

Stormwater Collection Systems



Issue Date: August 2018

HYDROLOGIC AND HABITAT MODIFICATION

SCM-PP/GH-15



Image Source: <http://greatecology.com/>

Description

Hydrologic and habitat modification activities, such as streambank or shoreline stabilization, have the potential to change flow regimes and add sediment to waterways. Implementing control strategies can minimize this potential. Permits may be required for activities that impact Waters of the United States, navigable waters, freshwater and tidal wetlands, coastal zones, and floodplains.

NYC MS4 SPDES Permit Requirement(s)	IV.G Pollution Prevention/Good Housekeeping for Municipal Operations	
KEY SELECTION CRITERIA		
Targeted Activities	<ul style="list-style-type: none"> Hydrologic and habitat modification 	
Performance Goals	<ul style="list-style-type: none"> Minimize pollutants entering storm sewers and waterways 	
Most Effective Controls <small>(more detail on page 2)</small>	<ul style="list-style-type: none"> Protect streambanks and shorelines Control streambed erosion and sediment deposition Minimize erosion of coastal shoreline 	
RELATED CONTROL MEASURES AND REGULATIONS		
Related SCMs	<ul style="list-style-type: none"> SCM-PP/GH-19 SCM-PP/GH-22 SCM-PP/GH-26 	<ul style="list-style-type: none"> SCM-PP/GH-27 SCM-PP/GH-38
Other Regulatory Requirements*	<ul style="list-style-type: none"> 6 NYCRR 182-182.2, 664.5 and 664.6 33 CFR 320.4 ECL Article 15 Titles 5 and 27, Article 24, Article 25, 34, and 36 Federal Clean Water Act Sections 401/404, River and Harbor Act Section 10, MPRSA Section 103 	

EFFECTIVENESS FOR TARGETED POLLUTANTS / IMPAIRMENTS

✓	Floatables
✓✓	Sediments
✓	Nitrogen
	Phosphorus
✓	Pathogens
✓✓	Oxygen Demand
	PCBs
✓	Metals
	Petroleum Products/PAHs

✓✓ = Good ✓ = Fair = Poor

CONTROL STRATEGIES

✓	Cover/Contain
	Clean Up
✓	Reduce/Minimize
	Product Substitutions
✓	Manage Runoff
	Capture/Treat/Dispose

✓ = Yes

*Note: RCNY: Rules of the City of New York; NYCRR: New York Codes, Rules and Regulations; CFR: Code of Federal Regulations; ECL: Environmental Conservation Law

Listed regulatory requirements are not inclusive of all legal requirements applicable to NYC facilities. Local, state, and/or federal regulations should be consulted to ensure full regulatory compliance.

Control Strategies/Suggested Practices

COVER/CONTAIN

- During construction and repairs, cover disturbed/exposed soils with mulch or other practices until vegetation is established and final surface is in place.
- Contain material and sediment with erosion barriers during construction and/or repairs.

CLEAN UP

N/A

REDUCE/MINIMIZE

- Stage work to minimize exposed soils.
- Protect streambanks & shorelines by using vegetation, structures, management techniques, or biotechnology.*
- Control streambed erosion and sediment deposition by use of instream flow control structures.
- Use structural or non-structural practices to minimize erosion of coastal shoreline. Includes use of vegetation, relocation of structures, bulkheads, & retaining walls.*
- Use geotextiles to assist in the establishment of vegetation or placement of riprap.
- Decrease erosion of channels by selective removal of trees and sediments to re-establish original channel gradient and hydraulic capacity.
- Where possible, modify stream cross-sections to reduce velocity & scour, e.g. by installing geotextiles, low-flow channels, backwater channels, or interlocking concrete blocks with voids for vegetation & groundwater recharge.
- Operate reservoirs in a manner such that sediment is controlled in the stream channel.

PRODUCT SUBSTITUTION

N/A

MANAGE RUNOFF

- Implement stream corridor protection programs, including retention and restoration of vegetation and remediation practices.
- Install or maintain corridors of trees, shrubs or grasses at the margins of water bodies, groundwater recharge areas, and between development areas and urban waterbodies.
- Use green infrastructure to help restore the hydrologic flow regime to address hydromodification.

CAPTURE/TREAT/DISPOSE

N/A

*Any work in or adjacent to Waters of the United States must comply with all regulatory requirements, including Sections 401 and 404 of the Clean Water Act and any state, wetland, and tidal wetland regulations.

References

1. NYSDEC *Hydrologic and Habitat Modification Management Practices Catalogue for Nonpoint Source Pollution Prevention and Water Quality Protection in New York State, August 1995.*