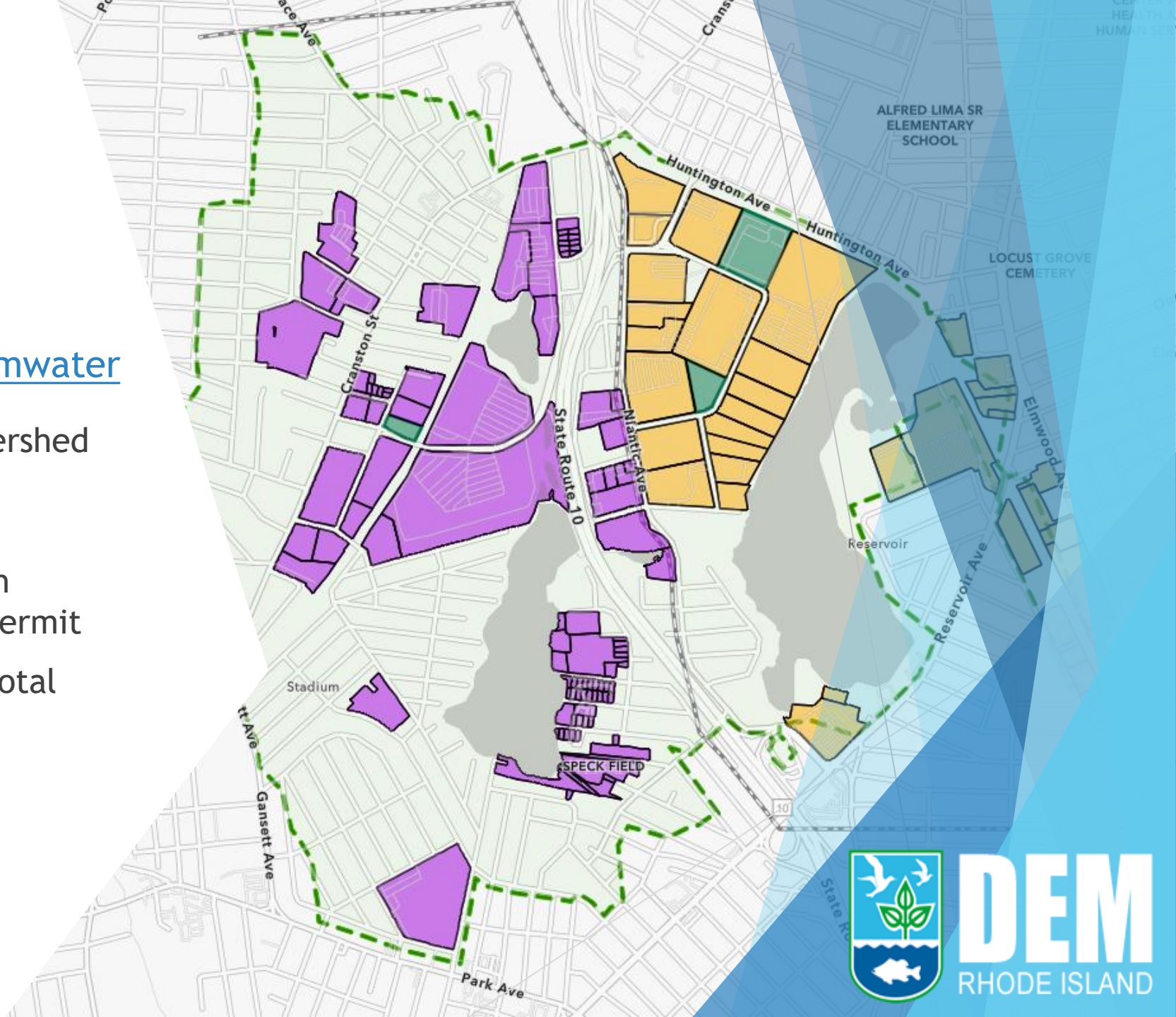
What is the Phased Approach?

- Stormwater requirements are rolled out in steps, not all at once
- Allows property owners to make incremental improvements over time
- Prioritizes sites with the most impervious cover

Properties Subject to the General Permit

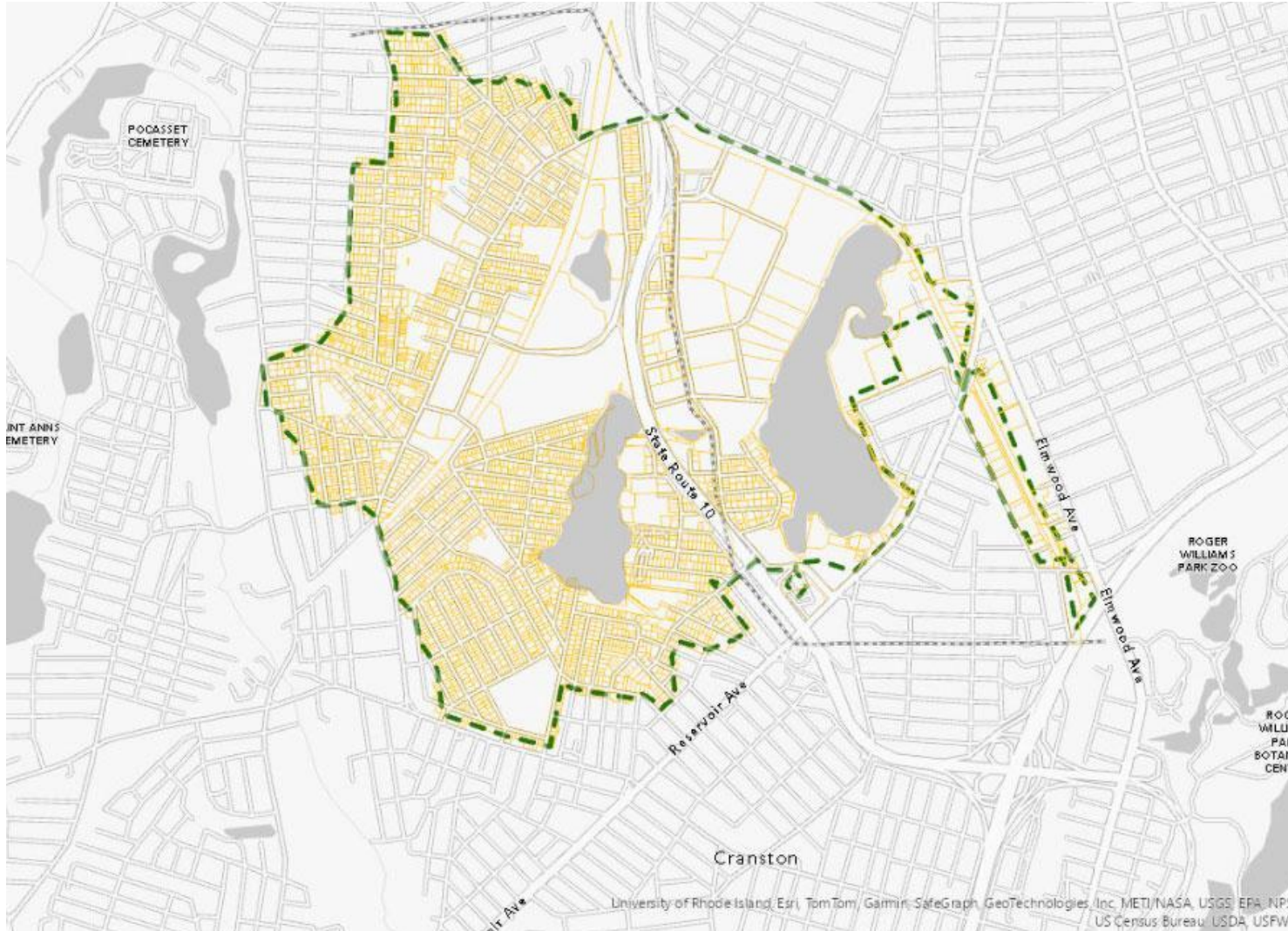
www.dem.ri.gov/mashapaug-stormwater

- ▶ Interactive GIS Map of the watershed that shows properties in both Providence and Cranston
- ▶ Open to public use to see which properties are subject to this permit
- ▶ Gives info on property owner, total acres, acres of IC



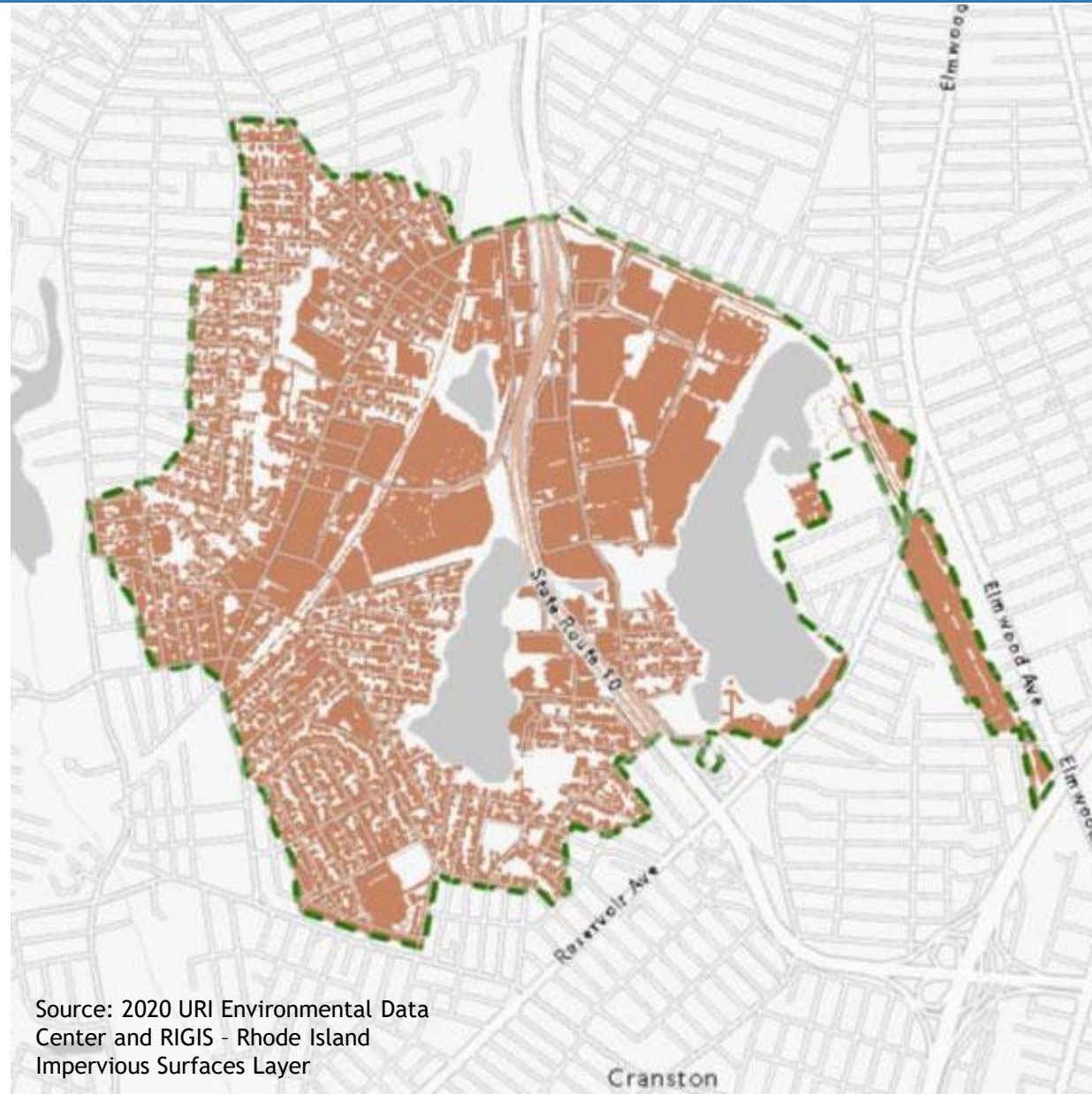
How did we determine which properties are subject to this permit?

First, we selected all parcels intersecting the watershed (shown by the dashed line) using publicly available GIS parcel data for the Cities of Cranston and Providence.



Next, we obtained
the impervious
surfaces GIS data
within the
Mashapaug
Watershed

61% of the
watershed is
impervious cover



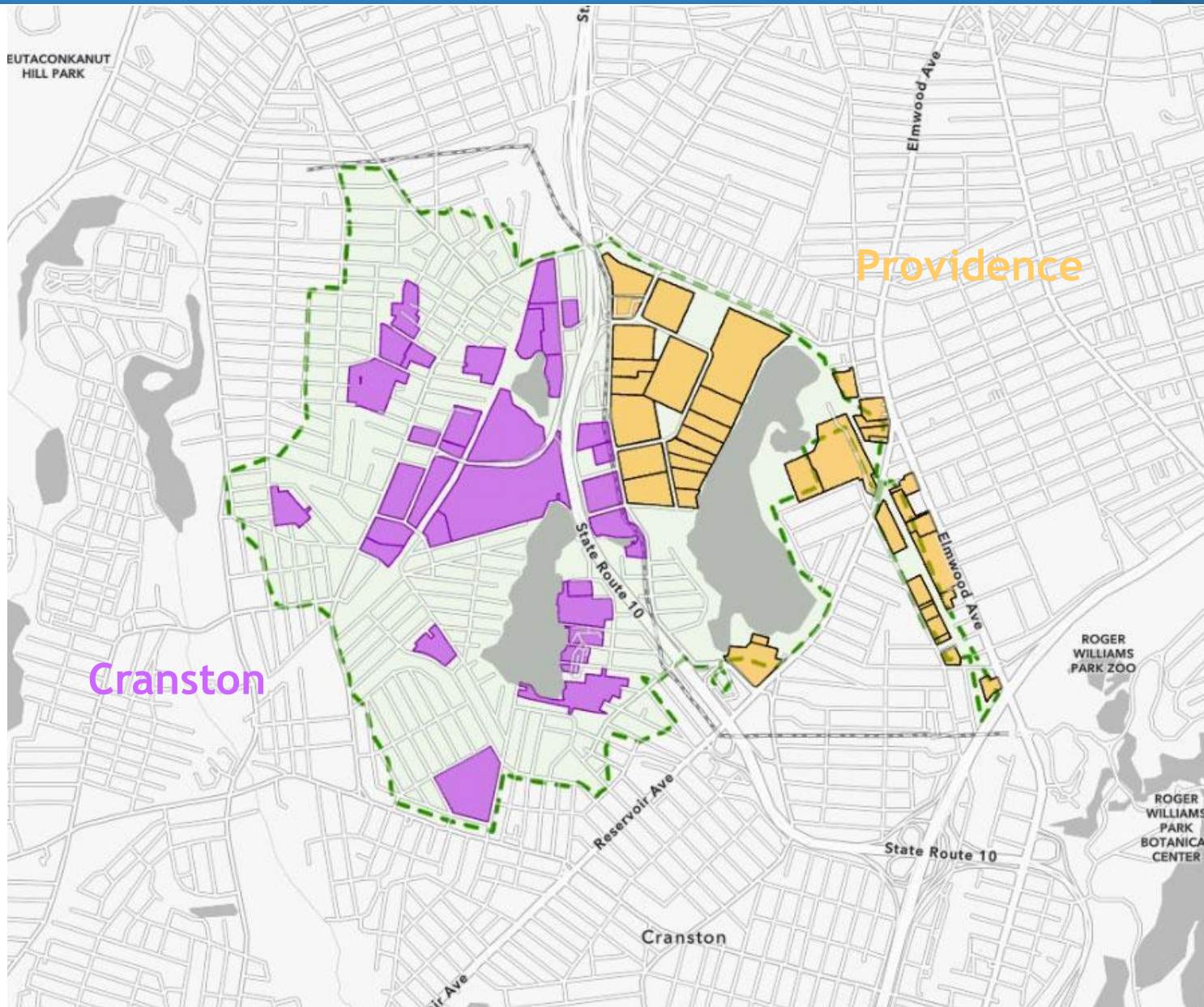
Source: 2020 URI Environmental Data
Center and RIGIS - Rhode Island
Impervious Surfaces Layer

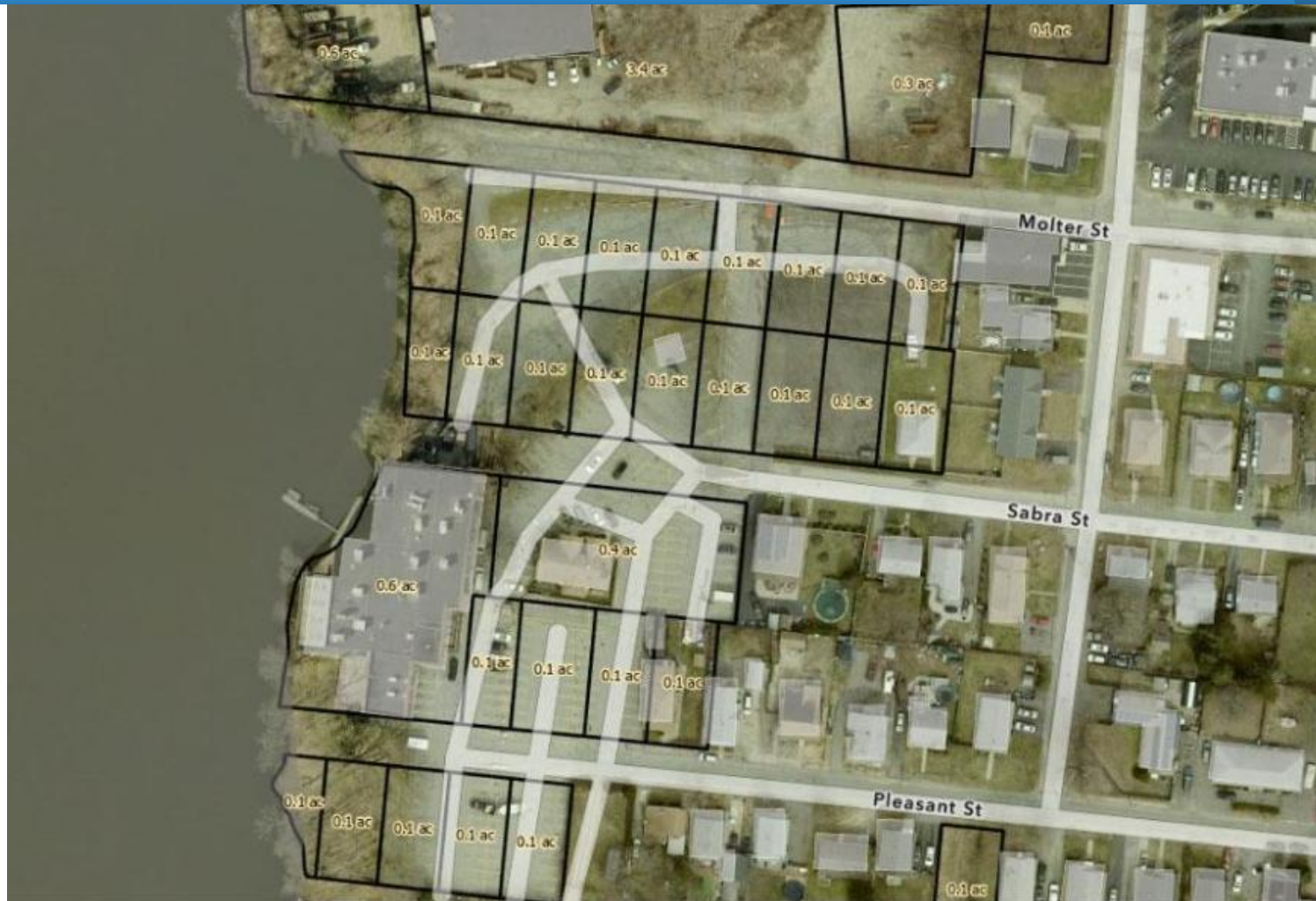


Then, we merged parcels based on common ownership and adjacency.

Calculated the amount of impervious cover (IC) for each merged and unmerged property.

Selected all with one acre or more of IC.





Example: Parcels less than one acre with common ownership: Here, we can see an example of several small lots under one owner, as well as part of a single business entity. Individually, these lots are too small.



But when merged, they account for 4.1 acres of land, of which 3.2 are impervious cover.

Properties Subject to Permit

- ▶ Any property that has ≥ 1 Acre of Impervious Cover
- ▶ Total Properties: 64
- ▶ 3 properties are subject to MSGP
 - ▶ Cranston: 30
 - ▶ 7+ Acres IC: 3
 - ▶ <7 Acres IC: 27
 - ▶ Providence: 34
 - ▶ 7+ Acres IC: 4
 - ▶ <7 Acres IC: 30

Cranston					
Parcel Owner	Parcel Address	Total Parcel Acres	Impervious Cover Acres	Impervious Cover Percentage	Merged Y/N
ACHIEVEMENT FIRST RHODE ISLAND INC	85 GARFIELD AVENUE	3.7	2.5	0.67	N
ALDI INC	1015 CRANSTON STREET	3.2	1.4	0.44	N
ANTHONY P RUSSO TRUSTEE **	85 CARLSBAD STREET	1.1	1.1	0.98	N
BAHLMANN GROUP LLC	51 WASHINGTON AVE	1.6	1.3	0.82	Y
BREWERY PARKADE INC 50%	GARFIELD AVENUE	3.8	3.0	0.79	N
CARLSBAD STREET LLC	123 CARLSBAD STREET	3.8	3.6	0.95	Y
CHARLES MONTAGUE REALTY LLC 45%	99 GARFIELD AVENUE	2.4	1.4	0.57	N
COMPREHENSIVE COMMUNITY ACTION INC	1090 CRANSTON ST	1.7	1.6	0.94	Y
CRANSTON BVT ASSOCIATES LP *	300 GARFIELD AVENUE	27.8	19.7	0.71	N
CRANSTON CITY OF CITY BUILDINGS	1070 CRANSTON STREET	1.2	1.2	1.00	Y
CRANSTON CITY OF CITY BUILDINGS	23 JORDAN AVE	11.7	6.9	0.59	N
CRANSTON CITY OF CITY BUILDINGS	109 CARLTON ST	7.8	1.0	0.13	Y
CRANSTON CITY OF SCHOOLS	50 GLADSTONE STREET	8.2	3.5	0.43	N
CRANSTON CITY OF SCHOOLS	100 CRESCENT AVENUE	3.2	2.9	0.90	N
CRANSTON CITY OF SCHOOLS	155 PRINCESS AVENUE	2.7	1.1	0.41	Y
CRANSTON HOUSING AUTHORITY MANORS	50 BIRCH STREET	4.0	2.8	0.69	N
DEVAN MANOR ASSOCIATES	1214 CRANSTON STREET	2.3	1.9	0.82	N
FALVEY LINEN SUPPLY INC	50 BURNHAM AVENUE	2.4	2.4	1.00	N
FARTHINGALE FROTHINGHAM & FOSTER LTD	88 SPECTACLE STREET	1.4	1.3	0.93	N
GRAYBAR ELECTRIC CO INC	245 NIAN TIC AVENUE	1.4	1.4	0.99	N
HARRIS HOUSE PARTNERS LP	28 HARRIS AVENUE	4.3	2.5	0.58	N
JMDH REAL ESTATE OF CRANSTON LLC	14 NAVAHO STREET	4.4	4.2	0.94	Y
JUST FAMILY CORPORATION	1011 CRANSTON STREET	1.9	1.5	0.82	N
LOWES HOME CENTER INC *	247 GARFIELD AVENUE	12.9	12.0	0.93	N
NIAN TIC PLACE LLC	335 NIAN TIC AVENUE	5.2	4.3	0.83	N
PAM REALTY INC	0 NIAN TIC AVENUE	2.8	2.7	0.97	Y
RHODE ISLAND INDUSTRIAL FACILITIES CORP	5 GARFIELD AVENUE	3.6	3.2	0.87	N
TACO PRODUCTS INC *	1160 CRANSTON STREET	14.2	13.0	0.92	N
TWIN OAKS INC	100 SABRA STREET	4.1	3.2	0.78	Y
WALTER STREET REALTY LLC	MANHASSETT STREET	6.0	2.9	0.48	Y

Providence					
Parcel Owner	Parcel Address	Total Parcel Acres	Impervious Cover Acres	Impervious Cover Percentage	Merged Y/N
Ave LLC Pharmacy-Elmwood	533 Elmwood Ave	2.1	1.9	0.88	N
B&M Realty LLC	250 Niantic Ave	5.0	4.7	0.94	N
BROWN UNIVERSITY	40 Park Ln	4.2	3.7	0.88	Y
D & D Properties LLC	195 Dupont Dr	2.9	2.9	0.99	N
Document Realty LLC	333 Bucklin St	1.8	1.6	0.86	N
Dupont Realty Associates LLC	175 Dupont Dr	4.7	3.0	0.64	N
FAP Properties XXXIII LLC	140 Narragansett Ave	2.6	2.5	0.96	Y
First Reservoir LLC	1 Reservoir Ave	1.5	1.5	0.99	Y
Foxrock 55 Dupont Realty LLC	55 Dupont Dr	6.4	4.3	0.68	N
Funding XIII LLC Store Master	88 Niantic Ave	2.3	2.2	0.97	N
Gutierrez And Sons LLC	891 Elmwood Ave	1.2	1.1	0.92	N
Ha & Ahn Properties LLC	176 Narragansett Ave	1.0	1.0	1.00	N
JLI REALTY CO	100 Niantic Ave	5.3	4.9	0.91	N
JOHN B MCENERY Jr	635 Elmwood Ave	1.3	1.3	0.97	N
Kingfield Real Estate LLC **	200 Dupont Dr	2.3	1.4	0.61	N
Little Bay Realty Company LLC *	100 Dupont Dr	10.7	8.6	0.81	N
LLC Sabrs	207 Dupont Dr	2.6	2.6	0.99	N
Mashapaug Partners LLC *	77 Reservoir Ave	12.4	9.4	0.76	N
Mastro Realty Associates	555 Elmwood Ave	1.0	1.0	0.99	N
Morvco Realty LLC	160 Niantic Ave	5.3	4.8	0.89	Y
Ocean State Equity Partners LLC	361 Reservoir Ave	6.3	5.0	0.79	N
Ocean State Property Management LLC	50 Niantic Ave	4.7	3.5	0.75	N
Park Lane Realty LLC	150 Park Ln	1.4	1.1	0.80	N
ProPartners in Parking LLC	282 Niantic Ave	5.1	4.0	0.79	N
Providence LLC Prime Storage	90 Reservoir Ave	2.8	2.8	1.00	N
Providence Public Buildings Authority	375 Adelaide Ave	4.1	3.2	0.79	N
Providence Water Board *	125 Dupont Dr	16.5	10.8	0.65	N
Pvd LLC Cf Ocelot **	115 Dupont Dr	6.4	6.0	0.68	N
Rhode Island Community Food Bank *	170 Niantic Ave	8.1	7.0	0.97	N
RI Public Transit Authority	705 Elmwood Ave	6.4	6.0	0.99	Y
Skywater-Providence LLC	124 Narragansett Ave	1.7	1.6	0.92	N
State Of Rhode Island & Prov Plantations	50 Park Ln	2.2	2.0	1.00	N
Stratford House Associates	675 Elmwood Ave	1.7	1.3	0.58	N
Wildcat Equities Inc	669 Elmwood Ave	1.6	1.4	0.91	N



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Requirements for All Properties (1+ Acres IC)



All Properties 1+ Acres IC

Minimize Pollutant Exposure

- Store materials under cover or indoors
- Cover dumpsters, keep away from catch basins
- Minimize use of salt, sand and deicers
- Limit fertilizer and pesticide use

Implement a Good Housekeeping Program

- Perform Catch Basin Cleaning and Street Sweeping (2x per year)
 - November 15th - December 15th (after leaf fall)
 - During April (after snow melt)
- Maintain existing stormwater treatment systems



Proper Materials Storage



Trash and Dumpster Management



Fertilizer/Nutrient Management



Organic Waste Management



Storm Drain Cleaning



Sweeping

All Properties 1+ Acres IC

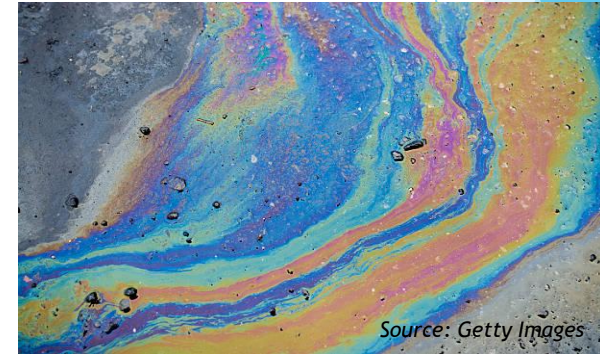
Minimize Impacts from Major Storm Events

- Store materials and waste above flood levels
- Temporarily reduce outdoor storage before storms



Spill Prevention, Control, and Response Plans

- Train staff and maintain tools to quickly contain and clean up spills
- Follow local reporting requirements for spills affecting public health or drinking water



Implement Erosion and Sediment Control Practices

- Stabilize exposed erodible soils
- Use controls like silt fences, wattles, or berms to contain sediment in runoff



Requirements for Large Properties (7+ Acres IC)

Stormwater Management Plan (SWMP) Requirements

What is a SWMP?

- A Stormwater Management Plan is a site-specific document that identifies pollution sources and outlines how stormwater will be managed on the property to protect water quality

What must be included:

- Pollution Prevention Team
- Site Description and Map
 - Show land use, drainage patterns, impervious areas, and stormwater features
- Pollution Source Inventory
 - Identify risk areas (dumpsters, fueling zones)
- Schedule for Inspection and Maintenance
 - Inspections, sweeping and catch basin cleaning



Why Phosphorus Reduction?

Phosphorus is a key pollutant in the Mashapaug Watershed

- Causes excess algal growth
- Leads to low dissolved oxygen, harming aquatic life, limiting use of ponds

Phosphorus is an Indicator Parameter used to establish load reduction targets and treatment credits.

- As Phosphorus loads are reduced, other pollutants will also be addressed, such as: Fecal coliform, organic matter, and suspended solids

Long-Term TMDL Phosphorus Load Reduction Targets by Waterbody

- Mashapaug Pond: 65%
- Spectacle Pond: 68%
- Tongue Pond: 68%

Stormwater Control Plan (SCP) Requirements

Goal: Phosphorus Load Reduction

What is a SCP?

- A Stormwater Control Plan explains how a property will meet its phosphorus pollutant load reduction target using approved structural and non-structural stormwater controls

What must be included:

- Details on how the site will provide stormwater treatment to meet 30% of the Site-Specific Phosphorus Load Reduction Target by the end of the first permit term
- Calculations showing the amount of treatment credits for existing and proposed stormwater controls
 - Methodologies for estimating Phosphorus Reduction Credits are available in the Appendices
- Schedules for implementation and installation of proposed treatment
- No maintenance = No phosphorus reduction credit

Requirements for Small Properties (1-7 Acres IC)



Green Infrastructure and Impervious Cover Reduction Evaluation for Small Properties

- ▶ Permittees must evaluate their site for opportunities to:
 - ▶ Reduce or eliminate impervious surfaces
 - ▶ Improve stormwater infiltration
 - ▶ Reestablish or enhance aquatic buffers
 - ▶ Install Green Infrastructure or stormwater retrofits
- ▶ Permittees must describe and list these potential opportunities in the Annual Report and annually evaluate their site for new opportunities



Image Sources: Sept. 2024 Property Owner Guide to Managing Stormwater and RI Soil Erosion and Sediment Control Handbook

What is Green Infrastructure?

Design strategies that use natural processes to manage and treat stormwater at its source rather than piping it away and discharging it directly to surface waters without treatment.

Bioretention / Rain Gardens



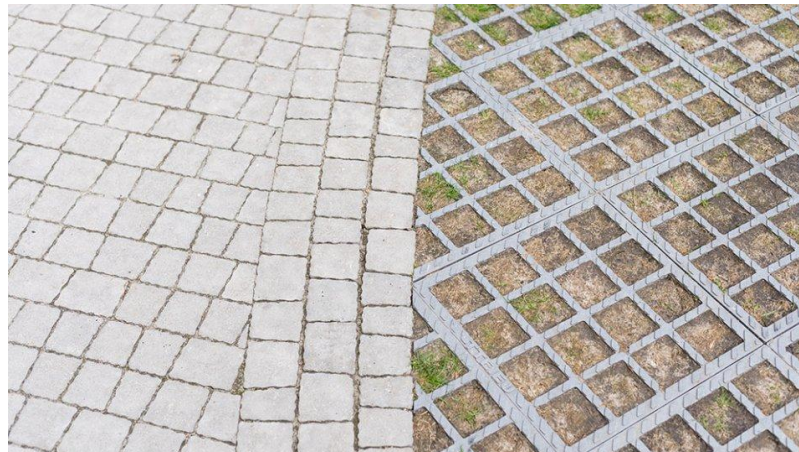
Bioswales / Grassed Swales



Tree and Planter Boxes



Permeable Pavement



More Examples of Green Infrastructure

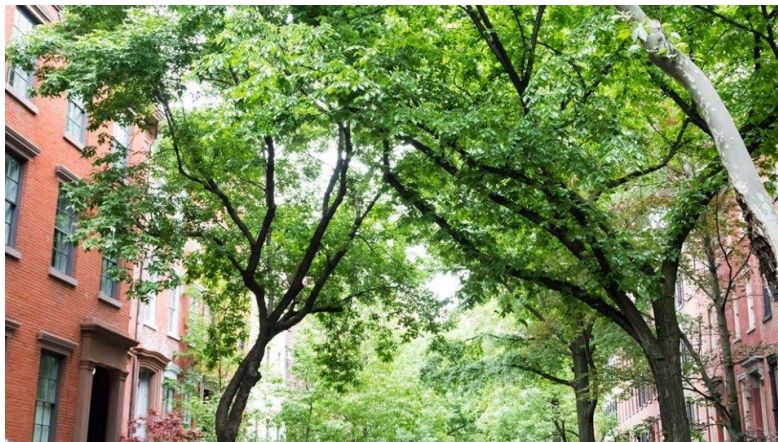
Rainwater Harvesting



Green Parking



Tree Planting / Urban Trees



Downspout Disconnection



Permit Issuance Process

Public Workshop (Informal)

- July 30 and 31, 2025
- Introduction to Draft Permit Framework
- Answer Questions and Obtain Feedback Prior to the Formal Public Comment Period

Public Notice and Comment Period (Formal)

- RIDEM Will Establish a Formal Public Notice and Comment Period August/September 2025.
- Written Comments May Be Submitted by Mail or Email
- A Public Hearing Will Be Scheduled to Receive Oral Comments

Issue Final Permit

- RIDEM Will Review All Comments and Issue Final Permit Establishing:
 - Effective Date and Application Deadlines
 - Compliance Milestones and Schedules

Anticipated Permit Issuance and Compliance Schedule

Small Properties - 1-7 Acres of IC

- January 1, 2026: General Permit Effective Date
- July 1, 2026 (6 months after effective date): Application Due
- January 1, 2027: Begin Sweeping and Catch Basin Cleaning
- February 15th each year (Starting in 2028): Annual Report Due

Large Properties - 7+ Acres of IC

- January 1, 2026: General Permit Effective
- January 1, 2027 (12 months after effective date): Application and SWMP Due
- January 1, 2027: Begin Sweeping and Catch Basin Cleaning
- February 15th each year (Starting in 2028): Annual Report Due
- February 15, 2028 (End of the Permit Year 2): Stormwater Control Plan (SCP) Due
- December 31, 2030 (End of year 5 of permit): Implementation of SCP (30% Phosphorus Load Reduction) Deadline

Resources For Property Owners

SEPTEMBER 2024

Property Owner Guide to Managing Stormwater

What is this guide?

This guide explains how activities on individual properties can impact surrounding water resources and simple steps that can be taken to manage stormwater so as to minimize these off-site impacts.

Who is it for?

This guide is a resource for property owners and managers in New England or any individuals responsible for managing stormwater on larger, developed areas in New England.

Why should you read this?

Readers will learn simple steps to reduce stormwater impacts affecting water quality and flooding. Additionally, your property may have regulatory obligations.

What does it include?

- ~ Background and education on stormwater, its impacts, and land development's influence on stormwater
- ~ Approaches to understand how developments impact stormwater
- ~ Guidance on simple, cost-effective measures that can be taken to address water quality and quantity impacts

DEVELOPED BY

VHB and The SNEP Network



TECHNICAL SUPPORT: The University of New Hampshire Stormwater Center, Rhode Island Stormwater Innovation Center, Southeast New England Program (SNEP), Rhode Island Department of Environmental Management, Elizabeth Scott Consulting

FINANCIAL SUPPORT: The SNEP Network



Bioretention Basin at Providence College
Image: Rhode Island Stormwater Innovation Center

Resources For Property Owners



Knowing Your Site

Understanding how site features and activities interact with precipitation and generate runoff and pollutants will help you understand how your site impacts the natural systems around it. Note pollutants generated at each area and think about what else may be a source of pollution on your site. Knowing your site is the first step in effectively managing the stormwater it produces.

- 1 | Material Stockpiles** Portions of stored material and packaging can be sources of pollution when exposed to rainfall
- 2 | Dumpsters and Waste Storage** Pollutants come from general facility waste which can be carried by stormwater that runs across improperly managed containers and dumpster leaks
- 3 | Loading Docks** Pollutant sources include metals, sediment, oils/gas, and organic matter brought by vehicles, trash, and debris from shipping and receiving processes

- 4 | Rooftop** Pollutant sources include particulate nutrients and metals from the atmosphere or rooftop vents and bacteria from bird waste
- 5 | Other Impervious Surfaces** Walkways, storage areas, and other impervious surfaces can produce fertilizers and/or other pollutants from adjacent lawns in addition to trash, chlorides from winter deicing, and sediments
- 6 | Natural Buffers** Naturally vegetated land adjacent to wetlands and waterbodies provides a buffer, protecting these resources from pollutant-generating areas

- 7 | Fleet Storage and Maintenance Areas** Pollutant sources include soaps, oils, greases, and metals from car debris, tire wear, and fleet storage, washing, and maintenance
- 8 | Roadways, Driveways and Parking Areas** Pollutant sources include metals, sediment, oils/gas, and organic matter brought by cars and equipment, sediment and chlorides deposited by winter maintenance, trash, and general litter
- 9 | Landscaped Areas** Pollutant sources include fertilizers, organics/nutrients from soil/vegetation, and trash

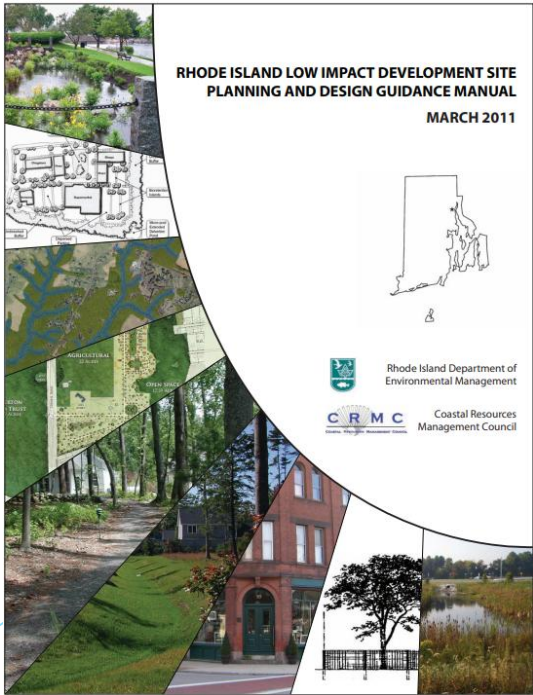
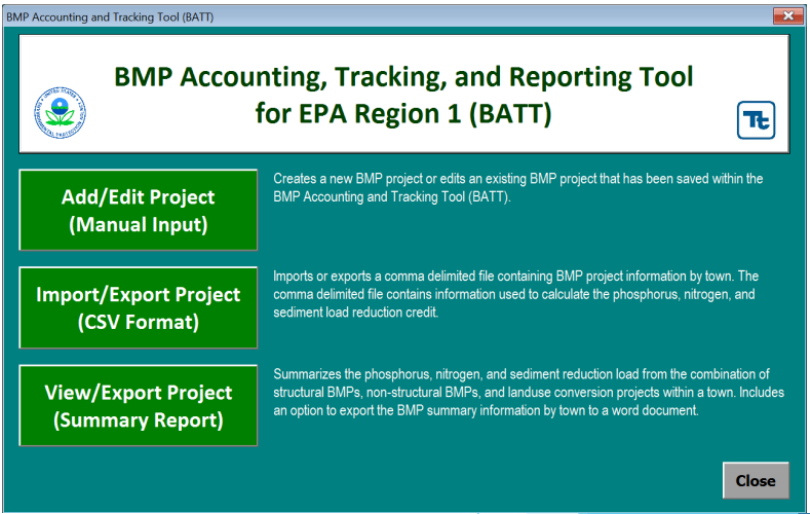
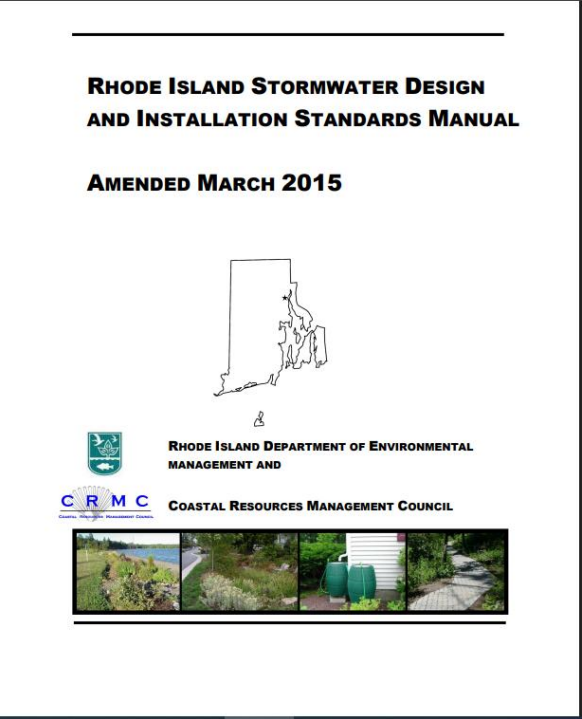
Know Where Water Goes and What You Can Do About It

Ask yourself the following questions to determine where stormwater flows on your site and what you can do to mitigate stormwater impacts. Additional ideas and measures can be found in the tables on [page 19](#) at the end of the guidance.

Resources For Property Owners



Resources for Stormwater Professionals



How the Community Can Help

- ▶ Everyone Can Make a Difference - Visit www.ristormwatersolutions.org for helpful tips, tools, and resources to take action in your community.



Scoop The Poop, Then Trash It

Keep pet waste from entering local water bodies. When you're out on a walk, pick up

after your pet and throw it in the trash.



Fertilize Sparingly

Unfortunately, lawn care chemicals often wind up washing right into local waters.



Water Wisely

Conserving water when you're working outdoors can reduce the potential for

contaminants to wind up in local waters.



Don't Dump Into Storm Drains

Everything that enters a storm drain goes directly to local waters. Don't dump,

wash, or rake anything into the path of a storm drain.



Recycle Rainwater

Keep runoff off paved surfaces with rain barrels, cisterns, and rain gardens- even downspout extenders.

Next Steps

Stay Connected

Subscribe to RIDEM's email list to receive updates on:

- Permit news
- Upcoming events
- Public Notice

You can sign up by visiting the website:

www.dem.ri.gov/mashapaug-stormwater

Accessing Workshop Material

The virtual workshop video and presentation slides, including a Spanish version, will be posted on our website.

The draft permit, appendices, and regulatory fact sheet are posted on our website.

Submit Feedback

We are accepting informal comments and feedback until **August 15th, 2025**.

This informal feedback is separate from the formal public comment period.

Email:

DEM.RIPDESMashapaug@dem.ri.gov

Questions/Comments

RIDEM Mashapaug General Permit Website:
www.dem.ri.gov/mashapaug-stormwater

Dedicated Email Address: DEM.RIPDESMashapaug@dem.ri.gov

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