AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

DRAFT

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53), the

The City of Worcester
Worcester, Massachusetts

is authorized to discharge storm water discharges and allowable non-storm water discharges from its existing municipal separate storm sewer system ("MS4") through **330 existing outfalls listed in Attachment A (89 major outfalls and 241 minor outfalls)**

to receiving waters (in the Blackstone River Basin): **Beaver Brook, Blackstone River, Broad Meadow Brook, Coal Mine Brook, Coes Pond, Curtis Pond North, Curtis Pond South, Fitzgerald Brook, Indian Lake, Kendrick Brook, Kettle Brook, Lake Quinsigamond, Leesville Pond, Middle River, Mill Brook Tributary, Tatnuck Brook, Patch Reservoir, Poor Farm Brook, Salisbury Pond, Smith Pond, Weasel Brook, and Williams Millpond**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit will become effective on the date of signature if no comments are received during the public notice period. If comments are received during the public notice period, this permit will become effective on the first day of the calendar month immediately following 60 days after the date of signature.

This permit and the authorization to discharge expire at midnight, on the last day of the calendar month preceding five years from the effective date of the permit.

This permit supersedes the permit issued on September 30, 1998, effective on October 30, 1998 and expired on October 30, 2003.

This permit consists of 36 pages in Part I, Attachment A - Existing Separate Storm Sewer Outfall List, Attachment B: City of Worcester's Receiving Waters – Impairments and TMDL Status, and 25 pages in Part II, including General Conditions and Definitions.

Signed this day of

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Stephen S. Perkins, Director Office of Ecosystem Protection U.S. Environmental Protection Agency Boston, MA	Glenn Haas, Director Division of Watershed Management Department of Environmental Protection Commonwealth of Massachusetts Boston, MA

Table of Contents – Part I

Part I. Municipal Separate Storm Sewer System

Part I.A. Discharges Authorized Under This Permit

1. Permit Area. This permit covers all areas within the corporate boundary of the City of Worcester served by, or otherwise contributing to discharges from, the existing municipal separate storm sewer system ("MS4") owned and operated by the City of Worcester (the "Permittee").

2. Authorized Discharges. This permit authorizes existing storm water discharges to Waters of the United States from all existing outfalls (identified in Attachment A) owned or operated by the Permittee, and new storm water discharges subject to Part I.A.4. below.

3. Non-Storm Water Discharges. The following non-storm water discharges need not be addressed by the Permittee unless determined by the Permittee, EPA, or MassDEP to be significant contributors of pollutants to the MS4 or cause or contribute to a water quality standards violation. Any of these discharges that are identified as significant contributor of pollutants to the MS4, or as causing or contributing to a water quality standards violation, must be addressed consistent with the Permittee's legal authorities and illicit discharge and improper disposal practices established pursuant to Part I.E.5 of this permit.

   (a) lawn, landscape, and other irrigation waters provided all pesticides, herbicides, and fertilizers have been applied in accordance with approved labeling;
   (b) diverted stream flows;
   (c) flows from riparian habitats and wetlands;
   (d) springs;
   (e) uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005 (20));
   (f) uncontaminated pumped groundwater;
   (g) potable water sources, including routine water line flushing;
   (h) foundation and footing drains where flows are not contaminated with process materials;
   (i) water from crawl space pumps;
   (j) air conditioning or compressor condensate;
   (k) individual residential car washing;
   (l) dechlorinated swimming pool discharges;
   (m) street wash waters that do not contain detergents and where no non-remediated spills or leaks of toxic or hazardous materials have occurred ; and
   (n) building wash down water which does not contain detergents.

   The Permittee is not expected to evaluate pollutant contributions from discharges associated with emergency fire fighting activities. Therefore, these discharges are authorized as allowable non-storm water discharges, unless identified by EPA, as significant sources of pollutants to Waters of the United States or as causing or contributing to a violation of water quality standards.

4. New or Increased Discharges

(a) The Permittee must notify EPA and MassDEP a minimum of thirty (30) days prior to commencement of a new discharge or increased discharge from its MS4 with a description of the discharge and information demonstrating that the discharge will satisfy the antidegradation provisions of the Massachusetts Surface Water Quality Standards (314 CMR 4.04). Such discharge will become authorized thirty (30) days after the Permittee's notification unless EPA or MassDEP notifies the Permittee that it has failed to demonstrate satisfaction with the antidegradation provisions. Except where permitted by MassDEP pursuant to 314 CMR 4.04(5), new or increased discharges to Outstanding Resource Waters or Special Resource Waters are not authorized by this Permit. Before commencing any new or increased discharge, the Permittee shall identify in its Storm Water Management Program ("SWMP") the best management practices ("BMPs") it will implement to ensure compliance with antidegradation provisions and the terms of this Permit.

(b) Any new or increased discharge to a water quality impaired water as identified in Categories 4a or 5 of the *Final Massachusetts Year 2006 Integrated List of Waters* (or future updates or revisions thereto) will become authorized only if the Permittee demonstrates, before commencement of the discharge, that through the implementation of BMPs or other measures, the discharge is not expected to cause or contribute to an exceedance of a water quality standard for the pollutant(s) of concern. The Permittee shall provide data and other technical information to EPA and MassDEP sufficient to demonstrate one or more of the following:

(1) the pollutant(s) identified as causing an impairment will not be present in the new or increased discharge; or

(2) the pollutant(s) identified as causing an impairment will be present in concentrations that will meet in-stream water quality criteria at the point of discharge to the waterbody; or

(3) there is sufficient remaining waste load allocation in an EPA approved or established TMDL to allow the new or increased discharge, and the existing dischargers into that water are subject to compliance schedules designed to bring the water into compliance with applicable water quality standards.

(c) At the same time that the Permittee submits the required information to EPA and MassDEP, it shall make it available for public inspection at the Worcester Public Library (3 Salem Square, Worcester, MA) and on a publicly accessible internet website. The Permittee shall retain documentation of its demonstration in its SWMP and annual reports.

Unless EPA or MassDEP notifies the Permittee that it has failed to demonstrate that a discharge will not cause or contribute to the existing impairment, the discharge will be deemed authorized 30 days from the latest date on which the information is submitted to EPA and MassDEP and made available at the library or website.

5. This permit does not authorize discharges to the subsurface subject to state Underground Injection Control regulations. Although the permit includes provisions related to infiltration and groundwater recharge, structural controls that inject stormwater to the ground may be subject to requirements of the Safe Drinking Water Act and EPA's Underground Injection Control (UIC) program. Information about the UIC program and specific MassDEP requirements is available at http://www.mass.gov/dep/water/resources/groundwa.htm.

Part I.B. [RESERVED]

Part I.C. Water Quality Based Effluent Limits

1. Pursuant to Clean Water Act § 402(p)(3)(B)(iii), this permit includes provisions to ensure that discharges from the Permittee's MS4 do not cause or contribute to exceedances of water quality standards, in addition to requirements to reduce the discharge of pollutants to the maximum extent practicable ("MEP") set forth in Part I.E. The requirements found in Part I.C., along with certain requirements in Part I.E. that related to discharges to impaired waters for which an approved TMDL exits, constitute the water quality-based effluent limitations in this permit.

2. Requirement to Meet Water Quality Standards

   (a) The Permittee's discharges shall not cause or contribute to an exceedance of water quality standards (including numeric and narrative water quality criteria) applicable to the receiving waters. In determining whether its discharges satisfy this requirement, the Permittee shall consider available monitoring data and visual assessment and site inspection reports.

   (b) In the absence of information suggesting 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.

   (c) Applicable water quality standards for discharges from the Permittee's MS4 are those that are in place upon the effective date of this permit.

   (d) In the event that the Permittee becomes aware, or EPA or MassDEP determines, that a discharge from its MS4 causes or contributes to an exceedence of applicable water quality standards, the Permittee shall within **sixty (60) days** of becoming aware (or notified by EPA or MassDEP) submit to EPA and MassDEP a description of best management practices ("BMPs") that are currently being implemented and additional or modified BMPs that will be implemented to prevent or reduce pollutants sufficient to ensure that the discharge will no longer cause or contribute to an exceedence of

applicable water quality standards. The Permittee shall implement such additional BMPs upon notification by EPA or MassDEP and shall incorporate such measures into its SWMP as described in Part I.G.2. of this permit.

3. Discharges into Impaired Waters

Impaired waters are those that have been identified by MassDEP pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards. This may include both waters with EPA approved TMDLs, and those for which a TMDL has not yet been approved. Attachment B to this permit includes a current list of receiving waters located in the City of Worcester indicating for each the associated impairment category, pollutant(s) of concern, and TMDL status.

(a) Existing Discharges to an Impaired Water without an Approved TMDL

Where the Permittee's MS4 discharges to an impaired water without an approved TMDL, the Permittee shall comply with Part I.C.2. of this permit and address in its SWMP and annual reports how the discharge of the pollutant(s) identified as causing the impairment will be controlled such that they do not cause or contribute to the impairment. The Permittee shall:

(1) evaluate discharges to impaired waters;
(2) identify additional or modified BMPs in its SWMP to ensure that discharges do not cause or contribute to the impairment; and
(3) implement such BMPs and include the status of each in its annual report.

(b) Existing Discharges to an Impaired Water with an Approved TMDL

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 specifically to its MS4 discharges, or more generally to discharges from MS4s, the Permittee shall comply with the requirements of Part I.C.2. and specific BMPs to support the achievement of the WLA as identified in Attachment B[1]. The Permittee shall include these BMPs in its SWMP and address in its SWMP and annual reports how the discharge of the pollutant(s) identified as causing the impairment will be controlled such that they comply with the requirements of Part I.C.2. If EPA determines more stringent requirements are necessary to support achievement of the WLA, EPA will incorporate such requirements through a modification to this permit pursuant to Part II.A.4. of this permit or by incorporation into the next permit.

[1] Even if information available to the Permittee upon the effective date of the permit suggests that its MS4 discharges to a water that is not specifically identified on the applicable Section 303(d) list, EPA may nevertheless determine, after further examination of the applicable Section 303(d) list, and/or an approved TMDL, that a discharge from the Permittee's MS4 is contributing to a downstream water segment's impairment and that there is a WLA applicable to the Permittee's MS4 discharge.

(1) If the approved TMDL does not include a WLA applicable to discharges from the Permittee's MS4, the Permittee shall comply with Part I.C.2. of this permit and address in its SWMP and annual reports how the discharge of the pollutant(s) identified as causing the impairment will be controlled such that they do not cause or contribute to the impairment. Unless 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.

(2) Applicable TMDLs for discharges from the Permittee's MS4 are those that are approved by EPA as of the effective date of this permit.

(3) The Permittee shall highlight in its annual reports all control measures currently being implemented or planned to be implemented to control the pollutants identified in approved TMDLs. The Permittee shall evaluate whether BMPs in addition to those required by the permit are necessary to achieve the percent reduction in phosphorus identified as waste load allocations applicable to MS4 discharges in Attachment B. The basis of supporting the determination that such controls are adequate to meet the TMDL shall also be included in the SWMP and annual reports.

Part I.D. Storm Water Management Program (SWMP)

1. Within **One hundred eighty (180) days** of the effective date of the permit, the Permittee shall submit to EPA and MassDEP for review and comment, an updated SWMP that satisfies the requirements of this permit. The SWMP update shall include all original components of its February 1999 SWMP that will be continued and all required or proposed modifications thereto. This updated SWMP shall be submitted to the EPA and MassDEP at the addresses listed in Part I.J.1. of this permit.

2. At the time of submittal of the SWMP, the Permittee shall make available a copy of the SWMP at the Worcester Public Library (3 Salem Square, Worcester, MA) and on a publicly accessible internet website, and shall inform the public of its opportunity to review and comment on the program. The public may submit comments on the SWMP within **forty-five (45) days** of its availability on the Permittee's website or at the public library. The Permittee shall indicate that comments shall be submitted to EPA and MassDEP at the addresses provided in Part I.J.1. of this permit, with a copy provided to the Permittee.

3. After receipt of the SWMP, EPA and/or MassDEP will review and comment on the SWMP and may require SWMP modifications pursuant to Part I.G.3. of this permit. The Permittee shall respond to all written comments by U.S. EPA and the MassDEP and shall make all requested changes to the SWMP within **sixty (60) days** of receipt of such comments. Implementation of the requirements of Part I.E. shall occur upon the effective date of this permit.

4. The Permittee shall provide adequate finances, staff, equipment, and support capabilities to fully implement its SWMP, and all requirements of this permit.

Part I.E. Requirements to Reduce Pollutants to the Maximum Extent Practicable

The Permittee shall reduce, to the maximum extent practicable ("MEP"), the discharge of pollutants from its MS4 to receiving waters identified in this permit.

The Permittee shall implement the provisions set forth below and shall incorporate into its SWMP with implementation schedules and measurable goals, at a minimum, all seven (7) elements included in this part.

1. Legal Authority. The Permittee shall ensure that it obtains or maintains the necessary and enforceable legal authority established by statute, ordinance, rules and regulations, permit, easement, contract, order and any other means, to prohibit or control the contribution of pollutants to its MS4, including the authority to:

   (a) prohibit illicit discharges and sanitary sewer overflows ("SSOs") to its MS4 and require removal of such discharges consistent with Part I.E.5 of this permit. For the purposes of this permit, an illicit discharge is any discharge to the Permittee's MS4 that is not composed entirely of storm water, with the exception of SSOs, discharges authorized by another NPDES permit, or discharges described in Part I.A.3 of this permit;

   (b) control the discharge of spills and prohibit the dumping or disposal of materials including but not limited to industrial and commercial wastes, trash, used motor vehicle fluids, food preparation waste, leaf litter, grass clippings, and animal wastes into its MS4;

   (c) optimize the performance and pollutant removal efficiency of privately-owned retention or detention ponds that discharge to or receive discharge from its MS4, by ensuring the performance of adequate inspection and maintenance activities;

   (d) prohibit the installation of drainage infrastructure on unpaved streets that discharges to the Permittee's MS4;

   (e) control the discharge of storm water and pollutants associated with land disturbance and development activities, both during the construction phase and after site stabilization has been achieved (post-construction or operational phase), consistent with Part I.E.4 of this permit.

   (f) require the infiltration or injection of storm water from new development or redevelopment sites, where feasible and appropriate, to approximate the annual recharge of groundwater occurring during pre-development conditions consistent with MassDEP Stormwater Management Standard Nos. 3 or 7, as appropriate, applied pursuant to Part I.E.4. of this permit;

   (g) control through interagency or inter-jurisdictional agreements, the contribution of pollutants between the Permittee's MS4 and MS4s owned or operated by others; and,

(h) enforce against illegal activities involving its MS4, including pursuing all available civil and criminal remedies for such activities.

2. Public Education and Involvement. The Permittee shall continue to implement a public education and involvement program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness. The program shall include elements that:

(a) increase the public awareness about storm water pollution, its causes and effects, and actions that citizens, commercial, industrial and institutional entities can take to reduce the impact of storm water pollution on water quality;

(b) promote, publicize and facilitate the various elements of its SWMP through varied public education and involvement methods and make information available for non-English speaking residents;

(c) disseminate information to residents regarding the proper handling and disposal of used motor vehicle fluids, household hazardous waste, food preparation waste, grass clippings, car wash waters, and proper use of fertilizers, pesticides, and herbicides. (Including dissemination of educational material emphasizing phosphorus control as it relates to lawn care to residents located in watersheds of receiving waters identified in Attachment B with an approved TMDL and applicable waste load allocation);

(d) educate dog owners about the proper disposal of pet waste and the City's dog waste ordinance (General Ordinances of the City of Worcester, Chapter 8 §14.(9) and §15(c)) by providing written information at the time of dog license renewal. The Permittee shall install signage, pet waste baggies, and disposal receptacles in recreational areas where dog walking is allowed. In order to measure the effectiveness of education measures, the Permittee shall document in its annual report, information regarding the enforcement of the dog waste management ordinance including the number of violations and fines levied;

(e) educate owners and operators of commercial, industrial, and institutional facilities regarding their responsibility to control pollutants in storm water discharges from their property to the Permittee's MS4. Educational requirements are detailed at Part I.E.3.(f)(2) of this permit; and

(f) provide opportunities for the public to participate in the review, modification, and implementation of its SWMP, and sustain partnerships with environmental groups and civic organizations interested in water quality related issues. The Permittee shall host an annual public informational meeting within two months of submittal of each annual report required under Part I.H. of this Permit. The meeting notice shall comply with state public notice requirements and provide a forum for the education and involvement of interested public.

3. Pollution Prevention (Source Controls). The Permittee shall continue to implement, review and enhance its current pollution prevention practices and develop new source control

procedures as detailed in this part to reduce the amount of pollutants in storm water contributing to or discharging from its MS4 to the maximum extent practicable.

(a) The Permittee shall continue to facilitate the proper management, disposal, reuse and recycling of used motor vehicle fluids by educating the public and actively using its used motor oil collection capabilities at the city-owned recycling facility. The Permittee shall continue to inform citizens about the obligation of motor oil retailers to accept back equal quantities of used product purchased (MGL c21 §52A).

(b) The Permittee shall continue to promote and offer at least annually its municipal Household Hazardous Waste (HHW) Collection Program for the reuse, recycling and proper disposal of such waste. The Permittee shall establish as a goal increasing the frequency of the collection days hosted.

(c) The Permittee shall continue to implement procedures to prevent, contain, and respond to spills entering its MS4, including its multi-departmental Integrated Hazardous Materials Incident Response Plan (IHMIRP).

(d) The Permittee shall continue to limit the application of pesticides, herbicides and fertilizers ("PHFs") in public areas by municipal employees or private contractors. The Permittee shall develop and implement standard operating practices for the handling, storage, application, and disposal of PHFs in compliance with applicable state and federal laws, including state-approved vegetation management plans ("VMPs"). The Permittee shall establish reduction goals in its SWMP, including consideration of alternatives, for PHFs being used at Parks Department facilities including all city parks, Hope Cemetery, Green Hill Golf Course and areas managed by the Forestry Department. With respect to Green Hill Golf Course, the Permittee shall implement practices that achieve a 38 percent reduction in total phosphorus discharging from its MS4 into Green Hill Pond

(e) In order to prevent exposure to precipitation, the Permittee shall continue to enclose all snow and ice control materials in storage sheds and implement pollution prevention procedures to minimize exposure while handling these materials (sand, salt, anti-caking chemicals, truck body applicants). Tarps or other suitable impervious cover material may be used to prevent exposure of any temporary or interim storage of snow and ice control materials. The Permittee shall develop and implement post-storm vehicle washing and residue disposal practices for city-owned and contractor equipment to reduce to the MEP the discharge of anti- and de-icing materials into its MS4.

(f) The Permittee shall develop, implement, and enforce a program to control pollutants in storm water discharges to its MS4, not otherwise authorized by an NPDES permit, from commercial, industrial, municipal, institutional or other facilities when the Permittee determines that a stormwater discharge from a facility is contributing a substantial pollutant loading to the MS4. The Permittee shall report progress made towards reaching the goals of the program in each annual report. The program shall include:

(1) an inventory, mapping, and prioritization of all facilities determined by the Permittee to be contributing a substantial pollutant loading to its MS4 through inspections, monitoring, or other methods conducted by the Permittee, facility operator, or others; and

(2) an education program that informs these facility operators of their obligation to comply with the Permittee's stormwater rules and regulations, encourages pollution prevention, and promotes facility-specific storm water management practices, including appropriate operation and maintenance practices.

4. Land Disturbance and Development

(a) The Permittee shall coordinate all municipal departments and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects within the City of Worcester. As of the effective date of this permit, the Permittee shall implement and enforce a program to control any storm water contributing to its MS4 associated with land disturbance or development (including re-development) activities. Within two (2) years after the effective date of this permit, the Permittee shall begin implementing and enforcing an updated program that shall include implementation of legal authorities consistent with Part I.E.1. of this permit and shall address storm water management during land disturbing activities (construction phase) and after site stabilization has been achieved (post-construction or operational phase). At a minimum the Permittee's program shall, to the extent allowable by state law, establish by ordinance, bylaw, regulation or other appropriate legal authority requirements equivalent to the Stormwater Management Standards established by the MassDEP in effect upon the effective date of this permit[2], and shall include the additional elements described in Part I.E.4.(c) below.

(b) The Permittee does not need to apply provisions of its program addressing stormwater discharges during the construction phase of projects that receive a waiver from EPA under the provisions of 40 CFR § 122.26(b)(15)(i).

(c) The Permittee's program managing stormwater associated with land disturbance and development activities must include the following elements:

(1) An ordinance, bylaw, regulation, or other appropriate legal authority that requires developers and construction site operators to comply with the equivalent of the MassDEP Stormwater Management Standards, and that includes sanctions to ensure compliance (to the extent allowable under State or local law). Notwithstanding the applicability provisions found in the applicable MassDEP regulations[3], the

[2] Massachusetts Stormwater Management Standards, Vol. 1, Chapter 1 (available at url: http://www.mass.gov/dep/water/wastewater/v1c1.doc)

[3] Revisions to 310 CMR 10.00 and 314 CMR 9.00 promulgated on January 2, 2008; summarized at url: http://www.mass.gov/dep/water/laws/strmreg.pdf, and available at url: http://www.mass.gov/dep/water/laws/310c10p.pdf, and http://www.mass.gov/dep/water/laws/314c9p.pdf, respectively. The Massachusetts Stormwater Management Standards do not apply (or are applied only to the maximum extent practicable) for certain projects or

Permittee's program shall apply standards equivalent to MassDEP's Stormwater Management Standards to any project or activity that results in a disturbance of one or more acres of land, whether considered individually or collectively as part of a larger common plan, and that contributes storm water to the Permittee's MS4.

The MassDEP Stormwater Management Standards require proponents of development or redevelopment projects to consider environmentally sensitive site design that incorporates low impact development techniques. Therefore, the Permittee shall ensure that a proponent's proposed use of low impact development ("LID") techniques identified in the Massachusetts Stormwater Handbook[4] are allowable by right or exception (e.g., special permit or variance) under its regulations. In addition, the Permittee shall identify existing municipal zoning, site planning or street design regulations that address minimal dimensional criteria for the creation of roadways, parking lots, and other impervious cover that may represent barriers to implementing LID practices that involve minimization of impervious cover. Within two (2) years after the effective date of this permit, the Permittee shall make revisions to these regulations necessary to eliminate or reduce potential barriers, or otherwise provide in its annual report(s) required by Part I.H. justification why it is unable to make such modifications.

To address projects that MassDEP regulations exempt from compliance with the Standards (i.e., single family house projects and certain small subdivisions and housing developments), the Permittee's regulatory mechanism(s) may apply its equivalent requirements to the "maximum extent practicable" as defined in the Massachusetts Stormwater Handbook rather than requiring their full application. To address projects or activities located outside of a wetland resource area and that do not require the submission of a Notice of Intent to the Conservation Commission, the Permittee's regulatory mechanism(s) must maintain or establish surrogate procedures for successfully applying and enforcing the MassDEP Storm Water Management Standards[5];

(2) procedures for site plan review and pre-construction review meetings that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts to water quality;

(3) procedures for site inspection and enforcement of control measures, including provisions to ensure proper construction, operation, maintenance, and repair of construction and operational phase control measures;

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activities based on threshold criteria including the number of lots or units developed, assurance of no potential affects to critical areas, and whether the work is an emergency repair.

[4] Available at url: http://www.mass.gov/dep/water/laws/policies.htm#storm

[5] Standards 8, 9, 10 respectively address construction-related impacts, long-term operation and maintenance, and an illicit discharge prohibition. These Standards involve submissions associated with NOIs, Orders of Conditions, and Certificates of Compliance that are filed or issued pursuant to the MA Wetlands Protection Act.

(4) procedures for receipt and consideration of information submitted by the public concerning proposed and ongoing land disturbance and development activities; and

(5) procedures for notifying project applicants of their potential obligation to obtain authorization under an EPA NPDES Permit such as the *General Permit for Storm Water Discharges from Construction Activities* (CGP) if their development or redevelopment project disturbs one more acres of land, either individually or collectively as part of a larger common plan, and discharges storm water to a Waters of the U.S. directly or through the Permittee's MS4. The notification shall convey the Permittee's ability to obtain a copy of the Storm Water Pollution Prevention Plan prepared for projects covered by EPA's CGP.

(d) Within one (1) year after the effective date of this permit, the Permittee shall complete an estimate of the directly connected impervious area (DCIA) that contributes stormwater to each of its MS4 outfalls utilizing its existing geographic information system (GIS). For the purposes of this part, DCIA is that part of the total impervious area that is hydraulically connected to the Permittee's MS4. DCIA typically includes streets, sidewalks, driveways, parking lots, and some roof tops. DCIA typically does not include isolated impervious areas that are not hydraulically connected to the MS4 or otherwise drain to a pervious area. In its initial annual report, the Permittee shall provide the estimated DCIA that contributes stormwater to each MS4 outfall and describe the methodology and assumptions used. The Permittee shall provide the estimated DCIA for each outfall in each subsequent annual report based on development, redevelopment, or retrofit projects that effectively added or removed DCIA to its MS4 during the prior year.

5. Illicit Discharges and Sanitary Sewer Overflows

(a) Illicit discharges to the MS4 are prohibited, and any such discharges violate this permit and remain in violation until they are eliminated. The Permittee shall prohibit from entering its MS4 all illicit discharges as defined in Part I.E.1.(a). Upon detection, the Permittee shall eliminate illicit discharges as expeditiously as possible and require the immediate cessation of improper disposal practices upon confirmation of responsible parties in accordance with its enforceable legal authorities established pursuant to Part I.E.1. of this permit, and its existing notification and cost-sharing procedures. Where elimination of an illicit discharge within thirty (30) days of its confirmation is not possible, the Permittee shall establish an expeditious schedule for its elimination. No later than six (6) months after confirmation, such discharges shall be eliminated or the Permittee shall initiate appropriate enforcement actions shall be initiated. In the interim, the Permittee shall take all reasonable and prudent measures to minimize the discharge of pollutants to its MS4.

(b) The Permittee shall implement outfall screening and an illicit discharge detection protocol pursuant to Part I.F.6. of this permit to identify, prioritize, and investigate separate storm sewer catchments for suspected illicit discharges or improper disposal (e.g. dumping into a catch basin) of pollutants.

(c) The Permittee shall maintain a record of illicit discharge and improper disposal abatement activities including, at a minimum: location, description, method of discovery, date(s) of inspection, action(s) taken, date of removal or repair, responsible party(ies), costs associated with removal or repair, and estimated daily flow or total volume removed. This information shall be included in the Permittee's annual reporting pursuant to Part I.H. of this permit.

(d) Discharges from SSOs to the MS4 are prohibited, and any such discharges violate this permit and remain in violation until they are eliminated. Upon detection, the Permittee shall eliminate SSOs as expeditiously as possible and take all reasonable and prudent interim mitigation measures to minimize the discharge of pollutants to and from its MS4 until elimination is achieved. The Permittee shall continue to update and implement its Capacity, Management, Operations and Maintenance ("CMOM") Plan; Priority Cleaning Plan; Long Term Preventative Maintenance Plan; Fats, Oils, and Grease (FOG) Program; and its Root Control Program to minimize the occurrence and discharge of SSOs into its MS4.

(e) The Permittee shall identify all known SSOs that have not yet been eliminated or for which the underlying cause has not yet been identified or corrected. This shall include SSOs resulting, during dry or wet weather, from inadequate conveyance capacities, or where interconnectivity of the storm and sanitary sewer infrastructure allows for communication of flow between the systems. This shall not include SSOs resulting from isolated episodes of pipe blockages or collapses that have not recurred since addressed. The Permittee shall submit to EPA and MassDEP within sixty (60) days of the effective date of this permit an inventory of the identified SSOs indicating:

(1) location (approximate street crossing/address and receiving water, if any);
(2) date(s) and time(s) (i.e., beginning and end of discharge);
(3) estimated volume(s);
(4) description of the occurrence indicating know or suspected cause(s);
(5) mitigation and corrective measures completed with dates implemented; and
(6) mitigation and corrective measures planned with implementation schedules.

(f) Upon becoming aware of an SSO, the Permittee shall provide oral and written notice to EPA and MassDEP in accordance with Part II.D.1.e. of this permit and 314 CMR 12.03(8). A completed MassDEP *Sanitary Sewer Overflow/Bypass/Backup Notification Form*[6] shall serve as this written notice and shall include an implementation schedule for planned mitigation and corrective measures. The Permittee shall include a summary of this information in its Annual Report required by Part I.H. of this permit.

(g) Schedules for the mitigation or elimination of SSOs shall be established pursuant to EPA Administrative Order (Docket No. 05-21) or subsequent compliance orders issued by EPA or MassDEP. In the absence of a compliance order addressing a particular SSO, the Permittee shall implement mitigation or corrective actions according to schedules established and identified pursuant to Part I.E.5.(e) or I.E.5(f).

[6] Available at url: http://www.mass.gov/dep/water/approvals/ssoform.pdf

(f) The Permittee shall include in its annual reports required by Part I.H. of this permit the status of mitigation and corrective measures implemented by the Permittee to address each SSO identified pursuant to this part.

6. Infrastructure Operations and Maintenance

(a) The Permittee shall continue its ongoing programs to repair and rehabilitate its MS4 infrastructure in a timely manner in order to reduce or eliminate the discharge of pollutants from its MS4 to receiving waters. This shall include refinement of the Permittee's standard operating procedures and good housekeeping practices for management of its MS4.

(b) City-owned public streets, roads and highway rights-of-way shall be maintained by the Permittee in such a manner as to minimize the discharge of pollutants to its MS4.

(c) The Permittee shall continue a street sweeping program that removes sand, sediment and debris and includes year-round (weekly or more often) main line and arterial sweeping, spring city-wide residential sweeping, fall city-wide street sweeping and leaf pick-up program. As a goal, the Permittee shall compress its spring residential sweeping schedule to maximize the quantity of material collected at the end of the winter season. The Permittee shall document results of its sweeping program including, at a minimum: curb miles swept, dates of cleaning, cubic yards of material collected, and method(s) of reuse or disposal.

(d) The Permittee shall sweep all publicly owned parking lots at least twice annually.

(e) The Permittee shall sweep sidewalks in the central business district at least twice annually.

(f) The Permittee shall continue implementation and refinement of its standard operating practices regarding its snow and ice control operations. The Permittee shall establish goals for the optimization of chemical application rates through the use of automated application equipment (e.g. zero-velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals.

(g) The Permittee shall comply with MassDEP's Snow Disposal Guidance available at url: www.mass.gov/dep/water/laws/snowdisp.htm for the stockpiling or disposal of post-plowing snow.

(h) As of the effective date of the permit, the Permittee shall continue its practice of routine cleaning of all catch basins at least once every other year at a minimum. The Permittee shall continue implementing its catch basin inventory program ("CBIP") that utilizes a geographic information system ("GIS") and an electronic database for mapping and tracking catch basin inspection, maintenance and management information. Utilizing information compiled through its CBIP, operational staff and public complaints, the

Permittee shall optimize routine cleaning frequencies for particular structures or catchment areas as follows to maintain acceptable sediment removal efficiencies:

(1) For those catch basins serving catchment areas tributary to a receiving water identified in Attachment B with an approved TMDL and applicable waste load allocation for total phosphorus, inspections and cleanings shall be performed at a minimum frequency to ensure that no sump shall become more than fifty-percent (50%) full.

(2) For all other catch basins, the Permittee shall as a goal increase its regular cleaning frequencies such that no catch basin sump is found to be more than fifty-percent (50%) full during routine cleaning events.

(3) Barring any definite extenuating circumstances (such as excessive erosion from an active construction site), if a catch basin sump is found to be more than fifty-percent (50%) full during each of two consecutive routine cleaning events, the Permittee shall investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practical, abate contributing sources through appropriate measures. Appropriate measures may include stabilization practices, drainage modifications, and increased frequencies of catch basin cleaning and street sweeping, and structural controls suitable for controlling the excessive loading. The Permittee shall describe in its annual report actions taken or its plans to abate areas of persistent sedimentation, including stabilization practices, structural improvements or operational modifications.

(i) The Permittee shall ensure the performance of retention or detention ponds which discharge to, or receive stormwater from, its MS4. This shall include ponds that are owned by the Permittee and all privately-owned ponds where the Permittee maintains an easement or other legal authority pursuant to Part I.E.1.(c) of this permit. At a minimum, the Permittee shall annually inspect all such retention or detention ponds and remove accumulated solids to restore full solids capture design capacity where found to be in excess of 50% design capacity.

(j) The Permittee shall continue a formal employee training program to increase awareness of water quality related issues in management of its sanitary sewers and MS4. In addition to providing key staff with topical training regarding standard operating procedures and other activities necessary to comply with the provisions of this permit, the training program shall include establishing an awareness of the general goals and objectives of the SWMP; identification and reporting of illicit discharges, SSOs, and improper disposal; and spill response protocols and respective responsibilities of involved personnel.

(k) As part of interagency agreements established pursuant to Part E.1.(g) of this permit, the Permittee shall coordinate with operators of interconnected MS4s regarding the contribution of pollutants or operation and maintenance procedures affecting either system.

(l) The Permittee shall continue to inspect, maintain, and monitor the Vortechnics Model 16000 storm water treatment device installed as a demonstration project during the first permit term on the Belmont Street Drain. Sampling methodology and annual reporting will be carried out as directed in Part I.F.7. of this permit.

(m) The Permittee shall continue to inspect, maintain, and monitor the resource restoration project at Salisbury Pond, which included the installation of hydrodynamic separators at two outfalls into the pond, to reduce nutrients and sediment from entering the pond. The project shall include public education elements and the tracking of pollutant removal effectiveness of the separators. Sampling methodology and annual reporting will be carried out as directed in Part I.F.7. and Part I.H. of this permit.

(n) The Permittee shall continue to inspect, maintain, and monitor the resource restoration project at Indian Lake, which included the installation of three hydrodynamic separators to remove sediment and nutrients from entering the Lake. The project shall also include public education elements and ongoing operation and maintenance of the separators. Sampling methodology and annual reporting will be carried out as directed in Part I.F.7. and Part I.H. of the permit.

(o) The Permittee shall maintain the stream day-lighting culvert rehabilitation project at Beaver Brook, and the related reconstruction and the flood plain improvements to Beaver Brook Park. In-stream monitoring shall be performed as described in Part I.F.3. of this permit.

7. Infrastructure Improvements

(a) The Permittee shall continue its ongoing programs to improve its MS4 infrastructure in order to reduce or eliminate the discharge of pollutants to and from its MS4.

(b) The Permittee shall continue to implement its program to retrofit twin-invert manholes with hold-down devices on the metal plates that cover the sanitary sewer inverts; reducing the potential for hydraulic communication between its sanitary sewer and MS4.

(c) The Permittee shall continue its Private Street Conversion Program, converting unpaved private streets to paved streets with proper drainage, following citizen petition for the conversion. The Permittee shall adhere to its construction site and post-construction pollution prevention practices (Part I.E.4) as part of street conversions.

Part I.F. Monitoring and Analysis

1. The Permittee shall implement specific inspection, screening, and monitoring activities of its MS4 and receiving waters to facilitate and inform the implementation of several provisions of this permit and to support the Permittee's required assessments of its SWMP. Monitoring and analysis activities shall include in-stream dry and wet weather monitoring of receiving water quality; wet weather outfall monitoring for storm water quality; dry and wet weather outfall screening for illicit discharges; implementation of an illicit discharge detection

protocol; inspection and performance monitoring of existing hydrodynamic storm water separators; and implementation and monitoring of one or more groundwater recharge/low-impact development retrofit demonstration projects.

2. **Upon the effective date** of this permit, the Permittee shall begin implementation of activities described in this part. Within **One hundred eighty (180) days** of the effective date of this permit the Permittee shall submit as part of its updated SWMP submission pursuant to Part I.D. of this permit, a description of the means, methods, quality assurance and control protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis and evaluation of data collected. The submission shall include a description of meteorological resources the Permittee intends to utilize to facilitate the required activities.

3. In-stream Dry and Wet Weather Monitoring of Receiving Water Quality

   (a) In-stream dry and wet weather monitoring shall be conducted at a minimum total of eight (8) locations amongst six (6) major headwater tributaries to the Blackstone River: three (3) in Beaver Brook, and one (1) each in the Middle River, Kettle Brook, Tatnuck Brook, Mill Brook, and Poor Farm Brook. Specific monitoring locations shall be established by the Permittee through consideration of monitoring stations utilized by Permittee[7], MassDEP[8], the Blackstone River Coalition[9], or others. Two of the three monitoring locations in Beaver Brook shall be located upstream and downstream of its recently day-lighted reach in Beaver Brook Park. In-stream monitoring shall also be completed at all tributary inlets to impaired waters as described in Part I.F.4.(b) of this permit.

   (b) The Permittee shall perform annual in-stream monitoring in a total of four rounds, performed once in the summer during dry weather conditions, and once each in the spring, summer and fall during wet weather conditions.

   (c) Dry weather monitoring shall be performed only when an antecedent dry period of at least 72 hours after a rain event greater than 0.1 inch in depth is satisfied. Monitoring methodology shall consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of 5 minutes each. Grab samples will be combined into a single composite sample from each station, preserved, and delivered to the laboratory for analysis.

   (d) Wet weather monitoring shall be performed only when the predicted rainfall depth of a storm event is greater than 0.25 inches and an antecedent dry period of at least 48 hours after a rain event greater than 0.1 inch in depth is satisfied. Monitoring methodology will consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of 15 minutes each. Individual grab samples shall be preserved and delivered to the

[7] NPDES Permit Term 1 Stormwater Quality Analysis (City of Worcester, 2006)
[8] Blackstone River Basin -1998 Water Quality Assessment (MassDEP, 2001; available at url: http://www.mass.gov/dep/water/resources/wqassess.htm#wqar
[9] http://www.zaptheblackstone.org/whatwedoing/water_quality/wqm.shtml

laboratory where samples will be combined into a single composite sample from each outfall, weighted by respective flow rate estimated at the time of sample collection.

(e) At the time of sampling, the Permittee shall record any observed erosion of stream banks, scouring, or sedimentation in streams, such as sand bars or deltas.

(f) Samples collected during the dry and wet weather monitoring shall be analyzed for the following parameters in the field (indicated by "*") or laboratory:

Dissolved Oxygen (DO)*
pH*
Temperature*
Conductivity*
Total Suspended Solids (TSS)
Total Petroleum Hydrocarbons (TPH)
Surfactants
Total Phosphorus
Nitrate-Nitrogen
Copper
Lead
Zinc
Chloride
Biochemical Oxygen Demand (BOD)
E. coli

(g) The Permittee shall analyze all monitoring results in combination with relevant data collected during the 1998 permit term to assess any changes or trends in observed receiving water quality.

4. Wet Weather Outfall Monitoring for Storm Water Quality

(a) Permittee shall perform storm water quality monitoring at each of its MS4 outfalls a minimum of twice during the permit term. The first round of outfall monitoring shall be completed within the first two (2) years after the effective date of this permit. The second round of outfall monitoring shall be completed within the final two (2) years prior to the expiration date of this permit.

(b) For storm water and tributary inlet discharges into water bodies identified as impaired by a known pollutant in Attachment B (Categories 4a and 5), the Permittee shall perform the following additional storm water and in-stream water quality monitoring and analyses for all pollutant(s) of concern (or appropriate precursors) causing use impairment(s)[10]. For storm water and tributary inlet discharges to impaired waters identified in Attachment B, with or without an approved TMDL, monitoring shall be performed a minimum of once

[10] For the purposes of this part, total phosphorus shall be the precursor analyzed where the pollutant of concern on Attachment B is identified as: (2) noxious aquatic plants, (8) nutrients, (9) organic enrichment/low dissolved oxygen, (11) turbidity, or (14) taste, odor and color.

per year. For the purposes of this part, a "storm water discharge to an impaired water" includes any discharge from the Permittee's MS4 flowing directly into the impaired water, and does not include discharges from its MS4 located in the upstream tributary area to an impaired water. For the purposes of this part, a "tributary inlet" includes the point at which any natural water course discharges into another water body. The Permittee may combine implementation of the monitoring required in this part with the monitoring required by Part I.F.4.(a) to simultaneously satisfy requirements of both parts during a singular storm event.

(c) Monitoring methodology at each outfall or tributary inlet shall consist of a single grab sample, collected during any portion of the outfall's discharge hydrograph (i.e., first flush, rising limb, peak, and falling limb) or discernable increase in flow at the tributary inlet. In order to accommodate the timely completion of all required monitoring, no minimum rainfall depth or antecedent dry period criterion need be established beyond the requirement that qualifying storm events be sufficient in depth to generate storm water runoff and resultant discharge at the outfalls or discernable increased flow at tributary inlets to be monitored.

(d) Individual grab samples collected pursuant to Part I.F.4.(a) shall be analyzed using field (indicated by "*") and laboratory instrumentation to measure the following physical, chemical, and biological water quality indicator parameters:

Dissolved Oxygen (DO)*
pH*
Temperature*
Conductivity*
Total Suspended Solids (TSS)
Total Petroleum Hydrocarbons (TPH)
Surfactants
Total Phosphorus
Nitrate-Nitrogen
Copper
Lead
Zinc
Chloride
Biochemical Oxygen Demand (BOD)
E. coli

(e) Monitoring performed at the New Bond Street outfall shall be coordinated with an investigation of the elevated concentrations of copper recorded during the 1998 permit term at this outfall. Within two (2) years after the effective date of this permit, the Permittee shall complete the investigation of this outfall. Based on the results of the investigation, the Permittee shall direct any contributing property owner or responsible party to abate its discharge of copper in accordance with the Permittee's sewer and storm water management ordinance and, if applicable, its pollution prevention program developed pursuant to Part I.E.3.(f) of this permit.

5. Dry and Wet Weather Outfall Screening for Illicit Discharges and SSOs

(a) The Permittee shall screen discharges from its MS4 outfalls during dry and wet weather conditions for physical, chemical, and biological indicators of the presence and relative magnitude of sanitary or non-stormwater influence in tributary subcatchment areas. Whether documented by EPA, MassDEP, the Permittee, or others, drainage catchments or alignments with known or highly suspected contributions of illicit discharges or SSOs may have already been identified. Screening of outfalls serving such portions of the MS4 is not required for the purpose of prioritization as required in Part I.F.5.(b), and the Permittee shall continue or initiate isolation and removal procedures for illicit discharges and SSOs in these areas based on the Permittee's priority ranking established pursuant to Part I.F.6.(b) of this permit. Within sixty (60) days of the effective date of this permit the Permittee shall submit to EPA and MassDEP an inventory of all MS4 subcatchments for which the Permittee deems outfall screening is not required pursuant to this part. For each subcatchment or alignment, the Permittee shall provide:

(1) all available documented evidence, including monitoring results, of illicit discharges and SSOs;
(2) completed, ongoing or planned corrective measures addressing the documented illicit discharges and SSOs; and
(3) a schedule for completing and verifying measures correcting the documented illicit discharges and SSOs.

(b) Screening of outfalls during dry and wet weather periods shall be completed to facilitate the priority ranking of individual separate storm sewer subcatchment areas for investigation using the Permittee's Illicit Discharge Detection Protocol ("IDDP") described in Part I.F.6. of this permit. Analysis of screening results, including comparisons with benchmark values for parameters included in Table 1 and Figure 1 on Page 27 of this permit, shall support such prioritization. Screening of outfalls during dry and wet weather periods after implementation of the Permittee's IDDP shall serve to verify that the correction of all illicit discharges have been completed.

(c) The Permittee shall develop a priority ranking for the purpose of scheduling its outfall screening activities required by this part. EPA and MassDEP recommend that the Permittee consider the current or intended uses of receiving waters, existence of use impairments, and the relative likelihood of the presence of illicit discharges and SSOs in the development of its priority ranking.

(d) Except where excluded by Part I.F.5.(a), MS4 outfalls shall be screened a minimum of twice during the permit term, once in accordance with the dry weather methodology and once in accordance with the wet weather methodology described in Part I.F.5.(e) and Part I.F.5.(f) of this permit, respectively. Outfall screening to facilitate priority ranking shall be completed at a rate that will permit timely execution of the Permittee's IDDP as described in Part I.F.6.(a) of this permit (i.e., an incremental twenty-five percent (25%) of MS4 subcatchment areas completed by the end of permit years 1, 2, 3, and 4). As

described in Part I.F.6.(d)(8), an additional round of dry and wet weather screening is required at any outfall serving a subcatchment found to be influenced by one or more illicit discharges or SSOs, and shall be completed no more than sixty (60) days after the Permittee has subsequently verified removal of all such discharges contributing to the outfall's subcatchment in accordance with Part I.F.6.(d)(7).

(e) Dry Weather Methodology. Dry weather outfall screening shall proceed only when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period. The duration of the antecedent period may be shortened or lengthened by the Permittee as necessary or appropriate dependent upon rainfall depth or the relative extent, slope, storage, and other influences on the particular subcatchment served by the outfall. In order to maintain consistency, screening shall be performed according to substantially the same procedures as described in the 1998 permit as follows:

(1) Locate the outfall, and take a photograph. At outfalls where photographs were previously taken, new photographs shall be taken from the same approximate orientation to facilitate comparison and determination of any changes.

(2) Collect data on physical condition of the outfall, including evidence of collapse and structural defects, and evidence of erosion or deposition in the vicinity of the outfall.

(3) Record any indicators of illicit discharges or SSOs such as odors, oil sheen, soap suds, slimes, or presence of sanitary floatables or solids.

(4) If the outfall is inaccessible or submerged, proceed to the first accessible upstream manhole or structure.

(5) If flow is observed, estimate flow using the product of flow area and velocity or the quotient of volume discharged over time, perform field analyses described in Part I.F.5.(e)(6), and collect grab sample for enumeration of *E.coli* indicator bacteria in the laboratory. If the outfall is not flowing, but shows evidence of recent intermittent flow (e.g. a residue unrelated to a storm water discharge), return in 4 to 24 hours and screen again; completing flow estimation, field analyses, and grab sampling for indicator bacteria analysis if flow is subsequently observed. If no flow is observed initially and upon return, or no evidence of intermittent flow is present, proceed to the next outfall.

(6) Field analyses of dry weather flow samples shall include measurement of the following parameters:

- Conductivity
- Turbidity
- Dissolved Oxygen
- pH
- Chlorine
- Temperature

- Surfactants as (MBAS)
- Potassium
- Ammonia

(f) Wet Weather Methodology. In order to accommodate the timely completion of all required monitoring, no minimum rainfall depth need be established beyond the requirement that storm events be sufficient in depth to generate stormwater runoff and subsequent discharge at the outfalls to be monitored No antecedent dry period criterion will apply to the wet weather screening and sampling; as a goal of the effort is to evaluate outfalls during wetter periods when many illicit discharges and SSOs are more likely to activate and manifest at an outfall. In order to maintain consistency with dry weather screening described above, wet weather screening will be performed in a similar manner as follows:

(1) Record any indicators of illicit discharges or SSOs such as odors, oil sheen, soap suds, slimes, or presence of sanitary floatables or solids.

(2) If the outfall is inaccessible or submerged, proceed to the first accessible upstream manhole or structure to complete screening and monitoring.

(3) Estimate flow using the product of flow area and velocity or the quotient of volume discharged over time, perform field analyses described in Part I.F.5.(f)(4), and collect grab sample for enumeration of *E. coli* indicator bacteria in the laboratory.

(4) Field or laboratory analyses of wet weather flow samples shall include measurement of the following parameters:

- Conductivity
- Turbidity
- Dissolved Oxygen
- pH
- Chlorine
- Temperature
- Surfactants (as MBAS)
- Potassium
- Ammonia

6. Illicit Discharge Detection Protocol ("IDDP")

(a) Implementation. The Permittee shall implement an IDDP according to the priorities developed pursuant to Part I.F.6.(b), and consistent with the methodology described in Part I.F.6.(d) of this permit. The Permittee shall complete implementation of its IDDP throughout its entire MS4 no later than **five (5) years** from the effective date of this permit; such shall be completed in minimum increments of twenty-five percent (25%) of its total MS4 service area no later than **2, 3, 4, and 5 years** from the effective date of this

permit. The Permittee shall cause the removal of all identified illicit discharges and SSOs pursuant to Part I.E.5.(a) and Part I.E.5.(g) of this permit, respectively.

(b) Prioritization**.** The Permittee shall use the results from its dry and wet weather outfall screening required by Part I.F.5. to develop a priority ranking for the purpose of scheduling its IDDP implementation. EPA and MassDEP recommend that the Permittee consider the perceived severity of the pollution, the current or intended uses of receiving waters, and impairment status, in the development of its priority ranking.

(c) Mapping. Through a geographic information system or other methods, the Permittee shall prepare mapping to facilitate implementation of its IDDP. Mapping shall provide a comprehensive depiction of key infrastructure and factors influencing proper system operation and the potential for illicit sanitary sewer discharges. Mapping themes shall include: key sanitary and storm sewer infrastructure, investigation and study findings, monitoring data, cleaning and repair activities, capital projects, and water resource and topographic features. The required number, scale and detail of the maps shall be appropriate to facilitate a rapid understanding of the system by the Permittee, EPA and MassDEP. In addition, the mapping shall serve as a planning tool for the implementation and phasing of the IDDP, demonstration of the extent of complete and planned investigations and corrections, and other related capital projects. To ensure legible mapping, information shall be grouped appropriately and represented thematically (e.g. by color) with legends or schedules where possible. Mapping shall be updated as necessary to reflect newly discovered information, corrections or modifications, and progress made. The following information and features shall be included in the mapping:

(1) Infrastructure

- Municipal separate storm sewer system (including inter-municipal and private connections where available)
- Municipal sanitary sewer system (including inter-municipal connections)
- Municipal combined sewer system
- Thematic representation of sewer material, size, and age
- Sewer flow direction and flow type (e.g., pressure, vacuum, gravity)
- Select rim and invert elevations (for comparison with water table and vertical separation between systems)
- Aerial delineations of major separate storm sewer catchment areas, sanitary sewersheds, combined sewersheds, and areas served by on-site subsurface disposal systems
- Common/twin-invert manholes or structures (i.e., structures serving or housing both separate storm and sanitary sewers)
- Sanitary and storm sewer alignments served by known or suspected underdrain systems
- Sewer alignments with common trench construction and major crossings representing high potential for communication due to water table influence
- Lift stations (public and private), siphons, and other key sewer appurtenances

- Sewersheds or sewer alignments experiencing inadequate level of service (LOS) (with indication of reason(s))
- Location(s) of known sanitary sewer overflows (SSO) (with indication of cause(s))

(2) Water Resources and Topographic Features

- Water bodies and watercourses identified by name
- Seasonal high water table elevations impacting sanitary sewer alignments
- Topography
- Orthophotography

(3) O&M, Investigations, Remediation, and Capital Projects

- Alignments, dates, and thematic representation of work completed (with legend) of past illicit discharge investigations (e.g. flow isolation, dye testing, CCTV)
- Locations of suspected, confirmed, and corrected illicit discharges (with dates and flow estimates)
- Water quality monitoring locations with representation of water quality indicator concentrations
- Recent and planned sewer infrastructure cleaning and repair projects
- Alignments and dates of past and planned I/I investigations and sanitary sewer remediation work
- Planned capital projects relative to utility and roadway rehabilitation or replacement
- Proposed phasing of future illicit discharge investigations

(d) IDDP Methodology. The IDDP shall utilize methodologies adapted from BWSC (2004) and Pitt (2004) (see Part XI.C.9 of Fact Sheet) described in this part to perform a thorough top-down investigation of separate storm sewer catchments that relies on results from visual observation, field test kits, and portable instrumentation during dry weather conditions to isolate areas or alignments with likely sanitary or non-storm water contributions. Internal plumbing inspections, dye or smoke testing, CCTV inspections, or other methods consistent with the Permittee's established procedures shall then employed to confirm the illicit and non-stormwater flow source(s).

(1) Infrastructure Verification and Preparation. Infrastructure and junction manhole mapping, and subcatchment delineations, shall be verified in the field and corrected prior to investigations as necessary. Separate storm sewer infrastructure shall be evaluated for the need to be cleaned to remove debris or blockages that could compromise investigations. Such material shall be removed to the extent possible prior to investigation, however, some cleaning may occur concurrently.

(2) Dry Weather Criteria. In order to prevent or limit the influence of storm water runoff during the investigations, an antecedent dry weather period of 24 hours after cessation of a precipitation event greater than 0.1 inches will be observed prior to

commencement of manhole inspections and field monitoring discussed in Part I.F.6.(e)(3) below. The duration of the antecedent period may be shortened or lengthened by the Permittee as necessary or appropriate dependent upon rainfall depth or the relative extent, slope, storage, and other influences on the particular subcatchment under investigation.

(3) Manhole Inspection Methodology. All junction manholes or structures serving the subcatchment shall be opened and inspected for visual evidence of illicit discharges during a period when the antecedent dry weather criterion has been satisfied (e.g., after 24 hours of dry weather). Inspections shall be completed in a "top-down" progression, beginning with the most upstream junction manhole(s) in each subcatchment.

Where **flow is observed** in any junction manhole and determined to be contaminated through visual observation (e.g., excrement, toilet paper, or sanitary products present) or field monitoring (see Part I.F.6.(d)(4)), the contributing tributary storm sewer alignment shall be identified for investigations to isolate the source(s) in accordance with Part I.F.6.(d)(5).

Where **flow is not observed** in a junction manhole, all non-flowing inlets to the structure shall be partially dammed for the next 48 hours when no precipitation is forecast. Inlets shall be damned by blocking a minimal percentage (approximately 20% +/- depending on pipe slope) of the pipe diameter at the invert using sandbags, caulking, weirs/plates, or other temporary barriers. Manholes shall thereafter be re-inspected (prior to any precipitation or snow melt) for the capture of periodic or intermittent flows behind any of the inlet dams. The same visual observations and field testing shall be completed on any captured flow to identify alignments for isolation investigations. Though isolation investigations of multiple lateral alignments of a subcatchment can occur simultaneously, downstream investigations of mainline alignments (after the confluence with lateral alignments) cannot proceed until any confounding influence of upstream illicit discharges or SSOs have been eliminated.

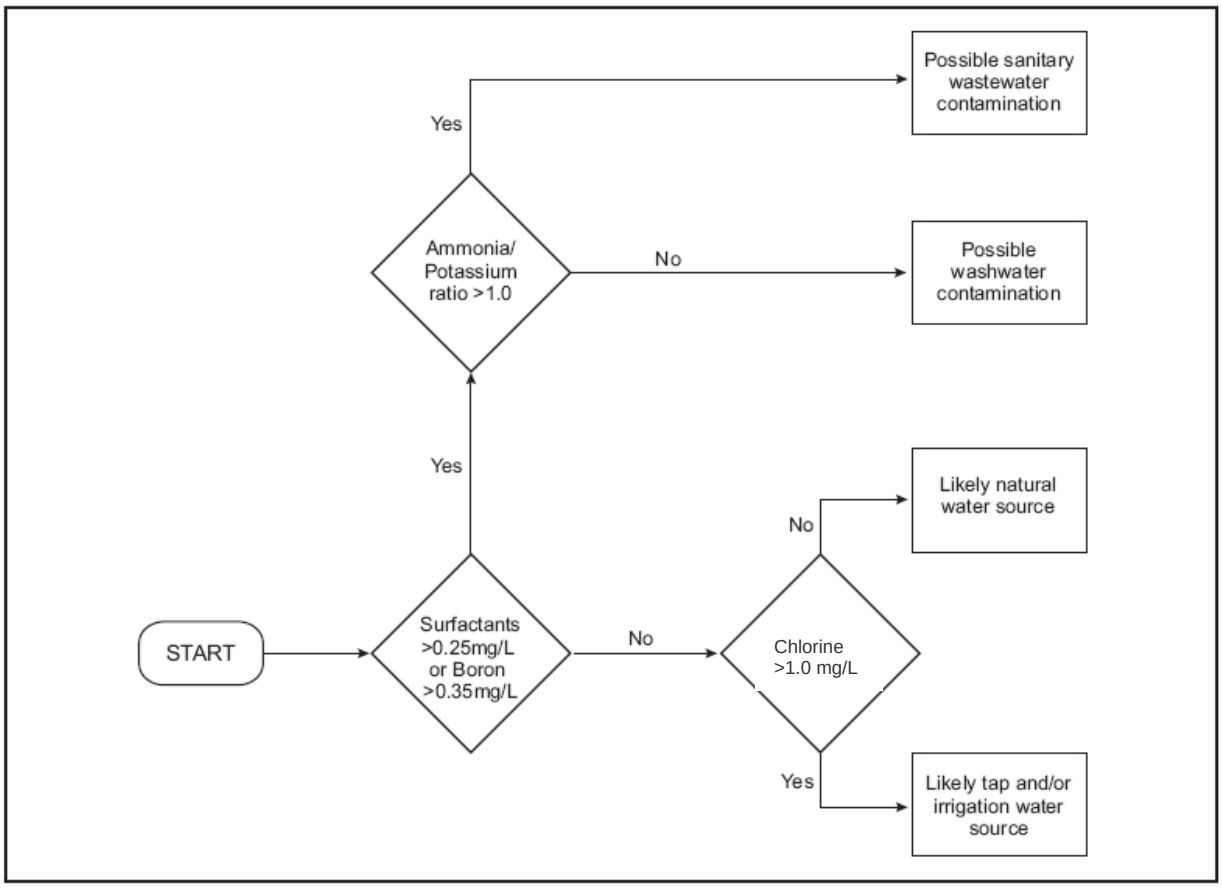
(4) Field Monitoring. Where flow is observed that does not demonstrate obvious physical or olfactory evidence of an illicit discharge or SSO, a sample shall be collected and analyzed with the field kits and instrumentation as identified in Table 1. The Permittee shall compare the measured values with benchmark values using the flow chart in Figure 1 to determine the likely prominent source of the flow. Where surfactant concentrations are measured in the flow above the benchmark, ammonia and potassium shall be measured and results used in a ratio analysis to determine if the flow is likely to be governed by a sanitary or wash water component. Where surfactants are not detected above the benchmark concentration, a flow sample shall be analyzed for chlorine in an attempt to determine if the likely source is natural surface water or groundwater; or possibly a potable water source, a swimming pool, or an industrial discharge. However, the results of this analysis may not always prove conclusive as the chlorine demand found in the storm sewer may diminish or

Table 1 - Field Measurements, Benchmarks, and Instrumentation

Analyte	Benchmark	Instrumentation[1]
Surfactants (as MBAS)	>0.25 mg/L	MBAS Test Kit (e.g. CHEMetrics K-9400)
Potassium (K)	(ratio below)	Portable Ion Meter (e.g. Horiba Cardy C-131)
Ammonia (NH_3)	$NH_3/K > 1.0$	Portable Colorimeter or Photometer (e.g. Hach DR/890, CHEMetrics V-2000)
Chlorine	>0.1 mg/L	Portable Colorimeter or Photometer (e.g. Hach DR/890, CHEMetrics V-2000)
Temperature	Abnormal	Thermometer
pH	Abnormal	pH Meter

[1] Instrumentation manufacturers and models provided for informational purposes only. Mention of specific products does not constitute or imply EPA endorsement of same.

Figure 1. Flow Chart - Determining Likely Source of Discharge (Adapted from Pitt, 2004)



eliminate any chlorine present. The Permittee may need to adjust benchmark values found in Table 1 during the course of investigations after a comparison and calibration of data with actual incidences of observed flow sources.

(5) Isolation and Confirmation of Illicit Discharges. Where physical evidence or field monitoring has identified storm sewer alignments to be influenced by sanitary flows, washwaters, or other illicit discharges, the Permittee shall isolate the tributary area for implementation of more detailed investigations. Additional manholes along the alignment shall be inspected to refine the location of potential contamination sources (e.g., an individual home or block of homes). Targeted internal plumbing inspections, dye or smoke testing, CCTV inspections, or other methods consistent with the Permittee's established procedures shall then employed to confirm the flow source(s).

(6) Removal of Illicit Discharges. Where an illicit discharge is verified, the Permittee shall exercise its authority as necessary to require its removal pursuant to Part I.E.5.(a) of this permit, including prompt notification and any appropriate cost-sharing arrangements.

(7) Verification of Illicit Discharge Removals. After completing the removal of all illicit discharges from a particular alignment or portion of an MS4 subcatchment, the Permittee shall verify that all necessary corrections have been made. Depending on the extent and timing of corrections made, verification monitoring may be accomplished at the original junction manhole or the closet downstream MS4 structure to each correction. Verification shall be accomplished by using the same visual inspection, field monitoring, or damming techniques as described in Parts I.F.6.(e)(3) and I.F.6.(e)(4) above. Investigation of those portions of downstream alignments confounded by the identified illicit discharge(s) shall not proceed until removal or elimination has been verified.

(8) Verification of IDDP Completion in MS4 Subcatchments. A completed verification at the outfall (or the first accessible upstream structure from an inaccessible MS4 outfall) of an MS4 subcatchment shall serve to demonstrate that the IDDP has been fully implemented for that entire subcatchment. This subcatchment verification shall include both the techniques described in Parts I.F.6.(e)(3) and I.F.6.(e)(4), as well as completion of the dry and wet weather screening methodologies described in Parts I.F.5.(e) and I.F.5.(f).

(9) Work Progression & Schedule. Since the IDDP requires verification of illicit discharge removals prior to progressing to affected portions of downstream MS4 subcatchments, the Permittee shall maintain capacity to mobilize investigations to other subcatchments or unaffected lateral alignments within the same subcatchment, to facilitate suitable progress while awaiting correction of illicit discharges or sanitary sewer overflows confounding downstream investigations. Since work progress may be further constrained by the persistence of precipitation and snow melt events, the

Permittee shall provide for adequate staffing and equipment resources to perform concurrent investigations in multiple areas as necessary to complete all investigations within **five (5) years** from the effective date of this permit.

(10) Reporting and Evaluation. The Permittee shall document in its annual reports required by Part I.H. its progress implementing the provisions of Part I.F.6., including the results and status of its outfall screening and monitoring, mapping, and IDDP implementation. The Permittee shall evaluate its progress by tracking, at a minimum, the percentage of MS4 catchment areas or outfalls screened and/or monitored, percentage of structures inspected, and the footage or percentage of MS4 cleaned and inspected by CCTV.

(11) Modifications. Though the IDDP is applicable to most storm sewers, modifications to methods and materials may be required to address situations where groundwater or backwater conditions or other issues preclude adequate implementation as described herein. In such instances, the Permittee shall make necessary modifications to the IDDP in accordance with Part I.G. of this permit.

7. Hydrodynamic Storm Water Separator Monitoring

(a) Pollutant Removal Effectiveness. The Permittee shall monitor the pollutant removal effectiveness of a total of three hydrodynamic separator units installed and maintained at Belmont Street (Lake Quinsigamond), Salisbury Pond, and Indian Lake. Monitoring results, analyses and conclusions shall be incorporated into the Permittee's annual reports submitted to EPA and MassDEP.

(1) Belmont Street Vortechnics Unit. The Permittee shall continue monitoring and analyzing water quality data collected upstream and downstream of this unit for total suspended solids (TSS), oil and grease and total phosphorus during dry and wet weather. To ensure the validity of the results, monitoring will be conducted only when 100% of flow in the 48-inch storm sewer is confirmed by visual inspection to be diverted to the separator unit. Monitoring "rounds" shall be comprised of single grab samples collected from the influent, effluent, and bypass flows to the unit. Dry weather monitoring shall include one round of sampling, once per year during the five-year permit term. Wet weather monitoring shall be conducted twice per year, once each during the spring and fall. Four rounds of samples shall be collected during each wet weather event; one during the first flush and one each fifteen minutes thereafter, for a total duration of one hour. Instantaneous flow estimates shall be made and recorded during each round.

(2) Salisbury Pond. The Permittee shall monitor the pollutant removal effectiveness of the BMP's (hydrodynamic separator units) installed and maintained at Salisbury Pond. Dry weather sampling shall be conducted once per year and wet weather sampling shall be conducted twice per year, during the five-year permit term at one unit. Water quality analysis of total suspended solids ("TSS"), *E. coli* and total phosphorus shall be conducted. For each dry weather event, one round of samples

shall be collected. For each wet weather event, four rounds of samples shall be collected: one round during the first flush and one round every 15 minutes thereafter, for a total duration of one hour.

(3) Indian Lake. The Permittee shall monitor the pollutant removal effectiveness of the BMP's installed and maintained at Indian Lake. Dry weather sampling shall be conducted once per year and wet weather sampling shall be conducted twice per year during the five-year permit term at one unit. Water quality analysis of total suspended solids (TSS), *E.coli*, and total phosphorus shall be conducted. For each dry weather event, one round of samples shall be collected. For each wet weather event, four rounds of samples shall be collected: one round during the first flush and one round every 15 minutes thereafter, for a total duration of one hour.

(b) Operation and Maintenance Optimization. The Permittee shall implement an inspection program to facilitate the Permittee's refinement and implementation of a long term operation and maintenance plan for city owned and operated underground hydrodynamic storm water separators (Downstream Defender, Vortechnics and Vortcentury). The Permittee shall visually inspect all of its devices and record sediment accumulation depths in each throughout the permit term to facilitate the development and refinement of individual maintenance programs that strive for maximum operational effectiveness. Inspection frequencies shall be adequate to facilitate a qualitative understanding of the variability in solids and floatable accumulation rates in the devices as impacted by land use, road sanding, land disturbing construction activities, or other factors.

(1) For the first year of the permit term, inspections shall be conducted quarterly at a minimum, including before and after a predicted storm event (rainfall) that is greater than two (2) inches in depth in a twenty-four (24) hour period to assess how the units capture and retain sediment, or may be compromised, at higher rates of flow. Inspections may be conducted coincidently with the water quality monitoring performed as required by Part I.F.3. – I.F.5. of this permit. After the first year of monitoring, and following the Permittee's assessment of its inspection data and the resulting derived maintenance and cleaning schedules for each device, the Permittee shall modify as necessary the inspection frequencies and operation and maintenance practices for each unit pursuant to Part I.G.2 of this permit. Maintenance and cleaning schedules shall be optimized based on observations of factors such as expected versus actual sediment deposition depth, sediment wash-out at certain deposition depths, or sediment accumulation variations during different seasons.

8. Groundwater Recharge/Low-Impact Development Retrofit Demonstration Project

(a) The Permittee shall implement a retrofit demonstration project to inform and facilitate the application of groundwater recharge as a low-impact development practice in the city as required by Part I.E.1.(f) and Part I.E.4.(a) of this permit.

(b) The Permittee shall select a minimum of one municipally-owned and developed parcel on which to retrofit one or more low-impact development stormwater management practices

that encourage groundwater recharge and reduce surface water runoff. In selecting candidate parcels, the Permittee shall consider subwatersheds that discharge to impaired waters; that are significantly urbanized and discharge to smaller tributaries; or that represent opportunities to encourage or integrate with a phased implementation of other public and private low-impact development retrofits within a subwatershed.

(c) The demonstration project shall be designed and monitored by the Permittee in a manner to allow it to assess the feasibility, cost effectiveness, performance, maintenance requirements and environmental benefits of the retrofit(s).

(d) The project shall adhere to the Stormwater Management Standards established by the MassDEP in effect upon the effective date of this permit and guidance related to groundwater recharge[11]. The Permittee shall include in its annual reports the status of project implementation, and an assessment as described in Part I.F.8.(c) of this permit.

(e) The schedule for this project shall be as follows:

- **Year 1**: Select location(s) for retrofit. This may entail a review of existing and proposed land uses on municipal properties, coordination with other uses and projects on municipal properties, sites evaluations for soil type, topography, and interagency agreements. Selected location(s) must be currently served by the Permittee's MS4.
- **Year 2**: Design and Secure Funding. Potential recharge applications shall be evaluated with possible assistance from qualified consultants. Project design shall include establishment of monitoring and evaluation protocols. Funding to implement a minimum of one type of retrofit at one location shall be secured.
- **Year 3**: Implementation. Selected design components shall be installed or constructed.
- **Year 4**: Monitoring and Assessment. Retrofit(s) shall be inspected and monitored to determine maintenance needs and performance. Maintenance shall be performed as necessary.
- **Year 5**: Evaluation and Reporting. Retrofit(s) shall be evaluated in terms of cost and level of effort to design, construct and maintain. Performance and maintenance requirements shall be evaluated through visual inspections and recharge volumes estimated through falling head tests or other methods. The Permittee shall evaluate the demonstration project and include findings of its assessment in its annual report for the final year of the permit term.

[11] Massachusetts Stormwater Management Standards, Interim Guidance Handbook, Vol. 1, Chapter 1 (available at: http://www.mass.gov/dep/water/wastewater/v1c1.doc)

9. Implementation Schedule

The Permittee shall implement the activities required by Part I.F. of this permit in accordance with the following schedule.

	Year 1	Year 2	Year 3	Year 4	Year 5
In-stream Dry & Wet Weather Monitoring	One dry and three wet weather composite samples collected annually from each of eight stations located in six major headwater tributaries to the Blackstone River				
Wet Weather Outfall Monitoring	Two rounds of single grab samples at all outfalls during permit term analyzed for a suite of water quality parameters; completed once during the first two years of the permit term and once during the final two years of the permit term. Plus monitoring an additional once per year for pollutant(s) of concern in direct discharges into impaired waters (with or without an approved TMDL)				
Dry & Wet Weather Outfall Prioritization Screening (Pre-IDDP)	Complete screening of 25% of MS4 Outfalls	Complete screening of 50% of MS4 Outfalls	Complete screening of 75% of MS4 Outfalls	Complete screening of 100% of MS4 Outfalls	
Implementation of IDDP	Complete IDDP in 25% of MS4		Complete IDDP in 50% of MS4	Complete IDDP in 75% of MS4	Complete IDDP in 100% of MS4
Dry & Wet Weather Outfall Verification Screening (Post-IDDP)	Complete screening of 25% of MS4 Outfalls		Complete screening of 50% of MS4 Outfalls	Complete screening of 75% of MS4 Outfalls	Complete screening of 100% of MS4 Outfalls
Hydrodynamic Storm Water Separators	One dry and two wet weather performance monitoring rounds each year				
	Quarterly inspection of all units to establish schedule	Inspection and cleaning of all units based on schedules established during Year 1			
Groundwater Recharge/LID Retrofit Demonstration Project	Select Location(s)	Design & Secure Funds	Construct	Monitoring & Assessment	Evaluation & Reporting

10. Evaluation and Reporting. All data collected related to activities required by Part I.F. of this permit shall be evaluated and presented with findings in the Permittee's annual reports required by Part I.H. This shall include a comparison with data collected by the Permittee in each prior year, including those data collected pursuant to the 1998 permit (e.g., City of Worcester, NPDES Permit Term I Stormwater Quality Analysis Report, February 7, 2006).

11. Program Modifications. Modifications to the monitoring and analysis activities required by Part I.F. shall be made pursuant to the Part I.G. of this permit.

Part I.G. Storm Water Management Program Review and Modification

1. Program Review. The Permittee shall conduct an annual review of its SWMP in conjunction with preparation of its annual report required by Part I.H. of this permit. Results of the review shall be discussed in the annual report and shall include an assessment of:

    a). SWMP implementation, progress in achieving measurable goals, and compliance with program elements and other permit conditions;

    b). the effectiveness of its SWMP, and any necessary modifications, in complying with the permit, including requirements to reduce the discharge of pollutants to the maximum extent practicable (MEP), and to comply with water quality standards and any applicable approved TMDLs.

    c). the adequacy of staff and funding levels to fully implement the SWMP and comply with the permit conditions.

2. Program Modification. The Permittee may modify its SWMP with prior notification or request to EPA or MassDEP in accordance with this part.

    (a) Modifications adding, but not eliminating, replacing, or jeopardizing fulfillment of any component of its SWMP may be made by the Permittee at any time during the permit term. The Permittee shall notify EPA and MassDEP in writing and document all such modifications in its annual reports required by Part I.H. of this permit.

    (b) Modifications replacing or eliminating ineffective or unfeasible components of the Permittee's SWMP, including monitoring and analysis requirements described in Part I.F. of this permit, may be requested in writing to EPA and MassDEP at any time, including through its annual reporting. Unless denied, by EPA or MassDEP within **sixty (60) days** of receipt of a modification request, the Permittee may implement the requested SWMP modifications. If the request is denied, EPA or MassDEP, as applicable, will send a written explanation of the denial. Modification requests must include the following information:

        (1) a description of why the SWMP component is ineffective, unfeasible (including cost prohibitions), or unnecessary to support compliance with the permit;

        (2) expectations on the effectiveness of any proposed replacement components; and

(3) an analysis of how proposed replacement components are expected to achieve the goals of the component to be replaced.

(c) Modification notifications and requests must be made in writing and signed in accordance with the requirements in Part I.I. of this permit.

3. Modifications Required by the Permitting Authorities. EPA or MassDEP may require the Permittee to modify its SWMP as needed to comply with the terms of this permit.

4. Requests by EPA or MassDEP for SWMP modifications shall be made in writing and set forth a time schedule for the Permittee to develop the SWMP modification(s) and afford the opportunity to propose alternative program changes to meet the objective of the requested modifications.

Part I.H. Reporting Requirements

The Permittee shall prepare and submit annual reports no later than September 30 of each year. The first annual report shall include the reporting period from November 1, 2006 to June 30, 2008. Thereafter, annual reports will include the reporting period from July 1 to June 30 from the previous year. The report shall cover the previous permit year from July 1 to June 30. The Permittee shall include in its report all information required by specific parts of this permit and the following information:

1. the status of storm water management program implementation, including progress made toward achieving measurable goals and compliance with schedules established by this permit;

2. the status of adopting the MassDEP Stormwater Management Standards and other required provisions into its program to control stormwater discharges to its MS4 from land disturbance and development projects.

3. actual and proposed modifications to its storm water management program;

4. a current list of all interconnections with other MS4s operated by others, whether through open or closed conveyance, identifying location, size, materials of construction and owner;

5. a fiscal analysis of annual expenditures for the reporting period, with a breakdown of the major elements relating to the storm water management program and programs contributing to the water quality improvement of storm water discharges from its MS4;

6. a sewer and drain construction annual report providing information about installation, renewal or replacement of sanitary and surface drains, catch basins and manholes by both the Permittee and developers;

7. a summary describing the number and nature of enforcement actions, inspections, and spill response activities by the Permittee related to its MS4;

8. an assessment of the overall success of its public education and involvement programs, providing both direct and indirect measurements of program effectiveness; and

9. a summary of all training activities implemented or completed.

Part I.I. Certification and Signature of Reports

1. All reports required by this permit, and other information requested by the EPA and MassDEP shall be signed and certified in accordance with the General Conditions – Part II of this permit.

Part I.J. Report Submission

1. All original, signed notifications and reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit
P.O. Box 8127
Boston, MA 02114

Massachusetts Department of Environmental Protection
Division of Watershed Management-Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, MA 01608
Attn: Paul Hogan

2. Annual reports required by the permit shall also be submitted to the State at the following address:

Massachusetts Department of Environmental Protection
Central Regional Office
Bureau of Resource Protection
627 Main Street
Worcester, MA 01608
Attn: Warren Kimball

Part I.K. Retention of Records

1. The Permittee shall retain records of all monitoring information, copies of all reports required by the permit and records of all other data required by or used to demonstrate compliance with the permit, until at least six years after coverage under the permit

terminates. This period may be modified by alternative provisions of the permit or extended by request of EPA and MassDEP at any time. The Permittee shall retain the latest approved version of its SWMP developed in accordance with Part I.E. of the permit until at least three years after coverage under the permit terminates.

Part I.L. State Permit Conditions

1. The U.S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection issue this discharge permit jointly under federal and state law, respectively. As such, all the terms and conditions of the permit are hereby incorporated into and constitute a discharge permit issued by the Massachusetts Department of Environmental Protection pursuant to M.G.L., Chap. 21, §43.

2. Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension, or revocation of the permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of the permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension, or revocation. In the event any portion of the permit is declared invalid, illegal, or otherwise issued in violation of state law such permit shall remain in full force and effect under federal law as an NPDES permit issued by the U.S. Environmental Protection Agency. In the event the permit is declared invalid, illegal, or otherwise issued in violation of federal law, the permit shall remain in full force and effect under state law as a permit issued by the Commonwealth of Massachusetts.