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Public Agencies & Affiliates

- Town of Auburn
- City of Beverly
- Charles River Pollution Control District
- Cherry Valley Sewer District
- City of Chicopee
- Chicopee Water Pollution Control
- Town of Concord
- Town of Danvers
- City of Fitchburg
- City of Haverhill
- City of Holyoke
- Town of Jaffrey, NH
- Marblehead Water and Sewer Commission
- City of Marlborough
- Town of Northbridge
- City of Peabody Public Services
- City of Salem
- South Essex Sewerage District
- Springfield Department of Public Works
- Springfield Water and Sewer Commission
- Upper Blackstone Water Pollution Abatement District
- City of Worcester
- Town of Yarmouth

Private Corporate & Legal

- AECOM
- Anderson & Kreiger LLP
- Bowditch & Dewey, LLC
- Camp Dresser & McKee, Inc.
- Kleinfelder/SEA Consultants, Inc.
- Weston & Sampson

March 30, 2010

United States Environmental Protection Agency - Region 1
Attn: Thelma Murphy
Office of Ecosystem Protection
5 Post Office Square, Suite 100
Mail Code: OEP06-4
Boston, MA 02109-3912

Subject: Comments on the Draft Massachusetts North Coastal Small MS4 General Permit

Dear Ms. Murphy:

The Massachusetts Coalition for Water Resources Stewardship (“the Coalition”) is in receipt of the Draft Massachusetts North Coastal Small MS4 General Permit for stormwater management, applicable to 84 communities in the Commonwealth. This letter provides our comments for consideration when developing the final permit.

The Coalition recognizes the importance of stormwater management to the environmental health of Massachusetts waterways and the maintenance of designated uses. With the Clean Water Act (CWA) long focusing on point sources alone, we applaud the efforts of the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) over the last decade to incorporate non-point source pollutant reduction into the CWA regulatory program.

The regulatory agencies and the regulated communities share a common mission – to ensure the health and quality of our cities and towns and their natural resources. In order to accomplish these goals, communities must balance environmental programs with other needs and responsibilities they have and implement them in a fashion that is both feasible and financially responsible. In this context, the Coalition offers the following comments on the Draft Permit:

Data Needs for Compliance by MS4 Communities

The Draft Permit requires an enormous quantity of data to be gathered in a very short timeframe in order to meet all of the permit requirements. The following is a list of data requirements included in the permit.

- The locations of all stormwater infrastructure including outfalls, pipes, catch basins, interconnections to other small MS4s, catchment delineations, treatment structures and other Best Management Practices (BMPs);
- Data regarding the water quality of receiving waters, including water quality classifications and standards, identified impairments, total maximum daily loads (TMDLs), and waste load allocations (WLAs);
- Additional detailed receiving water quality information to identify areas with a high illicit discharge potential, such as fecal coliform, ammonia-nitrogen, total phosphorus, and surfactant data, and “any other available sources of dry weather water quality data including state agencies or watershed associations”;
- Locations of drinking water supplies, shellfish beds, fishing areas and other sensitive environmental resources;
- Parcel-by-parcel land use information, including specific uses (car dealers, car washes, gas stations, garden centers, industrial manufacturing areas, colleges, and residential areas), building ages, septic system ages, results of Title 5 inspections, locations of swimming pools, and ages of industries;
- For Charles River watershed communities, additional information including land uses, soil types, impervious cover, public and private parking lots, public and private yard waste storage or composting facilities, parks, recreational fields, golf courses, fertilized sports fields, street alignments with extensive deciduous tree canopies, areas subject to erosion, and land suitable for structural controls;
- Sanitary sewer system information, including sewer ages, the location, date, volume, and mitigation of sanitary sewer overflows, and the locations of existing and former combined sewer overflows;
- For Charles River watershed communities, additional information pertaining to the sanitary sewer system such as sanitary sewer infrastructure locations, materials, and flow directions, rim and invert elevations, monitoring data, cleaning and repair activities, sewersheds, areas with inadequate levels of service, investigation by closed circuit television (CCTV) and rehabilitation work planned and completed, flow isolation and dye testing areas, and locations of lift stations, siphons, known or suspected underdrains, and major crossings with drainage utilities;
- Also for Charles River watershed communities, planned capital projects on roadways or other infrastructure that could impact stormwater; and
- Additional optional information such as topography and orthophotography.

If a community does not already have a robust Geographic Information System (GIS), the development of these data layers would require years of work and will cost hundreds of thousands of dollars. The timeline for completion of much of the mapping in the Draft Permit and the data analyses that are contingent upon its completion is one to two years from the effective date. These are not achievable milestones for communities that do not already have access to this information. Data collection would require a flyover of the community and/or extensive global positioning system (GPS) field work. The allocation of funds followed by the procurement of the required services could consume the majority of the time allowed for these mapping and data analysis tasks. This could be exacerbated depending on the timing of the permit issuance within a community's fiscal year. For a community that already has all of the required data, the data compilation and analyses could consume the entire time allowable for these tasks.

Timeline for Completion of Permit Milestones

Among the many requirements in the Draft Permit, the following milestones are included at the times indicated for communities that were subject to the 2003 permit:

120 days following EPA authorization:

- Submit the Stormwater Management Plan, including initial mapping, measurable goals for each BMP, milestones, timeframes, and measures of assessment.

Within 6 months of the effective date:

- Inventory all permittee-owned facilities within the categories listed;
- Develop an inventory of all floor drains within permittee-owned buildings;
- Develop a program to rehabilitate infrastructure at municipal facilities as needed;
- Begin sweeping all streets twice per year; and
- Begin quarterly inspections of all municipal facilities.

Within 1 year of the effective date:

- Submit a Stormwater Pollution Prevention Plan for all municipal facilities;
- Prepare written operations and maintenance procedures for municipal activities;
- Develop a procedure for site inspections and enforcement of construction site measures;
- Develop a protocol for the illicit discharge detection program and prioritize areas based on the data listed above;
- Inspect all stormwater structures on municipal properties annually;
- Begin distribution of public education materials to four identified audiences;
- Identify areas of inappropriate pet waste management; and
- For Charles River watershed communities, implement a catch basin inventory program and a street-sweeping optimization program, and optimize the use of fertilizers and leaf collection from impervious surfaces by municipal employees.

Within two years of the effective date:

- Submit the storm sewer infrastructure map showing all stormwater utilities;
- Submit an inventory and priority ranking of MS4-owned property and infrastructure;
- Implement targeted management efforts for pet waste at identified locations;
- Submit a report assessing the current street design and parking lot guidelines;
- Amend the previously enacted ordinance (if completed under the 2003 Permit) for development/redevelopment post-construction stormwater standards;
- Distribute public educational materials about feeding waterfowl in targeted areas;
- Begin monitoring and sampling 25% of outfalls per year in both dry and wet weather;
- Submit an annual estimate of changes in impervious area in each sub-basin tributary to the stormwater system, both directly and indirectly connected, from both public and private projects; and
- For Charles River watershed communities, submit information representing the progress of the Phosphorus Control Plan (PCP) development.

Within 3 years of the effective date:

- Develop a report assessing existing local regulations to determine the feasibility of allowing or encouraging green infrastructure.

Within 4 years of the effective date:

- Complete investigations of 50% of the storm sewer catchments; and
- For Charles River watershed communities, implement the PCP, with compliance achieved by year 10.

By the end of the permit cycle:

- Monitor and sample all outfalls in both dry and wet weather;
- Distribute a minimum of eight public educational messages; and
- For Charles River watershed communities, perform 48-hour damming tests on all key junction manholes.

Many of the individual requirements, on their own, would be achievable. However, requiring so many varied tasks of each community during a five-year permit cycle is unrealistic and is setting communities up for failure to comply. For this permit cycle, the program should be pared down to a list of achievable goals that build on the efforts that communities have already expended for compliance with the 2003 permit.

Financial Burden to Regulated Communities

For sample communities with 200 to 700 outfalls, the sampling and laboratory testing alone for 25% of the outfalls could cost upwards of \$40,000 to \$100,000 annually, depending on the parameters being

tested. This is just one small component of the Draft Permit. While EPA has estimated compliance costs on the order of \$100,000, it is important to note that the Massachusetts 2002 Clean Water SRF had 19 stormwater planning projects that ranged from \$190,000 to \$750,000, with an average of a little over \$400,000. Combined with the labor costs required to develop and distribute public education materials, to conduct site investigations, to develop the data and mapping described above, to inventory and inspect municipal facilities, to inspect and enforce construction activities, to review site plans for proposed new development or redevelopment projects, and to develop and implement reports, policies and ordinances, the financial burden of the Draft Permit is excessive.

In Section 1.10 c, the permittee is “encouraged to maintain an adequate funding source for the implementation of this program. Adequate funding means that a consistent source of revenue exists for the program.” With only 120 days from the permit’s effective date to develop the Stormwater Management Plan and commit to particular measures for implementation, there is not adequate time for funding to be secured. Furthermore, a “consistent source of revenue” implies a funding mechanism such as a stormwater utility assessing user fees. This type of program could require years to develop and implement, normally requiring multiple levels of review and approval from town boards and committees, town counsel, town meetings or general elections, and sometimes the state legislature. At a time when communities are not flush with money, and when most communities do not have enterprise funds for addressing stormwater infrastructure needs, the financial obligations of the proposed regulations are insurmountable.

Charles River Watershed Phosphorus Reduction Requirements

Based on the Draft Permit, communities within the Charles River watershed are required to meet unrealistic phosphorus reduction goals over a 10-year period. Specifically, the permit states that Charles River watershed communities “shall develop a Phosphorus Control Plan (PCP) that describes measures necessary to reduce the amount of phosphorus in discharges from its MS4 to the Charles River and its tributaries to achieve consistency with the WLA for the phosphorous (sic) loadings published in the *Final TMDL for Nutrients in the Lower Charles River Basin*” and “must reduce phosphorus loading to support achievement of the WLA included in the approved TMDLs for nutrients.” This will be very difficult, if not impossible, to achieve.

Presently, BMPs for stormwater phosphorus reduction are not well-developed. Furthermore, consistent guidance is needed in the permit regarding how to calculate the reduction potential associated with particular BMPs. Example BMPs are listed (bioretention, infiltration, disconnection of impervious areas, public education, etc.), but without presenting a consistent approach to calculating their reduction potentials, each community is likely to assess its achieved removal differently. In order to have an equitable program across cities and towns within the watershed, the permit documents must be more specific in this regard. A list of phosphorus-reducing BMPs should be provided as an appendix, with detailed instructions as to how to relate BMP implementation to a removal percentage



for the flow that is affected by the BMP. This should apply to both structural and non-structural controls. Alternatively, one specific BMP guidance document should be referenced as the resource for all communities to perform these calculations. This will also minimize the frequency of phosphorus sampling required to assess compliance with the permit.

In addition to the need for more detailed and equitable methods of calculating reduction potential, the permit should address alternatives for highly urbanized areas where the installation of structural BMPs on public property may not be feasible. In these areas, communities can work with private property owners as properties are redeveloped to require BMPs on their sites. In the meantime, however, there may not be feasible approaches to meeting TMDL WLAs for phosphorus.

Furthermore, communities are required to develop a priority ranking of areas and infrastructure where phosphorus pollution is likely. This does not take into account naturally occurring phosphorus which no doubt will be present in some areas and may be difficult to mitigate.

For all communities within the Charles River watershed, a phased approach with less stringent, achievable goals over a longer period of time is more appropriate at least until a range of feasible, cost-effective options for meeting water quality goals is developed through bona fide research and testing.

Phosphorus Trading and Offsets

“Trading mechanisms and offsets” are mentioned in the Draft Permit with regards to phosphorus reduction. The Coalition is hopeful that this is a step in the direction of more holistic water resources planning, where phosphorus trading could be between not only stormwater outlets discharging to a particular receiving water, but also between MS4 communities and a host of stakeholders involved in nutrient management. This could include wastewater treatment facilities, agricultural operations, golf courses and impoundment managers.

Many communities are presently spending millions of dollars to upgrade their wastewater treatment facilities to meet stringent new phosphorus goals. Some of these facilities can already attain levels below those required in TMDLs. Communities should be able to extend the benefit of their investment and offset some of the costs of stormwater treatment by meeting less stringent standards for stormwater, as long as the same total load can be achieved. Conversely, they should be able to invest in stormwater management and offset the need for additional wastewater treatment upgrades. Options for achieving offsets might also be present by provision of such in-stream improvements as impoundment removal or management, management of stream shading to reduce water temperature and management of aquatic vegetation. Other opportunities might also include better fertilizer management at agricultural operations and golf courses, which could be addressed as offsets to stormwater or wastewater treatment.

Charles, Neponset and Shawsheen River Bacteria Reduction Requirements

In an August 2004 report entitled, "Evaluation of Stormwater Management Benefits to the Lower Charles River," prepared by Metcalf & Eddy for the EPA, 2000 cfu/100 mL is described as "the extreme of dry weather and wet weather stormwater quality that could occur if aggressive illicit connection removal is implemented, and all possible BMPs are applied to their fullest extent." The bacteria removal requirements in Appendix G of the draft permit are 200 cfu/100 mL (geometric mean) across all Charles, Neponset and Shawsheen River communities. Achieving these levels in urban stormwater discharges is not realistic.

Assistance from the Regulatory Agencies

Section 2.2.1(d)(viii) states that, "The permittee shall identify incentives or regulatory assistance or guidance that the permittee seeks from EPA or MassDEP to implement effectively the PCP." Beyond just the PCP, there are several areas in which the regulatory agencies could provide information that would greatly reduce the financial burden and time constraints imposed by the Draft Permit. These include the following, each of which is described in more detail below: (1) public education materials, (2) ordinances and policies, (3) GIS data, (4) BMP removal efficiencies and related data, and (5) coordination with other review agencies. The provision of impervious area and directly connected impervious area for each community in Section 2.4.6.9 is a good example of the type of information that should be provided to assist in compliance. As much as possible, the regulatory agencies should provide guidance documents and templates to meet the individual requirements of the permit.

Public Education Materials

For the required public education materials, having each of 84 communities create their own language and graphics for brochures, websites, signs, etc., is an inefficient use of resources. Enough of the information on non-structural controls implementable by the public is generic and can be provided in a series of templates to communities. A few versions of this information could be developed depending on the size and demographics of each community or depending on the watershed. Similarly, for business and industrial user education, much of the information is generic and applies to all facilities. Specific recommendations regarding pet waste management, the use of alternative fertilizers, appropriate fertilizer application, and yard waste recycling, to name a few, are common to most locations. Templates could include areas where communities can input information specific to their locations. Proving these templates would greatly reduce duplicate efforts and costs.

Ordinances and Policies

Similar to public education materials, the regulatory agencies should provide suggested language for ordinances and policies. The Draft Permit requires the development of a number of specific policies and procedures, including those relating to illicit discharges, construction oversight, new development reviews, and management of municipal facilities. Again, much of this information is generic and could

be provided to communities as a range of templates, where a community could select the provisions applicable to their needs from a list of potential wording. If five templates could be made for each ordinance, rather than 84, this, again, would greatly reduce duplicate efforts and costs. Furthermore, many communities are likely to have counsel review new bylaw language prior to its adoption. If the regulatory agencies provide only that language that has been reviewed from a legal perspective and is deemed appropriate and enforceable, this would further reduce the costs to communities.

GIS Data

Many of the data needs listed above are a part of state-wide or regional initiatives. For instance, water quality classifications and standards, identified impairments, data from watershed organizations, waste load allocations, and waterways with endangered species habitat are not specific to individual communities, but instead are applicable to reaches of receiving waters that cross town boundaries. Rather than each community seeking out this information individually, the Draft Permit should contain links to downloadable GIS data for all regional or state-wide data required to be used to comply with the permit requirements.

BMP Removal Efficiencies and Related Information

As described above specific to phosphorus removal, the regulatory agencies should provide means of calculating removal efficiencies based on particular BMPs to arrive at a fair and equitable accounting across all communities. This is especially true for non-structural controls, such as public education and outreach, detection and elimination of illicit discharges, source control, and good housekeeping. Results from these activities are hard to measure otherwise.

Coordination with Other Review Agencies

Reviews for the presence of and impacts to endangered species, specific habitats, historical resources, and archeologically significant areas are cumbersome for each community to coordinate individually, both for the communities and for the review agencies. The permitting authorities should coordinate the reviews by these agencies with the comment periods and with particular future milestones, and all comments should be funneled through the permitting agencies to the applicants via formal comments. The draft permit describes activities as minor as constructing a ditch or installing a new catch basin as requiring the community to contact the review agencies due to the disturbance of land, especially in relation to archeological resources. A more streamlined process is required for obtaining input from these agencies on minor activities such as these.

Other Comments

The following is a list of miscellaneous comments that apply to topics other than those discussed above:

- Section 2.1.1 requires that discharges not cause or contribute to an exceedance of water quality standards. Section 2.4 requires that the discharge of pollutants be reduced to the maximum extent practicable (MEP). These directives appear to be in conflict. MEP is the statutory standard that establishes the level of pollution reductions that MS4 operators must achieve. Application of pollution controls to the MEP may not assure that discharges do not cause or contribute to an exceedance of water quality standards. Since MEP is the statutory standard for MS4s, it should apply throughout the permit and be the governing standard to determine compliance.
- The monitoring of 25% of outfalls each year in both wet and dry weather conditions is cumbersome, costly, and unreasonable. This should be lowered to a more achievable level, such as 10% per year, starting with known problem areas. Because of the vagaries of stormwater quality, wet weather monitoring is of little value. Such monitoring should be kept to a minimum with representative sampling rather than monitoring of all outfalls. Representative sampling could be used to provide a general overview of stormwater quality. This overview will not doubt affirm what is already well known and documented – stormwater quality is highly variable and can be very poor.
- For receiving waters both with and without approved TMDLs (Sections 2.2.2 and 2.3.1), requiring the installation of BMPs in municipal systems to meet all impaired water quality standards is an enormous and expensive undertaking.
- The permit states that the regulations only apply to the “urbanized” areas of each community – those with at least 500 people per square mile – and that “irrigation water” is excluded as a non-stormwater discharge. This may result in an exclusion of agricultural areas, which tend to be major contributors to stormwater pollution, especially with regard to nutrients. The regulatory agencies would be remiss to require such stringent requirements to meet WLAs from urbanized areas but not include agricultural inputs.
- If a discharge causing an exceedance of a water quality standard is discovered, the community is instructed to fix it within 60 days or document in the Stormwater Management Plan (SWMP) an estimated timeframe to correct the problem. This implies that the SWMP is an evolving document with constant updates to the regulators. If such updates are required, they should be limited to annual updates, rather than requiring continuous revision. Update requirements should be clarified in the Draft Permit.
- In Section 2.3.3 – Antidegradation, item (b) requires that for “discharges to tier II waters as defined by 314 CMR 4.04 the permittee shall demonstrate to the satisfaction of MassDEP that the discharge will cause no significant lowering of water quality by documenting one or more of the following: ... (iii) The discharge does not cause a significant lowering of water quality

because the effluent will be of a quality equal to or better than the existing water quality of the receiving water...” This should be clarified, as it implies that water quality standards do not need to be met in water bodies where they are not presently being met. This rationale could be used by all permittees discharging to tier II waters to maintain the status quo.

- Several of the data needs may require data from adjacent communities or from entities other than the MS4 communities being regulated. For instance, if the sanitary sewers are owned and operated by a different entity, such as a sewer district, the MS4 community may be relying on the adequacy and quality of their data to meet some of the permit requirements. This applies to information on sewer locations, ages, sanitary sewer overflows (SSOs), etc. Similarly, where this situation exists, requiring correction of SSOs may be more challenging if they are not within the community’s jurisdiction.
- The permit mentions that areas with sanitary sewers over 50 years old should be considered as having a high illicit discharge potential. Note that in some communities, the majority of sewers are over 50 years old. Therefore, a further division of priority areas would be required.
- Section 5.1.5 states that “EPA or MassDEP may require the permittee to add, modify, repair, replace or change BMPs or other measures” at any time. This is open-ended and onerous. More specific allowances should be made for how long a community will be given to make changes if they are requested or required by the regulatory agencies.
- Section 2.4.4.2 accurately recognizes that 6 months is not enough time to pursue and resolve a legal dispute with a discharger unwilling to comply; this could take years, and no time limit should be placed on such a dispute where it is beyond the control of the community.
- The requirements for construction site stormwater runoff control represent an improvement over the present General Construction Permit. Enforcement is often lacking with the present program, and having communities more involved with construction within their limits should help to mitigate the impacts of construction-related erosion and sedimentation. There could be a substantial reduction in pollutants from this alone, and the requirements appear to be reasonable and achievable.
- Similarly, post-construction stormwater management from new development and redevelopment are also “low-hanging fruit.” The application of the existing DEP stormwater management standards to upland areas outside of the Massachusetts Wetlands Protection Act jurisdiction is appropriate. These are standards that have been implemented in and around wetland resource areas for a number of years and are tested, implementable, and enforceable.

- The requirements for good housekeeping and pollution prevention from municipal facilities all appear to be reasonable and achievable, with the exception of the following two provisions: (1) Investigating municipal buildings to identify all floor drains may be a challenging task, especially in a 6-month timeframe, if large facilities such as school buildings and public meeting spaces are included; (2) The requirement to clean all catch basins when they are 50% full could require frequent cleaning of all catch basins in areas where deep sump basins have not yet been installed and may be excessive compared to the associated benefit. Agencies responsible for catch basin cleaning strive to maximize efficiency in light of local budgets and staff shortages. Greatest efficiency is realized when catch basins are cleaned following a geographic pattern, i.e., all basins in a given area are cleaned one after the other before moving on to a new area. Cleaning basins when they become 50% full is contrary to efficient use of manpower and cannot be implemented in a practical way. Furthermore, the inspection and cleaning of stormwater structures should be modified to be at the same frequency, allowing both to be performed at once.
- The requirements to measure and monitor changes in impervious area (Section 2.4.6.9), while an interesting academic exercise, provides little benefit to the municipal stormwater manager. This exercise will be burdensome and will take staff away from more valuable functions. If change in impervious surface over time is a metric of interest to Federal and State regulators then perhaps every 10 years the regulators can utilize advances in satellite imagery or other statewide GIS data to track this information. Stormwater managers should not be charged with gathering data that does not provide them with useful information.
- The Coalition agrees with the requirements for stormwater inputs into drinking water supply areas (Section 4.1) and the encouragement of groundwater recharge where feasible (Section 4.2).
- Where some of the permit requirements extend for a period of 10 years, it seems that record keeping should be required for longer than a five-year period.

In conclusion, while the Coalition agrees with the regulation of stormwater inputs to maintain high water quality, the Draft Permit as presented includes several requirements that are not achievable by many communities and do not take into account time and budget constraints that affect cities and towns. The permit should be scaled back, especially in the areas of mapping, outfall monitoring and sampling, and phosphorus and bacteria loading requirements, to include achievable, cost-effective goals during the course of the five-year permitting period. The final permit should present a means of building upon previous efforts to achieve continuous improvements to water quality in a rational, feasible manner. If communities are presented with a permit they can meet, they are more likely to successfully invest the necessary funds and labor into implementation.



We appreciate the opportunity to submit comments on the Draft Massachusetts North Coastal Small MS4 General Permit. Please do not hesitate to contact me with any questions. I can be reached at 508-799-1430 or at MoylanR@worcesterma.gov.

Sincerely,

MASSACHUSETTS COALITION FOR WATER RESOURCES STEWARDSHIP, INC.

A handwritten signature in black ink, which appears to read 'Robert L. Moylan, Jr.', is located below the typed name.

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Cc: H. Curtis Spalding, Regional Administrator, US EPA
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Senator John F. Kerry
Congressman Michael Capuano
Congressman William Delahunt
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Congressman Stephen F. Lynch
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Congressman John Tierney
Congresswoman Niki S. Tsongas