

**Appendix A.**

**Bronx River References and Mapping Resources**



## Bronx River References and Mapping Resources

The following resources were reviewed for the development of the *Baseline Assessment*:

- Bernier Carr & Associates and Environmental Design & Research. *Woodlands Viaduct Restoration or Replacement Project, Historic Resources Report*. May 1994.
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- Malcolm Pirnie, Inc. *Storm Drainage and Flood Control Needs Bronx River Basin, Westchester County, New York*. 1975.
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- U.S. Army Corps of Engineers. Interim Draft Data and Documentation Report. *Bronx River Ecosystem Restoration Project, Water Quality and Biological Baseline Data Collection, Westchester and Bronx Counties*. November 2005.
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- Westchester County. *Bronx River Parkway Reservation Pond Rehabilitation and Riverbank Stabilization Study*. Final Draft. 1999.
- Westchester County Department of Planning. *Bronx River Parkway Reservation Comprehensive Corridor Management Plan*. 2000.
- Westchester County Department of Planning. *Municipal Land Use Regulatory Review for the Bronx River Watershed*. Westchester County, NY. October 2004 Draft.
- Westchester County Department of Planning. Bronx River Land Use Shapefiles. Provided to CWP in September 2005.
- Westchester County Department of Planning. Land Use Categories. Provided to CWP in September 2005.
- Westchester County Department of Planning. Bronx River Watershed Impervious Surface Methodology. Provided to CWP in May 2005.
- Westchester County Department of Planning. *Needs and Capabilities Analysis*. June 2005.
- Westchester County Planning Board. *Patterns for Westchester, The Land and the People*. 1996.

Maps in this *Management Report* were created using the data sources listed in Table A-1.

<b>Table A-1: Bronx River Watershed Geographical Information Systems (GIS) Data Sources</b>	
<b>Cover Description</b>	<b>Source Citation</b>
Roads	New York State Department of Transportation County Base Map Series
Streams and Rivers	New York State Department of Environmental Conservation
Municipal Boundary	Westchester County GIS
Aerials	Westchester County GIS
Forest Cover	University of Connecticut Center for Land use Education And Research
Rail Line	Westchester County GIS
Railroad Stations	Westchester County GIS
Land Use	Westchester County GIS
Impervious Cover	Westchester County GIS
Lakes, Ponds, Reservoirs	New York State Department of Environmental Conservation
Federal Wetland	US Fish and Wildlife Service
Hydric Soils	Westchester County Soil Survey, U.S. Department of Agriculture, Soil Conservation Service
State Wetland	New York State Department of Environmental Conservation - Division of Fish, Wildlife & Marine Resources
Subwatersheds	Westchester County GIS

**Appendix B.**

**Bronx River Watershed Level II Land Use and Environmental Function**



<b>Table B-1: Bronx River Watershed Current Level II Land Use and Water Coverage</b>				
<b>Level I Land Use</b>	<b>Level II Land Use</b>	<b>Area (acres)</b>	<b>Area (square miles)</b>	<b>Percent of Watershed</b>
Mixed	Mixed Use	464.2	0.73	1.5%
Non-Residential	Agriculture	35.8	0.06	0.1%
	Cemetery	825.6	1.29	2.7%
	Commercial	1,207.7	1.89	3.9%
	Institutional	1,766.1	2.76	5.7%
	Manufacturing	245.2	0.38	0.8%
	Mixed Use	0.7	0.00	0.0%
	Office	743.2	1.16	2.4%
	Public Park Active	9.8	0.02	0.0%
	Public Park Passive	89.7	0.14	0.3%
	Transportation Utility	1,702.0	2.66	5.5%
Non-Residential / Open	Institutional / Public Recreation	61.7	0.10	0.2%
Open Space	Cemetery	22.3	0.03	0.1%
	Nature Preserve	264.7	0.41	0.9%
	Public Park Active	1,484.4	2.32	4.8%
	Public Park Passive	1,192.5	1.86	3.9%
	Public Recreation	878.3	1.37	2.8%
Residential	Residential	92.6	0.14	0.3%
	Residential High Density	633.9	0.99	2.0%
	Residential Low Density	5,234.8	8.18	16.9%
	Residential Medium Density	4,639.1	7.25	15.0%
	Residential Very Low Density	3,289.5	5.14	10.6%
Residential / Open	Residential/Public Recreation	37.5	0.06	0.1%
Undeveloped	Residential Very Low Density	0.6	0.00	0.0%
	Undeveloped	1,019.7	1.59	3.3%
	Undeveloped / Cemetery	0.6	0.00	0.0%
Water	Water Supply	2,484.5	3.88	8.0%
	Waterbody	2,521.2	3.94	8.1%
<b>Total</b>		<b>30,948.0</b>	<b>48.36</b>	<b>100.0%</b>

<b>Table B-2: Bronx River Watershed Environmental Function Land Use and Water Coverage</b>				
<b>Level I Land Use Category</b>	<b>Level II Land Use</b>	<b>Environmental Function</b>	<b>Area (acres)</b>	<b>Percent of Watershed</b>
Mixed	Mixed Use	Mixed Use	464.2	1.5%
Non-Residential	Agriculture	Agriculture	12.7	0.0%
		Nursery	23.1	0.1%
	Cemetery	Cemetery	825.6	2.7%
		Commercial General	1,137.4	3.7%
	Commercial	Motor Vehicle Services	50.9	0.2%
		Motor Vehicle Ser. / Com. Gen.	19.4	0.1%
		Institutional	Institutions	1,766.1
	Manufacturing	Manufacturing / Warehouse	245.2	0.8%
	Mixed Use	Mixed Use	0.7	0.0%
	Office	Office	743.2	2.4%
	Public Park Active	Park	9.8	0.0%
	Public Park Passive	Park	89.7	0.3%
	Transportation Utility	ROW Easement	121.1	0.4%
Transportation General		1,571.2	5.1%	
Utilities		9.6	0.0%	
Non-Residential / Open	Institutional / Public Recreation	Institutions / Club	61.7	0.2%
Open Space	Cemetery	Cemetery	22.3	0.1%
		Nature Preserve	111.3	0.4%
	Public Park Active	Preserve	153.3	0.5%
		Club / Center	16.7	0.1%
		Golf	130.3	0.4%
		Open Space General	4.9	0.0%
		Park	1,332.4	4.3%
	Public Park Passive	Open Space General	1.2	0.0%
		Park	943.0	3.0%
		ROW Easement	248.3	0.8%
	Public Recreation	Camp	39.4	0.1%
		Club/Center	10.7	0.0%
		Golf	817.7	2.6%
Private Recreation General		10.5	0.0%	
Residential	Residential	Residential	92.6	0.3%
		Park	2.3	0.0%
	Residential High Density	Residential High Density	631.6	2.0%
		Residential	26.0	0.1%
	Residential Low Density	Residential Low Density	5,208.9	16.8%
		Residential	5.4	0.0%
Residential Medium Density	Residential Medium Density	4,633.8	15.0%	
	Residential Very Low Density	3,289.5	10.6%	
Residential / Open	Residential / Public Recreation	Residential/Golf	37.5	0.1%
Undeveloped	Residential Very Low Density	Residential Very Low Density	0.6	0.0%
		Undeveloped	1,019.7	3.3%
	Undeveloped / Cemetery	Undeveloped/Cemetery	0.6	0.0%
Water	Water Supply	Water Supply	2,484.5	8.0%
	Waterbody	Waterbody	2,521.2	8.1%
<b>Total</b>			<b>30,948.0</b>	<b>100.0%</b>



**Appendix C.**

**Bronx River Watershed Impervious Surface Methodology**



# BRONX RIVER WATERSHED IMPERVIOUS SURFACE METHODOLOGY

## **PURPOSE**

This purpose of this analysis was to calculate amount of impervious cover throughout Bronx River Watershed. Impervious surface calculations were analyzed at the Watershed and the subwatershed level.

## **DEFINITION OF IMPERVIOUS SURFACES**

Impervious surface areas will be analyzed and mapped for the Bronx River Basin using the following approach:

- Watershed and subwatershed analysis by municipality.

The analysis will include the following:

- Structural Features (to determine the amount of impervious surface attributable to structural features such as Buildings, Tanks, Train Stations, Train Platforms, and Miscellaneous Structures)
- Transportation Features (to determine the amount of impervious surface to transportation features such as paved roads, paved alleys, driveways, sidewalks, and paved parking)

The percent impervious surface calculated in this study was based on the area of impervious cover within the Bronx River Watershed, in addition to it's subwatersheds, the Bronx River, Grassy Sprain, and Kensico River Subwatersheds.

## **METHODOLOGY**

Impervious surfaces defined in this study are structures and transportation features. The structure and transportation datasets came from Westchester County's Base Mapping Project in 2000. The datasets have a mapping scale of 1"=100'. The structure dataset consists of buildings, tanks, towers, antennas, train stations, train platforms and miscellaneous structures. Using orthophotography, tanks; towers; antennas; and miscellaneous structures were visually verified to be either on the ground surface or above ground surface. 228 features visually verified to be above the ground surface were removed from the structural dataset. The transportation dataset consists of paved roads, major paved alleys, unpaved roads, paved driveways, public sidewalks and paved parking. Unpaved road features were taken out of the transportation dataset. (For a more detail description of the datasets please refer to the following page.) Municipal boundary, structure, and transportation datasets were clipped to the watershed. Total percentage of impervious area (transportation, structure, and total) were made at the watershed and subwatershed level by municipality.

Source: Datasets used for this analysis were:

**Westchester County Municipal Boundaries**

Coverage identifies corporate boundaries for all 44 municipal jurisdictions in Westchester County. Coverage originally obtained from New York State Office for Real Property Services (ORPS).

**Major Drainage Basins**

Coverage identifies county-wide major drainage basin boundaries as automated 1992 from Westchester County Environmental Planning Atlas Hydrologic Features Map.

**Minor Drainage Basins**

Coverage identifies county-wide minor drainage basin boundaries as automated 1992 from Westchester County Environmental Planning Atlas Hydrologic Features Map.

**Westchester County 2000 Base Map Planimetric Data**

Data covers the geographic area of Westchester County, New York. Data derived from Spring 2000 (leaf off) photogrammetric base map of Westchester County.

**Structural Features**

- **BUILDINGS:** Outline edge of roofline. All buildings shall be captured as polygons. In commercial areas especially, it is important that the plotted building represent the face of the building where it meets the sidewalk. Roof breaks for canopies, awnings, patios, etc. will not be captured unless it is evident that the structure is permanent and enclosed. Polygons shall be created for the outer boundary of the building.  
Building outlines that exceed tile boundaries must be closed off with the building neatline.  
NOTE: The Elevators that are on the ends of RR Pedestrian Bridges will also be captured as building structures.
- **TANKS:** Any petroleum storage tanks or other tanks with base area greater than 500 square feet shall be mapped as polygons
- **TOWERS:** Features such as free standing water towers, transmission line towers, observation towers and other free standing structures shall be mapped as polygons when the perimeter of their base exceeds over 25' on any one side.
- **ANTENNAS:** All radio, TV, microwave, and other antennas mounted on the ground shall be mapped as polygons when they are visible. Antennas or satellite dishes mounted on rooftops shall not be required.
- **TRAIN STATIONS:** All stand alone visible stations and train platforms shall be mapped as polygons.
- **TRAIN PLATFORMS:** All visible train platforms shall be mapped as polygons.
- **MISCELLANEOUS STRUCTURES:** Miscellaneous large structures that do not fit into any of the categories above. Examples include large monuments, and athletic stadiums.

**Transportation Features:**

- **PAVED ROADS:** Paved roads encompasses the service roads, streets, highways, expressways, and any other roadway intended for use by motor vehicles within the project area. Driveways under 100' in length, and parking lots are not to be captured. In most cases, the compiled feature shall be the face of a curb. If no curb is present then the actual edge of the pavement shall be compiled. Paved roads shall be continuous across driveways. Paved roads shall continue over bridges. Paved roads shall be digitized as closed polygons and closed at sheet edges as appropriate.
- **PAVED ALLEY:** ASI will capture and differentiate major alleys that accommodate emergency vehicles. They do not form blocks, but allow vehicular access to the block's interior. They are generally uncurbed. The Contractor shall be responsible for digitizing the visible edge of the paved way.
- **DRIVEWAYS:** Paved driveways over 100' in length leading up to residential and commercial buildings.
- **SIDEWALKS:** Public Sidewalks shall be mapped as polygons.
- **PAVED PARKING:** Paved Parking over 10 spaces shall be mapped as polygons.

NOTE: Questionable features were viewed with orthophotos and certain features deleted.

**Appendix D.**

**Description of the Watershed Treatment Model**



## Description of the Watershed Treatment Model

The Watershed Treatment Model (WTM), version 3.1 (Caraco, 2002) is a simple spreadsheet model typically used to:

- Estimate pollutant loading under current watershed conditions
- Determine the effects of current management practices
- Estimate load reductions associated with implementation of structural and non-structural management practices
- Evaluate the effects of future development

The model has two basic components: Pollutant Sources and Treatment Options. The *Pollutant Sources* component of the WTM estimates the load from primary land uses (i.e. residential, commercial, forest land) and secondary sources (i.e. active construction, managed turf, channel erosion, illicit connections) in a watershed without treatment measures in place. The *Treatment Options* component of the model estimates the potential reduction in this uncontrolled load if various treatment measures (both structural and nonstructural) are used. The WTM can examine a wide suite of treatment measures that are not typically tracked in models such as SLAMM and SWMM (see Table D-1). The WTM allows the user to quantitatively examine how these practices can most effectively be combined to reduce pollutant loads.

<b>Table D-1: Menu of Treatment Options Evaluated in WTM</b>
• Stormwater treatment practices (STP): STPs for new development, retrofits
• Stormwater management program practices: lawn care education, pet waste education, street sweeping, impervious cover disconnection, riparian buffers, catch basin cleanouts, CSO/SSO repair/abatement, illicit connection removal
• Erosion and sediment control
• Better site design
• Non-Stormwater—Septic system education, septic repair/inspection, septic system upgrade, marina pumpout, point source treatment

The model is based on the Simple Method (Schueler, 1987) for pollutant load calculations where impervious cover is used to estimate primary loads from various urban land uses. Loading for rural areas uses literature reported values and is primarily based on the area dedicated to row crops. Specific concentration assumptions used for urban/suburban loading estimates in the WTM model are based on values for different land uses summarized in the National Stormwater Quality Database (NSQD), a summary of national stormwater data from over 200 communities nationwide (Pitt et. al., 2003). Estimated runoff volumes are multiplied by pollutant concentration data to compute stormwater loads. All loads are computed based on an annual time step.

The *existing management practices* and *future management practices* components of the WTM assess the ability of the treatment options in a watershed to reduce the uncontrolled pollutant loads from primary and secondary sources. The pollutant removal efficiencies associated with various structural and nonstructural urban stormwater management practices are based on existing research and studies in the National Pollutant Removal Performance Database for

Stormwater Treatment Practices (Winer, 2000) and research compiled in the WTM (Caraco, 2002). The existing management practices component is based on information provided by Westchester County and observations made by CWP. The future management practices function of the WTM will be used in the subwatershed treatment analysis to evaluate recommended practices throughout the watershed.

A unique feature of the WTM is the inclusion of *treatability* and *discount* factors. Treatability is the fraction of a source that can be treated by a practice. For structural practices, treatability is best defined as the area that can be treated, while for education programs, it may reflect the fraction of the population that can be reached. The model uses discount factors to account for various levels of implementation, maintenance, and design criteria, in order to provide a more realistic implementation scenario and to avoid double counting management practices that occur in series or on the same site. Discount factors are applied to potential load reductions to account for imperfect practice application and upkeep, inability of educational programs to reach all citizens, and inadequate funding to implement all practices, to name a few.



**Appendix E.**

**Bronx River Watershed Comparative Subwatershed Analysis Metrics**



## Bronx River Watershed Comparative Subwatershed Analysis Metrics

Subwatershed	Current Impervious Cover		Publicly-Owned Land		Forest Cover	
	% of subwatershed	Score	% of subwatershed	Score	% of subwatershed	Score
Clove Brook	15.7%	7	0.4%	0	48.2%	3
Davis Brook	13.4%	7	5.3%	2	30.1%	5
Fox Meadow Brook	19.9%	7	6.8%	2	18.6%	7
Fulton Brook	32.7%	5	2.1%	0	26.2%	5
Grassy Sprain Brook	14.6%	7	30.9%	12	34.1%	5
Grassy Sprain Brook Direct Drainage	34.6%	5	2.2%	0	10.6%	7
Hartsdale Brook	20.1%	7	39.5%	15	34.6%	5
Kensico Reservoir	6.0%	10	6.6%	2	47.5%	3
Bronx River Lower Direct Drainage	43.7%	3	7.8%	3	2.0%	10
Manhattan Park Brook	21.7%	7	15.3%	6	27.1%	5
Bronx River Middle Direct Drainage	29.4%	5	16.0%	6	13.1%	7
Sprain Brook	22.0%	7	20.7%	8	29.4%	5
Troublesome Brook	29.6%	5	4.6%	1	15.2%	7
Bronx River Upper Direct Drainage	29.8%	5	15.9%	6	20.4%	7
White Plains Reservoirs	1.7%	10	8.7%	3	76.2%	1

Subwatershed	Wetland Cover		Conserved Land		Detached Residential Land	
	% of subwatershed	Score	% of subwatershed	Score	% of subwatershed	Score
Clove Brook	13.1%	6	4.7%	2	32.3%	3
Davis Brook	8.7%	4	7.5%	3	18.8%	1
Fox Meadow Brook	7.8%	3	0.1%	0	88.9%	8
Fulton Brook	9.5%	4	0.4%	0	49.4%	4
Grassy Sprain Brook	9.6%	4	12.6%	6	45.8%	4
Grassy Sprain Brook Direct Drainage	2.5%	1	7.2%	3	63.3%	6
Hartsdale Brook	7.4%	3	18.0%	9	46.9%	4
Kensico Reservoir	5.2%	2	22.9%	11	24.4%	2
Bronx River Lower Direct Drainage	5.5%	2	13.9%	6	54.1%	5
Manhattan Park Brook	6.5%	3	1.7%	0	38.7%	3
Bronx River Middle Direct Drainage	9.6%	4	8.5%	4	66.3%	6
Sprain Brook	11.4%	5	0.1%	0	38.3%	3
Troublesome Brook	1.4%	0	0.8%	0	75.4%	7
Bronx River Upper Direct Drainage	9.4%	4	11.5%	5	56.8%	5
White Plains Reservoirs	7.3%	3	64.7%	32	7.2%	0

**Bronx River Watershed Assessment and Management Report**

Subwatershed	Industrial Land		Stream Density		Stream Corridor Forest Cover	
	% of subwatershed	Score	stream miles / square miles	Score	% of stream corridor	Score
Clove Brook	0.0%	0	1.39	5	65.4%	3
Davis Brook	0.0%	0	1.50	7	35.9%	6
Fox Meadow Brook	0.0%	0	1.50	7	32.3%	6
Fulton Brook	0.9%	0	1.17	1	27.2%	7
Grassy Sprain Brook	0.0%	0	1.23	2	29.6%	7
Grassy Sprain Brook Direct Drainage	2.4%	2	0.69	0	12.6%	8
Hartsdale Brook	0.0%	0	0.51	0	48.5%	5
Kensico Reservoir	0.9%	0	0.98	0	67.7%	3
Bronx River Lower Direct Drainage	0.9%	0	0.73	0	6.5%	9
Manhattan Park Brook	0.7%	0	1.34	4	23.5%	7
Bronx River Middle Direct Drainage	1.1%	1	1.34	4	32.6%	6
Sprain Brook	1.5%	1	1.97	15	27.8%	7
Troublesome Brook	0.0%	0	0.79	0	9.6%	9
Bronx River Upper Direct Drainage	1.1%	1	1.16	1	39.3%	6
White Plains Reservoirs	0.0%	0	0.14	0	79.1%	2

Subwatershed	Public Ownership of Corridor		Hotspot Density		Municipalities	
	% of stream corridor	Score	hotspots / square mile	Score	municipalities / subwatershed	Score
Clove Brook	0.9%	0	5.3	3	1	5
Davis Brook	9.9%	0	5.6	3	2	3
Fox Meadow Brook	18.6%	1	2.1	1	2	3
Fulton Brook	0.4%	0	9.2	7	2	3
Grassy Sprain Brook	58.5%	5	1.4	1	2	3
Grassy Sprain Brook Direct Drainage	2.8%	0	7.6	5	1	5
Hartsdale Brook	26.1%	2	10.0	7	2	3
Kensico Reservoir	8.9%	0	0.4	1	5	1
Bronx River Lower Direct Drainage	89.9%	8	14.4	7	2	3
Manhattan Park Brook	18.6%	1	6.3	5	4	1
Bronx River Middle Direct Drainage	75.6%	7	9.1	7	7	1
Sprain Brook	11.6%	1	5.3	3	3	1
Troublesome Brook	10.8%	1	4.8	3	2	3
Bronx River Upper Direct Drainage	64.3%	6	8.2	5	5	1
White Plains Reservoirs	22.1%	2	0.0	1	3	1

**Appendix F.**

**Review of Management and Restoration Practice Evaluation and Ranking  
Methodology**



## **Review of Management and Restoration Practice Evaluation and Ranking Methodology**

Potential projects in the Bronx River Watershed were inventoried following the completion of the stream assessment, upland assessment and stormwater retrofit inventory. A project ranking system was developed to prioritize candidate projects within each assessment. Using best professional judgment, each project was assigned points and ranked according to the following factors:

- Cost – Cost associated with project.
- Synergy – Project with high potential to support other benefits, and functional values in the subwatershed. This includes project support, location benefits, ecological benefits, economic synergy, support other functional values.
- Visibility – Project with high visibility and potential to raise the public’s awareness of the watershed (visible from street or located in public park).
- Improve water quality – Potential for treatment or prevention of pollutants. Treats water quality volume or eliminates exposure of pollutants to stormwater runoff.
- Feasibility – Project with high potential that it will be implemented. The site has access for equipment, low maintenance burden, may serve as a demonstration site and is publicly owned.
- Community Involvement – Project with potential to educate and involve the community.

The ranking system is based on 100 points. Each project screening factor and ranking criteria is outlined in Table F-1.

**Table F-1: Bronx River Watershed Project Screening and Ranking Criteria**

<b>Project Screening Factor</b>	<b>Total Weight</b>	<b>Scoring Criteria</b>	
Cost	10	Low cost	10
		Medium cost	5
		High cost	2
Synergy	20	High potential to support other on-going projects in the watershed (2 or more projects in same area)	20
		Moderate potential to support other on-going projects in the watershed	15
		Low potential to support other on-going projects in the watershed.	5
Visibility	10	High visibility and potential to raise the public’s awareness of the watershed (visible from street or located in park)	10
		Moderate visibility and potential to raise the public’s awareness of the watershed	5
		Low visibility and potential to raise the public’s awareness of the watershed	2
Feasibility	20	High potential that project will be implemented. (The site has access for equipment, low maintenance burden, and is publicly owned).	20
		Project site with moderate potential that project will be implemented.	15
		Project site with low potential that project will be implemented.	5
Community Involvement	10	Project with high potential for community involvement and support. (volunteers involved with the implementation of projects)	10
		Project with moderate potential for community involvement and support.	5
		Project with low potential for community involvement and support.	2
Improve Water Quality	30	Project with high potential for treatment or prevention of pollutants. (treats water quality volume or eliminates exposure of pollutants to stormwater runoff)	30
		Project with moderate potential for treatment or prevention of pollutants	20
		Project with low potential for treatment or prevention of pollutants	10
Total Points	100		



**Appendix G.**

**Restoration and Management Practices Recommended for the Bronx River  
Watershed**



**Bronx River Watershed Assessment and Management Report**

Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Drainage Area Treated (acres)	Impervious Area Treated (acres)	Rank	Cost Range
Ardstley	Stormwater Retrofit	GSB	GSB-R6	H-8	Ardstley Park	Modified grass channel with infiltration trench; bioretention	Use a modified grass channel with infiltration trench (i.e., french drain) and perforated pipe to convey parking lot runoff to a bioretention/rain garden area.	0.3	0.3	High	\$\$
Ardstley	Stormwater Retrofit	GSB	GSB-R8	H-8	McDowell Park	Modified sand filter swale with turf cover, gravel trench, perforated underdrain; remove large waste pile of asphalt	Improve drainage at site by creating a modified sand filter swale with turf cover and gravel trench with perforated underdrain to treat runoff from an access road and auxiliary parking area that is in poor condition. Also need to remove large waste pile of asphalt.	0.3	0.3	Medium	\$\$
Bronxville	Stormwater Retrofit	BRM	BRM-R4	H-2	Bronxville train station	Planter boxes	Historic looking building in commercial village. There is a small plaza, but opportunities minimal due to elevations and heavy use. External downspouts to train station, so potential for planter boxes.	0.1	0.1	Medium	\$
Bronxville	Stormwater Retrofit	BRM	BRM-R9	H-2	Bronxville Library	Disconnect roof drains; rain garden; educational signage	Possible to disconnect roof drains and utilize water in existing landscaped areas or expand to rain garden. Good location for educational signage. Second possibility to divert parking runoff into landscaped island.	0.2	0.2	Medium	\$\$
Bronxville	Stormwater Retrofit	BRM	BRM-R6	H-2	Concordia College	Rain garden; bioretention; porous pavers	Three possible retrofits identified at college campus - others may exist. Rain garden for downspout runoff from campus house; rain garden/bioretention for road runoff (requires diversion away from existing inlet); porous pavers for courtyard near student center.	0.2	0.2	Low	\$\$
Bronxville	Stormwater Retrofit	BRM	BRM-R8	H-2	Bronxville School	Rain garden; underground practice	While landscaped areas exist at the school, they are not adjacent to the roof drains or parking lot. Possibly rain gardens could be constructed in the front of the complex and the faculty parking could be treated with an underground practice.	1.0	1.0	Low	\$\$
Eastchester	Stormwater Retrofit	BRM	BRM-R2/3	H-2	Lord & Taylor shopping center	Bioretention cells; vegetated swale	Large parking lot in the Vernon Hills shopping area (Lord & Taylor) lacks in-lot landscaping. BRM-R2 is bioretention cells in the rear parking lot. BRM-R3 is another option that redirects flow from north side parking lot thru curb cuts into an existing turf area in a vegetated swale to a small bioretention area down slope near the egress.	4.5	4.5	Medium	\$\$
Eastchester	Stormwater Retrofit	BRM	BRM-R5	H-2	Immaculate Conception Church and School	Permeable pavers; bioretention; rain garden; storm drain stenciling	Immaculate Conception School and church with parking lot and asphalt walkways. Possible retrofits include: permeable pavers to replace the asphalt courtyard/walkway; bioretention into parking lot island in front of school, rain garden in landscaped area adjacent to school, stenciling.	0.3	0.3	Low	\$\$

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Drainage Area Treated (acres)	Impervious Area Treated (acres)	Rank	Cost Range
Eastchester	Stormwater Retrofit	BRM	BRM-R17	H-2	Along the east side of the Bronx River, south of Harney Road	Forested wetland	Forested wetland to treat runoff from large outfall that drains commercial / apartments land use.	120.0		Low	\$\$\$
Elmsford	Stormwater Retrofit	MP	MP-R2	H-12	Bed, Bath & Beyond shopping center on Tarrytown Road	Perimeter or underground sand filters	Perimeter or underground sand filters proposed for two primary drain inlets in parking lot. The parking lot is relatively new and a complete reconfiguration would be necessary to accommodate a practice such as bioretention. Such a reconfiguration seems unfeasible at this time.	2.8	2.8	Medium	\$\$
Greenburgh	Stormwater Retrofit	FB	FB-R3	H-5	Large school complex in Greenburgh	Bioretention; swales; rooftop disconnection; reforestation; demonstration and educational projects	Large school complex in Greenburgh (at the northwest end of the Fulton Brook subwatershed). Includes an elementary school, a high school, administrative offices, and a school bus yard. Many opportunities for retrofits exist, including parking lots (bioretention), roads (swales), and rooftop disconnection. Many of the parking lots were in poor condition and may need to be repaved in the near future. Some reforestation opportunities exist. Also, may serve as good location for demonstration and educational projects.	10.0	8.0	High	\$\$
Greenburgh	Stormwater Retrofit	FB	FB-R4	H-5	Best Buy shopping center on Central Avenue	Swale; bioretention	Swale and bioretention to treat runoff from Best Buy shopping center parking lot and Central Avenue.	1.2	1.2	High	\$\$
Greenburgh	Stormwater Retrofit	FB	FB-R5	H-5	Turco's shopping center on Central Avenue	Swale	Swale to treat runoff from parking lot	0.5	0.5	High	\$\$
Greenburgh	Stormwater Retrofit	GSB	GSB-R2	H-8	Veterans Park North	Rain garden	Treat runoff from small parking lot. Current turf area in between lot and baseball field will provide good visibility and educational opportunity. Locate practice against property fence line on east side. Daylight existing pipe to rain garden/butterfly garden. Good demonstration project. Need to maintain access between lot and ball field; may cause problems with maintenance vehicle path.	0.6	0.6	High	\$\$

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Greenburgh	Stormwater Retrofit	HB	HB-R1	H-10	Hartsdale Train Station	Perimeter sand filter; bioswale; demonstration project	Drainage area to proposed retrofit includes part of E. Hartsdale Ave., the commuter lot, the taxi stand, and the train station drop off area. Install a perimeter sand filter across Aqueduct Dr. at the site of two existing storm drain inlets (storm drain inlets currently drain to Hartsdale Brook - about 10 feet of stream exposed). A grass channel drains the commuter parking lot - retrofit to a bioswale to provide treatment. High traffic area - probably a hotspot, also good opportunity for demonstration project with signage.	1.1	1.0	High	\$\$
Greenburgh	Stormwater Retrofit	HB	HB-R3	H-10	Greenburgh Nature Center	Porous pavers; bioretention; educational signage	On two tiered visitors parking lot (upper and lower), replace concrete stalls with porous pavers or other permeable surface. Space available for bioretention in southeast corner of lower lot. Stormwater collected from parking lot currently discharges to an adjacent stand of sugar maples, where educational activities occur. Incorporate educational signage about stormwater, parking lot retrofits to add educational benefit.	0.5	0.5	High	\$\$
Greenburgh	Stormwater Retrofit	MP	MP-R1	H-12	Crossroads Plaza on Tarrytown Road	Bioretention; grass swale; perimeter sand filter; expanded tree pits; underground sand filter; remove a concrete slab over stream; planter boxes at downspouts; covered storage for sand/salt; tree planting	In the front of the building, opportunities include installing bioretention facility in existing landscape area, moving parking spaces to accommodate a grass swale, perimeter sand filter to treat a portion of the runoff from the fleet storage area, expanding tree pits in front of buildings, installing underground sand filters at parking lot drain inlets, and removing a concrete slab placed over stream for A&P parking. Behind the buildings possible retrofits include installing planter boxes at downspouts, providing covered storage for sand/salt in fleet storage area, and reforesting steep slopes (currently turf).	10.2	10.2	High	\$\$\$

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Greenburgh	Stormwater Retrofit	MP	MP-R4	H-12	Greenburgh Elementary School	Remove impervious cover; incorporate more efficient parking and bus lanes; increase landscaping; stormwater treatment practices; demonstration site	Greenburgh Elementary School on Hillside Avenue. The yard in front of the school is grass and landscaping. A large paved area behind the school serves as parking, school bus lanes, and a playground – there is no landscaping or pervious areas. The pavement is in very poor condition and may need to be repaved in the near future. When this happens, the entire area behind the school should be redesigned to incorporate more efficient parking and bus lanes; significantly increased landscaping and vegetative cover, and stormwater treatment practices. May serve as a good demonstration site, and opportunity to work with school children throughout design and implementation process.	1.6	1.0	High	\$\$
Greenburgh	Stormwater Retrofit	MP	MP-R5	H-12	Greenburgh Town Hall	Pervious paving; bioretention rain gardens	New facility with an on-site pond that does not appear connected to stormwater system. Propose installing pervious paving option in overflow parking area, along with realigning landscape areas to be perpendicular to stormwater flow (versus parallel). Construct these landscape islands to provide stormwater treatment. Also excavate/modify existing landscape islands in main parking lot area to receive stormwater runoff.	1.5	1.5	High	\$\$
Greenburgh	Stormwater Retrofit	MP	MP-R6	H-12	Greenburgh Library	Perimeter sand filters; bioretention; revegetation of slopes with native plant demonstration area; permeable paving	Many possible options at this site, would benefit from review of site plans. Possible retrofit options include perimeter sand filters at opposing drain inlets, conversion of landscape/turf areas to bioretention, revegetation of slopes with native plant demonstration area, permeable paving option in overflow (or rarely used) parking areas.	1.1	1.1	High	\$\$
Greenburgh	Stormwater Retrofit	MP	MP-R20	H-12	Westchester Community College	Pervious pavers; curb cuts; enhance pervious areas on campus	Several options for retrofitting available including pervious pavers in existing flat areas; curb cuts into depressional pervious areas; enhancing pervious areas on campus. Need to coordinate with existing master plan concepts.	2.2	2.2	High	\$\$\$

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Greenburgh / White Plains	Stormwater Retrofit	FB	FB-R1	H-5	TJ Maxx shopping center on Central Avenue	Underground or perimeter sand filter	Proposed retrofit location is in the parking lot behind the building at an existing storm drain inlet. Since this is a loading / unloading area, the proposed retrofit is an underground or perimeter sand filter - this will not consume space. Area draining to the retrofit (about 1.6 acres) includes the building rooftop (downspouts discharge to impervious area behind building), a portion of the parking lot, the loading / unloading areas for the businesses, and the dumpster areas.	1.6	1.5	Medium	\$\$
Greenburgh	Stormwater Retrofit	FB	FB-R2	H-5	Bed, Bath & Beyond shopping center on Central Avenue	Bioretention; catch basin inserts; perimeter sand filters	Propose reconfiguring parking in front of buildings to accommodate bioretention at existing drain inlets and/or distributed bioretention in new landscaped areas. Alternative retrofit would include catch basin inserts and/or perimeter sand filters at existing drain inlets in parking lot. Perimeter sand filters also proposed for drain inlets in rear of buildings.	4.6	4.6	Medium	\$\$\$
Greenburgh	Stormwater Retrofit	GSB	GSB-R1	H-8	Old Franks Nursery on Central Avenue	Porous pavement; grass channels; bioretention	Adjacent to a pervious area restoration site. Concepts applied can be multiple when redevelopment of site occurs, including porous pavement and grass channels. Potential bioretention opportunities but would likely result in losing as many as 11 parking spaces.	2.0	1.8	Medium	\$\$
Greenburgh	Stormwater Retrofit	GSB	GSB-R3	H-8	Veterans Park South (east side)	Perimeter sand filters	Very challenging site due to severe slopes of parking lot and likely high use of area during summer months (~7% slopes). Use perimeter sand filters to treat portion of parking lot runoff without taking up space. High cost to benefit ratio is expected.	2.0	2.0	Medium	\$\$
Greenburgh	Stormwater Retrofit	GSB	GSB-R4	H-8	Veterans Park South (west side)	Proprietary subsurface practices	Similar in challenges as site GSB-R3. Severe slopes and high lot usage in warm months. Use proprietary subsurface practices for limited treatment prior to discharge to large wetland complex. Wetland is dominated by monocultures of Phragmites. High cost to benefit ratio is expected.	2.3	2.3	Medium	\$\$

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Greenburgh	Stormwater Retrofit	HB	HB-R2	H-10	Scarsdale Country Club	Bioretention	Primary parking lot for club members in very poor condition. Propose two bioretention facilities; first in southwest corner of lot, second along western edge in midsection of lot. First bioretention would involve raising the height of an existing drain inlet and the potential loss of 4 parking spots. Second bioretention would be located adjacent to parking lot, in a location where a dead tree currently stands. The dead tree would need to be removed, and a small area (approx. 2 parking spots) regraded to direct runoff off of parking lot into bioretention area. This regrading could occur when the lot is repaved.	0.7	0.7	Medium	\$\$
Greenburgh	Stormwater Retrofit	HB	HB-R5	H-10	Large vacant lot at the intersection of Central Avenue and Healy	Wet extended detention pond	Convert partially-excavated large vacant lot to large wet extended detention pond.	200.0	100.0	Medium	\$\$\$
Greenburgh	Stormwater Retrofit	MP	MP-R7	H-12	Greenburgh Housing Authority apartment building on Manhattan and Elm	Bioretention; catch basin inserts; improved dumpster management	Apartment building on Manhattan and Elm has a large parking lot (about 1.8 acres) that does not have stormwater treatment practices. In addition, several of the storm drain inlets were clogged with trash and debris. Construct two bioretention areas to treat runoff from about 0.4 acres of the lot. In addition, the use of catch basin inserts should be examined for the remaining inlets. Improved dumpster management is recommended for the site. A larger pervious area in front of the apartment complex provides a good opportunity for enhanced landscaping and plantings - see MP-P3.	0.4	0.4	Medium	\$\$
Greenburgh	Stormwater Retrofit	SB	SB-R4	H-13	Sprain Ridge Park and Ride	Bioretention	Large parking lot does not have any stormwater management practices. The parking lot appears to have been recently repaved, which may reduce the feasibility of this project. However, the proposed concept is to install curb cuts in existing landscaped areas and to convert these to bioretention facilities. Additional bioretention islands should be created throughout the parking lot. This may result in the loss of some parking spaces.			Medium	\$\$
Greenburgh	Stormwater Retrofit	BRM	BRM-R13	H-2	Edgemont High School	Bioretention	Bioretention possible in parking lot.	0.2	0.2	Low	\$\$



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Greenburgh	Stormwater Retrofit	GSB	GSB-R5	H-8	Ridge Park	Bioretenion/rain garden; divert water to vegetated areas	Current lot configuration is unhelpful in terms of providing vegetated areas to receive small volumes of runoff from parking lot pavement. Ideally, configuration of stalls and aisles should be rotated 90 degrees. Several options exist including constructing a bioretention/rain garden at west end of parking lot area in woods. A simpler option might be to use speed bumps to break up flow paths and divert water to vegetated areas.	1.4	1.3	Low	\$\$
Greenburgh	Stormwater Retrofit	HB	HB-R4	H-10	Right-of-way along Central Avenue at Marion	Bioretenion	Divert flows from Central Avenue to two separate bioretention areas.	0.7	0.7	Low	\$\$
Greenburgh	Stormwater Retrofit	MP	MP-R3	H-12	Danon Corporate Offices on Hillside Avenue	Bioretenion	Propose excavating mounded landscape areas and using curb cuts to direct stormwater to these locations. Drain inlets currently located adjacent to or at islands - propose converting these areas to bioretention by raising the drain inlet height and using as an overflow.	10.0	10.0	Low	\$\$
Mount Pleasant	Stormwater Retrofit	CB	CB-R1	H-4	Old Kensico Treatment Facilities	Bioretenion; pervious pavement	Several retrofitting opportunities due to available space. Need to inquire about future planned use of space. Efforts can be linked to pervious area restoration opportunities. Bioretention options appear available to treat road runoff and pervious pavement is option for boat storage area.	22.5	12.0	Medium	\$\$
Mount Pleasant	Stormwater Retrofit	CB	CB-R2	H-4	Legionnaires of Christ Conference Center	Pervious pavers; infiltration trenches; swales; tree planting	Large private conference facilities that has significant parking areas that appear to get sporadic use. Great opportunity to pursue volume reducing practices through use of grass or pervious pavers, infiltration trenches, and swales. Should target at least 20-30% of lots for pavers. Also opportunities for tree planting areas.	2.6	2.3	Medium	\$\$
Mount Vernon	Stormwater Retrofit	BRM	BRM-R7	H-2	Pennington Grimes Elementary School	Rain gardens; extended tree pit; trash management; storm drain stenciling; bioswale	Pennington Grimes Elementary school with external roof drains and rear parking lot. Opportunities include: two rain gardens, extended tree pit to capture parking lot runoff; trash management, storm drain stenciling, parking lot bioswale.	0.4	0.4	High	\$\$
Mount Vernon	Stormwater Retrofit	BRM	BRM-R1	H-2	Brewster Carter Apartments	Perimeter sand filter	Runoff from rooftops and the parking lot drains through a curb cut, down a hill, into the stream where erosion has created a headcut. Install a perimeter sand filter along the edge of the drive where the existing curb cut exists.	1.0	1.0	Medium	\$\$

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Mount Vernon	Stormwater Retrofit	BRL	BRL-R1	H-1	Cross County Mall	Incorporate stormwater demonstration projects into new development plans	Cross County Mall (80 acres) is undergoing renovation; investigate opportunities to incorporate innovative stormwater management and construct stormwater demonstration projects.	80.0	80.0	Low	\$
Mount Vernon	Stormwater Retrofit	BRM	BRM-R12	H-2	Cross County Parkway cloverleaf	Stormwater wetland; no-mow area	Cross County Parkway Cloverleaf (though likely DOT property). Possible to create wetland area or at minimum create non-mowed area.	0.7	0.7	Low	\$\$
Scarsdale	Stormwater Retrofit	BRM	BRM-R10	H-2	Scarsdale Village Hall	Reduce imperviousness; bioretention	Parking lot could be altered to reduce imperviousness and add bioretention treatment. Turn parking lot into one way loop with slanted stalls. Natural area to be fixed up. Adjacent Friends Meeting House parking lot could be incorporated. Good existing stormdrain stencils.	1.0	1.0	Medium	\$\$
Tuckahoe	Stormwater Retrofit	BRM	BRM-R11	H-2	Marbledale Vacant Lot	Stormwater wetland	Located in light industrial area. Site of old quarry contains broken up asphalt and brush areas. The site does not receive drainage from off-site. It may be possible to divert runoff from Marbledale Road stormdrain system to the vacant lot for treatment in a stormwater wetland. However, additional detail on elevations and inlet locations is needed. This has potential to be a big storage practice	1.3	1.3	Low	\$\$\$
Greenburgh / White Plains	Stormwater Retrofit	FB	FB-R1	H-5	TJ Maxx shopping center on Central Avenue	Underground or perimeter sand filter	Proposed retrofit location is in the parking lot behind the building at an existing storm drain inlet. Since this is a loading / unloading area, the proposed retrofit is an underground or perimeter sand filter - this will not consume space. Area draining to the retrofit (about 1.6 acres) includes the building rooftop (downspouts discharge to impervious area behind building), a portion of the parking lot, the loading / unloading areas for the businesses, and the dumpster areas.	1.6	1.5	Medium	\$\$
White Plains	Stormwater Retrofit	BRU	BRU-R1	H-3	Verizon Building near the County Center	Forested wetland	Behind the Verizon Building near County Center, allow Fulton Brook to overtop banks into forested area to provide treatment. Possibly remove trees and excavate to maximize storage.	640.0		Low	\$\$\$
Yonkers	Stormwater Retrofit	BRM	BRM-R16	H-2	Public park along Paxton Avenue immediately south of its intersection with Stone Place	Biofilter	Biofilter in public park to treat runoff from adjacent commercial area and road.	3.8	3.0	High	\$\$

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Yonkers	Stormwater Retrofit	SB	SB-R1	H-13	City of Yonkers Water Works Building / Sign Shop	Move traffic operations maintenance to different location; pollution prevention; perimeter sand filter	Retrofit options include: move traffic operations maintenance to different location; pollution prevention; perimeter sand filter at traffic shops. Need physical barrier to keep trucks, materials out of stream. Need physical barrier between trucks and sand filter.			High	\$\$\$
Yonkers	Stormwater Retrofit	BRL	BRL-R2	H-1	AB Davis School	Tree plantings in front of school and next to track	Conduct extensive tree plantings and clean-up of pervious areas.			Medium	\$
Yonkers	Stormwater Retrofit	BRL	BRL-R3	H-1	Franko School	Convert asphalt to pervious area; pervious pavement	Lots of asphalt - removal of asphalt. External downspout near asphalt area where people don't drive - convert to pervious area. Also near an inlet - open up as pervious area. One area - between two buildings, not much sunlight, may pervious pavement. Another asphalt area - investigate use further.			Medium	\$
Yonkers	Stormwater Retrofit	GSB	GSB-R7	H-8	Old Macy's Distribution Center	Green roofs; cisterns; porous pavement; swales; bioretention	Several opportunities here to use smaller more innovative practices such as green roofs, cisterns, porous pavement, swales, and bioretention. Core concept is to break up the large areas of impervious cover using these practice options.	5.5	5.5	Medium	\$\$\$
Yonkers	Stormwater Retrofit	GSB	GSB-R9	H-8	Sprain Brook Golf Course	No mow areas; outfall stabilization; geese management	Sprain Brook Golf Course. Some no mow areas, right up to Grassy Sprain reservoir. They are mowing up to edge of stream - need some no mow areas. Some areas where they can do tree plantings - constrained by fairways. Did have some construction going on at end of parking lot - mediocre erosion and sediment control - site not stabilized for winter. Parking lot - sheet flows to area on golf course - one small area where flow concentrates and has caused erosion - can use some stabilization. Lots of geese on the golf course.	0.5	0.5	Medium	\$\$
Yonkers	Stormwater Retrofit	SB	SB-R3	H-13	Toll plaza on New York State Thruway	Stormwater wetland	Grassy ROW area between Home Depot and toll plaza available for potential stormwater wetland using existing drainage infrastructure. Standing water in large paved pull off area indicative of potential drainage improvement a retrofit could have here. Potential to convert portion of this paved area into preliminary treatment cell for wetland.			Medium	\$\$
Yonkers	Stormwater Retrofit	SB	SB-R6	H-13	Westchester County Resource Recovery Center	Bioretention; sand filters; inlet treatment	Apply bioretention, sand filters, and inlet treatment through property.			Medium	\$\$

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Yonkers	Stormwater Retrofit	SB	SB-R2	H-13	Yonkers Ice Rink	Underground practice (e.g., sand filter)	Impervious site, lots of parking, some city vehicle storage, ice rink itself. Extra parking where they're storing vehicles – some space to provide treatment. Install underground practice (e.g., sand filter) entrance way (everything flows to street).			Low	\$\$
Yonkers	Stormwater Retrofit	SB	SB-R5	H-13	New York State Thruway right-of-way, adjacent to Home Depot	Swale; stormwater wetland	Swale and possibly large storage facility in New York State Thruway right-of-way.			Low	\$\$\$
Yonkers	Stormwater Retrofit	SB	SB-R7	H-13	Home Depot, adjacent to New York State Thruway	Perimeter sand filter	Perimeter sand filter to treat loading dock area.			Low	\$\$

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Invasive Species Management (acres)	Stream Restoration (linear feet)	Reforestation (acres)	Rank	Cost Range
Yonkers / Eastchester	Riparian Corridor Restoration	BRM	BRM-S1	H-2	Near Garth Woods, along the Bronx River north of Strathmore Road / Harney Road	Bank stabilization; widen riparian buffer; remove and manage invasive plant species; expand floodplain area; stormwater retrofit; stabilize stormwater outfall; realign Bronx River	Public park near residential area and church needs bank stabilization, widen riparian buffer; remove and manage invasive species; expand floodplain area; stormwater retrofit in Bronx River Parkway to capture street and parking lot runoff; stabilize stormwater outfall; realign Bronx River.	5	1,200	2	High	\$\$
Yonkers / Eastchester	Riparian Corridor Restoration	BRM	BRM-S3	H-2	Along the Bronx River from Harney Road south for approximately 3,000 feet	Stabilize eroding banks; widen riparian buffer; stabilize stormwater outfalls; remove and manage invasive plant species; expand floodplain wetland area; realign Bronx River	Opportunity to stabilize eroding banks; widen riparian buffer; stabilize stormwater outfalls; remove and manage invasive species; expand floodplain wetland area; realign Bronx River.	5	3,000	7	Medium	\$\$\$
Greenburgh / White Plains	Riparian Corridor Restoration	BRU	BRU-S1	H-3	Between Old Kensico Road and the Bronx River Parkway under the Interstate 287 crossing	Stormwater retrofit; reforestation; remove and manage invasive plant species; widen buffer	Opportunity along major public roadway (good access) to divert flow into a stormwater retrofit; reforest part of the site; remove and manage invasive species; widen buffer.	<1	200	<1	High	\$
Greenburgh	Riparian Corridor Restoration	MP	MP-S1	H-12	Along Manhattan Park Brook at the Old Tarrytown Park, south of Old Tarrytown Road	Redesign channel, replace culvert and/or daylight stream; remove and manage invasive plant species	Potential to redesign channel to replace existing gabions; replace culvert and/or daylight stream; remove and manage invasive species.	<1	200	<1	High	\$
Greenburgh / North Castle	Riparian Corridor Restoration	BRU	BRU-S4	H-3	Along a tributary to the Bronx River, extending from Edge Park Road east to the confluence with the Bronx River	Remove and manage invasive plant species; expand floodplain wetland; stormwater retrofit	Remove and manage invasive species along major roadway; expand floodplain wetland; stormwater retrofit in Bronx River Parkway.	2			Medium	\$\$
Greenburgh	Riparian Corridor Restoration	MP	MP-S2	H-12	Knollwood Golf Course	Stabilize eroding banks; stormwater retrofit; improve buffer	Opportunity to stabilize eroding banks; stormwater retrofit to treat parking lot; improve buffer.	0	2,400	3	Low	\$\$\$
Mount Pleasant	Riparian Corridor Restoration	DB	DB-S1	H-5	Westchester County DPW Grasslands facility	Remove and manage invasive plant species; expand/enhance floodplain; realign stream; stormwater retrofit	Potential to remove and manage invasive species; expand/enhance floodplain; realign stream to allow for stormwater treatment of runoff from parking lot and roadway.	10	1,200	2	High	\$\$
Mount Pleasant	Riparian Corridor Restoration	DB	DB-S2	H-5	Along the Davis Brook, at a monument business near the intersection of Lakeview Avenue and Taconic State Parkway	Remove and manage invasive plant species; expand floodplain; realign stream; stormwater retrofit	Potential to remove and manage invasive species; expand floodplain; realign David Brook to allow for stormwater treatment of hotspot runoff.	2	1,000	2	Medium	\$\$
Mount Pleasant	Riparian Corridor Restoration	DB	DB-S3	H-5	Train station parking lot in Valhalla	Remove blockage at water main crossing; remove and manage invasive plant species; expand floodplain; stormwater retrofit	Options to remove blockage from water main crossing; remove and manage invasive species; expand floodplain; potential stormwater retrofit.	1	500		Medium	\$\$
Mount Pleasant	Riparian Corridor Restoration	DB	DB-S4	H-5	Along the Davis Brook from the Commerce Street crossing south between the Taconic State Parkway and the parking lot of a rock gym	Remove and manage invasive plant species; expand floodplain; stormwater retrofit	Remove and manage invasive species; expand floodplain; stormwater volume reduction by capturing roof and parking lot runoff.	5			Low	\$

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Invasive Species Management (acres)	Stream Restoration (linear feet)	Reforestation (acres)	Rank	Cost Range
Mount Pleasant	Riparian Corridor Restoration	DB	DB-S5	H-5	Along Davis Brook, 300 feet south of Lakeview Avenue along a landscaping business	Natural grade control structure; remove and manage invasive plant species; enhance wetland seep	Replace failing concrete structure with natural grade control structure; remove and manage invasive species; enhance wetland seep (may capture fertilizers and pesticides).	1	1,000		Low	\$
Mount Vernon / Yonkers	Riparian Corridor Restoration	BRM	BRM-S2	H-2	Along the Bronx River south of Midland Avenue, north of Scout/Parkway Field	Replant riparian buffer; remove and manage invasive plant species; stormwater retrofit	Site in heavily used public park near residential area. Replant riparian buffer; remove and manage invasive species; and stormwater retrofit.	4		1	High	\$
Yonkers / Mount Vernon	Riparian Corridor Restoration	BRL	BRL-S1	H-1	Along the Bronx River from the Bronx Street crossing to the Oak Street crossing	Widen riparian buffer; stabilize stormwater outfall; remove and manage invasive plant species; reconnect and expand floodplain; stormwater retrofit	Site along Bronx River public walking path with good access. Opportunity to widen riparian buffer; stabilize stormwater outfall; remove and manage invasive species; reconnect and expand floodplain; create stormwater treatment in cloverleaf.	10		5	Medium	\$\$
Greenburgh / North Castle	Riparian Corridor Restoration	BRU	BRU-S4	H-3	Along a tributary to the Bronx River, extending from Edge Park Road east to the confluence with the Bronx River	Remove and manage invasive species; expand floodplain wetland; stormwater retrofit	Remove and manage invasive species along major roadway; expand floodplain wetland; retrofit in Bronx River Parkway.	2			Medium	\$\$
Greenburgh / White Plains	Riparian Corridor Restoration	BRU	BRU-S1	H-3	Between Old Kensico Road and the Bronx River Parkway under the Interstate 287 crossing	Stormwater retrofit; reforestation; remove and manage invasive species; widen buffer	Opportunity along major public roadway (good access) to divert flow into a stormwater retrofit; reforest part of the site; remove and manage invasive species; widen buffer.			1	High	\$
White Plains	Riparian Corridor Restoration	BRU	BRU-S2	H-3	In north White Plains, along the Bronx River from the Fisher Lane Bridge crossing south to the Cemetery Road crossing	Widen riparian buffer; remove and manage invasive plant species; expand floodplain; stormwater retrofit	Along roadway and public parking lot. Opportunity to widen riparian buffer with tree plantings; remove and manage invasive species; expand floodplain; retrofit in Bronx River Parkway.	5		2	Medium	\$
White Plains	Riparian Corridor Restoration	BRU	BRU-S3	H-3	Along the Bronx River from the County Center parking lot access bridge north to the Cemetery Road crossing	Widen riparian buffer; remove and manage invasive plant species; expand floodplain wetland area; stormwater retrofit	Potential to widen riparian buffer; remove and manage invasive species; expand floodplain wetland area; stormwater retrofit in Bronx River Parkway.	5		10	Medium	\$\$
Yonkers / Eastchester	Riparian Corridor Restoration	BRM	BRM-S1	H-2	Near Garth Woods, along the Bronx River north of Strathmore Road / Harney Road	Bank stabilization; widen riparian buffer; remove and manage invasive species; expand floodplain area; stormwater retrofit; realign Bronx River	Public park near residential area and church needs bank stabilization, widen riparian buffer; remove and manage invasive species; expand floodplain area; stormwater retrofit in Bronx River Parkway to capture street and parking lot runoff; stabilize stormwater outfall; realign Bronx River.	5	1,200	2	High	\$\$
Yonkers / Eastchester	Riparian Corridor Restoration	BRM	BRM-S3	H-2	Along the Bronx River from Harney Road south for approximately 3,000 feet	Stabilize eroding banks; widen riparian buffer; stabilize stormwater outfalls; remove and manage invasive species; expand floodplain wetland area; realign Bronx River	Opportunity to stabilize eroding banks; widen riparian buffer; stabilize stormwater outfalls; remove and manage invasive species; expand floodplain wetland area; realign Bronx River.	5	3,000	7	Medium	\$\$\$

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Invasive Species Management (acres)	Stream Restoration (linear feet)	Reforestation (acres)	Rank	Cost Range
Yonkers / Mount Vernon	Riparian Corridor Restoration	BRL	BRL-S1	H-1	Along the Bronx River from the Broad Street crossing to the Oak Street crossing	Widen riparian buffer; stabilize stormwater outfall; remove and manage invasive species; reconnect and expand floodplain; stormwater retrofit	Site along Bronx River public walking path with good access. Opportunity to widen riparian buffer; stabilize stormwater outfall; remove and manage invasive species; reconnect and expand floodplain; create stormwater treatment in cloverleaf.	10		5	Medium	\$\$

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Area (acres)	Rank	Cost Range
Ardley	Pervious Area Restoration	GSB	GSB-P2	H-8	Veterans Park	Reforestation; invasive plant species management	Site is existing park/natural area remnant adjacent to small wetland. There is a small park bench, but area is currently mowed. Tree planting could improve wetland buffer/attract birds, etc. Minimal site preparation, though existing invasive species in wetlands should be evaluated.	0.6	High	\$
Ardley	Pervious Area Restoration	GSB	GSB-P3	H-8	Our Lady of Perpetual Help	Reforestation; stream buffer enhancement	Open grassy area at school and enhancement of stream buffer. Medium site preparation required, and unknown invasive along stream. Good candidate site; however there may be limitations due to usage of open area for recess or line of site, safety issues.	1.0	High	\$\$
Ardley	Pervious Area Restoration	GSB	GSB-P7	H-8	McDowell Park	Perimeter reforestation	Small, public open turf area built on fill material adjacent to ball field. With the exception of potential soil amendments, probably requires minimal site preparation. Area may be used for some type of active recreation, or trees may be issue with existing ball field.	0.4	Medium	\$\$
Eastchester	Pervious Area Restoration	BRM	BRM-P2	H-2	Leewood Golf Course	Perimeter reforestation	Reforestation potential along perimeter of golf course.	5.0	High	\$
Eastchester	Pervious Area Restoration	BRM	BRM-P3	H-2	Eastchester Park	Invasive plant removal; trash cleanup; native plantings	Natural area remnant in park adjacent to wetland area. Needs invasive removal, trash cleanup, and native plantings. May have underground utility issues.	1.0	High	\$\$
Eastchester	Pervious Area Restoration	BRM	BRM-P1	H-2	Closed Eastchester Ball Field	Bioremediation	Ball field adjacent constructed using contaminated fill, so site currently unusable. Potential site for a bioremediation using poplar or other tree species.	2.2	Medium	\$\$\$
Eastchester	Pervious Area Restoration	BRM	BRM-P5	H-2	Immaculate Conception Church/School	Reforestation; slope stabilization	Open area between ball field and parking lot/building at private school. Minimal site preparation required, but check bedrock. Use plantings to stabilize slope.	0.4	Medium	\$
Greenburgh	Pervious Area Restoration	MP	MP-P3	H-12	Greenburgh Housing Authority complex on Manhattan Avenue	Native species plantings with signage; benches; pathways	Turf area at public apartment complex on Manhattan Avenue. Minimal site preparation, however potential use by residents and perimeter lighting possible constraints. Plant native species with signage, benches, pathways, etc.	0.6	High	\$\$



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<b>Jurisdiction</b>	<b>Management Practice</b>	<b>Subwatershed</b>	<b>Site ID</b>	<b>Map</b>	<b>Location</b>	<b>Opportunity</b>	<b>Field Observations</b>	<b>Area (acres)</b>	<b>Rank</b>	<b>Cost Range</b>
Greenburgh	Pervious Area Restoration	FB	FB-P1	H-5	Webb Park on Central Avenue	Native plant demonstration; perimeter reforestation	Mostly turf open space at public park. Used as a ball field, however potential for a native plant demonstration along parking lot. Reforestation along north and east edges of park with minimal site preparation.	0.9	Medium	\$
Greenburgh	Pervious Area Restoration	MP	MP-P1	H-12	Vacant lot at the intersection of Tarrytown Road and Dobbs Ferry Road	Reforestation; stream buffer enhancement	Potential for reforestation in open area, at least along stream corridor. Could be privately owned, however bisected by power line (so may be a public ROW). If overhead lines problematic, replant along stream.	1.0	Medium	\$
Greenburgh	Pervious Area Restoration	GSB	GSB-P1	H-8	Old Franks Nursery	Extensive site preparation; partial site reforestation	Abandoned open area behind nursery. Looks like spoil area with dumping of organic and inorganic debris; will require extensive site preparation including soil borings to see if suitable to plant trees. Adjacent power line and extensive invasive species. Good access.	1.6	Low	\$\$\$
Greenburgh	Pervious Area Restoration	GSB	GSB-P4	H-8	Vacant lot on Jackson Avenue	Extensive site preparation; reforestation	Abandoned asphalt lot off of Jackson Road and adjacent pervious area. This will require extensive site preparation to remove asphalt and amend soil for planting. Full sun exposure at site. Adds to existing floodplain area.	0.3	Low	\$\$\$
Greenburgh	Pervious Area Restoration	GSB	GSB-P5	H-8	Fern Cliff Cemetery	Reforestation	Open turf area adjacent to forest and across from cemetery. Good access, but privately owned, may be reforested with minimal site preparation.	2.3	Low	\$
Greenburgh	Pervious Area Restoration	MP	MP-P2	H-12	Mohawk Camp and School on Old Tarrytown Road	Native tree plantings; educational signage	Mostly grassed area used by students. Requires minimal site preparation, but access is limited. Native tree plantings in designated area with educational signage.	4.7	Low	\$\$
Tuckahoe	Pervious Area Restoration	BRM	BRM-P4	H-2	Marbledale Vacant Lot	Extensive site preparation; reforestation	Privately owned vacant lot behind industrial buildings. Contains broken asphalt, rubble piles, weeds, etc. Used to be part of quarry, then truck parking lot. Would require extensive site prep. Also being considered for large storage treatment practice. Possible contamination.	3.3	Low	\$\$\$

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<b>Jurisdiction</b>	<b>Management Practice</b>	<b>Subwatershed</b>	<b>Site ID</b>	<b>Map</b>	<b>Location</b>	<b>Opportunity</b>	<b>Field Observations</b>	<b>Area (acres)</b>	<b>Rank</b>	<b>Cost Range</b>
Yonkers	Pervious Area Restoration	GSB	GSB-P6	H-8	Old Macy's Distribution Center	Reforestation	Privately owned open turf area. Minimal site preparation required, full sun exposure, easy access, and available water supply.	4.5	High	\$\$

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Neighborhood Area (acres)	Approx. Number of Homes	Rooftop Area (acres)	Rooftop Area to Disconnect (acres)	Rank	Cost Range	Public Involvement Potential
Bronxville	Neighborhood Source Control	BRM	BRM-N2	H-2	Single family residential neighborhood along Masterson Road	Lawn care education; rain gardens; erosion control and ground cover for steep slopes	Single family residential, 1/2 acre lots. Opportunities mostly for lawn care education and rain gardens. Also, erosion control and ground cover for steep slopes.	26.1	52	9.8	N/a	Medium	\$	Low
Bronxville	Neighborhood Source Control	BRM	BRM-N6	H-2	Stonleigh Plaza apartment complex	Rain gardens; landscaping education	Apartment complex. Several opportunities exist, including: rain gardens and landscaping education in common open areas.	5.5	--	2.5	2.5	Medium	\$\$	High
Bronxville	Neighborhood Source Control	BRM	BRM-N3	H-2	Gramatan Court Condos at Sagamore Road and Preston Road	Planter boxes at downspouts	Condos with open common area. Potential to disconnect downspouts and direct to planter boxes.	4.9	--	2.8	2.8	Low	\$\$\$	High
Bronxville	Neighborhood Source Control	BRM	BRM-N4	H-2	Sagamore Road Apartments	Disconnect and direct downspouts to interior courtyard; pollution prevention for physical plant maintenance	Apartment complex. Disconnect and direct downspouts to interior courtyard, which is a good example of a landscaped courtyard. Encourage pollution prevention for physical plant maintenance.	1.5	--	0.9	0.9	Low	\$\$	High
Elmsford / Greenburgh	Neighborhood Source Control	MP	MP-N1	H-12	Single family residential neighborhood bounded by Knollwood Rd., Sprain Brook Parkway, and Sky Meadow Place	Storm drain stenciling; downspout disconnection / rain barrels / rain gardens; homeowner lawn care education; turf conversion	Single family residential, 1/4 acre to 1/2 acre lots. Opportunities include storm drain stenciling; disconnecting and directing downspouts to rain gardens or rain barrels; and education on better lawn and landscaping practices.	167	505	37.5	30	Medium	\$\$\$	High
Greenburgh	Neighborhood Source Control	GSB	GSB-N1	H-8	Single family residential neighborhood along Seer Road	Lawn care education; storm drain cleanup; downspout disconnection	Single family residential, 1/4 acre lots. Opportunities include disconnecting and directing downspouts to rain barrels and lawn care education.	79	316	23.7	7.1	High	\$\$	High
Greenburgh	Neighborhood Source Control	HB	HB-N3	H-10	Single family residential neighborhood east of North Central Avenue, north of East Hartsdale Avenue, and south of Jane Street	Buffer replanting along stream in open lots; rain gardens and rain barrels; storm drain stenciling; homeowner education on lawn care practices	Single family residential, 1/4 acre to 1/2 acre lots. Opportunities include: buffer replanting along stream in open lots; rain gardens and rain barrels; storm drain stenciling; and homeowner education on lawn care practices.	80,664	244	21.2	19.1	High	\$\$	High
Greenburgh	Neighborhood Source Control	HB	HB-N5	H-10	Single family residential neighborhood bounded by Thomas Street, South Healy Avenue, Marion Avenue, and North Healy Avenue	Homeowner education on lawn care practices; downspout disconnection / rain barrels / rain gardens; check for potential swimming pool discharges	Single family residential, 1/4 acre to 1/2 acre lots. Opportunities include homeowner education on lawn care practices and disconnection and direction of downspouts to rain barrels or rain gardens. Also, check for potential swimming pool discharges.	68,919	209	23.3	22.1	High	\$\$	High
Greenburgh	Neighborhood Source Control	MP	MP-N3	H-12	Single family residential neighborhood bounded by Hillside Avenue, North Road, Winnetou Road, and the Manhattan Park Brook subwatershed boundary	Rain barrels / downspout disconnection; lawn conversion; storm drain stenciling; household hazardous waste education; stream buffer management education and replanting	Single family residential, lots < 1/4 acre. Opportunities include downspout disconnection; rain barrels; lawn conversion, storm drain stenciling; household hazardous waste education; and stream buffer management education and replanting.	106	641	23.9	16	High	\$\$\$	High
Greenburgh	Neighborhood Source Control	MP	MP-N4	H-12	Single family residential neighborhood bounded by McLean Avenue, Hillside Avenue, L-287, and Manhattan Avenue	Downspout disconnection / rain barrels; turf conversion; storm drain stenciling; household hazardous waste education	Single family residential, 1/4 acre to 1/2 acre lots. Opportunities include disconnecting and directing downspouts to yards, rain barrels, or rain gardens; turf conversion; storm drain stenciling; household hazardous waste education; and street sweeping.	40	121	10.5	7.9	High	\$	Medium
Greenburgh	Neighborhood Source Control	MP	MP-N5	H-12	Greenburgh Housing Authority Apartments off of Old Tarrytown Road	Storm drain stenciling; dumpster management; downspout disconnection; lawn conversion - increased landscaping; catch basin cleanouts	Apartment complex. Several opportunities exist, including: storm drain stenciling; dumpster management; downspout disconnection; lawn conversion - increased landscaping; catch basin cleanouts.	7.9	--	3	3	High	\$	High

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Neighborhood Area (acres)	Approx. Number of Homes	Rooftop Area (acres)	Rooftop Area to Disconnect (acres)	Rank	Cost Range	Public Involvement Potential
Greenburgh / White Plains	Neighborhood Source Control	FB	FB-N1	H-5	Single family residential neighborhood east of Central Avenue (Route 100) and south of Wayne Avenue	Downspout disconnection; rain barrels; turf conversion	Single family residential, 1/4 acre lots. Opportunities include disconnecting and directing downspouts to yards or rain barrels; lawn conversion; and education on lawn care.	41.5	166	15.6	11.7	Medium	\$	Medium
Greenburgh	Neighborhood Source Control	FB	FB-N5	H-5	Fox Glen Colony apartment complex off of North Washington Avenue	Storm drain stenciling; potential on-site parking lot / catch basin retrofits.	Apartment complex. Several opportunities exist, including: storm drain stenciling; potential on-site parking lot / catch basin retrofits.	16	--	7.2	7.2	Medium	\$\$\$	High
Greenburgh	Neighborhood Source Control	HB	HB-N1	H-10	Windsor Park residential subdivision off of West Hartsdale Avenue	Downspout disconnection; rain barrels; rain gardens; buffer plantings; storm drain stenciling; homeowner education on lawn care practices	Single family residential, 1/4 acre to 1/2 acre lots. Stream buffer planting and management needed. Other opportunities include: disconnecting and directing downspouts to rain barrels or rain gardens; buffer plantings; storm drain stenciling; homeowner education on lawn care practices.	15.681	48	4.1	4.1	Medium	\$\$	Low
Greenburgh	Neighborhood Source Control	HB	HB-N2	H-10	Country Club Ridge Apartments on Rockledge Road	Storm drain stenciling; rain gardens; nutrient / lawn care education; improved dumpster management	Apartment complex. Several opportunities exist, including: storm drain stenciling; rain gardens; nutrient / lawn care education; and improved dumpster management.	17.888	--	6.7	4.5	Medium	\$	High
Greenburgh	Neighborhood Source Control	HB	HB-N6	H-10	Scarsdale Fairway Luxury Apartments	Replant open spaces; downspout disconnection; parking lot retrofit (catch basin inserts, underground sand filter)	Apartment complex. Several opportunities exist, including: replant open spaces; downspout disconnection; and parking lot retrofit (catch basin inserts, underground sand filter).	7.786	--	4.1	4.1	Medium	\$\$\$	High
Elmsford / Greenburgh	Neighborhood Source Control	MP	MP-N1	H-12	Single family residential neighborhood bounded by Knollwood Rd., Sprain Brook Parkway, and Sky Meadow Place	Storm drain stenciling; downspout disconnection / rain barrels / rain gardens; homeowner lawn care education; turf conversion	Single family residential, 1/4 acre to 1/2 acre lots. Opportunities include storm drain stenciling; disconnecting and directing downspouts to rain gardens or rain barrels; and education on better lawn and landscaping practices.	167	505	37.5	30	Medium	\$\$\$	High
Greenburgh	Neighborhood Source Control	FB	FB-N3	H-5	Single family residential neighborhood along Juniper Hills Road	Downspout disconnection; rain barrels; turf conversion; planting to stabilize steep slopes on lots	Single family residential, 1/4 acre lots. Opportunities include street sweeping; disconnecting and directing downspouts to rain barrels; and planting ground cover on steep slopes.	16	64	4.8	4.3	Low	\$\$	Low
Greenburgh	Neighborhood Source Control	FB	FB-N4	H-5	Rex Ridge town house complex off of Pinewood Road	Increase landscaping in open areas; rain gardens to treat rooftop runoff; stabilize eroded areas adjacent to parking lots	Town house community. Several opportunities exist, including: increase landscaping in open areas; rain gardens to treat rooftop runoff; stabilize eroded areas adjacent to parking lots.	25.4	--	11.4	11.4	Low	\$\$\$	High
Greenburgh	Neighborhood Source Control	GSB	GSB-N2	H-8	Single family residential neighborhood along Hawthorne Way	Rain gardens; downspout disconnection; homeowner education on lawn care practices	Single family residential, 1 acre lots. Opportunities include disconnecting and directing downspouts to rain gardens, yards or rain barrels; lawn care education.	66	66	12.4	2.5	Low	\$\$	Low
Greenburgh	Neighborhood Source Control	HB	HB-N4	H-10	Single family residential neighborhood along South Washington Avenue	Rain barrels; homeowner education on lawn care practices; storm drain stenciling; steep slope plantings; clean up trash / dumping	Single family residential, lots < 1/4 acre. Opportunities include rain barrels; homeowner education on lawn care practices; storm drain stenciling; steep slope plantings; clean up trash / dumping.	7.996	48	3	1.9	Low	\$	Low
Greenburgh	Neighborhood Source Control	MP	MP-N2	H-12	Single family residential neighborhood along Winding Ridge Road	Rain barrels / downspout disconnection; homeowner lawn care education	Single family residential, 1/4 acre lots. Opportunities include disconnecting and directing downspouts to yards or rain barrels and education on lawn and landscaping.	29	118	13.2	13.2	Low	\$	Medium
Mount Vernon	Neighborhood Source Control	BRM	BRM-N1	H-1	Single family residential neighborhood at Mount Vernon and Fulton Avenue	Downspout disconnection; rain barrels; storm drain stenciling; better planter boxes for street trees	Single family residential, lots < 1/4 acre. No room for rain gardens. Opportunities include: downspout disconnection and redirection to rain barrels; storm drain stenciling; and larger planter boxes for street trees.	17.2	103	9	8.6	Low	\$	Low

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Neighborhood Area (acres)	Approx. Number of Homes	RoofTop Area (acres)	RoofTop Area to Disconnect (acres)	Rank	Cost Range	Public Involvement Potential
Tuckahoe	Neighborhood Source Control	BRM	BRM-N5	H-2	Single family residential neighborhood along Warren Avenue	Rain gardens; rain barrels	Single family residential, 1/4 acre lots. Opportunities include rain gardens and rain barrels to capture and treat rooftop runoff.	12.7	51	5.7	5.7	Low	\$\$	Low
Greenburgh/White Plains	Neighborhood Source Control	FB	FB-N1	H-5	Single family residential neighborhood east of Central Avenue (Route 100) and south of Wayne Avenue	Downspout disconnection; rain barrels; turf conversion	Single family residential, 1/4 acre lots. Opportunities include disconnecting and directing downspouts to yards or rain barrels; lawn conversion; and education on lawn care.	41.5	166	15.6	11.7	Medium	\$	Medium
White Plains	Neighborhood Source Control	FB	FB-N2	H-5	Single family residential neighborhood east of Central Avenue (Route 100) and north of Trenton Avenue	Downspout disconnection; rain barrels; turf conversion	Single family residential, lots < 1/4 acre. Opportunities include street sweeping; disconnecting and directing downspouts to yards or rain barrels; and turf conversion.	64.5	389	31.4	23.6	Medium	\$\$	High
Yonkers	Neighborhood Source Control	GSB	GSB-N3	H-8	Single family residential neighborhood along Mountandale Road	Storm drain stenciling; household hazardous waste management (mobile oil recycling); pet waste management; no dumping signs	Single family residential, 1/8 acre lots. Opportunities include: storm drain stenciling; household hazardous waste management (mobile oil recycling); pet waste management; and no dumping signs.	63	507	19	4.8	High	\$\$	High

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Hotspot Status	Rank	Cost Range
Bronxville	Privately Owned Hotspot	BRM	BRM-H1	H-2	BAMs Gas Station	Covered fueling island; spill containment; stormwater retrofit	Service station with car repair. Need to cover gas pumps and add spill containment (currently drains directly to road inlets). Potential for a perimeter sand filter.	Confirmed	Low	\$\$
Greenburgh / White Plains	Privately Owned Hotspot	FB	FB-H4	H-5	Light industrial strip along Fulton Street	Containment at fueling operation; pollution prevention education; pollution prevention plan review; stormwater retrofits	Diverse businesses from fleet storage, car wash, dealership, bakery, plumbers, etc. Refer for enforcement at fueling operations, include in education efforts, on-site retrofit opportunities.	Severe	High	\$\$\$
Greenburgh	Privately Owned Hotspot	FB	FB-H1	H-5	Bed Bath & Beyond shopping center on Central Avenue	Improved dumpster management; stormwater retrofit	Poor dumpster management.	Confirmed	Medium	\$\$\$
Greenburgh	Privately Owned Hotspot	FB	FB-H2	H-5	Best Buy shopping center on Central Avenue	Illicit discharge investigation; stormwater retrofit; secondary containment for grease storage	SSO in rear referred to for immediate attention (may involve IDDE education upstream). Site includes potential parking lot retrofit, and secondary containment for grease trap behind restaurant.	Confirmed	Medium	\$\$\$
Greenburgh	Privately Owned Hotspot	MP	MP-H1	H-12	Crossroads Plaza on Tarrytown Road	Stormwater retrofit; improved dumpster management and material storage	A & P market and Kmart. Extensive retrofit concept here (MP-R1); improve dumpster management and material storage.	Confirmed	Medium	\$\$\$
Greenburgh	Privately Owned Hotspot	MP	MP-H5	H-12	Gas station at the intersection of Tarrytown Road and Knollwood Road	Follow-up site investigation; stormwater retrofit	Follow up for inspection; good opportunity for catch basin inserts/perimeter sand filter.	Confirmed	Medium	\$\$\$
Greenburgh	Privately Owned Hotspot	GSB	GSB-H1	H-8	Sprain Brook Nursery	Flow diversion to stormwater retrofit	Located downstream of maintenance yard and near tributary with chronic flooding issue. Possible drainage improvement at site by diverting flow in new pipe to tie into Greenburgh DPW yard.	Potential	Low	\$\$\$
Greenburgh	Privately Owned Hotspot	GSB	GSB-H4	H-8	Westchester Greenhouses	Follow-up site investigation; pollution prevention education; posting / distribution of educational materials for public (native plants and proper landscaping procedures)	Suggest follow-up inspection of site, main target for education and posting of educational materials for public.	Potential	Low	\$
Greenburgh	Privately Owned Hotspot	HB	HB-H2	H-10	Getty Gas station on South Central Avenue	Covered fueling island	Getty full-service station. Uncovered fueling areas; try to link up fueling area covering when repaving	Potential	Low	\$\$\$

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Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Hotspot Status	Rank	Cost Range
Mount Pleasant	Privately Owned Hotspot	DB	DB-H1	H-5	Businesses along Railroad Avenue near Lakeview Avenue (includes monuments, car repair, tree service, and land excavation businesses)	Stormwater retrofit; lot paving; covered materials storage	Includes monuments, car repair, tree service, and land excavation businesses. Ditches drain directly to stream; recommend paving the lot and install perimeter sand filters. Should provide covered storage for materials and vehicles.	Potential	Low	\$\$
Mount Pleasant	Privately Owned Hotspot	DB	DB-H2	H-5	Grayrock Florist and Memorials	Covered material storage; materials storage education	Education and containment for material storage. Adjacent to Bronx River.	Potential	Low	\$\$
Mount Vernon	Privately Owned Hotspot	BRL	BRL-H4	H-1	Lincoln BBQ Restaurant	Secondary containment for grease storage; waste storage and wash water disposal education	Grease stored outside in buckets (thow disposed). Evidence of wash water and grease draining to storm drain in street. Need education and proper waste storage/wash water disposal.	Confirmed	High	\$
Mount Vernon	Privately Owned Hotspot	BRL	BRL-H2	H-1	Bubble Bath Auto Spa	Illicit discharge investigation	Suggest follow-up for potential illicit discharge investigation. There was a plastic hose running from indoor drain out to parking lot.	Potential	Medium	\$
Mount Vernon	Privately Owned Hotspot	BRL	BRL-H3	H-1	Commercial strip (car wash, auto repair, barbecue, two gas stations) near West Lincoln Avenue and North 8th Avenue	Catch basin cleanouts; dumpster management, wash water disposal, and waste storage education; investigate car wash drainage	Includes car wash, auto repair, BBQ, and two gas stations. Need to increase frequency of catch basin cleanouts; provide education on dumpster management, wash water disposal, and waste storage; ensure car wash drainage does not go to storm drain.	Potential	Low	\$\$
Mount Vernon	Privately Owned Hotspot	BRM	BRM-H6	H-2	Gerardi Nursery	Posting / distribution of educational materials for public (native plants and proper landscaping procedures)	Located next to school retrofit. Education on native plants and proper landscaping procedures can be distributed from here. Storage of plants on pavement during summer, but during winter everything is in greenhouse.	Potential	Low	\$
North Castle	Privately Owned Hotspot	BRU	BRU-H2	H-3	Metro North Welfare Facility on Fisher Lane	Follow-up site investigation; pollution prevention plan review	Fueling/train storage/maintenance. Suggest follow-up investigation and review of pollution prevention plan. This should be applied to all train facilities in watershed.	Potential	High	\$
North Castle	Privately Owned Hotspot	BRU	BRU-H1	H-3	Aggregate loading operation on Lafayette Avenue	Covered material storage; stabilized entranceway	Industrial site. Investigate permit and storm drain infrastructure. Potential for material covering, stabilized entranceway to prevent tracking onto street.	Potential	Medium	\$\$
North Castle	Privately Owned Hotspot	BRU	BRU-H3	H-3	A&C Furia Electric Motor Company on Lafayette Avenue	Follow-up site investigation	Suggest follow-up inspection of site, not able to investigate fully. Staining was observed outside of garage area, check to see if SPDES filer.	Potential	Low	\$
North Castle	Privately Owned Hotspot	BRU	BRU-H4	H-3	Michael Bellatoni Landscaping on Lafayette Avenue	Follow-up site investigation	Suggest follow-up inspection of site, not able to investigate fully. Staining was observed outside of garage area, check to see if SPDES filer.	Potential	Low	\$

**Bronx River Watershed Assessment and Management Report**

Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Hotspot Status	Rank	Cost Range
Tuckahoe	Privately Owned Hotspot	BRM	BRM-H4	H-2	Freeman Industries on Marbledale Road	Covered material storage; spill prevention plan review	Investigate further. Evidence of outdoor materials uncovered as seen from street; check to make sure there is a spill prevention plan and if site is a SPDES permittee.	Potential	Medium	\$\$
Greenburgh / White Plains	Privately Owned Hotspot	FB	FB-H4	H-5	Light industrial strip along Fulton Street	Containment at fueling operation; pollution prevention education; pollution prevention plan review; stormwater retrofits	Diverse businesses from fleet storage, car wash, dealership, bakery, plumbers, etc. Refer for enforcement at fueling operations, include in education efforts, on-site retrofit opportunities.	Severe	High	\$\$\$
White Plains	Privately Owned Hotspot	FB	FB-H3	H-5	Gulf Gas station on Central Avenue and Aqueduct Place	Stormwater retrofit; covered fueling island; improved dumpster management	Potential for retrofit, uncovered fueling island, open dumpster (needs better management).	Potential	Low	\$\$\$
Yonkers	Privately Owned Hotspot	BRL	BRL-H1	H-1	Cross County Mall	Secondary containment for salt storage; catch basin inserts or other retrofit; pollution prevention education	Focus on maintenance area for Cross County Mall. Needs secondary containment for salt storage area, possibly add catch basin inserts or other retrofit during redevelopment. Include in education for pollution prevention, particularly salt storage.	Confirmed	Medium	\$\$\$



**Bronx River Watershed Assessment and Management Report**

Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Hotspot Status	Rank	Cost Range
Eastchester	Publicly Owned Hotspot	BRM	BRM-H2	H-2	Eastchester Municipal Maintenance Yard	Stormwater retrofit; catch basin inserts; pollution prevention education; pollution prevention plan review	Maintenance yard adjacent to park and recycle center, upstream of golf course. Opportunity to retrofit fueling station and drainage at salt storage location; inserts for catch basins; mostly education on pollution prevention. Follow-up with PPP writing.	Severe	High	\$\$\$
Eastchester / Scarsdale	Publicly Owned Hotspot	BRM	BRM-H3	H-2	Garth Road Village Center	Storm drain stenciling	Small businesses including restaurants, laundry mats, dry cleaners, banks, and drug stores. Perfect location for storm drain marking as area sits adjacent to river and to Garth Woods (nice section of urban forest).	Potential	High	\$
Elmsford	Publicly Owned Hotspot	MP	MP-H6	H-12	Elmsford Maintenance Facility	Retrofit fueling island with underground practice, cover, or catch basin insert	Will soon be moving to a new building (outside watershed), should ensure new facility in compliance with model PPP. The fueling operation will remain at existing location. Opportunity to retrofit fueling island with underground practice, cover, or catch basin insert.	Severe	High	\$\$\$
Greenburgh	Publicly Owned Hotspot	GSB	GSB-H6	H-8	Greenburgh Maintenance Yard	Good examples of compliance, use for demonstration site; upgraded trap in washing area; covered fueling islands	On stream, lots of good examples of compliance; should be used for demonstration site. Upgrade trap in washing area, cover fueling islands.	Confirmed	High	\$\$\$
Greenburgh	Publicly Owned Hotspot	MP	MP-H2	H-12	Town of Greenburgh storage yard on Stadium Road	Covered storage; stormwater retrofit	Improve maintenance practices, add covered storage, include a diversion berm and stormwater retrofit.	Potential	Medium	\$\$\$
Greenburgh	Publicly Owned Hotspot	HB	HB-H3	H-10	Town of Greenburgh fire station on South Central Avenue	Proper vehicle washing education; dumpster replacement	Education about proper vehicle washing; replace dumpster.	Potential	Low	\$
Mount Pleasant	Publicly Owned Hotspot	DB	DB-H4	H-5	Westchester County DPW Grasslands facility	Underground practice maintenance; pollution prevention plan review; wetland / buffer encroachment and dumping education	Follow up with maintenance on underground practice, write PPP, education on wetland and buffer encroachment and dumping.	Severe	High	\$\$
Eastchester / Scarsdale	Publicly Owned Hotspot	BRM	BRM-H3	H-2	Garth Road Village Center	Storm drain stenciling	Small businesses including restaurants, laundry mats, dry cleaners, banks, and drug stores. Perfect location for storm drain marking as area sits adjacent to river and to Garth Woods (nice section of urban forest).	Potential	High	\$

**Bronx River Watershed Assessment and Management Report**

Jurisdiction	Management Practice	Subwatershed	Site ID	Map	Location	Opportunity	Field Observations	Hotspot Status	Rank	Cost Range
Scarsdale	Publicly Owned Hotspot	BRM	BRM-H8	H-2	Bronx River Reservation Maintenance Facility	Follow-up site investigation; invasive species management; stormwater retrofit at fueling area	Facility was closed at time, return to site for complete investigation. Requires invasive species management, fueling area retrofit needed.	Severe	High	\$\$\$
Tuckahoe	Publicly Owned Hotspot	BRM	BRM-H5	H-2	Tuckahoe Maintenance Yard on Marbledale Road	Pollution prevention plan review; stormwater retrofit; covered material storage	Suggest follow-up inspection (pollution prevention plan). Entire site appears to drain to inlet on street. Pavement in disrepair and materials stored outside. Potential for on-site retrofit here.	Severe	High	\$\$\$
Tuckahoe	Publicly Owned Hotspot	BRM	BRM-H7	H-2	Westchester County Crestwood Maintenance Facility	Review stormwater retrofits maintenance plans; perform retrofit maintenance	Follow-up with maintenance plan for retrofits (keep inlet clear of leaves/debris). Check on water balance to wetland. Located along pedestrian trail.	Confirmed	High	\$
Yonkers	Publicly Owned Hotspot	GSB	GSB-H5	H-8	Sprain Brook Golf Course	Materials storage and disposal education; covered fueling island; buffer enhancement	Municipal golf course, needs education on materials storage and disposal. Cover fuel pumps. Buffer enhancement.	Potential	High	\$\$
Yonkers	Publicly Owned Hotspot	SB	SB-H1	H-13	City of Yonkers Water Works Building / Sign Shop	Covered storage; stormwater retrofit; materials storage and proper disposal of paint and asphalt education; increased stewardship of Sprain Brook	Education on storage and disposal of materials and awareness of Grassy Sprain behind building. Needs covered storage area. Education on proper disposal of paint and asphalt. No stormwater practices observed on site, links with RI. Severity scored incorrectly on field sheet.	Confirmed	High	\$\$\$
Yonkers	Publicly Owned Hotspot	GSD	GSD-H1	H-9	City of Yonkers Salt Pile	Covered salt storage area; stormwater retrofit	Salt storage at top of hill above Grassy Sprain, surrounded by wooded area. Pile uncovered with no containment. Salt scattered along road with storm drain inlets. Needs education and on-site retrofit.	Confirmed	Medium	\$\$\$

**Appendix H.**

**Bronx River Subwatershed Maps**



## **Appendix I.**

### **Priority Uplands Stormwater Retrofit Project Concepts**

These documents are available for viewing online at [www.westchestergov.com/planning](http://www.westchestergov.com/planning) under “Bronx River Coalition.”



## **Appendix J.**

### **Priority Riparian Corridor Restoration Project Concepts**

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