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Re: Comments on Draft NPDES Permit No. MAS010002 — City of Worcester Municipal Separate Storm Sewer System ("MS4") Discharge Permit

Dear Mr. Gray and Mr. Hogan:

The Conservation Law Foundation ("CLF") submits the following comments to the EPA on Draft NPDES Permit No. MAS010002, which authorizes the City of Worcester to manage stormwater discharge to the waterbodies of the City and updates the original permit issued in 1998.

From CLF's perspective, the Draft Permit represents a significant improvement over the prior permit, including a strengthened monitoring program and enhanced provisions for street sweeping and catch basin maintenance. In many places, the language is clearer and more prescriptive than the prior permit. However, we are concerned that some aspects of the Draft Permit fail to adequately address stormwater pollution from Worcester's separate storm sewer system and as such would not meet the requirements of the Clean Water Act and federal regulations or effectively protect Worcester's waterbodies from further degradation.

We urge EPA and DEP to expediently issue a final permit that reflects the changes recommended below, and invite discussion with the City as to how the Permit's requirements can be carried out in a way that is both environmentally protective and cost-effective.

1. General Comments

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Stormwater pollution is one of the major sources of impairment of lakes, rivers, and streams across the United States. A 2000 EPA report to Congress attributed pollution, erosion and siltation -- three of the four leading causes of degradation of U.S. waterbodies -- to stormwater runoff.[1] MassDEP, in analyzing Worcester's existing 1998 MS4 permit for renewal, found that many of the receiving waters in the City's Blackstone River watershed still fail to meet basic water quality standards. Most contain dangerous levels of bacteria, phosphorus and toxic metals. Impervious surfaces in the watershed, like parking lots and roof tops, generate storm water runoff that contributes significant pollutant loads to these already-degraded waterways while diverting the rainfall from its natural course, preventing it from being cleaned and recharged back into the ground.

CLF acknowledges the challenges inherent in managing urban stormwater and encourages the City to build on the progress it has made during the last permit term towards its stated commitment to improved water quality in its waterways.[2]

It is clear that significant and sustained commitment of resources will be needed to fully implement the Permit's requirements. However, there are also costs associated with continued stormwater pollution that are often overlooked – such as ongoing and increasing degradation of water quality, loss of recreational value, water supply effects and declining property values.[3] Low Impact Development practices that restore the natural hydrological cycle and reduce the demand on piped infrastructure can be, in the long run, more cost-effective to implement and maintain than conventional stormwater infrastructure.[4] It is critical that Worcester expand significantly its implementation of LID practices for sake of water quality, but these practices also have the potential to generate financial benefits and a greener, more livable city.

1. Water Quality

The EPA's National Water Quality Inventory 1988 Report to Congress revealed that pollution from diffuse sources, namely stormwater runoff, was the leading source of water quality impairment across the United States.[5] Bolstered by large number of similar

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[1] The National Water Quality Inventory, 2000 Report to Congress, U.S. EPA, Office of Water, Washington, D.C. (EPA-841-R-02-00).

[2] Michael O'Brien, Worcester City Manager, Public Hearing Testimony, Hearing Concerning Permit No. MAS010002, Worcester Public Library (July 30, 2008) (author's notes).

[3] See, e.g. , "How Much Value Does the City of Philadelphia Receive from its Park and Recreation System? A Report by The Trust for Public Land's Center for City Park Excellence for the Philadelphia Parks Alliance," June 2008 at 3-4 (estimating that Philadelphia's 10,000 acres of parks save $5.9 million annually in stormwater management costs).

[4] Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices, U.S. EPA, Nonpoint Source Control Branch (4503T), Washington, D.C., Dec. 2007 (EPA 841-F-07-006). This EPA report on seventeen LID case studies found that in the majority of the LID projects "significant savings were realized due to reduced costs for site grading and preparation, stormwater infrastructure, site paving, and landscaping." LID projects resulted in up to 80% total capital cost savings. Furthermore, additional benefits, such as improved aesthetics and faster sales, were not factored into these savings figures. The case studies included redevelopment projects (for example, green roofs in Toronto) as well as new development.

[5] 55 Fed. Reg. 47990 (Nov. 16, 1990)

findings over many years, EPA has recognized that stormwater runoff can harm water quality standards by changing hydrologic patterns, increasing stream flows, degrading habitat, and contributing to pollutant loadings.[6] Given these impacts, discharges to MS4s must receive appropriate scrutiny to ensure that water quality standards are not exceeded.

The importance of meeting water quality standards in the Blackstone River Watershed, both in the vicinity of Worcester and downstream, cannot be understated. Stormwater pollutants originating in the Watershed not only degrade the receiving waters covered by this Permit; they also threaten the Narragansett Bay, "Rhode Island's most important aquatic resource."[7] Suffering from excessive inputs of phosphorous and nitrogen caused by human activities, the Bay has seen the almost complete disappearance of eel grass as well as episodes of low dissolved oxygen levels and fish kills.[8] While a major effort to clean up the Bay, costing in the range of $400 million[9] has improved water quality somewhat, stormwater pollution still threatens the Narragansett's health. Just this month, the Department of Transportation, the Rhode Island Department of Environmental Management, and the University of Rhode Island launched the "Know Where It Goes" media campaign to educate the public about stormwater pollution.[10] Given that the Blackstone is a major contributor of nutrients to the Bay,[11] a reduction in pollutant loading from the Worcester separate storm sewer system (in addition to the ongoing reductions in phosphorus loading from CSOs and wastewater treatment plant effluent) is essential to protecting the Bay's ecosystem.

a. The Permit Must Ensure Compliance With Water Quality Standards

NPDES permit conditions, including the conditions of this Permit, must be designed to attainment of water quality standards.[12] As discussed in more detail below, the Draft Permit does not ensure water quality standards and TMDL wasteload allocations will be met. Therefore, CLF urges EPA and DEP to include more prescriptive requirements in

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[6] 64 Fed. Reg. 68722, 68724 (Dec. 8, 1999)

[7] NPDES Permit No. MA0102369, Upper Blackstone Water Pollution Abatement District, Fact Sheet at 5. The permit states that the Blackstone River is "a major sources of freshwater to the Narragansett Bay," flowing into the Seekonk River and the Providence River. The Seekonk and Providence Rivers are both impaired for nutrients.

[8] Id. at 11-12.

[9] E-mail from Jane Austin, Director of Advocacy and Policy, Save The Bay, to Jerry Elmer, Staff Attorney, Conservation Law Foundation (July 30, 2008, 15:40 EST) (The cost of the clean-up of the Narragansett Bay includes $348MM for the first phase of the Providence CSO tunnel project as well as $118 MM for wastewater treatment facility upgrades at Field's Point and Bucklin Point).

[10] Peter B. Lord, "New campaign aims to cut pollution to Narragansett Bay," *Providence Journal*, July 18, 2008. http://www.ristormwatersolutions.org/index.html

[11] Governor's Narragansett Bay and Watershed Planning Commission Nutrient and Bacteria Pollution Panel: Initial Report (March 3, 2004) ("Concentrations [from the Blackstone River to the Narragansett Bay] as measured by USGS at Manville, RI are often above 2 mg/l. The EPA recommended nutrient criterion for this area is 0.71 mg/l total nitrogen as a median annual value (and 31.25 ug/l for total phosphorus).)"

[12] CWA §301(b)(1)(C), 33 U.S.C. § 1331(b)(1)(C), and 40 C.F.R. § 122.4(d).

the Permit that will require increased implementation of BMPs on a specific timeframe.[13] Furthermore, CLF urges that EPA and DEP at a minimum include in the permit the prospect that they may establish numeric effluent limits where necessary, as was the case in the 1998 permit.[14] Such a provision is necessary to guarantee that the agencies retain the ability to ensure water quality standards and TMDL requirements will be met. Without this provision, the permit would not be consistent with the legal standard set forth in the Clean Water Act and corresponding regulations, which is that NPDES permit conditions must be designed to attainment of water quality standards.[15]

CL F agrees with EPA's assertion on Page 6 of the Fact Sheet that water quality based effluent limitations (WQBELs) are appropriately included in this Permit based on Sections 402(p)(3)(b)(iii) and 301(b)(1)(c) of the CWA and Defenders of Wildlife v Browner, 191 F.3d 1159 (9th Cir. 1999). However, as explained below, we disagree with EPA's determination, as expressed on Page 6 of the Fact Sheet, that the BMPs required in this Draft Permit satisfy the Maximum Extent Practicable ("MEP") standard of Section 402(p)(3)(b)(iii) of the CWA. Moreover, we disagree that numeric effluent limitations are unwarranted in this permit, given the fact that most, if not all, waters receiving discharges from the Worcester MS4 system are impaired, and a large portion of those waters have TMDLs established for one or more pollutants.[16] To the extent EPA does continue to rely on "management practices and control techniques," rather than numeric effluent limitations EPA must continually evaluate the City's annual reports and sampling data and require forward progress towards improved water quality, including expanded use of structural best management practices.

CLF supports the permit language in Part I.C.1 and Part I.C.2(a) requiring water quality standards to be met, and requiring that the permittee evaluate monitoring data and other available information to ensure its discharges are not causing or contributing to exceedances of water quality standards. This language is necessary to meet the requirements of Section 301(b)(1)(C) of the Clean Water Act, 33 U.S.C. § 1331(b)(1)(C) and 40 C.F.R. § 122.4(d), and CLF urges it be retained in the Final Permit.

The step-by-step analysis that is spelled out for the permittee in Part I.C.3(a) of the Permit is a start toward explaining what is necessary. However, it is too general to meaningfully convey what a permittee needs to do in practice – in other words, it is not specific enough about what a permittee needs to do to discover problems, and to what degree and on what time frame measures need to be taken on the ground in a timely fashion to ensure that pollutants of concern are controlled, and how this must be documented.

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[13] 64 Fed. Reg. at 68753. According to a 1996 EPA policy, stormwater permits should "implement an iterative process using BMPs, assessment, and refocused BMPs, leading toward attainment of water quality standards. The ultimate goal of the iteration would be for water bodies to support their designated uses."

[14] NPDES Permit No. MAS010002, 1998, Fact Sheet at 7 ("Where the required permit term monitoring proves insufficient to show pollutant reductions, the EPA may require more stringent Best Management Practices, or where feasible, establish numeric effluent limitations in the next permit.")

[15] CWA §301(b)(1)(C), 33 U.S.C. § 1331(b)(1)(C), and 40 C.F.R. § 122.4(d).

[16] This is demonstrated by the map provided with the Fact Sheet on EPA's website, available at http://www.epa.gov/region1/npdes/worcester/pdfs/MS4_Series_Worcester.pdf (last accessed Aug. 4, 2008).

b. Presumption That Water Quality Standards Are Met Is Improper and Illegal and Must Be Removed

Part I.C.2.(b) of the Draft Permit, stating that "in the absence of information stuggesting otherwise, discharges will be presumed to meet the applicable water quality standards if the Permittee fully satisfies the conditions and effluent limits in this permit" is contrary to the Clean Water Act and the Phase I regulations and must be removed in the Final Permit. The statutory and regulatory scheme of the Phase I program establish that the burden is on the discharger to demonstrate that water quality standards are met. The presumption this provision attempts to create is improper, unsupported by the Clean Water Act and regulations, and creates an illegal hurdle to the enforcement of the provisions of the Permit that contravenes the right of citizens under Section 505 of the Clean Water Act, 33 U.S.C. § 1605.

2. TMDL-Related Provisions

a. Presumption That TMDL Requirements Are Met is Improper, Illegal and Must Be Removed

The sentence of Part I.E.(3)(b)(1) that reads "[u]nless otherwise notified by EPA or MassDEP, compliance with the requirements of Part I.C.2 of this permit shall be presumed to be adequate to meet the requirements of the TMDL" must be removed in the Final Permit. This sentence is not only circular in that it simply refers back to Part I.C.2, which in and of itself contains no meaningful requirements with respect to compliance with TMDLs, but also attempts to create a presumption that is unsupported by the Clean Water Act and regulations and contravenes the rights of citizen suit under Section 505 of the Clean Water Act, 33 U.S.C. § 1605. As described below, permittees must comply with the reductions set forth in TMDL WLAs and any other requirements of those TMDLs, and EPA and DEP cannot unilaterally determine that a lesser standard fulfills the permittee's obligations under the Clean Water Act.

b. The Permit Must Require Compliance with all TMDL WLA's Approved During the Permit Term

Total Maximum Daily Loads ("TMDLs"), which prescribe maximum loads of a pollutant that receiving waters can assimilate while sustaining their designated uses, are currently the most important protection for 303(d) listed waterbodies in Massachusetts. As such, CLF supports the Draft Permit's requirement at Part I.E.(3)(b)(3) that the Permittee affirmatively demonstrate controls being implemented to control the pollutants identified in approved TMDLs; evaluate whether additional BMPs beyond those specified in the permit are necessary to achieve the percent reductions specified in the WLAs of these TMDLs; and to document such determination in the annual report and SWMP. This provision is crucial not only to ensuring the TMDLs are met (as required by the CWA and regulations, explained below), but to ensure that the public can have an

active role in understanding and supporting the achievement of the needed reductions in pollutant loading.

As EPA points out in the Fact Sheet, 40 C.F.R. § 122.44(d) requires that effluent limits in the Permit must be "consistent with the assumptions and requirements of any available wasteload allocation" for an approved TMDL.[17] In addition, federal regulations at 40 C.F.R. § 130.12(a) require that "no NPDES permit may be issued which is in conflict with an approved Water Quality Management (WQM) plan [of which TMDLs are a crucial element."[18]

Part I.C.3.(b) of the Draft Permit states:

> If the Permittee's MS4 discharges to an impaired water with an approved TMDL and a waste load allocation "(WLA") has been established as identified in Attachment B of this permit that applies … to discharges from MS4s, the Permitee shall comply with the … specific BMPs to support the achievement of the WLA as identified in Attachment B.

CLF supports the general requirement that the Permittee comply with BMPs required to achieve the WLA of an approved TMDL -- as it is necessary to meet the requirements of 40 C.F.R. §§ 130.12(a) and 122.44(d) and the Clean Water Act.

On the same basis, CLF supports EPA's plan as stated in the Fact Sheet that:

> [i]f the draft Pathogen TMDL is finalized and approved prior to the issuance of the final permit and includes an applicable WLA to Permittee's MS4 discharge, EPA will incorporate into the final permit, if necessary, any additional BMPs that the Permittee must implement to support the achievement of the WLA.

CLF urges EPA to add the actual requirements of the WLA and implementation section of the draft pathogen TMDL for the Blackstone Watershed to the list of TMDLs in Appendix B to the Permit and to require the City's compliance with any other TMDLs that become final after its Permit coverage begins. This will not only provide the only chance for success in meeting the targets of these TMDLs for waterways which are under stress, but will also ensure that the Permit achieves effluent limits that protective of water quality.

In the case of the Blackstone Pathogen TMDL, the WLA tracks water quality standards. Virtually identical measures will be necessary to meet the wasteload allocation of the TMDL as to meet water quality standards in-stream; however incorporating the actual requirements of the TMDL into Appendix B (which limit the concentrations of pathogens

[17] See Fact Sheet, at 10.
[18] Water quality management plans are required under §§ 208(e) and 303(e) of the Clean Water Act, 33 U.S.C. §§1218(e) and 1313(e).

that can be in stormwater effluent at the point of discharge, based on the category of the receiving water), would provide important clarification of this point.

Given the pattern of issuance of TMDLs in the Blackstone River Watershed, which includes the draft Pathogen TMDL[19] it does not make sense to limit such compliance only to TMDLs that are already in place when the Permit goes into effect. Simply requiring the Permittee to "recognize and address the discharge of pollutants of concern from its MS4," as the requirement is articulated at Section VIII.B.1 of the Fact Sheet, will not be sufficiently protective of impaired waters for which a TMDL is approved during the course of the permit term.[20] In addition, CLF points out that there was a multi-year delay in the issuance of this Draft Permit after the expiration and administrative continuance of the prior permit. While we urge that the Worcester Phase I stormwater permit be promptly reissued in 2013, and in no way condone delays, incorporating TMDLs as they are developed would prevent a "backup" in the incorporation of new TMDL requirements, should the reissuance be delayed for any reason.

c. Draft Permit Would Not Sufficiently Ensure Compliance With Pathogen TMDL

CLF shares the concern of the Neponset River Watershed Association that the provisions of the Permit will not be sufficient to ensure compliance with the wasteload allocation of the Blackstone Watershed Pathogen TMDL. Again, since the TMDL tracks water quality standards, it is also highly unlikely that the Permit will ensure compliance with water quality standards for pathogens, either.

As mentioned above, the pathogen TMDL, which will apply to Beaver Brook, Blackstone River, Kettle Brook, Middle River, and Mill Brook Tributary, is currently in draft form and awaiting approval. This TMDL establishes a limit of the number of colonies that can be present in the effluent from Phase I stormwater outfalls to Class A waterbodies, Class B waterbodies, and freshwater beaches.[21] CLF concurs with the Neponset River Watershed Association that the fact that the WLA does not include percentage reductions should be irrelevant. Part I.C.2.(a) of the draft permit prohibits discharges that cause or contribute to an exceedance of water quality standards "including numeric and narrative water quality criteria."

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[19] While seven waterbodies in the City of Worcester have final approved Phosphorus TMDLs, eight waterbodies remain unassessed, one waterbody has insufficient information to make an assessment for any use, and another has not been assessed for some uses (Fact Sheet at 9). Furthermore, the draft Pathogen TMDL for the Blackstone River Watershed is applicable to five water bodies associated with the Worcester MS4 system, but may not be finalized by the time the Permit takes effect.

[20] Part I.C.3(a) of the Permit at page 6requires the City to "evaluate discharges to impaired waters; identify additional or modified BMPs in its SWMP to ensure that discharges do not causes or contribute to the impairment; and implement such MBPs and include the status of each in its annual report."

[21] MassDEP, U.S. EPA, and ENSR, Draft Pathogen TMDL for the Blackstone River Watershed, at 35-36. Available at http://www.mass.gov/dep/water/resources/bkstone1.doc. For Class A waters, the WLA from stormwater runoff Phase I and II is "not to exceed an arithmetic mean of 20 organisms in any set of representative samples, nor shall 10% of the samples exceed 100 organisms." For class B it is Not to exceed a geometric mean of 200 organisms in any set of representative samples, nor shall 10% of the samples exceed 400 organisms."

CLF disagrees with EPA's assessment in the Fact Sheet that "[a]t this time . . . the conditions included in the draft permit will be satisfactory, with little or no revision, to support the achievement of the WLA."[22] While it appears Worcester's illicit discharge detection and elimination ("IDDE" or "IDDP") program has had made progress in reducing illicit (bacteria- and virus-laden) sewage inputs to the separate storm sewer system, and while the most recent SWMP Annual Report describes some provisions to educate the public about pet waste, it is very unlikely, if not impossible, that these steps alone can ensure the "point-of-discharge" limits in the draft pathogen TMDLs are achieved.[23]

We urge EPA to incorporate into the Permit a requirement that stormwater BMPs with demonstrated capability to remove pathogens (constructed stormwater wetlands, wet basins, and proprietary filter media) be installed and utilized within the Worcester MS4 system as needed to reduce pathogens to meet the limit set forth in the TMDLs.[24]

d. Draft Permit Does Not Sufficiently Ensure Compliance With Phosphorus TMDLs.

Phosphorus TMDLs have been approved, and are in effect, for a large number of waterbodies in the Blackstone River Watershed that receive storm water runoff from the Worcester MS4 system, including Indian Lake, Lake Quinsigamond, and Flint Pond, Leesville Pond, Salisbury Pond, and Sixteen "Selected" Northern Blackstone Lakes (Auburn Pond, Brierly Pond, Curtis Pond North, Curtis Pond South, Dorothy Pond, Eddy Pond, Green Hill Pond, Howe Reservoir, Jordan Pond, Mill Pond, Newton Pond, Pondville Pond, Smiths Pond, Southwick Pond, Stoneville Pond, Shirley Street Pond).[25] These TMDLs point out in no uncertain terms that the Worcester separate storm sewer system is a major contributor, if not the only contributor, to the Waste Load Allocations in these TMDLs. Thus, significant reductions in phosphorous loading from stormwater must be achieved in order for the TMDL WLAs to be met.

The Indian Lake TMDL, for example, calls for a 46% reduction in phosphorus loading in the Wasteload Allocation.[26] Page 11 of the TMDL points out that the lake used to be used for sailing and waterskiing, which the degraded conditions at the time of the TMDL did not allow.[27] In this TMDL, the Worcester Phase I stormwater system is listed as the only permitted point source discharge contributing to the WLA.[28] Thus, to meet

[22] Fact Sheet, at 11.
[23] See MassDEP, U.S. EPA, and ENSR, Draft Pathogen TMDL for the Blackstone River Watershed, at 34 (limits are intended to apply at point of discharge). Available at http://www.mass.gov/dep/water/resources/bkstone1.doc.
[24] Additionally, Worcester may consider using measures to deter goose populations from sensitive areas, as employed in the City of Newton's stormwater demonstration project at the Chestnut Hill Mall.
[25] See http://www.mass.gov/dep/water/resources/tmdls.htm#blackst.
[26] MassDEP, Total Maximum Daily Loads of Phosphorus for Indian Lake, at 14 (May, 2002).
[27] Id. at 11.
[28] Id. at 7.

the WLA, the Worcester MS4 system would need to reduce its contribution by 46%. The Permit does not sufficiently provide for this reduction to be documented, implemented, and enforced.

Similarly, the Lake Quinsigamond/Flint Pond TMDL requires a 52% reduction in phosphorus from storm flow as part of the Wasteload Allocation,[29] and a portion of this stormwater is contributed by the Worcester MS4 system.[30] The TMDL acknowledges that this level of reduction will be "difficult to achieve."[31] Meanwhile, the Leesville TMDL requires a 50% phosphorus reduction from *all* sources other than forests, including urban landuses.[32] The TMDL calls for not only sweeping and catch basin inspection by all nearby towns – including Worcester – but also proposes "[i]nstall[ing] additional BMPs as needed to address pollutant loadings."[33]

Salisbury Pond is in "poor condition," with complaints about weed growth, odors, and aesthetics, and nuisance algae blooms and turbidity due to high phosphorus loadings. These phosphorus sources originate primarily from the City of Worcester.[34] The Salisbury Pond TMDL calls for phosphorus reductions of 80% from inlet culverts transporting sewage-contaminated water, and 20% from a stormflow drain, to combat these concerns.[35] Finally, the Northern Blackstone Lakes TMDL calls for 5-7% reductions in commercial-industrial point source loadings to Curtis Pond North and Curtis Pond South in Worcester, and proposes both residential and urban BMPs to obtain these reductions.[36]

It is obvious that these TMDLs call for very significant reductions in phosphorus. Given the contribution of Worcester's stormwater to these impaired waterbodies, the influence of BMPs implemented as part of the Worcester MS4 will be considerable, and perhaps determinative. It is highly unlikely that the major phosphorus reductions proposed in these TMDLs can be met without the development of some structural BMPs for Worcester's stormwater system. Yet the proposed MS4 permit requires only minimal structural controls. CLF believes that while the increased street sweeping and catch basin cleaning are an important first step, unless the MS4 permit obligates Worcester to develop phosphorus-reducing structures - such as constructed wetlands, porous pavement, tree box filters, proprietary filter media, or other vegetated structures, the reductions required by these TMDLs will simply not be achievable.

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[29] MassDEP, Total Maximum Daily Loads of Phosphorus for Lake Quinsigamond and Flint Pond, at 16 (May, 2002).
[30] Id. at 11.
[31] Id. at 19.
[32] MassDEP, Total Maximum Daily Load of Phosphorus for Leesville Pond, at 15 (May, 2002).
[33] Id. at 21.
[34] MassDEP, Total Maximum Daily Loads of Phosphorus for Salisbury Pond, at 11 (May, 2002).
[35] Id. at 16.
[36] MassDEP, Total Maximum Daily Loads of Phosphorus for Selected Northern Blackstone Lakes, at 59, 66 (April, 2002).

3. New or Increased Discharges

CLF is highly concerned about Part I.A.4 of the Draft Permit, which authorizes new or increased discharges, and calls for the inclusion in the Final Permit of a more thorough antidegradation analysis requirement, the performance of a "Pinto Creek" analysis, and an opportunity for public participation, before any new or increased discharges would be permitted.

a. Basic Premise

It is contrary to a basic principle of NPDES stormwater permitting – that permits must be designed to ensure compliance with water quality standards and TMDLs[37] -- to allow new or increased discharges to an impaired waterbody. By failing to require specific analyses and findings before allowing such changes, EPA's record does not demonstrate that the required analyses have been or will be carried out, or that water quality standards will be met.

First, it is not clear from the permit and/or fact sheet under what circumstances the City contemplates needing to request an expansion of the number of outfalls or increase its volume of stormwater discharge. This should be clarified. For example, would they be associated with a new street being built? An urban redevelopment project? A sewer separation project? If the new or increased discharges are contemplated as part of a new or redevelopment project, then LID techniques should be used to manage the increased storm water flow, rather than sending the additional storm water through old-fashioned, piped infrastructure without treatment. Any construction involving digging and reconstruction of streets, parking lots, or paved area should be utilized as a relatively low-cost opportunity to invest in the shift to a more sustainable mode of stormwater management. In particular, where private developers propose new or redevelopment projects, the City should require that LID stormwater management practices are installed that will decrease the impervious area, increase "green" space and vegetated cover, remove pollutants, reduce peak flow volumes, and, where soil and hydrologic conditions permit, infiltrate the cleaned stormwater runoff.

Second, any situation where urban stormwater pollutants are discharged from outfall pipes and into impaired receiving waters, in the absence of intervening treatment by a structural BMP, is highly likely to contribute to an exceedance of water quality standards for a pollutant of concern. As such, a new or increased discharge is necessarily highly likely to "contribute" to water quality standard exceedances, which are prohibited under

[37] With respect to water quality standards, CWA §301(b)(1)(C), 33 U.S.C. § 1331(b)(1)(C), and 40 C.F.R. § 122.4(d) require that the conditions of NPDES permits must be sufficient to ensure water quality standards are met. With respect to TMDLs, 40 C.F.R. § 122.44(d) requires that effluent limits in the Permit must be "consistent with the assumptions and requirements of any available wasteload allocation" for an approved TMDL. In addition, federal regulations at 40 C.F.R. § 130.12(a) require that "no NPDES permit may be issued which is in conflict with an approved Water Quality Management (WQM) plan [of which TMDLs are a crucial element."

the Clean Water Act, the corresponding regulations, and the Permit. Furthermore, a "contribution" to an exceedance does not need to be equivalent to causing an exceedance, and case law has established a relatively low hurdle for what constitutes a "contribution."[38] Assuming that it is possible a new or increased discharge would not "cause or contribute" to instream exceedances of water quality standards, the antidegradation analysis should be clarified, and it is unlikely the Pinto Creek test could be met.

b. Antidegradation Analyis Requirements Insufficiently Spelled Out

While it is appropriate that the Draft Permit references the antidegradation provisions adopted as part of the Massachusetts Surface Water Quality Standards, 314 Mass. Code Regs. § 4.04, the Draft Permit does not go far enough to condition the approval of new or increased discharges on a demonstration that the MassDEP antidegradation policy will be met. The structure of the state's antidegradation policy and the Clean Water Act is such that the permittee is to assume responsibility for identifying problematic discharges, not the EPA or any other parties.[39]

The Antidegradation Policy places specific affirmative obligations on the permittee to demonstrate compliance by showing that:

1. The discharge is necessary to accommodate important economic or social development in the area in which the waters are located;

2. No less environmentally damaging alternative site for the activity, receptor for the disposal, or method of elimination of the discharge is reasonably available or feasible;

3. To the maximum extent feasible, the discharge and activity are designed and conducted to minimize adverse impacts on water quality, including implementation of source reduction practices; and

4. The discharge will not impair existing water uses and will not result in a level of water quality less than that specified for the Class.

314 CMR § 4.04(5)(a)(1-4). The permit does not sufficiently ensure that the City will have conducted these analyses prior to being granted authorization. The lack of specificity as to this analysis is particularly troubling because such authorization could potentially occur merely upon the passage of the 30-day waiting period after its request. The Final Permit should clarify that the permittee is required to conduct this antidegradation analysis, and the Permit should be more specific about what facts must be documented within that analysis, prior to EPA's authorizing a new or increased discharge,

[38] See Natural Res. Def. Council, Inc. v. Watkins, 954 F.2d 974, 980 (4th Cir. 1992) (determining that a "but for" test is not necessary to show a "contribution" to a result, as long as the actor has been part in bringing it about).

[39] See, e.g., Payton v. Abbott Labs, 512 F. Supp. 1031, 1036 n.4 (D.C. Mass. 1981) (doctrine of joint and several liability puts responsibility of contribution on defendant wrongdoer

EPA must subject any changes the City proposes to "meaningful review . . . to ensure that each such program reduces the discharge of pollutants to the maximum extent practicable."[40] Mere passage of the 30 day period without affirmative review would not constitute the level of review needed to meet this standard.

c. Pinto Creek Analysis Must Be Performed, and Is Unlikely To Allow New or Increased Discharges

Furthermore, EPA has properly included the requirement that the Permittee demonstrate that new discharges will meet the criteria of 40 C.F.R § 122.4(i) and Friends of Pinto Creek v. EPA, 504 F.3d 1007, 1011-13 (9th Cir. 2007). 40 C.F.R. § 122.4(i) prohibits any new discharge into a water segment that does not meet applicable water quality standards and for which a pollutant load allocation has been performed pursuant to the state's Antidegradation Policy; [41] but it does provide an exception based on two conditions.[42] First, the applicant must demonstrate that sufficient pollutant load allocation remains to allow for the discharge under existing circumstances, taking account of all sources of pollution, while meeting state water quality standards.[43] Second, the applicant must show that existing discharges into the water segment "are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards."[44] This plain language demands the adoption of compliance schedules that account for discharges from all existing sources.[45]

While TMDLs have been approved for some of the receiving waters of Watershed, it is unclear in the Draft Permit whether any have sufficient loading capacity available or if the existing discharges have the necessary compliance schedules. CLF is concerned that there is not sufficient loading capacity for the nutrient TMDLs in the vicinity of Worcester and/or that the existing dischargers are not on compliance schedules under which they would achieve compliance with applicable water quality standards. Before authorizing the City to allow new or increased discharges, the EPA must ensure that it will meet the criteria of not only the Massachusetts Antidegradation Policy, but also of 40 CFR § 122.4(i).

d. Public Participation Must Extend to New or Increased Discharge Determination

Finally, while the Draft Permit provides for "public inspection" of the City's data and other technical information supporting a new or increased discharge, it is insufficient in

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[4040] See Environmental Defense Center v. EPA, 344 F.3d 832, 856 (9th Cir. 2003) (finding EPA's practice of declining to review Notices of Intent from NPDES Phase II MS4 Permittees an impermissible failure to regulate)

[41] 314 Mass. Code Regs. § 4.04

[42] 33 U.S.C. § 1313. 40 C.F.R. § 122.4(i); see Friends of Pinto Creek v. EPA, 504 F.3d 1007, 1011-13 (9th Cir. 2007).

[43] 40 C.F.R. § 122.4(i)(1); Friends of Pinto Creek, 504 F.3d at 1013.

[44] 40 C.F.R. § 122.4(i)(2).

[45] Friends of Pinto Creek, 504 F.3d at 1013-14.

that it does not require that the Permittee demonstrate that the discharge will not contribute to exceedances. As discussed above, EPA must affirmatively review the Permittee's support for new or increased discharge. Part of such a review is making this information available to the public and subject to public notice and comment.[46]

e. New Development and Redevelopment Should Be Required To Meet State Stormwater Standards

As explained more fully below, CLF supports the inclusion of a requirement in the Permit [47] of the requirement that Worcester promulgate regulations that apply the Massachusetts DEP Stormwater Standards to all new development and redevelopment. If LID practices are utilized fully, such that storm water is captured on green roofs, gravel wetlands, or rain gardens and is infiltrated, evaporated, or very gradually released, this could reduce or even eliminate the need for new or increased discharges to the MS4 system. Preventing new discharges by utilizing LID would eliminate the need for the above analysis, provided it is sufficiently documented that no new or increased stormwater will be discharged into the MS4 system.

4. Monitoring

Monitoring is a critical aspect of a MS4 permit. The primary goals of a stormwater monitoring program should be to identify the source and effects of pollutants of concern and to show a trend of pollution reduction over the life of the permit so that MS4 discharges do not continue to cause or contribute to exceedances of water quality standards.[48] Successful monitoring programs not only furnish essential information about water quality in permitted receiving streams; they also provide the basis for establishing prioritized areas and for continually developing BMPs.

CLF supports the monitoring provisions in the Draft Permit and urges EPA and MassDEP to retain the proposed monitoring program in the Final Permit. To the extent that numeric effluent limits are not required, the thorough wet- and dry- weather sampling program proposed in the Draft Permit is appropriate and is necessary in order to assess the impact of the City's stormwater discharges in relation to water quality standards and TMDL requirements. Given the importance of the City's monitoring effort, we applaud EPA for soliciting comments from the public as well as from the permittee on the monitoring program, and we urge EPA and DEP to thoroughly consider any comments or suggestions from local or regional watershed advocates regarding monitoring.[49]

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[46] See Environmental Defense Center v. EPA, 344 F.3d 832, 856 (9th Cir. 2003).
[47] Testimony of City Manager Michael O'Brien, Public Hearing regarding Draft Permit ###, City of Worcester Phase I Stormwater System (Worcester Public Library, July 30, 2008).
[48] See e.g., Fact Sheet for NPDES Permit No. FLS000004 at 31.
[49] Fact Sheet at 31. "EPA is aware that there may exist alternate monitoring program designs or methodologies that could be employed to accomplish some of all of these needs. Therefore, EPA specifically invites comment from the Permittee and the public with respect to the inspection, screening, and monitoring conditions."

CLF supports the instances in the Draft Permit where follow-up monitoring is designed to lead to corrective action of water quality problems. In particular, the targeted investigation of the elevated copper concentrations found during wet weather monitoring of the New Bond outfall represents this type of monitoring. This is the type of iterative, evolving approach that the Phase I ("large" and "medium" MS4) stormwater program requires. Similarly, while hydrodynamic separators have been shown to be largely ineffective at achieving significant pollutant removal in urban stormwater environments,[50], the monitoring of pollutant removal effectiveness of the three hydrodynamic separators located at MS4 discharges into Lake Quinsigamond, Salisbury Pond, and Indian Lake is a positive step. Regular inspection and monitoring of these structural BMPs will be essential to determining whether additional water-quality based controls are needed. Further, since all three waterbodies have TMDLs, this effort will be critical in assessing progress toward meeting the phosphorus WLAs. The results will also be important to explaining how phosphorus is being controlled as required in Part I.C.3(b) of the Permit in the City's annual reports. We urge the EPA to provide, in the Final Permit, more more stringent BMP requirements that will be required if monitoring it determines that the separators are not sufficiently protective of these impaired waterbodies. This way, the City can anticipate the need for additional BMPs at these and other locations where problems are known to exist.[51]

While targeted monitoring at specific locations, as described above, is critical to the ongoing development of the SWMP and protection of water quality, regular wet weather outfall and in-stream dry and wet weather monitoring provide a needed backbone of information to inform decision-making. EPA has set forth a rigorous program of sampling at a large number of in-stream locations across the watershed. For the selection of these eight locations, CLF urges the City to work as closely as possible with MassDEP, the Blackstone River Coalition and others to identify the most representative in-stream sampling sites. Watershed groups and the DEP have the specific knowledge and experience that will be highly valuable to the City in setting up this program.

EPA has also required wet weather outfall monitoring at all MS4 outfalls at least twice during the Permit term. Given the City's failure to sample these locations since 2003 and its insistence that wet weather sampling be reduced or eliminated, CLF encourages the EPA to require the City to establish a more detailed schedule of this monitoring. This is especially important, given the fact that each outfall will be sampled so few times over the five-year Permit term, to ensure that sampling occurs in a manner that will lead to completion of Permit requirements.

5. Best Management Practices Must Meet "MEP" Standard And Meet Water Quality Requirements

[50] See Henry L. Barbaro and Clay Kurison, Massachusetts Highway Department, "Evaluating Hydrodynamic Separators" (Sept. 30, 2005).

[51] Draft NPDES Permit No. MAS010002, Part I.C.3(b). "If EPA determines more stringent requirements are necessary to support achievement of the WLA, EPA will incorporate such requirements through of modification of this permit pursuant to Part II.A.4 of this permit or by incorporation into the next permit."

Despite advances in the Draft Permit in prescribing pollutant removal through best management practices, we remained concerned about certain BMP components of the SWMP.

Permit provisions pertaining to Best Management Practices are especially important given that BMPs are the primary means by which exceedances of water quality standards are prevented. We do not agree that EPA's approach in the Draft Permit of relying completely on management practices as WQBELs, rather than numeric effluent limitations, is necessarily the right one, but if this approach is used, the Final Permit must include more prescriptive requirements regarding structural BMPs. We encourage the City to continue to develop additional BMP projects during the 2008-2013 permit term, as it has with the Salisbury Pond hydrodynamic separators, the Indian Lake hydrodynamic separators, and the Beaver Brook daylighting project.

We support the Draft Permit provision at Part I.E.7 that the city will continue existing programs to improve MS4 infrastructure, retrofit "twin-invert manholes." These provisions should be retained or strengthened in the final permit. The Private Street Conversion Program referenced in Section I.E.7 has potential to prevent sedimentation of streams, however a "green streets" design should be used for all new streets that employs LID best management practices. We support the commitments in the Draft Permit to a more aggressive catch basin and street sweeping program, but recommend these programs go further to have any likelihood of ensuring water quality standards are met.

a. Catch Basins Must Be Maintained at an Optimal Level

The 15,000 catch basins in the City of Worcester are a critical component of pollution prevention in the Blackstone River Watershed receiving waters. CLF commends Worcester's tracking of tonnage of debris and sediments removed from basins across the City. Furthermore, the goal established in the Draft Permit of no catch basin found more than 50% full during cleanings should be retained (or strengthened). This standard is consistent with widely accepted studies on catch basin efficiency.[52]

Even with provisions that attempt to ensure that sediments do not exceed 50% of catch basin volume, CLF believes that cleaning catch basins once every other year is insufficient to protect receiving waters. Studies suggest that at minimum catch basins should be cleaned once or twice per year (Aronson et al., 1983). Furthermore, it has been shown that more frequent cleaning leads to improved effectiveness of catch basins.[53] Naturally, the benefits of such inspections and maintenance must also be cost-effective – but if they are not effective in the first place, they are not "cost-effective," either.[54] As

[52] Pitt, R. 1985. Bellevue Urban Runoff Project. Final Report. The study found that when catch basins become 60% full, stormwater may bypass treatment and lead to the resuspension of trapped sediments.
[53] A 1994 Alameda, California study found that sediment removed per year tripled with monthly versus annual cleanings. Frequent cleanings were found to be particularly important in industrial and commercial areas. http://www.stormwatercenter.net/Pollution_Prevention_Factsheets/CatchBasins.htm
[54] See Testimony of Tom Schueler, CLF v. Deval Patrick et. al., Case No. 11295-wgy (D. Mass., May 29, 2008)

such, CLF urges EPA, based on data gathered during maintenance, to require a more environmentally effective catch basin cleaning program for the City of Worcester.

One problem that has prevented the City from properly evaluating the most beneficial catch basin maintenance schedule is its failure to institute the automated database required by the 1998 permit. Rather than record information about every basin cleaned, the City has only tracked the number of catch basins cleaned on a given day and the number that were over 50% full. As noted in the Fact Sheet, this not only prevents the required follow-up inspections it also frustrates City's ability to evaluate the optimal cleaning frequency of catch basins. With such detailed information in hand, the City could set a schedule of cleanings that is tailored to land uses—like industrial and commercial—and provides the most protection for its waterbodies given the resources at its disposal.

b. Street Sweeping Must Be Conducted in the Most Effective Manner Possible

Street sweeping remains an exceptionally important BMP in this permit, because phosphorus is a pollutant of concern in the watershed and the Draft Permit lacks other significant phosphorus removal BMPs beyond the IDDP program and a limited set of structural BMP pilot projects. The street sweeping provisions should be strengthened, or at a minimum, retained (but not weakened) in the Final Permit. CLF supports the Draft Permit's requirement of further refinement of standard operating procedures for such maintenance, and the inclusion of a specific street sweeping program in the Permit itself. The Permit's mandate of year-round weekly (or more frequent) sweeping of main line and arterial streets represents an important contribution to pollutant removal from Blackstone River watershed waterbodies. Two residential street sweepings a year may be insufficient.[55] The requirement to time spring street sweeping to maximize the collection of winter deicing materials is important, given the likelihood that road salt will cause or contribute to instream exceedances of water quality standards for chlorides, metals, and/or cyanide.

Many pollutants, such as sediment, sand, debris, salt, pet and wildlife waste, and organic matter, contained in stormwater runoff are removed by conventional street sweeping. However, standard sweeping does not remove the smaller sediment particles that contain greater amounts of phosphorous and metals. Frequent use of high-efficiency vacuums is far more effective at removing these particles than is the use of mechanical models.[56] Therefore, CLF urges that EPA require the retirement of brush sweepers and the use of high-efficiency vacuum sweepers. To the extent that both mechanical rotary brush and vacuum sweepers continue to be in Worcester, the City should document not

[55] The Tulsa, Oklahoma MS4 permit requires that residential streets be swept four times a year.

[56] Robert F. Breault, Residential Street-Dirt Accumulation Rates and Chemical Composition, and Removal Efficiencies by Mechanical- and Vacuum-Type Sweepers, New Bedford, Massachusetts, 2003–04," USGS Scientific Investigations Report 2005-5184 (2005). The 2003-2004 study in New Bedford, Massachusetts compared the efficiencies of a Pelican mechanical sweeper with a Johnston 605 Series vacuum sweeper. The study found that the vacuum sweeper efficiency (60 to 92 percent efficient) was greater than mechanical sweeper efficiency (9 to 40 percent efficient) across the board.

only curb miles swept and cubic yards of material collected, but also the type of sweeper employed during a given cleaning.

c. More Prescriptive Provisions Are Needed Regarding Structural BMPs

While CLF commends the EPA for the inclusion of a groundwater recharge/LID retrofit demonstration, we do not believe that a significant enough emphasis is placed on structural BMPs in the Permit. The Draft Permit does not ensure that sufficient structural treatment measures will be carried out to ensure that water quality standards and TMDL requirements will be met. Although the City has demonstrated a commitment to completing its SWMP and annual reporting obligations, given the severity and extent of the water quality impairments in the watershed, CLF maintains it is not sufficient to defer all further consideration of BMPs to the discretion of the permittee (as it elects to include in the SWMP) for two reasons. First, as discussed above, EPA must ensure that the Permit is designed to meet TMDL requirements and water quality standards. Second, the SWMP is not subject to the same degree of public participation as the permit itself.

Furthermore, when EPA states on page 6 of the Fact Sheet that is does not "anticipate the need to install" end-of-the pipe treatment systems during the permit term, it undermines the ability of the SWMP to evolve and fully protect water quality.[57] EPA's commitment to structural BMPs and retrofits in the Draft Permit does not go much beyond what the 1998 permit required—especially if, in fact, 99% of the twin-invert manholes have already been retrofitted with hold down devices.[58] CLF urges EPA to go beyond non-structural BMPs and require structural treatment BMPs, especially if monitoring shows them to be necessary to meet water quality standards. Bioretention areas, constructed stormwater wetlands and extended dry detention basins, which all have relatively low maintenance costs and high efficacy, should be emphasized, and the City should be actively exploring and installing these measures during the 2008-2013 permit term.[59]

The City has documented that it has spent on the order of millions of dollars during the prior permit term ($560,000 in Permit Year 8,[60] and $955,983 in Permit Year 9[61]) on paving private streets through its "street conversion" program. These expenditures represent a low-cost opportunity to capture both the financial and environmental benefits of "green streets" design. "Green streets" design employs LID best management practices to restore the natural hydrology and decrease the amount of impervious cover, while creating a desirable human environment.[62] Green streets design would have significant environmental benefits beyond just reducing sedimentation of nearby streams. CLF urges

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[57] Fact Sheet at 6.
[58] Fact Sheet at 26.
[59] See Massachusetts Stormwater Handbook (Feb. 2008); available at http://www.mass.gov/dep/water/laws/policies.htm#storm
[60] City of Worcester Storm Water Management Plan Annual report (Year 8) (2007).
[61] City of Worcester Storm Water Management Plan Annual Report (Year 9) at 1-4 (April, 2008).
[62] See http://www.crwa.org/projects/ESUD/GreenStreet.pdf.. The Charles River Watershed Association is a leader in advancing green streets design, and could be a resource in this regard. See, for example, http://www.crwa.org/projects/ABgreen_street.html.

that all future street conversions in Worcester be contingent on the use of LID stormwater design.

d. Stormwater Standards Should Be Met For All New and Redevelopment

CLF concurs with the comments of the Neponset River Watershed Association regarding Section I.E.4 (Land Distrubance and Development) and applauds the requirement that the City establish a program to control stormwater from private landowners discharging into its MS4. This measure should be a powerful tool for the City to improve its ability to comply with its MS4 permit in a cost-effective way as private landowners become required to do their fair share in reducing inputs of pollution to the City's MS4.

The requirement in the Permit that the City promulgate local rules to require new and re-development to comply with the DEP Stormwater Management Standards[63] is consistent with the federal regulations at 40 C.F.R. § 122.26 (2)(iv)(a)(2), which state that large MS4 operators must describe in their storm water management program:

> planning procedures including a comprehensive master plan to develop, implement, and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce polultants in discharges from municipal separate storm sewers after construction is completed."

40 C.F.R. § 122.26(2)(iv)(a)(2) (emphasis added).[64] To the extent that it appears impossible for Worcester to meet water quality standards and TMDL WLA loading reductions without some contribution from the private landowners discharging to its system, this provision must be retained in the Final Permit.

CLF supports the requirement in I.E.1(f) of the Draft Permit to infiltrate stormwater where feasible, and supports the requirement in I.E.4 that the City pass appropriate local regulations to ensure that all new development and redevelopment meets MassDEP Stormwater Standards throughout the area subject to this permit (i.e. uplands, not just areas subject to WPA jurisdiction).

Section I.E.1.(f)(2) should go beyond requiring an education program that "encourages" and "promotes" facility-specific storm water management practices. The language in this section should be changed to read "encourages pollution prevention, and requires facility-specific storm water management practices." Improved storm water management and pollution control on private parcels will be essential to achieving the

[63] Draft Permit Part I.E.4. "At a minimum the Permittee's program shall … establish by ordinance, bylaw, regulation or other appropriate legal authority requirements equivalent to the Stormwater Management Standards established by the MassDEP…"
[64] See also 55 Fed. Reg. 48070 (Nov. 16, 1990)

level of pollutant loading reduction needed from the Worcester MS4 system to meet TMDL requirements and water quality standards.

It is not clear in the Draft Permit whether the program required by Part I.E.4 is expected to require developers to meet ALL of the Massachusetts DEP stormwater standards, or just Standards 8-10. All of the Stormwater Standards should apply.

CLF supports the requirement that the City revise its rules and regulations where necessary to allow for LID practices to occur.

CLF supports the requirement of Part I.E.4(d) to estimate and report the amount of directly connected impervious area (DCIA). CLF encourages EPA and DEP to go further in providing that the City use this assessment as the basis to identify a minimum number of locations where LID stormwater retrofits could be undertaken.

e. Aggressive IDDP Program Is Needed

As discussed above, the Draft Pathogen TMDL for the Blackstone watershed documents serious pollution problems throughout the watershed, some of which are likely due to the continued presence of illicit sanitary or industrial connections to the Worcester MS4 system. Although the City has made progress during the prior permit term at identifying and addressing illicit connections, an aggressive program for the continued detection and elimination of illicit connections is needed and should be retained in the Final Permit. CLF recommends that to the extent illicit detection and elimination ("IDDP") activities can be combined with investigation and mapping of the City's sewer system that provides helpful information to the City and to the public about the condition of the infrastructure and the locations of outfalls or pipes, the program should be structured to accomplish those goals at the same time.

f. De-Icing Application and Post-storm Vehicle Washing

Application of road salt and de-icing chemicals significantly degrades the quality of receiving streams in urban areas, because high concentrations of sodium, chlorides, toxic metals, and impurities including cyanide, are washed directly (or indirectly, through groundwater migration,) into receiving streams during melting events.[65] Part I.D.6(f) of the Draft Permit provides that "the Permittee shall continue implementation and refinement of its standard operating practices regarding its snow and ice operations. The Permittee shall establish goals for the optimization of chemical application rates…"

CLF urges this provision to be strengthened to read "measurable, numeric goals and timetables" rather than simply "goals," and that actual numeric, measurable goals be established, either in the Final Permit or, at a minimum, in the SWMP. This would provide clarity both for the city and for the public as to what measures will be expected within the next permit term to address this pervasive problem. Noting that porous

[65] See Sujay S. Kaushal et. al., Publications of the National Academy of Sciences "Increasing Salinization of Fresh Water in the Northeastern United States" (Aug. 4, 2005) (available at www.pnas.org).

pavement may not achieve significant nitrogen reductions, CLF nevertheless encourages the City to investigate opportunities for porous pavement (which is less prone to icing) as well as the alternatives recommended by EPA.

Worcester has a proud history (and a lot at stake for the future) in the quality of its drinking water source water. Even though Worcester currently relies primarily on surface water outside of the City, the critical recharge area of two emergency groundwater wells, the Shrewsbury well and the Coal Mine Brook Well, under the City must not be overlooked.[66] In order to maintain these resources, CLF urges EPA to be more prescriptive in Part I.E.3(e) with the requirements of post-storm vehicle washing for vehicles used in snow and ice removal and salt/chemical application. A well-designed program is essential in reducing contamination from de-icing materials and protecting this groundwater supply.

6. Public Participation

As EPA recognizes, "An informed and involved citizenry is key to the successful implementation of a SWMP and compliance with the permit requirements."[67] The City's involvement of students and volunteers in marking storm drains, creation of partnerships with watershed and citizen groups, and development of brochures on a variety of stormwater topics should be continued. While improvements in public involvement have been made since the issuance of the 1998 permit, CLF still has serious concerns about the lack of full public involvement.

The Fact Sheet lists among the 1998 permit's accomplishments the establishment of a website with information about Worcester's SWMP. Providing such critical information is the first step in enabling full public participation in stormwater issues. A search of the City of Worcester's website revealed that the SWMP was not posted. This does the public a disservice and fails to meet the City's obligations under the Clean Water Act and its permit. [68]

EPA should require Worcester to post a continually updated copy of its SWMP and annual reports on a public website and to keep it up-to-date with all monitoring and sampling data collected. Additionally, EPA and DEP must alter Part I.G. in order to reflect the case law on public participation in stormwater permitting as set forth in Environmental Defense Center v. EPA, 344 F.3d 832, 856 (9th Cir. 2003). As written in the Draft Permit Part I.G. would allow the City, with approval from EPA and DEP, to modifications to the SWMP without a public input process, Modifications to the SWMP are too significant a change to be carried out without public input. As noted above, watershed groups and citizen volunteers often have the most wide-ranging experience with this sort of information and as such are critical asset to the City's successful

[66] City of Worcester Open Space & Recreation Plan (December 2000) at 18.
[67] See Fact Sheet at 13.
[68] CLF is also concerned that the City's stormwater website displayed a white paper by the Massachusetts Coalition for Water Resources Stewardship. Posting the White Paper sends an unbalanced message about Worcester's commitment to its stormwater plan.

management of stormwater. CLF requests that all interested parties who have commented on the Draft Permit are specifically notified when the SWMP becomes available for comment, and any time a modification is proposed.

7. Enforceability

CLF supports EPA and DEP's approach to ensuring enforceable requirements in this Permit, which was to include a relatively detailed description of the necessary elements of the SWMP in the body of the Permit. This format is a positive improvement over the approach in the prior permit, as it provides more certainty for the permittee as well as an appropriate level of public participation in the crucial "nuts and bolts" of how the permit will be implemented on the ground.

As described above, CLF is extremely concerned about language in Part I.C.2(b) of the Permit that improperly attempts to create a presumption that the discharger is in compliance with water quality standards. CLF urges EPA and DEP to alter this provision to more properly reflect the intended design of the Phase I program, which is that the requirement to meet water quality standards remains in addition to the discharger's meeting the "maximum extent practicable" standard for implementation of BMPs and that the burden is on the discharger to demonstrate compliance with water quality standards.

CLF also asserts that Part I.C.2.(d) of the Draft Permit (providing a 60-day period for the Permittee to submit new BMPs in the event EPA or DEP or the Permittee becomes aware that a discharge from the MS4 is causing or contributing to an exceedance of water quality standards) appears to amount to an improper waiver of the agencies' enforcement discretion. There may be situations where a different enforcement response is warranted. CLF points out that at a minimum, however this provision is interpreted with respect to EPA's or DEP's enforcement procedures, it cannot be construed to limit the enforcement of other permit terms and conditions by citizen groups.

As described above, CLF is also extremely concerned with the language in Part I.D.2 of the Permit that improperly attempts to create a presumption that the discharger is in compliance with the WLAs and other requirements of TMDLs. This presumption appears to be an illegal restriction on Section 505 of the Clean Water Act and does not reflect the legal framework, which requires that TMDLs be fully implemented through Clean Water Act stormwater permits. CLF urges EPA and DEP to remove this provision in the Final Permit.

In conclusion, CLF thanks EPA and MassDEP for opportunity to comment on Worcester's Phase I MS4 Draft Permit, and looks forward to engaging in a discussion with the City about how to accomplish our shared environmental goals. Please feel free to contact CLF with questions or for clarification of any of the comments.

Sincerely,

Cynthia E. Liebman
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Conservation Law Foundation