Chapter 3

Pompeston Creek Regional Stormwater Management Plan

Milestone 3:
Drainage Area Specific Water Quality, Quantity, and Recharge Objectives

FINAL
November 2007

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Table of Contents

Introduction

The third milestone of the Pompeston Creek Regional Stormwater Management Plan, regulated by N.J.A.C. 7:8-3.5, is to set "drainage area-specific water quality, groundwater recharge and water quantity objectives" that are consistent with the goals of stormwater management planning in N.J.A.C. 7:8-2.3 (other planning agencies, commissions and governmental entities), and address each of the stormwater-related pollutant sources and pollutants ranked under N.J.A.C. 7:8-3.4 (Milestone 2, or the Characterization and Assessment).

The objectives stated here will address the elimination, reduction or minimization of stormwater-related impacts associated with new or existing land uses. The objectives do take into consideration environmental, social, and economic factors.

The objectives for major development will provide, at a minimum, the protection that would be achieved through the application of N.J.A.C. 7:8-5, Design and Performance Standards for Stormwater Management Measures. Reference to the applicable Design and Performance Standards from N.J.A.C. 7:8-5 will be noted along with the drainage area-specific design and performance standards that will constitute Milestone 4 of the Pompeston Creek Regional Stormwater Management Plan.

If a TMDL is established pursuant to N.J.A.C. 7:15 for a waterbody or waterbody segment in the Pompeston Creek Regional Stormwater Management Planning Area, drainage area-specific objectives will incorporate the planning established in the TMDL for stormwater sources of pollution. Waterbodies or segments of waterbodies that are listed on the Integrated List of Impaired Waterbodies, requiring compliance with the Clean Water Act for one or more designated uses, have been included in the objectives listed here.

The tasks that will fulfill the Pompeston Creek Regional Stormwater Management Plan requirement for Milestone 3 are outlined in Table 1.

Table 1: Milestone 3 of the Pompeston Creek Regional Stormwater Management Plan task requirement

TASK
Task 1: Identification of water quality objectives
Task 2: Identification of water quantity objectives
Task 3: Identification of area groundwater recharge objectives
Task 4: Identification of other SW-related objectives, if any
Task 5: Submit Revised Scope of Work, if necessary

Water Quality Objectives

1) Address Fecal Coliform loading to Affected Waterbodies

a) Goal: To reduce, eliminate or minimize loading of fecal coliform contamination to the following waterbodies

b) Site specific areas:

i) Headwaters of East Branch in Moorestown: Small equine operations could be potential sources of fecal contamination.
- In addition, when horses are not in pastures, the Canada Geese have ideal habitat.

ii) Two retention basins Grande Development on Fells Wood Drive, in Moorestown
- present minimal vegetation for water quality maintenance.

iii) Detention basins,
- early designs may contribute to lower water quality, reduced biodiversity, and inadequate recharge. Specific areas of lower quality detention basins can be found attached map.

iv) Tenby Chase in Delran

v) Lakeview Memorial Cemetery
- Minimal stream buffer along ideal Canada Geese habitat.

vi) Parks (West End Park, Pompeston Park)
- Heavy load of geese and pet waste contributing to stream fecal loading. Minimal effective stream buffer and bank stabilization in place.

vii) Corporate Centers
- Goose habitat

viii) Hunters Farm
- Lagoon bulkheads to stream upstream of marsh

ix) Cinnaminson High School
- Heavy load of geese and pet waste contributing to stream fecal loading. Minimal effective stream buffer and bank stabilization in place.

x) Riverton Country Club

xi) Sanitary Sewer integrity
- The sanitary sewer crosses the Pompeston Creek in several areas. Since all sanitary lines are aged, and human sewage could be entering into the open ecosystem, it would be prudent to devise an evaluation and maintenance plan.

c) Methods to be evaluated:

i) Placement of Buffers
ii) Pet waste ordinances consistency
iii) Geese deterrents
iv) Catch basin cleaning
v) Street cleaning
vi) Stream Corridor Protection Ordnance
vii) Goose Management Plan specifically devised for the park system
- Evaluate Buffer effectiveness
- Evaluate waste load reduction
- Evaluate proper disposal of waste

viii)Evaluate dumpster maintenance and trash removal truck practices

2) Address Total Suspended Solid Loading to the Pompeston Creek

a) Goal: To reduce, eliminate or minimize the transport of total suspended solids to impacted waterways to aid in addressing biological impairment of the watershed.

b) Site specific areas:

i) Devon Road Bridge
Severe erosion in area
ii) Parry Road and Winding Brook Drive
Localized erosion with minimal stabilization
iii) Route 130
Severe erosion at and downstream of Route 130 and Lakeview Memorial Park
iv) Fountain Farms Park
Erosion and steep banks
v) New Albany Road Bridge, Moorestown
Site of cribwall, downstream of Pompeston Park
vi) Roads, including Route 130.
Sanding and salting in winter.
vii) New Albany Road School
Due to local restrictions on presence of bushes, tall trees and/or short bushes need to be added to secure streambank stabilization and to enhance buffer abilities.
viii) Pompeston Park
Area between Maple Avenue and North Riding Drive; system unstable due to past history of channelization. Restoration of natural geomorphology of stream should be examined.

c) Methods to be evaluated:

i) Erosion control measures
ii) Vegetative Filters
iii) Manufactured treatment devices
iv) Wet ponds
v) Catch basin cleaning
    Review of MS4 regulations
vi) Street cleaning
    Review of MS4 regulations
vii)Evaluate dumpster maintenance and trash removal truck practices

3) Address Nutrient Loading to the Pompeston Creek

a) Goal: To reduce, eliminate or minimize the transport of phosphorus and nitrogen to impacted waterways.

b) Site Specific Areas:

i) Note: all areas cited in 2 (b) apply to nutrient loading due to the correlation between TSS and nutrient loading
ii) Moorestown Corporate Center West

c) Methods to be evaluated:

i) Placement of Buffers
ii) Geese deterrents
iii) Fertilizer ordinances
iv) Erosion controls
v) Homeowner education in buffer enhancement
vi) “No phosphorus” fertilizer ordinance
vii) Alternate landscaping plan
    Testing of Soil
    Mechanisms to control runoff

4) Address Loss of Biodiversity

a) Goal: To reduce, eliminate or minimize the impact on stream biota due to fluctuating water quality parameters and loss of habitat.

b) Site Specific Areas:

i) All site specific areas noted in 2 and 3 (b) are considered sites where the solution would positively impact the stream biodiversity.

ii) Vernal pools
iii) Horse Farm runoff or waste disposal into wetlands down-gradient of The Evergreens
iv) Identify sensitive wetlands from Map 9 and protect from both agricultural and urban development
v) Pompeston Park: restore integrity of stream
vi) National Casein
- Invasives including Kudzu may decrease stream bank stabilization.

vii) Pompeston Park- invasives leading to bank failure
viii) New Albany School dam- pools after drop, and then subsequent stream channel has been straightened.
ix) Arbor Road, Ken Gurties dam
x) Deutch and Peter field- mowed to stream
xi) Upper East Branch- Sensitive wetlands

c) Methods to be evaluated:

i) Reduction of TSS with placement of stream buffers
ii) Reduction of TSS with manufactured treatment devices
iii) Reduction of TSS by implementation of water quantity controls
iv) Catch basin cleaning
v) Street cleaning
vi) Invasive removal
vii) Fountain Farms canopy
viii) Pompeston Park- invasives leading to bank failure
ix) New Albany School dam- pools after drop, then rocks routes to straight reach
x) Arbor Road dam
xi) Deutch and Peter Field-mows to stream
xii) Upper East Branch- sensitive wetlands

Water Quantity Objectives

5) Address Areas of Flooding

a) Goal: To eliminate, reduce or minimize the effects of flooding of the Pompeston Creek

b) Site Specific Areas:

i) Parry Road, Devon Road and Wayne Avenue in Cinnaminson
ii) Waterford Drive, Cinnaminson
iii) Westover Drive, Delran
iv) Fountain Farms Park, Cinnaminson
v) Riverton County Club/ Golf Course, Cinnaminson and Riverton
vi) Jack's Run starts on golf course after dam, Cinnaminson and Riverton
vii) Harmony Terrace neighborhood, by Parker Avenue

c) Methods to be evaluated:

i) Increasing culvert capacity to reduce flooding
ii) Detention of water upstream
iii) Infiltration of precipitation to reduce volume of water reaching the stream at critical flooding times.
iv) Evaluation of structures in floodplain and subsequent ranking of potential acquisition of endangered properties.

6) Address areas of Increased Stream Volume and Velocity

a) Goal: To reduce, eliminate or minimize the increase in stream volume and velocity that is related to land use and stream channel morphology that leads to flooding and streambank erosion.

b) Site Specific Areas:

i) New Albany School dam- pools after drop, then stream has been channelized
ii) Pompeston Park, channelized area, needs restoration of natural meandering
iii) Reach from Moorestown boundary to New Albany Road- stream goes underground and builds significant energy where it discharges at large grates at New Albany Road.
iv) Westover Drive to Woodhaven- Stream piped underground in random turns. High energy at exit point is creating erosion and TSS loads/sedimentation downstream.

v) Teaberry Run- flashy, private residents are privately securing banks with rip rap and concrete, creating the opportunity for higher flows, minimal access to floodplain, and erosion.
vi) Jacks Run- flashy, private residents are privately securing banks with rip rap and concrete, creating the opportunity for higher flows, minimal access to floodplain, and erosion.

c) Methods to be evaluated:

i) Upstream infiltration through impervious disconnection, vegetative swales, bioretention systems
ii) Restoration of natural stream morphology
iii) Restoration of floodplain
iv) Daylighting

7) Address Recharge to Aquifer and Baseflow Maintenance

a) Goal: To reduce, eliminate or minimize the routing of stormwater that short circuits infiltration for the purposes of aquifer recharge or stream baseflow maintenance.

b) Site Specific Areas:

i) Jacks Run, downstream of Riverton Golf Course, disconnection of residential areas to promote recharge and address flooding
ii) Undeveloped land at Industrial Highway and Route 130. Promote BMP's due to area of high recharge soils.
iii) Fountain Farms Park, at confluence of East and West Branches, high recharge soils.
iv) Upstream of Tenby Chase Park, starting at Tenby Chase Drive and Wright Way
v) Intersection of Waterford and York Road, main outfall drains large area of land. Disconnection could address flooding and recharge.
vi) Area of Central Avenue and Chester Avenue (town center in Moorestown), at the headwaters of the West Branch, disconnection of impervious areas.
vii) Pompeston Park- disconnection of outfalls, route to detention/retention basins.

c) Methods to be evaluated:

i) Upstream infiltration through impervious disconnection
ii) Vegetative swales
iii) Bioretention systems

8) Additional Recommendations

a) Goal: to reduce, eliminate or minimize safety concerns regarding high flows during storm events.

b) Site Specific Areas:
i) Whitesells Dam
ii) New Albany at power lines (this is where the stream is piped underground)
iii) Industrial Park, Industrial Highway in Cinnaminson, large pipes

c) Methods to be evaluated:
i) Safety grating installation
ii) Buffer installation