APPENDIX H – SUMMARY OF WMA REGISTRATION AND PERMITTING AND NPDES PERMITTING INFORMATION CHARLES RIVER BASIN

Table H1. Water Management Act registration and permits in the Charles River Watershed.

Name	Registration	Permit	PWSID	Registered Volume (MGD)	Permitted Volume (MGD)	Segment subwatershed that contains sources	Comments
Ames Safety Envelope Company	32027401	9P232027401	NA	0.14	0.14	MA72-38	Registered for 180 days, Permitted for 150 days.
Bellingham DPW	22002501	9P22002501	2025000	0.39	0.97	MA72-12 and MA72-04	
Belmont Country Club	32002601	NA	NA	0.10	NA	MA72-28	Registered for 245 days.
Ben Generazio Nursery/Fish	22017702	NA	NA	0.24	NA	MA72140	Registration not renewed in 2007.
Braeburn Country Club	NA	9P232020701	NA	NA	0.08	MA72-07	Permitted for 210 days.
Cambridge Water Department	32004901	9P32004901	3049000	16.16	NA	MA72114 and MA72014	
Charles River Country Club	32020701	NA	NA	0.29	NA	Near MA72-07	Registered for 136 days.
The Country Club	32004601	NA	NA	0.11	NA	within the watershed area for MA72-11	Registered for 180 days.
Dedham Country Club	32007301	NA	NA	0.10	NA	MA72-21	Registered for 150 days.
Dedham Westwood Water District	32007303	NA	3073000	1.91	NA	MA72-21 and MA72-07	
Dover Water Company	NA	9P432007801	3078006	NA	0.14	MA72-19	
Franklin Country Club	22010103	NA	NA	0.20	NA	Upper watershed MA72-15	Registered for 214 days.
Franklin DPW Water Division	22010102	9P22010101	2101000	1.99	2.11	MA72092, MA72-14, MA72-15, MA72-04	
Glen Ellen Country Club	NA	9P422018702	NA	NA	0.16	MA72-16	Permitted for 210 days.
Holliston Lake Winthrop	NA	9P222013601	NA	NA	0.20	MA72140	Permit for 120 days was rescinded in 2006.
Holliston Water Department	22013601	9P422013602	2136000	1.14	0.27	MA72050, MA72140, MA72-35, and MA72-16	
Huna Rosenfeld	V22018703	NA	NA	0.11	NA		Registered for 92 days. Closed in 2000.
Lincoln Water Department	32015701	NA	3157000	0.35	NA	MA72105 and near MA72117	
Maplegate Country Club	NA	9P222010102	NA	NA	0.15	MA72-14	Permitted for 240 days.
Stanley Marszalkowski	V22010101	NA	NA	0.04	NA		Registration ended in February 2003. Registered for 151 days per year.
MCI Norfolk/Cedar Junction	22020804	NA	2208001	0.49	NA	MA72-09	
Medfield Water Department	22017501	9P22017502	3175000	0.11	0.47	MA72-05	

Table H1. Water Management Act registration and permits in the Charles River Watershed.

Name	Registration	Permit	PWSID	Registered Volume (MGD)	Permitted Volume (MGD)	Segment subwatershed that contains sources	Comments
Medway Water Department	22017701	9P422017701	2177000	0.72	0.29	MA72-04 and MA72-16	
Milford Water Company	22018501	9P22018501	2185000	2.88	2.44	MA72035, MA72016, MA72-01, and MA72-33	
Millis Water Department	22018702	9P422018703	3187000	0.63	1.46	MA72-16, MA72-05, and MA72109	
Mirant Kendall LLC	NA	9P432004901	NA	NA	0.72	MA72-38	
Mount Auburn Cemetery	NA	9P432004901	NA	NA	0.25*	MA72-36	Permitted for 270 days.
Natick Water Department	32019801	9P332019801	3198000	0.22	1.31	MA72079 and MA72-06	
Needham DPW	32019901	9P332019902	3199000	2.63	1.41	MA72-06	
Norfolk Cranberry Company	42020801	NA	NA	0.14	NA	Eagle Brook (Tributary to MA72-15)	
Norfolk & Dedham Mutual Fire Insurance	V32007302	NA	NA	0.03	NA		
Norfolk Water Department	22020802	9P22020801	2208000	0.17	0.48	MA72-05 and MA72-09	
Northeast Energy Associates	NA	9P22002502	NA	NA	0.66	MA72-12	
Tresca Brothers Sand & Gravel	22018701	NA	NA	0.08	NA	MA72-05	
Wellesley College	N/A	9P432031701	3317001	NA	0.41	MA72-17 and near MA72125	
Wellesley Country Club	32031703	NA	NA	0.12	NA	MA72-25	Registered for 210 days.
Wellesley Water Department	32031701	NA	3317000	2.62	NA	MA72079 and MA72-25	
Weston Golf Club	32033301	NA	NA	0.08	NA	Tributary to MA72114	Registered for 210 days.
Woodland Golf Club	32020702	9P432020701	NA	0.24	NA	MA72-07	Registered for 210 days. Permitted for 184 days.
Wrentham Developmental Center	42035002	NA	4350001	0.3	NA	Upper Watershed of MA72-09	Formerly Wrentham State School
Wrentham DPW Water Division	42035001	9P42035001	4350000	0.46	0.46	Upstream from MA72092 and upstream from MA72-15	

Table H2. NPDES discharges in the Charles River Watershed (excluding permits for construction dewatering).

PERMITTEE	NPDES #	SEGMENT
Biopure Corporation	**MA0036366**	**MA72-38**
The Biopure Corporation is authorized (MA0036366 issued in April 1995) to discharge from the facility in Cambridge a flow of 0.027 MGD average monthly of reverse osmosis reject water via Outfall #001 to the Charles River via a storm drain. The source of water is city water. Their application included a second Outfall and this permit needs to be reissued.		

PERMITTEE	NPDES #	SEGMENT
MBTA Boston Engine Terminal	**MA0003590**	**MA72-31**
A final permit was recently issued (June 2007) for the MBTA and Massachusetts Bay Commuter Railroad Company as well as the Boston & Maine Corp, City of Somerville and MA DCR (co-permittees) to discharge treated stormwater from the MBTA Commuter Rail Maintenance Facility in Somerville to the Millers River via Outfall #001. The last permit for this facility (MA0003590) was issued in November 1976. The permittees, except MA DCR, are required to conduct collection system and facility evaluation studies and develop a stormwater pollution prevention plan [SWPPP]. Acute and chronic whole effluent toxicity tests were requested (monitor only) once per year using both *C. dubia* and *P. promelas*.		

PERMITTEE	NPDES #	SEGMENT
Boston Sand and Gravel Company	**MA0000531**	**MA72-31**
The Boston Sand and Gravel Company is authorized (MA0000531 issued in December 2001) to discharge treated wastewater comprised of a combination of truck wash-off and wash-out water, reclaimer water and stormwater from the facility in Charlestown to the Millers River. Treatment consists of settling, chemical treatment and clarification for suspended solids, turbidity, and sulfate removal and pH neutralization prior to discharge.		

PERMITTEE	NPDES #	SEGMENT
Boston Water and Sewer Commission*	**MA0101192**	**MA72-11, MA72-36, MA72-38**
The Boston Water and Sewer Commission is authorized (MA0101192) issued in March 2003 and modified in April 2007) to discharge via Outfall BOS046 combined sewer overflow and stormwater to the Muddy River (MA72-11) at the Back Bay Fens. The discharge is estimated to occur twice a year between 4.91 and 5.38 million gallons. The permit also authorizes discharges from the following Outfalls. BOS032: Charles River-Upper CSO volume (mg) 1.92 –eliminated (MA72-36) BOS033: Charles River-Upper CSO Volume (mg) 0.07 –eliminated (MA72-36) BOS042: Charles River-Lower CSO Volume (mg) 0.0 –eliminated (MA72-38) BOS049: Charles River-Lower CSO volume (mg) both frequency and volume are indicated as 0. (MA72-38) BOS050: This Outfall not listed in permit		

PERMITTEE	NPDES #	SEGMENT
Buckley Mann, Inc. Norfolk	**MA0031372**	**MA72-15**
Buckley Mann, Inc. applied for a permit (MA0031372 in September 1987) to discharge from their textile manufacturing facility in Norfolk. EPA issued a draft permit in September 1988, however a final permit was never issued. The buildings at the mills have been abandoned for the last 10 years so EPA is in the process of terminating the permit (Frawley 2007). Sedimentation (lagoons) were used for wastewater treatment prior to discharge.		

PERMITTEE	NPDES #	SEGMENT
City of Cambridge Department of Public Works*	**MA0101974**	**MA72-36 and MA72-38**
The City of Cambridge Department of Public Works is authorized (MA0101974 issued in September 2005) to discharge from 5 combined sewer overflows (CSOs) to the Charles River as described below. The Department extended a Variance for CSO discharges to the Lower Charles River Basin from October 1, 2004 for a period not to exceed three years (October 1, 2007). According to Attachment B of the permit the planned CSO discharge volumes and activation frequencies for a typical year (*Cottage Farm CSO Facility Assessment Report* dated January 2004) are as follows. CAM005 (Lowell Street at Mount Auburn) will activate twice per year, annual volume of 0.78 MG down from eight activations per year with an estimated annual volume of 2.51 MG (MA72-36) CAM007 (Memorial Drive at Hawthorne Street) will active once per year, annual volume of 0.03 MG down from two activations per year with an estimated annual volume of 0.72 MG (MA72-36) CAM009 (Memorial Drive at Old Murray Road) – closed (Coughlin 2008). Down from six activations per year with an estimated annual volume of 0.21 MG (MA72-36) CAM011 (Plympton Street) will not activate down from two activations per year with an estimated annual volume of 0.07 MG (MA72-36) CAM017 (Binny Street at Edwin Land Boulevard) will active twice per year, annual volume of 1.23 MG from two activations per year with an estimated annual volume of 1.07 MG (MA72-38) These overflows with an estimated annual volume of 2.12 million gallons represent a reduction in both frequency (20 activations per year) and volume (4.58 million gallons) of CSO discharges under existing conditions (MWRAs *Final Environmental Impact Report and CSO Facilities Plan* of July 1997) from the Cambridge CSOs to the Charles River.		

PERMITTEE	NPDES #	SEGMENT
Charles River Pollution Control District (CRPCD)	**MA0102598**	**MA72-05**
The Charles River Pollution Control District (CRPCD) is authorized (MA0102598 issued in April 2002) to discharge from the facility in Medway an annual average flow of 5.70 MGD and an average monthly between July and September of 4.50 MGD of treated municipal and industrial effluent via Outfall #001 to the Charles River. The facility accepts flow from Medway, Franklin, parts of Bellingham and parts of Millis. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and CNOEC $\geq$ 63% effluent using *Ceriodaphnia dubia* and *Pimephales promelas* as test species on a quarterly basis. The TRC limit between March 1 and November 30 is 0.017 mg/L average monthly and 0.030 mg/L daily maximum. The total phosphorus limit between April 1 and October 31 is 0.2 mg/L average monthly and between November 1 and March 31 is to be reported. Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between January 2000 and April 2007 ranged from <0.1 to 14.73 mg/L (n=34) while total residual chlorine (TRC) concentrations were all <0.05 mg/L (n=35). It should be noted that since Garelick Farms, the facility's largest industrial discharge, installed a pretreatment facility in 2000, the CRPCD operations have improved.		

PERMITTEE	NPDES #	SEGMENT
CSX Transportation, Inc. (CSXT)	**MA0025704**	**MA72-36**
CSX Transportation Inc. is authorized (MA0025704 issued in February 2006) to discharge from Beacon Park Yard a flow of 21,500 GPD average monthly and 225,000 GPD daily maximum of treated stormwater and process water via Outfall #001A, and treated groundwater via Outfall #002A to the Charles River.		

PERMITTEE	NPDES #	SEGMENT
F Diehl & Son, Inc.	**MA0033022**	**MA72-18**
F Diehl & Son, Inc. was authorized (MA0033022 issued in September 1999) to discharge from the facility in Wellesley, stormwater treated by an oil-water separator via Outfall #001 to Fuller Brook. According to EPA, no permit is required since the petroleum storage tanks were removed. This permit was terminated in September 2006.		

PERMITTEE	NPDES #	SEGMENT
Lindwell SC, Inc.	**MAG910027**	**MA72-18**
Lindwell SC, Inc. (formerly F Diehl & Son, Inc). is authorized (MAG910027) to discharge from a groundwater remediation. The permit was issued in September 2005. The individual permit application (MA0036836) and NPDES permit exlusion letter file has been closed.		

PERMITTEE	NPDES #	SEGMENT
Genzyme Corp.	**MAG450001**	**MA72-36**
Genzyme Corp. is authorized (MAG450001 issued in June 2004) to discharge from their facility a flow of 0.023 MGD average monthly and 0.036 MGD daily maximum of reject water from reverse osmosis units via Outfall #001 to the Charles River.		

PERMITTEE Harvard University	NPDES # MA0004901	SEGMENT MA72-36
Harvard University is authorized (MA0004901 issued in May 2007) to discharge 0.3 MGD of non-contact cooling water via Outfall 001 to the Charles River up to December 2008. The permit also authorizes the discharge of up to 0.15 MGD of reverse osmosis reject water via Outfall 002 to the Charles River. Harvard University was authorized (MA0004901 issued in May 1980) to discharge condenser cooling water from the Blackstone Street Station (formerly the Cambridge Electric Light Company Blackstone Street Station) a flow up to 28.8 MGD via Outfall #001 to the Charles River. In 2001, due to a failure of the Facility's steam turbine, the Facility has been used only to produce steam for heating campus buildings and to supply process steam to on-campus academic and research laboratories and to the nearby Genzyme Corporation. A new, more efficient boiler and a 5 MW steam turbine/generator were recently installed. The new steam turbine uses a non-condensing back-pressure system with exhaust steam directly supplying Harvard's central heating supply (generating up to 5MW of electrical power). As part of this project, Harvard is proposing to upgrade the existing steam demineralization system. Two reverse osmosis unites will be added and reject water which will be generated by these units will be discharged via Outfall 002. Harvard plans to upgrade the demineralization system in 2007. A new closed loop cooling system is also planned to be operation by December 2008. Once the new closed loop system is installed, the cooling water intake structure will no longer serve as an intake of river water and Outfall 001 will be terminated.		

PERMITTEE Hewlett-Packard Groundwater TS	NPDES # MAG10002	SEGMENT MA72014
Hewlett-Packard is authorized (September 2002) to discharge from their groundwater remediation system (former permit MA0039993 was inactivated in October 2005).		

PERMITTEE Town of Holliston (Water Treatment Plant)	NPDES # MAG640066	SEGMENT MA72-16
The Town of Holliston is authorized (MAG640066 issued in June 2004) to discharge from the Well No 6 Water Treatment Plant a flow of 0.065 MGD average monthly and 0.09 MGD daily maximum of settled backwash from groundwater filtration vessels to a wetland adjacent to Dopping Brook. The facility went on-line in October 2006. The lagoons are expected to take approximately 6 months to fill up to the point where there will be a discharge.		

PERMITTEE Town of Lincoln Water Department	NPDES # MAG640051	SEGMENT MA72105
The Town of Lincoln Water Department is authorized (MAG640051 issued in July 2002) to discharge from the Lincoln Water Treatment Plant a flow of 0.075 MGD average monthly and 0.1519 MGD daily maximum of effluent to Flint's Pond.		

PERMITTEE Massachusetts Broken Stone Company/ BP Weston Quarry, LLC	NPDES # MAR05A069	SEGMENT MA72-26
The MA Broken Stone Company/BP Weston Quarry, LLC is authorized (MAR05A069 effective January 2006) to discharge stormwater from their facility to Stony Brook. EPA terminated their individual permit (MA0020222) in January 2006.		

PERMITTEE MBTA North Station Railroad Terminal	NPDES # MA0028941	SEGMENT MA72-38
The Massachusetts Bay Transportation Authority and Massachusetts Bay Commuter Railroad Company as well as the Garden Corporation (see note below), is authorized (MA0028941 issued in January 2004) to discharge from the North Station Railroad Terminal a flow of 16 MGD average monthly of treated stormwater and treated garage sump water via Outfall #001 to the Charles River. The permittees are required to develop a stormwater pollution prevention plan [SWPPP]. Note: the Garden Corporation shall also develop a separate SWPPP for the property under their control which discharges to the oil/water separator discharge authorized by this permit.		

PERMITTEE	NPDES #	SEGMENT
Massachusetts Department of Correction Norfolk-Walpole Correctional Institution (MCI)	**MA0102253**	**MA72-10**

The Massachusetts Department of Correction Norfolk-Walpole Correctional Institution (MCI) is authorized (MA0102253 issued in September 2000) to discharge from the Wastewater Treatment Plant a flow of 0.484 MGD average monthly of treated effluent via Outfall #001 to the Stop River. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and CNOEC $\geq$ 84% effluent using *Ceriodaphnia dubia* and *Pimephales promelas* as test species on a quarterly basis. The TRC limit between March 1 and November 31 is 13 ug/L average monthly and 22 ug/L daily maximum. The total phosphorus limit between April 1 and October 31 is 0.2 mg/L average monthly with a reporting frequency of twice per month. Between November 1 and March 31 the facility is required to report the concentration of total phosphorus on a monthly basis. Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between March 2000 and April 2007 ranged from <0.20 to 1.07 mg/L (n=23). Total Residual Chlorine (TRC) concentrations reported in the whole effluent toxicity reports between March 2000 and April 2007 all ranged from 0.01 to 0.05 mg/L (n=28).

PERMITTEE	NPDES #	SEGMENT
Massachusetts Institute of Technology	**MA0000795**	**MA72-38**

The Massachusetts Institute of Technology is authorized (MA0000795 issued in May 1974) to discharge from their facility in Cambridge a flow of 0.36 MGD average daily and 0.72 MGD daily maximum of wind tunnel non-contact cooling water (NCCW) via Outfall #001; 4.08 MGD average daily and 6.0 daily maximum of magnet laboratory & air conditioner non-contact cooling water (NCCW) via Outfall #002; 4.32 MGD average daily and 6.72 daily maximum of power plant non-contact cooling water (NCCW) via Outfall #003; and 1.44 MGD average daily of air conditioner non-contact cooling water (NCCW) via Outfall #004 to the Charles River. MIT indicated that Outfalls 001 and 004 are no longer utilized (Dickson 1992). According to recent discharge monitoring reports submitted to the Department, only Outfall 002 is currently active and the discharge is reported to be 0.08 MGD (Ahsan 2007).

PERMITTEE	NPDES #	SEGMENT
Massachusetts Water Resources Authority*	**MA0103284**	**MA72-36 and MA72-38**

The Massachusetts Water Resources Authority is authorized (MA0103284 issued in May 1999) to discharge combined sewer overflow from eight Outfalls to the Charles River as described below. The Department extended a Variance for CSO discharges to the Lower Charles River Basin from October 1, 2004 for a period not to exceed three years (October 1, 2007). According to Attachment B of the permit, the discharges are described as follows. The discharge volumes are the latest estimates for the current system conditions in a typical year (Coughlin 2008):
Outfall 201: Cottage Farm Chlorination and Detention Station Facility. Upgrades at this facility generally included replacement of the existing chlorine disinfection systems with improved systems, construction of dechlorination systems, and other process control and safety improvements. (MA72-36) 62.0 million gallons treated
Outfall 010: Brookline Street Overflow (MA72-38) no discharge in typical year
Outfall 018: Gloucester Street Overflow (MA72-38) 0.68 million gallons untreated
Outfall 019: Exeter Street Overflow (MA72-38) 0.19 million gallons untreated
Outfall 020: Berkely Street Overflow (MA72-38) 0.13 million gallons untreated
Outfall 021: Mt. Vernon Street Overflow (MA72-38) -closed
Outfall 022: Cambridge Street Overflow (MA72-38) -closed
Outfall 023: Fens Gatehouse Overflow (MA72-38) 0.13 million gallons untreated
These five untreated overflows with an estimated annual volume of 1.13 million gallons represent a reduction in both frequency (20 activations per year) and volume (4.58 million gallons) of CSO discharges under existing conditions (MWRAs *Final Environmental Impact Report and CSO Facilities Plan* of July 1997) from the Cambridge CSOs to the Charles River. "MWRA's Long Term CSO Control Plan for the six active Outfalls listed above are predicted to have an activation frequency of 4 activations and a total volume of 6.88 million gallons in a typical year. (Coughlin 2008)." [Note: the documents that comprise MWRA's long-term CSO control plan are identified in the March 15, 2006, Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control (Exhibit A & B) which was entered in the Boston Harbor Case (U.S. v. M.D.C., et al., No. 85-0489-RGS). (Coughlin 2008).

PERMITTEE	NPDES #	SEGMENT
Massachusetts Water Resources Authority	**MAG250008**	**MA72-38**

The Massachusetts Water Resources Authority was authorized (MAG250008 issued in June 2000) to discharge from the MWRA Hyde Park Pump Station a flow of 600 gal/month average monthly and 4,800 GPD of non-contact cooling water (NCCW) via Outfall #001 through the Stony Brook Conduit to the Charles River. The reported TRC concentration is 1.80 mg/L (average monthly and daily maximum). The source of water for the facility is municipal water supply (MWRA). Normal usage is one hour per month at a 10 GPM flow rate. The permit was terminated by EPA in April 2007 because the discharge was terminated.

PERMITTEE Town of Medfield	NPDES # MA0100978	SEGMENT MA72-05
The Town of Medfield is authorized (MA0100978 issued in February 2005) to discharge from their facility a flow of 1.52 MGD average monthly of treated effluent via Outfall #001 to the Charles River. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and CNOEC $\geq$ 19% effluent using *Ceriodaphnia dubia* as a test species on a quarterly basis. The total phosphorus limit between April 1 and October 31 is 0.2 mg/L average monthly, and between November 1 and March 31 is 1.0 mg/L average monthly. The facility utilizes ultraviolet light (UV) for disinfection. Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between February 2000 and April 2007 ranged from <0.075 to 14.2 mg/L (n=29). The plant was upgraded in 2004 and since then has been in compliance with their summer total phosphorus limit. However, the facility is having problems with inflow and infiltration (I/I) particularly during wet weather events in the spring.		

PERMITTEE Town of Milford	NPDES # MA0100579	SEGMENT MA72-03
The Town of Milford is authorized (MA0100579 issued in February 2005) to discharge from the Milford Wastewater Treatment Facility a flow of 4.3 MGD average monthly of treated effluent via Outfall #001 to the Charles River. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and CNOEC $\geq$ 100% effluent using *Ceriodaphnia dubia* as a test species on a quarterly basis. The total phosphorus limit between April 1 and October 31 is 0.2 mg/L average monthly, and between November 1 and March 31 is 1.0 mg/L average monthly. The facility has two polishing sand filters that have been upgraded over the past 5 years (Boyer 2007). According to the facility's DMR's, the average monthly concentrations of total phosphorus in the discharge have been reduced from an average of 0.19 mg/L in 2001 to 0.09 mg/L in 2006. The ultra-voilet (UV) is utilized for disinfection. Ammonia-nitrogen concentrations reported in the whole effluent toxicity reports between March 2000 and April 2007 ranged from <0.10 to 2.32 mg/L (n=28).		

PERMITTEE Mirant Kendall, L.L.C.	NPDES # MA0004898	SEGMENT MA72-38
Mirant Kendall, L.L.C. (formerly Southern Energy Kendall, L.L.C.) is authorized (MA0004898 issued in September 2006) to discharge 70 MGD annual rolling average (80 MGD daily maximum) of once-through cooling water, ultrafilter and reverse osmosis (UF& RO) treatment system reject waters and boiler blowdown via any combinations of Outfalls 001, 002, 003, and 004 to the Charles River from the Kendall Square Station. The permit is available online at: http://www.epa.gov/region1/npdes/mirantkendall/ . It should be noted, however, that the company appealed this permit and, therefore, the facility is functioning under the previous permit (issued in August 1988). The daily maximum TRC limit is 0.1 mg/L and the maximum temperature of the discharge shall not exceed 105ºF.		

PERMITTEE Norfolk & Dedham Mutual Insurance Company	NPDES # MAG250034	SEGMENT MA72-07
The Norfolk & Dedham Mutual Insurance Company is authorized (MAG250034 issued in January 2005) to discharge from their facility a flow of 0.074 MGD average monthly and 0.094 MGD daily maximum of non-contact cooling water (NCCW) to the Charles River. This former permit for this facility (MA0027561) was terminated.		

PERMITTEE Old Colony Petroleum Co	NPDES # MA0031933	SEGMENT MA72-28
This facility is on EPA active list, but remediation has been terminated and the site is classified with an Activity and Use Limitation (AUL) as of November 2004. This permit is no longer needed.		

PERMITTEE Photofabrication Engineering, Inc.	NPDES # MAG250333	SEGMENT None (subwatershed area of MA72-04)
Photofabrication Engineering, Inc. is authorized (MAG250333 issued in December 2000) to discharge from their facility in Milford a flow of 0.1248 MGD average monthly of non-contact cooling water (NCCW) via Outfall #001 to a quarry in the Charles River Watershed.		

PERMITTEE **Pine Brook Country Club**	NPDES # **MA0032212**	SEGMENT **Pine Brook tributary to MA72-07**
The Pine Brook Country Club is authorized (MA0032212 issued September 1999) to discharge from their facility in Weston a flow of 0.006 MGD average monthly and 0.009 daily maximum of treated domestic sanitary waste-water via Outfall #001 to Pine Brook. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and CNOEC $\geq$ 12% effluent using *Ceriodaphnia dubia* and *Pimephales promelas* as test species on a quarterly basis. The total phosphorus limit between April and October is 0.1 mg/L average monthly and 0.1 mg/L daily maximum, and between November and March is 1.0 mg/L daily maximum. The facility's disinfection system was upgraded from chlorination to UV prior to 1999. *Ambient* The Pine Brook Country club staff collected water from an unnamed tributary to Seaverns Brook to the Charles River, upstream from the Outfall pipe for use as dilution water in the facility's whole effluent toxicity tests. This location is downstream of Weston Reservoir and locally known as Pine Brook. Between July 2000 and September 2006, survival of *C. dubia* exposed (approximately 7 days) to unnamed tributary was $\geq$ 90% and survival of *P. promelas* was $\geq$78% effluent (n=11) (TOXTD database). Hardness of the river water ranged from 24.0 to 72.0 mg/L (n=12).		

PERMITTEE **Radiant Fuel Company, Inc.**	NPDES # **MA0001236**	SEGMENT **MA72-29**
Radiant Fuel Company, Inc. is authorized (MA0001236 issued in November 2005) to discharge from their facility in West Newton a flow of 500 GPM daily maximum of treated stormwater runoff via Outfall #001 to Cheesecake Brook.		

PERMITTEE **Riverside Galleria Associates Trust**	NPDES # **MA0031879**	SEGMENT **MA72-38**
Riverside Galleria Associates Trust was authorized (MA0031879 issued in April 1988) to discharge from the Cambridge Side Galleria a flow of 0.2 MGD average monthly of stormdrain – groundwater from foundation excavation dewatering via Outfall #001 and #002 to the Charles River. The permit was terminated by EPA in September 2005.		

PERMITTEE **Saint-Gobain Containers, L.L.C.**	NPDES # **MAG250911**	SEGMENT **MA72-33**
Saint-Gobain Containers, L.L.C. is authorized (MAG250911 issued in July 2001) to discharge from their facility in Milford a flow of 0.01 MGD average monthly and 0.432 MGD daily maximum of non-contact cooling water (NCCW) via two Outfalls to the Charles River. The source of water for the facility is municipal.		

PERMITTEE **City of Somerville**	NPDES # **MA0101982**	SEGMENT **MA72-38**
The permit most recently issued (September 2003) to the City of Somerville no longer authorizes the discharge of combined sewer overflows via Outfall SOM 010 to the Charles RIver (MA72-38). This permit supersedes the permit issued in September 1992.		

PERMITTEE **SRI Two Realty Trust**	NPDES # **MA0028495**	SEGMENT **MA72014**
The discharge from SRI Two Realty Trust was terminated in August 2000 and EPA closed out the permit in April 2004.		

PERMITTEE **Tyco Valves and Controls (TVC Wrentham)**	NPDES # **MAG250431**	SEGMENT **A tributary to MA72002**
Tyco Valves and Controls (TVC Wrentham) (formerly Anderson Greenwood Crosby) is authorized (MAG250431 effective June 2001) to discharge non-contact cooling water from the facility in Wrentham an average monthly flow of <6,000 GPD of non-contact cooling water (NCCW) to an unnamed tributary of Lake Archer. The source of water for the facility is town well water. The TRC limit is 0.02 mg/L average monthly and 0.03 mg/L daily maximum. The ammonia-nitrogen concentration reported in the whole effluent toxicity report in July 2002 was 0.060 mg/L and the total Residual Chlorine (TRC) concentration was <0.020 mg/L. The average monthly TRC reported by the facility in their DMRs has ranged from 0.023 to 0.123 mg/L between October 2001 and September 2006.		

PERMITTEE **United States Postal Service**	NPDES # MA0033774	SEGMENT **MA72014**
The US Postal Service facility in Waltham no longer discharges so EPA inactivated the permit in September 2005. The stormwater discharge has been to groundwater since 2000.		

PERMITTEE Waverly Oaks Park/Duffy Brothers Construction	NPDES # MAG910153	SEGMENT MA72-28
This general permit was issued to Waverly Oaks Park/Duffy Brothers Construction in December 2005. The permit authorizes the discharge from a groundwater remediation project to clean up waste oil. The individual permit (MA0036447) was terminated in January 2006.		

PERMITTEE Westinghouse Electric Corp	NPDES # MA0035572	SEGMENT MA72-03
MA0035572, Westinghouse Operating Service Co., aka Bellingham Cogeneration Facility, filed an application for an NPDES permit (MA0035572) to clean up an oil spill they had in 1992. The cleanup for the spill was finished and MassDEP closed the site in September 2003 (Keohane 2007). Although this facility is currently on the EPA active list, this permit file should be terminated.		

PERMITTEE Weston Sanitary Landfill	NPDES # MA0033031	SEGMENT MA72-26
The Weston Sanitary Landfill permit (MA0033031) was issued in March 1994 however the discharge was ceased and EPA in terminated the permit in January 2006.		

PERMITTEE Wrentham Development Center	NPDES # MA0102113	SEGMENT Tributary to MA72-09
The Wrentham Development Center (formerly the Wrentham State School) is authorized (MA0102113 issued in January 2005) to discharge from their North Street Facility a flow of 0.454 MGD average monthly of treated effluent via Outfall #001 to the Stop River. The facility's whole effluent toxicity limits are $LC_{50} \geq 100\%$ and CNOEC $\geq$ 100% effluent using *Ceriodaphnia dubia* and *Pimephales promelas* as test species on a quarterly basis. The total phosphorus limit between April 1 and October 31 is 0.2 mg/L average monthly, and between November 1 and March 31 is 1.0 mg/L average monthly.		

***NOTE: Charles River CSO Variance:** Pursuant to its authority in the Massachusetts Clean Waters Act, G.L. c. 21, sections 26 -53, and 314 CMR 3.00 and the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, MassDEP proposed to extend the Variance for CSO discharges by the MWRA, the City of Cambridge and the Boston Water and Sewer Commission to the Lower Charles River/Charles Basin (Watertown Dam to New Charles River Dam) for a period not to exceed three years (October 1, 2010), and to extend the Variance for CSO discharges by MWRA and the cities of Cambridge and Somerville to the Alewife Brook/Upper Mystic River September 1, 2010). MassDEP accepted written comments on the proposal to extend the CSO Variances until 2 August 2007.

STORMWATER

The NPDES Phase I Stormwater Program, **(EPA HQ)** in place since 1990, regulates cities and counties with populations of 100,000 that operate a municipal separate storm sewer system (MS4), specific industrial operations (as defined at 40 CFR 122.26(b)(14)), and construction activities that disturb 5 or more acres of land.

The Boston Water and Sewer Commission is permitted (MAS010001 signed in September 1999) to discharge from many separate storm sewer Outfalls to the Charles River and some of its tributaries. Major Outfalls are defined as a storm drain that discharges from a single pipe with an inside diameter of 36" or more or its equivalent, a storm drain that serves more than 50 acres, or a storm drain Outfall that discharges from a single pipe with an inside diameter of 12" or more serving an industrial-zoned area (BWSC 2007). Non-major Outfalls are defined as any Outfall that are not major Outfalls. Table H3 identifies the major and non-major stormwater Outfalls in the Charles River Watershed.

Table H3. Major and non-major stormwater Outfalls permitted to the Boston Water and Sewer Commission in the Charles River Watershed.

Major Outfall #	Location	Neighborhood	Size (Inches)	Receiving Water	Comments/ Notes
08B122	Easement/ North Of Spring St.	West Roxbury	30	Charles River	
09B049	Easement/ Rivermoor St	West Roxbury	30	Cow Island Pond/ Charles River	
10B015	Easement/ Charles River Road	West Roxbury	21	Cow Island Pond/ Charles River	
11B123	Easement/ East Of Baker St Ext.	West Roxbury	72	Brook Farm Brook/ Charles River	
12B124	Easement/ Lagrange Street	West Roxbury	120	Brook Farm Brook	
06C110	Easement/ Pleasantdale St Ext	West Roxbury	60	Charles River	
07C006	Easement/ Vfw Parkway/ Belle Ave	West Roxbury	126x126	Charles River	
08C025/ 26	Wedgemere Road	West Roxbury	Two 24	None Shown	Formerly 8C318 And 8C319 off Wedgemere Rd.- was extended to Centre Lane and converted to 2 twin 24-Inch pipes; 8C318 was eliminated; 8C319 renumbered
14C009	Easement/ Westgate Rd	West Roxbury	36	Unnamed Wetlands	
22C384	Easement/ Lake Shore Rd	Allston/ Brighton	36	Chandler Pond	
24C031	Parsons Street (Outfall Abandoned Fall 2006); Flows Directed To 24d032	Allston/ Brighton	60x60	Charles River	Outfall Has Been Redirected To 24D032- Oct 2006
06D097	Easement/ Edgemere Road	West Roxbury	51	None Shown	Pipe Extends Into Dedham
06D187	Easement/ Grove St	West Roxbury	36	Brook Grove St Cemetery	
13D077/ 078	West Roxbury Pky/ Vfw Pky	West Roxbury	2-60	Bussey Brook	Monitored For Res. Swm
24D032	N Of Beacon St, About 800' E Of Parsons St	Allston/ Brighton	119x130	Charles River	
24D150	Soldiers Field Place	Allston/ Brighton	36	Charles River	
25D040	About 390' N Of Intersection Of Soldiers Field Rd & Western Ave	Allston/ Brighton	36	Charles River	This Outfall was renumbered after it was converted from a CSO to a SD and relocated
09E243	Blue Ledge Tr/ Easement	West Roxbury	30	Unnamed Stream	
13E175	Easement/ Vfw Pky	Roslindale	108x86	Bussey Brook	
25E037	Easement/ Telford St	Allston/ Brighton	66	Charles River	
26Ff038	Harvard St Ext	Allston/ Brighton	36	Charles River	
19G043	Huntington Ave	Roxbury/ Mission Hill	45x45	Muddy River	
20G161	Easement/ Brookline Ave	Roxbury/ Mission Hill	36	Muddy River	
23G132	Easement/ Mass Turnpike/ West Of Bu Bridge	Allston/ Brighton	60	Charles River	
24G034	Soldiers Field Road, S Of Cambridge St	Allston/ Brighton	36	Charles River	
24G035	Soldiers Field Road/ Babcock St	Allston/ Brighton	90x84	Charles River	
26G001	Soldiers Field Road/ East Of Harvard University	Allston/ Brighton	36	Charles River	
12H092	American Legion Highway	West Roxbury	24	Canterbury Brook	
23H042	Deerfield St	Boston Proper	116x120	Charles River	
11I577	Harvard St	Neponset/ Mattapan	102x102	Canterbury Brook	
27J001	Easement/ Interstate 93	Charlestown	72	Millers River	
27Jj044	Prison Point Bridge	Charlestown	15	Millers River	Of Not Found In Field. Believed To Be Eliminated During Cat Project
27J096	Easement/ Interstate 93	Charlestown	54	Millers River	
26K035	Beverly Street Near Warren	Boston Proper	36	Charles River	Former CSO 26K050 (Was Renumbered

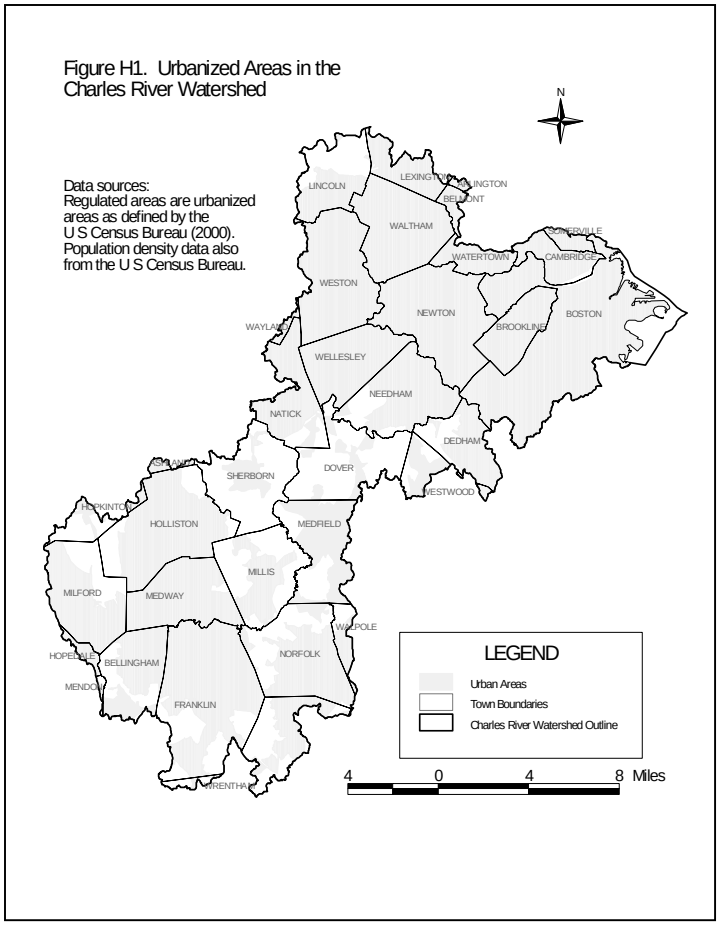
Table H3. Major and non-major stormwater Outfalls permitted to the Boston Water and Sewer Commission in the Charles River Watershed.					
Major Outfall #	**Location**	**Neighborhood**	**Size (Inches)**	**Receiving Water**	**Comments/ Notes**
	Bridge				To 26K035)
26K099	Chelsea St Ext (Joiner St)	Charlestown	84	Charles River	

Table H3. Major and non-major stormwater Outfalls permitted to the Boston Water and Sewer Commission in the Charles River Watershed.					
Non-Major Outfall #	**Location**	**Neighborhood**	**Size (Inches)**	**Receiving Water**	**Comments/Notes**
08B126	Spring Street Extended	West Roxbury	30	Charles River	
12B010	Baker Street	West Roxbury	15	Brook Farm Brook	
12B014	Baker Street	West Roxbury	12	Brook Farm Brook	
12B031	Easement/Baker Street	West Roxbury	18	Brook Farm Brook	
12B033	Easement/Baker Street	West Roxbury	18	Brook Farm Brook	
13B011	Lagrange Street	West Roxbury	12	Unnamed Stream	
21C212	Easement/Lake Shore Road	Allston/Brighton	30	Chandler Pond	
24C174	Easement/Newton Street	Allston/Brighton	24	Charles River	
06D083	Margetta Drive	West Roxbury	15	Wetlands/Charles River	
06D084	Easement/Margaretta Drive	West Roxbury	12	Wetlands/Charles River	
06D085	Georgetown Drive	West Roxbury	12	Wetlands/Charles River	
06D086	Georgetown Drive	West Roxbury	10	Wetlands/Charles River	
06D091	Georgetown Drive	West Roxbury	10	Wetlands/Charles River	
06D184	Georgetown Drive	West Roxbury	18	Wetlands/Charles River	
05E180	Georgetown Drive	Hyde Park	12	None Shown/Charles River	
05E181	Georgetown Drive	Hyde Park	12	None Shown/Charles River	
05E182	Dedham Street	Hyde Park	21	Unnamed Stream/Charles River	
05E183	Georgetown Place/Dedham St	Hyde Park	12	Unnamed Stream	
08E031	Turtle Pond Parkway	West Roxbury	18	Turtle Pond	
08E033	Turtle Pond Parkway	West Roxbury	Unknown	Turtle Pond	
08E035	Washington Street	West Roxbury	15	Turtle Pond	
09E229	Grandview Street	West Roxbury	12	None Shown	
13E176	Easement/Weld St	Roslindale	15	None Shown	Moved from Major Outfall List/is a Non-MajorOutfall
13E174	Easement/Vfw Parkway	Roslindale	24	Bussey Brook	
06F233	Mount Ash Road	Hyde Park	Unknown	Wetland - Stony Brook Reservation	
12F418	Easement/Walter Street (Renumbered From 12f322)	Roslindale	18	None Shown	Renumbered from 12F322
13F095	Easement/Bussey Street	Roslindale	12	Bussey Brook	
13F093	Walter Street	Roslindale	15	Bussey Brook	Not formerly mapped
13F185	Allandale Street	Roslindale	24	Bussey Brook	Formerly 14F185; Of extended
17F012	Francis Parkman Drive	Jamaica Plain	15	Jamaica Pond	
11G318	Culvert Under Walk Hill Street	Roslindale	24	Canterbury Brook	Outfall is in culvert under Walk Hill
11G319	Culvert Under Walk Hill Street	Roslindale	18	Canterbury Brook	Outfall is in culvert under Walk Hill
18G233	X-Country Btn Willow Pond Rd And Jamaicaway	Jamaica Plain	18	Muddy River-Leverett Pond	
19G194	South Huntington Ave	Roxbury/Mission Hill	24	Muddy River	
19G199	Jamaica Way	Roxbury/Mission Hill	10	Muddy River	

Table H3. Major and non-major stormwater Outfalls permitted to the Boston Water and Sewer Commission in the Charles River Watershed.					
Non-Major Outfall #	**Location**	**Neighborhood**	**Size (Inches)**	**Receiving Water**	**Comments/Notes**
20G163	Easement/Riverway	Roxbury/Mission Hill	20	Muddy River	
25G005	From Western Ave Bridge	Allston/Brighton	12	Charles River	
25G041	Soldiers Field Rd/North Of Western Ave Bridge	Allston/Brighton	24	Charles River	
12H085	Morton Street	Roslindale	15	Canterbury Brook	
12H087	Morton Street	Roslindale	15	Canterbury Brook	
21H039	Fenway	Boston Proper	30x30	Muddy River	Overflow pipe in front of Emmanual College
21H047	Palace Road Ext	Boston Proper	24	Muddy River	
21H048	Easement/Fenway/Evans Way	Boston Proper	15	Muddy River	
21H201	Palace Road Ext	Boston Proper	6	Muddy River	
23H040	Raleigh Street Ext	Boston Proper	24	Charles River	
26J052	Monsignor O'brien Hwy	Boston Proper	12	Charles River	
26J055	Leverett Circle	Boston Proper	12	Charles River	
26K052	Commercial Street At Charter St.	Boston Proper	16x24	Charles River	Former CSO
26K245	Easement	Charlestown	15	Charles River	

The NPDES Phase II General Permit program requires NPDES permit coverage for stormwater discharges from small municipal separate storm sewer systems (MS4s), and construction activity disturbing one acre or more of land in a mapped "urbanized area" defined and delineated by the US Bureau of Census in 2000 http://www.epa.gov/npdes/pubs/fact2-2.pdf. Large and medium MS4s (populations over 100,000) were permitted during Phase I of the NPDES stormwater program. Under EPA's Phase II program, the definition of "municipal" includes Massachusetts communities, U.S. military installations, state or federal owned facilities such as hospitals, prison complexes, state colleges or universities and state highways. An MS4 is a system that: discharges at one or more a point sources; is a separate storm sewer system (not designed to carry combined stormwater and sanitary waste water); is operated by a public body; discharges to the Waters of the United States or to another MS4; and, is located in an "Urbanized Area". The NPDES Phase II General Permit requires operators of regulated MS4s to develop and implement a stormwater management program that prevents harmful pollutants from being washed or dumped directly into the storm sewer system which is subsequently discharged into local waterbodies. The NPDES Stormwater Phase II General Permit requires operators of regulated small municipal separate storm sewer systems (MS4s) to develop a stormwater management program that prevents harmful pollutants from being washed or dumped directly into the storm sewer system, and then discharged into local waterbodies. Certain Massachusetts communities were automatically designated (either in full or part) by the Phase II rule based on the urbanized area delineations from the 2000 U.S. Census.

Figure H1. Urbanized Areas in the Charles River Watershed



As a result of the census mapping, all 37 communities (excluding Boston) in the Charles River Watershed were located either totally or partially in the regulated Urbanized Area (see below Table H4). Municipalities that are totally regulated must implement the requirements of the Phase II permit in the entire town, while communities that are partially regulated need to comply with the Phase II permit only in the mapped Urbanized Areas. All Charles River drainage area communities applied to EPA and MassDEP for coverage under the Phase II stormwater general permit, issued on 1 May 2003. EPA issued stormwater general permits to all 37 Charles River Watershed municipalities after administrative review and, in coordination with MassDEP, will complete a thorough review of the communities' stormwater management program during the five-year permit term. Phase II stormwater general permits will expire on 1 May 2008 (Domizio 2004). For detailed community maps see http://www.epa.gov/region01/npdes/stormwater/ma.html.

Table H4. NPDES Phase II stormwater permit information for the Charles River Watershed communities.

Community	Permit #	Permit Issued	Mapped Regulatory area in community
LEXINGTON	MAR041042	9/25/2003	Total
LINCOLN	MAR041043	10/2/2003	Partial
ARLINGTON	MAR041027	9/12/2003	Total
WALTHAM	MAR041066	12/5/2003	Total
SOMERVILLE	MAR041082	9/17/2003	Total
BELMONT	MAR041074	10/30/2003	Total
WAYLAND	MAR041169	9/17/2003	Partial
CAMBRIDGE	MAR041076	8/27/2003	Total
WESTON	MAR041068	9/29/2003	Total
WATERTOWN	MAR041093	9/25/2003	Total
NEWTON	MAR041090	9/12/2003	Total
BROOKLINE	MAR041075	9/2/2003	Total
NATICK	MAR041139	9/5/2003	Partial
WELLESLEY	MAR041067	9/19/2003	Total
NEEDHAM	MAR041237	10/30/2003	Total
QUINCY	MAR041081	10/23/2003	Total
ASHLAND	MAR041086	10/16/2003	Partial
DOVER	MAR041107	9/5/2003	Partial
DEDHAM	MAR041033	8/22/2003	Total
SHERBORN	MAR041158	9/9/2003	Partial
HOPKINTON	MAR041124	12/10/2003	Partial
WESTWOOD	MAR041069	9/29/2003	Partial
HOLLISTON	MAR041122	9/22/2003	Partial
MEDFIELD	MAR041131	9/5/2003	Partial
WALPOLE	MAR041167	9/24/2003	Partial
MILLIS	MAR041137	9/22/2003	Partial
MILFORD	MAR041135	10/1/2003	Partial
MEDWAY	MAR041132	3/31/2004	Total
HOPEDALE	MAR041123	9/12/2003	Partial
NORFOLK	MAR041141	9/5/2003	Partial
MENDON	MAR041133	9/16/2003	Partial
FRANKLIN	MAR041117	9/10/2003	Partial
BELLINGHAM	MAR041091	8/27/2003	Partial
FOXBOROUGH	MAR041115	9/9/2003	Partial
WRENTHAM	MAR041175	9/17/2003	Partial

One project (104(b)3 Project No. 97-04/104), *An Assessment of Stormwater Control in the Charles River Watershed*, was completed by the Charles River Watershed Association in 2000. This project "*gathered information on the application of DEP's stormwater management policy and provided quantitative and qualitative estimates of the current and projected costs and benefits associated with implementing the policy standards within the Charles River Basin*" (CRWA 2000). The project recommended that the scope of the policy should include all new development beyond the riverfront area and wetland buffer zones, should include single-family homes and residential subdivisions of fewer than four lots to encourage their use in all municipalities, and that a regulatory trigger requiring community oversight should be developed and required. Cost estimates for implementing stormwater controls in the riverfront and buffer zones between 1998 and 2025 ranged between $20 and $40 million (CRWA 2000).

A second project (2002-05/MWI), *Upper Charles River Watershed Stormwater Assessment Project*, was completed by CRWA and their project partners, Center for Watershed Protection and GEO/PLAN Associates, in June 2003 (CRWA *et al*., 2003). Recommendations were made to assist the communities of Bellingham, Dover, Franklin, Holliston, Medfield, Medway, Milford, Millis, Natick, Norfolk, Sherborn, and Wrentham in strengthening their local stormwater management programs. Survey results from all towns, excluding Medfield (which declined to participate in the project), revealed that concerted efforts were being made to minimize pollution from municipal operations (street sweeping, catch basin cleaning, proper snow removal, hazardous waste collection days, and restrictions on pet waste disposal). Developers were also encouraged or required to control construction site stormwater runoff to prevent erosion and sedimentation, and over half of the towns had a review process in place for stormwater management plans of (re)developments. However, public education and outreach (the exception being Bellingham), public participation and involvement, illicit discharge detection and elimination program elements were identified as weaknesses. Stormwater pipe locations and drainage area information was gathered from the towns (data quality and availability varied considerably among the communities). If no GIS data layers were available, locations of pipes greater than 36" were digitized and Outfall drainage areas were determined. Because of inconsistencies in stormwater conveyance system/drainage areas, a land use coverage for the Upper Charles River Watershed area was developed. Priority areas were identified using wet weather sampling data. Lastly a methodology to identify and prioritize stormwater retrofit areas was provided.

Information for other general NPDES permittees are available online at:
http://cfpub.epa.gov/npdes/stormwater/noi/noisearch.cfm.

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