

Pompeston Creek Regional Stormwater Management Plan

Chapter 6:

**Strategy for Implementing and Evaluating the Effectiveness
of
Stormwater Management Measures**

**Completed by
Rutgers Cooperative Extension
Water Resources Program
Under the guidance of Christopher C. Obropta, Ph.D., P.E.**



Introduction

The New Jersey Stormwater Management Rules (N.J.A.C. 7:8) require that a regional stormwater management plan include a strategy for the implementation of the recommended stormwater management measures. The management measures have been separated into two distinct components that will differ in their implementation. Part A defines the regulatory actions that will be adopted into the Areawide Water Quality Plan to address identified stormwater problems. Part B identifies and prioritizes specific management projects that have been quantified as to their potential in pollutant reduction, stream flow reduction, cost, and other characteristics. Since Part A contains the management measures that will be adopted into the Areawide Water Quality Plan, this chapter will focus on the strategy for implementing and evaluating the effectiveness of the stormwater management measures contained in Part A.

Adoption and Modifications of Ordinances

Since Part A of the Plan requires the adoption or modification of four ordinances, the Stormwater Management Control Ordinance, the Low/No Phosphorus Fertilizer Ordinance, the Coal Tar Reduction Ordinance and the Stream Corridor Protection Ordinance, this portion of the plan will be implemented by each municipality upon the adoption of the Plan into the Areawide Water Quality Plan. Each municipality will review the ordinances and take the necessary actions to adopt these ordinances. As the Lead Planning Agency, the Burlington County Board of Chosen Freeholders through the Water Resources Program in the Department of Resource Conservation will work with the municipalities to incorporate each ordinance into their municipal code. As the long-term monitoring program, the County will track the adoption of these ordinances to assure that this measure is implemented.

Monitoring Agency: The Burlington County Board of Chosen Freeholders through the Water Resources Program in the Department of Resource Conservation

Schedule: Ordinances will be adopted within one year of adoption of the Plan into the Areawide Water Quality Plan

Implementation Costs: Minimal – staff time to review ordinances

Funding Sources: None are needed

MS4 Permit Educational Mandate Focus

Part A of the plan also requires each municipality to focus additional educational efforts on promoting groundwater recharge through disconnection of impervious surfaces and infiltrating the runoff from the two-year design storm. Each municipality will also have to review their current educational materials and modify these materials to emphasize promoting groundwater recharge. Rutgers has provided the municipalities with an educational tool, RU Disconnection Manual, to help with this effort. Additionally, Burlington County and Rutgers University continue to be available to help these municipalities move forward with this effort. As part of the long-term monitoring plan, the Burlington County Water Resources Program will document the efforts of each municipality as they move forward in implementing this management measure.

Monitoring Agency: *Burlington County Board of Chosen Freeholders through the Water Resources Program in the Department of Resource Conservation*

Schedule: *Modifications in education materials will be made and implemented within one year of adoption of the Plan into the Areawide Water Quality Plan*

Implementation Costs: *Minimal – staff time to review update educational materials*

Funding Sources: *None are needed*

Terminal Catch Basin Cleaning

Finally, Part A of the Plan requires additional catch basin inspection and cleaning as necessary. This will require each municipality to adjust their standard operating procedures for catch basin cleaning. Inspection documentation will be maintained by the municipalities for the terminal catch basins as these are most likely to present the greatest impact on water quality if not properly maintained.

Monitoring Agency: *Individual municipalities and NJDEP NJPDES Permitting*

Schedule: *Modifications in standard operating procedures will be made and implemented within one year of adoption of the Plan into the Areawide Water Quality Plan*

Implementation Costs: *Minimal – staff time to conduct additional inspections and catch basin cleaning as needed.*

Funding Sources: *None are needed*

Long-term monitoring program

The implementation of the management measures outlined in Plan A and Plan B will result in water quality improvements while minimizing flooding and promoting groundwater recharge or reuse. Both modeling and monitoring can be conducted to quantify these improvements. Several models were developed for this plan including a hydrologic model of the watershed and an aerial loading model of nonpoint source loads for the watershed. As improvements are made, these models can be used to predict improvements in water quality, flooding, and groundwater recharge.

Additionally, monitoring can be conducted to also quantify the improvements to the Pompeston Creek and its watershed that result from the implementation of the Plan. NJDEP does maintain one ambient biomonitoring site on the Pompeston Creek and the Pompeston Creek Watershed Association maintains two water quality sites. These sites can provide information on improvement in water quality. Moreover, water quality samples can be collected throughout the system and analyzed for various pollutants that are a concern within the watershed such as nutrients, bacteria and sediment. Finally, flow gages can be installed in the system to determine if the implementation of management measures has reduced flooding. The municipalities, Burlington County, Rutgers University, and other project partners will work together to solicit funding to collect water quality data and the deploy flow gages. These actions should begin within one year of adoption of the Plan into the Areawide Water Quality Plan.

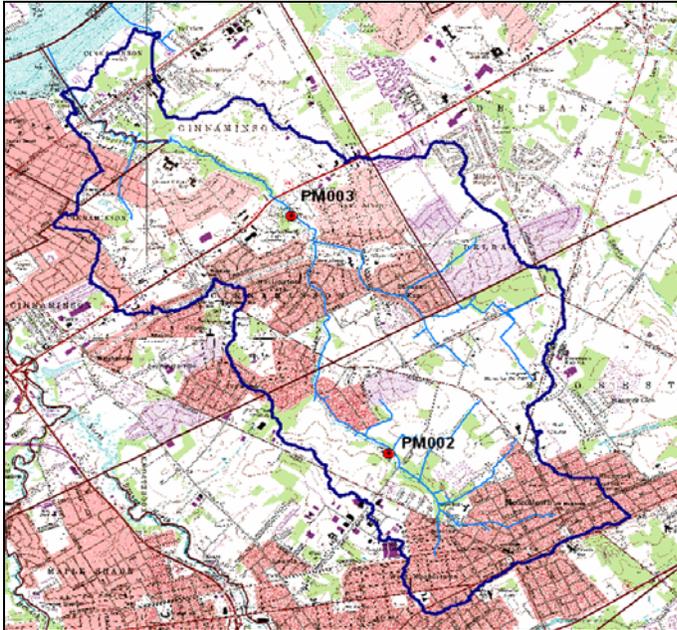


Figure 1: Two Water Quality Stations Recommended for Long Term Monitoring

One possible approach would be to begin implementing management measures from Plan A and Plan B in one or two subwatersheds within the basin, then monitoring the water quality, flooding and groundwater recharge within these basins to document improvements that have resulted from the implementation of management measures. It is crucial to show how the implementation of a regional plan can result in water quality, flooding and groundwater improvements, not just for the stakeholders in the Pompeston Creek Watershed but for all the residents of New Jersey. Only through the proper documentation of results will other stakeholder groups embrace these plans and begin moving forward with their development and ultimately, their implementation.

The Pompeston Creek Watershed Association has conducted the water quality monitoring to date. The PCWA can work with the county and the municipalities to develop a sampling plan along with Quality Assurance Project Plan. The PCWA can select volunteers to attend biological training offered by NJDEP as a requirement for the acceptance of the biological data collected.

Adaptive Management

Five years after the adoption of the Plan into the Areawide Water Quality Plan, a detailed evaluation will be conducted to quantify the improvements attained in the watershed with respect to water quality, flooding and groundwater recharge. Based upon this evaluation, the design and performance standards in the Plan can be modified to further refine the recommendations for management measured, which are needed to ultimately attain the goal of the Plan. The project partners will work together to secure funding for this effort.