



2010 Stormwater Management Report



Boston Water and Sewer Commission

**Boston Water and
Sewer Commission**



980 Harrison Avenue
Boston, MA 02119-2540
617-989-7000

February 28, 2011

Ms. Linda Murphy
Director
U.S. Environmental Protection Agency
Region 1 (New England)
5 Post Office Square
NPDES Program
Boston, MA 02109-3912

Ms. Ann Lowery
Acting Assistant Commissioner
Massachusetts Department of Environmental Protection
1 Winter Street
Boston, MA 02108

Massachusetts Department of Environmental Protection
Metro Boston/Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887
Attn: Mr. Richard Chalpin

**Re: Annual Stormwater Management Report
MAS010001 – Boston Water and Sewer Commission**

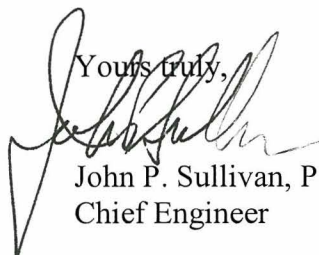
Dear Ms. Murphy, Ms. Lowery and Mr. Chalpin:

The Boston Water and Sewer Commission is pleased to provide you with the enclosed Stormwater Management Report for the year 2010. To save resources, this year the Commission is distributing the report on CD. Paper copies of the report are available upon request.

The Commission's NPDES Stormwater Permit (MAS010001) was issued by Environmental Protection Agency and the Massachusetts Department of Environmental Protection on September 29, 1999, and became effective on October 29, 1999. The five year permit expired on October 29, 2004. The Commission's 2003 Stormwater Management Report (submitted February 27, 2004) included the Commission's request for reapplication for an NPDES Stormwater Permit.



We are available at your convenience to meet to discuss the Commission's NPDES Stormwater Permit and Stormwater Management Programs. If you would like to arrange a meeting, or if you have questions or comments concerning the Annual Report, please contact Ms. Amy M. Schofield, Project Manager at extension 7432.

Yours truly,

John P. Sullivan, P.E.
Chief Engineer

JPS/AS

cc: D. Gray, EPA
T. Borci, EPA
K. Brander, DEP
C. Jewell, BWSC

Municipality/Organization: Boston Water and Sewer Commission

EPA NPDES Permit Number: MAS010001

Report/Reporting Period: 2010 (January 1, 2010-December 31, 2010)

NPDES Phase I Permit Annual Report

General Information

Contact Person: Amy M. Schofield

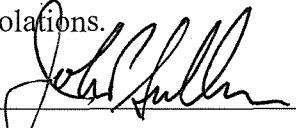
Title: Project Manager

Telephone #: 617-989-7432

Email: Schofieldam@bwsc.org

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Signature: 

Printed Name: John P. Sullivan, P.E.

Title: Chief Engineer

Date: February 25, 2011

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1	Permit History.....	1-1
1.2	Annual Report Requirements.....	1-1
1.3	Commission Jurisdiction and Legal Authority for Drainage System and Stormwater Management.....	1-1
1.4	Municipal Storm Drains Owned by Others.....	1-2
1.5	Characterization of Separated Storm Drainage Areas.....	1-3
1.6	Mapping of Drainage Areas and Stormwater Outfall Locations.....	1-3

2.0 ILLEGAL CONNECTION REMEDIATION AND OUTFALL SCREENING

2.1	Illegal Connection Identification by Commission Staff.....	2-1
2.2	Illegal Connection Investigation Contracts.....	2-1
2.3	Investigation Methodology.....	2-2
2.4	Outfall Screening.....	2-4
2.5	Drainage Area Investigations.....	2-4
2.6	Correction of Illegal Connections.....	2-8
2.7	2010 Illegal Connection Remediation Summary.....	2-8

3.0 STORMWATER MANAGEMENT ACTIVITIES

3.1	Operation and Maintenance of Structural Controls.....	3-1
3.2	Control of Non-Stormwater Discharges to the Drainage System.....	3-7
3.3	Development and Construction Sites.....	3-13
3.4	Roadways.....	3-21
3.5	Flood Control Projects.....	3-23
3.6	Pesticide, Herbicide and Fertilizer Application.....	3-23
3.7	Public Education.....	3-24
3.8	Support for Watershed and Environmental Agencies and Organizations.....	3-26

4.0 REPRESENTATIVE AND RECEIVING WATER MONITORING. AND BMP DEMONSTRATION PROGRAMS

4.1	Previously Completed Monitoring Programs.....	4-1
4.2	2010 Stormwater Monitoring Program.....	4-1

TABLE OF CONTENTS (cont.)

5.0 PROGRAM MODIFICATIONS

5.1	Stormwater Management Program.....	5-1
5.2	Outfall Screening.....	5-1
5.3	Illegal Connection Investigations and Remediation	5-2
5.4	Stormwater Monitoring	5-2
5.5	BMP Demonstration Programs.....	5-2
5.6	Structural Controls.....	5-2

6.0 FINANCING STORMWATER MANAGEMENT

6.1	Current Expense Budget.....	6-1
6.2	Capital Expenditures.....	6-2

7.0 ENFORCEMENT..... 7-1

8.0 WATER QUALITY IMPROVEMENTS

8.1	Illegal Connection Elimination.....	8-1
8.2	Sewer, Drain, Catch Basin and Particle Separator Cleaning.....	8-1
8.3	BMPs on Private Property.....	8-2

9.0 ASSESSMENT OF STRUCTURAL CONTROLS

9.1	Catch Basins.....	9-1
9.2	Particle Separators.....	9-2

LIST OF TABLES

Table 1-1 BWSC Stormwater Outfalls.....	1-4
Table 1-2 Drainage Areas to Outfalls Owned by Others.....	1-7
Table 2-1 Drainage Area Investigation Status.....	2-5
Table 2-2 Illegal Connections as of December 31, 2009.....	2-11
Table 2-3 Illegal Connections Identified in 2010.....	2-12
Table 2-4 Illegal Connections Corrected in 2010.....	2-13
Table 2-5 Illegal Connections as of December 31, 2010.....	2-14

LIST OF TABLES (cont.)

Table 3-1 Brook Inlet and Outlet Cleaning.....	3-3
Table 3-2 BWSC Particle Separators 2010.....	3-5
Table 3-3 Spill/Dumping Response 2010.....	3-9
Table 3-4 Private Infiltration Devices Installed 2010.....	3-16
Table 3-5 Privately Installed Particle Separators 2010.....	3-19
Table 9-1 BWSC Particle Separator Cleaning-Material Removed 2001-2009.....	9-3

LIST OF FIGURES

Figure 1-1 Storm Drain Outfalls, Tributary Areas and Status of Investigations.....	End Sec. 1
---	-------------------

1.0 INTRODUCTION

1.1 PERMIT HISTORY

Discharges to the Boston Water and Sewer Commission's (Commission) separate storm drainage system are regulated under the U.S. Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) Stormwater Permit Regulations. The Commission's NPDES Stormwater Permit (MAS010001) was issued by the EPA and the Massachusetts Department of Environmental Protection (DEP) on September 29, 1999, and became effective on October 29, 1999. The five year permit expired on October 29, 2004. The Commission's 2003 Stormwater Management Report, which was submitted to the EPA on February 27, 2004, constituted the Commission's reapplication for an NPDES Stormwater Permit.

1.2 ANNUAL REPORT REQUIREMENTS

Under the Permit, the Commission is required to develop and implement stormwater pollution prevention and management programs that are designed to reduce, to the maximum extent practicable, the discharge of pollutants to the municipal storm drainage system. In accordance with the NPDES Stormwater Permit (the Permit), the Commission is required to report annually to the EPA and the DEP regarding the status of its pollution prevention and stormwater management programs. This report provides a summary of the stormwater activities undertaken by the Commission in 2010. Provided herein are descriptions of the Commission's outfall screening, stormwater and receiving water monitoring, and illegal connection remediation programs, discussions regarding modifications to these programs, annual expenditures, water quality improvements and an assessment of structural controls.

1.3 COMMISSION JURISDICTION AND LEGAL AUTHORITY FOR DRAINAGE SYSTEM AND STORMWATER MANAGEMENT

The Commission was created pursuant to an act of the Massachusetts Legislature under Chapter 436 of the Acts of 1977 as a political subdivision of the Commonwealth, separate and apart from the City of Boston. The enabling act charged the Commission with the responsibility for the operation and maintenance of the water distribution system and the wastewater collection and stormwater drainage systems which serve the City of Boston. Through its enabling legislation the Commission is empowered to promulgate rules and regulations in order to perform its statutory functions and duties. The Commission's Regulations Governing the Use of Sanitary and Combined Sewers and Storm Drains and Requirements for Site Plans are briefly described below. Copies of the

documents are available by contacting the Commission and a downloadable version is available from the Commission's web site located at www.bwsc.org.

Sewer Use Regulations: The majority of the Commission's stormwater management controls are enforced through its Regulations Governing the Use of Sanitary and Combined Sewers and Storm Drains (the Sewer Use Regulations). The Sewer Use Regulations were adopted in 1983 and amended in 1989. They were amended again in 1998 to strengthen and clarify the requirements, particularly as they pertain to stormwater discharges. In 1998, the Commission also amended its Penalty Schedule by adding and increasing the fines for several Sewer Use Regulation violations.

General Service Applications and Requirements for Site Plans: The Commission requires that a General Service Application and a site plan be submitted for every new or reconstructed water, sewer, or storm drain service connection. The Requirements for Site Plans are to assist developers, builders, architects, engineers, and others in preparing site plans that conform to the Commission's requirements and to help them secure the necessary approvals from the Commission.

The site plan must be approved by the Commission's Chief Engineer before construction may begin, and it will not be approved unless it complies with the Commission's Requirements for Site Plans and Sewer Use Regulations. The site plan review provides an opportunity to review the components of the project and condition the approval on compliance with the Commission's Sewer Use Regulations, Requirements for Site Plans, and other requirements. The Commission's Requirements for Site Plans are updated as needed, generally about once a year.

1.4 MUNICIPAL STORM DRAINS OWNED BY OTHERS

The Commission controls most of the municipal storm drains in Boston. However, some storm drains and outfalls are owned by other city agencies. For example, drains and outfalls located in the Marine Industrial Park in South Boston are owned and operated jointly by the Economic Development and Industrial Corporation of Boston and the Boston Redevelopment Authority (EDIC/BRA); the Boston Parks Department owns drains in Franklin Park and Boston Common, and in other city parks.

Other storm drains and outfall in the city are owned by state agencies, such as the Massachusetts Department of Transportation, Massport, and the state Department of Conservation and Recreation; these drains and outfalls are not controlled by the Commission.

The Commission also has a number of interconnections with the Town of Brookline, Town of Dedham, Town of Milton and City of Newton, over which it has no control of their respective upstream systems. The Commission does not have jurisdiction or control over these separately owned facilities, nor does it have jurisdiction and/or control over

roadways, roadway maintenance, construction site inspection, parks or city or state facilities which may impact the Commission's separate storm system.

1.5 CHARACTERIZATION OF SEPARATED STORM DRAINAGE AREAS

Two new outfalls in East Boston have been added to the Commission's drainage system, due to sewer separation projects, bringing the current total number of storm drain outfalls up to 206. Of those, 99 are classified as major outfalls, and 107 are classified as non-major outfalls. Table 1 – 1 is a list of the Commission's outfalls.

Table 1 – 2 lists areas with Commission owned storm drainage systems that do not discharge to an outfall, rather they discharge through a manhole to storm drains and outfalls owned by others.

Currently the amount of area in Boston served by separated storm drains is 17,554 acres, or approximately 57 percent of Boston. The remainder of the area is served by combined sewers, sanitary sewers only, or is open space with no sewers or drains.

1.6 MAPPING OF DRAINAGE AREAS AND STORMWATER OUTFALL LOCATIONS

The map (Figure 1) at the end of this section shows the locations of the Commission's storm drain outfalls and their tributary areas.

Table 1-1 BWSC Stormwater Outfalls

OUTFALL NUMBER		LOCATION	NEIGHBORHOOD	SIZE (INCHES)	RECEIVING WATER
01E024	MAJOR	EASEMENT/LAKESIDE	HYDE PARK	15	SPRAGUE POND/NEPONSET RIVER
01F031	MAJOR	EASEMENT/MILLSTONE RD	HYDE PARK	48X24	NEPONSET RIVER
02E086	NON MAJOR	WEST MILTON STREET	HYDE PARK	24	UNAMED WETLANDS
02F085	NON MAJOR	LAWTON STREET	HYDE PARK	12	NEPONSET RIVER RESERVATION
02F093	NON MAJOR	EASEMENT/SIERRA RD	HYDE PARK	15	NEPONSET RIVER
02F120	MAJOR	EASEMENT/WOLCOTT CT/HYDE PARK AVE EXT	HYDE PARK	54	NEPONSET RIVER
03E185	MAJOR	NORTON ST	HYDE PARK	2-18	WETLANDS/NEPONSET RIVER
03E186	NON MAJOR	RIVER STREET	HYDE PARK	24	MILL POND/MOTHER BROOK
03E207	NON MAJOR	RIVER STREET	HYDE PARK	UNKNOWN	MILL POND/MOTHER BROOK
04E064	NON MAJOR	ALVARDO AVE/RIVER ST BRIDGE	HYDE PARK	12	MILL POND/MOTHER BROOK
04E069	MAJOR	KNIGHT ST DAM	HYDE PARK	36	MOTHER BROOK
04F016	NON MAJOR	EASEMENT RIVER ST	HYDE PARK	30	MOTHER BROOK/NEPONSET RIVER
04F118	NON MAJOR	MASON STREET EXT.	HYDE PARK	18	NEPONSET RIVER
04F119	MAJOR	EASEMENT/HYDE PARK AVE/RESERVATION RD	HYDE PARK	24	NEPONSET RIVER
04F189	MAJOR	RESERVATION RD	HYDE PARK	36	MOTHER BROOK/NEPONSET RIVER
04F203	NON MAJOR	GLENWOOD AVE	HYDE PARK	28	NEPONSET RIVER
04F204	MAJOR	TRUMAN HWY/CHITTICK ST	HYDE PARK	36	NEPONSET RIVER
05E180	NON MAJOR	GEORGETOWN DRIVE	HYDE PARK	12	NONE SHOWN/CHARLES RIVER
05E181	NON MAJOR	GEORGETOWN DRIVE	HYDE PARK	12	NONE SHOWN/CHARLES RIVER
05E182	NON MAJOR	DEDHAM STREET	HYDE PARK	21	UNNAMED STREAM/CHARLES RIVER
05E183	NON MAJOR	GEORGETOWN PLACE/DEDHAM ST	HYDE PARK	12	UNNAMED STREAM
05E184	NON MAJOR	TURTLE POND PARKWAY	HYDE PARK	21	UNAMED WETLANDS
05F117	MAJOR	EASEMENT/TRUMAN HWY/WILLIAMS AVE	HYDE PARK	33	NEPONSET RIVER
05F244	NON MAJOR	HYDE PARK AVE BRIDGE	HYDE PARK	20	MOTHER BROOK/NEPONSET RIVER
05F245	NON MAJOR	HYDE PARK AVE	HYDE PARK	33	MOTHER BROOK/NEPONSET RIVER
05F253	MAJOR	EASEMENT/BUSINESS ST, NEAR BUSINESS TER	HYDE PARK	48X24	MOTHER BROOK/NEPONSET RIVER
05F254	NON MAJOR	DANA AVENUE	HYDE PARK	12	NEPONSET RIVER
05G112	MAJOR	EASEMENT/RR ROW/WATER ST EXT	HYDE PARK	30	NEPONSET RIVER
05G115	MAJOR	FAIRMOUNT AVE BRIDGE (NORTH BANK)	HYDE PARK	24	NEPONSET RIVER
05G116	NON MAJOR	FAIRMOUNT AVE BRIDGE (SOUTH BANK)	HYDE PARK	24	NEPONSET RIVER
05G116A	NON MAJOR	WARREN AVENUE	HYDE PARK	24	NEPONSET RIVER
06C110	MAJOR	EASEMENT/PLEASANTDALE ST EXT	WEST ROXBURY	60	CHARLES RIVER
06D057	NON MAJOR	CEDAR CREST CIRCLE	WEST ROXBURY	21	CHARLES RIVER
06D083	NON MAJOR	MARGARETTA DRIVE	WEST ROXBURY	15	WETLANDS/CHARLES RIVER
06D084	NON MAJOR	EASEMENT/MARGARETTA DRIVE	WEST ROXBURY	12	WETLANDS/CHARLES RIVER
06D085	NON MAJOR	GEORGETOWN DRIVE	WEST ROXBURY	12	WETLANDS/CHARLES RIVER
06D086	NON MAJOR	GEORGETOWN DRIVE	WEST ROXBURY	10	WETLANDS/CHARLES RIVER
06D091	NON MAJOR	GEORGETOWN DRIVE	WEST ROXBURY	10	WETLANDS/CHARLES RIVER
06D097	MAJOR	EASEMENT/EDGEMERE ROAD	WEST ROXBURY	51	NONE SHOWN
06D184	NON MAJOR	GEORGETOWN DRIVE	WEST ROXBURY	18	WETLANDS/CHARLES RIVER
06D187	MAJOR	EASEMENT/GROVE ST	WEST ROXBURY	36	BROOK GROVE ST CEMETERY
06F233	NON MAJOR	MOUNT ASH ROAD	HYDE PARK	UNKNOWN	WETLAND - STONY BROOK RESERVATION
06G108	MAJOR	EASEMENT/WEST OF WOOD AVE EXT	HYDE PARK	69	NEPONSET RIVER
06G109	MAJOR	RIVER TER EXT, NEAR ROSA ST	HYDE PARK	48	NEPONSET RIVER
06G110	MAJOR	EASEMENT/WEST STREET EXT	HYDE PARK	30	NEPONSET RIVER
06G111	NON MAJOR	EASEMENT/VOSE ST EXT., TRUMAN HWY	HYDE PARK	24	NEPONSET RIVER
06G165	NON MAJOR	TRUMAN HWY/METROPOLITAN AVE	HYDE PARK	10	NEPONSET RIVER
06G166	MAJOR	ABOUT 30' FROM GUARDRAIL NORTH SIDE OF TRUMAN HWY NEAR MILTON	HYDE PARK	36X36	NEPONSET RIVER
06H106	NON MAJOR	OSCEOLA STREET	HYDE PARK	24	NEPONSET RIVER
06H107	NON MAJOR	EASEMENT/BELNEL RD	HYDE PARK	24	NEPONSET RIVER
07C006	MAJOR	EASEMENT/FW PARKWAY/BELLE AVE	WEST ROXBURY	126X126	CHARLES RIVER
07H105	MAJOR	EASEMENT/EDGEWATER/S RIVER ST	NEPONSET/MATTAPAN	102X72	NEPONSET RIVER
07H285	MAJOR	BLUE HILL AVE	NEPONSET/MATTAPAN	106X63	NEPONSET RIVER
07H287	NON MAJOR	RIVER STREET/EDGEWATER DRIVE	NEPONSET/MATTAPAN	12	NEPONSET RIVER
07H346	NON MAJOR	EDGEWATER DRIVE/HOLMFIELD AVE	HYDE PARK	18	NEPONSET RIVER
07H347	NON MAJOR	EDGEWATER DRIVE/BURMAH ROAD	NEPONSET/MATTAPAN	21	NEPONSET RIVER
07H348	NON MAJOR	EDGEWATER DRIVE/TOPALIAN STREET	NEPONSET/MATTAPAN	24	NEPONSET RIVER
08B122	MAJOR	EASEMENT/NORTH OF SPRING ST.	WEST ROXBURY	30	CHARLES RIVER
08B126	NON MAJOR	SPRING STREET EXTENDED	WEST ROXBURY	30	CHARLES RIVER
08C025/26	MAJOR	WEDGEMERE ROAD	WEST ROXBURY	two 24	NONE SHOWN
08E031	NON MAJOR	TURTLE POND PARKWAY	WEST ROXBURY	18	TURTLE POND
08E033	NON MAJOR	TURTLE POND PARKWAY	WEST ROXBURY	UNKNOWN	TURTLE POND
08E035	NON MAJOR	WASHINGTON STREET	WEST ROXBURY	15	TURTLE POND
08I153	NON MAJOR	DUXBURY ROAD	NEPONSET/MATTAPAN	15	NEPONSET RIVER
08I154	NON MAJOR	EASEMENT/RIVER ST/GLADESIDE AVE	NEPONSET/MATTAPAN	18	NEPONSET RIVER
08I155	NON MAJOR	EASEMENT/RIVER ST/MAMELON CIR	NEPONSET/MATTAPAN	24	NEPONSET RIVER
08I156	NON MAJOR	EASEMENT/RIVER ST/MAMELON CIR	NEPONSET/MATTAPAN	24	NEPONSET RIVER
08I158	NON MAJOR	EASEMENT/RIVER ST/FREMONT ST	NEPONSET/MATTAPAN	18	NEPONSET RIVER
08I207	NON MAJOR	MEADOWBANK AVE EXT	NEPONSET/MATTAPAN	15	NEPONSET RIVER
08I209	NON MAJOR	MEADOWBANK AVE EXT	NEPONSET/MATTAPAN	12	NEPONSET RIVER
08J041	NON MAJOR	RIVER STREET	DORCHESTER	18	NEPONSET RIVER

Table 1-1 BWSC Stormwater Outfalls

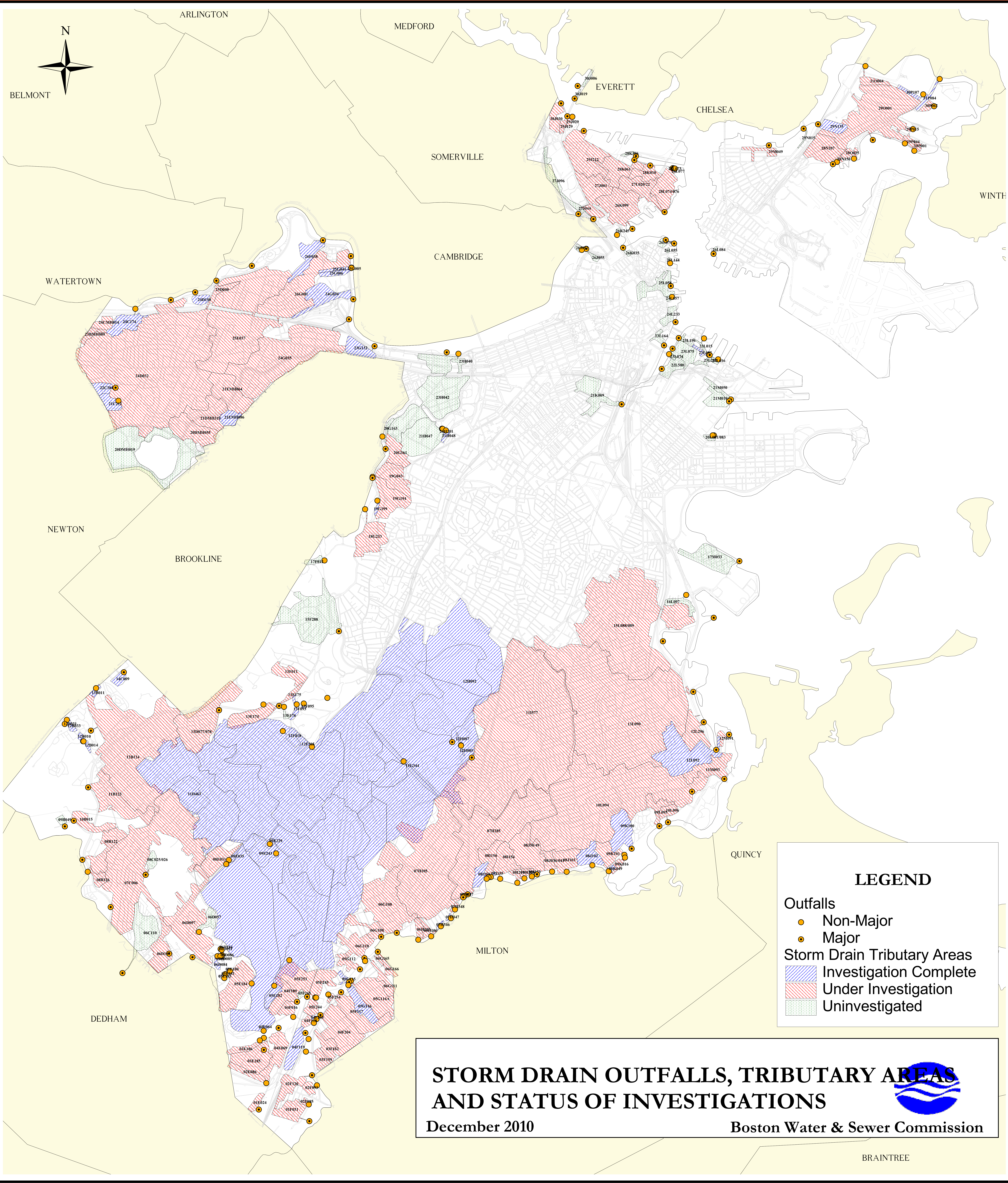
OUTFALL NUMBER		LOCATION	NEIGHBORHOOD	SIZE (INCHES)	RECEIVING WATER
08J102	NON MAJOR	ADAMS STREET	DORCHESTER	15X15	NEPONSET RIVER
08J103	NON MAJOR	EASEMENT/CENTRAL AVE BRIDGE	DORCHESTER	30	NEPONSET RIVER
08J49/50	MAJOR	DESMOND RD	DORCHESTER	2-18&24	NEPONSET RIVER
08K049	NON MAJOR	BEARSE AVENUE	DORCHESTER	12	NEPONSET RIVER
09B049	MAJOR	EASEMENT/RIVERMOOR ST	WEST ROXBURY	30	COW ISLAND POND/CHARLES RIVER
09E229	NON MAJOR	GRANDVIEW STREET	WEST ROXBURY	12	NONE SHOWN
09E243	NON MAJOR	BLUE LEDGE TR/EASEMENT	WEST ROXBURY	30	UNNAMED STREAM
09K016	NON MAJOR	EASEMENT/BEARSE AVE EXT	DORCHESTER	15	NEPONSET RIVER
09K100	MAJOR	EASEMENT/MELLISH RD	DORCHESTER	34X24	NEPONSET RIVER
09K101	NON MAJOR	EASEMENT/HUNTOON ST EXT	DORCHESTER	24	NEPONSET RIVER
09L095	MAJOR	GRANITE AVENUE	DORCHESTER	36X48	NEPONSET RIVER
10B015	MAJOR	EASEMENT/CHARLES RIVER ROAD	WEST ROXBURY	21	COW ISLAND POND/CHARLES RIVER
10L094	MAJOR	EASEMENT/GALLIVAN BLVD	DORCHESTER	74X93	NEPONSET RIVER VIA DAVENPORT BROOK
10L096	MAJOR	HILLTOP & LEXONDALE STS	DORCHESTER	36	NEPONSET RIVER
11B123	MAJOR	EASEMENT/EAST OF BAKER ST EXT.	WEST ROXBURY	72	BROOK FARM BROOK/CHARLES RIVER
11G318	NON MAJOR	CULVERT UNDER WALK HILL STREET	ROSLINDALE	24	CANTERBURY BROOK
11G319	NON MAJOR	CULVERT UNDER WALK HILL STREET	ROSLINDALE	18	CANTERBURY BROOK
11I577	MAJOR	HARVARD ST	NEPONSET/MATTAPAN	102X102	CANTERBURY BROOK
11M093	MAJOR	NEPONSET AVE AT NW END OF NEPONSET AVE BRIDGE	DORCHESTER	48	NEPONSET RIVER
12B010	NON MAJOR	BAKER STREET	WEST ROXBURY	15	BROOK FARM BROOK
12B014	NON MAJOR	BAKER STREET	WEST ROXBURY	12	BROOK FARM BROOK
12B031	NON MAJOR	EASEMENT/BAKER STREET	WEST ROXBURY	18	BROOK FARM BROOK
12B033	NON MAJOR	EASEMENT/BAKER STREET	WEST ROXBURY	18	BROOK FARM BROOK
12B124	MAJOR	EASEMENT/LAGRANGE STREET	WEST ROXBURY	120	BROOK FARM BROOK
12F305	NON MAJOR	EASEMENT/ARBOROUGH ROAD	ROSLINDALE	12	UNAMED WETLANDS
12F418	NON MAJOR	EASEMENT/WALTER STREET (renumbered from 12F322)	ROSLINDALE	18	NONE SHOWN
12H085	NON MAJOR	MORTON STREET	ROSLINDALE	15	CANTERBURY BROOK
12H087	NON MAJOR	MORTON STREET	ROSLINDALE	15	CANTERBURY BROOK
12H092	MAJOR	AMERICAN LEGION HIGHWAY	WEST ROXBURY	24	CANTERBURY BROOK
12L092	MAJOR	PINE NECK CREEK/TENEAN ST WEST OF LAWLEY	DORCHESTER	72	NEPONSET RIVER
12L296	MAJOR	CONLEY STREET	DORCHESTER	42	NEPONSET RIVER/DORCHESTER BAY
12M091	MAJOR	ERICSSON/WALNUT ST	NEPONSET/MATTAPAN	36	NEPONSET RIVER
13B011	NON MAJOR	LAGRANGE STREET	WEST ROXBURY	12	UNNAMED STREAM
13D077/078	MAJOR	WEST ROXBURY PKY/VFW PKY	WEST ROXBURY	2-60	BUSSEY BROOK
13E174	NON MAJOR	EASEMENT/VFW PARKWAY	ROSLINDALE	24	BUSSEY BROOK
13E175	MAJOR	EASEMENT/VFW PKY	ROSLINDALE	108X86	BUSSEY BROOK
13E176	NON MAJOR	EASEMENT/WELD ST	ROSLINDALE	15	NONE SHOWN
13F011	NON MAJOR	ALLANDALE STREET	ROSLINDALE	24	BUSSEY BROOK
13F093	NON MAJOR	WALTER STREET	ROSLINDALE	15	BUSSEY BROOK
13F095	NON MAJOR	EASEMENT/BUSSEY STREET	ROSLINDALE	12	BUSSEY BROOK
13L090	MAJOR	VICTORY RD. 200 FT SOUTH	DORCHESTER	144X180	DORCHESTER BAY
14C009	MAJOR	EASEMENT/WESTGATE RD	WEST ROXBURY	36	UNNAMED WETLANDS
15F288	MAJOR	ARNOLD ARBORETUM/MURRAY CIRCLE	JAMAICA PLAIN	54	GOLDSMITH BROOK
15L088	MAJOR	FREEMPT WAY EXTENDED	DORCHESTER	2-78"	DORCHESTER BAY
15L089	MAJOR	FOX POINT RD EXTENDED	DORCHESTER	2-90X82"	DORCHESTER BAY
16L097	NON MAJOR	EASEMENT/OFF SAVIN HILL AVE	DORCHESTER	24	PATTEN'S COVE
16L122	MAJOR	MORRISSEY BLVD DRAIN	DORCHESTER	TWIN 9X8	DORCHESTER BAY
17F012	NON MAJOR	FRANCIS PARKMAN DRIVE	JAMAICA PLAIN	15	JAMAICA POND
17M033	MAJOR	HARBOR POINT PARK (RELOCATED MT VERNON ST DRAIN)	DORCHESTER	72	OLD HARBOR
18G233	NON MAJOR	X-COUNTRY BTN WILLOW POND RD AND JAMAICAWAY	JAMAICA PLAIN	18	MUDDY RIVER-LEVERETT POND
18L087	MAJOR	MOUNT VERNON/MORRISSEY BLVD	DORCHESTER	2-84x96	DORCHESTER BAY
19G043	MAJOR	HUNTINGTON AVE	ROXBURY/MISSION HILL	45X45	MUDDY RIVER
19G194	MAJOR	SOUTH HUNTINGTON AVE	ROXBURY/MISSION HILL	24	MUDDY RIVER
19G199	NON MAJOR	JAMAICA WAY	ROXBURY/MISSION HILL	10	MUDDY RIVER
20G161	MAJOR	EASEMENT/BROOKLINE AVE	ROXBURY/MISSION HILL	36	MUDDY RIVER
20G163	NON MAJOR	EASEMENT/RIVERWAY	ROXBURY/MISSION HILL	20	MUDDY RIVER
20L081	NON MAJOR	EAST FIRST STREET	SOUTH BOSTON	20	RESERVED CHANNEL
20L083	NON MAJOR	EAST FIRST STREET	SOUTH BOSTON	20	RESERVED CHANNEL
21C212	NON MAJOR	EASEMENT/LAKE SHORE ROAD	ALLSTON/BRIGHTON	30	CHANDLER POND
21H039	NON MAJOR	FENWAY	BOSTON PROPER	30X30	MUDDY RIVER
21H047	NON MAJOR	PALACE ROAD EXT	BOSTON PROPER	24	MUDDY RIVER
21H048	NON MAJOR	EASEMENT/FENWAY/EVANS WAY	BOSTON PROPER	15	MUDDY RIVER
21H201	NON MAJOR	PALACE ROAD EXT	BOSTON PROPER	6	MUDDY RIVER
21K069	MAJOR	125' NORTH OF W.FOURTH STREET (RELOCATED BY CA/T)	BOSTON PROPER	48	FORT POINT CHANNEL
21M010	MAJOR	D STREET EXTENDED	SOUTH BOSTON	30	RESERVED CHANNEL
21M050	MAJOR	SUMMER STREET	SOUTH BOSTON	72	RESERVED CHANNEL
22C384	MAJOR	EASEMENT/LAKE SHORE RD	ALLSTON/BRIGHTON	36	CHANDLER POND
22L580	MAJOR	NECCO STREET EXTENDED	SOUTH BOSTON	54	FORT POINT CHANNEL
23G132	MAJOR	EASEMENT/MASS TURNPIKE/WEST OF BU BRIDGE	ALLSTON/BRIGHTON	60	CHARLES RIVER
23H040	NON MAJOR	RALEIGH STREET EXT	BOSTON PROPER	24	CHARLES RIVER
23H042	MAJOR	DEERFIELD ST	BOSTON PROPER	116X120	CHARLES RIVER

Table 1-1 BWSC Stormwater Outfalls

OUTFALL NUMBER		LOCATION	NEIGHBORHOOD	SIZE (INCHES)	RECEIVING WATER
23L015	NON MAJOR	NORTHERN AVE	SOUTH BOSTON	24	BOSTON INNER HARBOR
23L016	NON MAJOR	NORTHERN AVE	SOUTH BOSTON	2-15&16	BOSTON INNER HARBOR
23L074	NON MAJOR	SUMMER ST BRIDGE	SOUTH BOSTON	15	FORT POINT CHANNEL
23L075	MAJOR	CONGRESS ST BRIDGE	SOUTH BOSTON	54	FORT POINT CHANNEL
23L164	MAJOR	CONGRESS ST BRIDGE	BOSTON PROPER	48	FORT POINT CHANNEL
23L195	MAJOR	NORTHERN AVE	SOUTH BOSTON	36	BOSTON INNER HARBOR
23L196	MAJOR	NEW NORTHERN AVE BRIDGE	SOUTH BOSTON	36	FORT POINT CHANNEL
23L202	MAJOR	NORTHERN AVE	SOUTH BOSTON	36	BOSTON INNER HARBOR
24C174	NON MAJOR	EASEMENT/NEWTON STREET	ALLSTON/BRIGHTON	24	CHARLES RIVER
24D032	MAJOR	N OF BEACON ST, ABOUT 800' E OF PARSONS ST	ALLSTON/BRIGHTON	119X130	CHARLES RIVER
24D150	MAJOR	SOLDIERS FIELD PLACE	ALLSTON/BRIGHTON	36	CHARLES RIVER
24G034	MAJOR	SOLDIERS FIELD ROAD, S OF CAMBRIDGE ST	ALLSTON/BRIGHTON	36	CHARLES RIVER
24G035	MAJOR	SOLDIERS FIELD ROAD/BABCOCK ST	ALLSTON/BRIGHTON	90X84	CHARLES RIVER
24L057	NON MAJOR	STATE STREET EXT	BOSTON PROPER	18X18	BOSTON INNER HARBOR
24L233	MAJOR	ROWE'S WHARF/ATLANTIC AVE	BOSTON PROPER	42	BOSTON HARBOR
25D040	MAJOR	ABOUT 390' N OF INTERSECTION OF SOLDIERS FIELD RD & WESTERN AVE	ALLSTON/BRIGHTON	36	CHARLES RIVER
25E037	MAJOR	EASEMENT/TELFORD ST	ALLSTON/BRIGHTON	66	CHARLES RIVER
25G006	NON MAJOR	FROM WESTERN AVE BRIDGE	ALLSTON/BRIGHTON	12	CHARLES RIVER
25G041	NON MAJOR	SOLDIERS FIELD RD/NORTH OF WESTERN AVE BRIDGE	ALLSTON/BRIGHTON	24	CHARLES RIVER
25L058	MAJOR	CHRISTOPHER COLUMBUS PARK-WATERFRONT	BOSTON PROPER	84	BOSTON INNER HARBOR
25L144	NON MAJOR	CLARK STREET	BOSTON PROPER	12	BOSTON INNER HARBOR
25M006	MAJOR	MARGINAL ST EXT	EAST BOSTON	36	BOSTON INNER HARBOR
25M007	MAJOR	MARGINAL ST EXT (NEAR ORLEANS ST)	EAST BOSTON	42	BOSTON INNER HARBOR
26F038	MAJOR	HARVARD ST EXT	ALLSTON/BRIGHTON	36	CHARLES RIVER
26G001	MAJOR	SOLDIERS FIELD ROAD/EAST OF HARVARD UNIVERSITY	ALLSTON/BRIGHTON	36	CHARLES RIVER
26J052	NON MAJOR	MONSIGNOR O'BRIEN HWY	BOSTON PROPER	12	CHARLES RIVER
26J055	NON MAJOR	LEVERETT CIRCLE	SOUTH BOSTON	2-15&16	BOSTON INNER HARBOR
26K035	MAJOR	BEVERLY STREET NEAR WARREN BRIDGE	BOSTON PROPER	48x72	CHARLES RIVER
26K052	NON MAJOR	COMMERCIAL STREET AT CHARTER ST.	BOSTON PROPER	16x24	CHARLES RIVER
26K099	MAJOR	WARREN ST EXT (FORMERLY CHELSEA ST/JOINER EXT)	CHARLESTOWN	84	CHARLES RIVER
26K245	NON MAJOR	EASEMENT	CHARLESTOWN	15	CHARLES RIVER
26L055	MAJOR	NEAR BATTERY WHARF	BOSTON PROPER	24X24	BOSTON INNER HARBOR
26L070	MAJOR	HANOVER ST EXT	BOSTON PROPER	36	BOSTON INNER HARBOR
26L084	MAJOR	LEWIS STREET	EAST BOSTON	18	BOSTON INNER HARBOR
27J001	MAJOR	EASEMENT/INTERSTATE 93	CHARLESTOWN	72	MILLERS RIVER
27J044	MAJOR	PRISON POINT BRIDGE	CHARLESTOWN	15	MILLERS RIVER
27J096	MAJOR	EASEMENT/INTERSTATE 93	CHARLESTOWN	54	MILLERS RIVER
27L020	MAJOR	PIER 4 EASEMENT - NAVY YARD	CHARLESTOWN	2-20&24	BOSTON INNER HARBOR
28K010	MAJOR	OLD LANDING WAY EXT	CHARLESTOWN	42	LITTLE MYSTIC CHANNEL
28K061	MAJOR	EASEMENT/MEDFORD ST/OLD IRONSIDE	CHARLESTOWN	42	LITTLE MYSTIC CHANNEL
28K386	MAJOR	EASEMENT/TERMINAL ST	CHARLESTOWN	30	LITTLE MYSTIC CHANNEL
28L073	NON MAJOR	EASEMENT/5TH AVE - NAVY YARD	CHARLESTOWN	6	LITTLE MYSTIC CHANNEL
28L074/075/076	MAJOR	16TH ST/5TH AVE - NAVY YARD	CHARLESTOWN	3-30	LITTLE MYSTIC CHANNEL
28L077	NON MAJOR	EASEMENT/16TH ST - NAVY YARD	CHARLESTOWN	10	LITTLE MYSTIC CHANNEL
28N156	NON MAJOR	COLERIDGE ST EXT	EAST BOSTON	12	BOSTON HARBOR
28N207	MAJOR	MOORE ST	EAST BOSTON	54X57	BOSTON HARBOR
28O025	NON MAJOR	COLERIDGE/WADSWORTH ST. EXT	EAST BOSTON	30	BOSTON HARBOR
28P001	NON MAJOR	EASEMENT/NANCIA STREET	EAST BOSTON	12	BOSTON HARBOR
29J029	NON MAJOR	ALFORD STREET/Ryan PLGD	CHARLESTOWN	15	MYSTIC RIVER
29J129	MAJOR	ALFORD STREET SOUTH	CHARLESTOWN	15	MYSTIC RIVER
29J212	MAJOR	EASEMENT/MEDFORD ST(NEXT TO CSO 017)	CHARLESTOWN	72	MYSTIC RIVER
29M049	MAJOR	CONDOR STREET	EAST BOSTON	48	CHELSEA RIVER
29N015	MAJOR	CHELSEA STREET	EAST BOSTON	42X44.5	CHELSEA RIVER
29N135	MAJOR	ADDISON ST	EAST BOSTON	30X30	CHELSEA RIVER
29O001	MAJOR	BENNINGTON ST (CONSTITUTION BEACH)	EAST BOSTON	66	BOSTON HARBOR NEAR CONSTITUTION BEACH
29P015	NON MAJOR	EASEMENT/BARNES AVE	EAST BOSTON	12	BELLE ISLE INLET
29P044	NON MAJOR	SHAWSHEEN ST	EAST BOSTON	12	BOSTON HARBOR
30J006	MAJOR	EASEMENT/ALFORD ST/EVERETT	CHARLESTOWN	18	MYSTIC RIVER
30J019	MAJOR	ALFORD ST/NORTH	CHARLESTOWN	15	MYSTIC RIVER
30J030	MAJOR	EASEMENT/ARLINGTON AVE	CHARLESTOWN	42	MYSTIC RIVER
30P062	NON MAJOR	PALERMO AVE EXT	EAST BOSTON	12	WETLANDS
30P107	NON MAJOR	WALDEMAR AVENUE	EAST BOSTON	15	WETLANDS
31O004	NON MAJOR	EASEMENT/WALDEMAR AVE	EAST BOSTON	15	CHELSEA RIVER
31P084	NON MAJOR	EASEMENT/BENNINGTON ST	EAST BOSTON	30	BELLE ISLE INLET, REVERE

Table 1-2 Drainage Areas to Outfalls Owned by Others

MANHOLE NUMBER	LOCATION	NEIGHBORHOOD	RECEIVING WATER	COMMENTS/NOTES
03FMH056	WAKEFIELD AVENUE	HYDE PARK	DCR DRAIN TO NEPONSET	DISCHARGES TO DCR OF 03F159
04FMH090	FARADAY STREET	HYDE PARK	DCR DRAIN TO NEPONSET	DISCHARGES TO DCR OF 03F162
20DMH019	PRENDERGAST AVE (BC/CHESTNUT HILL RESERVOIR)	BRIGHTON	TO BROOKLINE DRAINS	DRAIN TO BROOKLINE
20DMH055	VILLAGE BROOK-STRATHMORE	BRIGHTON	BROOKLINE DRAINS TO VILLAGE BROOK	DRAIN TO BROOKLINE
21DMH319	VILLAGE BROOK-KILSYTH	BRIGHTON	BROOKLINE DRAINS TO VILLAGE BROOK	DRAIN TO BROOKLINE
21EMH064	TANNERY BROOK	BRIGHTON	BROOKLINE DRAINS TO TANNERY BROOK	DRAIN TO BROOKLINE
21EMH086	VILLAGE BROOK-CUMMINGS	BRIGHTON	BROOKLINE DRAINS TO VILLAGE BROOK	DRAIN TO BROOKLINE
23BMH089	HUNNEWELL AVENUE	BRIGHTON	TO NEWTON DRAINS	DRAIN TO NEWTON
24CMH014	NEWTON STREET	BRIGHTON	TO NEWTON DRAINS	DRAIN TO NEWTON
28IMH015	ROLAND STREET	CHARLESTOWN	TO SOMERVILLE DRAINS	DRAIN TO SOMERVILLE



LEGEND

- Outfalls**
- Non-Major
 - Major
- Storm Drain Tributary Areas**
- ▨ Investigation Complete
 - ▨ Under Investigation
 - ▨ Uninvestigated

**STORM DRAIN OUTFALLS, TRIBUTARY AREAS
AND STATUS OF INVESTIGATIONS**

December 2010

Boston Water & Sewer Commission



BRAINTREE

2.0 ILLEGAL CONNECTION REMEDIATION AND OUTFALL SCREENING

The Commission identifies illegal sanitary connections to storm drains through several means, including storm drain and outfall inspections performed by Commission personnel and consultants, inspections performed by contractors, and through reports from agencies, organizations, and citizens.

In 2010, the Commission continued implementing illegal connection investigations citywide, and performed targeted investigations in specific drainage areas, as described below.

2.1 ILLEGAL CONNECTION IDENTIFICATION BY COMMISSION STAFF

Illegal connection investigations are performed by Commission consultants, as well as by in-house staff. Investigations performed by consultants are described in Section 2.2 below. Routine reports of suspected illegal sanitary connections are usually directed to the Commission's Field Engineering Division. Field Engineering is currently comprised of the Deputy Director of Engineering Services, a Manager of Field Engineering, a Systems Engineer, and five (5) Field Service Engineers, plus six (6) day-shift (including Saturday) crews. In 2010, a Field Engineer and two Field Engineering crews spent about 30 percent of their time investigating illegal sanitary connections.

Illegal connection related work performed by Field Engineering staff in 2010 focused on performing targeted investigations and providing field support to the Commission's consultant for the Citywide Illegal Connection Investigation Phase 2 program (Phase 2), which is described below. The methodology for investigations performed by Field Engineering vary, but usually consist of manhole inspections, dye testing of buildings, video inspections of pipes, and occasionally sandbagging of manholes. Field Engineering staff also respond to hazardous materials spills and illegal dumping complaints, including initial response, investigation, coordination with other agencies, enforcement and cleanup where applicable.

2.2 ILLEGAL CONNECTION INVESTIGATION CONTRACTS

Since 1999, the Commission has executed three contracts to have consultants perform illegal connection investigations of the Commission's drainage system. The Stony Brook Illegal Connection Investigation (SBI) Program was carried out between 1999 and 2005, at a cost of \$1,478,709, plus \$57,388 for police details. The Citywide Illegal Connection Investigation (CWI or Phase 1) Program began in 2004 and concluded in February, 2009.

Total cost for the program was \$1,536,000, plus an additional \$71,898 for police details. Under the SBI and CWI, a total of 4,255 manholes were inspected and 6,791 buildings were dye tested.

These costs for the SBI and CWI programs do not include the cost to correct the illegal connections found, nor do they include other costs borne by the Commission for activities, such as performing additional dye tests, cleaning pipes and manholes, program management, construction oversight and other support services.

In October 2008, the Commission executed a contract for continuation of its Citywide Illegal Connection Investigation Program. The contract duration for the Phase 2 program is four years. Since Phase 2 started, a total of 1,766 manhole inspections have been performed and 1,916 buildings have been dye tested under Phase 2. This is an increase from 1,120 manholes inspected and 565 buildings dye tested under the program in 2009.

Total estimated cost for Phase 2 is \$1,360,000. As of the end of 2010, \$965,425 had been expended for the contract services under Phase 2, and \$68,812 had been spent on police details.

The cost borne by the Commission to correct 18 illegal connections in 2010 was approximately \$189,936, not including the cost for police details, permits, inspection fees, or for permanent paving over the excavations. This cost also does not include costs borne by the owners who were required to correct illegal connections on their own properties.

2.3 INVESTIGATION METHODOLOGY

The Commission's method for illegal connection investigations under the SBI, Phase 1 and Phase 2 is a "top-down" approach, meaning that the investigations start at the upper reaches of drainage areas and proceed downstream as illegal connections and other problems are identified and resolved. Visual inspections of storm drain manholes are performed after 24 to 48 hours of dry weather. If flow is observed in a manhole, the flow is tested in the field for ammonia and surfactants using a field test kit. If no flow is observed, manholes at key junctions of the sub-drainage area are sandbagged for 24 to 48 hours to capture possible intermittent flow from upstream storm drains. Any flow that is captured after 24 to 48 hours of sandbagging is inspected and field tested for evidence of contamination. If evidence of contamination exists, upstream buildings are dye tested to determine the locations of the illegal connection. Once the illegal connection is located, it is added to a Commission construction contract for correction. After the illegal connection is corrected, a post correction check of the drain is performed using similar investigative procedures. This ensures that no sources of contamination are missed.

Because upstream contamination sources influence downstream results, inspections of storm drains immediately downstream of illegal connections are suspended until the sources of contamination are eliminated. To continue making progress, field crews shift their investigations to other areas.

In a few isolated cases, despite having dye tested all buildings adjacent to a contaminated stretch of drain, no illegal connections are identified. The Commission refers to these cases as “anomalies”. Anomalies involve additional investigative measures, such as jet cleaning the drain and re-inspecting the contaminated manhole; dye testing different fixtures in buildings already dye tested; inspecting and sandbagging manholes located further upstream and downstream of the contaminated stretch; dye testing buildings located further upstream and downstream of the contaminated stretch; and inspecting the contaminated drain and adjacent sewer with a video camera, to determine if there are any structural defects possibly allowing cross contamination.

Causes of anomalies vary, but may include: connection of a single fixture, such as a washing machine, to an internal building drain (the rest of the plumbing in the building is properly connected to the sewer system); a contamination source located further upstream or downstream of the stretch where the contamination was originally observed; defects in the main drain and sewer allowing sanitary sewage to enter the storm drain.

Occasionally, upon re-inspecting or sandbagging a manhole, contamination is not longer evident. In these cases crews are allowed to move investigations downstream, although records of the anomaly are maintained in the event that the contamination reappears.

If crews are unsuccessful in locating the source of contamination, if the property owner is required to pay for and correct a problem, if a special engineering design or capital improvement is needed to repair or redirect pipes, then downstream progress can be impeded. Wet weather and the winter snow and ice season also delay progress, since manhole inspections and sandbagging must be performed during dry weather. Delays occur when debris, sediments, blockages or standing water are encountered in drains, since these hinder visual inspections and can prevent the use of sandbags.

In the last several years, in order to advance progress downstream of contaminated storm drains, field crews have been experimenting with “work around methods”. For example, sandbags might be temporarily installed in manholes immediately downstream of a contaminated stretch of storm drain to block the contaminated flow. Then dry weather manhole inspections can proceed downstream. Crews also performed spot inspections of manholes several manholes downstream of a contaminated section, to determine if there was any visual or olfactory evidence of contaminated flow. In some areas, all buildings immediately downstream of known contamination sources were dye tested. Although these work around methods are not as thorough as the sandbag method in finding illegal connections, their use enabled the Commission to advance work progress downstream in a few areas.

2.4 OUTFALL SCREENING

a. Dry Weather Outfall Screening 1999-2004

Between 1999 and 2004, the Commission completed dry weather screening of its major outfalls in accordance with the permit requirements. Screening consisted of visual inspection of the outfall structure after 24 to 72 hours of antecedent dry weather, and completion of a field inspection form. If the outfall structure was not accessible, the nearest upstream manhole not subject to tidal influence or backflow was inspected. If flow was observed, the physical characteristics (e.g. color, visible sheen, turbidity, floatables, smell, and estimate of flow) were recorded and grab samples were collected and analyzed for surfactants and ammonia using portable field test kits. The results of the 1999-2004 dry weather outfall screening were presented in previous annual reports.

b. Dry Weather Outfall Screening 2010

In the last several years, illegal connection investigations have expanded into many new areas and many illegal connections have been identified and corrected. To evaluate current conditions in the drainage system the Commission performed dry weather screening of all its outfalls (major and non-major) in 2010. The screening method used in 2010 was the same as that used during the 1999-2004 screening, except that samples were also analyzed in a laboratory for bacterial indicators. The 2010 dry weather outfall screening was completed towards the end of the year and data is currently being verified and compiled. A report on the results and findings of the screening is expected to be completed by the end of April 2011.

2.5 DRAINAGE AREA INVESTIGATIONS

The Commission is currently advancing illegal connection investigations in all of the major watersheds within Boston. New areas opened for investigation in 2010 included the recently separated 15L088 and 15L089 drainage areas and several drainage areas located in Charlestown. Figure 1-1 provided at the end of Section 1 shows the locations of the Commission's outfalls and their tributary areas. The map also illustrates the current status of illegal connection investigations in each drainage area. Table 2-1 is a tabular representation of all of the Commission's outfalls/ drainage areas, including their size category (major vs. non major), and current investigation status. Currently there are 101 drainage areas under investigation. Investigations have been completed in 61 drainage areas.

In 2010, investigations in drainage areas tributary to outfalls discharging in close proximity to beaches continued to take first priority. To ensure efficient use of resources and avoid fragmentation in the program approach, investigations in areas started during SBI and Phase 1 were given the next level of priority. The next priority for investigations was given to the areas already opened for investigation under Phase 2. Areas receiving lower priority were generally those that are very small in size and have few buildings,

Table 2-1
Drainage Area Investigation Status
2010

OUTFALL NUMBER	CATEGORY	LOCATION	NEIGHBORHOOD	RECEIVING WATER	STATUS OF INVESTIGATION	
12L296	MAJOR	CONLEY STREET	DORCHESTER	NEPONSET RIVER/DORCHESTER BAY	IN PROGRESS	
12M091	MAJOR	ERICSSON/WALNUT ST	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
13L090	MAJOR	VICTORY RD. 200 FT SOUTH	DORCHESTER	DORCHESTER BAY	IN PROGRESS	
15L088	MAJOR	FREEMPT WAY EXTENDED	DORCHESTER	DORCHESTER BAY	IN PROGRESS	
15L089	MAJOR	FOX POINT RD EXTENDED	DORCHESTER	DORCHESTER BAY	IN PROGRESS	
28N156	NON-MAJOR	COLERIDGE ST EXT	EAST BOSTON	BOSTON HARBOR	IN PROGRESS	
28N207	MAJOR	MOORE ST	EAST BOSTON	BOSTON HARBOR	IN PROGRESS	
28O025	NON-MAJOR	COLERIDGE/WADSWORTH ST. EXT	EAST BOSTON	BOSTON HARBOR	IN PROGRESS	
28P001	NON-MAJOR	EASEMENT/NANCIA STREET	EAST BOSTON	BOSTON HARBOR	IN PROGRESS	NEAR BEACH
29O001	MAJOR	BENNINGTON ST (CONSTITUTION BEACH)	EAST BOSTON	BOSTON HARBOR	IN PROGRESS	STARTED UNDER SBI
29P044	NON-MAJOR	SHAWSHEN ST	EAST BOSTON	BOSTON HARBOR	IN PROGRESS	STARTED UNDER CWI
11I577	MAJOR	HARVARD ST (NORTH DORCHESTER)	NEPONSET/MATTAPAN	CANTERBURY BROOK	IN PROGRESS	STARTED UNDER CWI2
24D032	MAJOR	N OF BEACON ST, ABOUT 800' E OF PARSONS ST	ALLSTON/BRIGHTON	CHARLES RIVER	IN PROGRESS	COMPLETED
02F120	MAJOR	EASEMENT/WOLCOTT CT/HYDE PARK AVE EXT	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
04F204	MAJOR	TRUMAN HWY/CHITICK ST	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
05F117	MAJOR	EASEMENT/TRUMAN HWY/WILLIAMS AVE	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
06D187	MAJOR	EASEMENT/GROVE ST	WEST ROXBURY	BROOK GROVE ST CEMETERY	IN PROGRESS	
06G108	MAJOR	EASEMENT/WEST OF WOOD AVE EXT	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
07C006	MAJOR	EASEMENT/VFW PARKWAY/BELLE AVE	WEST ROXBURY	CHARLES RIVER	IN PROGRESS	
07H105	MAJOR	EASEMENT/EDGEWATER/S RIVER ST	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
07H285	MAJOR	BLUE HILL AVE	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
10L094	MAJOR	EASEMENT/GALLIVAN BLVD (DAVENPORT)	DORCHESTER	NEPONSET RIVER VIA DAVENPORT BROOK	IN PROGRESS	
12B124	MAJOR	EASEMENT/LAGRANGE STREET	WEST ROXBURY	BROOK FARM BROOK	IN PROGRESS	
18G233	NON-MAJOR	X-COUNTRY BTN WILLOW POND RD AND JAMAICAWAY	JAMAICA PLAIN	MUDDY RIVER-LEVERETT POND	IN PROGRESS	
19G043	MAJOR	HUNTINGTON AVE	ROXBURY/MISSION HILL	MUDDY RIVER	IN PROGRESS	
19G194	MAJOR	SOUTH HUNTINGTON AVE	ROXBURY/MISSION HILL	MUDDY RIVER	IN PROGRESS	
20DMH055	MANHOLE	VILLAGE BROOK/STRATHMORE (TO BROOKLINE DRAINS)	ALLSTON/BRIGHTON	VILLAGE BROOK/STRATHMORE	IN PROGRESS	
20G161	MAJOR	EASEMENT/BROOKLINE AVE	ROXBURY/MISSION HILL	MUDDY RIVER	IN PROGRESS	
21DMH319	MANHOLE	VILLAGE BROOK/KILSYTH (TO BROOKLINE DRAINS)	ALLSTON/BRIGHTON	VILLAGE BROOK/KILSYTH	IN PROGRESS	
21EMH064	MANHOLE	TANNERY BROOK (TO BROOKLINE DRAINS)	ALLSTON/BRIGHTON	TANNERY BROOK	IN PROGRESS	
24G035	MAJOR	SOLDIERS FIELD ROAD/BABCOCK ST	ALLSTON/BRIGHTON	CHARLES RIVER	IN PROGRESS	
25E037	MAJOR	EASEMENT/TELFORD ST	ALLSTON/BRIGHTON	CHARLES RIVER	IN PROGRESS	
01E024	MAJOR	EASEMENT/LAKESIDE	HYDE PARK	SPRAGUE POND/NEPONSET RIVER	IN PROGRESS	
01F031	MAJOR	EASEMENT/MILLSTONE RD	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
02E086	NON-MAJOR	WEST MILTON STREET	HYDE PARK	UNAMED WETLANDS	IN PROGRESS	
02F085	NON-MAJOR	LAWTON STREET	HYDE PARK	NEPONSET RIVER RESERVATION	IN PROGRESS	
02F093	NON-MAJOR	EASEMENT/SIERRA RD	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
03E185	MAJOR	NORTON ST	HYDE PARK	WETLANDS/NEPONSET RIVER	IN PROGRESS	
03E186	NON-MAJOR	RIVER STREET	HYDE PARK	MILL POND/MOTHER BROOK	IN PROGRESS	
03F056	MANHOLE	WAKEFIELD AVENUE (DCR OF 03F159)	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
04E069	MAJOR	KNIGHT ST DAM	HYDE PARK	MOTHER BROOK	IN PROGRESS	
04F016	NON-MAJOR	EASEMENT RIVER ST	HYDE PARK	MOTHER BROOK/NEPONSET RIVER	IN PROGRESS	
04F090	MANHOLE	FARADAY STREET (DCR OF 03F162)	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
04F118	NON-MAJOR	MASON STREET EXT.	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
04F189	MAJOR	RESERVATION RD	HYDE PARK	MOTHER BROOK/NEPONSET RIVER	IN PROGRESS	
05E184*	NON-MAJOR	TURTLE POND PARKWAY	HYDE PARK	UNAMED WETLANDS	IN PROGRESS	
05F244	NON-MAJOR	HYDE PARK AVE BRIDGE	HYDE PARK	MOTHER BROOK/NEPONSET RIVER	IN PROGRESS	
05F245	NON-MAJOR	HYDE PARK AVE	HYDE PARK	MOTHER BROOK/NEPONSET RIVER	IN PROGRESS	
05F253	MAJOR	EASEMENT/BUSINESS ST, NEAR BUSINESS TER	HYDE PARK	MOTHER BROOK/NEPONSET RIVER	IN PROGRESS	
05F254	NON-MAJOR	DANA AVENUE	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
05G112	MAJOR	EASEMENT/RR ROW/WATER ST EXT	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
05G116A	NON-MAJOR	WARREN AVENUE	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
06G109	MAJOR	RIVER TER EXT, NEAR ROSA ST	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
06G110	MAJOR	EASEMENT/WEST STREET EXT	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
06G111	NON-MAJOR	EASEMENT/VOSE ST EXT., TRUMAN HWY	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
06G165	NON-MAJOR	TRUMAN HWT/METROPOLITAN AVE	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
06G166	MAJOR	30' FROM GUARDRAIL NORTH SIDE OF TRUMAN HWY NEAR MILTON	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
06H106	NON-MAJOR	OSCEOLA STREET	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
06H107	NON-MAJOR	EASEMENT/BELNEL RD	HYDE PARK	NEPONSET RIVER	IN PROGRESS	
07H287	NON-MAJOR	RIVER STREET/EDGEWATER DRIVE	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
07H348	NON-MAJOR	EDGEWATER DRIVE/TOPALIAN STREET	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
08B122	MAJOR	EASEMENT/NORTH OF SPRING ST.	WEST ROXBURY	CHARLES RIVER	IN PROGRESS	
08B126	NON-MAJOR	SPRING STREET EXTENDED	WEST ROXBURY	CHARLES RIVER	IN PROGRESS	
08E031*	NON-MAJOR	TURTLE POND PARKWAY	WEST ROXBURY	TURTLE POND	IN PROGRESS	
08I153	NON-MAJOR	DUXBURY ROAD	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
08I154	NON-MAJOR	EASEMENT/RIVER ST/GLADESIDE AVE	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
08I156	NON-MAJOR	EASEMENT/RIVER ST/MAMELON CIR	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
08I207	NON-MAJOR	MEADOWBANK AVE EXT	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
08I209	NON-MAJOR	MEADOWBANK AVE EXT	NEPONSET/MATTAPAN	NEPONSET RIVER	IN PROGRESS	
08J041	NON-MAJOR	RIVER STREET	DORCHESTER	NEPONSET RIVER	IN PROGRESS	

Table 2-1
Drainage Area Investigation Status
2010

OUTFALL NUMBER	CATEGORY	LOCATION	NEIGHBORHOOD	RECEIVING WATER	STATUS OF INVESTIGATION	
08J103	NON-MAJOR	EASEMENT/CENTRAL AVE BRIDGE	DORCHESTER	NEPONSET RIVER	IN PROGRESS	
08J49/50	MAJOR	DESMOND RD	DORCHESTER	NEPONSET RIVER	IN PROGRESS	
09K016	NON-MAJOR	EASEMENT/BEARSE AVE EXT	DORCHESTER	NEPONSET RIVER	IN PROGRESS	
09K101	NON-MAJOR	EASEMENT/HUNTOON ST EXT	DORCHESTER	NEPONSET RIVER	IN PROGRESS	
09L095	MAJOR	GRANITE AVENUE	DORCHESTER	NEPONSET RIVER	IN PROGRESS	NEAR BEACH
10B015	MAJOR	EASEMENT/CHARLES RIVER ROAD	WEST ROXBURY	COW ISLAND POND/CHARLES RIVER	IN PROGRESS	STARTED UNDER SBI
10L096	MAJOR	HILLTOP & LEXONDALE STS	DORCHESTER	NEPONSET RIVER	IN PROGRESS	STARTED UNDER CWI
11B123	MAJOR	EASEMENT/EAST OF BAKER ST EXT.	WEST ROXBURY	BROOK FARM BROOK/CHARLES RIVER	IN PROGRESS	STARTED UNDER CWI2
11M093	MAJOR	NEPONSET AVE AT NW END OF NEPONSET AVE BRIDGE	DORCHESTER	NEPONSET RIVER	IN PROGRESS	COMPLETED
13D077/078	MAJOR	WEST ROXBURY PKY/VFW PKY	WEST ROXBURY	BUSSEY BROOK	IN PROGRESS	
13E174	NON-MAJOR	EASEMENT/VFW PARKWAY	ROSLINDALE	BUSSEY BROOK	IN PROGRESS	
13E175	MAJOR	EASEMENT/VFW PKY	ROSLINDALE	BUSSEY BROOK	IN PROGRESS	
13F011	NON-MAJOR	ALLANDALE STREET	ROSLINDALE	BUSSEY BROOK	IN PROGRESS	
25D040	MAJOR	ABOUT 390' N OF INTERSECTION OF SOLDIERS FIELD RD & WESTE	ALLSTON/BRIGHTON	CHARLES RIVER	IN PROGRESS	
26G001	MAJOR	SOLDIERS FIELD ROAD/EAST OF HARVARD UNIVERSITY	ALLSTON/BRIGHTON	CHARLES RIVER	IN PROGRESS	
26K099	MAJOR	CHELSEA ST EXT (JOINER ST)	CHARLESTOWN	CHARLES RIVER	IN PROGRESS	
27J001	MAJOR	EASEMENT/INTERSTATE 93	CHARLESTOWN	MILLERS RIVER	IN PROGRESS	
27L020	MAJOR	PIER 4 EASEMENT - NAVY YARD	CHARLESTOWN	BOSTON INNER HARBOR	IN PROGRESS	
28K010	MAJOR	OLD LANDING WAY EXT	CHARLESTOWN	LITTLE MYSTIC CHANNEL	IN PROGRESS	
28K061	MAJOR	EASEMENT/MEDFORD ST	CHARLESTOWN	LITTLE MYSTIC CHANNEL	IN PROGRESS	
28L073	NON-MAJOR	EASEMENT/4TH ST - NAVY YARD	CHARLESTOWN	LITTLE MYSTIC CHANNEL	IN PROGRESS	
28L074/075/076	MAJOR	16TH ST/4TH AVE - NAVY YARD	CHARLESTOWN	LITTLE MYSTIC CHANNEL	IN PROGRESS	
28L077	NON-MAJOR	EASEMENT/4TH ST - NAVY YARD	CHARLESTOWN	LITTLE MYSTIC CHANNEL	IN PROGRESS	
29J029	NON-MAJOR	ALFORD STREET/RYAN PLGD. EXT	CHARLESTOWN	MYSTIC RIVER	IN PROGRESS	
29J129	MAJOR	ALFORD STREET	CHARLESTOWN	MYSTIC RIVER	IN PROGRESS	
29J212	MAJOR	EASEMENT/MEDFORD ST(NEXT TO CSO 017)	CHARLESTOWN	MYSTIC RIVER	IN PROGRESS	
29M049	MAJOR	CONDOR STREET	EAST BOSTON	CHELSEA RIVER	IN PROGRESS	
29P015	NON-MAJOR	EASEMENT/BARINGS AVE	EAST BOSTON	BELLE ISLE INLET	IN PROGRESS	
30J030	MAJOR	EASEMENT/ARLINGTON AVE	CHARLESTOWN	MYSTIC RIVER	IN PROGRESS	
30P062	NON-MAJOR	PALERMO AVE EXT	EAST BOSTON	WETLANDS	IN PROGRESS	
31O004	NON-MAJOR	EASEMENT/WALDEMAR AVE	EAST BOSTON	CHELSEA RIVER	IN PROGRESS	
06C110	MAJOR	EASEMENT/PLEASANTDALE ST EXT	WEST ROXBURY	CHARLES RIVER	UNINVESTIGATED	
06D057	NON-MAJOR	CEDAR CREST CIRCLE	WEST ROXBURY	CHARLES RIVER	UNINVESTIGATED	
06D097	MAJOR	EASEMENT/EDGEMERE ROAD	WEST ROXBURY	NONE SHOWN	UNINVESTIGATED	
08C025/26	MAJOR	WEDGEMERE ROAD	WEST ROXBURY	NONE SHOWN	UNINVESTIGATED	
09B049	MAJOR	EASEMENT/RIVERMOOR ST	WEST ROXBURY	COW ISLAND POND/CHARLES RIVER	UNINVESTIGATED	
13E176	NON-MAJOR	EASEMENT/WELD ST	ROSLINDALE	NONE SHOWN	UNINVESTIGATED	
15F288	MAJOR	ARNOLD ARBORETUM/MURRAY CIRCLE	JAMAICA PLAIN	GOLDSMITH BROOK	UNINVESTIGATED	
16L097	NON-MAJOR	EASEMENT/OFF SAVIN HILL AVE	DORCHESTER	PATTEN'S COVE	UNINVESTIGATED	
16L122	MAJOR	MORRISSEY BLVD	DORCHESTER	DORCHESTER BAY	UNINVESTIGATED	
17F012	NON-MAJOR	FRANCIS PARKMAN DRIVE	JAMAICA PLAIN	JAMAICA POND	UNINVESTIGATED	
17M033	MAJOR	HARBOR POINT PARK (RELOCATED MT VERNON ST DRAIN	DORCHESTER	OLD HARBOR	UNINVESTIGATED	
20G163	NON-MAJOR	EASEMENT/RIVERWAY	ROXBURY/MISSION HILL	MUDDY RIVER	UNINVESTIGATED	
20L081	NON-MAJOR	EAST FIRST STREET	SOUTH BOSTON	RESERVED CHANNEL	UNINVESTIGATED	
20L083	NON-MAJOR	EAST FIRST STREET	SOUTH BOSTON	RESERVED CHANNEL	UNINVESTIGATED	
21H039	NON-MAJOR	FENWAY	BOSTON PROPER	MUDDY RIVER	UNINVESTIGATED	
21H047	NON-MAJOR	PALACE ROAD EXT	BOSTON PROPER	MUDDY RIVER	UNINVESTIGATED	
21K069	MAJOR	125' NORTH OF W.FOURTH STREET (RELOCATED BY CA/T)	BOSTON PROPER	FORT POINT CHANNEL	UNINVESTIGATED	
21M010	MAJOR	D STREET EXTENDED	SOUTH BOSTON	RESERVED CHANNEL	UNINVESTIGATED	
21M050	MAJOR	SUMMER STREET	SOUTH BOSTON	RESERVED CHANNEL	UNINVESTIGATED	
22L580	MAJOR	NECCO STREET EXTENDED	SOUTH BOSTON	FORT POINT CHANNEL	UNINVESTIGATED	
23H040	NON-MAJOR	RALEIGH STREET EXT	BOSTON PROPER	CHARLES RIVER	UNINVESTIGATED	
23H042	MAJOR	DEERFIELD ST	BOSTON PROPER	CHARLES RIVER	UNINVESTIGATED	
23L015	NON-MAJOR	NORTHERN AVE	SOUTH BOSTON	BOSTON INNER HARBOR	UNINVESTIGATED	
23L016	NON-MAJOR	NORTHERN AVE	SOUTH BOSTON	BOSTON INNER HARBOR	UNINVESTIGATED	
23L074	NON-MAJOR	SUMMER ST BRIDGE	SOUTH BOSTON	FORT POINT CHANNEL	UNINVESTIGATED	
23L075	MAJOR	CONGRESS ST BRIDGE	SOUTH BOSTON	FORT POINT CHANNEL	UNINVESTIGATED	
23L164	MAJOR	CONGRESS ST BRIDGE	BOSTON PROPER	FORT POINT CHANNEL	UNINVESTIGATED	
23L196	MAJOR	NEW NORTHERN AVE BRIDGE	SOUTH BOSTON	FORT POINT CHANNEL	UNINVESTIGATED	
23L202	MAJOR	NORTHERN AVE	SOUTH BOSTON	BOSTON INNER HARBOR	UNINVESTIGATED	
24L057	NON-MAJOR	STATE STREET EXT	BOSTON PROPER	BOSTON INNER HARBOR	UNINVESTIGATED	
24L233	MAJOR	ROWE'S WHARF/ATLANTIC AVE	BOSTON PROPER	BOSTON HARBOR	UNINVESTIGATED	
25L058	MAJOR	CHRISTOPHER COLUMBUS PARK-WATERFRONT	BOSTON PROPER	BOSTON INNER HARBOR	UNINVESTIGATED	
25L144	NON-MAJOR	CLARK STREET	BOSTON PROPER	BOSTON INNER HARBOR	UNINVESTIGATED	
26J052	NON-MAJOR	MONSIGNOR O'BRIEN HWY	BOSTON PROPER	CHARLES RIVER	UNINVESTIGATED	
26J055	NON-MAJOR	LEVERETT CIRCLE	BOSTON PROPER	CHARLES RIVER	UNINVESTIGATED	
26K035	MAJOR	BEVERLY STREET NEAR WARREN BRIDGE	BOSTON PROPER	CHARLES RIVER	UNINVESTIGATED	
26K052	NON-MAJOR	COMMERCIAL STREET AT CHARTER ST.	BOSTON PROPER	CHARLES RIVER	UNINVESTIGATED	
26K245	NON-MAJOR	EASEMENT	CHARLESTOWN	CHARLES RIVER	UNINVESTIGATED	
26L055	MAJOR	NEAR BATTERY WHARF	BOSTON PROPER	BOSTON INNER HARBOR	UNINVESTIGATED	
26L070	MAJOR	HANOVER ST EXT	BOSTON PROPER	BOSTON INNER HARBOR	UNINVESTIGATED	

Table 2-1
Drainage Area Investigation Status
2010

OUTFALL NUMBER	CATEGORY	LOCATION	NEIGHBORHOOD	RECEIVING WATER	STATUS OF INVESTIGATION	
26L084	MAJOR	LEWIS STREET	EAST BOSTON	BOSTON INNER HARBOR	UNINVESTIGATED	
27J044	MAJOR	PRISON POINT BRIDGE	CHARLESTOWN	MILLERS RIVER	UNINVESTIGATED	
27J096	MAJOR	EASEMENT/INTERSTATE 93	CHARLESTOWN	MILLERS RIVER	UNINVESTIGATED	
28K386	MAJOR	EASEMENT/TERMINAL ST	CHARLESTOWN	LITTLE MYSTIC CHANNEL	UNINVESTIGATED	
29N015	MAJOR	CHELSEA STREET	EAST BOSTON	CHELSEA RIVER	UNINVESTIGATED	
30J006	MAJOR	EASEMENT/ALFORD ST	CHARLESTOWN	MYSTIC RIVER	UNINVESTIGATED	
30J019	MAJOR	ALFORD ST	CHARLESTOWN	MYSTIC RIVER	UNINVESTIGATED	
03E207	NON-MAJOR	RIVER STREET	HYDE PARK	MILL POND/MOTHER BROOK	COMPLETED	
04E064*	NON-MAJOR	ALVARDO AVE/RIVER ST BRIDGE	HYDE PARK	MILL POND/MOTHER BROOK	COMPLETED	
04F119	MAJOR	EASEMENT/HYDE PARK AVE/RESERVATION RD	HYDE PARK	NEPONSET RIVER	COMPLETED	
04F203	NON-MAJOR	GLENWOOD AVE	HYDE PARK	NEPONSET RIVER	COMPLETED	NEAR BEACH
05E180*	NON-MAJOR	GEORGETOWN DRIVE	HYDE PARK	NONE SHOWN/CHARLES RIVER	COMPLETED	STARTED UNDER SBI
05E181*	NON-MAJOR	GEORGETOWN DRIVE	HYDE PARK	NONE SHOWN/CHARLES RIVER	COMPLETED	STARTED UNDER CWI
05E182*	NON-MAJOR	DEDHAM STREET	HYDE PARK	UNNAMED STREAM/CHARLES RIVER	COMPLETED	STARTED UNDER CWI2
05E183*	NON-MAJOR	GEORGETOWN PLACE/DEDHAM ST	HYDE PARK	UNNAMED STREAM	COMPLETED	COMPLETED
05G115	MAJOR	FAIRMOUNT AVE BRIDGE (NORTH BANK)	HYDE PARK	NEPONSET RIVER	COMPLETED	
05G116	NON-MAJOR	FAIRMOUNT AVE BRIDGE (SOUTH BANK)	HYDE PARK	NEPONSET RIVER	COMPLETED	
06D083*	NON-MAJOR	MARGETTA DRIVE	WEST ROXBURY	WETLANDS/CHARLES RIVER	COMPLETED	
06D084*	NON-MAJOR	EASEMENT/MARGARETTA DRIVE	WEST ROXBURY	WETLANDS/CHARLES RIVER	COMPLETED	
06D085*	NON-MAJOR	GEORGETOWN DRIVE	WEST ROXBURY	WETLANDS/CHARLES RIVER	COMPLETED	
06D086*	NON-MAJOR	GEORGETOWN DRIVE	WEST ROXBURY	WETLANDS/CHARLES RIVER	COMPLETED	
06D091*	NON-MAJOR	GEORGETOWN DRIVE	WEST ROXBURY	WETLANDS/CHARLES RIVER	COMPLETED	
06D184*	NON-MAJOR	GEORGETOWN DRIVE	WEST ROXBURY	WETLANDS/CHARLES RIVER	COMPLETED	
06F233*	NON-MAJOR	MOUNT ASH ROAD	HYDE PARK	WETLAND - STONY BROOK RESERVATION	COMPLETED	
07H346	NON-MAJOR	EDGEWATER DRIVE/HOLMFIELD AVE	HYDE PARK	NEPONSET RIVER	COMPLETED	
07H347	NON-MAJOR	EDGEWATER DRIVE/BURMAH ROAD	NEPONSET/MATTAPAN	NEPONSET RIVER	COMPLETED	
08E033*	NON-MAJOR	TURTLE POND PARKWAY	WEST ROXBURY	TURTLE POND	COMPLETED	
08E035*	NON-MAJOR	WASHINGTON STREET	WEST ROXBURY	TURTLE POND	COMPLETED	
08I155	NON-MAJOR	EASEMENT/RIVER ST/MAMELON CIR	NEPONSET/MATTAPAN	NEPONSET RIVER	COMPLETED	
08I158	NON-MAJOR	EASEMENT/RIVER ST/FREMONT ST	NEPONSET/MATTAPAN	NEPONSET RIVER	COMPLETED	
08J102	NON-MAJOR	ADAMS STREET	DORCHESTER	NEPONSET RIVER	COMPLETED	
08K049	NON-MAJOR	BEARSE AVENUE	DORCHESTER	NEPONSET RIVER	COMPLETED	
09E229*	NON-MAJOR	GRANDVIEW STREET	WEST ROXBURY	NONE SHOWN	COMPLETED	
09E243*	NON-MAJOR	BLUE LEDGE TR/EASEMENT	WEST ROXBURY	UNNAMED STREAM	COMPLETED	
09K100	MAJOR	EASEMENT/MELLISH RD	DORCHESTER	NEPONSET RIVER	COMPLETED	
11G318*	NON-MAJOR	CULVERT UNDER WALK HILL STREET	ROSLINDALE	CANTERBURY BROOK	COMPLETED	
11G319*	NON-MAJOR	CULVERT UNDER WALK HILL STREET	ROSLINDALE	CANTERBURY BROOK	COMPLETED	
12B010	NON-MAJOR	BAKER STREET	WEST ROXBURY	BROOK FARM BROOK	COMPLETED	
12B014	NON-MAJOR	BAKER STREET	WEST ROXBURY	BROOK FARM BROOK	COMPLETED	
12B031	NON-MAJOR	EASEMENT/BAKER STREET	WEST ROXBURY	BROOK FARM BROOK	COMPLETED	
12B033	NON-MAJOR	EASEMENT/BAKER STREET	WEST ROXBURY	BROOK FARM BROOK	COMPLETED	
12F305*	NON-MAJOR	EASEMENT/ARBOROUGH ROAD	ROSLINDALE	UNAMED WETLANDS	COMPLETED	
12F418*	NON-MAJOR	EASEMENT/WALTER STREET (renumbered from 12F322)	ROSLINDALE	NONE SHOWN	COMPLETED	
12H085*	NON-MAJOR	MORTON STREET	ROSLINDALE	CANTERBURY BROOK	COMPLETED	
12H087*	NON-MAJOR	MORTON STREET	ROSLINDALE	CANTERBURY BROOK	COMPLETED	
12H092	MAJOR	AMERICAN LEGION HIGHWAY	MATTAPAN	CANTERBURY BROOK	COMPLETED	
12L092	MAJOR	PINE NECK CREEK/TENEAN ST WEST OF LAWLEY	DORCHESTER	NEPONSET RIVER	COMPLETED	
13B011	NON-MAJOR	LAGRANGE STREET	WEST ROXBURY	UNNAMED STREAM	COMPLETED	
13F093	NON-MAJOR	WALTER STREET	ROSLINDALE	BUSSEY BROOK	COMPLETED	
13F095	NON-MAJOR	EASEMENT/BUSSEY STREET	ROSLINDALE	BUSSEY BROOK	COMPLETED	
14C009	MAJOR	EASEMENT/WESTGATE RD	WEST ROXBURY	UNNAMED WETLANDS	COMPLETED	
19G199	NON-MAJOR	JAMAICA WAY	ROXBURY/MISSION HILL	MUDDY RIVER	COMPLETED	
21C212	NON-MAJOR	EASEMENT/LAKE SHORE ROAD	ALLSTON/BRIGHTON	CHANDLER POND	COMPLETED	
21EMH086	MANHOLE	VILLAGE BROOK/CUMMINGS (TO BROOKLINE DRAINS)	ALLSTON/BRIGHTON	VILLAGE BROOK/KILSYTH	COMPLETED	
21H048	NON-MAJOR	EASEMENT/FENWAY/EVANS WAY	BOSTON PROPER	MUDDY RIVER	COMPLETED	
21H201	NON-MAJOR	PALACE ROAD EXT	BOSTON PROPER	MUDDY RIVER	COMPLETED	
22C384	MAJOR	EASEMENT/LAKE SHORE RD	ALLSTON/BRIGHTON	CHANDLER POND	COMPLETED	
23G132	MAJOR	EASEMENT/MASS TURNPIKE/WEST OF BU BRIDGE	ALLSTON/BRIGHTON	CHARLES RIVER	COMPLETED	
23L195	MAJOR	NORTHERN AVE	SOUTH BOSTON	BOSTON INNER HARBOR	COMPLETED	
24C174	NON-MAJOR	EASEMENT/NEWTON STREET	ALLSTON/BRIGHTON	CHARLES RIVER	COMPLETED	
24D150	MAJOR	SOLDIERS FIELD PLACE	ALLSTON/BRIGHTON	CHARLES RIVER	COMPLETED	
24G034	MAJOR	SOLDIERS FIELD ROAD, S OF CAMBRIDGE ST	ALLSTON/BRIGHTON	CHARLES RIVER	COMPLETED	
25G006	NON-MAJOR	FROM WESTERN AVE BRIDGE	ALLSTON/BRIGHTON	CHARLES RIVER	COMPLETED	
25G041	NON-MAJOR	SOLDIERS FIELD RD/NORTH OF WESTERN AVE BRIDGE	ALLSTON/BRIGHTON	CHARLES RIVER	COMPLETED	
26F038	MAJOR	HARVARD ST EXT	ALLSTON/BRIGHTON	CHARLES RIVER	COMPLETED	
29N135	MAJOR	ADDISON ST	EAST BOSTON	CHELSEA RIVER	COMPLETED	
30P107	NON-MAJOR	WALDEMAR AVENUE	EAST BOSTON	WETLANDS	COMPLETED	
31P084	NON-MAJOR	EASEMENT/BENNINGTON ST	EAST BOSTON	BELLE ISLE INLET, REVERE	COMPLETED	

and/or those that discharge to tidally influenced receiving waters. A detailed description of the Commission's methodology for investigation prioritization under Phase 1 and Phase 2 can be found in Section 2.5 of the Commission's 2009 Stormwater Management Report.

2.6 CORRECTION OF ILLEGAL CONNECTIONS

a. Corrections under BWSC Contracts

The Commission's annual Capital Improvement Program includes funding for the elimination of illegal connections by a private contractor. Once an illegal connection is confirmed, information about the illegal connection, including maps and record plans of the sewer and drains in the street, are forwarded to the Commission's Construction Division for correction under the Commission's illegal connection repair contract.

b. Corrections Required by Owners

In some cases, the owner of the property is responsible for correcting the illegal connection. For example, in some buildings only part of the plumbing (e.g. one bathroom or toilet) is connected to an internal building drain, while the rest of the plumbing fixtures in the building are properly connected to the building sewer. Another example is where the plumbing in the building is at a lower elevation than the sewer in the street. In those cases an ejector pump must be installed in order to allow discharge to the sewer. The Commission will reimburse owners up to \$7,500 to install an ejector pump.

c. Corrections Requiring Engineering Designs

Illegal connection corrections that prove particularly challenging are those that require an engineering design to correct. If the correction involves reconfiguration of the sewer and/or the drain in the street, the Commission may take responsibility for the design and correction. But in other cases, where significant changes to internal plumbing or privately owned infrastructure are necessary, the owner must cover the cost of the design and construction of the correction. These types of corrections can be very complex and may require a long time to perform inspections, prepare designs and obtain permits from other agencies.

2.7 2010 ILLEGAL CONNECTION REMEDIATION SUMMARY

In 2010, twenty-eight (28) new illegal connections were identified, and eighteen (18) illegal connections were corrected. Thirty-five (35) illegal connections remained uncorrected at the end of 2010.

The Commission estimates the wastewater removed by elimination of an illegal connection based upon water use records for the property where the illegal connection was corrected. Average daily water consumption is calculated based on the previous 24 month period, and 90 percent of the water use is assumed to discharge to the sewer system. If only a portion of the building contributed to the illegal connection, the figure is adjusted accordingly.

Due to the Commission’s efforts in 2010, an estimated 8,632 gallons per day (gpd) of wastewater was removed from the storm drainage system and receiving waters. Of this amount, approximately 3,935 gpd was from residential and multi-family properties, while 4,697 gpd was from businesses or institutions. Between 1986 and the end of 2010, an estimated total of 575,849 gallons of wastewater per day have been removed from the storm drainage system and receiving waters as a result of the Commission’s illegal connection remediation programs.

In 2010, the Commission spent \$189,936 to correct 18 illegal connections, for an average cost of \$10,552. This cost does not include the cost of permits, inspection fees, pavement restoration or police details, and it does not include the cost to property owners who were responsible for making corrections on their own property.

2010 Illegal Connection Remediation Program Summary

Illegal Connections Listed January 1, 2010.....	26
Illegal Connections Identified in 2010.....	28
Illegal Connections Corrected in 2010	18
Illegal Connections Outstanding December 31, 2010	35

Tables 2-2 through 2-4 provide more detailed information on the Commission’s Illegal Connection Remediation Program.

Table 2-2: Table 2-2 lists the location of illegal connections that existed at the end of 2009 and into 2010, including the dates of confirming dye tests, and the receiving waters.

Table 2-3: Table 2-3 lists the illegal connections identified during 2010. Twenty-eight (28) illegal connections were identified in 2010, thirteen (13) of which were corrected in 2010.

Table 2-4: Table 2-4 lists all of the illegal connections corrected in 2010. There were 18 illegal connections corrected in 2010, all of which were corrected by the Commission’s contractor.

Table 2-5: Table 2-5 shows the illegal connections that remained to be corrected as of the end of 2010. At the end of 2010, there were thirty-five (35) outstanding illegal connections. Of those, five (5) have been included in the Commission's contract for correction. Twenty-six (26) illegal connections must be corrected by their owners and they have been referred to the Commission's Legal Department for notification of the owners and enforcement action. The Commission is performing additional investigative work and working with the owners of five (5) properties in regards to illegal connections on their properties.

**BOSTON WATER AND SEWER COMMISSION
ILLEGAL CONNECTION REMEDIATION PROGRAM 2010**

Table 2-2: Illegal Connections as of December 31, 2009

Address	Neighborhood	Bldg type	Date Verified	Outlet Num	Receiving Water	Status at End of 2009
4 Arbella Road	Dorchester	R-1	17-Oct-06	DO 10L 094	Neponset River	Owner not responding-Referred to Legal for enforcement
375 Baker Street	West Roxbury	R-1	30-Jun-09	DO 11B 123	Charles River	Internal connection-Owner to be notified by Legal Dept.
50 Binney Street	Fenway	Exempt	28-May-08	DO 21H 047	Muddy River to Charles River	Dye test planned to confirm correction
22 Birchcroft Road	Hyde Park	R-1	28-Dec-07	DO 06G 108	Neponset River	Special Design being prepared
1082 Canterbury Street	Roslindale	R-2	18-Oct-06	OF 23I 023*	Charles River (Stony Brook Conduit)	Owner not responding-Referred to Legal for enforcement
15 Conry Crescent	Jamaica Plain	R-1	22-Jun-99	DO 15F288	Charles River (Stony Brook Conduit)	Owner not responding-Referred to Legal for enforcement
276 Corey Road	Brighton	Condo	12-Apr-07	DO 24G 035	Charles River	Additional dye testing planned
39 Englewood Avenue	Brighton	Condo	12-Feb-08	DMH 20D055	Muddy River (via Brookline/Village Brook)	Owner not responding-Referred to Legal for enforcement
9 Farquhar Street	Roslindale	R-2	12-Jan-05	OF 23I 023*	Charles River (Stony Brook Conduit)	Owner not responding-Referred to Legal for enforcement
83 Farrar Avenue	Hyde Park	R-1	07-Oct-09	DO 06G 108	Neponset River	Internal connection-Owner to be notified by Legal Dept.
49 Firth Road	Roslindale	R-2	13-Nov-01	OF 23I 023*	Charles River (Stony Brook Conduit)	Owner/BWSC coordinating
42 Florida Street	Dorchester	R-4	15-Sep-09	OF 13L 090	Neponset River/Dorchester Bay	Under Contract
125 Garfield Street	Hyde Park	Exempt	07-Jul-08	DO 04F 204	Neponset River	To be corrected by BHA in 2010
197 Hamilton Street	Dorchester	R-4	21-Oct-09	DO 13K 090	Dorchester Bay	Internal connection-Owner to be notified by Legal Dept.
284 Huntington Avenue	Hyde Park	R-1	31-Oct-00	OF 23I 023*	Charles River (Stony Brook Conduit)	Owner not responding-Referred to Legal for enforcement
27 Irma Street	Dorchester	R-3	19-Nov-07	DO 11I 577	Charles River (Stony Brook Conduit, Canterbury Brook)	Owner not responding-Referred to Legal for enforcement
97 Kilsyth Road	Brighton	R-3	13-Feb-08	DMH 21D 219	Muddy River (via Brookline/Village Brook)	Reported as corrected 2/05 but still illegal; under BWSC contract
99 Kilsyth Road	Brighton	R-3	21-Feb-08	DMH 21D 219	Muddy River (via Brookline/Village Brook)	Reported as corrected 2/05 but still illegal; under BWSC contract
51-53 Mapleton Street	Brighton	R-2	27-Dec-07	DO 24D 032	Charles River	Legal issue/Owner/BWSC coordinating
10 Milton Terrace	Hyde Park	R-1	28-Dec-09	05G 116A	Neponset River	Under Contract
90-92 Readville Street	Hyde Park	Condo	14-Dec-09	DO 04E 069	Neponset River (Mother Brook)	Under Contract
71 Sanborn Avenue	West Roxbury	R-1	07-Oct-09	DO 11B 123	Charles River	Under Contract
126 Sanborn Avenue	West Roxbury	R-1	04-Nov-09	DO 11B 123	Charles River	Internal connection-Owner to be notified by Legal Dept.
537-551 Tremont Street	South End	Exempt	07-Jun-06	OF 22K 071	To Combined Sewer Downstream	Design complete; referred to BWSC contract
25 Warren Street	Brighton	School	27-Jun-08	DO 25E 037	Charles River	Internal connection-Owner to be notified by Legal Dept.
365 Western Avenue	Brighton	Comm	08-Oct-09	DO 25E 037	Charles River	Internal connection-Owner to be notified by Legal Dept.

**BOSTON WATER AND SEWER COMMISSION
ILLEGAL CONNECTION REMEDIATION PROGRAM 2010**

Table 2-3: Illegal Connections Identified in 2010

Address	Neighborhood	Idg. type	Date Verified	Outlet Num	Receiving Water	Status at End of 2010	Date corrected
752 Bennington Street	East Boston	Comm	30-Sep-10	DO 290 001	Boston Harbor (Constitution Beach)	Connection located on private property; Referred to Legal for enforcement	
16 Blueview Road	Roxbury	R-1	22-Feb-10	DMH 06D 097	Unnamed Wetlands	Corrected under BWSC contract	23-Apr-10
6 Bowdoin Park	Dorchester	R-3	18-Feb-10	DO 15L 088/089	Dorchester Bay	Corrected under BWSC contract	13-May-10
179 Church Street	Roxbury	R-1	17-Aug-10	DO 13D 077/078	Charles River (Bussey Brook)	Corrected under BWSC contract	22-Sep-10
334 Corey Street	Roxbury	R-1	18-Jan-10	DO 12B 124	Charles River (Brook Farm Brook)	Partial internal connection-Referred to Legal for notification of owner	
108 Faywood Avenue	East Boston	R-2	18-Nov-10	DO 290 001	Boston Harbor (Constitution Beach)	Partial internal connection-Referred to Legal for notification of owner	
66-68 Gallivan Boulevard	Dorchester	R-2	27-Jun-10	DO 10L 094	Neponset River (Davenport Brook)	Under Contract; Permit being sought from DOT	
58-60 Gallivan Boulevard	Dorchester	R-2	02-Dec-10	DO 10L 094	Neponset River	Under Contract; Permit being sought from DOT	
108 Gardner Street	Roxbury	R-1	15-Jun-10	DO 10B 015	Charles River	Partial internal connection-Referred to Legal for notification of owner	
11 Glenhill Road	Mattapan	R-1	14-Jan-10	DO 07H 285	Neponset River	Partial internal connection-Referred to Legal for notification of owner	
360 Harvard Street	Dorchester	R-2	21-Jul-10	DO 11I 577	Brook)	Corrected under BWSC contract	15-Dec-10
368 Harvard Street	Dorchester	R-2	21-Jul-10	DO 11I 577	Brook)	Corrected under BWSC contract	15-Dec-10
15 Hollywood Road	Roxbury	R-1	02-Dec-10	DO 13D 077/078	Charles River (Bussey Brook)	Under Contract	
5 Joyce Road	Hyde Park	R-1	09-Jun-10	DO 06G 108	Neponset River	Corrected under BWSC contract	28-Jul-10
45 Litchfield Street	Brighton	R-3	04-Jan-10	DO 25E 037	Charles River	Corrected under BWSC contract	18-Feb-10
71 Maryknoll Street	Mattapan	R-1	04-Jan-10	DO 10L 094	Neponset River (Davenport Brook)	Partial internal connection-Referred to Legal for notification of owner	
77 Maryknoll Street	Mattapan	R-1	18-Jan-10	DO 10L 094	Neponset River (Davenport Brook)	Corrected under BWSC contract	17-Feb-10
49 Orchardhill Road	Plain	R-1	16-Feb-10	OF 23I 023*	Charles River (Stony Brook Conduit)	Corrected under BWSC contract	25-May-10
1 President Road	Roxbury	R-1	09-Sep-10	DO 13E 174	Charles River (Bussey Brook)	Referred to Legal for notification of owner	
1459-1461 River Street	Hyde Park	Comm	01-Jun-10	DO 04F 189	Neponset River	BWSC attempted but more work needed	
108 Rockdale Street	Mattapan	R-1	18-Nov-10	DO 7H 105	Neponset River	Corrected under BWSC contract	18-Nov-10
28 Ruskindale Road	Mattapan	R-1	11-Jun-10	DO 06G 108	Neponset River	Owner will not allow access through private property; Referred to Legal for enforcement	
953 Saratoga Street	East Boston	R-3	28-Jan-10	DO 290 001	Boston Harbor (Constitution Beach)	Partial internal connection-Referred to Legal for notification of owner	
41 Saybrook Street	Brighton	R-1	23-Feb-10	DO 24D 032	Charles River	Partial internal connection-Referred to Legal for notification of owner	
880 Truman Parkway	Hyde Park	R-1	01-Jun-10	DO 04F 191	Neponset River	Corrected under BWSC contract	16-Jul-10
5023 Washington Street	Roxbury	R-1	21-Jan-10	DO 06D 097	Neponset River	Corrected under BWSC contract	08-Apr-10
3870 Washington Street	Roslindale	Comm	02-Feb-10	OF 23I 023*	Charles River (Stony Brook Conduit)	Corrected under BWSC contract	05-Apr-10
214 Weld Street	Roxbury	R-1	11-Nov-10	DO 13E 174	Charles River (Bussey Brook)	Under Contract	

**BOSTON WATER AND SEWER COMMISSION
ILLEGAL CONNECTION REMEDIATION PROGRAM 2010**

Table 2-4: Illegal Connections Corrected in 2010

Address	Neighborhood	Bldg type	Date Verified	Outlet Num	Receiving Water	Status at End of 2010	Sewage Removed
16 Blueview Road	West Roxbury	R-1	22-Feb-10	DMH 06D 097	Unnamed Wetlands	Corrected under BWSC contract	76.96
6 Bowdoin Park	Dorchester	R-3	18-Feb-10	DO 15L 088/089	Dorchester Bay	Corrected under BWSC contract	48.70
179 Church Street	West Roxbury	R-1	17-Aug-10	DO 13D 077/078	Charles River (Bussey Brook)	Corrected under BWSC contract	123.22
276 Corey Road	Brighton	Condo	12-Apr-07	DO 24G 035	Charles River	Corrected under BWSC contract	1484
42 Florida Street	Dorchester	R-4	15-Sep-09	OF 13L 090	Neponset River/Dorchester Bay	Corrected under BWSC contract	514.00
360 Harvard Street	Dorchester	R-2	21-Jul-10	DO 11I 577	Charles River (Stony Brook Conduit, Canterbury Brook)	Corrected under BWSC contract	233.68
368 Harvard Street	Dorchester	R-2	21-Jul-10	DO 11I 577	Charles River (Stony Brook Conduit, Canterbury Brook)	Corrected under BWSC contract	69.81
5 Joyce Road	Hyde Park	R-1	09-Jun-10	DO 06G 108	Neponset River	Corrected under BWSC contract	118.71
45 Litchfield Street	Brighton	R-3	04-Jan-10	DO 25E 037	Charles River	Corrected under BWSC contract	288.25
77 Maryknoll Street	Mattapan	R-1	18-Jan-10	DO 10L 094	Neponset River (Davenport Brook)	Corrected under BWSC contract	65.88
10 Milton Terrace	Hyde Park	R-1	28-Dec-09	05G 116A	Neponset River	Corrected under BWSC contract	144.00
49 Orchardhill Road	Jamaica Plain	R-1	16-Feb-10	OF 23I 023*	Charles River (Stony Brook Conduit)	Corrected under BWSC contract	154.74
90-92 Readville Street	Hyde Park	Condo	14-Dec-09	DO 04E 069	Neponset River (Mother Brook)	Corrected under BWSC contract	211.00
108 Rockdale Street	Mattapan	R-1	18-Nov-10	DO 7H 105	Neponset River	Corrected under BWSC contract	194.01
537-551 Tremont Street	South End	Exempt	07-Jun-06	OF 22K 071	To Combined Sewer Downstream	Corrected under BWSC contract	4641
880 Truman Parkway	Hyde Park	R-1	01-Jun-10	DO 04F 191	Neponset River	Corrected under BWSC contract	117.52
5023 Washington Street	West Roxbury	R-1	21-Jan-10	DO 06D 097	Neponset River	Corrected under BWSC contract	89.89
3870 Washington Street	Roslindale	Comm	02-Feb-10	OF 23I 023*	Charles River (Stony Brook Conduit)	Corrected under BWSC contract	56.41

**BOSTON WATER AND SEWER COMMISSION
ILLEGAL CONNECTION REMEDIATION PROGRAM 2010**

Table 2-5: Illegal Connections Outstanding as of December 31, 2010

Address	Neighborhood	Bldg type	Date Verified	Outlet Num	Receiving Water	Status at End of 2010
4 Arbella Road	Dorchester	R-1	17-Oct-06	DO 10L 094	Neponset River	Owner not responding-Referred to Legal for enforcement
375 Baker Street	West Roxbury	R-1	30-Jun-09	DO 11B 123	Charles River	Partial internal connection-Referred to Legal for notification of owner
752 Bennington Street	East Boston	Comm	30-Sep-10	DO 29O 001	Boston Harbor (Constitution Beach)	Connection located on private property; Referred to Legal for enforcement
50 Binney Street	Fenway	Exempt	28-May-08	DO 21H 047	Muddy River to Charles River	Special Design under review by BWSC; correction planned 1st quarter 2011
22 Birchcroft Road	Hyde Park	R-1	28-Dec-07	DO 06G 108	Neponset River	Plumbing must be raised; Referred to Legal for notification of owner
1082 Canterbury Street	Roslindale	R-2	18-Oct-06	OF 23I 023*	Charles River (Stony Brook Conduit)	Owner not responding-Referred to Legal for enforcement
15 Conry Crescent	Jamaica Plain	R-1	22-Jun-99	DO 15F288	Charles River (Stony Brook Conduit)	Special Design being prepared
334 Corey Street	West Roxbury	R-1	18-Jan-10	DO 12B 124	Charles River (Brook Farm Brook)	Partial internal connection-Referred to Legal for notification of owner
39 Englewood Avenue	Brighton	Condo	12-Feb-08	DMH 20D 055	Muddy River (via Brookline/Village Brook)	Owner not responding-Referred to Legal for enforcement
9 Farquhar Street	Roslindale	R-2	12-Jan-05	OF 23I 023*	Charles River (Stony Brook Conduit)	Owner not responding-Referred to Legal for enforcement
83 Farrar Avenue	Hyde Park	R-1	07-Oct-09	DO 06G 108	Neponset River	Partial internal connection-Referred to Legal for notification of owner
108 Faywood Avenue	East Boston	R-2	18-Nov-10	DO 29O 001	Boston Harbor (Constitution Beach)	Partial internal connection-Referred to Legal for notification of owner
49 Firth Road	Roslindale	R-2	13-Nov-01	OF 23I 023*	Charles River (Stony Brook Conduit)	BWSC installed stub; owner work required; Referred to Legal for notification
58-60 Gallivan Boulevard	Dorchester	R-2	02-Dec-10	DO 10L 094	Neponset River	Under Contract; Permit being sought from DOT
66-68 Gallivan Boulevard	Dorchester	R-2	27-Jun-10	DO 10L 094	Neponset River (Davenport Brook)	Under Contract; Permit being sought from DOT
108 Gardner Street	West Roxbury	R-1	15-Jun-10	DO 10B 015	Charles River	Partial internal connection-Referred to Legal for notification of owner
125 Garfield Street	Hyde Park	Exempt	07-Jul-08	DO 04F 204	Neponset River	BHA has been notified and has committed to correction in 1st quarter 2011
11 Glenhill Road	Mattapan	R-1	14-Jan-10	DO 07H 285	Neponset River	Partial internal connection-Referred to Legal for notification of owner
197 Hamilton Street	Dorchester	R-4	21-Oct-09	DO 13L 090	Dorchester Bay	Partial internal connection-Referred to Legal for notification of owner
15 Hollywood Road	West Roxbury	R-1	02-Dec-10	DO 13D 077/078	Charles River (Bussey Brook)	Under Contract
284 Huntington Avenue	Hyde Park	R-1	31-Oct-00	OF 23I 023*	Charles River (Stony Brook Conduit)	Owner not responding-Referred to Legal for enforcement
27 Irma Street	Dorchester	R-3	19-Nov-07	DO 11I 577	Charles River (Stony Brook Conduit, Canterbury Brk)	Owner not responding-Referred to Legal for enforcement
97 Kilsyth Road	Brighton	R-3	13-Feb-08	DMH 21D 219	Muddy River (via Brookline/Village Brook)	Reported as corrected 2/05 but still illegal; BWSC Investigating
99 Kilsyth Road	Brighton	R-3	21-Feb-08	DMH 21D 219	Muddy River (via Brookline/Village Brook)	Reported as corrected 2/05 but still illegal; BWSC Investigating
51-53 Mapleton Street	Brighton	R-2	27-Dec-07	DO 24D 032	Charles River	Owner not responding-Referred to Legal for enforcement
71 Maryknoll Street	Mattapan	R-1	04-Jan-10	DO 10L 094	Neponset River (Davenport Brook)	Partial internal connection-Referred to Legal for notification of owner
1 President Road	West Roxbury	R-1	09-Sep-10	DO 13E 174	Charles River (Bussey Brook)	Referred to Legal for notification of owner
1459-1461 River Street	Hyde Park	Comm	01-Jun-10	DO 04F 189	Neponset River	BWSC attempted but more work needed
28 Ruskindale Road	Mattapan	R-1	11-Jun-10	DO 06G 108	Neponset River	Owner will not allow access through private property; Referred to Legal for enforcement
126 Sanborn Avenue	West Roxbury	R-1	04-Nov-09	DO 11B 123	Charles River	Partial internal connection-Referred to Legal for notification of owner
953 Saratoga Street	East Boston	R-3	28-Jan-10	DO 29O 001	Boston Harbor (Constitution Beach)	Partial internal connection-Referred to Legal for notification of owner
41 Saybrook Street	Brighton	R-1	23-Feb-10	DO 24D 032	Charles River	Partial internal connection-Referred to Legal for notification of owner
25 Warren Street	Brighton	School	27-Jun-08	DO 25E 037	Charles River	Internal connection-Referred to Legal for enforcement
214 Weld Street	West Roxbury	R-1	11-Nov-10	DO 13E 174	Charles River (Bussey Brook)	Under Contract
365 Western Avenue	Brighton	Comm	08-Oct-09	DO 25E 037	Charles River	Partial internal connection-Referred to Legal for notification of owner

3.0 STORMWATER MANAGEMENT ACTIVITIES

The Stormwater Management Program consists of a variety of programs, activities, and best management practices aimed at preventing the discharge of pollutants to storm drains and receiving waters. These measures include maintenance, structural, managerial, regulatory, and educational programs. Key elements of the Commission's Stormwater Management Program and Stormwater Management Plan implementation are described in this section.

3.1 OPERATION AND MAINTENANCE OF STRUCTURAL CONTROLS

Combined sewer overflows, sanitary sewer overflows, sewage infiltration into storm drains and system backups can be prevented by maintaining the capacity and structural integrity of the sewerage and drainage systems. The Commission accomplishes this by cleaning, repairing or replacing sanitary and combined sewers and storm drains, separating combined sewers, and by preventing and removing infiltration and inflow to the sewer system. To determine where structural deficiencies exist and where repairs are needed the Commission performs television inspections of sewers and drains.

Since the Commission's inception in 1977, major sewer system improvements have resulted in increased system capacity and the virtual elimination of dry weather overflows from combined sewers into Boston Harbor and the Neponset, Charles, and Mystic Rivers.

Over the last several years, the Commission has completed major sewer separation projects under the court ordered MWRA CSO Plan. Separation work has been completed in Dorchester, in the Stony Brook area of Jamaica Plain, in the Constitution Beach area of East Boston, and most recently, in the Fort Point Channel area in South Boston.

A major project recently completed by the Commission is the Morrissey Boulevard Drainage Conduit (MBDC) project. The MBDC project was undertaken by the Commission on behalf of the Massachusetts Water Resources Authority in conjunction with the Authority's North Dorchester Bay CSO Storage Tunnel (NDBST) Project. The MBDC currently collects stormwater flows from Morrissey Boulevard and its side roads, and conveys it to Dorchester Bay. Most of the stormwater discharges to the MBDC are treated by particle separators that were constructed on storm drains serving businesses along Morrissey Boulevard. The new particle separators are owned and maintained by the owners of the properties where they are located.

Once MWRA completes the NDBST Project, stormwater flows from the recently separated area tributary to 18L087 generated from smaller storms will be conveyed to the

NDBST and to Deer Island to be treated, while stormwater flows generated from very large storms will be directed to the MBDC. This will allow for the elimination of outfall 18L087 located near Mother's Rest in 2011.

a. Storm Drain and Sewer Maintenance by BWSC Staff

The Commission's Operations Division is responsible for smaller sewer and drain related repair, maintenance and cleaning jobs, as well as some television inspections of sewers and drains. In 2010, the Commission jetted, vactored or rodded 631,506 linear feet of pipe.

In 2010, the Commission owned five (5) "vactor" high-pressure cleaning trucks to clean accumulated materials from sewers and drains, six (6) jet trucks, one (1) multi-rodder truck, and two (2) hydraulic bucket machines to clear blockages. To determine where structural deficiencies exist and where repairs are needed, the Commission crews performed television inspections of 26,790 linear feet of sewer and drain pipe in 2010.

In conjunction with the storm drain and catch basin cleaning programs, the Commission routinely clears debris from eleven (11) brook inlets and outlets throughout the City. Since the primary purpose of this practice is to prevent upstream flooding, the cleaning is typically performed immediately prior to major storm events and usually they are checked after storm events to determine if follow up cleaning is needed. The locations and frequency of cleaning is provided in Table 3 – 1.

b. Catch Basin Maintenance

The Commission has approximately 31,752 catch basins in its sewer and drainage systems. Other catch basins in the city are owned by other public agencies such as the state Department of Conservation and Recreation, Mass Department of Transportation, or are located on private property.

The Commission currently owns six (6) clamshell trucks. Commission forces have been supplemented by contract forces and equipment since 2001. Under the current citywide catch basin cleaning contract the contractor is instructed to inspect all Commission owned catch basins, and clean any basin containing at least two feet of sediment. Contractors typically complete two passes through the city each year cleaning basins as directed by the Commission.

In 2010, Commission and contract forces performed 11,483 catch basin cleanings. Catch basin cleanings are currently transported to the Materials Handling Facility on Alford Street, where they are temporarily stored until transferred to an approved landfill. An estimated 7,451 tons of material taken from sewers, drains and catch basins was transferred by the Commission's contractor in 2010. It is not known how much of the material transported was just from the catch basins, although it is believed to be a majority of the amount.

Table 3 - 1 Brook Inlet and Outlet Cleaning			
Waterway	Neighborhood	Frequency of Cleaning	Equipment Used
Canterbury Brook Conduit @ American Legion Hwy	Roslindale	Checked before/after storms; cleaned as needed	Rodding/Flushing crew/ Catch Basin Truck
Canterbury Brook Outlet at Harvard Street	Mattapan	Checked before/after storms; cleaned as needed	Flushing/Rodding Crew
Bussey Brook-Next to Church Of the Annunciation	West Roxbury	Checked before/after storms; cleaned as needed	Catch Basin Truck, Crane
Bussey Brook/Stony Brook Conduit/Treeland	Jamaica Plain	Checked before/after storms; cleaned as needed	Catch Basin Truck
Muddy River-Riverway and the Fenway/Grates	Boston	Checked before/after storms; cleaned as needed	Catch Basin Truck, Crane
Centre Street/Lane	West Roxbury	Checked before/after storms; cleaned as needed	Flushing/Rodding Crew
Norton Street-intermittent stream	Hyde Park	Checked before/after storms; cleaned as needed	Flushing/Rodding Crew
Grove Street-Wetlands (particle separator)	West Roxbury	Checked before/after storms; cleaned as needed	Catch Basin Truck, Vactor
Arboretum Outfall	Jamaica Plain	Checked before/after storms; cleaned as needed	Flushing/Rodding Crew
Chandler Pond	Brighton	Checked before/after storms; cleaned as needed	Flushing/Rodding Crew
Mother Brook	West Roxbury	Checked before/after storms; cleaned as needed	Flushing/Rodding Crew

c. Commission Particle Separators

The Commission evaluates whether installation of particle separators is feasible and appropriate when designing storm drain capital improvement projects. The total number of particle separators owned by the Commission currently remains at 15. Information regarding the various particle separators, including their locations, receiving waters, and inspection and cleaning dates in 2010 is summarized in Table 3-2. The particle separators on Fenwood Road and Walter Street were cleaned more frequently to assess their sediment removal effectiveness.

d. Large Storm Drain and Sewer Programs under BWSC's CIP

Large cleaning and maintenance jobs are performed by outside contractors under the Commission's Capital Improvement Program. The Commission's three-year Capital Improvement Program (CIP) is updated annually. The 2010-2012 CIP included \$44.1 million for sewer and drain related projects, of which \$14.1 million was earmarked for 2010. Highlights of the Commission's 2010-2012 Capital Improvement Program are provided below.

Sewer Renewal and Replacement

Renewal and replacement (R/R) projects involve the rehabilitation or replacement of sewers and storm drains because of structural deterioration, excessive emergency repairs, and other operation and maintenance problems. The Commission identifies sewer and drain lines that require renewal or replacement through television inspections, sewer system evaluation surveys, and routine maintenance activities.

The objectives of the renewal and replacement program are to insure the operability of sewers and storm drains, protect the structural integrity of the sewer system, reduce long-term capital and maintenance costs and minimize disruptions of service caused by sewerage back-ups or other related problems.

The 2010-2012 CIP provided funding for numerous sewer renewal and replacement projects citywide, including repair or replacement of defective sewer pipes, and installation of new drains in Back Bay/Beacon Hill, East Boston, Roslindale, Roxbury and West Roxbury, as well as replacement of a deficient 24-inch sewer in the Savin Hill area of Dorchester.

Increased Capacity Projects

The Commission continues to make capital investments to increase capacity in some areas and maximize capacity in other areas. The goals of these projects are to ensure sufficient hydraulic flow in all areas of the city, reduce long-term maintenance costs,

Table 3 - 2 BWSC Particle Separator Cleaning 2010

Location	Neighborhood	Type	Map #	Outfall #	Receiving Water	2010 Material Removed (cubic yards) Various dates	3/10/2010	4/13/2010	5/25/2010	6/13/2010	7/20/2010	9/16/2010	10/21/2010	10/29/2010	TOTALS
Arnold Arboretum	Jamaica Plain	Vortex	13F	13F011	Bussy Brook	3.00									3.00
Centre Lane	WROX	Vortex	8C	8C025,8C026	Wetlands	0.25									0.25
Centre Street	WROX	Vortex	6C	6C110	Wetlands	0.00									0.00
Coleridge Street	East Boston	Box	28O	28O025	Boston Harbor	2.50									2.50
Coniston Road	Roslindale	Box	12E	13I023	Stony Brook Conduit	0.00									0.00
Denny Street	Dorchester	Vortex	15L	15L089 (CSO)	Malibu Beach	0.12									0.12
Ericsson Street	Dorchester	Box	12M	12M091	Neponset River	0.15									0.15
Fenwood Road	Roxbury	Box	20G	20G161	Muddy River		0.25		0.02	1.50	0.15	0.15		0.12	2.19
Lawley Street	Dorchester	Box	12L	12L092	Pine Neck Creek	0.50									0.50
Neponset Avenue	Dorchester	Box	11M	11M093	Neponset River	2.00									2.00
Norton Street	Hyde Park	Box	3E	3E185	Open Channel	0.25									0.25
Perkins Street	Jamaica Plain	Vortex	17F	17F012	Jamaica Pond	2.00									2.00
Waldemar Avenue	East Boston	Box	30P	30P107	Belle Isle Inlet	0.12									0.12
Waldemar Avenue	East Boston	Box	31O	31O004	Belle Isle Inlet	1.00									1.00
Walter Street	Roslindale	Vortex	12F	12E418	Wetlands		0.15	0.25	0.01		0.10	0.01	0.10		0.62
TOTALS						11.89	0.40	0.25	0.03	1.50	0.25	0.16	0.10	0.12	14.70

minimize the frequency and volume of CSO discharges, and maintain the structural integrity of the wastewater collection system.

Increased capacity projects funded in 2010 included sediment removal from 6 large intercepting sewers, cleaning and repair of structural damage to CSO outfall 065, and cleaning of outfall 010 in East Boston.

Sewer Separation

The primary purpose of sewer separation is to reduce the frequency and volume of wet weather CSO discharges. The Commission's separation program involves the conversion of combined sewer systems to separate sanitary sewer and storm drain systems. Typically, separation is achieved by converting the combined sewer to a sanitary sewer and installing a new storm drain.

The 2010-2012 CIP provided funding for the design and construction of numerous sewer separation projects, including major CSO sewer separation projects in East Boston, Dudley Square and at Bullfinch Triangle. Funding was also provided to relocate the regulator on the Dorchester Brook Sewer, and preliminary design for sewer separation in Roxbury. Included in this category of CIP funding is the Citywide Illegal Connection Investigation program, correction of illegal connections by a Commission contractor, and the Commission's ejector pump program for reimbursing homeowners for the correction of illegal connections on their properties.

I/I Reduction Program

The 2010-2012 CIP included funding to decrease the amounts of infiltration and inflow entering the sewer system. Removal of I/I retains and restores the capacity of the sewer system and helps prevent sewer overflows. The 2010-2012 CIP included funding to disconnect downspouts connected to combined and sanitary sewers in Jamaica Plain, Dorchester, Neponset, Ward Street, Allston/Brighton, West Roxbury, Roslindale, South Boston and Hyde Park. Included in this category of funding was installation and upgrade of the Commission's rain gauges.

Sewer/Drain Special Projects

The Sewer System Special Projects category of capital funding provides for a variety of system planning and other studies, and for professional services relating to the rehabilitation and operation of the sewer and drainage systems. Major projects funded under the special projects category included development of a Wastewater/Drainage Facilities Plan and an NPDES Stormwater Monitoring Program.

3.2 CONTROL OF NON-STORMWATER DISCHARGES TO THE DRAINAGE SYSTEM

a. Drainage Discharge Permits

Article C, Section 5 of the Commission's Sewer Use Regulations describes the discharge prohibitions and restrictions applicable to the Commission's storm drainage system. Under the Sewer Use Regulations any discharge of wastewater or other waters not composed entirely of stormwater into a building storm drain or a Commission storm drain is prohibited, except as authorized by the regulations. Authorized discharges include discharges for which the owner has obtained both a Drainage Discharge Permit from the Commission and an NPDES Permit or NPDES Permit Exclusion from EPA, as well as such discharges as river or stream flow, rising groundwater, uncontaminated groundwater, waters from hydrant flushing, and other potable water sources associated with the maintenance of the water distribution system or fire fighting, irrigation water, and street and pavement wash waters.

Discharges requiring a Drainage Discharge Permit include permanent subsurface drainage, non-contact cooling water, non-contact industrial process water, or waters associated with hydrological testing, groundwater treatment/remediation, and removal and installation of an underground storage tank. Drainage Discharge Permits are issued by the Commission's Field Engineering Division. The Commission may deny or condition a Drainage Discharge Permit to prevent the discharge of contaminants to the storm drainage system. Failure to obtain a Drainage Discharge Permit from the Commission carries a fine of up to \$1,000 per day of violation under Sewer Use Regulations. In 2010, the Commission issued 7 Drainage Discharge Permits for discharges to storm drains.

The requirements for Drainage Discharge Permits are described in the Commission's Requirements for Site Plans, and developers and potential dischargers are informed of the requirements when they request a General Service Application for a building sewer or building storm drain connection. In addition, owners and developers are informed of the Drainage Discharge Permit requirements through comment letters submitted by the Commission to Massachusetts Environmental Policy Act (MEPA) Unit and the Boston Redevelopment Authority in response to Environmental Impact Reports.

b. Abrasive Blasting or Chemical Cleaning Permits

For any project involving repair or cleaning of existing masonry, the project proponent is required to obtain from the Boston Air Pollution Control Commission a permit for Abrasive Blasting or Chemical Cleaning.

In accordance with the permits, applicants are required to provide a detailed description as to how chemical mist and run-off will be contained and either treated before discharge to the sewer or drainage system or collected and disposed of lawfully off site. Air

Pollution Control Commission representatives perform periodic spot checks of project sites to ensure that the proponent is complying with the permit.

The Air Pollution Control Commission reports to the Commission any violations they observe which result in the discharge of contaminants to drainage system from the cleaning operation. No violations were reported to the Commission by the Air Pollution Control Commission in 2010.

c. Illegal Dumping and Emergency Spill Response

The Commission's Sewer Use Regulations prohibit the dumping of any material into a catch basin, including any solid waste, construction debris, paint or painting product, antifreeze, hazardous waste, oil, gasoline, grease and all other automotive and petroleum products, solvents and degreasers, drain cleaners, commercial and household cleaners, soap, detergent, ammonia, food and food waste, grass or yard waste, leaves, animal feces, dirt, sand, gravel or other pollutant. Illegal dumping to catch basins carries a fine of up to \$5,000 per day of violation under the Commission's Sewer Use Regulations.

Reports of illegal dumping to catch basins are directed to the Field Engineering Division which dispatches staff immediately to investigate. Upon investigation, if the violator can be identified, the violator is required to pay for cleaning of the affected catch basins, sewers, or storm drains. If the Commission does not observe the dumping in progress, but has good reason to believe a particular party is responsible, the Commission may verbally warn them of the environmental and legal ramifications of the action. When the violator cannot be identified, the Commission pays for a licensed contractor to clean out the affected catch basins, sewers and drains.

Commission crews are available 24-hours a day to assist the Department of Environmental Protection, the Boston Fire Department and the U.S. Coast Guard in determining where a hazardous spill has entered or could potentially enter the Commission's wastewater or storm drainage systems. If the spill has entered either system, Commission personnel determine how far the contamination has traveled and whether there is the risk of an overflow to a waterway. The Commission also attempts to trace the spill upstream to locate and identify its source. When the source of the spill cannot be determined, the Commission pays for a licensed contractor to clean up the spill.

In 2010, Field Engineering responded to 62 reports of a potential spill, leak, or report of illicit dumping. Table 3 – 3 lists the incidences to which the Commission responded in 2010. Field Engineering issued violation/enforcement notices in 8 instances. Fines were issued in 2 instances.

Table 3 - 3
Spill/Dumping Response 2010

2010 HAZMAT SPILLS & SEWER USE INVESTIGATIONS

Date	Street	Complainant	BSWC Personnel	Type	Cause of Incident / Responsible Party	
JANUARY						
1	1/2/10	Sumner St, E. Boston	Public	Slade	Gasoline release	Gasoline from broken line. Did not enter CB.
2	1/8/10	Longwood Ave, Kenmore	DEP	Greeley	Water line release	Chilled water line release from Med Bldg. DEP / MWRA authorized AES to dewater in sewer.
3	1/8/10	111 Weld St W. Roxbury	BWSC	Ford	Oil Release	Noticed discoloration in snow around CB. Place pads in CB for precaution. No impact
4	1/8/10	626 Centre Ln, W. Roxbury	BFD	Ford	Oil Release	Possible oil release form above ground tank. No impact to BWSC lines
5	1/8/10	288 Hanover St. North End	BFD	Stewart	Odor	Odor in basement. No impact to BWSC lines
6	1/27/10	270 Princeton St, E. Boston	Public	Wong	Dewatering	Owner discharging from sub pump over sidewalk. Spoke w/ res. And explained fines / was told to discontinue
7	1/31/10	Allstate Rd, Dorchester	BFD	Greeley	Oil Release	Car hit median in parking lot. Oil release over rdwy , minor impact to CB. Placed pads in CB. BFD contacted Removal Specialist for clean, which will charge owner of vehicle.
FEBRUARY						
1	2/27/10	29 Riverdale	Public	Slade	Oil on RDWY	Oil on roadway due to car. No impact of lines / cb's
MARCH						
1	3/3/10	111 Huntington Ave, Back Bay	BFD	Slade	Diesel Fuel release	BFD, BPD on site, Owner hired comp to clean rdwy and nearby CB
2	3/5/10	215 Talbot Ave, Mattapan	Public	Wong	Hydraulic Fuel Release	BPD on site, Owner hired comp to clean rdwy and nearby CB
3	3/12/10	238 Columbia Rd, Roxbury	Public	Wong	Dewatering	Owner / plumber was told to discontinue to dewatering
5	3/17/10	231 Belgrade Ave, Roslindale	BWSC	Greeley / Canavan	Heating Oil	Owner dewatering water containing heating oil. BFD, BPD on site. Product did not impact BWSC systems. Owner hired TMC for clean-up
4	3/19/10	15 Oxford S, Central	ISD	Wong	Grease	Dumping grease in cb. Owner will clean
6	3/23/10	90 Commonwealth Ave, Back Bay	Mayor's Office	Greeley	Heating Oil	Delivery truck released heating oil. BFD responded, placed speedy dry on impacted area
7	3/24/10	100 Terminal St, Charlestown	Public	Wong	Road Salt	Dumping road salt on public way. No sign of dumping while investigated
8	3/24/10	370 Western Ave, Brighton	BWSC	Wong	Grease	Grease in drain. Owner cleaned
9	3/24/10	231 Park St, Fenway	BFD	Greeley	Heating Oil Release	Major release of heating oil from Brookline outfall. All Agencies on site. Brookline hired Clean Harbors for clean-up (ref W/O 201058648401)
10	3/24/10	160 Warren St, Roxbury	BFD	Greeley	Heating Oil Release	Minor release in basement, did not impact BWSC lines. BFD, DEP onsite
APRIL						
1	4/6/10	Dorchester Ave	BFD	Greeley / Slade	Material	Gas station suppression system release. No impact to system
2	4/7/10	Dartmouth St, South End	BFD	Greeley	Fuel	Fuel tank release (gasoline) due to traffic accident. CB impacted / main system not impacted. Responsible party hired Removal Specialists for clean-up / decontaminate CB

Table 3 - 3
Spill/Dumping Response 2010

3	4/8/10	Binney St, Fenway	Mayor's Office	Greeley	Material	White material observed around CB. Contractor dumped plaster material. B&W Hospital mat. Crew clean area.
4	4/15/10	Deaconess Rd, Fenway	BFD	Greeley	Fuel	Fuel release from Paul Revere line. Impacted CB and sump. Did not impact main line. Hospital hired Clean Harbors for clean-up. Vactord CB and Sump. DEP onsite the following day
5	4/23/10	Atlantic Ave, Central	Public	Wong	Washdown material	Seal Rest. Washing down equip. and entering CB then outfall. Violation letter given. Will cont. to follow-up
MAY						
1	5/21/10	Soldiers Field Road, Brighton	BFD	Stewart	Fuel	100-gallon diesel fuel oil release in rail yard, no impact to lines/cb's. Rail yard hired cleanup company to clean private parking lot area.
JUNE						
1	6/2/10	Soldiers Field Road, Brighton	BFD	Greeley/Slade	Fuel	TG-034 near Double Tree Hotel, Clean Harbors hired and removed 130 gallons of petroleum product/water from tidegate. Removed old booms installed new booms.
2	6/4/10	324 A St, South Boston	Public	Taylor	Material	Investigated illegal dumping to CB. Dust from cleaning of marble floors around CB. Contractor will clean up.
3	6/7/10	8 Wolcott Court, Hyde Park	BFD	Greeley	Fuel	Diesel fuel release on private property. No impact to sewer or drain lines/facilities. BFD onsite....owner to hire clean up company to clean material from surface.
4	6/10/10	North St @ Blackstone St, Central	Public	Sayers	Anti-freeze	Small quantity of antifreeze on roadway along Surface Rd/Purchase St released from a unknown source believe to be tour bus. Cleaned up small areas with spill pads. Notified BFD, onsite.
5	6/11/10	761 Gallivan Blvd., Dorchester	BFD	Sayers	Gasoline	BFD onsite, MA DEP notified, 20-30 gallons release of gas from vehicle onto roadway & into CB, no impact to drain line. Cyn hired by at fault party and cleaned up roadway and removed contents from impacted CB
6	6/16/10	High St @ Walker St., Charlestown	Public	Wong	Material	Small quantity of plaster on and in CB. Contractor working nearby was notified and immediately cleaned CB
7	6/30/10	442 Blue Hill Ave., Mattapan	Public	Wong	Grease	Investigated report of worker from restaurant dumping grease into a CB. Investigated area, no grease observed in any nearby CB's
8	6/30/10	330 K St., South Boston	Public	Wong	Material	Small quantity of plaster on CB. No at fault party found onsite. Notified owner of 331 K St that is conducting home improvements.
JULY						
1	7/8/10	Avenue De Lafayette, Downtown	Mayor's Office	Sayers	Motor Oil	Investigated report of motor oil leaking from tour buses. Investigated area no impact to catch basins, areas of minimal oil staining on street pavement. No buses leaking oil.
2	7/13/10	1675 Dorchester Ave, Dorchester	Public	Wong	Hydraulic Fluid	Notified by Aggregate industries about 1 gallon of hydraulic fluid released from paving equipment. Aggregate cleaned up the area of the release. No trace of spill in cb or system.
3	7/15/10	Harrison Ave, South End	Trigen	Sayers/Greeley	Asbestos	Trigen steam line break asbestos release. Trigen hired Aulson Co., Inc to conduct cleanup. Sent letter to Trigen on 7/22/10, Trigen to send follow up letter once clean up is completed.
4	7/19/10	493 Mass Ave@ Tremont St, S.End	BWSC	Wong	Material	APS cutting & installing new brick sidewalk at intersection Mass Ave & Tremont, brick dust heading towards catch basins at intersection. APS installed sedimentation barrier controls.
5	7/22/10	510 Southampton St., S.Boston	BFD	Greeley/Slade	Material	Response called off by BFD, old gas line found during trenching on street
6	7/22/10	373-375 Washington St, Dorchester	BWSC	Greeley/Slade	Material	Workers at 373-375 Washington St powerwashing paint from brick facade. Notified works to contain the wash down materials to prevent them from washing into cb
7	7/28/10	re Street @ Jackson Square, Jamaica	Public		Sewage	Contractor was illegally bypassing sewage from the Stony Brook Valley Sewer to the Stony Brook Conduit. Contractor immediately ordered to cease pumping and cease work. Contractor was fined \$10,000
AUGUST						
1	8/4/10	42 A Street, South Boston	BEST	Sayers	Motor Oil	Automotive garage at 42 A St, multiple BEST violations. Unknown if have oil/water separator, garage floor drains filled with motor oil & hazardous materials. Violation warning letter sent, follow up once garage is cleaned.
2	8/4/10	20 Sturges Rd., West Roxbury	BFD	Sayers	Heating Oil	100-200 gallon heating oil release inside basement of #20 Sturges Rd. Heating oil seeped into ground through hole in basement floor. No impact to BWSC facilities, cleanup company hired.
3	8/25/10	Milk St @ Post Office Square, Central	Trigen	Taylor	Asbestos	Trigen steam line break possible asbestos release. Trigen hired Aulson Co., Inc to conduct cleanup. 4 impacted cb's in release area

**Table 3 - 3
Spill/Dumping Response 2010**

4	8/25/10	7 Channel St, South Boston	BFD	Taylor	Diesel Fuel	Large truck released 100-gallons of diesel fuel, impacted drainage facilities owned by EDIC (SDO-242). Two booms were placed in two drain MHs (668 and 663). Removal Specialist to conduct cleanup ops.
5	8/30/10	62 Catawba St, Roxbury	Mayor's Office	Wong	Motor Oil	Investigated report of illegal dumping of motor oil to catch basins. No evidence of motor oil or illegal dumping observed in or around nearby cb's during site visit.
SEPTEMBER						
1	9/10/10	435-439 South Huntington Ave., JP	BWSC	Sayers	Material	Leak crew observed hardened plaster around cb. Informed owner of #435-439 South Huntington not to allow contractors doing work in the building not to discharge to cbs.
2	9/17/10	847 Massachusetts Ave, Roxbury	Public	Wong	Material	Gardner & Mickney Co., brick dust/runoff heading towards 2 catch basins. Contractor installed cloth filter fabric around cb's and will clean up area.
3	9/17/10	1010 Massachusetts Ave, Roxbury	ISD	Taylor	Fuel	Small amount of diesel fuel leaked from a Verizon portable generator into a private catch basin. Clean Harbors and BFD onsite, Clean harbor to clean up
4	9/27/10	847 Massachusetts Ave, Roxbury	BWSC	Wong	Material	Notified contractor not to allow construction debris (concrete & dust) to get near catch basins
OCTOBER						
1	10/6/10	214 Shawmut Ave, South End	BWSC	Vidalis	Material	Per R.Limardo, night crew cleaning of CB 337 encountered sheet rock and plaster debris. Checked the vicinity of the catch basin, no on going construction work, no evidence of anyone dumping materials.
2	10/6/10	103-105 Park St, Dorchester	Public	Sayers	Motor Oil	Visited site, minimal amount of oil sheen was washed down from parking lot area from rainstorm, owner applied speedi dri. Told owner to apply speedi dri to any larger oil spots in the parking lot to prevent this in the future
3	10/13/10	215-221 Hanover St, North End	Public	Wong	Materials	Evidence of illegal discharging to cb at rear of Mechanic St. Violation warning letter to sent, been to this location several times
4	10/14/10	193 West Ninth St, South Boston	BWSC	Sayers/Slade	Anti-freeze	Small quantity (estimate 1 gallon or less) of antifreeze on roadway in curb along West Ninth St released from a unknown source. No impact to cb's nearby.
5	10/21/10	198 Providence St, Hyde Park	Public	Sayers	Hydraulic Fluid	Providence St (private way) investigated area and all private cb's (dry wells). No evidence of hydraulic fluid on roadway, around cb's or inside of cb's
6	10/25/10	523 Cambridge St, Allston	BEST	Sayers	Motor Oil	BEST Strike. Oil water separator was not in compliance. Warning letter sent. Owner had oil water separator cleaned the same day.
7	10/25/10	44 North Beacon St, Allston	BEST	Sayers	Motor Oil	BEST Strike. Oil water separator was not in compliance. Follow up to investigate once cleaned out
8	10/29/10	1 Ford St, East Boston	BWSC	Wong	Materials	Report of restaurant was washing down grease into cb's nearby. Warned not to continue doing this in the future
9	10/29/10	1575 VFW Pkwy, West Roxbury	BFD	Greeley	Gasoline/Motor Oil	Car accident, car landed in Charles River. No impact to BWSC facilities. Booms around car to be removed once car is removed.
NOVEMBER						
1	11/3/10	815 Albany St, South End	Public	Wong	Materials	Complaint of brick dust on street, investigated site and found that all materials were contained within plastic sheeting by the contractor onsite working for BU Medical. No impact to system
2	11/9/10	Congress St @ B St, South Boston	MASS DOT	Sayers	Materials	No impact to BWSC facilities, referred information to Boston Police Dept.
3	11/9/10	110 K St	MA DEP	Sayers	Materials	Degreasing agent discharge to K St and into catch basin. At fault party hired cleanup company. Violation warning letter issued for incident.
4	11/15/10	76 Stoughton St, Dorchester	Public	Sayers/Wong/Greeley	Acid Cleaning Agent	Powerwashing company using hydrochloric acid cleaning agent to clean brick bldg. At fault party hired cleanup company. Violation warning letter issued. No impact to BWSC facilities.
5	11/17/10	509 East Second St, South Boston	Public	Sayers	Materials	Report of illegal dumping. Later found out site had permits applied for dewatering permit extension.No impact to system
6	11/17/10	338-342 Warren St, Roxbury	BPD	Sayers	Materials	Report of illegal dumping to cb from BPD Hazmat. Investigated found #342 Warren St was discharging rusty boiler water. Owner cleaned up. Warning issued to owner and tenant observed dumping the rust water.
DECEMBER						
None reported						

d. Used Motor Oil and Paint Collection Centers

The Boston Public Works Department (PWD) operates Surplus Paint Products and Used Motor Oil Drop-Off and Recycling Centers in the neighborhoods of East Boston, Brighton, Roxbury, and Hyde Park. In 2010 each of the centers was open one Saturday a month, 9 a.m. to 1 p.m., from May through August. Approximately 2,000 gallons of motor oil and 422 gallons of surplus paint, thinner, stain or varnish were collected and recycled in 2010.

e. Household Hazardous Waste Collection

The Boston Public Works Department hosted four household hazardous waste collection events in 2010, as follows: June 12, and October 19, at the University of Massachusetts Campus, and June 26, and November 13, at the West Roxbury Public Works Yard. The events were promoted through the City's web site, local newspapers, and on signs posted in neighborhood business centers. The Commission's May/June and September/October issues of its *Currents* newsletter promoted the collection events. Copies of the newsletters are provided at the end of this section. The contractor for the hazardous waste collection charged for the service on a "per car" load basis. It was estimated each car carried 20 gallons of waste. In total, the hazardous waste collection days serviced 3,077 cars, for a total estimate of 61,540 gallons of waste collected.

f. Site Cleanliness Ordinance

To address litter and rodent control problems, the City of Boston instituted a Site Cleanliness Ordinance in 2000. Under this ordinance, all businesses and large residential establishments using bulk dumpsters, including food and beverage establishments, automotive establishments, and bulk refuse container storage lots, must obtain a Site Cleanliness License from the Boston Inspectional Services Department (ISD). The application for a license must include a site plan showing the location of the dumpster, a plan and schedule for maintenance, a copy of the solid waste disposal contract, and a copy of a rodent/pest control contract. An additional license is required from the PWD if the dumpster is located on a public way.

Inspectional Services officials perform annual inspections of establishments with any license issued by the Department, including a Site Cleanliness license. The Site Cleanliness license will not be renewed unless and until the establishment's dumpster complies with the city ordinance.

Failure to comply with the Site Cleanliness Ordinance and obtain a Site Cleanliness license may result in fines of up to \$1,000 a day. Repeated violations may result in closure of the business. ISD officials report that enforcement is very strict and that non-complying businesses typically achieve compliance within days of being issued a violation notice.

g. Yard Waste/Composting

The Boston Public Works Department provides curbside collection of leaves and grass clippings in the residential sections of the city in the Spring and the Fall each year. To remind residents of the collection dates in 2010, the PWD distributed public service announcements to local radio and television stations. Door hangers were distributed in residential neighborhoods and signs were posted in neighborhood commercial centers.

h. Pet Waste

Stormwater Monitoring Programs conducted by the Commission have indicated that pet waste is a significant source of bacterial contamination to stormwater. The City's dog fouling regulation, Section 16-1.10A of the Boston City Ordinances, also called the "pooper scooper law," requires dog owners to remove and properly dispose of the waste left by their dog. Penalties under the ordinance are \$50.00 for failure to produce a means of removal and \$50.00 for failure to pick up the waste. The Animal Control Unit in the Boston Property Management Department is responsible for enforcing the dog fouling ordinance. It is also responsible for following up on reports of vicious dogs, ensuring dogs are properly licensed and leashed, and other animal control issues.

Animal Control officials report that enforcing the pooper scooper law is difficult since the owner and dog must be observed "in the act". Fines have been issued to dog owners in the past for violation of the pooper scooper law, although the exact number was not readily available. Two Animal Control officers are assigned to patrol city parks on a daily, rotating basis to ensure that park visitors with animals are complying with Boston's Animal Control related ordinances.

In 2010, the Commission provided the city's Animal Control Unit with 200 copies of a "Scoop the Poop" flyer to be distributed at rabies clinics hosted by the office. In addition, the Commission July/August issue of *Currents* included a feature designed to educate people about the city's dog fouling regulation and to encourage them to prevent contamination of stormwater by cleaning up after their pets. A copy of the *Currents* newsletter is provided at the end of this section.

3.3 DEVELOPMENT AND CONSTRUCTION SITES

a. Site Plan Review and Compliance with Sewer Use Regulations

Under the Stormwater Permit, the Commission must continue to implement its site plan review process and ensure compliance with its regulations. A General Service Application and site plan is required by the Commission for every new water, sewer or drainage connection to the Commission's system. The site plan must be approved by the Commission's Chief Engineer before construction of the pipe(s) may begin. The site plan will not be approved unless it conforms to the Commission's Sewer Use Regulations and its Requirements for Site Plans.

The site plan review process provides an opportunity to review the components of the project and condition the approval on compliance with the Commission's Sewer Use Regulations, Requirements for Site Plans, and other requirements. In 2010, 268 site plans were approved by the Commission's Chief Engineer.

Drain Layers License: Persons installing new building sewers and storm drains, or repairing or maintaining existing pipes must possess a Drain Layers License issued by the Commission. To obtain a Drain Layers License, persons must pass a written test given by the Commission's Engineering Customer Services Division. Test questions are typically drawn from the requirements provided in the Commission's Sewer Use Regulations, including those pertaining to illegal sanitary connections to storm drains, non-stormwater discharges, requirements for new construction and catch basin dumping. Drain Layers Licenses are renewed annually. The Drain Layers Licensing requirement provides the opportunity to educate drain layers in Boston as to the Commission's rules and regulations, including those pertaining to stormwater. Thirty-four (34) new Drain Layers Licenses were issued in 2010, and 358 were renewed.

Inspections of New Connections: Connection of a building sewer to a storm drain is prohibited under the Commission's Sewer Use Regulations and carries a fine of up to \$5,000 per day of violation. To ensure proper connection, the Commission requires that all new, repaired or modified service connections be inspected by a Commission inspector before the services are covered over by the contractor. Failure to have the connection inspected before covering it over carries a fine of up to \$750 per day under the Commission's Sewer Use Regulations.

As an added measure, new sewer connections must be dye tested by the Commission once construction is completed. Failure to have a new sewer connection dye tested carries a fine of up to \$500 per day. The Commission may require that a repaired or modified service connection be dye tested. In 2010, the Commission's Engineering Field Services Division performed 386 GSA related dye tests.

Other requirements contained in the Sewer Use Regulations and Requirements for Site Plans that pertain to development and construction include the following:

On-site Retention of Stormwater: Under the Commission's Site Plan Requirements and Sewer Use Regulations, developers of new projects are required to evaluate the feasibility of retaining stormwater on-site. On-site retainage of stormwater is required whenever site conditions permit as determined by the Commission. On-site retention of stormwater serves to limit peak discharge rates, recharge groundwater, and remove 80 percent of total suspended solids in the flow to the extent feasible. This requirement is consistent with the Department of Environmental Protection's Stormwater Management Policy which establishes standards for stormwater management for development.

In 2010, the Commission approved 185 projects that included installation of dry wells or other type of infiltration device. Table 3 – 4 provides the addresses of the devices approved in 2010.

Controls for New Parking Lots: In order to prevent oil, grease and sediments from discharging to open waterways, the Commission requires that developers install particle separators on all newly constructed storm drains that serve outdoor paved areas of 7,500 square feet in size or greater. The Commission may require particle separators on existing storm drains from existing outdoor parking areas, where appropriate. This requirement has been in place since 1992.

Parking lot particle separators are typically located on private property; therefore, their maintenance is the responsibility of the property owner. Design criteria for particle separators are set forth in the Commission's *Guidelines for Developers for the Installation, Operation and Maintenance of Grit and Oil Separators*, a copy of which is included in the Commission's Requirements for Site Plans.

In 2010, the Commission approved installation of particle separators at 24 locations. Table 3 – 5 provides the addresses of the devices approved in 2010.

Drainage Discharge Permits: The Commission requires a Drainage Discharge Permit for all non-stormwater discharges to its drainage system, including construction site dewatering, permanent subsurface drainage, non-contact cooling water, non-contact industrial process water, and waters associated with hydrological testing, groundwater treatment/remediation, and removal and installation of an underground storage tank. The Commission may deny or condition a dewatering permit to prevent contaminated drainage from entering the sewer or drainage system. Failure to obtain a Drainage Discharge Permit carries a fine of up to \$1,000 a day under the Commission's Sewer Use Regulations. In 2010, the Commission issued 7 Drainage Discharge Permits for discharges to storm drains.

Infiltration/Inflow Control: Newly constructed and substantially renovated buildings must be constructed so as to minimize inflow and infiltration to the Commission's wastewater system. Stormwater, including roof runoff, must be kept separate from sanitary sewage at all times, and the connection of a building storm drain to a sanitary sewer is prohibited.

For development projects requiring review under Massachusetts Environmental Policy Act (MEPA) and that add a significant amount of new wastewater flow to the sewer system, DEP currently requires a reduction of 4 units of infiltration or inflow for each new unit of wastewater added. The Commission supports the DEP in this requirement. Developers of large projects can propose their own I/I reduction measures and submit them for review and approval by the Commission; they can select I/I reduction projects

Table 3 - 4
Private Infiltration Devices Installed in 2010

PROJECT #	ADDRESS #	STREET NAME	DISTRICT	SIGNATURE DATE	INFILTRATION SYSTEM
09228	1000	WASHINGTON ST	SEND	1/25/2010	LEACHING BASIN
09255	21	HEMENWAY ST	FEKE	1/27/2010	PERFORATED PIPE
10008	47	GATES ST	SBOS	1/29/2010	DRYWELL
10040	15	GREENWICH PARK	BBBH	2/5/2010	CULTEC CHAMBER
09041	40-42	UPTON ST	SEND	2/11/2010	CULTEC CHAMBER
09259	27	DEVENS ST	CHAR	2/11/2010	CULTEC CHAMBER
10023	82	BAKER ST	WROX	2/16/2010	DRYWELL
10044	61	GRAYFIELD AV	WROX	2/23/2010	DRYWELL
09256	300	FIRST AV	CHAR	2/24/2010	PERFORATED PIPE
10004	829	LA GRANGE ST	WROX	2/25/2010	DRYWELL
10025	280-296	SEAVER ST	ROXB	2/25/2010	DRYWELL
10005	17	PARK LN	ROXB	2/25/2010	LEACHING BASIN
09166	110	ARLINGTON ST	CENT	2/25/2010	PERFORATED PIPE
10019	99-101	M ST	SBOS	3/3/2010	CULTEC CHAMBER
10056	109	MINOT ST	SDOR	3/3/2010	DRYWELL
10046	4238-4244	WASHINGTON ST	ROSL	3/4/2010	DRYWELL
10026	134 - 140	CRAWFORD ST	ROXB	3/5/2010	CULTEC CHAMBER
09253	235	BUNKER HILL ST	CHAR	3/5/2010	DRYWELL
09180	691	MASSACHUSETTS AV	SEND	3/10/2010	CULTEC CHAMBER
08310	14	MEEHAN ST	JAPL	3/13/2010	DRYWELL
10063	171	HARRISON AV	SEND	3/22/2010	DRYWELL
10052	288	SHAWMUT AV	SEND	3/23/2010	CULTEC CHAMBER
09245	38-44	SACKVILLE ST	CHAR	3/24/2010	DRYWELL
10020	2311	WASHINGTON ST	ROXB	3/25/2010	DRYWELL
10047	274	PARKER HILL AV	JAPL	3/29/2010	CULTEC CHAMBER
08298	1025-1065	TRUMAN PKWY	HYDE	3/31/2010	CULTEC CHAMBER
10089	410	COLUMBUS AV	SEND	4/7/2010	CULTEC CHAMBER
09252	1950	WILLIAM J DAY BLVD	SBOS	4/8/2010	CULTEC CHAMBER
10080	304	NEPONSET AV	SDOR	4/8/2010	DRYWELL
10086	225	WASHINGTON ST	SDOR	4/9/2010	CULTEC CHAMBER
10010	207	HILLSIDE ST	JAPL	4/12/2010	DRYWELL
10042	825	EAST FOURTH ST	SBOS	4/12/2010	DRYWELL
10066	280	LINCOLN ST	ALBR	4/12/2010	DRYWELL
10014	20	VINING ST	JAPL	4/12/2010	LEACHING BASIN
10022	20	FANEUIL ST	ALBR	4/14/2010	DRYWELL
10095	107-109	HOMES AV	SDOR	4/23/2010	DRYWELL
10082	45	MILFORD ST	SEND	4/26/2010	CULTEC CHAMBER
10081	27	ANSONIA RD	WROX	4/26/2010	DRYWELL
10092	7	CLIFFORD ST	HYDE	4/26/2010	DRYWELL
08082	28	MOUNT VERNON ST	NDOR	5/3/2010	DRYWELL
10068	14-16	EAST SPRINGFIELD ST	SEND	5/5/2010	LEACHING BASIN
09122	248	CHESTNUT AV	JAPL	5/6/2010	LEACHING BASIN
09147	191	ATLANTIC AV	CENT	5/10/2010	PERFORATED PIPE
09268	52	BELLE AV	WROX	5/18/2010	DRYWELL
10105	42-44	OAKVIEW TER	JAPL	5/18/2010	PERFORATED PIPE
10079	1312-1342	HYDE PARK AV	HYDE	5/21/2010	CULTEC CHAMBER
10113	140-156	WESTERN AV	ALBR	5/21/2010	CULTEC CHAMBER
10098	125	FENWAY	FEKE	5/21/2010	PERFORATED PIPE
08155	1-35	KINGBIRD RD	MATP	5/28/2010	CULTEC CHAMBER
10067	90	SMITH ST	JAPL	5/28/2010	PERFORATED PIPE
10011	1-15	BEECHLAND CIR	ROSL	6/2/2010	PERFORATED PIPE
10012	578	HUNTINGTON AV	FEKE	6/4/2010	PERFORATED PIPE
10101	54	WEST NEWTON ST	BBBH	6/11/2010	CULTEC CHAMBER
08285	838	DORCHESTER AV	NDOR	6/11/2010	DRYWELL
10110	1285-1287	HYDE PARK AV	HYDE	6/11/2010	DRYWELL
10077	1472	WASHINGTON ST	SEND	6/18/2010	PERFORATED PIPE
10059	10	ROMSEY ST	NDOR	6/21/2010	DRYWELL
10120	503	EAST FIRST ST	SBOS	6/28/2010	DRYWELL
10111	177	LAKE SHORE RD	ALBR	6/29/2010	DRYWELL

Table 3 - 4
Private Infiltration Devices Installed in 2010

10126	1196	RIVER ST	HYDE	7/1/2010	CULTEC CHAMBER
10084	214	SILVER ST	SBOS	7/10/2010	CULTEC CHAMBER
10106	1	OXFORD ST	ALBR	7/12/2010	BIO SWALE
10162	140-156	WESTERN AV	ALBR	7/12/2010	PERFORATED PIPE
08331	17-19	WENSLEY ST	JAPL	7/14/2010	CULTEC CHAMBER
10021	1500	WASHINGTON ST	SEND	7/14/2010	LEACHING BASIN
10123	307	DORCHESTER AV	SBOS	7/14/2010	LEACHING BASIN
10128	282	BEACON ST	BBBH	7/14/2010	LEACHING BASIN
10159	81-83	READVILLE ST	HYDE	7/16/2010	DRYWELL
10160	4&8	WILLOW TER	WROX	7/21/2010	DRYWELL
09262	66	BERKELEY ST	SEND	7/22/2010	PERFORATED PIPE
10112	1158-1160	TREMONT ST	ROXB	7/23/2010	DRYWELL
10121	20	EUSTIS ST	ROXB	7/23/2010	DRYWELL
10132	1345-1353	DORCHESTER AV	SDOR	7/23/2010	PERFORATED PIPE
10116	300	FIRST AV	CHAR	7/26/2010	PERFORATED PIPE
10165	10	CLAREMONT PARK	BBBH	7/28/2010	CULTEC CHAMBER
10167	69-73	ORIOLE ST	WROX	7/28/2010	DRYWELL
06383	4-8	TILESTON ST	HYDE	7/30/2010	CULTEC CHAMBER
09264	58	BERKELEY ST	SEND	7/30/2010	CULTEC CHAMBER
10177	661	TREMONT ST	SEND	7/30/2010	CULTEC CHAMBER
10127	20	MAVERICK SQ	EBOS	7/30/2010	DRYWELL
10135	74	FENWOOD RD	JAPL	7/30/2010	DRYWELL
10187	23	WINSHIP ST	ALBR	7/30/2010	DRYWELL
09023	30	WARREN ST	ALBR	8/3/2010	CULTEC CHAMBER
10164	114-116	FURBUSH RD	WROX	8/3/2010	CULTEC CHAMBER
10109	274-278	SOUTHAMPTON ST	NDOR	8/3/2010	DRYWELL
10186	521-525	EAST SEVENTH ST	SBOS	8/9/2010	DRYWELL
10155	25	LAKEVILLE RD	JAPL	8/12/2010	DRYWELL
10201	707, 709	EAST SEVENTH ST	SBOS	8/19/2010	CULTEC CHAMBER
10154	105-133	PETERBOROUGH ST	FEKE	8/19/2010	DRYWELL
10200	98	DAKOTA ST	SDOR	8/19/2010	DRYWELL
10202	24-26	MORELAND ST	ROXB	8/19/2010	DRYWELL
10144	125	MERCER ST	SBOS	8/19/2010	LEACHING BASIN
10190	19	FATHER FRANCIS J GILDAY ST	SEND	8/19/2010	PERFORATED PIPE
10133	855	LA GRANGE ST	WROX	8/25/2010	CULTEC CHAMBER
09098	88-90	BREMEN ST	EBOS	8/25/2010	DRYWELL
10171	155-157	WASHINGTON ST	SDOR	8/26/2010	CULTEC CHAMBER
10140	120	MARTIN LUTHER KING J BLVD	ROXB	8/30/2010	DRYWELL
10193	32	HILLSIDE ST	JAPL	8/30/2010	DRYWELL
10207	81	WORCESTER ST	SEND	8/31/2010	CULTEC CHAMBER
10185	85	HIGH ST	CHAR	9/1/2010	CULTEC CHAMBER
10184	44	PEARL ST	CHAR	9/9/2010	NONE
10183	20-22	MILLSTONE RD	HYDE	9/10/2010	DRYWELL
10057	8	CLAREMONT PARK	BBBH	9/15/2010	CULTEC CHAMBER
10194	29	GREENWICH PARK	BBBH	9/15/2010	CULTEC CHAMBER
09052	165	PORTER ST	EBOS	9/15/2010	PERFORATED PIPE
10238	1-3	WRIGHT S CT	SBOS	9/17/2010	DRYWELL
10055	18	BELVIDERE ST	BBBH	9/23/2010	DRYWELL
10243	161	TUDOR ST	SBOS	9/23/2010	DRYWELL
10251	653R	EAST THIRD ST	SBOS	9/23/2010	DRYWELL
08128	5-10	SAINT GEORGE ST	SEND	9/23/2010	PERFORATED PIPE
10170	370-400	WESTERN AV	ALBR	9/24/2010	CULTEC CHAMBER
10246	202	SAVIN HILL AV	NDOR	9/24/2010	DRYWELL
10212	78	RUTLAND ST	SEND	9/29/2010	DRYWELL
10136	6	ARLINGTON ST	BBBH	9/29/2010	LEACHING BASIN
10232	2504	CENTRE ST	WROX	10/1/2010	DRYWELL
10153	4	BLOOMFIELD ST	SDOR	10/1/2010	PERFORATED PIPE
10216	380	ARBORWAY	JAPL	10/4/2010	CULTEC CHAMBER
10261	62	BEACON ST	BBBH	10/5/2010	PERFORATED PIPE
08326	815	ALBANY ST	SEND	10/8/2010	DRYWELL
10189	268-270	AUSTIN ST	HYDE	10/8/2010	DRYWELL
10263	14	BRIMMER ST	BBBH	10/13/2010	PERFORATED PIPE

Table 3 - 4
Private Infiltration Devices Installed in 2010

10226	48	CHELMSFORD ST	SDOR	10/18/2010	LEACHING BASIN
10249	395	MARLBOROUGH ST	BBBH	10/19/2010	DRYWELL
10278	188	WEST BROOKLINE ST	SEND	10/19/2010	DRYWELL
06420	1-3 & 5-7	LOUIS TER	SDOR	10/20/2010	CULTEC CHAMBER
10234	33	BEAVER PL	BBBH	10/20/2010	DRYWELL
10220	23	WELLINGTON ST	FEKE	10/20/2010	LEACHING BASIN
10138	154-160	GREEN ST	JAPL	10/20/2010	PERFORATED PIPE
10252	875	MASSACHUSETTS AV	ROXB	10/21/2010	DRYWELL
10100	25	STUART ST	BBBH	10/21/2010	PERFORATED PIPE
10161	4	WOODWORTH ST	SDOR	10/22/2010	CULTEC CHAMBER
10228	77	WEST BROOKLINE ST	SEND	10/22/2010	CULTEC CHAMBER
10285	242	SHAWMUT AV	SEND	10/22/2010	CULTEC CHAMBER
10166	391	MARKET ST	ALBR	10/22/2010	DRYWELL
10175	78-82	CHURCH ST	NDOR	10/22/2010	DRYWELL
10229	54	GRAY ST	SEND	10/25/2010	CULTEC CHAMBER
10192	28	BROOKS ST	EBOS	10/25/2010	DRYWELL
10279	409	BEACON ST	BBBH	10/25/2010	DRYWELL
09226	51-67	STUART ST	CENT	10/27/2010	PERFORATED PIPE
10102	663	TREMONT ST	SEND	10/28/2010	CULTEC CHAMBER
10289	69	ORIOLE ST	WROX	10/28/2010	DRYWELL
06173	36-50	POYDRAS ST	HYDE	10/28/2010	PERFORATED PIPE
09222	244	NEWBURY ST	BBBH	11/1/2010	LEACHING BASIN
10255	1290	TREMONT ST	ROXB	11/2/2010	CULTEC CHAMBER
06035	45	NIGHTINGALE ST	ROXB	11/2/2010	LEACHING BASIN
10272	36	LIME ST	BBBH	11/2/2010	PERFORATED PIPE
10294	297	MARLBOROUGH ST	BBBH	11/8/2010	CULTEC CHAMBER
09225	67-69	ASHFORD ST	ALBR	11/8/2010	DRYWELL
10298	80-92	CROSTOWN AV	WROX	11/8/2010	DRYWELL
10276	89	MARLBOROUGH ST	BBBH	11/8/2010	LEACHING BASIN
10227	46-74	APPLETON ST	SEND	11/8/2010	PERFORATED PIPE
10254	186	MARLBOROUGH ST	BBBH	11/9/2010	CULTEC CHAMBER
10221	401	MASSACHUSETTS AV	FEKE	11/9/2010	LEACHING BASIN
10250		CLEARWAY ST	BBBH	11/15/2010	DRYWELL
10203	61	SALMAN ST	WROX	11/18/2010	DRYWELL
10217	2	NORTH GROVE ST	CENT	11/18/2010	DRYWELL
10260	272-274	LAMARTINE ST	JAPL	11/18/2010	DRYWELL
10115	2	KINGBIRD RD	MATP	11/22/2010	CULTEC CHAMBER
09187	1506	COLUMBIA RD	SBOS	11/22/2010	DRYWELL
10264	246	BOSTON ST	NDOR	11/23/2010	LEACHING BASIN
10288	81	BRENT ST	SDOR	11/23/2010	LEACHING BASIN
10257	1025	TRUMAN PKWY	HYDE	11/29/2010	CULTEC CHAMBER
10259	139	CHARLES ST	BBBH	11/30/2010	PERFORATED PIPE
10301	841	LA GRANGE ST	WROX	12/2/2010	DRYWELL
10219	100	BAY STATE RD	FEKE	12/3/2010	PERFORATED PIPE
10302	169	MARLBOROUGH ST	BBBH	12/6/2010	CULTEC CHAMBER
10315	130-134	BALLOU AV	MATP	12/6/2010	PERFORATED PIPE
10119	9	NORTH MARGIN ST	CENT	12/13/2010	DRYWELL
10214	36	SPRING ST	WROX	12/14/2010	CULTEC CHAMBER
10131	157	BERKELEY ST	BBBH	12/14/2010	DRYWELL
10304	80	TOWER ST	ROSL	12/14/2010	DRYWELL
10188	10	FORD ST	EBOS	12/16/2010	DRYWELL
10156	170-172	MAVERICK ST	EBOS	12/20/2010	DRYWELL
10048	97	WEST SPRINGFIELD ST	SEND	12/22/2010	DRYWELL
10339	6-8	MAYFIELD ST	NDOR	12/22/2010	DRYWELL
10303	20	CHAPEL RD	HYDE	12/29/2010	DRYWELL
10143	414-494	TREMONT ST	SEND	12/29/2010	LEACHING BASIN

Table 3 - 5
Privately Installed Particle Separators in 2010

PROJECT #	ADDRESS #	STREET NAME	DISTRICT	SIGNATURE DATE
10083	55	GREW AV	ROSL	1/13/2011
10205	129	LAKE ST	ALBR	1/13/2011
10143	414-494	TREMONT ST	SEND	12/29/2010
10156	170-172	MAVERICK ST	EBOS	12/20/2010
10219	100	BAY STATE RD	FEKE	12/3/2010
10257	1025	TRUMAN PKWY	HYDE	11/29/2010
10115	2	KINGBIRD RD	MATP	11/22/2010
10260	272-274	LAMARTINE ST	JAPL	11/18/2010
06173	36-50	POYDRAS ST	HYDE	10/28/2010
10263	14	BRIMMER ST	BBBH	10/13/2010
10117	237	PRESCOTT ST	EBOS	10/8/2010
10170	370-400	WESTERN AV	ALBR	9/24/2010
10144	125	MERCER ST	SBOS	8/19/2010
09023	30	WARREN ST	ALBR	8/3/2010
10127	20	MAVERICK SQ	EBOS	7/30/2010
10135	74	FENWOOD RD	JAPL	7/30/2010
10116	300	FIRST AV	CHAR	7/26/2010
10012	578	HUNTINGTON AV	FEKE	6/4/2010
10014	20	VINING ST	JAPL	4/12/2010
08298	1025-1065	TRUMAN PKWY	HYDE	3/31/2010
10046	4238-4244	WASHINGTON ST	ROSL	3/4/2010
09186	0	JFK RD	NDOR	3/2/2010
10018	225	RIVERMOOR ST	WROX	2/16/2010
09269	61	BAYSWATER ST	EBOS	2/10/2010

from a database being developed by the Commission; or they can pay a fee to the Commission in lieu of implementing an I/I reduction project.

Erosion and Sedimentation Control: Under the Sewer Use Regulations, anyone seeking to construct, repair or modify a sewer or storm drain service connection to the Commission's system, or to discharge under a Drainage Discharge Permit, may be required to prepare and implement an Erosion and Sedimentation Control Plan to prevent the introduction of sediments into the Commission's sewers and storm drains. Erosion and sediment control is also reviewed by the City of Boston's Conservation Commission when the project falls within its jurisdiction.

Fuel Dispensing Areas: Under the Commission's Requirements for Site Plans, stormwater runoff from fuel dispensing areas not covered by a canopy or other type of roof or enclosure must discharge through a particle separator or an approved oil trap before discharging to the Commission's storm drainage system or receiving waters.

Catch Basin Castings: Commission contractors are required to install metal castings with a "Don't Dump" message on sidewalks near new or reconstructed catch basins. Boston City contractors also install the castings when new sidewalks are installed. The castings are provided to the contractors by the Commission at no cost. The Commission requires that private developers install permanent "Don't Dump" catch basin castings next to any new catch basin installed as part of their projects. The developers, as well as other parties interested in obtaining the castings may purchase them from the Commission's vendor. In 2010, the Commission issued 880 catch basin castings to contractors and other parties. Of those issued, 518 were for Boston Harbor, 249 for the Charles River and 113 were for the Neponset River.

b. NPDES Stormwater Permits for Construction

Developers of projects involving disturbances of land of one acre or more are required to obtain an NPDES General Permit for Construction from the Environmental Protection Agency and the Massachusetts Department of Environmental Protection. It is the responsibility of the owner of the development or of the construction contractor to obtain the necessary NPDES General Permit for Construction. The Commission informs developers and construction contractors of this requirement through comment letters submitted to the MEPA Unit and the BRA (described below) for Environmental Impact Reports. There is also information pertaining to the EPA's requirement for an NPDES General Permit for Construction on the Commission's website at www.bwsc.org.

c. Development/Redevelopment and Coordination with Municipal Agencies

The Commission's NPDES Stormwater Permit requires the Commission to "assist, coordinate, and cooperate" with city departments and agencies to ensure that development projects within Boston are conditioned on due consideration of stormwater quality impacts, that they conform to applicable state and local stormwater requirements,

and that negative impacts to stormwater quality during the time construction is underway are prevented.

The Commission reviews environmental impact reports and notices of project changes for projects in Boston submitted to the Massachusetts Environmental Policy Act (MEPA) Unit and the Boston Redevelopment Authority (BRA). Comments were submitted to the MEPA Unit, BRA and/or other parties for thirty-six (36) projects in 2010. In most cases, copies of the letters were also sent to the Boston Environment Department.

Letters for sixteen (16) projects contained comments regarding the Commission requirements for particle separators. Letters for twenty-eight (28) projects contained comments about the Commission's requirement for retaining stormwater on site. Letters for thirty-one (31) projects contained comments regarding the requirement for Stormwater Management Plans. Twenty-two (22) letters contained comments regarding the requirement for 4 to 1 I/I reduction. If appropriate, the letters informed the proponent that a Drainage Discharge Permit may be required for any temporary or permanent non-stormwater discharge to the drainage system.

3.4 ROADWAYS

As contained in its enabling act, the Commission's authority is limited to the operation and maintenance of the water distribution system and the wastewater collection and stormwater drainage systems which serve the City of Boston. The Commission's jurisdiction does not extend to the operation and maintenance of roadways. However, through informal communications with officials from agencies having the responsibility for the management of city roadways, the Boston Public Works Department (PWD), the state Department of Conservation and Recreation (DCR), and the Massachusetts Department of Transportation, (Mass DOT) the Commission has learned that agency officials are well aware of the environmental issues relating to roadway management, specifically the use of roadway deicing chemicals and the benefits of frequent street sweeping.

a. Snow Removal and Road Deicing Practices

Snow plowing and road deicing of most of the public roads in Boston are the responsibility of the PWD. PWD officials have emphasized that public safety is their primary concern in determining how much sand and salt is applied to roadways and that weather conditions dictate application levels; if the roads are icy and snow covered, sand and salt must be applied to produce a clear and dry roadway surface. The public safety issue is balanced by the fact that the more deicing chemicals are used, the greater the cost to the City. Therefore, to keep costs at a minimum, the PWD uses only the amount of chemical needed to achieve the job.

The PWD performs some of the snow removal operations in the City and also has snow removal contracts. Snow is plowed to the side of the streets, but is not typically removed. A sodium chloride salt/sand mixture is used as a deicing agent, and application rates vary based on temperature and precipitation. Contractors use the City's supply of salt and sand during deicing operations.

b. Street Cleaning

Sweeping of city owned streets is conducted by the PWD or by its contractors. According to the PWD, the City has two programs for street sweeping: Posted Street Cleaning and Non-posted Street Cleaning. All non-posted streets are cleaned once a week or more if necessary. The Posted Sweeping Program is separated between a Night Program and a Daily Program. Sweepers also clean up before and after special events, such as parades, road races and neighborhood festivals.

The Night Sweeping Program includes an area from Massachusetts Avenue to the Waterfront that is swept on a nightly basis year round. The Night Sweeping Program also covers the City's major arterial routes throughout the City, which are swept once a week at night year round.

The Daily Street Sweeping Program typically operates from April 1st through November 30th. However, weather and budget conditions permitting, the program may begin earlier in the season and extend later into the fall. Each side of a posted city street on the Daily Street Cleaning Program is cleaned once every other week. Additional street sweepers may be contracted and city sweepers run more frequently during the fall leaf season.

Parking bans (signs) posted on streets serve to educate the public and to have vehicles removed on certain days so sweeping can be thorough. The parking bans are enforced by the Boston Transportation Department. If cars are not removed on designated days, owners can be fined. The fine for not removing cars on the designated days is currently \$40.

Contractors are responsible for providing their own equipment and for disposal of the collected material. Since 2009, PWD requires its contractors to use vacuum type sweepers that have dust control systems and do not require water to operate. Because these types of sweepers don't require water, they can be operated year round, even in freezing conditions. The vacuum sweepers are believed to be more efficient at collecting smaller grit particles and dust. The new sweepers have saved the city thousands of gallons in water usage, and are in compliance with DEP regulations.

The PWD also has several small broom sweepers used to sweep small alleys and sidewalks. These sweepers are typically assigned to the more densely developed parts of the City, such as Chinatown, Downtown Crossing, and the North End.

The composition of the material swept up varies seasonally with sand and sediments from winter deicing activities being most evident in the spring, leaf litter during the fall months, and light litter predominating during the summer.

Roads maintained by the DCR, such as the VFW Parkway, Storrow Drive, the Riverway, and the Fenway are served primarily by separate storm drains, which are owned and maintained by the DCR. DCR drainage systems in Boston are subject to the EPA's Stormwater Phase 2 program. DCR's stormwater management program include "good housekeeping" measures, such as street sweeping of parkways, cleaning street drains and associated drainage systems and using control measures to protect sensitive receiving waters.

3.5 FLOOD CONTROL PROJECTS

Receiving water and stormwater quality impacts are considered whenever the Commission undertakes capital improvements to the drainage system, including those relating to flood control. For each project, consideration is given to re-designing or retrofitting the drainage system to provide additional pollutant removal capability.

a. Muddy River Flood Control Program

This project involves a multidisciplinary approach to improving the Muddy River watershed and the adjacent parklands, referred to as the Emerald Necklace located in Boston, Brookline and Newton. The project, which is managed by the Boston Parks and Recreation Department and the Town of Brookline, involves measures to increase the hydraulic capacity of the river and implementation of stormwater Best Management Practices in the watershed to improve stormwater and receiving water quality.

Between 2000 and 2002, the Commission provided \$1.5 million in funding to support the project. Dredging of the Charlesgate portion of the Muddy River was completed in 2002. Also in 2002, the Commission reviewed the Draft Environmental Impact Report and submitted comments to MEPA in April. The Commission reviewed the Final Environmental Impact Report in April 2003 and no comments were submitted.

The Commission continues to advise on best management practices and stormwater management for this program by participating in meetings held with the Boston Parks and Recreation Department, Town of Brookline representatives, consultants responsible for implementing the program and the Muddy River Citizens Advisory Committee.

3.6 PESTICIDE, HERBICIDE AND FERTILIZER APPLICATION

Under the Stormwater Permit, the Commission was required to cooperate with municipal agencies to evaluate existing measures to reduce the discharge of pollutants related to the application of pesticides, herbicides and fertilizers (PHFs) applied by municipal or public agencies. The Commission was also required to evaluate the necessity to implement controls to reduce the discharge of pollutants related to the application and distribution of

PHFs by commercial and wholesale distributors and applicators. The Commission performed evaluations of existing programs and data in 2001, and reported the results in the 2001 Stormwater Management Report. From the results of the evaluation, it was concluded that additional monitoring and controls for PHF use by municipal agencies and their contractors and for commercial and wholesale distributors was not warranted. Discussion of this analysis can be found in Section 3.6 of the 2009 Stormwater Management Report.

3.7 PUBLIC EDUCATION

a. Billing Inserts

Several times a year, in the monthly water and sewer bill, the Commission provides customers with an informational newsletter called *Currents*. The newsletter is aimed at providing customers with useful information concerning the Commission's programs and activities. Issues of *Currents* announce upcoming events such as the Commission's community outreach meetings and city sponsored events such as household hazardous waste, oil and paint collections. In addition, articles feature tips on pollution prevention, and proper disposal of used motor oil, antifreeze, household hazardous materials, yard debris, pet waste and other wastes.

In 2010, the April Issue of *Currents* included a bill stuffer designed to encourage residents to report illegal dumping. The May/June and September/October issues of *Currents* promoted the City's household hazardous waste collection events. The July/August issue of *Currents* included a feature designed to educate people about the city's dog fouling regulation and to encourage them to prevent contamination of stormwater by cleaning up after their pets. Copies of the bill stuffer and *Currents* newsletters are provided at the end of this section.

b. Commission Web Site

The Commission's web site located at www.bwsc.org, provides a variety of information concerning the Commission's programs, activities, and requirements. It provides the Commission's Sewer Use Regulations and Site Plan Requirements, it includes pollution prevention advice for residents, businesses and construction, and it provides information concerning the Commission's catch basin stenciling program.

c. Catch Basin Stenciling and Castings

Public awareness regarding the connection between catch basins and water quality is promoted through the Commission's Catch Basin Stenciling Program. Through the Catch Basin Stenciling, volunteers are mobilized to stencil "Don't Dump" messages next to catch basins. Upon request, the Commission coordinates stenciling projects and provides instruction, stencils, paint, rollers, brooms, informational leaflets, and safety equipment.

The Catch Basin Stenciling Program is promoted through the Commission's web site and billing inserts and through press releases, community events and outreach meetings, presentations to public schools, and through local watershed associations.

Organizations participating in the Commission's 2010 catch basin stenciling program included Northeastern Center for Community Service, City Year, The Boston Harbor Association, the East Boston Maverick Community Center, the Boston Refugees Youth Enrichment Program of Dorchester, and the BRYE Summer Group.

Harvard University Extension School students established a dedicated group, called Quench, to plan a curriculum and educate future generations about the interconnectivity of water to the local and international community. The group led a team of elementary school students in Charlestown in stenciling catch basins in Charlestown. Materials and advice for the stenciling effort were provided by the Commission. Information regarding the effort is posted on the Extension Schools website at <http://www.extension.harvard.edu/spotlight/charlestown/>

Commission contractors are required to install metal castings with a "Don't Dump" message on sidewalks near new or reconstructed catch basins. Boston City contractors also install the castings when new sidewalks are installed. The castings are provided to the contractors by the Commission at no cost. The Commission requires that private developers install permanent "Don't Dump" catch basin castings next to any new catch basin installed as part of their projects. The developers, as well as other parties interested in obtaining the castings may purchase them from the Commission's vendor. The Commission issued 880 catch basin castings to contractors and other parties in 2010. Of those issued, 518 were for Boston Harbor, 249 for the Charles River and 113 were for the Neponset River.

d. "Scoop the Poop" Education

The Commission's July/August issue of *Currents* was designed to educate residents about the City's pooper scooper law, and to encourage pet owners to clean up after their pets. Also in 2010, the Commission provided the city's Animal Control Unit with 200 copies of a "Scoop the Poop" leaflet to distribute at local rabies clinics throughout the year. A copy of the leaflet is provided at the end of this section.

e. Doorhangers

The Commission's Sewer Use Regulations prohibit the dumping of any material into a catch basin, including any solid waste, construction debris, paint or painting product, antifreeze, hazardous waste, or oil. In many cases, by the time the Commission's investigation crew reaches the location of the reported dumping incident, the violator is already gone or cannot be confirmed. To address this issue, the Commission has produced a door hanger which is distributed in neighborhoods where incidents of illegal dumping have occurred. The door hanger conveys the "Don't Dump" message and informs people of the prohibition on illegal dumping. It also serves to alert people to

keep a look out for violators and provides a phone number for reporting illegal dumpers. An example of the doorhanger is provided at the end of this section.

f. Stormwater Outfall Signs

Although not required under the Stormwater Permit, the Commission posted permanent identification signs on or near about 190 of its storm drain outfalls in 2000 and 2001. In some cases it was not possible to post a sign near the outfall due to the inaccessibility of the outfall or the lack of any nearby structures upon which to put the sign. The blue-colored signs state that the drain is owned by the Commission, and the stormwater outfall number is provided. The purpose of the signs is to aid in the identification of the outfalls by field crews and to facilitate reporting and tracking of problems, such as dry weather discharges.

In 2010 all of the Commission's storm drain outfalls were visually inspected. Inspectors noted whether the outfall had a sign posted. The results of the outfall inspections are currently under review.

g. Stormwater Management Brochure for Small Commercial Businesses

In 2001, the Commission prepared a brochure on stormwater management for small commercial businesses. The brochure is currently available on the Commission's website. The brochure is intended to increase awareness of the relationship between improper disposal of pollutants and contamination of receiving waters. It describes specific measures that can be taken by business owners and their employees to prevent the discharge of pollutants to the drainage system. The brochure is available and can be downloaded from the Commission's website. A copy of the brochure is provided at the end of this section.

3.8 SUPPORT FOR WATERSHED AND ENVIRONMENTAL AGENCIES AND ORGANIZATIONS

Each year the Commission provides funding to Watershed Associations and Environmental Organizations to support their water quality monitoring programs and public education efforts. The Charles River Watershed Association, Neponset River Watershed Association, and the Boston Harbor Association each received \$10,000 from the Commission in 2010.

Support for the EPA, and DEP's watershed programs is provided on an ongoing basis by the Commission. As needed, the Commission shares monitoring and rain gauge data, investigates reports of illegal connections or other non-stormwater discharges to waterways, participates in planning meetings, and provides technical advice.

Don't Dump!



**Stormwater drains to
Boston Harbor and local rivers**

Help protect our water resources.

Most catch basins in Boston connect to storm drains that discharge the runoff to the nearest brook, river or the Boston Harbor. Substances carelessly spilled or dumped onto our streets or directly into a catch basin can pollute Boston Harbor and the Charles, Neponset and Mystic Rivers.



Boston Water and Sewer Commission • 980 Harrison Ave • Boston, MA 02119 • (617) 989-7000 • www.bwsc.org

Report illegal dumping



The dumping of any substance into a catch basin is illegal in Boston. Prohibited substances include household chemicals, fertilizers, insecticides, automotive fluids, oils, paints, pet waste and commercial waste. Anything dumped into a catch basin can travel through storm drains to local streams, rivers and into Boston Harbor. These pollutants harm water quality and can kill aquatic life.

**To report an illegal dumping incident,
contact the Boston Water and Sewer
Commission immediately at **617-989-7000****



Boston Water and Sewer Commission • 980 Harrison Ave • Boston, MA 02119 • (617) 989-7000 • www.bwsc.org

Currents

Vincent G. Mannering, Executive Director

May • June 2010

Tune Up Your Property for Spring

Spring is the perfect time to check your property to identify repairs and change routines in order to save money on your water bill. A hidden leak can cost you hundreds of dollars and wastes water.



Make Repairs

- Repair dripping faucets by replacing washers.
- Check toilets for a tank leak, running water or worn out parts.
- Encourage tenants to report running toilets or dripping faucets.
- Retrofit wasteful household fixtures with those designed to restrict flow. Save up to 50% in water usage.
- Replace an old toilet that uses 3-5 gallons per flush with an ultra-low volume (ULV) toilet which uses 1.6 gallons per flush. Save 70% in water flushed.
- Outfit your garden hose with a shut-off nozzle which can be adjusted down to a fine spray.



- If you need the water off in order to make a repair, call BWSC at (617) 989-7000.



Change Your Routine

- Do not let the faucet run while brushing teeth, shaving, cleaning vegetables, or doing the dishes.
- Soak dishes instead of rinsing.
- Do not use running water to thaw meat or other frozen foods.
- Run only full loads of laundry and dishes.
- Avoid flushing toilets unnecessarily. Dispose of trash in the proper receptacle.
- Use a broom, not the hose, to clean sidewalks and driveways.
- Water plants and grass early in the morning to minimize evaporation.

See the Results

- Monitor your water consumption online at www.bwsc.org.

- Find out where your water meter is and learn how to use it to check for hidden leaks (refer to the FAQ section on our website www.bwsc.org or call BWSC Customer Service).



NEIGHBORHOOD SITE LOCATIONS

The Boston Water and Sewer Commission will have a representative from the Community Services Department at neighborhood locations (see schedule below) to offer assistance. Please make note of the dates and time for each site.

BWSC staff will be available to:

- Accept payments (check or money order only—no cash).
- Process elderly or disabled persons discount forms.
- Arrange payment plans for delinquent accounts.
- Resolve billing or service complaints.
- Review water consumption data for your property.
- Explain BWSC customer programs.

Brighton

Allston/Brighton APAC

143 Harvard Avenue
Thursdays 10am–1pm
5/20, 6/24

Charlestown

Golden Age Center

382 Main Street
Tuesdays 11am–1pm
5/25, 6/29

Chinatown

CCBA

90 Tyler Street
Thursdays 12 noon–1pm
5/13, 6/10

Dorchester

Uphams Corner Municipal Building

500 Columbia Road
Fridays 10am–12 noon
5/14, 6/11

East Boston

East Boston APAC

21 Meridian Street
Wednesdays 10am–1pm
5/5, 5/12, 6/2, 6/9

Fields Corner

Kit Clark Senior Center

1500 Dorchester Avenue
Mondays 10am–1pm
5/17, 6/21

Hyde Park

Hyde Park Municipal Building

1179 River Street
Tuesdays 10am–1pm
5/4, 5/18, 6/1, 6/15

Jamaica Plain

Curtis Hall Municipal Building

20 South Street
Mondays 10am–1pm
5/10, 6/14

Mattapan

Mattapan Public Library

1350 Blue Hill Avenue
Fridays 10am–12 noon
5/7, 6/4

North End

North End Public Library

25 Parmenter Street
Thursdays 10am–1pm
5/6, 6/3

Roslindale

Greater Roslindale Medical and Dental Center

4199 Washington Street
Tuesdays 10am–1pm
5/11, 6/8

South Boston

SB Action Center

424 W. Broadway
Wednesdays 10am–1pm
5/19, 6/23

West Roxbury

Roche Community Center

1716 Centre Street
Fridays 10am–1pm
5/28, 6/18

South End & Roxbury

*Residents of the South End and Roxbury are invited to use the BWSC Headquarters as their Neighborhood Site Location.

BWSC HEADQUARTERS

980 Harrison Ave.

Monday–Friday 8am–5pm

Wednesdays 8am–7pm



HELP THE ENVIRONMENT PROPERLY DISPOSE OF HOUSEHOLD HAZARDOUS WASTE

Boston residents can bring household products labeled toxic, flammable, reactive, corrosive or poisonous to the Drop-Off locations for recycling. The proper recycling of hazardous products helps to prevent environmental pollution.

June 12, 2010 (9 am - 2 pm) at

UMass, Harbor Campus

Morrissey Blvd, Dorchester

June 26, 2010 (9 am to 2 pm) at

West Roxbury Public Works Yard

315 Gardner Street

West Roxbury at Millennium Park

Boston Residents Only

No Commercial Waste Accepted

Proof of Residency Required

For more information call the

Boston Recycling Hotline

617-635-4959

Visit www.cityofboston.gov/publicworks for the Hazardous Waste flyer & list of acceptable products.

FREE WATER CONSERVATION KITS

Conserve water at home by installing free kitchen and bathroom faucet aerators, and a low-flow replacement showerhead. Check for toilet leaks by using dye tablets in the toilet tank. Free kits are available to Boston homeowners who have not received a kit in the past two years. To request a kit, go to www.bwsc.org (select the Community Outreach section) or call the Community Services Department at 617-989-7000.



Currents

Vincent G. Mannering, Executive Director

July • August 2010

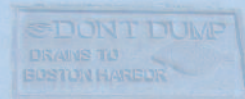
Dog Waste: Dealing with a Real Problem

Dog owners can help prevent contamination of local waterways, parkland, and beaches by picking up after their dogs. Dog waste should be placed in a proper trash receptacle. Never throw rubbish into the stormwater grates in the street.

During rainy weather, dog waste that is not scooped up is carried in stormwater runoff to catch basins. Catch basins connect to Boston's storm drain system that discharges to Boston Harbor as well as the Charles, Muddy, Mystic and Neponset Rivers. Dog waste pollutes beaches and parkland in addition to being unpleasant and unhealthy for swimmers, sunbathers, and aquatic life.

The City of Boston's dog fouling ordinance (also called the Pooper Scooper Law) requires dog owners to remove and properly dispose of any feces left by their dogs. This ordinance covers waste left by dogs on sidewalks, streets, parks and neighbors' lawns. Violations of this regulation are punishable by a fine for each occurrence.

The Boston Water and Sewer Commission is dedicated to improving the harbor and ensuring cleaner, more enjoyable rivers and beaches. Please help by picking up after your pet and disposing of the waste properly.



NEIGHBORHOOD SITE LOCATIONS

The Boston Water and Sewer Commission will have a representative from the Community Services Department at neighborhood locations (see schedule below) to offer assistance. Please make note of the dates and time for each site.

BWSC staff will be available to:

- Accept payments (check or money order only—no cash).
- Process elderly or disabled persons discount forms.
- Arrange payment plans for delinquent accounts.
- Resolve billing or service complaints.
- Review water consumption data for your property.
- Explain BWSC customer programs.

Brighton

Allston/Brighton APAC

143 Harvard Avenue
Thursdays 10am–1pm
7/22, 8/26

Charlestown

Golden Age Center

382 Main Street
Tuesdays 11am–1pm
7/27, 8/31

Chinatown

CCBA

90 Tyler Street
Thursdays 12 noon–1pm
7/8, 8/12

Dorchester

Uphams Corner

Municipal Building

500 Columbia Road
Fridays 10am–12 noon
7/16, 8/13

East Boston

East Boston APAC

21 Meridian Street
Wednesdays 10am–1pm
7/7, 7/14, 8/11, 8/18

Fields Corner

Kit Clark Senior Center

1500 Dorchester Avenue
Mondays 10am–1pm
7/19, 8/23

Hyde Park

Hyde Park

Municipal Building

1179 River Street
Tuesdays 10am–1pm
7/6, 7/20, 8/10, 8/24

Jamaica Plain

Curtis Hall

Municipal Building

20 South Street
Mondays 10am–1pm
7/12, 8/9

Mattapan

Mattapan Public Library

1350 Blue Hill Avenue
Fridays 10am–12 noon
7/9, 8/6

North End

North End Public Library

25 Parmenter Street
Thursdays 10am–12 noon
7/1, 8/5

Roslindale

Greater Roslindale

Medical and Dental Center

4199 Washington Street
Tuesdays 10am–1pm
7/13, 8/17

South Boston

SB Action Center

424 W. Broadway
Wednesdays 10am–1pm
7/28, 8/25

West Roxbury

Roche Community Center

1716 Centre Street
Fridays 10am–1pm
7/30, 8/26

South End & Roxbury

*Residents of the South End and Roxbury are invited to use the BWSC Headquarters as their Neighborhood Site Location.

BWSC HEADQUARTERS

980 Harrison Ave.

Monday–Friday 8am–5pm

Wednesdays 8am–7pm



REPORT OPEN HYDRANTS

Hydrants are designed to provide water for fire protection. The illegal operation of fire hydrants is dangerous and can result in loss of pressure, breaks, and other malfunctions during an emergency, when response time is critical. Lost water is costly and the burden is shared by every paying customer.

If you see a hydrant being used without a water meter, please call 617-989-7000 to report the location.

With summer temperatures rising and people looking for ways to cool off, BWSC encourages residents to be responsible and keep our city safe.

Prevent lost water.
Maintain fire protection.



Currents

Vincent G. Mannering, Executive Director

September • October 2010

Do Your Part to Protect the Environment



Some chemicals, household products and even yard waste can harm the environment if not properly disposed. Boston residents can drop off household hazardous waste to be recycled. Yard waste can be bundled and placed on the curbside for pick-up during Leaf and Yard Waste Collection Days.

Everyone can help to protect the environment from harmful waste.

The City of Boston's Household Hazardous Waste Drop Off Days:

October 9, 2010 (9 am– 2 pm)

at University of Massachusetts, Parking Lot D
Harbor Campus, Morrissey Blvd, Dorchester

November 13, 2010 (9 am– 2 pm)

at West Roxbury Public Works Yard
315 Gardner Street, West Roxbury
at Millennium Park

- For Boston residents only
- No commercial waste accepted
- Proof of residency required.

For more information please call the Mayor's Hotline
at (617) 635-4500.

Unacceptable Household Hazardous Waste

The following is a list of materials which will not be accepted as hazardous waste:

Explosives, medical waste (biochemical and pharmaceutical), PCB's, radioactive material and materials with no hazardous constituents.



Boston residents, shred and recycle your
unwanted confidential documents on

October 9th from 9 am to 3 pm

at the Bayside Expo Parking Lot

200 Mt. Vernon St. Dorchester, MA 02125.

Up to 10 boxes per resident are FREE.



Neighborhood Site Locations

The Boston Water and Sewer Commission will have a representative from the Community Services Department at neighborhood locations (see schedule below) to offer assistance. Please make note of the dates and time for each site.

BWSC staff will be available to:

- Accept payments (check or money order only—no cash).
- Process elderly or disabled persons discount forms.
- Arrange payment plans for delinquent accounts.
- Resolve billing or service complaints.
- Review water consumption data for your property.
- Explain BWSC customer programs.

Brighton
Allston/Brighton APAC
143 Harvard Avenue
Thursdays 10am–1pm
9/23, 10/21

Charlestown
Golden Age Center
382 Main Street
Tuesdays 11am–1pm
9/28, 10/26

Chinatown
CCBA
90 Tyler Street
Thursdays 12 noon–1pm
9/16, 10/14

Dorchester
Uphams Corner
Municipal Building
500 Columbia Road
Fridays 10am–12 noon
9/17, 10/15

East Boston
East Boston APAC
21 Meridian Street
Wednesdays 10am–1pm
9/1, 9/8, 10/6, 10/13

Fields Corner
Kit Clark Senior Center
1500 Dorchester Avenue
Mondays 10am–1pm
9/27, 10/18

Hyde Park
Hyde Park
Municipal Building
1179 River Street
Tuesdays 10am–1pm
9/7, 9/21, 10/5, 10/19

Jamaica Plain
Curtis Hall
Municipal Building
20 South Street
Mondays 10am–1pm
9/13, 10/25

Mattapan
Mattapan Public Library
1350 Blue Hill Avenue
Fridays 10am–12 noon
9/10, 10/8

North End
North End Public Library
25 Parmenter Street
Thursdays 10am–12 noon
9/2, 10/7

Roslindale
Greater Roslindale
Medical and
Dental Center
4199 Washington Street
Tuesdays 10am–1pm
9/14, 10/12

South Boston
SB Action Center
424 W. Broadway
Wednesdays 10am–1pm
9/22, 10/27

West Roxbury
Roche Community Center
1716 Centre Street
Fridays 10am–1pm
9/24, 10/22

South End & Roxbury
*Residents of the South End and Roxbury are invited to use the BWSC Headquarters as their Neighborhood Site Location.

BWSC HEADQUARTERS
980 Harrison Ave.

Monday–Friday 8am–5pm
Wednesdays 8am–7pm

Protect Yourself Always Ask for Identification



Before allowing anyone into your home or property, always ask for identification. Boston Water and Sewer Commission (BWSC) employees and consultants are required to provide you with an official photo ID card.

BWSC employees on the road never ask for money. Payments are only accepted by mail, at the BWSC main office, online at www.bwsc.org or at a designated neighborhood payment location (see list on the left).

If you are unsure about letting a BWSC employee into your home, call (617) 989-7000 for verification. Ask for the Community Services Department.

Boston's Leaf & Yard Waste Collection October 18 to November 27

Leaves can become slippery and heavy when wet. Removing leaves keeps walkways safe and helps stormwater properly drain into catch basins. Every year the Boston Public Works Department helps city homeowners recycle leaves and yard waste by providing free curbside collection. This yard waste is recycled and composed to be used as a natural fertilizer for Boston's community gardens.

Note: There is no yard waste pick-up between October 1 - 15. Residents should hold their yard waste for the collection days.

Guidelines

- Leaves, grass and twigs can be placed in paper leaf bags or open barrels labeled "yard waste" (no plastic bags).
- "Yard Waste" stickers for barrels are available by calling 617-635-4500 or online at www.cityofboston.gov.
- Tie branches with string, 3 ft. maximum length. Do not put branches in barrels.
- Put barrels, bags and branches on the curb by 7:00 am on your Recycling Day from October 18 through November 27, 2010.

For more information, contact Boston's Recycling Office at 617-635-7573 or 617-635-4959.



Scoop the Poop!

The City of Boston's dog fouling ordinance (also called the Pooper Scooper Law) requires dog owners to remove and properly dispose of any feces left by their dogs. This ordinance covers waste left by dogs on sidewalks, streets, parks, and neighbors' lawns. Violation of this regulation is punishable by a fine for each occurrence.

Dog owners can help prevent contamination of local waterways, parklands, and beaches from dog waste by picking up after their dogs. After picking up dog waste, it should be placed in a trash receptacle or a place specifically for dog waste. Never throw dog waste into the grates in the street—these are catch basins.

During rainy weather, dog waste that is not scooped up is carried in stormwater runoff to catch basins. Catch basins connect to Boston's storm drain system that discharges to Boston Harbor or the Charles, Muddy, Mystic or Neponset Rivers. Dog waste can pollute beaches, fisheries, and parklands in addition to being unpleasant and unhealthy for swimmers, sunbathers, and fish life.



Boston Water and Sewer Commission
980 Harrison Avenue, Boston MA 02119
617.989.7000 • www.bwsc.org

© 2004 CCU 274C





The Boston Water and Sewer Commission (BWSC) is dedicated to ensuring cleaner, more enjoyable rivers and beaches, as well as an unspoiled harbor. However, we need your help! So, if you are a dog owner, please pick up after your pet and dispose of the waste properly!

To learn more ways about how you can help prevent pollution, contact BWSC's Community Services Department at (617) 989-7000, or visit the Commission's website at **www.bwsc.org**.



Boston Water and Sewer Commission



DON'T DUMP!

**A catch basin dumping violation has been reported
in your neighborhood!**

*The substance checked below has been found in a catch basin
or storm drain near your home or business:*

- ☐ Motor oil
- ☐ Antifreeze
- ☐ Grease
- ☐ Paint
- ☐ Construction debris
- ☐ Fresh concrete, mortar or cement
- ☐ Yard waste
- ☐ Chemicals
- ☐ Paper or garbage
- ☐ Pet waste
- ☐ Other

*Substances dumped into catch basins may discharge directly to
streams, rivers and Boston Harbor, causing pollution of local
waterways. The dumping of any material into catch basins is
prohibited under the Boston Water and Sewer Commission's
Sewer Use Regulations. Catch basin dumping violations carry
severe penalties, up to \$5,000 per incidence.*

**TO REPORT A CATCH BASIN DUMPING
INCIDENT, CALL:**

**BOSTON WATER AND SEWER COMMISSION
(617) 989-7000**



DON'T DUMP!

**A catch basin dumping violation has been reported
in your neighborhood!**

*The substance checked below has been found in a catch basin
or storm drain near your home or business:*

- ☐ Motor oil
- ☐ Antifreeze
- ☐ Grease
- ☐ Paint
- ☐ Construction debris
- ☐ Fresh concrete, mortar or cement
- ☐ Yard waste
- ☐ Chemicals
- ☐ Paper or garbage
- ☐ Pet waste
- ☐ Other

*Substances dumped into catch basins may discharge directly to
streams, rivers and Boston Harbor, causing pollution of local
waterways. The dumping of material into catch basins is
prohibited under the Boston Water and Sewer Commission's
Sewer Use Regulations. Catch basin dumping violations carry
severe penalties, up to \$5,000 per incidence.*

**TO REPORT A CATCH BASIN DUMPING
INCIDENT, CALL:**

**BOSTON WATER AND SEWER COMMISSION
(617) 989-7000**

Catch Basin Stenciling Program



Maintenance and cleaning of catch basins not located on a public street is the responsibility of the property owner. No material should ever be emptied into a catch basin, even if it has been diluted with water. In order to educate employees and discourage illegal dumping, property owners may wish to stencil their catch basins with a "Don't Dump" message. The Boston Water and Sewer Commission (BWSC) will loan "Don't Dump" stencils to interested business owners and managers. For owners planning new or resurfacing of existing parking lots, permanent "Don't Dump" castings are available for purchase. For further information, contact the Commission's Communications Department at (617) 989-7000.

City of Boston's Site Cleanliness Ordinance

The City of Boston has a Site Cleanliness Ordinance to address litter and rodent control problems in the city. All businesses and residences using bulk dumpsters, including food and beverage establishments, automotive establishments and bulk refuse container storage lots, must have a site cleanliness license issued by the Boston Inspectional Services Department. Failure to comply with the ordinance may result in fines, and repeated violations may result in closure of the business. For further information, contact the Boston Inspectional Services Department at (617) 635-5352.



Report Illegal Dumping

The dumping of any material into a catch basin is illegal in Boston. If you observe someone dumping, immediately report it to the Boston Water and Sewer Commission at (617) 989-7000.

CONTACT INFORMATION

Storm Drain Stenciling Program

Boston Water and Sewer Commission
Communications Department
980 Harrison Avenue
Boston, MA 02119
(617) 989-7000
pubrel@bwsc.org

Site Cleanliness Ordinance

Boston Inspectional Services Department
1010 Massachusetts Avenue, 5th Floor
Boston, MA 02118
(617) 635-5352

Hazardous Waste

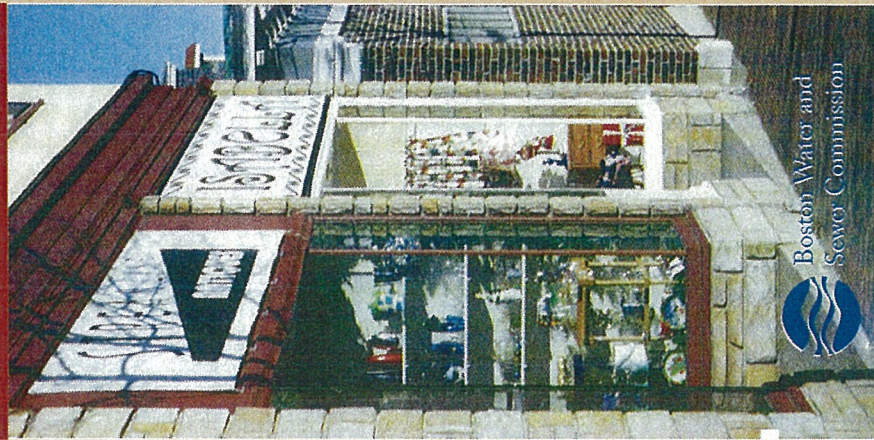
Hotline for Businesses

Department of Environmental Protection
One Winter Street
Boston, MA 02108
(617) 292-5898



Boston Water and Sewer Commission
980 Harrison Avenue • Boston, MA 02119
(617) 989-7000 • www.bwsc.org

Stormwater Management for Small Businesses



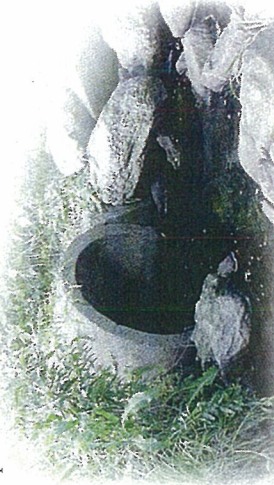
Stormwater Management for Small Businesses

Only stormwater or clean snowmelt should enter a catch basin.

When it rains, stormwater runs off the streets, sidewalks and roofs into the grates or drains, called "catch basins", located in streets and parking lots. Most catch basins in Boston connect to storm drains that discharge the runoff, without treatment, to the nearest brook, river, pond or into the ocean.

When stormwater runs over driveways, sidewalks, parking lots and streets, it can pick up pollutants. These may include toxic contaminants such as motor oil, antifreeze, fertilizers and pesticides, or other contaminants such as pet waste, sand, dirt and litter. Pollutants can enter waterways even when it's not raining. Car and pavement washing, lawn watering, and melting snow as well as the direct dumping or leaking of material into catch basins can contribute to pollutants in the waterways. These pollutants may harm or kill aquatic life, reduce the beauty of the natural resources, and impair waters to the point that they must be closed to fishing, clamming and swimming.

Property owners are responsible and liable for all pollutants leaving their property, including contaminated stormwater. Here are some things you and your employees can do to prevent pollutants from getting onto the streets, into catch basins and into our rivers, ponds and ocean.



Trash & Litter Control

- Provide trash receptacles in highly visible areas inside and outside of your establishment and at the exit, if possible.
- Provide outdoor receptacles for cigarettes, particularly in employee break areas.
- Sweep outdoor serving areas, sidewalks, parking lots and loading docks at least once a day to collect debris, litter and sand, and dispose of them in the trash, NOT a catch basin.
- If you must hose down an area, direct the runoff towards a grassy landscaped area. Detergents and chemical cleaners should not be used to wash sidewalks or driveways.
- Use dry methods to clean up outdoor spills, such as sweeping, absorbent towels or cat litter. If not hazardous, place the material in the trash. A spill should never be hosed into a catch basin.

Dumpster Maintenance

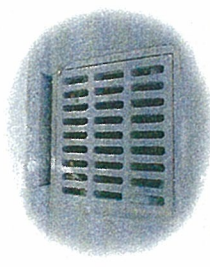
- To prevent leaks and refuse from spilling into the drainage system, locate solid waste containers away from catch basins if possible.
- Keep the area surrounding your dumpster swept and the lid closed. Make sure the clean-out plug is properly secured to prevent leaking.
- Avoid overfilling your dumpster. Overfilling makes it difficult for the waste contractor to empty the dumpster without spilling refuse.
- Have your dumpster properly cleaned on a regular basis by the collection company. The interior of a dumpster should never be hosed down.
- Maintain adequate spill equipment on-site to clean up spills and releases from the solid waste container.

Property Maintenance

- Dispose of all waste wash water into a janitorial sink or floor drain that is properly connected to the sanitary sewer system. Never pour wash water onto a parking lot, alleyway, sidewalk or street, as all these areas ultimately discharge to local waterways. If you use a professional cleaning service, ask it to follow the same guidelines.
- Use landscaping fertilizers and pesticides sparingly or not at all. To help prevent chemical run-off into local waterways, landscaping chemicals should not be applied when rain is forecasted. If you use a professional landscaping service, ask it to follow the same guidelines.
- Collect leaf litter and yard clippings. Dispose of them in the trash or donate them to a local community garden for use as compost. Compost and debris should not be disposed of in a catch basin.

Winter Maintenance Practices

- Avoid excessive salting and sanding of sidewalks and private parking lots during the winter months, without compromising public safety.
- Sweep sidewalks and parking lots frequently, particularly during the winter and spring months, to reduce the amount of sediment and salt carried into storm drains by snowmelt and stormwater runoff.



Storage & Disposal of Hazardous Wastes

- Inspect and properly maintain your delivery vehicles to avoid leaking fluids.
- Return used motor oil to the original retailer or have it collected by a licensed hauler for recycling.
- Develop an emergency spill response plan for outdoor storage that includes a map showing the nearest catch basins so that contamination can be prevented. Train your employees on how to implement the plan.
- Provide secure storage locations for all hazardous materials such as motor vehicle fluids, oil-based paints, pesticides, paint thinners and other solvents. If the materials are stored outside, proper enclosures and spill containment systems should be in place.
- If you are unsure as to how to dispose of a certain material, consult the manufacturer or contact the Massachusetts Hazardous Waste Hotline for Businesses at (617) 292-5898.

Special Considerations for Restaurants & Food Establishments

- Properly install and maintain any grease traps in your restaurant or food service establishment, in accordance with Boston Water and Sewer Commission requirements.
- Dispose of cooking oil and grease removed from the establishment's grease trap in a receptacle that is designed to contain cooking oil and grease, or have it removed by a waste hauler for proper disposal.
- Don't pour cooking oil and grease into sinks, floor drains, in a solid waste container, into a catch basin or on the ground outdoors.
- Wash garbage cans, floor mats and greasy kitchen equipment in designated wash areas that drain to a sanitary sewer.

4.0 REPRESENTATIVE AND RECEIVING WATER MONITORING, AND BMP DEMONSTRATION PROGRAMS

4.1 PREVIOUSLY COMPLETED MONITORING PROGRAMS

Under the permit, the Commission was required to monitor stormwater quality in areas representative of different land uses and receiving water quality during wet weather. The Commission was also required to implement a demonstration program designed to evaluate the effectiveness of a non-structural stormwater Best Management Practice.

The Commission completed all of the required monitoring and the demonstration program within the first five years of the permit. In 2004, because there were funds remaining in the monitoring program contract, the Commission extended the contract duration, and an additional round of receiving water monitoring was performed in 2005. In 2006, the Commission extended the monitoring program contract again, and added \$10,039 to the contract, to allow for one more year of receiving water monitoring. In total, the Commission completed six years of receiving water monitoring.

In 2007, anticipating that the Commission's permit would soon be re-issued by EPA/DEP, the Commission sent a letter to EPA/DEP stating that it had fulfilled all of the monitoring requirements of the existing permit and there were no immediate plans to continue representative and receiving water monitoring. Since there was no response from EPA or DEP regarding the letter, it was concluded that this was acceptable to EPA and DEP.

Description of the monitoring programs and the BMP Demonstration program were reported in previous Stormwater Management Reports.

4.2 2010 STORMWATER MONITORING PROGRAM

In 2010, the Commission monitored stormwater discharges from representative drainage areas and receiving waters. The same three (3) representative areas and the same five (5) sample sites within three (3) receiving water bodies were sampled as in the previous monitoring program, during three (3) storm events. The purpose of the monitoring was to determine if there was any change in the concentration of pollutants over time, and to try to determine pollutant sources. The stormwater monitoring program was completed towards the end of 2010 and the data and results are currently being compiled and analyzed. A final report is expected to be completed by the end of April 2011.

5.0 PROGRAM MODIFICATIONS

Numerous modifications were made to the Commission's stormwater programs over the last ten years. These modifications were described in previous annual Stormwater Management Reports and are summarized below. This section also describes any additional changes now being proposed.

5.1 STORMWATER MANAGEMENT PROGRAM

It is the position of the Commission that its current Stormwater Management Plan and practices are effective in reducing pollutants to the maximum extent practicable. No modifications were proposed in 2010. The Commission expects to award a three (3) year Wastewater and Stormwater Facilities Plan Study in early 2011. The study will include a review of the Commission's current Stormwater Management Plan, as well as applicable Best Management Practices.

5.2 OUTFALL SCREENING

a. Dry Weather Outfall Screening of Storm Drain Outfalls

During the 1999-2004 permit term, the Commission completed screening of its major outfalls in accordance with the permit requirements. The results of the 1999-2004 field screening was presented in previous annual reports.

The Commission completed dry weather screening of all of its outfalls (major and non-major) towards the end of 2010. The data is currently being verified and compiled. A report on the results and findings of the 2010 outfall screening is expected to be completed by the end of April, 2011.

b. Wet Weather Outfall Screening of Storm Drain Outfalls

The Commission performed wet weather screening of 24 outfalls in 2000, 15 of which were 36-inches in diameter or larger. No odor was detected in any of the outfalls screened. Clarity of the flow was cloudy or opaque in 17 cases. These observations are fairly typical for stormwater discharges. Evidence of an illegal connection was observed during wet weather screening at one outfall. However, the evidence observed (white chalky marks on the outfall walls) would have been equally visible during a dry weather inspection.

Since little useful information was being gained by the wet weather screening of the outfalls the Commission reported in its 2001 Stormwater Management Report that it would discontinue wet weather screening of the major outfalls. In a memorandum faxed by EPA to the Commission on April 29, 2003, EPA stated that the proposed elimination of the wet weather outfall screening was approved. DEP also sent a letter to the Commission dated May 13, 2003, stating that elimination of the wet weather outfall screening was “reasonable and appropriate”.

5.3 ILLEGAL CONNECTION INVESTIGATIONS AND REMEDIATION

The Commission’s Illegal Connection Investigation Programs are currently expected to continue as described in Section 2. In 2011, the Commission will continue to pursue correction of outstanding illegal connections. Priority will be given to those the illegal connections that have been outstanding for the longest time.

5.4 STORMWATER MONITORING

The Commission completed the representative and receiving water monitoring required under the permit, as described in Section 4. In 2007, anticipating that the Commission’s permit would soon be re-issued by EPA/DEP, the Commission sent a letter to EPA/DEP stating that it had fulfilled all of the monitoring requirements of the existing permit, and there were no immediate plans to continue representative and receiving water monitoring. Since there was no response from EPA or DEP regarding the letter, it was concluded that this was acceptable to EPA and DEP.

In 2010, the Commission monitored stormwater discharges from the same three drainage areas and receiving waters monitored between 1999 and 2004. The stormwater monitoring program was completed in 2010 and the data and results are currently being compiled and analyzed. A final report is expected to be completed by the end of April, 2011.

No additional representative or receiving water monitoring is planned at this time.

5.5 BMP DEMONSTRATION PROGRAMS

The Pet Waste Management and Catch Basin Effectiveness Evaluation BMP programs were concluded in 2002. No additional demonstration programs are planned at this time; however, review and analysis of existing and alternative BMPs will be included in the above-mentioned three (3) -year Wastewater and Stormwater Facilities Plan Study.

5.6 STRUCTURAL CONTROLS

A discussion of structural controls and updates as to Commission activities can be found in Section 9 of this report.

6.0 FINANCING STORMWATER MANAGEMENT

The Commission's Enabling Act empowers the Commission to independently set rates and charges for the services that it provides. The Commission is required to establish fees, rates, rents, assessments, and other charges at a level and amount at least sufficient to pay the principal, premium, and interest on bonds issued by the Commission; to maintain its reserve funds as stipulated by its General Bond Resolution; to provide funds for paying the cost of all necessary repairs, replacements, and renewals of the water and sewer systems; and to pay any and all other amounts which the Commission, by law or by contract, is obligated to pay.

In determining costs for the Commission's Stormwater Management Program and NPDES Stormwater Permit compliance, it is difficult to separate costs that are specifically attributed to the stormwater system, as opposed to those incurred for the management of the Commission's operations as a whole. In many cases staff, equipment and vehicles are shared among divisions and departments, and activities that accomplish one particular goal may also serve to satisfy the requirements of the Stormwater Permit.

The Commission has sufficient funds and equipment to carry out the stormwater management programs and activities required under the NPDES Stormwater Permit. A major portion of the Commission's Stormwater Management Program and NPDES Stormwater Permit compliance activities are achieved using existing in-house staff and resources. Staffing and equipment are budgeted under the Commission's Current Expense Budget (CEB), which is updated annually. Larger sewer and drain projects are funded under the Commission's Capital Improvement Program Plan (CIP). The Commission's three-year CIP is updated annually.

6.1 CURRENT EXPENSE BUDGET

The 2010 Current Expense Budget provided for \$292.1 million in revenues and expenses. This amount represented a 4.1 percent increase as compared to the 2009 budget. Of the total budgeted for 2010, \$57.6 million was for direct expenses. The remaining \$234.5 million was budgeted for the assessment by the Massachusetts Water Resources Authority (\$179.5 million), Debt Service (\$43.2 million), Capital Improvements (\$10.7 million), contractual Funding Obligations (\$0.9 million), and the Safe Drinking Water Act Assessment (\$0.2 million).

In general, stormwater programs and activities are managed in-house by the Commission's Operations and Engineering Divisions. Approximately \$24.2 million or

42 percent of the Commission's 2010 direct expense budget was for the Operations Division. Of the Operations Division's direct expense budget, about \$14 million was for sewer and storm drain related operations.

Approximately \$7.6 million or 13 percent of the Commission's 2010 direct expense budget was for the Engineering Division. About \$4.4 million of the Engineering Division's direct expense budget was for sewer and drain related work. Put another way, about \$18.4 million was budgeted for Operations and Engineering Division's direct expenses relating to sewer and drain work. Thus sewer and drain related work represents about 32 percent of the Commission's total direct expense budget.

The Current Expense Budget for 2011 had not been finalized as of the writing of this report. However, it is anticipated that the 2011 CEB will provide a similar level of funding for direct expenses relating to sewer and drain work.

Stormwater related programs and activities funded under the Current Expense Budget include:

- Illegal connection investigations and corrections
- Illegal connection prevention
- Illegal dumping and spill response
- Infiltration and inflow identification and reduction
- Issuing Drainage Discharge Permits
- Storm drain inspections and sampling
- Sewer and storm drain maintenance and general repair
- Catch basin and particle separator cleaning and maintenance
- Designing and installing new particle separators
- Site plan review
- New service inspections and dye tests
- Issuing drain layers licenses
- Designing and constructing capital improvements
- Reviewing Environmental Notification Forms and Environmental Impact Reports
- Public education
- Rain data collection

6.2 CAPITAL EXPENDITURES

The 2010-2012 CIP included \$44.1 million for sewer and drain related projects, of which \$14.1 million was earmarked for 2010. The Commission's 2011-2013 CIP plan identifies \$66.6 million for sewer and drain related projects, of which \$20.5 million is earmarked for 2011. The complete 2011-2013 CIP plan is available on the Commission's website at www.bwsc.org.

These costs do not include the cost of CSO separation projects that are funded by the MWRA under the MWRA's CSO Control Plan. However, they do include the Commission's costs for water and sewer work relating to the MWRA's CSO Control Plan that is not eligible for MWRA funding.

Programmatic activities covered under the 2011-2013 CIP include the following:

- Preparation of a Wastewater/Drainage Facilities Plan.
- Implementation of a system-wide sewer metering program.
- Installation and upgrade of the Commission's rain gauges.
- Construction of a new storm drainage system along Morrissey Boulevard to facilitate sewer separation.
- Relocation of the regulator on the Dorchester Brook Sewer to remove storm flow from 185 acres of land that currently flows to the New Boston Main Interceptor.
- Identification and elimination of illegal connections to storm drains.
- Renewal and replacement (R/R) of sewers and drains.
- Projects to increase the capacity of existing sewers to maintain hydraulic capacity and structural integrity of the system, and prevent or reduce combined sewer overflows.
- Separation of combined sewers in various areas of the city, with major projects occurring in the South End, Roxbury, Fenway/Kenmore, South Boston and Dudley Square.
- Disconnection of downspout in Jamaica Plain, Dorchester, Allston-Brighton, West Roxbury, Roslindale, South Boston and Hyde Park.
- Projects relating to the MWRA's CSO control plan that are necessary, but are not eligible for funding by the MWRA. These include renewal and replacement of existing sewers and drains in the areas being separated, rehabilitation or relay of water mains in the areas, and associated paving costs.

7.0 ENFORCEMENT

The Commission's approach to enforcement is generally proactive in that it focuses primarily on public and contractor education, and requiring proper site planning by developers. Enforcement, including fines, is supported by the Commission Sewer Use Regulations and the Site Plan Requirements.

The Commission's method of enforcement varies, depending on the type and magnitude of the violation. In most cases, the Commission prefers to work with violators or responsible parties to ensure that the problem is quickly and effectively remedied. If the owner fails to take action and remedy the problem, a letter of violation is issued and a fine may be assessed.

In 2010, Field Engineering responded to 63 reports of a potential spill, leak, or report of illicit dumping. Table 3 – 3 in section 3.2. lists the incidences to which the Commission responded in 2010. Enforcement notices were issued by staff in 9 of those instances. Fines were assessed in 3 instances.

8.0 WATER QUALITY IMPROVEMENTS

The Commission's Stormwater Management Program is a compilation of programs, activities, and best management practices aimed at preventing the discharge of pollutants to storm drains and receiving waters. Water quality improvements attributable to the Commission's Management Program are difficult to quantify, since most of the measures the program contains are non-structural, and are aimed at controlling the introduction of pollutants to the storm drain system at their sources, as opposed to end-of-pipe treatment. Therefore, the Commission assesses water quality improvements based on measures that are quantifiable, such as how much wastewater is removed from the drainage system when an illegal connection is eliminated and how much sediment is removed from stormwater runoff by structural devices.

8.1 ILLEGAL CONNECTION ELIMINATION

The Commission believes that eliminating illegal sanitary connections to storm drains is the most cost-effective and environmentally beneficial means of improving water quality. In 2010, the commission corrected eighteen (18) illegal connections, thereby eliminating the discharge of an estimated 8,632 gallons per day (gpd) of wastewater to the drainage system and receiving waters. Between 1986 when the Commission first began eliminating illegal connections, and the end of 2010, the Commission eliminated over 1,093 illegal connections, thereby eliminating the discharge of an estimated total of 575,849 gallons of wastewater per day to the storm drainage system and receiving waters.

8.2 SEWER, DRAIN, CATCH BASIN AND PARTICLE SEPARATOR CLEANING

In 2010, the Commission and its contractors removed an estimated 7,451 tons of material from the Commission's catch basins, particle separators, and drains that might have otherwise ended up in local rivers and waterways.

8.3 BMPS ON PRIVATE PROPERTY

Under the Commission's Sewer Use Regulations and Requirements for Site Plans, there are several provisions requiring the installation of structural best management practices by private parties, as described below.

a. Privately Owned Retention/Infiltration Devices

On-site retainage and infiltration of stormwater is required for new and redevelopment projects, whenever site conditions permit, as determined by the Commission. Project developers are required to include a feasibility assessment for on-site retention of stormwater with the site plan submitted to the Commission for the project. On-site retention of stormwater serves to limit peak discharge rates, recharge groundwater, and remove 80 percent of total suspended solids in the flow to the extent feasible. This requirement is consistent with the Department of Environmental Protection's Stormwater Management Policy which establishes standards for stormwater management for development.

On-site retention devices are usually owned by the owner of the property where they are located, and the owner is responsible for cleaning and maintenance. Owners of on-site devices are not required to provide data regarding solids removal rates to the Commission. However, the devices are expected to remove solids consistent with their designs.

In 2010, the Commission approved 185 site plans which included installation of a dry well or other type of infiltration device. The addresses of the devices approved in 2010 were listed previously in Table 3 – 4. Since 1993, when the Commission first started tracking infiltration devices installed pursuant to site plans, 1,476 private development projects have included infiltration devices.

b. Privately Owned Particle Separators

In order to prevent oil, grease and sediments from discharging to open waterways, the Commission requires that developers install particle separators on all newly constructed storm drains that serve outdoor paved areas of 7,500 square feet in size or greater. The Commission ensures that particle separators on parking lots are included in the project design during site plan review. The Commission may require particle separators on existing storm drains from existing outdoor parking areas, where appropriate. This requirement has been in place since 1992.

Parking lot particle separators are usually owned by the owner of the property where they are located, and the owner is responsible for their cleaning and maintenance. Owners of on-site particle separators are not required to provide data regarding solids removal rates to the Commission. However, the devices are expected to remove solids consistent with their designs.

In 2010, the Commission approved 24 site plans which included installation of particle separators. The addresses of the devices approved in 2010 were previously listed on Table 3 – 5. Since 2001, when the Commission first started tracking particle separators installed pursuant to site plans, 256 private development projects have included installation of particle separators.

9.0 ASSESSMENT OF STRUCTURAL CONTROLS

9.1 CATCH BASINS

The Commission relies on catch basins as the primary means for preventing the transport of sediments, debris, and other contaminants to storm drains and receiving waters. The Commission's Stormwater Monitoring Program included a demonstration project to evaluate the effectiveness of catch basins in capturing solids. The demonstration project started in 2001 and concluded in 2002. The results of the demonstration project (described in previous annual reports) indicated that a clean and well-maintained catch basin will remove between 10 to 33 percent of the total solids from stormwater flow through the basin. The data also suggested that a catch basin's ability to remove solids diminishes as the sump of the catch basin approaches half full. These findings are consistent with the conclusions of other similar studies reported in the literature.

The Commission continued to measure the depth of sediment in the catch basin sumps on a quarterly basis through the beginning of 2004. The results showed that sediment depths in the two catch basins monitored continued to increase between April 2002 and May 2003, but began to level off and even decline, as the basins approached 50 percent full. This finding appears to confirm that the catch basin had achieved their maximum effectiveness.

Under the Commission's Catch Basin Inspection and Cleaning Program the sediment depths in one hundred catch basins were monitored between January 2002 and April 2003, to determine the factors that effect how quickly catch basins become full. Variables considered in selecting the catch basins to be monitored included slope, land use and the size of the tributary area, the type of road (highly traveled road vs. back road), and tree cover. The selected catch basins were inspected four times each on a quarterly basis and the depth of sediment measured.

No statistically significant correlation between land use and accumulation rates was observed. Similarly, no correlation was observed based on slope, drainage area, or neighborhood characteristics. Some correlation with tree cover was observed, with the catch basins located in areas of denser tree coverage demonstrating as much as 50 percent higher accumulation rates as compared to basins with little or no tree cover. The data also exhibited a seasonal correlation, with the winter months demonstrating the highest accumulation rates.

Based on the findings of the Commission's catch basin effectiveness analyses, the Commission's catch basins should continue to effectively remove sediments from stormwater runoff, provided that sediment levels are not allowed to exceed one-half of the capacity of each catch basin's sump.

Under the Commission's current citywide catch basin cleaning contract the contractor is instructed to inspect all Commission owned catch basins, and clean any basin containing at least two feet of sediment. Contractors typically complete two passes through the city each year cleaning basins as directed by the Commission. Since most of the Commission's catch basins have sump depths of four feet or more, this catch basin cleaning schedule should ensure that the Commission's catch basins continue to effectively remove sediments from stormwater runoff.

9.2 PARTICLE SEPARATORS

The Commission currently owns 15 particle separators. All fifteen (15) particle separators were cleaned in 2010. Information regarding the various particle separators, including their locations, receiving waters, and amount of material removed at each cleaning since 2001 is summarized in Table 9 – 1.

The cleaning data provided over the last several years demonstrated that there are significant differences in the amount of material removed from each separator from year to year, although the reasons were unclear. There are many variables which could affect the amount of material retained in a separator, including, frequency and intensity of rain and snow storms, land use, topography and size of the area tributary to the particle separator, season during which the separator was cleaned and design factors. The Commission typically uses a vac truck with a vacuum hose to clean its particle separators, and this equipment is not conducive to accurate quantification of material removed. The amount of material removed is estimated by the operator and not measured. Each operator may estimate the amount of material removed differently than others. For these reasons it is difficult to establish which factor(s) determine how well a particle separator removes solids, or why one particle separator appears to capture more sediment than another.

Also unclear, was whether the amount of material removed at each cleaning represented the cumulative sediment load captured by the device over the year, or that it was only the amount of material that happens to be in the separator at the time of cleaning. To examine this issue more closely, in 2010, the Commission inspected and cleaned two of its particle separators (Fenwood Road and Walter Street) approximately once a month between March and October 2010, to determine if there was any difference in the amount of material removed. The results of the Particle Separator Assessment 2010 are included in Table 9-1.

Table 9 - 1
2010 Particle Separator Assessment

Location	Neighborhood	Type	Map #	Outfall #	Receiving Water	2001-Amt of Material Removed (cubic yards)	2002-Amt of Material Removed (cubic yards)	2003-Amt of Material Removed (cubic yards)	2004-Material Removed (cubic yards)	2005-Material Removed (cubic yards)	2006-Material Removed (cubic yards)	2007-Material Removed (cubic yards)	2008-Material Removed (cubic yards)	2009-Material Removed (cubic yards)	2010 Material Removed (cubic yards) Misc. dates	3/10/2010	4/13/2010	5/25/2010	6/13/2010	7/20/2010	9/16/2010	10/21/2010	10/29/2010	TOTAL MATERIAL REMOVED (cubic yards)
Arnold Aroboretum	Jamaica Plain	Vortex	13F	13F011	Bussy Brook	N/A	N/A	New in 2003	Not cleaned	Not cleaned	1.00	2.50	0.25	1.00	3.00									7.75
Centre Lane	WROX	Vortex	8C	8C025,8C026	Wetlands	Cleaning not needed	0.13	0.00	Not cleaned	0.25	0.25	0.75	0.25	0.10	0.25									1.98
Centre Street	WROX	Vortex	6C	6C110	Wetlands	0.25	0.13	0.00	Not cleaned	0.50	0.50	0.50	0.00	0.50	0.00									2.38
Coleridge Street	East Boston	Box	28O	28O025	Boston Harbor	Constructed in 2001	Not cleaned	0.50	Not cleaned	0.25	0.25	0.50	2.00	0.25	2.50									6.25
Coniston Road	Roslindale	Box	12E	13I023	Stony Brook Conduit	Cleaning not needed	Cleaning not needed	0.00	Not cleaned	0.25	0.50	0.00	0.00	0.00	0.00									0.75
Denny Street	Dorchester	Vortex	15L	15L089 (CSO)	Malibu Beach	Cleaning not needed	0.13	0.00	Not cleaned	0.25	0.75	1.00	0.00	1.00	0.12									3.25
Ericsson Street	Dorchester	Box	12M	12M091	Neponset River	Cleaning not needed	0.13	0.50	Not recorded	0.25	0.25	0.25	0.00	0.25	0.15									1.78
Fenwood Road	Roxbury	Box	20G	20G161	Muddy River	Cleaning not needed	0.25	0.33	Not recorded	2.00	4.00	0.50	0.25	2.25		0.25		0.02	1.50	0.15	0.15		0.12	11.77
Lawley Street	Dorchester	Box	12L	12L092	Pine Neck Creek	Cleaning not needed	0.25	0.25	Not cleaned	0.25	0.25	0.15	0.03	0.25	0.50									1.93
Neponset Avenue	Dorchester	Box	11M	11M093	Neponset River	2.00	0.50	0.25	Not cleaned	2.00	2.75	1.50	0.50	1.50	2.00									13.00
Norton Street	Hyde Park	Box	3E	3E185	Open Channel	Cleaning not needed	0.25	0.25	Not cleaned	0.25	0.50	0.50	0.03	0.13	0.25									2.16
Perkins Street	Jamaica Plain	Vortex	17F	17F012	Jamaica Pond	Cleaning not needed	0.25	4.00	Not recorded	0.25	0.25	1.50	0.00	1.50	2.00									9.75
Waldemar Avenue	East Boston	Box	30P	30P107	Belle Isle Inlet	Cleaning not needed	0.25	0.50	Not cleaned	1.00	0 or not recorded	0.25	0.25	0.10	0.12									2.47
Waldemar Avenue	East Boston	Box	31O	31O004	Belle Isle Inlet	Cleaning not needed	0.25	0.50	Not cleaned	1.00	0 or not recorded	0.50	0.25	0.75	1.00									4.25
Walter Street	Roslindale	Vortex	12F	12E418	Wetlands	Cleaning not needed	0.25	0.00	Not cleaned	0.25	Not cleaned	0.50	0.01	0.25		0.15	0.25	0.01		0.10	0.01	0.10		1.88
TOTALS						2.25	2.75	7.08	---	8.75	11.25	10.90	3.81	9.83	11.89	0.40	0.25	0.03	1.50	0.25	0.16	0.10	0.12	71.32