

UNITED STATES DISTRICT COURT
DISTRICT OF CONNECTICUT

UNITED STATES OF AMERICA and)	
STATE OF CONNECTICUT,)	
)	
Plaintiffs,)	
)	
v.)	CIVIL ACTION NO.
)	
CITY OF WEST HAVEN, CONNECTICUT)	
)	
Defendant.)	

TABLE OF CONTENTS

I. STATEMENT OF CLAIM.....4
II. JURISDICTION AND VENUE4
III. BINDING EFFECT4
IV. OBJECTIVES6
V. DEFINITIONS.....6
VI. APPROVAL OF SUBMISSIONS.....10
VII. CWA REMDIAL MEASURES.....12
VIII. REPORTS ON COMPLIANCE23
IX. RECORDS RETENTION.....27
X. CIVIL PENALTY.....28
XI. STIPULATED PENALTIES31
XII. FORCE MAJEURE33
XIII. DISPUTE RESOLUTION36
XIV. RIGHT OF ENTRY38
XV. FORM OF NOTICE39
XVI. EFFECT OF SETTLEMENT41
XVII. COSTS42
XVIII. RETENTION OF JURISDICTION42
XIX. MODIFICATION42
XX. CONTINGENT LIABILITY OF THE STATE OF CONNECTICUT43
XXI. FUNDING43
XXII. SEVERABILITY PROVISION43
XXIII. TERMINATION.....43
XXIV. FINAL JUDGMENT44
XXIV. WAIVER OF SERVICE OF SUMMONS AND COMPLAINT44
XXV. PUBLIC COMMENT44
XXVII. SIGNATORIES44
XXVIII. APPENDICES.....45

CONSENT DECREE

WHEREAS, the City of West Haven, Connecticut (“City,” “West Haven,” or “Defendant”) owns and operates a Publicly-Owned Treatment Works (“POTW”) as defined at 40 C.F.R. § 403.3 that is comprised of a Wastewater Treatment Facility and a Wastewater Collection and Transmission System (“WCTS”) in West Haven, Connecticut that serves the citizens of West Haven and the Town of Orange, Connecticut; and

WHEREAS, the City discharges pollutants into waters of the United States from its POTW pursuant to NPDES Permit No. CT0101079 (“Permit”) (attached as Appendix A); and

WHEREAS, the plaintiff, United States of America, on behalf of the United States Environmental Protection Agency (“EPA”) has concurrently filed a complaint alleging that the City has violated its Permit and Section 301(a) of the Clean Water Act (“CWA”), 33 U.S.C. § 1311(a); and

WHEREAS, the State of Connecticut, on behalf of the Connecticut Department of Energy and Environmental Protection (“CTDEEP”), has filed an assented-to motion to intervene as a plaintiff in the action brought by the United States and has filed a complaint that alleges that the City was, and is, in ongoing violation of Section 301 of the CWA, 33 U.S.C. § 1311, the Connecticut Water Pollution Control Act, Conn. Gen. Stats. §22a-416, *et. seq.* (the “Connecticut Act”), and provisions of the Permit;

WHEREAS, the penalty in this matter is based on the statutory factors in Section 309(d) of the CWA, 33 U.S.C. § 1319(d), including, in particular, “the economic impact

of the penalty on the violator” as Defendant has provided information to EPA documenting its financial resources and inability to pay a more substantial penalty;

WHEREAS, the Parties agree, without adjudication or admission of facts or law, that settlement of this matter is in the public interest and that entry of this Consent Decree without further litigation is an appropriate resolution of the dispute, and the Parties consent to the entry of this Consent Decree;

NOW, THEREFORE, it is hereby ordered, adjudged, and decreed as follows:

I. STATEMENT OF CLAIM

The complaint filed in this action states claims upon which relief can be granted against the Defendant pursuant to Section 309 of the CWA, 33 U.S.C. § 1319. The State’s Complaint also states claims upon which relief can be granted pursuant to applicable state law.

II. JURISDICTION AND VENUE

This Court has jurisdiction over the subject matter of this action pursuant to Section 309(b) of the CWA, 33 U.S.C. § 1319(b), and 28 U.S.C. §§ 1331, 1345, and 1355. Venue properly lies in this district pursuant to Section 309(b) of the CWA, 33 U.S.C. § 1319(b), 28 U.S.C. §§ 1391(b) and (c), and 28 U.S.C. § 1395.

III. BINDING EFFECT

A. The provisions of this Consent Decree shall apply to, and be binding on, the City, its officers, directors, employees, agents, servants, successors and assigns, and all persons, firms and corporations in active concert or participation with the City or its officers, directors, agents, employees, successors and assigns, and upon the United States and the State.

B. No transfer of any ownership interest in or any interest in the operation of the City's Wastewater Treatment Plant or WCTS, whether in compliance with this Paragraph or otherwise, shall relieve the City of its obligation to ensure that the terms of this Consent Decree are implemented. Any transfer involving ownership or operation of the Wastewater Treatment Plant or WCTS, or any portion thereof, to any other person or entity must be conditioned upon the transferee's agreement to be added as a party to the Consent Decree and to be jointly and severally liable with the Defendant to undertake the obligations required by all provisions of the Consent Decree. At least thirty (30) Days prior to such transfer, the City shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the above referenced proposed written agreement, to EPA, the United States Attorney, the United States Department of Justice, CTDEEP, and the State of Connecticut in accordance with Section XV (Form of Notice). Any noncompliance with this Paragraph constitutes a violation of this Consent Decree.

C. The City shall provide a copy of this Consent Decree to all contractors and consultants retained to perform any obligation required by this Consent Decree on behalf of the City, and shall require that contractors and consultants provide a copy of this Consent Decree to their subcontractors. Such parties shall be deemed agents for the purposes of this Consent Decree. In an action to enforce this Consent Decree, the City shall not assert as a defense against an action by the United States or the State any act or failure to act by any of its officers, directors, employees, agents, servants, consultants, engineering firms, contractors, successors and assigns. However, the City retains any

rights it may have against such officers, directors, employees, agents, servants, consultants, engineering firms, contractors, successors and assigns.

IV. OBJECTIVES

A. It is the express purpose of the Parties in entering into this Consent Decree to have the City take all measures necessary to fulfill the objectives of the CWA and to achieve and maintain compliance with the CWA, including the regulations promulgated thereunder, Connecticut water pollution control laws, the regulations promulgated under such laws, the City's NPDES permits, any NPDES permits that may be issued to the City in the future, and to eliminate all overflows from its WCTS.

B. Engineering designs and analyses required to be performed pursuant to this Consent Decree shall be conducted using sound engineering practices, and, as applicable, consistent with: (a) EPA's Handbook: Sewer System Infrastructure Analysis and Rehabilitation, EPA/625/6-91/030, Oct. 1991; (b) Existing Sewer Evaluation and Rehabilitation, WEF Manual of Practice ("MOP") No. FD-6, 2009; (c) A Guide to Short Term Flow Surveys of Sewer Systems, WRc Engineering (Undated); (d) the National Association of Sewer Service Companies (NASSCO) "Manual of Practice"; and, (e) the currently effective edition of "TR 16: Guides for the Design of Wastewater Treatment Works."

V. DEFINITIONS

A. Unless otherwise defined herein, terms used in this Consent Decree shall have the meanings given to those terms in the Clean Water Act, 33 U.S.C. §§ 1251 *et seq.* and the regulations promulgated under the CWA. The following terms used in this Consent Decree shall be defined as follows:

1. “Building/Private Property Backup” shall mean a wastewater release or backup into a building or private property that is caused by blockages, flow conditions, or other malfunctions in the WCTS. A wastewater backup or release that is caused by blockages, flow conditions, or other malfunctions of a Private Lateral is not a Building/Private Property Backup.

2. “Building Connection” shall mean the sewer that connects the plumbing of a building to the public sewer.

3. “Bypass” as that term is defined in Section 22a-430-3(a) of the Regulations of Connecticut State Agencies means the diversion of wastes from any portion of the wastewater collection and transmission system or wastewater treatment facilities.

4. “Consent Decree” or “Decree” shall mean this Decree and all appendices attached hereto. In the event of conflict between this Decree and any appendix, this Decree shall control.

5. “Date of Entry” shall mean the date this Consent Decree is approved and signed by a United States District Court Judge for the District of Connecticut.

6. “Date of Lodging” shall mean the date this Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the District of Connecticut.

7. “Excessive Infiltration/Inflow” or “Excessive I/I” shall mean the Infiltration/Inflow (“I/I”) and Rainfall-Induced Infiltration that can be cost-effectively eliminated from the City’s WCTS as determined by a cost effectiveness analysis that compares the costs of eliminating the I/I with the total costs of transportation and

treatment of the I/I (including capital costs of increasing sewage facilities capacity and treatment and the resulting operating costs).

8. The terms “day” or “days” as used herein shall mean a calendar day or calendar days. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, federal or state holiday, the period shall run until the close of the next business day.

9. “Flow” shall mean all wastewaters conveyed by any portion of the WCTS.

10. “Food Preparation Establishment” means a Class III or IV food service establishment as defined in Section 19-13-B42 of the State of Connecticut Public Health Code or any other facility discharging fats, oils, and grease above the limits established in Section 5(c)(2) of the CTDEEP’s September 30, 2005 General Permit for the Discharge of Wastewater Associated with Food Preparation Establishments such as, but not limited to, restaurants, hotel kitchens, hospital kitchens, school kitchens, bars, factory cafeterias, retail bakeries, and clubs.

11. “Force Main” shall mean any pipe that conveys, under pressure, wastewater from the discharge side of a pump.

12. “Infiltration” shall mean water that enters a sewer system (including Building Connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

13. “Inflow” shall mean water that enters a sewer system (including Building Connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers,

cross connections between storm sewers and sanitary sewers, stormwater catch basins, cooling towers, surface runoff, street wash waters, or drainage.

14. “Inflow/Infiltration” (“I/I”) shall mean the total quantity of water from Inflow and Infiltration without distinguishing the source.

15. “Minisystem” shall mean a subsystem of the wastewater collection system in which a key manhole located at the outlet of the subsystem can be used to measure the infiltration/inflow that occurs within the subsystem.

16. “Parties” shall mean EPA, the State of Connecticut, and the City.

17. “Private Lateral” shall mean that portion of the Wastewater Collection and Transmission System, not owned by the City, used to convey wastewater from a building or buildings to that portion of the WCTS owned by the City.

18. “Pump Station” shall mean a facility comprised of pumps that lift wastewater to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that pumping station.

19. “Rainfall-Induced Infiltration” shall mean Infiltration that enters the City’s WCTS and impacts the WCTS flow rates similar to Inflow. Like Inflow, Rainfall-Induced Infiltration occurs as a result of rainfall. Rainfall-Induced Infiltration is the result of rainfall percolating through the soils into defects in sewer systems which generally lie near the surface.

20. “Wastewater Collection and Transmission Systems” or “WCTS” shall mean the municipal wastewater collection and transmission systems, including all pipes, siphons, manholes, gravity sewer lines, Force Mains, Pumping Stations, and appurtenances thereto, which are owned or operated by the City.

21. “Wastewater Treatment Facility” or “WWTF” shall mean the sewage treatment plant operated by the City and located at 2 Beach St., West Haven, Connecticut, including the Main Pump Station located at 165 Blohm Street, and all components of such sewage treatment plant.

22. The phrases “approval by EPA and CTDEEP,” and “approved by EPA and CTDEEP” shall mean the City’s receipt of one joint, written approval document from both EPA and the CTDEEP in accordance with Part VI of this Consent Decree.

VI. APPROVAL OF SUBMISSIONS

A. After review of any plan, schedule, report, or other item that is required to be submitted for approval by EPA and CTDEEP pursuant to this Consent Decree, EPA and CTDEEP shall in writing: (1) approve, in whole or in part, the submission; (2) approve, in whole or in part, the submission with specified conditions; (3) disapprove, in whole or in part, the submission, directing that the City to modify the submission; or (4) any combination of the above. Any full or partial disapproval shall include a written explanation of the reasons for the disapproval.

B. In the event of approval or approval with conditions by EPA and CTDEEP pursuant to Paragraph VI.A (1) or (2), the plan, schedule, report, or other item, or portion thereof, as approved or approved with conditions by EPA and CTDEEP, shall be enforceable under this Consent Decree, and the City shall take all actions required to implement such plan, schedule, report, or other item, or portion thereof, in accordance with the approval or approval with conditions issued by EPA and CTDEEP.

C. Upon receipt of a written notice of disapproval pursuant to Paragraph VI.A.3, the City shall, within thirty (30) Days or such other time as the City and EPA and

CTDEEP agree in writing, correct the deficiencies and resubmit the plan, schedule, report, or other item, or portion thereof, for approval. Any stipulated penalties applicable to the original submission shall accrue during the thirty (30) Day period or other specified period, but shall not be payable unless the resubmission is untimely and/or disapproved as provided in Paragraph VI.D.

D. Any resubmitted plan, schedule, report, or other item, or portion thereof, shall be subject to review and approval by EPA and CTDEEP, as provided under this Section. If the City fails to resubmit a plan, schedule, report, or other item, or portion thereof after a disapproval, or if, upon resubmission, the plan, schedule, report, or other item, or portion thereof, is disapproved by EPA and CTDEEP, the City shall be deemed to have failed to submit such plan, schedule, report, or other item, or portion thereof, timely and adequately, and shall be subject to penalties under Section XI (Stipulated Penalties). The City may invoke the dispute resolution procedures set forth in Section XIII (Dispute Resolution) in such circumstances.

E. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph VI.A.3, the City shall proceed, at the direction of EPA and CTDEEP, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve the City of any liability for stipulated penalties under Section XI (Stipulated Penalties) for the deficient portions.

VII. CWA REMEDIAL MEASURES

A. **Capacity, Management, Operation and Maintenance (“CMOM”)**

Program Corrective Action Plan

1. The City shall implement the CMOM Program Implementation Corrective Action Plan 2012-Revised (“CAP”) submitted to EPA on August 31, 2012 (see Appendix B). Any specific schedules, dates, or compliance actions described in this Consent Decree shall supersede any such schedules, dates, or compliance actions described in the “CAP” and shall be enforceable under this Consent Decree. By January 31, 2016, the City shall submit an updated CMOM Program Self-Assessment Checklist. The model CMOM Program Self-Assessment Checklist is included as Appendix C.

B. **WCTS Preventative Maintenance Plan**

1. Within 180 days of the Date of Entry, the City shall submit to EPA and CTDEEP for approval a WCTS Preventative Maintenance Plan (the “Preventative Maintenance Plan”). The Preventative Maintenance Plan shall be prepared as a reference guide for the City’s employees and shall include, but need not be limited to, the following:

a. physical inspection and testing Standard Operating Procedures (“SOPs”) to be used to routinely clean, inspect, and maintain the City’s WCTS including, but not limited to, all Pump Stations, Force Mains, emergency generators, alarms, telemetry equipment, interceptor sewers, and lateral sewers. The Preventative Maintenance Plan shall also establish procedures and protocols to identify and correct, any structural, mechanical, electrical, or operational problems that may result in Bypasses;

b. priority maintenance and cleaning schedules and SOPs, including, but not limited to, specific maintenance plans for those areas of the WCTS prone to grease and silt deposits, vandalism, electrical and mechanical failures, and root penetration, as well as those areas that have been the source of Bypasses in the past;

c. a plan and schedule for routine maintenance, investigation, and cleaning of the WCTS to maintain the WCTS's capacity and to prevent WCTS blockages and Bypasses. At a minimum the plan shall include the following:

i. provisions for Closed Circuit Television ("CCTV") and manhole inspections of at least 10% of the WCTS each year, beginning July 1, 2014. The City shall categorize and prioritize identified defects using nationally-accepted standards and shall include its annual CCTV plans and the basis for its prioritization of internal inspections of the WCTS as a separate section of the Annual Report required by Section VIII.D. of this Consent Decree;

ii. completion of routine cleaning of 20% of the WCTS per year, beginning July 1, 2014;

d. a tracking system for all maintenance activities, including, at a minimum, the purchase and use of wastewater collection system maintenance software designed to catalog the maintenance history of the WCTS and to plan and schedule future WCTS maintenance activities;

e. staffing, organization, and resource commitments including written updates to position descriptions, training policies, and a safety program;

f. a description of all preventative maintenance activities, including procedures, equipment, and resources to be used and frequency of the activity; and

g. a proposed budget for implementation of the Preventative Maintenance Plan.

2. The City shall immediately and continuously implement the Preventative Maintenance Plan upon approval, or conditional approval, by EPA and CTDEEP.

C. Staffing Assessment

1. Within 180 days of the Date of Entry, the City shall submit to EPA and CTDEEP an assessment of the adequacy of the City's WWTF and WCTS staffs to properly operate and maintain the City's WWTF and WCTS and to implement the Preventative Maintenance Plan. If additional staff members are necessary for the City to properly operate and maintain its WWTF and WCTS and to implement the Preventative Maintenance Plan, the assessment shall include a schedule for the hiring of the additional staff.

2. The schedules submitted pursuant to Paragraph VII.C.1. shall be incorporated and enforceable hereunder upon approval, or conditional approval, by the EPA and CTDEEP.

D. Budget

On or before March 1st of each calendar year in which this Consent Decree is in effect, the City shall submit a copy of the WCTS operating budget for the upcoming fiscal year to EPA and CTDEEP. The WCTS operating budget shall be accompanied by a written summary including but not limited to: the length of pipe cleaned, length of pipe CCTV'd, and number of manholes inspected by the City during the prior fiscal year. The submittal shall also include an assessment of whether the revenues collected

by the City are sufficient to support proper operation and maintenance of the City's WCTS.

E. Fats, Oils, and Grease ("FOG") Program

1. Within 180 days of the Date of Entry, the City shall submit to EPA and CTDEEP for approval a FOG program, consistent with the requirements of the State of Connecticut General Permit for the Discharge of Wastewater Associated with Food Preparation Establishments (September 30, 2005) (see Appendix D) that ensures that fats, oils, and grease accumulations are not impacting WCTS capacity and contributing to Bypasses. The FOG Program shall, at a minimum, include:

- a. Specific requirements for the installation or upgrade and maintenance of FOG control equipment at all food preparation establishments;
- b. Provisions for periodic and random FOG equipment inspections by the City;
- c. Enforcement procedures for non-compliant facilities including the ability for the City to assess fines for violations of the program/permit/ordinance;
- d. A public educational program targeted at FOG facilities;
- e. All necessary modifications to local regulations, including the City's Sewer Use Ordinance, to allow full enforcement of the FOG Program including standard operating procedures for escalating enforcement from warnings through penalties and an explanation of which department(s) within the City has (have) the authority and will be responsible for (i) managing, (ii) inspecting and (iii) enforcing the FOG program;

- f. A list of all food preparation establishments that includes a description of their FOG generating processes and average daily discharge volume; and
- g. A proposed schedule for the implementation of the approved FOG Program (the “FOG Implementation Schedule”).

2. Upon approval or conditional approval by EPA and the CTDEEP of the FOG Program, the City shall implement the FOG Program in accordance with the proposed implementation schedule, as amended by EPA and the CT DEEP, at the time of the approval or conditional approval.

F. Emergency Response Plan

1. Within 180 days of the Date of Entry, the City shall develop an Emergency Response Plan and shall submit a copy of the plan to EPA and CTDEEP for approval. The Emergency Response Plan shall be designed to ensure that, should a Bypass occur, the volume of untreated wastewater discharged to the environment and the impact of the discharge on the environment and public health will be minimized. The Emergency Response Plan shall result in all Bypasses being responded to and halted as rapidly as possible, mitigation being employed whenever appropriate, and appropriate measures being implemented to prevent recurrence of the Bypasses including Building/Private Property Backups. The Emergency Response Plan shall provide procedures for responding to Bypasses, including Building/Private Property Backups, to minimize the environmental impact and potential human health risk of the Bypasses. The Emergency Response Plan shall include, at a minimum:

- a. procedures to ensure that the Bypasses are immediately contained and stopped in a timely manner;

- b. procedures to ensure the rapid dispatch of personnel and equipment to correct or repair the condition causing or contributing to any Bypass;
- c. provisions for periodic reviews to ensure the availability of the equipment necessary to respond to Bypasses and to implement the Emergency Response Plan;
- d. an emergency 24-hour telephone number that can be used by the public to report Bypasses including Building/Private Property Back-ups;
- e. procedures and public notice requirements to make the public aware of specific Bypasses, the emergency 24-hour telephone number referred to in Paragraph VII.F.1.d, and limit public access to and contact with areas affected by Bypasses;
- f. procedures to provide timely notice of the Bypasses to EPA, CTDEEP, and local public health officials consistent with local regulations, the City's Permit, and this Consent Decree;
- g. procedures to ensure the preparedness, including responsiveness training, of the City's employees and contractors necessary for effective implementation of the Emergency Response Plan;
- h. provisions for safety training for all WCTS personnel;
- i. procedures, if any, to provide relief to residents experiencing Building/Private Property Backups resulting from the WCTS;
- j. procedures for investigating and documenting the causes of the Bypasses including Building/Private Property Backups and the development of measures to prevent recurrence of the Bypass; and

k. a system to track Bypass reports, Building/Private Property Back-ups reported or otherwise known, and other WCTS complaints and related repairs;

2. The City shall immediately and continuously implement the Emergency Response Plan upon approval or conditional approval by EPA and CTDEEP.

3. As soon as practicable, but no later than within two (2) hours of learning of any Bypass, the City shall also provide an oral report to EPA by calling Alex Rosenberg at (617) 918-1709, and to CTDEEP by calling Iliana Raffa during regular business hours, at (860) 424-3758 or CTDEEP's Municipal Facilities Section at (860) 424-3704. The City shall also provide an oral report to Stacy Pappano, during regular business hours, at (860) 424-3362. If the City learns of a Bypass at any other time than normal business hours, the City shall also notify EPA at the above phone number and CTDEEP's Emergency Response Unit by calling (860) 424-3338. The oral report must identify the date, the location, estimated volume and receiving water(s), if any, of the Bypass(s). The City shall also, within 24 hours of learning of such Bypass(s), send a facsimile report to EPA, to the attention of Alex Rosenberg, at (617) 918-0709 and to CTDEEP, to the attention of Iliana Raffa and Stacy Pappano at (860) 424-4067. EPA and CTDEEP will advise the City in writing in the event of any change in personnel to whom oral and facsimile reports should be made. The facsimile reports shall be submitted in the form attached as Appendix E.

G. Extraneous Flow Reduction Projects

1. Within 180 days of the Date of Entry, the City shall submit to EPA and CTDEEP a scope of work and schedule for performance of an Infiltration/Inflow investigation of the area depicted on the map included as Appendix F (the "Phase I

Infiltration/Inflow SOW"). The Phase I area of the WCTS is depicted on a map included as Appendix F. The Phase I Infiltration/Inflow investigation shall quantify both groundwater and rainfall-induced infiltration and the inflow components of extraneous flow during periods of high groundwater.

2. Upon approval of the Phase I Infiltration/Inflow SOW, the City shall implement the Phase I Infiltration/Inflow SOW including, but not limited to, submittal to EPA and CTDEEP for approval, a Phase I Infiltration/Inflow Report. The Phase I Infiltration/Inflow Report shall be submitted no later than June 30, 2015. The Phase I Infiltration/Inflow Report shall include the results of the Phase I Infiltration/Inflow investigations conducted to identify and quantify extraneous sources of groundwater, tidal, and rainfall-induced infiltration, and inflow within the WCTS, and shall at a minimum include the following information relevant to the areas of the WCTS investigated in Phase I:

a. a map of the Minisystems that delineates all streets, water courses, the location of all key manholes, and the extent of the WCTS within the Minisystem including all major branch, trunk, and interceptor sewers, Pump Stations, Force Mains, overflow points, and wastewater treatment facilities. The map(s) must also differentiate Force Mains from gravity sewers, provide the direction of flow and indicate the size of all interceptor and major collector sewers. The boundaries of each Minisystem being investigated shall be clearly indicated. The degree that each Minisystem is broken down to sub-Minisystems for the purpose of identifying extraneous flow sources shall be determined by the significance of extraneous flow from that Minisystem. An explanation of this determination should accompany the Minisystem delineations.

b. A prioritization scheme and assessment of cost-benefit for sewer rehabilitation (including removing identified sources of I/I) within the Minisystems shall be developed as part of the task and in conjunction with flow information collected through the I/I investigations described above;

c. quantify groundwater, tidal infiltration, and inflow components of extraneous flow during periods of wet weather and high and low groundwater for each Minisystem;

d. identify and quantify the level of peak rainfall-induced infiltration for each Minisystem by evaluating continuous flow monitoring records in accordance with the WEF MOP FD-6 procedures;

e. include the City's rationale for excluding additional Infiltration/Inflow investigations in any portion of the City's WCTS;

f. include the results of any additional flow isolation and public and private inflow priority investigations conducted by the City in those Minisystems that were established as a result of the City's review of the individual hydrographs for each of its continuous monitoring locations. The remedial measures recommended to resolve these identified priority sources of public and private infiltration/inflow and the related implementation schedules shall constitute a separate section of the Phase I Infiltration/Inflow Report; and

g. include recommendations for additional extraneous flow investigations of Minisystems determined to contain Excessive I/I, necessary to identify and quantify both public and private sources of groundwater, tidal, and rainfall-induced infiltration and inflow. The additional extraneous flow investigation recommendations

and associated implementation schedule shall constitute a separate section within the Phase I Infiltration/Inflow Investigations Report and shall constitute the Sewer System Evaluation Survey Scope of Work (“SSES SOW”).

3. Upon approval, or conditional approval by EPA and the CTDEEP of the Phase I Infiltration/Inflow Investigations Report, the City shall implement the identified priority remedial measures as well as the additional extraneous flow investigations included in the SSES SOW and submit a SSES Report to the EPA and CTDEEP in accordance with the approved schedule. The SSES Report shall identify all remaining sources of extraneous flow that can be cost-effectively eliminated and shall include a comprehensive plan for their elimination. It shall include, but not be limited to, information for each Minisystem investigated under the SSES in accordance with WEF MOP FD-6 for both public and private I/I sources.

4. By July 31, 2015, the City shall submit to EPA and CTDEEP for approval a scope of work and schedule for performance of an Infiltration/Inflow investigation in all remaining areas of the WCTS (the “Phase II Infiltration/Inflow SOW”). The Phase II Infiltration/Inflow investigations shall quantify both groundwater and rainfall-induced infiltration and the inflow components of extraneous flow during periods of high groundwater.

5. The City shall implement the approved Phase II Infiltration/Inflow SOW in accordance with the approved schedule, including, but not limited to, submittal of a Phase II Infiltration/Inflow Report to EPA and CTDEEP. The Phase II Infiltration/Inflow Report shall include, but shall not be limited to, the information set forth in Paragraph VII.G.2. relevant to the areas of the WCTS investigated in Phase II.

The Phase II Infiltration/Inflow Report recommendations and schedule for their implementation shall form the bases of the Sewer System Evaluation Survey Scope of Work (the “Phase II SSES SOW”), which shall constitute a separate section of the Phase II Infiltration/Inflow Report.

6. Upon approval or conditional approval of the proposals described in Paragraph VII.G. (collectively, the “Corrective Measures”) and implementation schedules included in the each SSES Report by EPA and CTDEEP, the City shall implement the Corrective Measures in accordance with the approved schedules.

H. WCTS Management Plan

1. By December 31, 2015, the City shall submit to EPA and CTDEEP for approval a WCTS Management Plan that utilizes the information generated during the implementation of the CAP, WCTS Preventative Maintenance Plan and the CCTV and manhole inspection programs, the FOG program, and extraneous flow remediation and rehabilitation projects to determine whether additional projects or measures are required to comply with the City’s Permit. The WCTS Management Plan shall:

a. Assess the effectiveness of prior measures implemented by the City to reduce the frequency and magnitude of WCTS Bypasses; and

b. Include a description of the proposed additional investigations, remedial measures, operational changes, and capital improvements to the City's WCTS planned for the next 3-year period, an assessment of the abatement anticipated to be achieved related to such efforts, an itemized schedule for each measure based upon the relative priority assigned to each capital improvement project, along with estimated costs and start and completion dates. Relative priority shall be assigned based upon the

following factors: *i*) the extent to which the results of additional investigations are required to determine the need for and/or scope of each proposed project and *ii*) the environmental benefits of each proposed project.

2. The WCTS Management Plan and related schedules shall be incorporated and enforceable hereunder upon the WCTS Management Plan's approval, or conditional approval by EPA and the CTDEEP.

3. On or before December 31, 2018, the City shall submit to EPA and CTDEEP for approval an updated WCTS Management Plan that assesses the effectiveness of the measures that were implemented during the prior 3-year period, describes the efforts planned for the next 3-year period, and assesses the abatement anticipated to be achieved by the proposed efforts.

4. The updated WCTS Management Plan and schedules shall be incorporated and enforceable hereunder upon the WCTS Management Plan's approval, or conditional approval by EPA and the CTDEEP.

VIII. REPORTS ON COMPLIANCE

A. Where this Consent Decree requires a specific action to be performed within a certain time frame, the City shall submit a written notice of compliance or noncompliance with each deadline. The timely submission of a required report shall satisfy the requirement that a notice of compliance be submitted.

B. If noncompliance is reported, notification shall include the following information:

1. A description of the noncompliance;

2. A description of any actions taken or proposed by the City to comply with the lapsed schedule requirements;
 3. A description of any factors that explain or mitigate the noncompliance;
- and
4. An approximate date by which the City will perform the required action.

After a notification of noncompliance has been filed, compliance with the past-due requirement shall be reported by submitting all required documents or providing EPA with a written report indicating that the required action has been achieved.

C. Beginning with the first quarter following the Date of Entry of this Consent Decree and each quarter thereafter for a four-year period, the City shall submit on the thirtieth day of each month following the end of the quarter, a written report to EPA and CTDEEP regarding the status of its compliance with Section VII (CWA Remedial Measures) of this Consent Decree. After the four-year period, written reports shall be submitted semi-annually, within 30 days of June 30th and December 31st, until termination of the Decree. The reports shall contain a summary of the status and progress of all projects and programs required by Section VII (CWA Remedial Measures) of this Decree, including but not limited to:

1. A tabular listing of all Bypasses, overflows, spills, and releases that have occurred during the previous calendar quarter, including Building/Private Property Backups, that result from capacity limitations, blockages, and mechanical, electrical, and structural failures in that portion of the WCTS owned by the City. The tabular listing shall be organized chronologically and shall include:

- a. the dates and times on which each event began and was stopped, or if it is continuing, a schedule for its termination;
- b. the location (nearest address) of each such event;
- c. the source of the notification (property owner, field crew, police);
- d. the cause of the event including, but not limited to, whether it was caused by debris, fats, oils, and grease, or root blockages, collapsed pipes, mechanical, electrical and structural failures, hydraulic overloads, or vandalism;
- e. the estimated gallons of wastewater released and the method used to estimate the volume;
- f. a clear statement of whether the release did or did not reach a stormwater catch basin or any other portion of the City's municipal separate storm sewer system ("MS4"). If the release occurred to the ground or street, regardless of whether the discharge reached any portion of the City's MS4, the City shall provide the distance to the nearest downgradient stormwater catch basin and the name of the receiving water to which the catch basin discharges;
- g. a clear statement of whether the release did or did not reach any surface water. If the release reached a surface water, the City shall include the name of the surface water and a description of the exact location where the release reached the surface water;
- h. the estimated gallons of wastewater discharged to the MS4 or surface water and the method used to estimate the volume;
- i. the measures taken to stop the Bypass, overflow, spill, or release and prevent future overflows, spills, and releases at the same location;

- j. the date that the event was reported to the CTDEEP; and
- k. the date of the last event that occurred at the same location.

The location of each event included in the summary listing shall also be noted on a map of the City's WCTS.

2. A description of the activities undertaken during the reporting period directed at achieving compliance with this Consent Decree. Separate listings of all FOG-related, cleaning, CCTV, and inspection activities that have been conducted by the City must be provided.

3. Identification of all plans, reports, and other deliverables required by this Consent Decree that the City completed and submitted during the reporting period, or failed to complete and the approval status from EPA and CTDEEP of prior compliance reports; and

4. A description of the expected activities to be taken during the next reporting period in order to achieve compliance with this Consent Decree.

D. Until termination of this Consent Decree, the City shall submit to EPA and CTDEEP an Annual Report. The final quarterly report and semi-annual report required in Section VIII.C. may be combined with the Annual Report. The Annual Report shall contain a summary of compliance with, and activities related to, the projects scheduled under Section VII (CWA Remedial Measures) of this Decree and shall also include:

1. A description of the measures implemented by the City to comply with the conditions of this Consent Decree and an assessment of the City's progress in reducing the number of WCTS Bypasses. This summary shall include information identifying the length of pipe segments that were inspected, cleaned, repaired or

replaced and a summary of all Pump Station and Force Main preventive maintenance activities for the year. Where available, maps shall be submitted documenting the information provided in the report.

2. A summary of the findings of the previous year's WCTS manhole and CCTV inspection programs, and extraneous flow removal programs, the City's plans to remedy the deficiencies identified under these programs, and a description of the specific areas of investigations for the upcoming calendar year.

E. All reports required to be submitted in this Section shall contain a certification signed by a duly authorized representative of the City. The certification shall read as described in Section XV (Form of Notice).

F. The reporting requirements set forth in this Section do not relieve the City of its obligation to submit any other reports or information as required by state, federal or local law.

IX. RECORDS RETENTION

A. The City shall retain all non-identical copies of all documents, records, and other information (including documents, records, or other information in electronic form) generated by the City, and all data collected and all reports generated by the City's contractors (including data and reports in electronic form), that relate in any manner to the City's performance of its obligations under this Consent Decree for ten years. This information retention requirement shall apply regardless of any contrary municipal or institutional policies or procedures. At any time during this information-retention period, upon request by the United States or the State of Connecticut, the City shall provide

copies of any documents, records, or other information required to be maintained under this Paragraph.

B. At the conclusion of the information-retention period provided in the preceding Paragraph, the City shall notify the United States and the State of Connecticut least ninety (90) Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States or the State of Connecticut, the City shall deliver any such documents, records, or other information to EPA and CTDEEP. The City may assert that certain documents, records, or other forms of information are privileged under the attorney-client privilege or any other privilege or protection from disclosure recognized by federal law or state law. If the City asserts such a privilege or protection, it shall provide the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege or protection asserted by the City. However, no documents, records, data, reports, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege or on grounds of protection from disclosure.

X. CIVIL PENALTY

A. The City shall pay a total civil penalty of \$125,000, plus interest (calculated at 3%) on any penalty payment amount not paid within 30 days of the Effective date of this Decree, pursuant to 28 U.S.C. § 1961. Payments shall be made, one half to the

United States and one half to the State of Connecticut in satisfaction of the claims for civil penalties alleged in the Complaints through the Date of Lodging of the Consent Decree. Payments shall be made according to the following schedule:

1. \$20,833.50 shall be due within 30 days of the Effective Date of this Decree to the United States;
2. \$20,833.50 shall be due within 30 days of the Effective Date of this Decree to the State of Connecticut
3. \$21,979.50 (i.e. \$20,833.50 principal, plus \$1,146 interest) shall be due within one year of the Effective Date of this Decree to the United States;
4. \$21,979.50 (i.e. \$20,833.50 principal, plus \$1,146 interest) shall be due within one year of the Effective Date of this Decree to the State of Connecticut;
5. \$21,458 (i.e. \$20,833 principal, plus \$625 interest) shall be due within two years of the Effective Date of this Decree to the United States;
6. \$21,458 (i.e. \$20,833 principal, plus \$625 interest) shall be due within two years of the Effective Date of this Decree to the State of Connecticut.
7. Acceleration Clause: If Defendant fails to make any payment as described in paragraphs X.A 1 through 6, above, all remaining installments shall become immediately due and payable as of the missed payment date. Interest on such unpaid penalty amounts shall accrue from the missed payment date.

B. With respect to the United States, the City shall make all payments by FedWire Electronic Funds Transfer (“EFT”) to the United States Department of Justice in accordance with written instructions to be provided to the City, following lodging of the Consent Decree by the United States Attorney’s Office for the District of

Connecticut, Financial Litigation Unit, New Haven, Connecticut. The costs of such electronic funds transfer shall be the responsibility of the City. At the time of payment, the City shall send a copy of the EFT authorization form, the EFT transaction record, and a transmittal letter, which shall state that the payment is for the Civil Penalty owed pursuant to the Consent Decree in *United States of America and State of Connecticut v. City of West Haven, Connecticut*, and shall reference the civil action number and DOJ case number 90-5-1-1-10543 to the EPA and the United States Department of Justice as specified in Section XV (Form of Notice) by email to acctsreceivable.CINWD@epa.gov, and by mail to:

EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, Ohio 45268

If the City fails to tender payment within 30 Days after the Date of Entry of this Consent Decree, then interest shall accrue on the debt to the United States, from the Date of Entry of this Consent Decree, at the rate provided for in 28 U.S.C. § 1961.

C. With respect to the State of Connecticut, the City shall make all payments by deposit into the Statewide SEP Account in accordance with Conn. Gen. Stat. 22a-16a, to fund various environmental projects as selected by CT CTDEEP consistent with its February 15, 1996 “Policy on Supplemental Environmental Projects.” The City shall make payment by electronic funds transfer to the Office of the Connecticut Attorney General, in accordance with written instructions to be provided by the Office of the Connecticut Attorney General. The costs of such electronic funds transfer shall be the responsibility of the City. The City shall send a copy of the electronic funds transfer authorization form, the electronic funds transfer transaction record, and the transmittal

letter to CTDEEP and the Office of the Connecticut Attorney General as specified in Section XV (Form of Notice). If the City fails to tender payment within 30 days of receiving notice of entry of this Consent Decree, then interest shall accrue on the debt to the State of Connecticut, from the date of entry of this Consent Decree, at the rate provided for in 28 U.S.C. § 1961.

XI. STIPULATED PENALTIES

A. The City shall pay stipulated penalties to the United States and the State of Connecticut for violations of, or noncompliance with, the requirements of this Consent Decree, as set forth below, unless excused under Section XII (Force Majeure). A violation or noncompliance includes failing to perform an obligation required by the terms of this Consent Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Consent Decree and within the specified time schedules or by the date(s) established by or approved under this Decree. If the United States and State makes a demand for stipulated penalties, the City may invoke dispute resolution.

1. Late Payment of Civil Penalty. If the City fails to pay the Civil Penalty required to be paid under Section X (Civil Penalty) when due, the City shall pay a stipulated penalty as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 750	1st through 10th Day
\$ 1,500	11th through 20th Day
\$ 2,500	21st Day and beyond.

2. Reporting & Notice Requirements. For every Day that the City fails timely to submit a report required by Section VIII (Reports on Compliance), fails to provide the certification required in Section XV (Form of Notice), or fails to provide the

Notice required by Paragraphs III.B or C, the City shall pay a stipulated penalty as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 500	1st through 10th Day
\$ 1,500	11th through 20th Day
\$ 2,500	21st Day and beyond.

3. Unpermitted Discharges. For each Bypass, the City shall pay a stipulated penalty of \$5,000. Notwithstanding the foregoing, the United States may decrease or abate such penalty if, in its unreviewable discretion, it determines that the following conditions are met: 1) the City stopped the Bypass as soon as reasonably practicable; 2) the City is in full compliance with the schedules and requirements set forth pursuant to Section VII (CWA Remedial Measures) of this Consent Decree; and, 3) the City has complied with all reporting requirements related to such Bypasses, including those set forth in this Consent Decree.

4. Remedial Measures. For every Day that the City fails to timely meet the requirements of Section VII (CWA Remedial Measures) of this Consent Decree, including but not limited to, submitting an approvable plan, schedule, report, or other item, other than a report required by Section VIII (Reports on Compliance), or fails to implement remedial requirements in a plan, schedule, report, or other item approved by EPA and CTDEEP, the City shall pay a stipulated penalty as follows:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 750	1st through 10th Day
\$ 1,500	11th through 20th Day
\$ 2,500	21st Day and beyond.

5. All other Violations. The City shall pay a stipulated penalty of \$1,000 per violation per day for any violation of the Consent Decree that is not specified in this

Section.

B. Stipulated penalties shall automatically begin to accrue on the first day the City fails either to meet any of the schedules of performance required by this Consent Decree or to satisfy any obligation or requirement of this Consent Decree and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity, but need not be paid except as provided in the Paragraph directly below. Payment of stipulated penalties as set forth above shall be in addition to any other rights or remedies which may be available to the United States or the State by reason of the City's failure to comply with requirements of this Consent Decree, or any applicable federal, state or local laws, regulations, NPDES Permits and or other applicable permits.

C. Stipulated penalties shall be paid within 30 days of EPA's or CTDEEP's written demand for payment of stipulated penalties. Stipulated penalties shall be paid to the United States and the State in accordance with the payment procedures detailed in Section X (Civil Penalty) above. Copies of any checks and the transmittal letters shall be sent simultaneously to U.S. DOJ, EPA, and the State.

XII. FORCE MAJEURE

A. "Force Majeure," for purposes of this Consent Decree, is defined as any event arising from causes entirely beyond the control of the City, including its contractors and subcontractors, which delays or prevents the timely performance of any obligation under this Consent Decree notwithstanding the City's best efforts to avoid the delay. Stipulated penalties shall not be due for the number of days of noncompliance caused by a Force Majeure event as defined in this Section, provided that the City

complies with the terms of this Section. Examples of events that are not Force Majeure events include, but are not limited to, normal inclement weather, unanticipated or increased costs or expenses of work, the financial difficulty of the City to perform such work, acts or omissions attributable to the City's contractors or representatives, and the failure of the City or the City's contractors or representatives to make complete and timely application for any required approval or permit.

B. If any event occurs that may delay or prevent the performance of any obligation under this Consent Decree, whether or not caused by a Force Majeure event, the City shall notify EPA and CTDEEP within 48 hours after the City first knew or should have known that the event might cause a delay. Within five working days thereafter, the City shall provide to EPA and CTDEEP, at the addresses specified in Section XV (Form of Notice), a written explanation of the cause(s) of any actual or expected delay or noncompliance, the anticipated duration of any delay, the measure(s) taken and to be taken by the City to prevent or minimize the delay, a proposed schedule for the implementation of such measures, and a statement as to whether, in the opinion of the City, such event may cause or contribute to an endangerment to public health, welfare, or the environment. Notwithstanding the foregoing, the City shall notify EPA and CTDEEP orally or via fax within 24 hours of becoming aware of any event which presents an imminent threat to the public health or welfare or the environment and provide written notice to EPA and CTDEEP within 72 hours. Failure to give timely and complete notice in accordance with this Subsection shall constitute a waiver of any claim of Force Majeure with respect to the event in question.

C. If EPA and CTDEEP agree that a delay or anticipated delay is attributable to Force Majeure, the time for performance of the obligations under this Consent Decree that are affected by the Force Majeure event shall be extended for a period of time as EPA and CTDEEP determine is necessary to allow performance of such obligations to the extent the delay was caused by a Force Majeure event. EPA and CTDEEP will notify the City in writing of the length of the extension, if any, for completion of the obligation affected by the Force Majeure event.

D. If EPA and CT DEEP do not agree that a delay or anticipated delay is attributable to Force Majeure, or on the number of days of noncompliance caused by such event, the City may initiate the Dispute Resolution process set forth in Section XIII (Dispute Resolution) below. If the City does not initiate the Dispute Resolution process set forth in Section XIII below within 14 days of receiving written notice that EPA and CTDEEP disagree as to whether a delay or anticipated delay is attributable to Force Majeure, or on the number of days of noncompliance caused by such circumstances, then the City shall be deemed to have waived any Force Majeure claims or any rights to initiate Dispute Resolution with regard to such claims. In any dispute resolution proceeding, the City shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a Force Majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that “best efforts” were exercised to avoid and mitigate the effects of the delay, and that the City complied with the requirements of Paragraph X.B, above. If the City carries this burden, the delay at issue shall be deemed not to be a violation by the City of the affected obligation(s) of this Consent Decree.

E. Delay in performance of any obligation under this Consent Decree shall not automatically justify or excuse delay in complying with any subsequent obligation or requirement of this Decree.

F. Failure of the City to obtain any state or federal grants or loans shall not be considered a Force Majeure event under this Consent Decree.

XIII. DISPUTE RESOLUTION

A. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. However, the procedures set forth in this Section shall not apply to actions by the United States or the State to enforce obligations that the City has not disputed in accordance with this Section.

B. If the City objects to disapproval or conditions in an approval of a plan, report, or other item required to be submitted to EPA and the CTDEEP under this Consent Decree, or with EPA and CTDEEP's position as to whether a delay or anticipated delay is attributable to Force Majeure, or the number of days of noncompliance caused by such event, or on the amount of Stipulated Penalties due, the City may initiate informal, good faith negotiations between the Parties to the dispute for a period of up to 30 days from the time the City gives notice of the existence of the dispute to EPA and CTDEEP. The period for negotiations may be extended by agreement of the Parties. In the event that the City elects to invoke dispute resolution in accordance with this Section, it must provide all other Parties a written Notice of Dispute within fifteen (15) Days after receipt of such determination that is in dispute. If the City fails to give such Notice, it shall be deemed to have waived any right to invoke

dispute resolution regarding such dispute, and the position advanced by the EPA and CTDEEP shall be considered binding.

C. If the parties cannot resolve any such dispute by informal negotiations, and prior to petitioning the Court pursuant to the Paragraph below, the City shall serve on EPA and CTDEEP a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis or opinion supporting that position and any supporting documentation relied upon by the City. Within 30 days after receipt of the City's Statement of Position, EPA and CTDEEP will serve on the City its Statement of Position including, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by EPA and CTDEEP. The Parties respective Statements of Position and supporting documentation shall be included in the administrative record.

D. In the event that the Parties cannot resolve any such dispute by informal negotiations under the preceding Paragraph, then the position advanced by EPA and CTDEEP shall be considered binding unless, within 21 days of the end of the informal negotiation period, including the exchange of Statements of Position, the City files a motion with this Court, seeking judicial review of the dispute, setting forth the matter in dispute, the efforts of the Parties to resolve it, and the relief requested. Any such motion shall contain a written statement of the City's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree. EPA and/or CTDEEP shall then have 30 days to respond to any such motion.

E. In proceedings on any dispute regarding a delay in performance as set forth in the previous Paragraph, the City shall have the burden of proving: (1) that the delay or noncompliance is or was caused by a Force Majeure event, and (2) that the amount of additional time requested is necessary to compensate for that event. In no event shall the time for performance be extended for a period longer than the actual delay resulting from the Force Majeure event.

F. In all disputes under this Section, the City shall have the burden of proving, based upon an administrative record, that the United States' and CTDEEP's position is arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with law. EPA or CTDEEP shall maintain the administrative record of the dispute, which shall contain all statements of the Parties, including supporting documentation, submitted pursuant to this Section.

XIV. RIGHT OF ENTRY

A. EPA and CTDEEP and their contractors, consultants, and attorneys shall have authority to enter the City's real property, including all easements and leaseholds, at all reasonable times, upon proper identification, for the purposes of monitoring the progress of activity required by this Consent Decree, verifying any data or information submitted to EPA and the CTDEEP under this Consent Decree, assessing the City's compliance with this Consent Decree, obtaining samples and, upon request, splits of any samples taken by the City or its representatives, contractors, or consultants, and obtaining documentary evidence, including photographs and similar data related to compliance with Consent Decree. This requirement is in addition to, and does not

limit, EPA's or CTDEEP's authority pursuant to the CWA, or any other provision of state or federal law.

XV. FORM OF NOTICE

A. Submissions required by this Consent Decree shall be made in writing to the following respective addresses, unless written notice is given that another individual has been designated to receive the submissions:

As to the Department of Justice:

Chief, Environmental Enforcement Section
Environment & Natural Resources Division
United States Department of Justice
P.O. Box 7611 - Ben Franklin Station
Washington, D.C. 20044

Lisa E. Perkins
Assistant U.S. Attorney
450 Main Street, Room 328
Hartford, CT 06103
E : lisa.perkins@usdoj.gov

As to the EPA:

Alex Rosenberg, Compliance Officer
U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100
Mail Code: OES04-4
Boston, MA 02109-3912
E: rosenberg.alex@epa.gov

Jeffrey Kopf, Senior Enforcement Counsel
U.S. Environmental Protection Agency, Region I
5 Post Office Square, Suite 100
Mail Code: OES04-4
Boston, MA 02109-3912
E: kopf.jeff@epa.gov

Reports and plans required to be submitted by the City to EPA shall be submitted to Alex Rosenberg with a copy of the transmittal letter only to Jeffrey Kopf. The City shall

provide complete copies to both Mr. Rosenberg and Mr. Kopf of all other submissions required to be made by the City to EPA pursuant to this Decree.

As to the CTDEEP:

Stacy Pappano
Sanitary Engineer
Municipal Facilities
Water Protection & Land Reuse
Connecticut Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
E: stacy.pappano@ct.gov

As to the Connecticut Attorney General:

John Looney, Assistant Attorney General
Office of the Attorney General
55 Elm Street
Hartford, CT 06106

Reports and plans required to be submitted by the City to CTDEEP shall be submitted to Stacy Pappano, with a copy of the transmittal letter only to John Looney. The City shall provide complete copies to both Ms. Pappano and Mr. Looney of all other submissions required to be made by the City to CTDEEP pursuant to this Decree.

As to the City of West Haven, Connecticut:

Willaim C. Norton, Administrator/Superintendent WPCC
West Haven, City Hall, 3rd Floor
335 Main St.
West Haven, CT 06516

B. All written notices, reports and all other submissions required by this

Consent Decree shall contain the following certification by a duly authorized representative of the City:

“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.”

XVI. EFFECT OF SETTLEMENT

A. This Consent Decree is neither a permit nor a modification of existing permits under any federal, state, or local law and in no way relieves the City of its responsibilities to comply with all applicable federal, state, and local laws and regulations, nor shall it be construed to constitute EPA approval of any equipment or technology installed by the City under the terms of this Consent Decree.

B. This Consent Decree does not limit any rights or remedies available to the United States or the State for any violation by the City of the CWA and associated regulations or permit conditions other than those civil violations alleged in the Complaints through the Date of Entry. This Consent Decree does not limit any rights or remedies available to the United States or the State for any criminal violations. This Consent Decree does not limit the standing of any person under Section 505 of the CWA to sue for any future violation of the CWA not addressed by this Decree. The United States and the State expressly reserve all rights and remedies, legal and equitable, available to each of them for all violations of the CWA or other applicable law where such violations are not alleged in their respective Complaints, and reserve all rights and remedies, legal and equitable, available to enforce the provisions of this Consent Decree. Nothing herein shall be construed to limit the power of the United States or the State, consistent with its respective authority, to undertake any action against any person, in response to conditions which may present an imminent and substantial endangerment to the public’s health or welfare, or the environment.

C. Neither the United States nor the State, by consent to the entry of this Consent Decree, warrant or aver in any manner that the City's compliance with this Consent Decree will result in compliance with the CWA, Connecticut state laws, or any regulations or permits issued thereunder.

XVII. COSTS

Each party shall bear its own expenses, costs and attorney's fees in this action, except that the City shall be responsible for all expenses, costs, and attorney's fees incurred by the United States in collecting any outstanding penalties due under Sections X and XI of this Consent Decree and in enforcing the requirements of this Consent Decree, unless the City prevails before a court in any dispute resolution brought pursuant to Section XIII (Dispute Resolution). In no event shall the United States or the State be responsible for any expenses, costs or attorney's fees incurred by the City.

XVIII. RETENTION OF JURISDICTION

The Court shall retain jurisdiction to modify and enforce the terms and conditions of this Consent Decree and to resolve disputes arising hereunder as may be necessary or appropriate for the construction or execution of this Consent Decree and to assess any stipulated penalties that may have accrued during the term of the Decree. This Paragraph does not constitute a waiver of the bar to judicial review of administrative decisions, including, but not limited to, approval of plans and other submissions, and permitting decisions.

XIX. MODIFICATION

Any material modification to the terms of this Consent Decree shall be by written agreement of the Parties and approval of the Court. Any nonmaterial modifications to the

terms of this Consent Decree, such as approval of modifications to submissions to EPA and CTDEEP, shall be effective upon approval by EPA and CTDEEP.

XX. CONTINGENT LIABILITY OF THE STATE OF CONNECTICUT

This Consent Decree does not resolve the contingent liability of the State of Connecticut under Section 309(e) of the Clean Water Act, 33 U.S.C. § 1319(e). The United States specifically reserves its claims against the State, and the State specifically reserves all defenses to any such claims, including that State law does not prevent the City from raising revenues needed to comply with such judgment.

XXI. FUNDING

Performance of the terms of this Consent Decree by the City is not conditioned on the receipt of any federal or state grant funds or loans or other financing. In addition, performance is not excused by the lack of any federal or state grant funds or loans.

XXII. SEVERABILITY PROVISION

The provisions of this Consent Decree shall be severable, and should any provisions be declared by a court of competent jurisdiction to be unenforceable, the remaining provisions shall remain in full force and effect.

XXIII. TERMINATION

This Decree shall not terminate until the City has completed all the remedial measures required by Section VII (CWA Remedial Measures) of the Decree and achieved and has maintained compliance with all provisions of this Decree for twelve consecutive months. The Decree shall not terminate thereafter until each of the following occurs:

1. The City has paid all penalties due under this Decree;

2. The City has certified in writing to the Court, the United States and to the State of Connecticut compliance with each provision of the Decree; and

3. The City, the United States and the State of Connecticut agree that it may be terminated and jointly move the Court for termination of the Decree.

XXIV. FINAL JUDGMENT

Entry of this Consent Decree constitutes Final Judgment under Rule 54 of the Federal Rules of Civil Procedure.

XXV. WAIVER OF SERVICE OF SUMMONS AND COMPLAINT

The City hereby acknowledges receipt of the Complaint and waives service of the summons pursuant to Rule 4 of the Federal Rules of Civil Procedure.

XXVI. PUBLIC COMMENT

This Consent Decree shall be lodged with the Court for a period of not less than 30 days, for public notice and comment in accordance with the provisions of 28 C.F.R. § 50.7. Plaintiffs reserve the right to withdraw or withhold their consent if the comments received disclose facts or considerations which indicate that the Consent Decree is inappropriate, improper or inadequate. Defendant hereby agrees not to withdraw from, oppose entry of, or to challenge any provision of this Consent Decree, unless the United States has notified Defendant in writing that it no longer supports entry of the Consent Decree.

XXVII. SIGNATORIES

Each undersigned representative of the City, the United States and the State of Connecticut certifies that he or she is fully authorized to enter into the terms and

conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document

XXVIII. APPENDICES

The following appendices are attached to and incorporated into this Consent Decree:

1. "Appendix A" is the NPDES Permit No. CT0100714.
2. "Appendix B" is the CMOM Program Implementation Corrective Action Plan 2012-Revised, submitted to EPA on August 31, 2012.
3. "Appendix C" is the model "CMOM Program Self-Assessment Checklist."
4. "Appendix D" is the State of Connecticut General Permit for the Discharge of Wastewater Associated with Food Preparation Establishments (September 30, 2005).
5. "Appendix E" is the CTDEEP Bypass Report Form.
6. "Appendix F" is a map showing the Phase I Infiltration/Inflow Study Area.

United States and State of Connecticut v. The City of West Haven, Connecticut
United States District Court
District of Connecticut
Consent Decree

Judgment is hereby entered in accordance with the foregoing Consent Decree this _____
day of _____ 20__.

UNITED STATES DISTRICT JUDGE

United States and State of Connecticut v. The City of West Haven, Connecticut
United States District Court
District of Connecticut
Consent Decree

The following Parties hereby consent to the entry of this Consent Decree:

For Plaintiff UNITED STATES OF AMERICA

ELLEN M. MAHAN
Deputy Section Chief
Environment and Natural Resources Division
United States Department of Justice

DATE

Brian Donohue
Environmental Enforcement Section
Environment & Natural Resources Division
United States Department of Justice
P.O. Box 7611 , Ben Franklin Station
Washington, D.C. 20044-7611
(202)514-0414
brian.donohue@usdoj.gov

DATE

United States and State of Connecticut v. The City of West Haven, Connecticut
United States District Court
District of Connecticut
Consent Decree

DIERDRE DAILY
Acting United States Attorney
District of Connecticut

Lisa E. Perkins
Assistant United States Attorney
U.S. Attorney's Office
Hartford Office
450 Main Street, Room 328
Hartford, Connecticut 06103
Tel.: (860) 947-1101
Fed. Bar No. CT23164
lisa.perkins@usdoj.gov

DATE

United States and State of Connecticut v. The City of West Haven, Connecticut
United States District Court
District of Connecticut
Consent Decree

For the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUSAN SHINKMAN, DIRECTOR
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

DATE

MARK POLLINS, DIRECTOR
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

DATE

J. CLARKE THURMON, ATTORNEY
Water Enforcement Division
Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

DATE

United States and State of Connecticut v. The City of West Haven, Connecticut
United States District Court
District of Connecticut
Consent Decree

For the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Susan Studlien
Director, Office of Environmental Stewardship
United States Environmental Protection Agency,
Region I
5 Post Office Square, Suite 100
Boston, MA 02109

DATE

United States and State of Connecticut v. The City of West Haven, Connecticut
United States District Court
District of Connecticut
Consent Decree

For Plaintiff STATE OF CONNECTICUT
GEORGE JEPSEN
ATTORNEY GENERAL

by _____
John M. Looney
Assistant Attorney General
55 Elm St.
Hartford, CT 06106

DATE

United States and State of Connecticut v. The City of West Haven, Connecticut
United States District Court
District of Connecticut
Consent Decree

For Defendant, The City of West Haven, CONNECTICUT

Hon. John Picard, Mayor
City of West Haven, Connecticut
West Haven City Hall, 3rd Floor
335 Main St.
West Haven, CT 06516

DATE

MUNICIPAL NPDES PERMIT

issued to

Permittee:

City of West Haven
355 Main Street
West Haven, Connecticut 06516

Location Address:

2 Beach St
West Haven, Connecticut 06516

Facility ID: 156-001

Permit ID: CT0101079

Permit Expires: October 25, 2011

Receiving Stream: New Haven Harbor

Design Flow Rate: 12.5 MGD

SECTION 1: GENERAL PROVISIONS

- (A) This permit reissued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and Section 402(b) of the Clean Water Act, as amended, 33 USC 1251, et. seq., and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer a N.P.D.E.S. permit program.
- (B) City of West Haven, ("permittee"), shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to Section 22a-430 of the CGS and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of Section 22a-430-3. To the extent this permit imposes conditions more stringent than those found in the regulations, this permit shall apply.

Section 22a-430-3 General Conditions

- (a) Definitions
- (b) General
- (c) Inspection and Entry
- (d) Effect of a Permit
- (e) Duty to Comply
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (l) Conditions Applicable to POTWs
- (m) Effluent Limitation Violations
- (n) Enforcement
- (o) Resource Conservation
- (p) Spill Prevention and Control
- (q) Instrumentation, Alarms, Flow Recorders
- (r) Equalization

Section 22a-430-4 Procedures and Criteria

- (a) Duty to Apply
- (b) Duty to Reapply
- (c) Application Requirements
- (d) Preliminary Review
- (e) Tentative Determination
- (f) Draft Permits, Fact Sheets
- (g) Public Notice, Notice of Hearing
- (h) Public Comments
- (i) Final Determination
- (j) Public Hearings

- (k) Submission of Plans and Specifications. Approval.
 - (l) Establishing Effluent Limitations and Conditions
 - (m) Case-by-Case Determinations
 - (n) Permit Issuance or Renewal
 - (o) Permit or Application Transfer
 - (p) Permit Revocation, Denial or Modification
 - (q) Variances
 - (r) Secondary Treatment Requirements
 - (s) Treatment Requirements
 - (t) Discharges to POTWs - Prohibitions
- (C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.
- (D) Any false statement in any information submitted pursuant to this Section of the permit may be punishable as a criminal offense under Section 22a-438 or 22a-131a of the CGS or in accordance with Section 22a-6, under Section 53a-157b of the CGS.
- (E) The permittee shall comply with Section 22a-416-1 through Section 22a-416-10 of the RCSA concerning operator certification.
- (F) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the permittee pursuant to this permit will result in compliance or prevent or abate pollution.
- (G) Nothing in this permit shall relieve the permittee of other obligations under applicable federal, state and local law.
- (H) An annual fee shall be paid for each year this permit is in effect as set forth in Section 22a-430-7 of the RCSA. As of August 20, 2003 the annual fee is \$2880.00.
- (I) The permittee shall discharge so as not to violate the Interstate Environmental Commission (IEC) Water Quality Regulations promulgated pursuant to the authority conferred upon the IEC by the Tri-State Compact (CGS 22a-294 et seq.) as defined in Attachment 1 Table A.
- (J) This permitted discharge is consistent with the applicable goals and policies of the Connecticut Coastal Management Act (Section 22a-92 of the CGS).

SECTION 2: DEFINITIONS

- (A) The definitions of the terms used in this permit shall be the same as the definitions contained in Section 22a-423 of the CGS and Section 22a-430-3(a) and 22a-430-6 of the RCSA, except for "Composite", "No Observable Acute Effect Level (NOAEL)" and "Grab Sample Average" which are redefined below.
- (B) In addition to the above, the following definitions shall apply to this permit:
- "-----" in the limits column on the monitoring tables in Attachment 1 means a limit is not specified but a value must be reported on the DMR, MOR, NAR, and/or the ATMR.
- "Average Monthly Limit" means the maximum allowable "Average Monthly Concentration" as defined in Section 22a-430-3(a) of the RCSA when expressed as a concentration (e.g. mg/l); otherwise, it means "Average Monthly Discharge Limitation" as defined in Section 22a-430-3(a) of the RCSA.
- "Bi-Monthly" in the context of any sampling frequency, shall mean once every two months including the months of January, March, May, July, September and November.
- "Bi-Weekly" in the context of any sampling frequency, shall mean once every two weeks.

"Composite" or **"(C)"** means a sample consisting of a minimum of eight aliquot samples collected at equal intervals of no less than 30 minutes and no more than 60 minutes and combined proportionally to flow over the sampling period provided that during the sampling period the peak hourly flow is experienced.

"Critical Test Concentration" or **"(CTC)"** means the specified effluent dilution at which the permittee is to conduct a single-concentration Aquatic Toxicity Test.

"Daily Composite" or **"(DC)"** means a composite sample taken over a full operating day consisting of grab samples collected at equal intervals of no more than sixty (60) minutes and combined proportionally to flow; or, a composite sample continuously collected over a full operating day proportionally to flow.

"Daily Concentration" means the concentration of a substance as measured in a daily composite sample, or, arithmetic average of all grab sample results defining a grab sample average.

"Daily Quantity" means the quantity of waste discharged during an operating day.

"Geometric Mean" is the " n "th root of the product of " n " observations.

"Infiltration" means water other than wastewater that enters a sewer system (including sewer system and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.

"Inflow" means water other than wastewater that enters a sewer system (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.

"Instantaneous Limit" means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

"In-stream Waste Concentration" or **"(IWC)"** means the concentration of a discharge in the receiving water after mixing has occurred in the allocated zone of influence.

"MGD" means million gallons per day.

"Maximum Daily Limit" means the maximum allowable "Daily Concentration" (defined above) when expressed as a concentration (e.g. mg/l), otherwise, it means the maximum allowable "Daily Quantity" as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity it means "Maximum Daily Flow" as defined in Section 22a-430-3(a) of the RCSA.

"Monthly Minimum Removal Efficiency" means the minimum reduction in the pollutant parameter specified when the effluent average monthly concentration for that parameter is compared to the influent average monthly concentration.

"NA" as a Monitoring Table abbreviation means "not applicable".

"NR" as a Monitoring Table abbreviation means "not required".

"No Observable Acute Effect Level" or **"(NOAEL)"** means any concentration equal to or less than the critical test concentration in a single concentration (pass/fail) toxicity test, conducted pursuant to Section 22a-430-3(j)(7)(A)(i) of the RCSA, demonstrating 90% or greater survival of test organisms at the CTC.

"Quarterly" in the context of any sampling frequency, shall mean sampling is required in the months of January, April, July and October.

"Range During Sampling" or **"(RDS)"** as a sample type means the maximum and minimum of all values recorded as a result of analyzing each grab sample of; 1) a Composite Sample, or, 2) a Grab Sample Average. For those permittees with pH meters that provide continuous monitoring and recording, Range During Sampling means the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample collection.

"Range During Month" or **"(RDM)"** as a sample type means the lowest and the highest values of all of the monitoring data for the reporting month.

"Sanitary Sewage" means wastewaters from residential, commercial and industrial sources introduced by direct connection to the sewerage collection system tributary to the treatment works including non-excessive inflow/infiltration sources.

"Twice per Month" in the context of any sampling frequency, mean two samples per calendar month collected no less than 12 days apart.

"ug/l" means micrograms per liter

"Work Day" in the context of a sampling frequency means, Monday through Friday excluding holidays.

SECTION 3: COMMISSIONER'S DECISION

- (A) The Commissioner of Environmental Protection ("Commissioner") has issued a final decision and found continuance of the existing system to treat the discharge will protect the waters of the state from pollution. The Commissioner's decision is based on application #200600206 for permit reissuance received on January 31st, 2006 and the administrative record established in the processing of that application.
- (B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or his authorized agent for the discharges and/or activities authorized by, or associated with, this permit.
- (C) The Commissioner reserves the right to make appropriate revisions to the permit, if required after Public Notice, in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

SECTION 4: GENERAL LIMITATIONS AND OTHER CONDITIONS

- (A) The Permittee shall not accept any new sources of non-domestic wastewater conveyed to its POTW through its sanitary sewerage system or by any means other than its sanitary sewerage system unless the generator of such wastewater; (a) is authorized by a permit issued by the Commissioner under Section 22a-430 CGS (individual permit), or, (b) is authorized under Section 22a-430b (general permit), or, (c) has been issued an emergency or temporary authorization by the Commissioner under Section 22a-6k. All such non-domestic wastewaters shall be processed by the POTW via receiving facilities at a location and in a manner prescribed by the permittee which are designed to contain and control any unplanned releases.
- (B) No new discharge of domestic sewage from a single source to the POTW in excess of 50,000 gallons per day may be authorized by the permittee until the discharger has registered the discharge under the "General Permit for Domestic Sewage" reissued by the Commissioner on June 12, 2002 pursuant to Section 22a-430b of the CGS.
- (C) The permittee shall maintain a system of user charges based on actual use sufficient to operate and maintain the POTW (including the collection system) and replace critical components.
- (D) The permittee shall maintain a sewer use ordinance that is consistent with the Model Sewer Ordinance for Connecticut Municipalities prepared by the Department of Environmental Protection. The Commissioner of Environmental Protection alone may authorize certain discharges which may not conform to the Model Sewer Ordinance.
- (E) No discharge shall contain or cause in the receiving stream a visible oil sheen, floating solids, visible discoloration, or foaming.
- (F) No discharge shall cause acute or chronic toxicity in the receiving water body beyond any Zone Of Influence (ZOI) specifically allocated to that discharge in this permit.

- (G) The permittee shall maintain an alternate power source adequate to provide full operation of all pump stations in the sewerage collection system and to provide a minimum of primary treatment and disinfection at the water pollution control facility to insure that no discharge of untreated wastewater will occur during a failure of a primary power source.
- (H) The average monthly effluent concentration shall not exceed 15% of the average monthly influent concentration for BOD₅ and Total Suspended Solids for all daily composite samples taken in any calendar month.
- (I) Any new or increased amount of sanitary sewage discharge to the sewer system is prohibited where it will cause a dry weather overflow or exacerbate an existing dry weather overflow.
- (J) Sludge Conditions
- (1) The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices, including but not limited to 40 CFR Part 503.
 - (2) If an applicable management practice or numerical limitation for pollutants in sewage sludge more stringent than existing federal and state regulations is promulgated under Section 405(d) of the Clean Water Act (CWA), this permit shall be modified or revoked and reissued to conform to the promulgated regulations.
 - (3) The permittee shall give prior notice to the Commissioner of any change(s) planned in the permittees' sludge use or disposal practice. A change in the permittees' sludge use or disposal practice may be a cause for modification of the permit.
 - (4) Testing for inorganic pollutants shall follow "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 as updated and/or revised.
- (K) The limits imposed on the discharges listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedence of permit limits will be considered non-compliance.
- (L) When the arithmetic mean of the average daily flow from the POTW for the previous 180 days exceeds 90% of the design flow rate, the permittee shall develop and submit within one year, for the review and approval of the Commissioner, a plan to accommodate future increases in flow to the plant. This plan shall include a schedule for completing any recommended improvements and a plan for financing the improvements.
- (M) When the arithmetic mean of the average daily BOD₅ or TSS loading into the POTW for the previous 180 days exceeds 90% of the design load rate, the permittee shall develop and submit for the review of the Commissioner within one year, a plan to accommodate future increases in load to the plant. This plan shall include a schedule for completing any recommended improvements and a plan for financing the improvements.
- (N) On or before July 31st of each calendar year the main flow meter shall be calibrated by an independent contractor in accordance with the manufacturer's specifications. The actual record of the calibration shall be retained onsite and, upon request, the permittee shall submit to the Commissioner a copy of that record.
- (O) The permittee shall operate and maintain all processes as installed in accordance with the approved plans and specifications and as outlined in the associated operation and maintenance manual. This includes but is not limited to all recycle pumping systems, aeration equipment, aeration tank cycling, mixing equipment, anoxic basin, chemical feed systems, effluent filters or any other process equipment necessary for the optimal removal of pollutants. The permittee shall not bypass or fail to operate any of the approved process equipment without the written approval of the Commissioner.
- (P) The permittee is hereby authorized to accept septage at the treatment facility; or other locations as approved by the Commissioner.
- (Q) The temperature of any discharge shall not increase the temperature of the receiving stream above 83°F, or, in any case, raise the temperature of the receiving stream by more than 4°F. The incremental temperature increase in coastal and marine waters is limited to 1.5°F during the period including July, August and September.

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- (A) The discharge(s) shall not exceed and shall otherwise conform to the specific terms and conditions listed in this permit. The discharge is restricted by, and shall be monitored in accordance with Tables A through F incorporated in this permit as Attachment 1.
- (B) The Permittee shall monitor the performance of the treatment process in accordance with the Monthly Operating Report (MOR) and the Nutrient Analysis Report (NAR) incorporated in this permit as Attachment 2.

SECTION 6: SAMPLE COLLECTION, HANDLING and ANALYTICAL TECHNIQUES

(A) Chemical Analysis

- (1) Chemical analyses to determine compliance with effluent limits and conditions established in this permit, shall be performed using the methods approved pursuant to the Code of Federal Regulations, Part 136 of Title 40 (40 CFR 136) unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in Section 22a-430-3-(j)(7) of the RCSA. Chemicals which do not have methods of analysis defined in 40 CFR 136 or the RCSA shall be analyzed in accordance with methods specified in this permit.
- (2) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal, as defined in 40 CFR 136 unless otherwise specified.
- (3) Grab samples shall be taken during the period of the day when the peak hourly flow is normally experienced.
- (4) Samples collected for bacteriological examination shall be collected between the hours of 11 a.m. and 3 p.m. or at that time of day when the peak hourly flow is normally experienced. A chlorine residual sample must be taken at the same time and the results recorded.
- (5) The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Attachment 1, Table B. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

<u>Parameter</u>	<u>Minimum Level</u>
Arsenic, Total	0.005 mg/l

- (6) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible consistent with the requirements of this Section of the permit.
- (7) Effluent analyses for which quantification was verified during the analysis at or below the minimum levels specified in this Section and which indicate that a parameter was not detected shall be reported as "less than x" where 'x' is the numerical value equivalent to the analytical method detection limit for that analysis.
- (8) Results of effluent analyses which indicate that a parameter was not present at a concentration greater than or equal to the Minimum Level specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions specified in this permit.

(B) Acute Aquatic Toxicity Test

- (1) Samples for monitoring of Acute Aquatic Toxicity shall be collected and handled as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012).
 - (a) Composite samples shall be chilled as they are collected. Grab samples shall be chilled immediately following collection. Samples shall be held at 0 - 6°C until Acute Aquatic Toxicity testing is initiated.
 - (b) Effluent samples shall not be dechlorinated, filtered, or, modified in any way, prior to testing for Aquatic Toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility. Facilities with effluent dechlorination and/or filtration designed as part of the treatment process are not

required to obtain approval from the Commissioner.

- (c) Samples shall be taken prior to chlorination for Acute Aquatic Toxicity unless otherwise approved in writing by the Commissioner for monitoring at this facility.
 - (d) Chemical analyses of the parameters identified in Attachment 1, Table B shall be conducted on an aliquot of the same sample tested for Acute Aquatic Toxicity.
 - (i) At a minimum, pH, specific salinity, Saltwater discharge total alkalinity, total hardness, and total residual chlorine shall be measured in the effluent sample and, during Acute Aquatic Toxicity tests, in the highest concentration of the test and in the dilution (control) water at the beginning of the test and at test termination. If total residual chlorine is not detected at test initiation, it does not need to be measured at test termination. Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination. Salinity shall be measured in each test concentration at the beginning of the test and at test termination.
 - (e) Tests for Acute Aquatic Toxicity shall be initiated within 36 hours of sample collection.
- (2) Monitoring for Acute Aquatic Toxicity to determine compliance with the permit condition on Acute Aquatic Toxicity (invertebrate) shall be conducted for 48 hours utilizing neonatal (less than 24 hours old) *Daphnia pulex*.
 - (3) Monitoring for Acute Aquatic Toxicity to determine compliance with the permit condition on Acute Aquatic Toxicity (vertebrate) shall be conducted for 48 hours utilizing larval (1 to 14-day old with no more than 24 hours range in age) *Pimephales promelas*.
 - (4) Tests for Acute Aquatic Toxicity shall be conducted as prescribed for static non-renewal acute tests in "Methods for measuring the Acute Aquatic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012), except as specified below.
 - (a) For Acute Aquatic Toxicity limits, and for monitoring only conditions, expressed as a NOAEL value, Pass/Fail (single concentration) tests shall be conducted at a specified Critical Test Concentration (CTC) equal to the Aquatic Toxicity limit, (100% in the case of monitoring only conditions), as prescribed in Section 22a-430-3(j)(7)(A)(i) of the RCSA.
 - (b) Organisms shall not be fed during the tests.
 - (c) Synthetic freshwater prepared with deionized water adjusted to a hardness of 50±5 mg/L as CaCO₃ shall be used as dilution water in the tests.
 - (d) Copper nitrate shall be used as the reference toxicant.
 - (5) For monitoring only conditions, toxicity shall be demonstrated when the results of a valid pass/fail Acute Aquatic Toxicity indicates less than 90% survival in the effluent at the CTC (100%).

SECTION 7: RECORDING AND REPORTING REQUIREMENTS

- (A) The results of chemical analyses and any aquatic toxicity test required above in Section 5 and the referenced Attachment 1 shall be entered on the Discharge Monitoring Report (DMR) and reported to the Bureau of Water Protection and Land Reuse. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR must be received at the following address by the 15th day of the month following the month in which samples are collected.

ATTN: Municipal Wastewater Monitoring Coordinator
Connecticut Department of Environmental Protection
Bureau of Water Protection and Land Reuse, Planning and Standards Division
79 Elm Street
Hartford, Connecticut 06106-5127

- (1) For composite samples, from other than automatic samplers, the instantaneous flow and the time of each aliquot sample collection shall be recorded and maintained at the POTW.

- (B) Complete and accurate test data, including percent survival of test organisms in each replicate test chamber, LC_{50} values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Protection and Land Reuse at the address specified above in Section 7 (A) of this permit by the 15th day of the month following the month in which samples are collected.
- (C) The results of the process monitoring required above in Section 5 shall be entered on the Monthly Operating Report (MOR) and Nutrient Analysis Report (NAR) forms, included herein as Attachment 2, and reported to the Bureau of Water Protection and Land Reuse. The MOR report shall also be accompanied by a detailed explanation of any violations of the limitations specified. The MOR and NAR must be received at the address specified above in Section 7 (A) of this permit by the 15th day of the month following the month in which the data and samples are collected.

SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS, BYPASSES, MECHANICAL FAILURES, AND MONITORING EQUIPMENT FAILURES

- (A) If any Acute Aquatic Toxicity sample analysis indicates toxicity, or that the test was invalid, a second sample of the effluent shall be collected and tested for Acute Aquatic Toxicity and associated chemical parameters, as described above in Section 5 and Section 6, and the results reported to the Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity) via the ATMR form (see Section 7 (B)) within 30 days of the previous test. These test results shall also be reported on the next month's DMR report pursuant to Section 7 (A). The results of all toxicity tests and associated chemical parameters, valid and invalid, shall be reported.
- (B) If any two consecutive Acute Aquatic Toxicity test results or any three Acute Aquatic Toxicity test results in a twelve month period indicates toxicity, the permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall submit a report, to the Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity), for the review and written approval of the Commissioner in accordance with Section 22a-430-3(j)(10)(c) of the RCSA describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity reduction and the permittee shall comply with any schedule approved by the Commissioner.
- (C) Section 22a-430-3(k) of the RCSA shall apply in all instances of bypass including a bypass of the treatment plant or a component of the sewage collection system planned during required maintenance. The Department of Environmental Protection, Bureau of Water Protection and Land Reuse, Planning and Standards Division, Municipal Facilities Section (860) 424-3704, the Department of Public Health, Water Supply Section (860) 509-7333 and Recreation Section (860) 509-7297, and the local Director of Health shall be notified within 2 hours of the permittee learning of the event by telephone during normal business hours. If the discharge or bypass occurs outside normal working hours (8:30 a.m. to 4:30 p.m. Monday through Friday), notification shall be made within 2 hours of the permittee learning of the event to the Emergency Response Unit at (860) 424-3338 and the Department of Public Health at (860) 509-8000. A written report shall be submitted to the Department of Environmental Protection, Bureau of Water Protection and Land Reuse, Planning and Standards Division, Municipal Facilities Section within five days of the permittee learning of each occurrence, or potential occurrence, of a discharge or bypass of untreated or partially treated sewage.

The written report shall contain:

- (a) The nature and cause of the bypass, permit violation, treatment component failure, and/or equipment failure,
- (b) the time the incident occurred and the anticipated time which it is expected to continue or, if the condition has been corrected, the duration,
- (c) the estimated volume of the bypass or discharge of partially treated or raw sewage,
- (d) the steps being taken to reduce or minimize the effect on the receiving waters, and
- (e) the steps that will be taken to prevent reoccurrence of the condition in the future.

For treatment plants south of Interstate 95 and any other plants which may impact shellfishing areas the Department of Agriculture/Aquaculture Division must also be notified within 2 hours of the permittee learning of the event by telephone at (203) 874-0696 and in writing within 72 hours of each occurrence of an emergency diversion or by-pass of untreated or

partially treated sewage and a copy of the written report should be sent to:

State of Connecticut
Department of Agriculture/Aquaculture Division
P.O. Box 97
Milford, Connecticut 06460

- (D) Section 22a-430-3(j) 11 (D) of the RCSA shall apply in the event of any noncompliance with a maximum daily limit and/or any noncompliance that is greater than two times any permit limit. The permittee shall notify in the same manner as in paragraph C of this Section, the Department of Environmental Protection, Bureau of Water Protection and Land Reuse Planning and Standards Division, Municipal Facilities Section except, if the noncompliance occurs outside normal working hours (8:30 a.m. to 4:30 p.m. Monday through Friday) the permittee may wait to make the verbal report until 10:30 am of the next business day after learning of the noncompliance.
- (E) Section 22a-430-3(j) 8 of the RCSA shall apply in all instances of monitoring equipment failures that prevent meeting the requirements in this permit. In the event of any such failure of the monitoring equipment including, but not limited to, loss of refrigeration for an auto-sampler or lab refrigerator or loss of flow proportion sampling ability, the permittee shall notify in the same manner as in paragraph C of this Section, the Department of Environmental Protection, Bureau of Water Protection and Land Reuse, Planning and Standards Division, Municipal Facilities Section except, if the failure occurs outside normal working hours (8:30 a.m. to 4:30 p.m. Monday through Friday) the permittee may wait to make the verbal report until 10:30 am of the next business day after learning of the failure.
- (F) In addition to the reporting requirements contained in Section 22a-430-3(i), (j), and (k) of the Regulations of Connecticut State Agencies, the permittee shall notify in the same manner as in paragraph C of this Section, the Department of Environmental Protection, Bureau of Water Protection and Land Reuse, Planning and Standards Division, Municipal Facilities Section concerning the failure of any major component of the treatment facilities which the permittee may have reason to believe would result in an effluent violation.

This permit is hereby issued on OCTOBER 26, 2006.

/s/BETSEY WINGFIELD

Betsey Wingfield
Bureau Chief
Bureau of Water Protection and Land Reuse

ATTACHMENT 1

Tables A through F

TABLE A

Discharge Serial Number (DSN): 001-1						Monitoring Location: 1				
Wastewater Description: Sanitary Sewage										
Monitoring Location Description: Final Effluent										
Allocated Zone of Influence (ZOI): 1920 cfs						In-stream Waste Concentration (IWC): 1%				
PARAMETER	Units	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			REPORT FORM	Minimum Level Analysis See Section 6
		Average Monthly Limit	Maximum Daily Limit	Sample Freq.	Sample type	Instantaneous Limit or Required Range	Sample Freq.	Sample Type		
Alkalinity	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	MOR	
Biochemical Oxygen Demand (5 day), See remarks C and D	mg/l	30 mg/l and 15% of Influent ¹	50	3/Week	Daily Composite	NA	NR	NA	DMR/MOR	
Chlorine, Total Residual	mg/l	NA	NA	NR	NA	0.2 - 1.5	4/Work Day	Grab	DMR/MOR	
Fecal Coliform	Colonies per100 ml	NA	NA	NR	NA	see remarks (A), (B) and (D) below	3/week	Grab	DMR/MOR	
Flow, Average Daily	MGD	12.5	-----	Continuous ²	Daily flow	NA	NR	NA	DMR/MOR	
Nitrogen, Ammonia (total as N)	mg/l	NA	-----	Monthly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Nitrate (total as N)	mg/l	NA	-----	Monthly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Nitrite (total as N)	mg/l	NA	-----	Monthly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Total Kjeldahl	mg/l	NA	-----	Monthly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Total	mg/l	NA	-----	Monthly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Total	lbs/day	NA	-----	Monthly	Daily Composite	NA	NR	NA	NAR	
Oxygen, Dissolved	mg/l	NA	NA	NR	NA	-----	Work Day	Grab	MOR	
pH	S.U.	NA	NA	NR	NA	6 - 9	Work Day	Grab	DMR/MOR	
Phosphate, Ortho	mg/l	NA	-----	Monthly	Daily Composite	NA	NR	NA	NAR	
Phosphorus, Total	mg/l	NA	-----	Monthly	Daily Composite	NA	NR	NA	NAR	
Solids, Settleable	ml/l	NA	NA	NA	NA	-----	Work Day	Grab	MOR	
Solids, Total Suspended, See remarks C and D	mg/l	30 mg/l and 15% of Influent ¹	50	3/ week	Daily Composite	NA	NA	NA	DMR/MOR	

Temperature	°F	NA	NA	NR	NA	-----	Work Day	Grab	MOR	
Turbidity	NTU	NA	NA	NA	NA	-----	Work Day	Grab	MOR	

TABLE A – CONDITIONS

Footnotes:

¹ The discharge shall meet 30 mg/l and 15% of the average monthly influent BOD₅ and suspended solids (Table D, Monitoring Location G).

² The permittee shall record and report on the monthly operating report the minimum, maximum and total flow for each day of discharge and the average daily flow for each sampling month . The permittee shall report, on the discharge monitoring report, the average daily flow and maximum daily flow for each sampling month.

Remarks:

(A) The geometric mean of the fecal coliform bacteria values for the effluent samples collected in a period of thirty (30) consecutive days shall not exceed 200 per 100 milliliters.

(B) The geometric mean of the fecal coliform bacteria values for the effluent samples collected in a period of seven (7) consecutive days shall not exceed 400 per 100 milliliters.

(C) The Average Weekly discharge Limitation for BOD₅ and Total Suspended Solids shall be 1.5 times the Average Monthly Limit listed above.

(D) In addition to the discharge limits included herein, the following conditions shall apply:

(i) Biochemical Oxygen Demand shall not exceed 50 mg/l on a 6 consecutive hour average.

(ii) Total Suspended Solids content shall not exceed 50 mg/l on a 6 consecutive hour average.

(iii) Fecal Coliform content shall not exceed:

(a) 800 per 100 ml on a 6 consecutive hour geometric mean.

(a) No sample may contain more than 2,400 per 100 ml.

TABLE B

Discharge Serial Number (DSN): 001-1			Monitoring Location: T			
Wastewater Description: Sanitary Sewage						
Monitoring Location Description: Final Effluent prior to chlorination						
Allocated Zone of Influence (ZOD): 1920 cfs			In-stream Waste Concentration (IWC): 1 %			
PARAMETER	Units	Maximum Daily Limit	Sampling Frequency	Sample Type	Reporting form	Minimum Level Analysis See Section 6
Antimony, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Aquatic Toxicity, <i>Daphnia pulex</i> ¹ (See new DMR reporting remark below)	%	-----	Quarterly	Daily Composite	ATMR/DMR	
Aquatic Toxicity, <i>Pimephales promelas</i> ¹ (See new DMR reporting remark below)	%	-----	Quarterly	Daily Composite	ATMR/DMR	
Arsenic, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*
Beryllium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
BOD5	mg/l	-----	Quarterly	Daily Composite	ATMR	
Cadmium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Chromium, Hexavalent	mg/l	-----	Quarterly	Daily Composite	ATMR	
Chromium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Chlorine, Total Residual	mg/l	-----	Quarterly	Daily Composite	ATMR	
Copper, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Cyanide, Amenable	mg/l	-----	Quarterly	Daily Composite	ATMR	
Cyanide, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Lead, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Mercury, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Nickel, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Nitrogen, Ammonia (total as N)	mg/l	-----	Quarterly	Daily Composite	ATMR	
Nitrogen, Nitrate, (total as N)	mg/l	-----	Quarterly	Daily Composite	ATMR	
Nitrogen, Nitrite, (total as N)	mg/l	-----	Quarterly	Daily Composite	ATMR	
Phenols, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Selenium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Silver, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Suspended Solids, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Thallium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Zinc, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
TABLE B - CONDITIONS						
Remarks: ¹ The results of the Toxicity Tests are recorded in % survival. The permittee shall report % <u>survival</u> on the DMR based on criteria in Section 6(B) of this permit.						

TABLE C

Discharge Serial Number: 001-1		Monitoring Location: N		
Wastewater Description: Activated Sludge				
Monitoring Location Description: Each Aeration Unit				
PARAMETER	REPORTING FORMAT	INSTANTANEOUS MONITORING		REPORTING FORM
		Sample Frequency	Sample Type	
Oxygen, Dissolved	High & low for each WorkDay	4/WorkDay	Grab	MOR
Sludge Volume Index	WorkDay	WorkDay	Grab	MOR
Mixed Liquor Suspended Solids	WorkDay	WorkDay	Grab	MOR

TABLE D

Discharge Serial Number: 001-1			Monitoring Location: G				
Wastewater Description: Sanitary Sewage							
Monitoring Location Description: Influent							
PARAMETER	Units	DMR REPORTING FORMAT	FLOW/TIME BASED MONITORING		INSTANTANEOUS MONITORING		REPORTING FORM
			Sample Frequency	Sample Type	Sample Frequency	Sample Type	
Biochemical Oxygen Demand (5 day)	mg/l	Monthly average	3/Week	Daily Composite	NA	NA	DMR/MOR
Nitrogen, Ammonia (total as N)	mg/l		Monthly	Daily Composite	NA	NA	NAR
Nitrogen, Nitrate (total as N)	mg/l		Monthly	Daily Composite	NA	NA	NAR
Nitrogen, Nitrite (total as N)	mg/l		Monthly	Daily Composite	NA	NA	NAR
Nitrogen, Total Kjeldahl	mg/l		Monthly	Daily Composite	NA	NA	NAR
Nitrogen, Total	mg/l		Monthly	Daily Composite	NA	NA	MOR/NAR
Phosphorus, Total	mg/l		Monthly	Daily Composite	NA	NA	MOR
pH	S.U.		NA	NA	Work Day	Grab	MOR
Solids, Total Suspended	mg/l	Monthly average	3/Week	Daily Composite	NA	NA	DMR/MOR
Temperature	°F		NA	NA	Work Day	Grab	MOR

TABLE E

Discharge Serial Number: 001-1				Monitoring Location: P			
Wastewater Description: Primary Effluent							
Monitoring Location Description: Primary Sedimentation Basin Effluent							
PARAMETER	Units	REPORTING FORMAT	TIME/FLOW BASED MONITORING		INSTANTANEOUS MONITORING		REPORTING FORM
			Sample Frequency	Sample Type	Sample Frequency	Sample type	
Alkalinity, Total	mg/l		NA	NA	Monthly	Grab	MOR
Biochemical Oxygen Demand (5 day)	mg/l	Monthly average	Weekly	Composite	NA	NA	MOR
Nitrogen, Ammonia (total as N)	mg/l		Monthly	Composite	NA	NA	MOR/NAR
Nitrogen, Nitrate (total as N)	mg/l		Monthly	Composite	NA	NA	NAR
Nitrogen, Nitrite (total as N)	mg/l		Monthly	Composite	NA	NA	NAR
Nitrogen, Total Kjeldahl	mg/l		Monthly	Composite	NA	NA	NAR
Nitrogen, Total	mg/l		Monthly	Composite	NA	NA	MOR/NAR
pH	S.U.		NA	NA	Monthly	Grab	MOR
Solids, Total Suspended	mg/l	Monthly average	Weekly	Composite	NA	NA	MOR

TABLE F

Discharge Serial Number: 001-1		Monitoring Location: S	
Wastewater Description: Dewatered Sludge			
Monitoring Location Description: Dewatered Sludge			
PARAMETER	INSTANTANEOUS MONITORING		REPORTING FORM
	Units	Grab Sample Freq.	
Arsenic, Total	mg/kg	Bi-Monthly	DMR
Beryllium, Total	mg/kg	Bi-Monthly	DMR
Cadmium, Total	mg/kg	Bi-Monthly	DMR
Chromium, Total	mg/kg	Bi-Monthly	DMR
Copper, Total	mg/kg	Bi-Monthly	DMR
Lead, Total	mg/kg	Bi-Monthly	DMR
Mercury, Total	mg/kg	Bi-Monthly	DMR
Nickel, Total	mg/kg	Bi-Monthly	DMR
Nitrogen, Ammonia *	mg/kg	Bi-Monthly	DMR*
Nitrogen, Nitrate (total as N) *	mg/kg	Bi-Monthly	DMR*
Nitrogen, Organic *	mg/kg	Bi-Monthly	DMR*
Nitrogen, Nitrite (total as N) *	mg/kg	Bi-Monthly	DMR*
Nitrogen, Total *	mg/kg	Bi-Monthly	DMR*
pH *	S.U.	Bi-Monthly	DMR*
Polychlorinated Biphenyls	mg/kg	Bi-Monthly	DMR
Solids, Fixed	%	Bi-Monthly	DMR
Solids, Total	%	Bi-Monthly	DMR
Solids, Volatile	%	Bi-Monthly	DMR
Zinc, Total	mg/kg	Bi-Monthly	DMR
<p>(*) required for composting or land application only Testing for inorganic pollutants shall follow "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 as updated and/or revised.</p>			

ATTACHMENT 2

MONTHLY OPERATING REPORT FORM AND NUTRIENT ANALYSIS REPORT

This and the following page have been left blank to reserve page numbers for the MOR form you will be editing for the WPCF.

Nutrient Analysis Report

for compliance with NPDES permit

City of West Haven Permit # CT0101079 Flow Rate _____ mgd Sampling Date __/__/__

Parameter	Raw Influent		Primary Effluent		Final Effluent		Plant Efficiency
	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day	%
Ammonia							
Nitrite							
Nitrate							
TKN							
Total Nitrogen = TKN + nitrite + nitrate							
Orthophosphates							
Total Phosphorus							

Notes: lbs/day = 8.34 x flow (mgd) x mg/l of pollutant
 Flow = Total daily flow on sampling date (mgd)
 Plant Efficiency = 100% x (raw influent – final effluent) / raw influent

DATA TRACKING AND TECHNICAL FACT SHEET

Permittee: City of West Haven PAMS Company ID: 92482

PERMIT, ADDRESS, AND FACILITY DATA

PERMIT #: CT0101079 APPLICATION #: 200600206 FACILITY ID. 156-001

<p><u>Mailing Address:</u> Street: 355 Main Street City: West Haven ST: CT Zip: 06516 Contact Name: William C. Norton Phone No.: (203) 937-3591</p>	<p><u>Location Address:</u> Street: 2 Beach St City: West Haven ST: CT Zip: 06516 Contact Name: Phone No.: (203)937-3637</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

PERMIT INFORMATION

DURATION 5 YEAR X 10 YEAR ___ 30 YEAR ___

TYPE New ___ Reissuance X Modification ___

CATEGORIZATION POINT (X) NON-POINT () GIS #

NPDES (X) PRETREAT () GROUND WATER(UIC) () GROUND WATER (OTHER) ()

NPDES MAJOR(MA) ___X
 NPDES SIGNIFICANT MINOR or PRETREAT SIU (SI) ___
 NPDES or PRETREATMENT MINOR (MI) ___

COMPLIANCE SCHEDULE YES ___ NO X
 POLLUTION PREVENTION ___ TREATMENT REQUIREMENT ___
 WATER QUALITY REQUIREMENT ___ OTHER ___

OWNERSHIP CODE

Private ___ Federal ___ State ___ Municipal (town only) X Other public ___

DEP STAFF ENGINEER Iliana Ayala

PERMIT FEES

Discharge Code	DSN Number	Annual Fee
111000f	001	\$2880.00

FOR NPDES DISCHARGES

Drainage Basin Code: 5000 Present/Future Water Quality Standard: SD/SB

NATURE OF BUSINESS GENERATING DISCHARGE

Municipal Sanitary Sewage Treatment

PROCESS AND TREATMENT DESCRIPTION (by DSN)

Secondary biological treatment, nitrogen removal and year-round chlorine disinfection

RESOURCES USED TO DRAFT PERMIT

- Federal Effluent Limitation Guideline 40CFR 133*
Secondary Treatment Category
- Performance Standards*
- Federal Development Document*
name of category
- Department File Information*
- Connecticut Water Quality Standards*
- Anti-degradation Policy*
- Coastal Management Consistency Review Form*
- Other - Explain*

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

- Secondary Treatment (Section 22a-430-4(r) of the Regulations of Connecticut State Agencies)*
- Case-by-Case Determination (See Other Comments)*
- In order to meet in-stream water quality (See General Comments)*
- Anti-degradation policy*

GENERAL COMMENTS

The need for inclusion of water quality based discharge limitations in this permit was evaluated consistent with Connecticut Water Quality Standards and criteria, pursuant to 40 CFR 122.44(d). Each parameter was evaluated for consistency with the available aquatic life criteria (acute and chronic) and human health (fish consumption only) criteria, considering the zone of influence allocated to the facility where appropriate. The statistical procedures outlined in the EPA Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001) were employed to calculate the need for such limits. Comparison of monitoring data and its inherent variability with the calculated water quality based limits indicates a low statistical probability of exceeding such limits. Therefore, no water quality based limits were included in the permit at this time.

OTHER COMMENTS

There have been no significant changes in the permit since the previous reissuance.

WATER QUALITY LIMIT CALCULATIONS

See attached

CMOM PROGRAM
IMPLEMENTATION
CORRECTIVE
ACTION PLAN
2012 – REVISED

City of West Haven
Water Pollution Control Authority

August 31, 2012



Table of Contents

Section 1	Executive Summary	1-1
1.1	Current Status of Collection System	1-1
1.2	Areas for Improvement.....	1-3
1.3	Overall Recommendations and Timeline.....	1-4
Section 2	Current Status of System Capacity, Maintenance, Operations, and Management.....	2-1
2.1	Collection System Performance	2-1
2.1.1	System Performance History for 2007-2011	2-1
2.1.1.1	CCTV	2-1
2.1.1.2	Bypasses	2-1
2.2	Management	2-3
2.2.1	Organization & Staffing Levels	2-3
2.2.2	Training.....	2-3
2.2.3	Emergency Response Plan	2-3
2.2.4	Information Management System – Maintenance Connection (MC).....	2-4
2.3	Operation and Maintenance.....	2-4
2.3.1	Mechanical and Physical Maintenance	2-4
2.3.1.1	Sewer System Cleaning, Manhole Inspection, and Maintenance.....	2-4
2.3.1.2	Inspection	2-6
2.3.2	Pump Station Operation	2-6
2.3.3	FOG Control Program	2-7
2.3.4	Inflow Prevention.....	2-8
Section 3	Recommendations	3-1
3.1	Management Program	3-1
3.1.1	Continuous Collection System Assessment and Rehabilitation Program	3-1
3.1.2	Emergency Response Plan (Including Sewer Overflow Response)	3-2
3.1.3	Safety Program	3-2
3.1.4	Information Management Policy	3-3
3.1.5	Position Descriptions.....	3-3
3.1.6	Training Program	3-3
3.2	Operations and Maintenance	3-3
3.2.1	Preventive Cleaning and Maintenance.....	3-4
3.2.2	Other Preventive Procedures.....	3-4
3.2.3	System Assessment.....	3-4
Section 4	Implementation	4-1

List of Figures

Figure 2-1 West Haven Collection system bypasses (July 2006 – December 2011)	2-2
Figure 2-2 City of West Haven WPCA Organizational Chart.....	2-3

List of Tables

Table 1-1 Recommended Goals.....	1-4
Table 2-1 West Haven Wastewater Collection and Conveyance System	2-1
Table 2-2 FOG Outreach Program and Schedule	2-7
Table 3-1 Management Policies to Write Up	3-1
Table 3-2 Operation and Maintenance SOPs to Write Up.....	3-3
Table 3-3 Preventive Maintenance Targets: 2012 – 2017	3-4
Table 4-1 Overall Timeline of Implementation	4-1
Table 4-2 Implementation of Short-Term (2012-2014) Goals.....	4-1
Table 4-3 Implementation of Longer-term (2015-2020) Goals.....	4-2

Section 1

Executive Summary

CDM Smith has prepared this 2011 Wastewater Collection System Capacity, Management, Operation, and Maintenance (CMOM) Program Corrective Action Plan (CAP) for the City of West Haven (“the City”) in compliance with the United States Environmental Protection Agency (EPA) Clean Water Act Administrative Order Docket No. 11-014 (“Order”). The Order requires the City to submit documentation at various milestones, including this plan. The original CAP was submitted on April 1, 2012, with this revised CAP submitted on August 31, 2012.

Section 1 provides a summary of the current status of the collection system, potential areas for improvement, and recommendations for short and long-term actions to address these areas for improvement. **Section 2** gives a more detailed description of the current collection system capacity, maintenance, operations, and management. **Section 3** describes specific recommended short- and long-term goals to address potential areas for improvement. Finally, **Section 4** provides the recommended timeline to carry out the recommendations.

The following items included in this report are referenced according to the sequential paragraph lettering used by EPA in the Order (page A9):

- EPA Order Paragraph 7.a. List of any deficiencies identified by the CMOM Program Assessment – included in **Section 1.2**
- EPA Order Paragraph 7.b. List of causes and contributing factors that lead to the overflows, spills, and releases (“bypasses”) since July 1, 2006 – included in **Section 2.1**
- EPA Order Paragraph 7.c. Description of the specific short and long-term actions that the City is taking, or plans to take, to address any of the deficiencies identified during the completion of the CMOM Program Assessment Checklist–summarized in **Section 1.3** and discussed in greater detail in **Section 3**
- EPA Order Paragraph 7.d. A schedule for implementation of the CMOM Corrective Action Plan–included in **Section 4**

1.1 Current Status of Collection System

In 2011 the City took over operations from OMI after 17 years of contract operations. Though the responsibility for operations has transitioned, many of the staff remain, and have been involved historically in identifying, preventing, and responding to collection system deficiencies. As part of the transition, and in compliance with the EPA Order, the City has taken action to document collection system deficiencies and taken actions during 2011 to improve operations. This CAP outlines additional actions planned for 2012-2015.

The City’s wastewater collection and conveyance system serves a population of approximately 55,600 and was constructed in several phases from 1914 through 1945. The system is made up of

approximately 145 miles of gravity sewer lines ranging in size from 8-inch to 48-inch in diameter. The system includes 13 force mains totaling 30,000 linear feet, which range in diameter from 4- inch to 30-inch. The system has approximately 3,450 manholes, 13 pump stations, and 3 inverted siphons.

A number of studies have been completed on the collection system at various points in time, in order to ensure sufficient capacity and identify target areas for upgrades:

1. 1991 – Comprehensive Study Update for the Wastewater Connection & Conveyance System
2. 1996 – Sewer System Evaluation Survey (SSES)
3. 1996 – Second Avenue, Sawmill and Savin Avenue Interceptor Capacity Study
4. 1997 – Inflow Removal Study

The SSES report recommended a number of remedial actions such as sewer lining, manhole repair, and a sump pump disconnect program. The recommendations included in the SSES were implemented in subsequent years. In the 1990's 7% of the sewer system was lined, which has reduced infiltration and inflow (I&I) entering the system. WPCA also made 400 point repairs and joint grouting. The study also concluded that several critical components of the collection system do, in fact, have adequate capacity to convey the projected flow. Based on these analyses and the ongoing observations of the maintenance staff, the Water Pollution Control Authority (WPCA) has determined that preventive maintenance and cleaning are the main priorities to preventing future bypasses.

As noted in the CMOM Assessment Checklist (submitted December 2011) and CMOM Program Implementation Annual Report for 2011 (submitted January 2012), the bypasses that have been reported in recent years (July 2006 – December 2011) are distributed throughout the collection system and are not a result of a chronic issue in a specific location(s) or specifically linked to rainfall events. In 2011, 50 collection system bypasses occurred, which were mostly due to blockages caused by grease and/or rags (64%). Only a limited number occurred during rain/wet weather (10%). Most of these bypasses due to heavy rain (4 out of 5) were directly due to an extreme event – Hurricane Irene. Other causes included mechanical/electrical failure (10%), roots (1 occurrence, or 2%), and a broken lateral (1 occurrence, or 2%). The City has taken measures to reduce and prevent release occurrences, including:

1. A systematic **preventive sewer system maintenance and cleaning** program;
2. **Fats, Oils and Grease (FOG) policy**, prevention program, and outreach;
3. **Computerized tracking of information** using Maintenance Connection; and
4. **Closed Circuit Television (CCTV) inspection.**

The system has had very few structural failures in the last 15 years. In this period there were two force main breaks (Cove River and Dawson Ave), which were repaired. There was hydrogen sulfide damage in one localized area which was addressed by installing a permanent chemical injection system to reduce the hydrogen sulfide. The City is currently in the process of CCTV inspecting sewers

Key programs the City implements to reduce bypasses

- Preventive sewer system maintenance and cleaning program
 - Fats, Oils and Grease (FOG) policy
 - Computerized tracking of information
 - Television inspection
-

in this area to assess their condition. The \$42 million wastewater treatment plant (WWTP) upgrade is complete, and addressed all structural, mechanical and electrical reliability issues previously identified.

The collection system staff includes a Maintenance Clerk, the Lead Mechanic, and 4 Mechanics. The Mechanics are divided into teams of two, which provide daily operations and maintenance (O&M) of the collection system (one team) and the pump stations (one team). Two additional Mechanics are trained for collection system maintenance but work on the WWTP daily. The Lead Mechanic covers absences and has a coordination role.

1.2 Areas for Improvement

The CMOM Program Implementation Annual Report for 2011 identified potential areas of improvement:

Capacity – As previously mentioned, analysis has shown that the system capacity is sufficient to meet current flows. It is recommended that this be updated by 2016 to ensure that the system has sufficient capacity for the service area and any projected growth in the future.

Management – Since taking over for OMI, the WPCA has a need to create written standard management policies and procedures. In addition, management should continue to advocate for increases in budget to set aside for unexpected failures, including adequate funding of a sinking fund for future rehabilitation.

Operation – It is timely for the City to conduct routine review of operations procedures to evaluate whether any need to be updated or if further system analysis is warranted. This includes reviewing records management procedures, sewer system evaluation, I&I and/or flow monitoring, and pump station performance. As for management areas, the WPCA has a need to create written standard operating procedures (SOPs) and document existing programs for operation, including preventive maintenance.

Maintenance – WPCA's maintenance and cleaning program has a goal of cleaning 15 percent of the system per year. This goal encompasses cleaning the entire system over several years, with problem areas cleaned more frequently, depending on the need. Currently, the team that cleans the collection system daily must respond to acute blockages or problem areas, and therefore is not able to dedicate as much time to preventive cleaning as would be optimal. By utilizing an outside contractor to conduct a systematic preventive cleaning of the entire system over a 5 year period, potential future blockages will be more systematically removed. In this way, after a one-time thorough cleaning, the City Staff would be in a position to take a more proactive stance, and be able to achieve the goal of cleaning 15 percent of the system per year. In addition, an increase in CCTV inspection and more aggressive FOG outreach in the community to reduce occurrence of bypasses due to FOG are targeted improvements for the city's program.

WPCA's goal is to **reduce the number of bypasses to zero** through thorough preventive maintenance conducted by trained staff or external providers, and sufficient planning and budgeting for unexpected failures.

1.3 Overall Recommendations and Timeline

The City has used current budgetary resources to effectively prioritize preventive maintenance and targeted system upgrades to minimize bypasses. To further decrease the number of bypasses, and to ensure WPCA is using best practices, CDM Smith recommends a series of short-term and long-term objectives. In the short-term, CDM Smith recommends that in 2012, the City focus on improvements to their in-house operations and maintenance (O&M) activities, management of information, and decision-making processes that will be relatively low cost and provide significant sewer performance improvements. The longer term goals are recommended for implementation beginning in 2015. Recommendations are listed in **Table 1-1** and are discussed in greater detail in **Section 3**.

Table 1-1 Recommended Goals

Recommendation #	Category	Goal	Short-Term	Long-Term	Timeline
1	Management policies	Review current records management, assessment procedures, and financial structure. Document assessment and prioritization procedures in a Continuous Collection System Assessment and Rehabilitation Program	X		2012
		Create a written Emergency Response Plan (including Sewer Overflow Response)	X		2012
		Create a written Safety Program	X		2012
		Create a written Information Management Policy	X		2012
		Update written Position descriptions (PDs)	X		2012
		Create a written Training Policy including maintenance of training records	X		2012
2	O&M SOPs and Procedures	Create written collection system component SOPs (including pump stations, sewer system, manholes, force main routes and air/vacuum valves, hydrogen sulfide monitoring and control procedures)	X		2012
		Document existing FOG and root control programs	X		2012
3	Cleaning and CCTV Inspection	Sewer system cleaning and manhole inspections – 5% of system (in-house: reactive and preventive) CCTV – 1 % (contracted)	X		2012
		Sewer system cleaning and manhole inspections – 5% of system (in-house: reactive and preventive) + 20% of system (contracted: preventive) CCTV – 5 % of system (contracted)	X	X	2013-2017
		Sewer system cleaning and manhole inspections – 15% of system (in-house: mostly preventive) CCTV –10 % of system (contracted)		X	2018
4	Sewer System Evaluation Survey (SSES)	SSES was carried out in 1996. Reevaluate system capacity by 2016.		X	2016
5	I/I and/or Flow Monitoring	I/I and service lateral investigations were done in 1997. Evaluate whether this needs to be updated.	X		2012

Recommendation #	Category	Goal	Short-Term	Long-Term	Timeline
6	Pump Station Performance	Assess current pump station monitoring to determine whether inspection frequency and monitoring is appropriate, and whether upgrades are needed (SCADA, backup power, etc.).	X		2012
7	Increase training budget	Allocate 3% of collection system budget.		X	2015
8	FOG Program	Increase public outreach around FOG prevention in coordination with Department of Public Health.		X	2015
9	Infrastructure – sinking fund	Establish a sinking fund and budget line item for unexpected failures. This budget line item will be sufficient to rehabilitate a minimum of 1 % of the system annually.		X	2015

Section 2

Current Status of System Capacity, Maintenance, Operations, and Management

2.1 Collection System Performance

A summary of the current West Haven wastewater collection and conveyance system is provided in **Table 2-1** below.

Table 2-1 West Haven Wastewater Collection and Conveyance System

Parameter	Number
Service population	55,600
Service connections	Approximately 26,000 units are billed annually (1 unit = 91,250 gallons per year), including 19,500 residential units and 6,500 commercial/industrial units
Manholes	3,450
Pump stations	13
Force mains	13
Siphons	3
System description	The system contains 145 miles of gravity sewers ranging in size from 8-inch to 48-inch in diameter. Pipe materials include vitrified clay (VC), asbestos cement (AC), polyvinyl chloride (PVC), and ductile iron (DI). There are 30,000 linear feet of force main ranging in diameter from 4-inch to 30-inch. The force main materials are predominantly DI, cast iron, and asbestos cement.
System age	Construction was carried out in several phases: 1914 to 1918, 1927 to 1936, 1938, and 1945.

2.1.1 System Performance History for 2007-2011

2.1.1.1 CCTV

To date in 2012, the City has conducted CCTV inspection of the trunk sewer tributary to the Cove River Pump Station (4,187 linear feet) and Sugarbush Lane (250 feet), or 0.6% of the system overall). In addition approximately 35 manholes were slated to be inspected as part of this effort. Overall the sections of pipe that were inspected were observed to be in good condition; however, heavy grit buildup hampered progress of some of the CCTV work. The City is contracting an outside company to perform heavy cleaning in these areas and facilitate the conclusion of the CCTV work. In addition, the City will begin use of its own camera truck soon – it is currently undergoing some repairs and a computer system upgrade. The City will also be providing training to the WPCC mechanics, who will begin use of the camera truck for in-house sewer system inspection.

2.1.1.2 Bypasses

Table 2-1 summarizes the number of bypasses reported each year during July 5, 2006 to December 31, 2011, and categorizes them by cause. A complete table showing the dates, locations, causes, volumes, and fates of the discharges that occurred in 2011 was provided in the CMOM Program Implementation Annual Report for 2011. Discharge details for June 2006 – December 2010 were provided in the November 22, 2011 submittal.

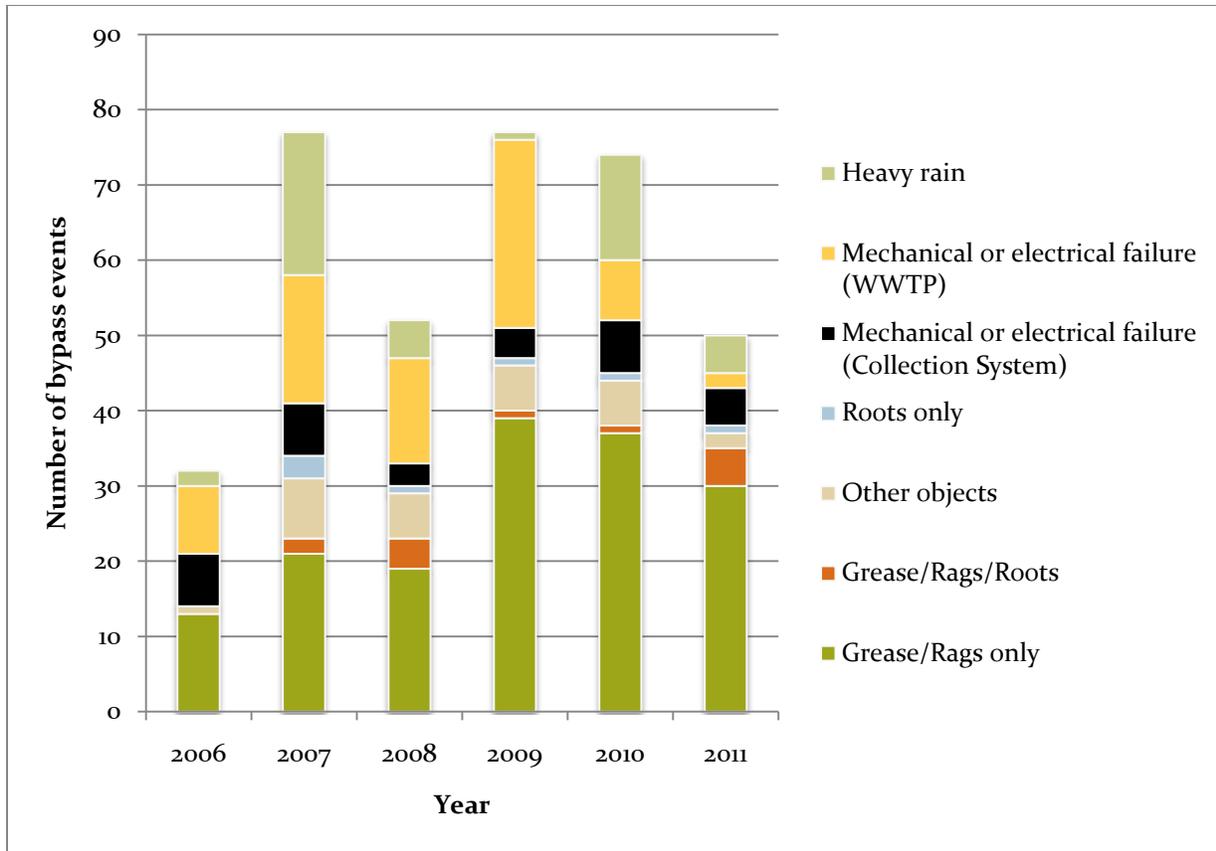


Figure 2-1 West Haven Collection system bypasses (July 2006 – December 2011)

Note: Releases in 2006 are 6-months of record only.

FOG and Rags – The predominant cause of bypass events in the system is FOG and rags. These events appear to be occurring randomly throughout the system, rather than in specific problem locations. (This can be seen on the bypass maps and tables provided previously in the 2011 CMOM Program Implementation Annual Report submitted in January 2012.) To address bypasses due to FOG and rags, the City has a FOG program and has been carrying out an inspection and maintenance program for the entire system. To further address this issue, as mentioned, the City will increase preventive inspection and maintenance by using an external contractor for five years, in order to clean problem areas before they appear as bypasses and move into a more preventive maintenance mode. Likewise, increase in budget for CCTV inspection will help locate problem areas before they appear as bypasses. In addition, the City plans to examine options for a more aggressive FOG prevention program.

Roots – Because of the sewer lining of the late 1990's, roots have not been a major cause of bypasses in the system.

Mechanical or electrical failure, broken lateral – City staff have repaired problems as they arise. In the cases where staff capacity is exceeded, outside contractors are used for repair work.

Heavy rain – In 2011, 4 of the 5 bypass events due to heavy rain were during Hurricane Irene, a highly unusual event. Outside of this extreme case, I&I is not a chronic cause of bypasses in this system.

2.2 Management

2.2.1 Organization & Staffing Levels

The collection system staff includes a Maintenance Clerk, a Lead Mechanic, and 4 Mechanics. Two Mechanics work on the collection system lines and two on the pump stations daily. The Lead Mechanic covers absences and has a coordination role. Two additional Mechanics are trained for collection system maintenance but work on the WWTP daily. An Electrician that splits time between the WWTP and pump stations, as needed (**Figure 2-1**).

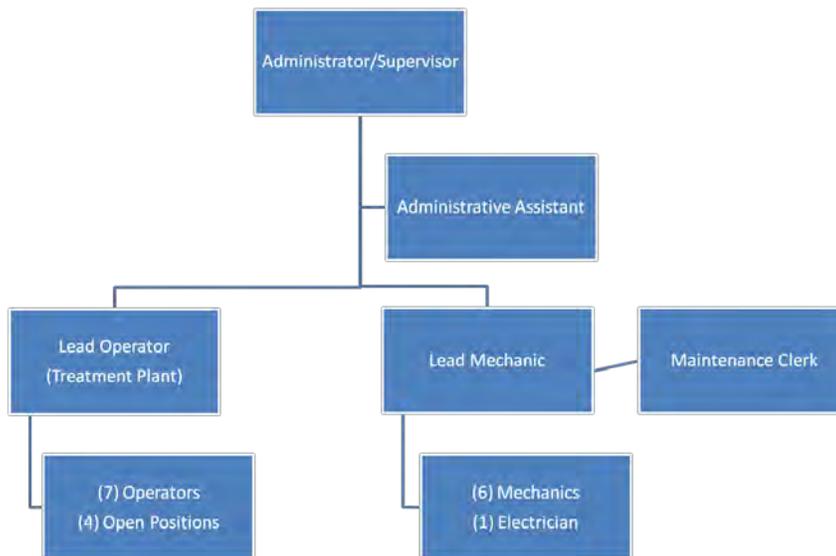


Figure 2-2 City of West Haven WPCA Organizational Chart

2.2.2 Training

Training under OMI was very complete (including CPR, confined space, blood borne pathogens, etc.) and was provided by OMI's internal trainer. Currently the City does not have written policies for safety training, but has continued procedures implemented under OMI. The City is working towards developing its own written policies and a comprehensive Safety Program (including training requirements and record keeping) with their insurance provider (PMA Companies) to help ensure the facility's excellent safety record is maintained.

2.2.3 Emergency Response Plan

OMI had an emergency response plan and corresponding training program. Now that the City has taken over operations, WPCA should create an emergency response plan to replace those of OMI.

2.2.4 Information Management System – Maintenance Connection (MC)

The WPCA utilizes Maintenance Connection (MC), a commercially available web-based Computerized Maintenance Management Software (CMMS) package. A full-time Maintenance Clerk is employed to maintain the MC database to generate work orders, track all maintenance, parts inventory, and staffing. The Maintenance Clerk and the Maintenance Supervisor work together to prioritize maintenance activities based on severity of problems at hand and staff availability.

The Collection System Team identifies areas that seem to need more frequent maintenance. The entire collection system is maintained at a rate of 15 percent per year, with problem areas being maintained more regularly. Observations of the maintenance team are used to determine locations that should have systematic flushes and maintenance every 6 months, for example. Outside contractors are used for: generator maintenance, root control, pump station repairs, instrumentation and controls, manhole repair, and sewer repair.

The staff is moving towards using MC to track all parts inventory and generate automated purchasing notifications. Currently staff monitor most inventory directly, with small parts vendors (e.g., nuts and bolts) maintaining inventory for those small parts.

2.3 Operation and Maintenance

2.3.1 Mechanical and Physical Maintenance

2.3.1.1 Sewer System Cleaning, Manhole Inspection, and Maintenance

To combat the occurrence of randomly occurring bypasses, the City has established a systematic approach to cleaning sewer lines on a daily basis. During normal working hours one team of two are responsible for maintaining the collection system sewers, another team of two is responsible for the collection system pump stations and the third team of two is responsible for treatment plant maintenance. All six Mechanics plus the Lead Mechanic rotate being “on-call” to respond to call-ins that occur during nights and weekends. Staff do not have duties outside of those related to water pollution control.

Each day the Collection System team (2 employees) sets out to jet/vacuum a goal of between 5 and 10 sewer segments, depending on sewer size, proximity, and conditions. Known problem areas are cleaned more frequently. There is currently no backlog to the scheduled preventive maintenance. The City’s plans during 2012-2018 are to clean and inspect the collection system using City employees and outside contractors according to the following schedule:

Sewer system cleaning and manhole inspection schedule:

2012:	5% of system (in-house: reactive and preventive)
2013-2017:	5% of system/year (in-house: reactive and preventive) plus 20% of system/year (contracted: preventive)
2018:	15% of system (in-house: mostly preventive)

In addition to in-house cleaning and manhole inspection, the City is working with outside contractors to conduct supplemental cleaning. The supplemental cleaning will provide a systematic preventive cleaning of the entire system during 2013-2017. This is intended to help the City systematically remove potential future blockages and move into a more proactive stance. Following this contracted

work, the City will continue the goal of cleaning 15 percent of the system per year. This long-term schedule is not the same as cleaning the entire system on a five-year cycle (or on a seven-year cycle), as some areas may be cleaned more frequently than once every five years. The City will prioritize areas of the system where problems appear more frequently with the frequency required to address those issues. The City believes this approach will lead to a more direct and successful improvement in system performance for its resource investment.

The City's cleaning and inspection program is designed to prioritize problem areas quickly while continuing to clean and inspect the system as a whole. This prioritization is necessary because the City has very limited resources. WPCP prioritizes PM on a monthly basis. The prioritization process is carried out by the Lead Mechanic (Mark Magri) and the Maintenance Clerk (Teresa Valerio). Mr. Magri and Ms. Valerio meet to make a list of PM work to be carried out by the collection system maintenance team, using three sources of data and knowledge.

- i. First, an existing list of sewer sections to watch is consulted, which represent areas that may need PM on a 30-, 60-, and 90-day basis (the 30/60/90 Day Watch List). This list was created based on historic data on locations requiring routine maintenance.
- ii. Second, the list of maintenance conducted in the past three months which was a result of customer complaint, or a "call-out" is consulted. The typical reason for a customer complaint is slow sewage drainage from a home. In the case of a customer complaint, the street lines are cleaned, and homeowners are explained that lateral lines are the responsibility of the homeowners.
- iii. Third, the historical knowledge of the system guides the process. Mr. Magri has worked on the system for 25 years and has knowledge of which sections of the sewer system are problematic, which sections have improved due to restaurant FOG outreach, which sections are watched because they are near restaurants which historically have discharged grease, and which sections have improved due to other interventions including sewer lining. In July, the City submitted a map of the system highlighted to show these four categories based on this historic knowledge. Sections of the sewer system which are known to be problematic are also considered for the month's PM. Likewise, field observations guide whether a priority section does not need to be run in a given month – if the field crew runs a line and finds that there is little grease or debris clogging the line, the frequency of PM is decreased. The monthly prioritization process has been in place for 13 months and contributes to improved data in Maintenance Connection, which in turn will contribute to better future planning.

The list of recent call-outs, the 30/60/90-day Watch List, and historical knowledge together are analyzed to create a list of sewer sections to be preventively cleaned that month. The judgment of Mr. Magri and Ms. Valerio guides whether a sewer section is targeted for that month's PM. As a result of this dynamic prioritization process, the actual priority sewer cleaning list changes every month.

Going forward, the City is in the process of updating its 30/60/90-day Watch List to reflect recent observations. This will be used each month to prioritize preventative maintenance, along with call-out records from the previous three months. During the prioritization process each month, the City will record notes on the revised 30/60/90-day Watch List which sections were targeted for cleaning, and why sections were included or skipped for that month. It will also record any new sections added to the list or sections removed from the list, along with the reason. The City will also keep a running log of all sections on the revised 30/60/90-day Watch List, the dates they were preventively cleaned, and

any observations from the field crews. To track year-to-year progress cleaning the system, WPCC will manually update a map, color-coded by year.

The routine collection system cleaning program helps to identify manholes that may be lost or buried due to past paving. In addition, manholes are inspected by collection system staff when they are investigating a complaint. In 2012 the City will add the collection of manhole condition assessment information to the forms that the cleaning crew uses as the system is being cleaned, in order to better track the condition of the collection system manholes. If a problem is observed it is reported to the WPC Administrator and the City's on-call repair contractor is contacted for a repair. Road paving operations are coordinated with the Department of Public Works (DPW) so that manholes are not paved over. The WPCA utilizes an outside contractor to raise frames prior to paving activities.

2.3.1.2 Inspection

WPCC is implementing a priority-based inspection program that will allow the City to focus rehabilitation efforts on the highest risk areas first. Past occurrence of bypasses or FOG buildup, along with the field observations of the cleaning crews during 2012-2017, will be used to set priorities as to where subsequent CCTV pipeline condition assessment information will be collected. The City will hire outside contractors to conduct CCTV assessment on a targeted portion of the system during 2013-2017, which will in turn help further prioritize sections which need to be cleaned regularly and those which need structural and infiltration and inflow (I/I) related rehabilitation. This allows the City to focus rehabilitation and maintenance where it will provide the most immediate benefits. By rehabilitating system defects as they are found, the City has a more direct impact on improving system performance using a systematic and prioritized approach. Together with the City's manhole assessments, the City will be able to assess the system to focus ongoing maintenance.

The CCTV schedule is given as follows:

CCTV inspection schedule:

2012:	1 % (contracted)
2013-2017:	5 % of system/year (contracted)
2018:	10 % of system (contracted)

In addition to the externally contracted CCTV assessment, the City owns a truck equipped with television equipment to visualize the conditions of the sewer sections. The City has plans to train all seven WPCC mechanics on operation of the camera truck by the end of 2012 and begin deploying it with the collection system team. The team will visualize sewer sections during preventive and reactive maintenance. This will allow the City to obtain a better idea of the condition of the sewers and better target the frequency of preventive maintenance of priority areas. To track year-to-year progress inspecting the system, WPCC will manually update a map, color-coded by year.

The City will also consider other, potentially more cost-effective technologies for ongoing system assessment such as manhole zoom cameras and other innovative approaches. These and other technologies may be piloted in the future.

2.3.2 Pump Station Operation

The pump station maintenance team (2 employees) completes maintenance on the 13 pump stations each week. Twelve of the pump stations have their own dedicated permanent generator on-site, and

the thirteenth station has a dedicated trailer-mounted generator on-site. Critical spare parts, which are those that require long purchasing lead times or are expensive (seals, spare pumps, drive shafts, etc.), have been identified. Pump stations are stocked on-site with backups to critical spare parts at all times.

2.3.3 FOG Control Program

The City has implemented a FOG policy and outreach program to reduce the amount of FOG impacting the collection system. The FOG policy and outreach program is part of the larger State of Connecticut Department of Energy and Environmental Protection (DEEP) General Permit program which is applicable to all new and existing Class III and IV Food Service Establishments that discharge FOG in their wastewater. Class III and IV Food Service Establishments are establishments that prepare food by hot processes. Class I and II establishments use cold or ready-to-eat commercially processed food requiring no further heat treatment, except that commercially packaged precooked foods may be heated and served in the original package. As part of the City's FOG program, a letter was prepared and distributed informing business owners of the new ordinance aimed at reducing the amount of FOG discharged to the collection system. The Department of Public Health (DPH) is responsible for inspecting the food establishments and reports any findings of FOG issues to the WPCA. The City's FOG program and planned outreach are listed in **Table 2-2** and described in the following paragraphs.

Table 2-2 FOG Outreach Program and Schedule

Component	Date	Comment
Residential outreach	April 10, 2008	Martin Street was targeted for FOG outreach; WPCCC sent a letter to all residents in the area; backups in that area have dramatically decreased
Restaurant outreach	October 7, 2010	Restaurants were contacted in a letter explaining the state-wide requirement to install, operate, and maintain a FOG pretreatment program, generally in the form of a grease trap.
State-wide compliance deadline for restaurant grease traps	July 1, 2011	July 1, 2011 was the state-wide deadline for restaurants to be in compliance with FOG requirements.
West Haven Retail Food and Food Service License Renewal Application 2012-2013 deadline	May 1, 2012	May 1, 2012 is the date of renewal of restaurant licenses, which was therefore the de facto deadline for installing grease traps in compliance with the state-wide FOG program. In the first half of 2012, WPCCC inspected all restaurant grease traps to sign off on the Department of Health restaurant license renewals. Restaurants not in compliance were not granted renewals but were given a 90-day grace period for compliance.
Final deadline for Retail Food and Food Service License Renewal Application 2012-2013 (after 90-day grace period)	August 1, 2012	The Department of Health will make a final ruling on restaurants given a 90-day grace period for compliance with the grease trap requirement.

Component	Date	Comment
Residential outreach	Second half of 2012 (planned)	WPCC is considering a city-wide residential mailing in 2012 to describe FOG issues. WPCC is coordinating with City Public Works and the City Information Technology (IT) Department to include the mailing in conjunction with other City mailings in 2012.

According to WPCC records, there are 87 Class III and 83 Class IV Food establishments that need to have automatic grease recovery units (AGRUs) installed. These restaurants were contacted in a letter dated October 7, 2010 explaining the state-wide requirement to install, operate, and maintain a FOG pretreatment program, generally in the form of a grease trap. The letter directed restaurant owners to the CT DEEP website

http://www.ct.gov/dep/lib/dep/Permits_and_Licenses/Water_Discharge_General_Permits/food_prep_establishment_gp.pdf which lists the compliance deadline of July 1, 2011. The letter also included information on grease trap vendors and general FOG guidance which also cited the compliance deadline of July 1, 2011. In practice, in West Haven, existing restaurants had until May 1, 2012 to achieve compliance, which is the date of renewal of restaurant licenses.

All of these establishments were inspected for compliance by DPH. Of the total number of Class III and IV establishments, 30 Class III (34%) and 43 Class IV (52%) establishments complied and had AGRUs installed. Mr. William Norton (Administrator of WPCC) personally inspected 95% of the complying establishments, to verify proper installation of the AGRU. Mr. Norton inspected each restaurant's grease trap, took photographs of the installed grease trap, and signed the restaurant's Retail Food and Food Service License Renewal Application 2012-2013 indicating FOG compliance. The WPCC has been in touch with DPH to determine the enforcement actions the City will take with restaurants not yet in compliance – to date no enforcement action has been taken. Some of the establishments have sought to be re-classified as Class II (by modifying their menu) to avoid installing an AGRU.

In addition to the restaurant-based FOG reduction approaches, the City has also targeted residential areas. In 2008, a residential area (Martin Street) was targeted for FOG outreach, as the area had seen significant FOG buildup in the sewer lines and call-out complaints from customers, with no significant grease contributors such as restaurants or food preparation industries in these areas. The WPCC sent a letter to all residents in the area explaining the issue and asking for their assistance in avoiding grease discharge to the sewers in a letter dated April 10, 2008. A brochure on FOG from the Water Environment Federation was also included in the mailing to the residents. Since that time backups in that area have dramatically decreased. WPCC is planning a city-wide residential mailing in 2012 to describe FOG issues. WPCC is coordinating with City Public Works and the City Information Technology (IT) Department to include the mailing in conjunction with other City mailings in 2012.

2.3.4 Inflow Prevention

The Sewer Use Ordinance prohibits residences and businesses from connecting roof leaders & sump pumps and prohibits storm water connections. The 1996 SSES report recommended sewer lining, manhole repair, and a sump pump disconnect program. Significantly, the City performed 10 miles of sewer lining during the late 1990s which resulted in reduction of wet-weather flow.

In 1997 a large-scale inspection program was conducted in the highest priority areas identified in the SSES report. A total of 2,093 properties located in the Front Avenue, Jones Hill Road, and Oyster River areas were included in the program. During the program 1,044 properties were successfully entered and 165 inflow sources were identified. An additional 255 potential inflow sources were also identified. The study estimated that 14% of the properties in the study area contain inflow sources. During the 1997 study 59 sump pumps and 46 roof leaders were identified. The City requested that these sources be removed. The City has periodically sent a letter to sewer users informing them that it is illegal to connect sump pumps to the collection system and describing the negative effects that doing so can have on the environment.

Beyond those connections identified in the 1997 study, sources of inflow and infiltration (I/I) (including private) are addressed on a case-by case basis as they are identified. For example, if a manhole deficiency is identified through the collection system maintenance activities it is repaired. If a private source is identified, the owner is requested to disconnect the source.

As previously mentioned, the City feels that capacity-related issues are not the key reason for system bypasses. Rather, FOG, roots, rags, and other debris make up the majority of the bypass causes in 2011 (76%) and remain the focus of City efforts to eliminate bypass events all together. The City has chosen to utilize its limited resources on preventive maintenance and FOG prevention (sewer cleaning and FOG outreach/control) rather than on conducting a full I/I investigation in the coming three years. By cleaning and controlling FOG, rags, and debris, the City will likewise reduce bypasses during wet weather. The City further maintains that the collection system has adequate capacity to convey the extraneous flows present during wet weather and that the wastewater treatment plant has been able to handle these seasonal variations, thanks to the City's commitment of \$42 million in recent upgrades at the plant.

Though the City does not have the resources at this time to conduct a full I/I investigation, ongoing inspection efforts will help identify sources of infiltration. Manhole inspections will help identify infiltration due to damaged manholes, and CCTV inspection will identify areas of the sewer system which are likely to have infiltration issues. As the City addresses critical defects that are identified during these inspections, we expect to accomplish I/I reduction in these areas as well. In addition, the City will review records of flow at pump stations to look for potentially excessive infiltration in areas of the collection system. The City is aware that it must be vigilant to detect and ameliorate I/I issues, so these efforts will help identify and begin to address any capacity-related issues in the collection system in the near term. In the longer term, as bypasses are reduced through more aggressive cleaning and maintenance, the City will then be in a better position to shift resources to identify and address potential capacity-related issues.

Section 3

Recommendations

This section describes specific recommendations for the goals listed in Table 1-1.

3.1 Management Program

WPCA management has used prioritized preventive maintenance and targeted system upgrades to minimize bypasses. By focusing in 2012 on improvements to their in-house operations and maintenance (O&M) activities, management of information, and decision-making processes, the City can continue to improve sewer performance without budget increases.

CDM Smith recommends that WPCA create written policies for management and operations areas in 2012 as listed in **Table 3-1** (Recommendation #1). These policies are described further in the subsections indicated in the table.

Table 3-1 Management Policies to Write Up

	Policy	Section Discussed
1	Continuous Collection System Assessment and Rehabilitation Program	3.1.1
2	Emergency Response Plan (including Sewer Overflow Response)	3.1.2
3	Safety Program	3.1.3
4	Information Management Policy	3.1.4
5	Position descriptions (PDs)	3.1.5
6	Training Policy including maintenance of training records	3.1.6

3.1.1 Continuous Collection System Assessment and Rehabilitation Program

The City should create a written set of procedures, the Continuous Collection System Assessment and Rehabilitation Program, to lay out the frequency at which each of the following assessments be carried out: system capacity (e.g., SSES), corrosion defect identification (using CCTV), I/I and service lateral investigations, and pump station monitoring. This Program likewise should establish the process to document an annual assessment review, including rehabilitation or upgrades needed or completed, and action plans to address any issues identified. Taken together, these assessment measures should be able to continuously address and document the following ongoing questions for the system as a whole:

Are recurring/chronic problems identified and addressed?

Is maintenance/cleaning frequency appropriate?

Is the system capacity (including pumps) challenged by wet weather?

Is the finance structure adequate to fulfill current and future needs?

The Continuous Collection System Assessment and Rehabilitation Program should document how WPCA prioritizes and budgets ongoing rehabilitation with an adequate finance structure to fulfill

current and future needs. As part of this Program, it is recommended that WPCA conduct routine financial analysis in 2012 to inspect and document current financial information and projections and to determine if new information is necessary. It is suggested that the following be analyzed and documented in 2012:

- Budget and Customer Rate Program
- Maintenance and cleaning budgeting – planned and unplanned
- Equipment and Supplies
- Fleet management Program
- Capital Improvement Financing Program

Given the current resource constraints, as mentioned, it is suggested that the City take steps in 2013 to advocate for budget increases necessary for longer term goals, which require additional funding. The priority area for additional funding is funds set aside for unexpected failures, including the establishment of a sinking fund for future rehabilitation and capital improvements. It is recommended that the City establish a budget line item for a sinking fund by 2015. This fund should be sufficient to rehabilitate a minimum of 1 % of the system annually to maintain the system in proper working order with minimal system failures such as bypasses, chronic maintenance problems, or structural failures (Recommendation #9).

3.1.2 Emergency Response Plan (Including Sewer Overflow Response)

WPCA should create an Emergency Response Plan to replace that of OMI. The Emergency Response Plan should cover both routine (e.g., bypasses, line breaks, localized electrical failure) and catastrophic emergencies (e.g., severe natural events, chemical spills, vandalism or other third party events, or widespread electrical failure). The plan should include a structured analysis of vulnerable points in the system and have appropriate plans in place to ensure collection system operations continue for the duration of the emergency.

The plans must clearly identify the steps staff should take in the event of routine and catastrophic emergency situations. Plans should include information on when it is appropriate to initiate and cease emergency operations, and indicate who is responsible for response tasks and decisions. The plans should be very specific as to the procedures or repair equipment involved for problems identified with any of the following: pump stations, sewer system, manholes, force main routes and air/vacuum valves, or hydrogen sulfide. Instructions should be available which explain how to operate equipment or systems during an emergency event when they are not functioning as intended but are not fully inoperable. The plan should also include specific procedures for reporting events that result in a bypass or other noncompliance event to the appropriate authorities. The plan should include disinfection procedures in the case of bypasses in public access areas. The plan should also specify any on-call outside contractors that are retained for emergency construction, cleaning, maintenance, or other response.

3.1.3 Safety Program

WPCA should document a Safety Program to replace that of OMI, to document safety principles and safe working procedures, and to establish and enforce specific regulations and procedures. A component of this program is the Safety Training Policy, which the City is developing with their

insurance provider (PMA Companies) to help ensure the facility's excellent safety record is maintained. The Safety Training Policy shall include types of training required by employees (e.g., CPR, confined space, blood borne pathogens, chemical handling), frequency of training, procedures for maintenance of training records, and procedures to enforce the program. In addition to the Safety Training Policy, the Safety Program should include provisions for maintaining all safety equipment necessary for system staff to perform daily and emergency activities.

3.1.4 Information Management Policy

In 2012, management should work with the Maintenance Clerk to write a protocol for the use of MC and other forms of documentation as part of an overall Information Management Policy. The Information Management Policy should reference the Emergency Response Plan regarding maintenance of records of emergency response.

3.1.5 Position Descriptions

It is recommended that WPCA review PDs and its organizational chart in 2012 and assess staffing needs. In addition, PDs should be updated to reflect current tasks and expectations for each employee.

3.1.6 Training Program

WPCA should create a Training Program to replace that of OMI. The Training Program should encompass the Safety Training Program described in Section 3.1.3 as well as other training requirements. These include on-the-job and external training in O&M, inspection, cleaning procedures, recordkeeping, public relations and customer service, and emergency response. The Training Program should identify the types of training required and offered, and procedures to track and ensure training progress and effectiveness. In addition, as recommended by the EPA CMOM Guide (p. 2-10), WPCA management should continue to seek sufficient resources such that it can allocate 3% of collection system budget to training (Recommendation #7).

As mentioned, the City has plans to train all seven WPCC Mechanics on operation of the camera truck by the end of 2012 and begin deploying it with the collection system team. The City will use the National Association of Sewer System Companies (NASSCO) Pipeline Assessment and Certification Program for training the WPCC mechanics.

3.2 Operations and Maintenance

As recommended for management functions, a series of O&M SOPs are needed, to replace those that were held under OMI (**Table 3-2**) (Recommendation #2). Preventive O&M goals are described in **Section 3.2.1** (Recommendation #3).

Table 3-2 Operation and Maintenance SOPs to Write Up

	Description of Preventive Maintenance SOPs needed	Section Discussed
1	Collection System Component SOPs (including pump stations, sewer system, manholes, force main routes and air/vacuum valves, hydrogen sulfide monitoring and control procedures)	3.2.1
2	FOG and root control program description	3.2.2

WPCA should create written SOPs for preventive maintenance that address the daily, weekly, monthly, bi-monthly and annual inspection, maintenance, cleaning, and repair activities to be conducted for each of the collection system components (item 1 in Table 3-2). In addition, it is recommended that

the City develop a written standard method of prioritization of preventive cleaning and maintenance. Reactive procedures taken in responding to bypasses and stoppages are previously discussed under the recommendations for an Emergency Response Plan.

3.2.1 Preventive Cleaning and Maintenance

The following goals are recommended for preventive maintenance (Recommendation #3):

Table 3-3 Preventive Maintenance Targets: 2012 – 2017

Preventive Maintenance	2012	2013-2018	2017 on
Sewer system cleaning and manhole inspections	5% of system (in-house: reactive and preventive)	5% of system (in-house: reactive and preventive), plus 20% of system (contracted: preventive)	15% of system (in-house: mostly preventive)
CCTV	1 % (contracted)	5 % of system (contracted)	10 % of system (contracted)

Targets encompass carrying out preventive and reactive cleaning, with problem areas cleaned more frequently, depending on the need. To achieve WPCA's goal of cleaning 15 percent of the system per year, a 5-year program to systematically clean the entire system could help remove potential future blockages. This would allow the City Staff to dedicate increasingly more time to preventive cleaning, as the team currently has a significant time burden responding to immediate issues.

3.2.2 Other Preventive Procedures

WPCA has carried out other programs to prevent bypasses, including a FOG control program, as described in **Section 2.3.3**, and a sewer lining program aimed at preventing I&I and root problems, as described in **Section 2.3.4**. WPCA's procedures and programs for FOG control and root control should be documented as part of the process of updating all policies since taking over for OMI.

Since grease and/or rags were responsible for 64% of the bypasses in 2011, minimizing grease buildup is a concern of the WPCA. CDM Smith recommends that WPCA reach out to the DPH in 2012 to discuss ways that FOG outreach could be enhanced in the near term without budget increases (Recommendation #8). Since the DPH is responsible for inspecting the food establishments and reports any findings of FOG issues to the WPCA, there may be ways to improve FOG outreach with establishments during inspections. With additional funding, the City's FOG control program could be expanded to include a more aggressive public outreach program to inform the community of the consequences of grease buildup in the sewer system.

3.2.3 System Assessment

As an SSES was completed in 1996, it is recommended that this be updated by 2016 to ensure that the system has sufficient capacity for the service area and any projected growth in the future. CDM Smith believes this interval is appropriate due to the highly developed nature of the West Haven collection system (Recommendation #4). If evidence of increases in I/I is noted, capacity should be reassessed more frequently.

Likewise, as I/I and private inflow source investigations were last performed in 1997, the City should plan to update these investigations (Recommendation #5). Current pump station monitoring should be assessed in 2012 to determine whether inspection frequency and monitoring (including remote

monitoring) is appropriate, and whether upgrades are needed (SCADA controls, backup power, etc.) (Recommendation #6).

Section 4

Implementation

It is recommended that short- and long-term goals be accomplished according to the following timeline (Table 4-1).

Table 4-1 Overall Timeline of Implementation

Year	Progress
2012 – 2014	Address the short-term goals as outlined in Table 4-2. These goals are feasible to achieve, as they take staff dedication, but do not implicate budget changes. Address budget shortfalls by advocating for an increase in operations and maintenance budget.
2015 – 2020	With the budget increased, be able to achieve the following (Table 4-3): increase budgets for staffing, training, CCTV, and public outreach. Allocate funds out of annual budgets for a sinking fund to anticipate future rehabilitation needs and unexpected failures.

Restating the recommendations, Table 4-2 indicates the short-term goals, and Table 4-3 indicates the longer-term goals.

Table 4-2 Implementation of Short-Term (2012-2014) Goals

Recommendation #	Category	Goal	Timeline
1	Management policies	Review current records management, assessment procedures, and financial structure. Document assessment and prioritization procedures in a Continuous Collection System Assessment and Rehabilitation Program	2012
		Create a written Emergency Response Plan (including Sewer Overflow Response)	2012
		Create a written Safety Program	2012
		Create a written Information Management Policy	2012
		Update written Position descriptions (PDs)	2012
		Create a written Training Policy including maintenance of training records	2012
2	O&M SOPs and Procedures	Create written collection system component SOPs (including pump stations, sewer system, manholes, force main routes and air/vacuum valves, hydrogen sulfide monitoring and control procedures)	2012
		Document existing FOG and root control programs	2012
3	Cleaning and CCTV Inspection	Sewer system cleaning and manhole inspections – 5% of system (in-house: reactive and preventive) CCTV – 1 % (contracted)	2012
		Sewer system cleaning and manhole inspections – 5% of system (in-house: reactive and preventive) + 20% of system (contracted: preventive) CCTV – 5 % of system (contracted)	2013-2014
5	I/I and/or Flow Monitoring	I/I and service lateral investigations were done in 1997. Evaluate whether this needs to be updated.	2012
6	Pump Station Performance	Assess current pump station monitoring to determine whether inspection frequency and monitoring is appropriate, and whether upgrades are needed (SCADA, backup power, etc.).	2012

Table 4-3 Implementation of Longer-term (2015-2020) Goals

Recommendation #	Category	Goal	Timeline
3	Cleaning and CCTV Inspection	Sewer system cleaning and manhole inspections – 5% of system (in-house: reactive and preventive) + 20% of system (contracted: preventive) CCTV – 5 % of system (contracted)	2015-2017 (continued)
		Sewer system cleaning and manhole inspections – 15% of system (in-house: mostly preventive) CCTV –10 % of system (contracted)	2018
4	Sewer System Evaluation Survey (SSES)	SSES was carried out in 1996. Reevaluate system capacity by 2016.	2016
7	Increase training budget	Allocate 3% of collection system budget	2015
8	FOG Program	Increase public outreach around FOG prevention in coordination with Department of Public Health	2015
9	Infrastructure – sinking fund	Establish a sinking fund and budget line item for unexpected failures. This budget line item will be sufficient to rehabilitate a minimum of 1 % of the system annually.	2015



Attachment
United States Environmental Protection Agency, EPA New England

Wastewater Collection System CMOM Program Self-Assessment Checklist

Oct 2010

Name of your system _____ Date _____

Put an "A" in the final column for an issue you intend to address with future action, or leave blank if you have evaluated your program as sufficient.

I. General Information – Collection System Description

I	Question	Response	*Act
1	How many people are served by your wastewater collection system?		
2	What is the number of service connections to your collection system? How many: Manholes? Pump stations? Feet (or miles) of sewer? Force mains? Siphons?		
3	What is the age of your system (e.g., 30% over 30 years, 20% over 50 years, etc.)?		
4	What type(s) of collection system map is/are available and what percent of the system is mapped by each method (e.g., paper only, paper scanned into electronic, digitized, interactive GIS, etc.)? When was the map(s) last updated?		
5	If you have a systematic numbering and identification method/system established to identify sewer system manhole, sewer lines, and other items (pump stations, etc.), please describe.		
6	Are "as-built" plans (record drawings) or maps available and used by field crews in the office and in the field?		
7	Describe the type of asset management (AM) system you use (e.g. card catalog, spreadsheets, AM software program, etc.)		

II. Continuing Sewer Assessment Plan

II	Question	Response	*Act
1	Under what conditions, if any, does the collection system overflow? Does it overflow during wet and/or dry weather? Has your system had problems with: <input type="checkbox"/> hydraulic issues, <input type="checkbox"/> debris, <input type="checkbox"/> roots, <input type="checkbox"/> Fats, Oils & Grease (FOG), <input type="checkbox"/> vandalism blockages resulting in manhole overflows, <input type="checkbox"/> basement backups, <input type="checkbox"/> other (specify)? Describe your system's history of structural		

* Put an "A" in the final column if this is an issue you intend to address with future action.

	collapses, and PS or force main failures.		
2	How many SSOs have occurred in each of the last three calendar years? What is the most frequent cause?		
3	Of those SSOs, how many basement backups occurred in each of the last three calendar years? How are they documented?		
4	What is the ratio of peak wet-weather flow to average dry-weather flow at the wastewater treatment plant (or municipal boundary for satellite collection systems)?		
5	What short-term measures have been implemented or plan to be implemented to mitigate the overflows? If actions are planned, when will they be implemented?		
6	What long-term measures have been implemented or plan to be implemented to mitigate the overflows? If actions are planned, when will they be implemented?		
7	Describe your preventive maintenance program; how do you track it (e.g., card files, electronically, with specific software)?		
8	How do you prioritize investigations, repairs and rehabilitation? What critical and priority problem areas are addressed more frequently than the remainder of your system? How frequently are these areas evaluated?		
9	Are septage haulers required to declare the origin of their "load"? Are records of these declarations maintained? Do any of the declarations provide evidence of SSOs?		

* Put an "A" in the final column if this is an issue you intend to address with future action.

III.A. Collection System Management Organizational Structure

IIIA	Question	Response	*Act
1	Do you have an organizational chart that shows the overall personnel structure for collection system operations, including operation and maintenance staff? Please attach your chart.		
2	For which jobs do you have up-to-date job descriptions that delineate responsibilities and authority for each position?		
3	How many staff members are dedicated to collection system maintenance? Of those, how many are responsible for any other duties, (e.g., road repair or maintenance, O&M of the storm water collection system)? If so, describe other duties.		
4	Are there any collection system maintenance position vacancies? How long has the position(s) been vacant?		
5	For which, if any, maintenance activities do you use an outside contractor?		
6	Describe any group purchase contracts you participate in.		

III.B. Collection System Management: Training

IIIB	Question	Response	*Act
1	What types of training are provided to staff?		
2	Is training provided in the following areas: general safety, routine line maintenance, confined space entry, MSDS, lockout/tagout, biologic hazards, traffic control, record keeping, electrical and instrumentation, pipe repair, public relations, SSO/emergency response, pump station operations and maintenance, trench/shoring, other (describe)?		
3	Which training requirements are mandatory for key employees?		
4	How many collection system employees are certified (e.g, NEWEA certification program) and at what grade are they certified?		

* Put an "A" in the final column if this is an issue you intend to address with future action.

III.C. Collection System Management: Communication and Customer Service

IIIC	Question	Response	*Act
1	Describe your public education/outreach programs (e.g., for user rates, FOG, extraneous flow, SSOs etc.)		
2	What are the most common collection system complaints? How many complaints have you received in each of the past three calendar years?		
3	Are formal procedures in place to evaluate and respond to complaints?		
4	How are complaint records maintained (i.e., computerized)? How are complaints tied to emergency response and operations and maintenance programs?		

III.D. Collection System Management: Management Information Systems

IIID	Question	Response	*Act
1	How do you manage collection system information? (Commercial software package, spreadsheets, data bases, SCADA, etc). What information and functions are managed electronically?		
2	What procedures are used to track and plan collection system maintenance activities?		
3	Who is responsible for establishing maintenance priorities? What records are maintained for each piece of mechanical equipment within the collection system?		
4	What is the backlog for various types of work orders?		
5	How do you track emergencies and your response to emergencies? How do you link emergency responses to your maintenance activities?		
6	What written policies/protocols do you have for managing and tracking the following information: complaint work orders, scheduled work orders, customer service, scheduled preventative maintenance, scheduled inspections, sewer system inventory, safety incidents, emergency responses, scheduled monitoring/sampling, compliance/overflow tracking,		

* Put an "A" in the final column if this is an issue you intend to address with future action.

	equipment/tools tracking, parts inventory?		
--	--------------------------------------------	--	--

III.E. Collection System Management: SSO Notification Program

IIIE	Question	Response	*Act
1	What are your procedures, including time frames, for notifying state agencies, health agencies, regulatory authorities, and the drinking water authorities of overflow events?		
2	Do you use the state standard form for recording/reporting overflow events? If not, provide a sample copy of the form that is used.		

III.F. Collection System Management: Legal Authority

IIIF	Question	Response	*Act
1	Are discharges to the sewer regulated by a sewer use ordinance (SUO)? Does the SUO contain procedures for controlling and enforcing the following: <input type="checkbox"/> FOG; <input type="checkbox"/> Infiltration/ Inflow (I/I); <input type="checkbox"/> building structures over the sewer lines; <input type="checkbox"/> storm water connections to sanitary lines; <input type="checkbox"/> defects in service laterals located on private property; <input type="checkbox"/> sump pumps?		
2	Who is responsible for enforcing various aspects of the SUO? Does this party communicate with your department on a regular basis?		
3	Summarize any SUO enforcement actions/activities that have occurred in the last three calendar years.		
4	Do you have a program to control FOG entering the collection system? If so, which of the following does it include: <input type="checkbox"/> permits, <input type="checkbox"/> inspection <input type="checkbox"/> enforcement? Are commercial grease traps inspected regularly and who is responsible for conducting inspections?		
5	Is there an ordinance dealing with storm water connections or requirements to remove storm water connections?		
6	Does the collection system receive flow from satellite communities? Which communities? How are flows from these satellite communities regulated? Are satellite flow capacity issues periodically reviewed?		
7	Does the collection system receive		

* Put an "A" in the final column if this is an issue you intend to address with future action.

	<p>flow from private collection systems? If yes, how is flow from these private sources regulated? How are overflows dealt with? Provide details, including contact information for these private systems.</p>		
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

IV.A. Collection System Operation: Financing

IV A	Question	Response	*Act
1	<p>Has an enterprise (or other) fund been established and what does it include: wastewater collection and treatment operations; collection system maintenance; long-term infrastructure improvements; etc.? Are the funds sufficient to properly fund future system needs?</p>		
2	<p>How are rates calculated (have you done a rate analysis)? What is the current sewer charge rate? When was it last increased? How much was the increase?</p>		
3	<p>What is your O&M budget?</p>		
4	<p>If an enterprise fund has not been established, how are collection system maintenance operations funded?</p>		
5	<p>Does a Capital Improvement Plan (CIP) that provides for system repair/replacement on a prioritized basis exist? What is the collection system's average annual CIP budget?</p>		
6	<p>How do you account for the value of your system infrastructure for the Government Accounting Standards Board standard 34 (GASB 34)?</p>		

* Put an "A" in the final column if this is an issue you intend to address with future action.

IV.B. Collection System Operation: Hydrogen Sulfide Monitoring and Control

IV B	Question	Response	*Act
1	Are odors a frequent source of complaints? How many have been received in the last calendar year?		
2	Do you have a hydrogen sulfide problem, and if so, do you have corrosion control programs? What are the major elements of the program?		
3	Does your system contain air relief valves at the high points of the force main system? How often are they inspected? How often are they exercised?		

IV.C. Collection System Operation: Safety

IV C	Question	Response	*Act
1	Do you have a formal Safety Training Program? How do you maintain safety training records?		
2	Which of the following equipment items are available and in adequate supply: <input type="checkbox"/> rubber/disposable gloves; <input type="checkbox"/> confined space ventilation equipment; <input type="checkbox"/> hard hats, <input type="checkbox"/> safety glasses, <input type="checkbox"/> rubber boots; <input type="checkbox"/> antibacterial soap and first aid kit; <input type="checkbox"/> tripods or non-entry rescue equipment; <input type="checkbox"/> fire extinguishers; <input type="checkbox"/> equipment to enter manholes; <input type="checkbox"/> portable crane/hoist; <input type="checkbox"/> atmospheric testing equipment and gas detectors; <input type="checkbox"/> oxygen sensors; <input type="checkbox"/> H ₂ S monitors; <input type="checkbox"/> full body harness; <input type="checkbox"/> protective clothing; <input type="checkbox"/> traffic/public access control equipment; <input type="checkbox"/> 5-minute escape breathing devices; <input type="checkbox"/> life preservers for lagoons; <input type="checkbox"/> safety buoy at activated sludge plants; <input type="checkbox"/> fiberglass or wooden ladders for electrical work; <input type="checkbox"/> respirators and/or self-contained breathing apparatus; <input type="checkbox"/> methane gas or OVA analyzer; <input type="checkbox"/> LEL metering?		

* Put an "A" in the final column if this is an issue you intend to address with future action.

IV.D. Collection System Operation: Emergency Preparedness and Response

IV D	Question	Response	*Act
1	Do you have a written collection system emergency response plan? When was the plan last updated? What departments are included in your emergency planning?		
2	Which of the following issues are considered: <input type="checkbox"/> vulnerable points in the system, <input type="checkbox"/> severe natural events, <input type="checkbox"/> failure of critical system components, <input type="checkbox"/> vandalism or other third party events (specify), <input type="checkbox"/> other types of incidents (specify)?		
3	How do you train staff to respond to emergency situations? Where are responsibilities detailed for personnel who respond to emergencies?		
4	How many emergency calls have you had in the past calendar year?		

IV.E. Collection System Operation: Engineering – Capacity

IV E	Question	Response	*Act
1	How do you evaluate the capacity of your system and what capacity issues have you identified, if any? What is your plan to remedy the identified capacity issues?		
2	What procedures do you use to determine whether the capacity of existing gravity sewer system, pump stations and force mains are adequate for new connections? Who does this evaluation?		
3	Do you charge hook up fees for new development and if so, how are they calculated?		
4	Do you have a hydraulic model of your collection system? Is it used to predict the effects of system remediation and new connections?		

IV.F. Collection System Operation: Pump Stations - Inspection

IV F	Question	Response	*Act
1	How many pump stations are in the system? How often are pump stations inspected? How many are privately owned, and how are they inspected? Do you use an inspection checklist?		
2	Is there sufficient redundancy of equipment at all pump stations?		
3	How are pump stations monitored? If a SCADA system is used, what		

* Put an "A" in the final column if this is an issue you intend to address with future action.

	parameters are monitored?		
4	How many pump station/force main failures have you had in each of the last three years? Who responds to pump station/force main failures and overflows? How are the responders notified?		
5	How many pump stations are equipped with backup power sources? How many require portable generators? How many portable generators does your system own? Explain how the portable generators will be deployed during a system-wide electrical outage.		
6	Are operation logs maintained for all pump stations? Are the lead, lag, and backup pumps rotated regularly?		
7	Is there a procedure to modify pump operations (manually, or automatically), during wet weather to increase in-line storage of wet weather flows? If so, describe.		

V.A. Equipment and Collection System Maintenance: Sewer Cleaning

V A	Question	Response	*Act
1	What is your schedule for cleaning sewer lines on a system-wide basis? At this frequency, how long will it take to clean the system? How are sewer cleaning efforts documented?		
2	How many linear miles of the collection system were cleaned in each of the past 3 calendar years?		
3	How do you identify sewer line segments that have chronic problems and should be cleaned more frequently? Is a list of these areas maintained and cleaning frequencies established?		
4	Approximately, how many collection system blockages have occurred during the last calendar year, and what were the causes?		
5	Has the number of blockages increased, decreased, or stayed the same over the past five years?		
6	What equipment is available to clean sewers? Is any type of cleaning contracted to other parties? If yes, under what circumstances?		
7	Do you have a root control program? Describe its critical		

* Put an "A" in the final column if this is an issue you intend to address with future action.

	components.		
--	-------------	--	--

V.B. Equipment and Collection System Maintenance: Maintenance Right-of-Way

V B	Question	Response	*Act
1	Is scheduled maintenance performed on Rights-of-Way and Easements? At what frequency? How many manholes in easement areas can not be located?		
2	Are road paving projects coordinated with the collection system operators? Have manholes been paved over? How many manholes in paved areas can not be located? Describe any systems in place for locating and raising manholes that have been paved over.		

V.C. Equipment and Collection System Maintenance: Parts Inventory

V C	Question	Response	*Act
1	Do you have a central location for the storage of spare parts?		
2	How have critical spare parts been identified?		
3	How to you determine if adequate supplies on hand? Has an inventory tracking system been implemented?		

VI A. SSES: System Assessment

VI A	Question	Response	*Act
1	Do POTW flow records or prior I/I or SSES programs indicate the presence of public/private inflow sources or sump pumps? Please Explain.		
2	If problems are related to I/I, has a Sewer System Evaluation Survey (SSES) been conducted? When? What is the status of the recommendations?		
3	Do you have a program to identify and eliminate sources of I/I into the system including private service laterals and illegal connections? If so, describe.		
4	Have private residences been inspected for sump pumps and roof leader connections?		
5	Are inspections to identify illicit connections conducted during the property transfer process?		
6	How many sump pumps and roof leaders have been identified?		

* Put an "A" in the final column if this is an issue you intend to address with future action.

	How many have been removed?		
7	Have follow-up homeowner inspections been conducted?		
8	What incentive programs exist to encourage residences to disconnect roof leaders & sump pumps? (i.e. matching funds, etc.)		
9	What disincentive programs exist to encourage residences to disconnect roof leaders & sump pumps? (i.e. fines, surcharges)		

VI.B. SSES: Manhole Inspection

VI B	Question	Response	*Act
1	Do you have a manhole inspection and assessment program?		
2	Has a formal manhole inspection checklist been developed?		
3	How many manholes were inspected during the past calendar year?		

VII. Energy Use

VII	Question	Response	*Act
1	What is your annual energy cost for operating your system? For which pieces of equipment do you track energy use?		
2	Have you upgraded any of your pumps and motors to more energy efficient models? If so, please describe.		
3	Have you performed an energy audit in the past three years?		
4	Where do you use the most energy (fuel, electricity) in operating your collection system?		
5	If you have a treatment plant, would you be interested in participating in EnergyStar benchmarking of your treatment plant?		

VIII. Other Actions

VIII	Question	Response	*Act
1	Describe any other actions that you plan to take to improve your CMOM Program that are not discussed above.		

* Put an "A" in the final column if this is an issue you intend to address with future action.