AGENDA

DATE: Monday, May 16, 2016
TIME: 5:30 PM
PLACE: Public Works Center (Second Floor Conference Room), 15 South Smith Street

WPCA Regular Meeting:

1. Call to Order

2. Executive Session to discuss ongoing litigation with Flowserve about main lift pumps' failure

3. Approve the minutes from WPCA Meeting held on April 18, 2016 (copy included)

4. ACT on Connection Fee Waiver Request – 8 Westview Lane (letter included)

5. Authorize the Director of Public Works to issue orders on the July 15, 2014 contract with Heitkamp, Inc. in the amount of $60,000 for the Beacon Street Interceptor Service Area Project (Project: WPCA2014-1).
   Account No. 09134062-5777-C0361

6. Authorize the Chairman or Vice Chairman of the Water Pollution Control Authority to execute an agreement with Applied Technical Services, Inc. (ATS) pertaining to ATS' evaluation of the main lift pumps.

7. Authorize the Chairman or Vice Chairman to retain Verrill Dana, LLP to provide legal services related to preparation of environmental, contractual and other matters in accordance with engagement letter dated May 11, 2016. (copy included)

8. Contract Operations Report:
   a. OMI Monthly Operating Report – April 2016 (copy included)

9. Reports:
   a. FY15/16 Revenues/Expenditures MUNIS Report (copy included)
   b. CTDEEP Routine Site Inspection – April 20, 2016
   c. EPA Inspection Update (Section 308 Request and Inspection Report included)
   d. Discussion on Beacon Street Interceptor Service Area Sewer Rehabilitation Project
   e. Sewer Use Bill Appeals/Adjustments Update
      1) Appeal status
   f. Information Copies:
      1) None

10. Adjournment

Next WPCA Meeting: Monday, June 20, 2016
5:30 PM
Second Floor Conference Room, Public Works Center
15 South Smith Street
CITY OF NORWALK
WATER POLLUTION CONTROL AUTHORITY
April 18, 2016

Attendance: Darren Oustafine, Chairman
Lewis Clark, Vice Chairman
John gneri
Bruce Kimmel
Dave McCarthy
Gregory Burnett

Staff: Bruce Chimento, DPW Director
Lisa Burns, DPW Principal Engineer
Ralph Kolb, DPW Senior Environmental Engineer
Robert Barron, Finance Director

Others: Scott Orenstein, Goldberg Segalla
Paola Molloy, CH2M Hill, OMI, Inc.

1. CALL TO ORDER

Chairman Oustafine called the meeting to order at 5:35PM

2. EXECUTIVE SESSION TO DISCUSS ONGOING LITIGATION WITH FLOWSERVE ABOUT MAIN LIFT PUMPS' FAILURE

** MR. MCCARTHY MOVED TO ENTER INTO EXECUTIVE SESSION
** MOTION PASSED UNANIMOUSLY

Executive session began at 5:35PM
Executive session ended at 6:30PM
No action was taken.

3. APPROVE THE MINUTES FROM WPCA MEETING HELD ON MARCH 21, 2016
   (COPY INCLUDED)

** MR. MCCARTHY MOVED TO APPROVE THE MINUTES
** MOTION PASSED
** ONE ABSTENTION- MR. KIMMEL
4. ACT ON CONNECTION FEE- 6 SMITH STREET- HEAD OF THE HARBOR (COPY INCLUDED)

Mr. Kolb said that they were charged $26,080 for a connection fee and that there are two buildings but that the connection fee was paid only for building B. He said that the First District Water Department had some issues with providing the existing water meter information, but that they had finally submitted the drawings, and that they show that there is an existing sewer connection. He said that the projected flow from the developed site will increase substantially so staff is looking for direction from the Board whether to waive the connection fee completely or to charge them on the increased system burden fee. After further discussion it was decided to apply the rules as they have been applied everywhere else and to be consistent they should not pay a fee.

** MR. MCCARTHY MOVED TO WAIVE THE CONNECTION FEE AND REFUND THE $26,080 THAT WAS COLLECTED.

** MOTION PASSED UNANIMOUSLY

5. APPROVE THE PROPOSED FY 2016-17 OPERATING BUDGET

Mr. Barron said that he had requested that staff true up the charges between the WPCA and the City, and that there is now one revenue line item and one expense line item in the budget. He said that the expense line is what is paid for city services and is a revenue item from the city so he can tie it to a line item in the city's general fund. He said that this is so the WPCA’s expense becomes the city’s revenue, and the City’s expense becomes the WPCA’s revenue. He said this is the cleanest and most transparent way to do the budget and that staff agrees that all of the allocations are correct at this time.

Mr. McCarthy said prior to approving the budget asked if the Board is comfortable with the staffing levels that are currently in place, and if anything unforeseen were to happen that one of the causes was somehow due to inadequate staffing or supervision. Mr. Chimiento said that the WPCA is running very well with the current staffing and that Ms. Burns is available if needed. He said that he speaks to Mr. Kolb several times a week regarding the operations and that he does not see any changes needed. Mr. Kolb said that he meets with Ms. Burns regarding any capital proposals. Ms. Burns said that if an emergency does come up that there are also consultants that can provide additional assistance if needed.

** MR. IGNERI MOVED TO APPROVE THE ITEM

** MOTION PASSED UNANIMOUSLY

8. CONTRACT OPERATIONS REPORT- MARCH 2016 (COPY INCLUDED)

Ms. Molloy reported and said that for the month of March that primary settling tanks number one and number two have been cleaned. She said that there were no performance or permit guarantees received for the month. She reported on the collection system and said that there were two spills that occurred and that one was located at 360 Connecticut Avenue which was due to grease in the line, and that the line was cleaned. She said that the other spill occurred at
the Wastewater Treatment Plant and was due to the vactor truck emptying too quickly causing a small spill in the contained area at the grit disposal box. She said that both spills were reported to the State. She said that nitrogen fell into band “D”, and that the main focus in the collection system has been inspecting and performing the repairs that need to be made in the streets that are scheduled to be paved this year.

9. REPORTS

a. FY 15/16 Revenues/Expenditures MUNIS Report (copy included)
Mr. Kolb reported and said that everything is tracking as expected with the exception of septage disposal fees, and that they continue to track down.

b. Discussion on Septage Hauler Service Area
Mr. Chimento said that he and Mr. Kolb have discussed allowing septage haulers from other towns to dump at the Wastewater Treatment Plant for a fee. Mr. Oustafine asked if they are required to report where the septage is coming from. Mr. Chimento said “yes”. After further discussion it was decided to bring the request to the Ordinance Committee to request the change to the ordinance, and following that bring it back to the WPCA Board for approval.

c. Discussion on WPCA Projects:
1) Main Lift Pump Replacement Project
Mr. Kolb said that Nickerson has been moving along and that there were some issues with the delivery of the pumps, but that at least one of the pumps will be delivered by the end of June. He said that he will have the final details tomorrow and will have more information to report to the Board at next month’s meeting.

2) Collection System Improvements-Basis of Design
Mr. Kolb said that CH2M Hill has submitted a preliminary task scope to evaluate some of the capital projects for collections and once it is finalized he will sign off on it. He said that this is a preliminary evaluation to determine what the goals are in the collection system based on capital monies that are available, and where to best spend it based on needs.

3) Solids Handling, Aeration Improvements, and Odor Control Evaluation
Mr. Kolb said that he and Ms. Burns have a meeting scheduled for tomorrow morning with ARCADIS to go over their draft proposal for the project.

4) Beacon Street Interceptor Service Area Sewer System Rehabilitation Project
Mr. Kolb said that the lining contractor will be on site in May to complete the lining.
d. Sewer Use Eill Appeal/Adjustments Update
   
   1) Appeal Status
      Mr. Kolb said that the adjustments to date are $52,546.

e. Information Copies:

   1) WPCA Contact List (copy included)
      No discussion.

8. ADJOURNMENT

** MR. MCCARTHY MOVED TO ADJOURN
** MOTION PASSED UNANIMOUSLY

The meeting adjourned at 7:20 PM

Respectfully Submitted,

Dilene Byrd
Mr. Darren Oustafine, Chairman  
Norwalk Water Pollution Control Authority  
15 South Smith Street  
Norwalk, CT 06855

Re: Sewer Connection Fee Waiver for home on Westview Lane, Norwalk, CT

Dear Mr. Oustafine,

In speaking with Ralph Kolb earlier, I explained that I am intending to change my home over from using a septic tank to connecting to the city sewer line, and have been told that the standard connection fee of $3,250 is required. However, I explained that everyone on Westview Lane has already paid that connection fee – along with the cost of the line installation itself – so to require an additional fee seemed incorrect.

He suggested that I put together a letter that he would forward to you and the Board, and would add me to the agenda for your meeting, Monday, May 16, 2016, which I am pleased to do.

I agree that all homeowners who elect to connect to the city’s sewer service should pay their fair share; it is an expense to the city, and safe and continuous maintenance is needed.

Westview Lane (“WLA”) is an Association and as such, we did not have a city septic line on the Lane until 1999, when the WLA Members (each house is defined as one Member) voted to install one, at our expense.

The city installed the line, and each house was assessed two fees: a Frontage Assessment based on the linear frontage of their property (at approx $39/linear foot) plus a Lateral Fee, which was defined as a “one-time service connection.”

Please see Attachment A (Assessment Summary) that was given to us by the City, confirming the total Fees that the Lane and each Member paid, and the definition for each type of Fee.

Like all the Members, I have paid in full my portion ($9,687.06) to the City, electing to pay over time with interest, an option that we were given at the time of installment.

Please see Attachment B showing initial payment plan elected and Total Fees owed, and Attachment C showing my final payment made in 2008.

I did not connect to the city’s line back then because the cost, added to the Assessment Fees that I had to cover, was greater than I could manage. But I would like to change over at this point, and feel that given that the required connection fees have been paid, no additional connection fee should be required.

Thank you for your consideration, and I look forward to seeing you at your Board meeting,

Respectfully,

Kim A. Mac Leod

Attachments (3)
### ASSESSMENTS

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1. OWNERS OF RECORD SHOWN ARE THE LATEST OWNERS ACCORDING TO THE RECORDS OF THE NORWALK TOWN CLERK AS OF 7/10/95.
2. FRONTAGES ARE BASED ON NORWALK TAX MAPS AND ARE TO BE USED FOR PURPOSES OF ASSESSMENT ONLY.
3. LATERAL FEE (IN DOLLARS) IS FOR ONE SERVICE CONNECTION INSTALLED TO A POINT APPROXIMATELY FOUR FEET BEYOND TRAVELLED WAY.
4. lots 17 and 46 are currently sewered therefore except from assessment.
CITY OF NORWALK, CT
SEWER ASSESSMENT BILL

PAYMENT OF THIS BILL DUE NO LATER THAN 01-02-2000

Kim A. Machead
8 West View Ln
Norwalk Ct 06854

TOTAL ASSESSMENT $ 9687.06
BONDED INT. RATE 4.3886
PROJECT/OWNER NO. 075/011
PARCEL NO. 5-738-15

This bill is for the ASSESSMENTS OF BENEFITS laid by the COMMON COUNCIL on 08-09-99 for the following sewer project:

West View Ln

On the other side of this bill is a description of two payment plans which you may use to pay off your sewer assessment. After you have read the description of the plans, please select one of the plans and follow the payment instructions below.

PAYMENT INSTRUCTIONS
(FOR BOTH PINK & WHITE COPIES)

1. Put an X in the box of the plan you desire and make out a check for the amount shown next to the box checked.
2. Sign and Date both copies.
3. Send the PINK copy to the Tax Collector, P.O. Box 5530, South Norwalk, Ct. 06856, along with your check. Keep the WHITE copy for your records.

☐ Plan #1 desired. Check for $ 9687.06 is enclosed.
☐ Plan #2 desired. Check for $ 968.71 is enclosed.

Sign ___________________________________ Date 12/28/99
City of Norwalk, Tax Collector
125 East Avenue
Norwalk, CT 06851
Sewer Assessment Bill

MACLEOD KIM A
8 WESTVIEW LN
NORWALK, CT 06854

Payment Due Date: April 1, 2008 (Payment late if received after April 30, 2008)

If Payment is not received within one month of the due date, delinquent interest will be collected as required by law, at the rate of 1½ % per month, from the due date. Minimum interest assessed is $5.00.

PLEASE NOTE: Your entire assessment balance shown may be paid in full at any time. Please contact the Tax Collector's office for a complete payoff amount. (203-854-7932)

Checks should be made payable to Tax Collector - City of Norwalk. Payments should be mailed to the Office of the Tax Collector, Post Office Box 5539, Norwalk, CT 06856. Please write your Project / Owner Number in the memo section of your check.

If a receipt is desired, send a self-addressed stamped envelope along with your payment and BOTH COPIES of bills.

Total Assessment $9,687.06
Assessment Balance $868.67
Current Installment $868.67
Delinquent Installment $0.00
Bonded Interest Due $42.48
Delinquent Interest Due $0.00
Lien Fee $24.00
Total Amount Due $1,035.15
Amount Paid $1,035.15

(Please Return one copy of this bill with your payment in the enclosed envelope.)
May 13, 2016

VIA E-MAIL
Darren Oustafine, Chairman
Water Pollution Control Authority
15 South Smith Street
Norwalk, CT 06855

Re: ENGAGEMENT LETTER/REPRESENTATION

Dear Mr. Oustafine:

You have asked Verrill Dana, LLP (“Verrill Dana”, the “Firm” or “us”) to represent The Water Pollution Control Authority of Norwalk (“WPCA of Norwalk”). This letter sets forth the written terms of our engagement.

1. **Scope of Services:** The purpose of this engagement is to provide legal services regarding general environmental matters. Verrill Dana’s engagement is limited to the matter identified in this letter. You are not relying on us for business, investment, accounting or tax advice, or to investigate the character or credit of persons with whom you may be dealing, unless you specifically ask us to do so.

2. **General Terms Of Engagement:** By engaging Verrill Dana as your counsel, you agree to the “Statement of Representation and Billing Policies” that are set forth on Exhibit A to this letter. Our rates are generally described on Exhibit A. We will offer you discounted rates for this work; partners at $300.00 per hour and associates at $200 per hour for work pertaining to United States Environmental Protection Agency information request and the storm water reporting issues. For your convenience, we will keep track of the information request time and the MS4 time separately within the same bill. To deliver services as efficiently and cost effectively as possible, and depending upon expertise and experience required, we will use paralegals and other attorneys on your case. We understand that you are not in a position to write a “blank check” for legal fees, and invite you to ask me at any time the amount of fees incurred and expected to be incurred. In addition to our fees, we will bill for any expenditure that we make for WPCA of Norwalk and any costs that we incur on its behalf. These may include computerized legal research costs, the costs of reproducing large numbers of documents, overnight or courier deliveries and other similar expenditures. We will seek your approval prior
May 13, 2016  
Page 2  

to any expenditure in excess of $250.00.

3. **Agreement Regarding Future Representation:** It is possible that some of our present or future clients will have matters adverse to you while we are representing you. We understand that you have no objection to our representations of parties with interests adverse to you, and that you waive any actual or potential conflict of interest as long as those engagements are not substantially related to our representation of you. We agree that your consent shall not apply in any instance where, as a result of our representation of you, we have obtained confidential information that, if known to such other client, could be used to your material disadvantage. A review of our current client matters has not disclosed any matter adverse to the WPCA of Norwalk and thus this is applicable to future potential conflicts.

4. **Attorney-Client Relationship:** As a matter of professional responsibility, we are required to preserve the confidences and secrets of our clients. This professional obligation and the legal privilege for attorney-client communications exist to encourage candid and complete communication between a client and his or her lawyer. Please understand that if you discuss (orally or in writing) the advice we give you with a person outside your management team and your other attorneys, then you risk causing a waiver of the attorney-client privilege, which means that an adversary of yours in litigation may be entitled to compel you and me to disclose the content of our communications. Accordingly, I strongly advise that you keep our communications confidential.

5. **Agreement Applicable Until Changed in Writing:** This agreement will apply to any additional matters we agree to undertake on your behalf unless we enter into an express written agreement reflecting an alternate arrangement.

6. **Termination:** We anticipate a long and mutually satisfactory relationship. However WPCA of Norwalk has the right to terminate our engagement at any time by giving us written notice of termination. We also have the right, subject to our responsibilities under applicable ethical rules, to terminate our representation of WPCA of Norwalk by giving written notice if WPCA of Norwalk fails to cooperate with us or to pay our bills when due or if we determine that continuing to represent WPCA of Norwalk would be unethical, impractical or improper. If our relationship is terminated by either of us, WPCA of Norwalk will remain obligated to pay us in full for our past services and for costs and expenses in accordance with the terms of this letter. After our services conclude, we will, upon request, deliver your file to you. We reserve the right to copy your file for our records.

Please review this letter carefully, and raise and discuss with me any questions you may have. If this letter accurately reflects the understanding reached with you and WPCA of Norwalk of our attorney-client relationship, please indicate your approval and acceptance by dating, signing and returning it to me by e-mail. Your signature indicates your authority to act on behalf of your company.

We are confident that you will find our services beneficial, and we hope that you will
May 13, 2016
Page 3

seek our assistance in other areas in the future. In that event, the above arrangement would, of course, be subject to review.

Sincerely,

Karen A. Mignone

KAM/mtt
Enclosure (Billing Policy)

REVIEWED, APPROVED AND ACCEPTED:

By: _______________________________
    Darren Oustafine, Chairman
    Norwalk Water Pollution Control Authority

Date: May _____, 2016
Set forth below is a summary of Verrill Dana’s standard policies regarding legal fees and expenses.

**Legal Fees.** Consistent with ethical standards applicable to our lawyers, it is our policy to charge reasonable fees for legal services. Our fee for a given matter is normally computed as a function of our customary hourly rates for work of that type and the aggregate time expended, estimated in one-tenth hour increments. Our customary rates vary according to the experience and expertise of the attorney or paraprofessional, and the nature of the matter being handled. Our present rates, with certain exceptions, fall within the following ranges:

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<th>$275 - $655 per hour</th>
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<td>Counsel</td>
<td>$275 - $750 per hour</td>
<td>Paralegals</td>
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<td>Associates</td>
<td>$180 - $390 per hour</td>
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We normally revise our hourly rates annually, effective as of January 1. Where our legal fees are subject to court approval, we reserve the right to petition the court for an increased or supplemental fee to reflect such factors as the difficulty of a particular project and the expertise required, the result obtained, the efficiency with which the result is obtained, and the extent to which a project requires special or expedited attention or precludes other legal work. On the basis of similar factors, we may on occasion seek our client’s approval of reasonable fees over and above our customary hourly charges.

**Expenses.** Verrill Dana also imposes reasonable charges for costs incurred in connection with a particular matter. These include without limitation: charges for long distance telephone calls, fax transmissions (but not receipts), copying and printing, courier services, special mailing costs, travel expenses and mileage, computer research services (WESTLAW, NEXIS, etc.), court costs and court reporter charges incurred in connection with litigation, corporate filing and real estate recording fees, and secretarial overtime. If the client authorizes us to hire an outside expert or other third party, such person’s fees also constitute an expense payable by the client. We generally require clients to pay all third-party invoices directly, and ask that they do so promptly.

**Frequency of Billing.** We normally bill our clients monthly for services rendered. In addition to showing the total legal fees and expenses incurred, our invoices typically describe the services performed and the hourly rate charged for each relevant Verrill Dana timekeeper during the applicable period. If a client’s special needs require a particular form of statement, we will make reasonable efforts to accommodate those requirements. To avoid misunderstandings, it is the client’s responsibility to contact the relevant billing attorney right away with any questions about the amount or computation of fees and other charges.

**Payment.** Unless otherwise agreed in writing, our invoices are due on receipt and must be promptly paid. We impose a late charge of 1.5% per month on any amounts that remain unpaid more than 30 days after the invoice date. We also reserve the right to suspend work, in whole or in part, whenever a client is not meeting its payment obligations to us. If amounts remain unpaid for more than 60 days past the invoice date, we may decide to terminate our representation of the client. Termination of our engagement by either party does not absolve the former client of liability for full payment of fees and expenses previously incurred.

**Retainers.** We often require a retainer as a deposit against fees and expenses to be incurred. We will either keep the retainer in escrow until applied against charges incurred, or will treat the retainer as earned upon receipt. As part of the terms of engagement, the client grants Verrill Dana a first-priority security interest in each retainer paid to us. Although we reserve the right at any time to apply any retainer against charges incurred, we may elect to hold the retainer until completion of our work and payment in full. We also may condition future work or receipt of an additional retainer, either to replenish funds previously expended or to adjust the retainer balance to a new amount that we judge to be reasonable under the circumstances. Upon completion of our work, we will promptly refund to the client any unapplied balance of the retainer.

**Fee Disputes.** If a dispute arises over legal fees, you may have a right to invoke arbitration under applicable Bar Rules. Unless you exercise your right to invoke arbitration within 30 days after receiving written notice from us of any such right, we have the right to file suit to recover unpaid fees. As a matter of policy, Verrill Dana encourages mediation of such disputes. Specifically, Verrill Dana agrees that before instituting legal action we will first offer to engage in a mediation session with the client, and will offer to pay a specified reasonable amount toward the cost of hiring an independent, experienced mediator to assist in seeking a voluntary agreement between the parties over legal fees.
1 Plant Activities

A Maintenance

*MRR Repairs/Upgrades*

- Repaired wiring for GBT polymer pump #1. Replaced GBT #2 hydraulic switch. Installed Buoy on FST #1 & #2 troughs.
- Arcadis PS inspection and CMMS review. Unclogged #1, #2, and #3 bar screen press washers. Drained east hypo tank for repairs.

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<tr>
<td>Last Month</td>
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B Violations

*Permit Monthly*  

- Excursion - Reason: None

- Performance Guarantee: None

C Training

*Safety*

- Continued with HANDS on line training  
- Updated and conducted training on Work Control Plan, AHA's and pre-task planning

*Other*

2 Collection Systems

A Pump Stations

*MRR Repairs/Upgrades*

- Repacked pumps at Karen Dr. PS. Cleaned and power washed Shady Beach, Westport, Karen Dr., Keeler Brook, and Five Mile PS. Replaced pump at Shady Beach PS.

B Collection System

*Spill / Overflow Reports*

- None

C Collections Repairs

- 4-8 Penna replaced 4' of 8" cement pipe on Clara Drive.
- 4-18 Penna replaced 15' of 8" clay pipe on Birch Street.
- 4-28 Penna replaced 22' of 18" clay pipe on Couch Street.
3 Personnel

A Number of Associates / Wastewater Operator Certifications

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B Changes

Hired Temp Utility Worker Carlos Valencia

4 Safety

OSHA Recordable Incidents
None

Lost Time Incidents
None

5 Total Nitrogen Performance

| Avg. Influent Wastewater Temp. (+C) | 16 |
| Avg. BOD Loading (lbs./day)         | 16,800 |
| Actual TN Performance (lbs./day)    | 745  |
| Lookup Value (lbs./day)             | 1,476 |
| Actual minus Lookup (lbs./day)      | -731 |
| TN Performance Band                 | D    |

Description of Ranges/Bands

Expected Operating Range

- **Band A**: aTN between 1 to 175 lbs./day less than LV
- **Band B**: aTN between LV and up to 117 lbs./day in excess of LV
- **Band C**: aTN between 118 and 234 lbs./day in excess of LV
- **Band D**: aTN greater than 234 lbs./day in excess of LV
- aTN 176 lbs./day less than LV

Operational Review Findings

None

SOP Status

Inventory at targets.

6 Miscellaneous

Regulatory Inspections

DEEP Plant inspection 4-20 and 4-21.

Storm Flow Events

None
1. Plant Operations
   A. Major Parameters

   ![Monthly average BOD (mg/l)]

   ![Monthly average TSS (mg/l)]

   ![Monthly average Fecal (#/100 ml)]

   ![Monthly average TN (lbs/day)]

   ![12-month Rolling average TN (lbs/day)]

   ![Monthly average Flow MGD]
1) Collection System Data Management and Inspection

(a) Cityworks data entry for April 2016 are reflected in attached tables
   (i) Production rate for CCTV for the month of April is 1.89 miles. Next month's TV inspection efforts continue to focus on documenting known critical areas and sewer lines crossing streets on the 5-year paving list.
      1. Monthly rolling averages
         a. TV – 1.39 miles a month
         b. Cleaning – 5.24 miles a month
   (ii) Focused CCTV and Cleaning being performed on clay pipes in the system. The city is divided into 4 quadrants and current CCTV and cleaning effort focused on the Northeast quadrant. The crews perform the work in a sequence from upstream to downstream, with a priority on inspecting pipes that have not been CCTVed in the last three years. The SW quadrant will be the next focus, since the system is older and likely in more need of repair.
      1. Older clay pipes that haven’t been TV’d in over 3 years
      2. Sewer problem areas
      3. CCTV lines that intersect the paving list – Received the 5-year paving list from the City. CCTV in progress for 2016 paving list. See attached maps for paving list details.

(b) Hot spot list
   (i) Final review of list has been completed and this layer is in GIS as of Nov 2014.
   (ii) Monthly work on hot spots are tracked/documented separately for clarity.

(c) Deformed pipe list
   (i) 61 out of 61 deformed pipe segments have been inspected and these pipes have been reviewed and rated based on LOF, COF and total risk.

(d) Pipe condition downstream of PS forecains
   (i) TV work completed for 18 PS and these pipes have been reviewed and rated based on LOF.
   (ii) Bouton Street PS done. 2 PS remaining – Fort Point and Perry Ave PS. CCTV to be performed when flows are low and will need police traffic protection.

(e) Protruding laterals
   (i) Cutter has been used to remove protruding laterals as they are found
   (ii) Two protruding laterals cut in the month of April.

(f) Manhole raising
   (i) One manhole were identified to be raised in April.

2) Major Repair & Replacement Projects:

(a) New items this month:
   (i) 10.5 Clara Dr: sanitary sewer on Clara Dr at # 10.5 has a severe offset joint about one foot upstream from the manhole. Penna repaired the drop and fixed the joints.
   (ii) 13 Couch st @ Bayview Ave: Sanitary sewer pipe is broken and cracks from 8’ to 30’ upstream from manhole #14-44 at Bayview Ave, towards MH #14-50 at Elmwood Ave. Penna replaced this section and the issue is resolved.
   (iii) 3 Birch St: 10” clay sanitary sewer pipe at 3 Birch St was leaking sewage into the storm system. Penna replaced 14’ of the sanitary pipe with 10” PVC pipe and attached this to the clay pipe with banded couplings.
   (iv) 4 Byngion Pl: There is a hole in the pipe at 226' downstream from the manhole at #13. There is also a broken pipe at 70' from manhole #13. Penna has provided a quote and the pipe will be fixed in May.

(b) Carry over from previous month:
   (i) Timothy St: We had a call-out for this street (sinkhole) and crews determined the sewer line needs repair. Received quote from Penna.
   (ii) Douglas Dr: The sanitary sewer manhole at 22 Douglas Dr is deteriorating. It is recommended to either replace the manhole or repair and line the manhole.
   (iii) New Manholes - Bouton Street: DPW issued permit.
   (iv) Connecticut Avenue
      1. Previous point repair fix required. The 8 inch repair coupling deformed due to concrete vault on top. The concrete vault contains utilities for Frontier communications, & CL&P.
2. Penna has the required State permits to do the repair.
3. Plan is to redirect the line, to move away from the vault for CL&P and Frontier communications. New manhole to be place.
   (v) Bouton Street: Back up reported by Manhole 16-238. The pipe was flushed and backup addressed. But the pipe joints at the transition from 8-inch to 6-inch is not smooth; therefore the roots could not be removed with the cutter. Penna to dig up the section and put a smoother transition so the root issues can be addressed.

3) WPCA Capital Improvement Projects (CIPs):
   (a) New items this month:
       (i) Ann Street
           1. Ann Street alarm and elevation has been tied to SCADA
   (b) Carry over from previous month:
       (i) Beacon St Project
           1. Minor lining work to be Amended
       (ii) Bouton St and Ely Ave
           1. This area will continue to be monitored for a potential new pump station
           2. OMI will continue to monitor on a monthly basis for any changes

4) Current Evaluations:
   (a) New items this month:
       (i) 105 Bouton St: A spill was reported in February. The sewer was flushed and cleaned. The 8 inch pipe reduces to a 6 inch pipe. The manhole that is close to this joint is buried under an old tree stump. This is currently being evaluated and a quote from Penna is be requested.
   (b) Carry over from previous month:
       (i) 80 Fair St - At the bottom of manhole #10-346 there was a hole next to one of the pipes going out of the manhole that is allowing sewage to exit the system. The trough of the manhole was repaired and the hole was sealed. Crews redo dye testing in April to understand where the odor is coming from, if in fact the sewer is exfiltrating from the system.
       (ii) Crescent Street – CH2M is working with the City to locate and raise the manhole. This will help to clean and CCTV the segment (23-50 to 23-52). Penna located line 12 feet deep, directly under the Gas Main. Penna going to locate another buried manhole about 50' downstream off to the side of the road, CH2M to CCTV to understand cross connections.
       (iii) East Avenue (West Port Ave to Merrill)– Wet weather issues – OMI CCTV data Merrill @ East Ave – state drainage tied to sanitary. CCTV of side roads is complete. CCTV results show catch basin connection.
       (iv) Locate all Pump Station Forecains. CH2M has contact contractors. WPCA delivered as-built information to CH2M. BSI provided an estimate in the six digits. Requested quote from Underground Surveying, and this is beyond their abilities.
       (v) 261 Ely Ave/Roodner Court - CCTV and identify why we had multiple spills from this location. The City's line goes through an easement that includes a construction company that has a mound of soil on top of MH. Contractor removed the mound of soil and line CCTV-ed. Recommend lining pipe. Lining scheduled in the next few months.
       (vi) 24 Isaac St. - Cracks in the line and bad repair from previous fixes. CCTV tape being reviewed by CH2M HILL recommend replacement of 10-454 to 10-453 and 10-453 to 10-453.1. Point repair or 10-453.1 to 10-452 at 57 ft. where there is a large void. Currently on hold due to developer work.
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**GRAND TOTAL:** 15
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** Total Water Pollution Control **

- **Total Expenses:**
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589

- **Total Expenditures:**
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589
  - 0 = 16,274,589

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FOR 2016 99

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<td>606,436.46</td>
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** END OF REPORT - Generated by Dilene Byrd **
Ralph Kolb  
Senior Environmental Engineer  
15 South Smith Street  
Norwalk, CT 06855

Re: Request for Information Pursuant to Section 308 of the Clean Water Act  
EPA Docket No. CWA-308-R01-FY16-59

Dear Mr. Kolb:

On November 12 through 14, 2015, the U.S. Environmental Protection Agency ("EPA") performed an inspection of the City of Norwalk’s ("City’s") Publicly-Owned Treatment Works ("POTW"), with an emphasis on operation and maintenance of its POTW Collection System. A copy of the report from the inspection is included as Attachment A to this Request for Information. Note that the inspection report provides only preliminary notes from field observations and file reviews and does not, in itself, provide determinations of compliance or non-compliance.

Section 308(a) of the Clean Water Act (the "Act"), 33 U.S.C. § 1318(a), authorizes the EPA to require the owner or operator of a point source to provide information needed to determine whether there has been a violation of the Act.

The City is hereby required, pursuant to Section 308(a) of the Act, 33 U.S.C. § 1318(a), to respond to this Request for Information (the “Request”), except where another schedule is indicated, within 30 calendar days of receipt of this letter. Please read the instructions in Attachment B carefully before preparing your response and answer each question in Attachment C as clearly and completely as possible.

Your response to this Request must also be accompanied by a certificate that is signed and dated by the person who is authorized to respond to the Request. A Statement of Certification, Attachment D, is attached to this letter.
Information submitted pursuant to this Request shall be in writing and shall be provided in hardcopy and in an electronic format to EPA at the following addresses:

John Melcher  
Mail Code: OES04-1  
US EPA, Region 1  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912  
melcher.john@epa.gov

Information submitted pursuant to this Request shall be in writing and shall be provided in an electronic format to the Connecticut Department of Energy and Environmental Protection ("CT DEEP") at the following addresses:

Ann Straut  
Planning & Standards Division  
Water Protection and Land Reuse Bureau  
79 Elm Street  
Hartford, CT 06106-5127  
ann.straut@ct.gov

Compliance with this Request is mandatory. Failure to respond fully and truthfully, or to adequately justify any failure to respond within the time frame specified above, also constitutes a violation of the Clean Water Act subject to enforcement action, including the assessment of penalties. In addition, providing false, fictitious, or fraudulent statements or representations may subject you to criminal prosecution under 18 U.S.C. § 1001.

If you have questions regarding this Request, please contact John Melcher, Enforcement Officer of my staff at (617) 918-1663 or have your attorney contact Toni Bandrowicz, Senior Enforcement Counsel at (617) 918-1734.

Sincerely,

[Signature]

James Chow, Manager  
Technical Enforcement Office  
Office of Environmental Stewardship

Electronic cc: John Melcher, US EPA  
Toni Bandrowicz, US EPA  
Lisa Burns, Operations Manager, City of Norwalk  
Ann Straut, CT DEEP
Enclosures:

Attachment A – November 12-14 EPA Inspection Report
Attachment B – Instructions
Attachment C – Request
Attachment D – Statement of Certification
Attachment E – I/I Analysis and Project Certification
Compact disc with electronic versions of contents of this Request
Attachment A

November 12-14 EPA Inspection Report

See attached binder and compact disc.
Attachment B

Instructions

1. Provide a separate narrative response to each and every item and subpart thereof set forth in this Request. Precede each response with the text and the number of the item and the subpart to which the response corresponds.

2. If you cannot respond to any item in full, respond to the extent possible. If your responses are qualified in any manner, explain.

3. Any documents referenced or relied upon by you to respond to the Request must be copied and submitted to EPA with your response. All documents must contain a notation indicating the item and subpart to which they are responding. If the documentation that supports a response to one item duplicates the documentation that supports another item, submit one copy of the documentation and reference the documentation in subsequent responses.

4. If information or documents not known or not available to you as of the date of the submission of the response to this Request should later become known, or available to you, you must supplement your response. Moreover, should you find at any time after the submission of your response that any portion of the submitted information is inaccurate or incomplete, you must notify the EPA of this finding as soon as possible and provide a corrected response.
Attachment C

Request

Publicly-Owned Treatment Works ("POTW")

1. Submit copies of all Bypass Report Forms and Bypass Notification Logs submitted to CT DEEP between October 1, 2010, and the date of receipt of this Request.

2. During the EPA inspection on November 12-14, 2015 ("EPA Inspection"), the City provided a list of service calls received at its call center between January 6, 2010, and September 8, 2015 (refer to Attachment A, Appendix 12). At least 14 entries from this list (described as "SEWER-BACKUP," "SSO_BYPASS," "LATERAL BACKUP," or "OMI-MISC") do not appear in the bypass information previously provided by CT DEEP to EPA. For each item in Table 1, below, submit a brief description of the event, state whether the event is a Collection System Bypass (as defined in Section 22a-430-3 of the Regulations of the Connecticut State Agencies ["RSCA"]), and the date (if any) on which the event was reported to CT DEEP.

Table 1 – Potential Unreported Bypasses Identified in the City’s Service Call Records

<table>
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<th>Problem</th>
<th>Address</th>
<th>Date Initiated</th>
<th>Resolution</th>
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<td>SEWER-BACKUP</td>
<td>35 Pine Point Rd.</td>
<td>03/29/2015</td>
<td>Bypass</td>
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<td>35 Pine Point Rd.</td>
<td>03/27/2015</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>1 MacIntosh Rd.</td>
<td>03/17/2015</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>261 Ely Ave.</td>
<td>03/17/2015</td>
<td>Bypass</td>
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<td>SEWER-BACKUP</td>
<td>14 Westport Ave.</td>
<td>03/15/2015</td>
<td>Bypass</td>
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<td>SEWER-BACKUP</td>
<td>228 Fillow St.</td>
<td>02/19/2015</td>
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<td>SEWER-BACKUP</td>
<td>2 Oak St.</td>
<td>07/23/2014</td>
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<td>261 Ely Ave.</td>
<td>12/26/2013</td>
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<td>SSO Bypass</td>
<td>38 Bouton St.</td>
<td>08/12/2013</td>
<td>Bypass</td>
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<td>SSO Bypass</td>
<td>16 Washington St.</td>
<td>06/04/2012</td>
<td>Bypass</td>
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<td>SEWER-BACKUP</td>
<td>345 Main Ave.</td>
<td>02/08/2012</td>
<td>Bypass</td>
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<td>LATERAL BACKUP</td>
<td>188 South Main St.</td>
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<tr>
<td>SSO Bypass</td>
<td>3 Ryan Ave.</td>
<td>04/19/2011</td>
<td>Bypass</td>
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3. Submit a spreadsheet presenting influent and wet-weather flows for each event during which the City has discharged from Outfall 002-1 of its Water Pollution Control
Facility ("WPCF") between January 1, 2013, and the date of receipt of this Request. Include the following information in this spreadsheet:

- Time at which the City began discharging from Outfall 002-1;
- Time at which the City ceased discharging from Outfall 002-1;
- Influent flow at 10-minute intervals; and
- Flow to Outfall 002-1 at 10-minute intervals (concurrent with influent flow).

4. Submit a description of the adjustments made to controls (including the storm weir gate) directing flow to WPCF Outfall 002-1 since the EPA Inspection.

5. Section 4(F) of the City’s National Pollutant Discharge Elimination System ("NPDES") permit, as reissued on March 24, 2014 ("POTW Permit"), states the following:

   No discharge shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge in this permit.

Information submitted to CT DEEP in the City’s Monthly Operating Reports indicates that residual chlorine in the City’s discharges may result in acute toxicity in receiving waters when the City is discharging from WPCF Outfall 002-1.

Submit an analysis of the extent to which the City’s discharges from WPCF Outfall 002-1 comply with Section 4(F) of the City’s POTW permit. At a minimum, the City’s analysis shall include a calculation of the concentration, allowing for the zone of influence, of Total Residual Chlorine for each event between January 1, 2011, and the date of receipt of this Request during which the City discharged from WPCF Outfall 002-1.

For this analysis, the City shall use the Aquatic Life Criteria in saltwaters provided in Section 22a-426-9(a)(3) of the Regulations of the Connecticut State Agencies ("RSCA") as a standard for toxicity.

6. Section 9(A)(5)(c) of the POTW Permit states the following:

   Combined discharges from 001-1 and 002-1 shall not cause violations of State Water Quality Standards.

Information submitted to CT DEEP in the City’s Monthly Operating Reports indicates that fecal coliform and enterococci bacteria in the City’s discharges may result in exceedances of State Water Quality Standards when the City is discharging from WPCF Outfall 002-1.

Submit an analysis of the extent to which the City’s discharges from WPCF Outfall 002-1 comply with Section 9(A)(5)(c) of the City’s POTW permit. At a minimum, the City’s analysis shall include a calculation of the concentration, mathematically combining the discharges from WPCF Outfalls 001-1 and 002-1, of fecal coliform
bacteria and *Enterococci* bacteria for each event between January 1, 2011, and the
date of receipt of this Request during which the City discharged from WPCF Outfall
002-1.

For this analysis, the City shall use the Indicator Bacteria in saltwaters provided in
Section 22a-426-9(a)(2) of the RSCA as a standard.

7. The City's Facilities Plan (dated October 7, 2009, and prepared by CDM, Inc.), states
that the existing microscreens no longer provide adequate and reliable treatment of
wet weather flow and are in need of repair. The 2009 Facilities Plan further states
that two microscreens had been permanently taken out of service. During the EPA
Inspection, EPA observed that two microscreens remained out of service and that
another microscreen had a large (approximately one-foot diameter) hole in the
screens. Arcadis' Performance Evaluation Report for the period of May 1, 2014,
through April 30, 2015 ("Arcadis 2015 Report"), states that capital improvements
were planned for the Supplemental Treatment Facility for FY2015-16. The Capital
Budget Summary provided by the City during the EPA Inspection (included here as
Attachment A, Appendix 13) states that, in FY 2014-15 and FY 2016-17, a total of
$2,500,000 was allocated to Supplemental Treatment Upgrades.

Submit a description of the City's plans for capital improvements at the Supplemental
Treatment Facility.

8. Section 9(A)(9) of the POTW Permit states the following:

*The permittee shall reduce excessive infiltration/inflow to the sewer system.*

Submit an assessment of the amount of infiltration/inflow ("I/I") present in the City's
Collection System using the criteria provided in EPA's guidance document, "I/I
Analysis and Project Certification," attached as Attachment E.

9. Submit all available updates of the City's Sanitary Sewer Collection System Master
Plan, dated December 2009, prepared by Malcolm Pirnie, Inc.

10. Submit all available Sanitary Sewer Evaluation Studies and I/I Control Plans prepared
since December 2009.

11. The Collection System Projects Table provided by the City during the EPA
Inspection (included here as Attachment A, Appendix 15) states that, in FY 2016-17,
the "Sanitary Sewer Rehabilitation (Various Priority)" and "Marvin Beach PS FM
Replacement Project" projects are planned. Submit a description of these projects
and an explanation as to why these project do not appear in the Capital Budget
Summary.

12. The Capital Budget Summary states that during FY 2015-16 and FY 2016-17, no
money is provided for general Collection System Rehabilitation. In FY 2017-18, the
entire Collection System Rehabilitation budget of $1 million appears to be consumed
by a single project, the East Avenue Interceptor Capacity Restoration Project. Submit
a description of how the City will fund other Collection System capital expenditures deemed necessary as problems are found during on-going inspections.

13. CT DEEP's database of reported bypasses includes five unauthorized discharges in 2014 caused by mechanical or electrical equipment failure at Trolley Way Pump Station. The Arcadis 2015 Report indicates that the Trolley Way Pump Station is in fair to poor condition. The Arcadis 2015 Report indicates that under wet-weather conditions, both pumps are needed to manage the flow to the pump stations, leaving no redundancy in case of a pump failure. Submit a description of the City's plans to prevent future unauthorized discharges caused by failures at the Trolley Way Pump Station.

14. The Arcadis 2015 Report identifies the following pump stations with a Risk Rating of 2, indicating that pump stations are likely to require upgrades and improvements in the near future to ensure reliable operation and/or prevent sewer overflows:

- Bouton Street;
- Fox Run;
- Keeler Brook;
- Marvin Beach;
- Trolley Way;
- Shady Beach (Shorehaven);
- West Port Avenue; and
- Woodward Avenue.

Submit a description of the City's plans to prevent future unauthorized discharges caused by failures at the Bouton Street, Fox Run, Keeler Brook, Marvin Beach, Shady Beach, West Port Avenue, and Woodward Avenue pump stations.

15. Submit a copy of the City's sewer use ordinance adopted pursuant to Section 4(D) of the POTW Permit.

16. Submit a copy of any other ordinances used by the City to enforce the General Permit for the Discharge of Wastewater Associated with Food Service Establishments, issued by CT DEEP.

17. Submit a list of Class III and Class IV food service establishments, as defined by Section 19-13-B42 of the State of Connecticut Public Health Code, discharging to the City's Collection System. Include in this list, at a minimum, the following information:

- The type of Fats, Oils, and Grease (FOG) control device installed at each establishment;
- The date of last inspection by the City; and
- Identification of all establishments at which the City has issued written notification of violations between January 1, 2011, and the date of receipt of this Request.

18. Submit a copy of the most recent version of City's FOG Program Policy.
19. Section D of the attached EPA Inspection Report includes a discussion of the City's practices for horizontal asset record keeping and work order tracking.

Submit a description of any changes that the City has made or plans to make to its procedures for tracking field crew observations of grease or other anomalies in sewer manholes and pipes into its Cityworks software.

20. Section D of the attached EPA Inspection Report includes a discussion of the City's practices for pump station operations and maintenance tracking record keeping.

Submit a description of any changes that the City has made or plans to make to its procedures for incorporating field crew observations of pump station problems into its Maintenance Connection software.

Submit a description of any changes that the City has made or plans to make to its procedures for tracking the timeliness of work order completion.

21. Section E of the attached EPA Inspection Report includes a discussion of the City's practices for preventative maintenance cleaning and inspections of its Collection System.

Submit a description of the extent to which the City has completed its investigation of sewers that were not inspected prior to the March 2006 Performance Evaluation.

Submit a description of the extent to which the City has categorized its sewers according to the “Priority 1,” “Priority 2,” and “Priority 3” system described in Section 3.1.3 of its Collection System Operation and Maintenance Plan (“O&M Plan”), dated November 2015, and prepared by CH2M-Hill, Inc.

Submit a description of the extent to which the City has completed inspections of sewers according to the “Priority 1,” “Priority 2,” and “Priority 3” system described in Section 3.1.3 of its O&M Plan.

22. Section E of the attached EPA Inspection Report includes a discussion of the City's practices for cleaning problem areas in its Collection System (“hot-spots”).

Submit a description of the City’s hot-spot cleaning program to clarify if hot-spots are to be cleaned on a 6-week cycle (as provided for by the hot-spot cleaning list), a 13-week cycle (as stated in the O&M Plan), or some other frequency.

Submit a description of any changes the City has made or plans to make of cleaning frequency in the Bruton Street and Ely Avenue hot-spot locations to address the grease build-up observed during the EPA Inspection.

23. Section H of the attached EPA Inspection Report includes a discussion of the City’s practices for operating and maintaining its siphons.
Submit a list of storm events between January 1, 2013, and the date of receipt of this Request when the City performed inspections at the upstream side of the Ann Street Siphon in response to an observed high water level. Provide documentation of observations made at these inspections.

Submit a list of dates on which preventative maintenance inspections were performed at the Ann Street Siphon and the Merrill’s Lane Siphon between January 1, 2013, and the date of receipt of this Request. Provide documentation of observations made at these inspections.

*Municipal Separate Storm Sewer System (“MS4”)*

The City owns and operates a Municipal Separate Storm Sewer System (“MS4”). Stormwater discharges and certain non-stormwater discharges from the City’s MS4 are authorized by the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (“2004 MS4 Permit”) issued by CT DEEP. The MS4 Permit was re-issued without changes on January 9, 2009, and on January 12, 2016; the MS4 Permit will expire on June 30, 2017. A modified MS4 Permit was issued on January 20, 2016 (“2016 MS4 Permit”), with an effective date of July 1, 2017.

24. Submit a copy of the City’s Storm Water Management Plan prepared pursuant to Section 5(b) of the 2004 MS4 Permit.

25. Submit a copy of the City’s ordinance or other regulatory mechanism that the City has adopted to prohibit non-stormwater discharges into the MS4, pursuant to Section 6(a)(3)(A)(i) of the 2004 MS4 Permit.

26. Submit the City’s MS4 outfall map(s) that comply(ies) with the requirements of Section 6(a)(3)(B)(i) and (ii) of the 2004 MS4 Permit.

27. Submit the following information on the Illicit Discharge Detection and Elimination ("IDDE") investigations performed between January 1, 2011, and the date of receipt of this Request pursuant to Section 6(a)(3)(B)(iii) of the 2004 MS4 Permit:

- A detailed explanation of the process and steps involved in the City’s IDDE investigations to detect, track, and eliminate illicit discharges throughout the drainage areas discharging to these outfalls, and to confirm that no illicit discharges remain at the completion of the IDDE investigations;

- Maps that indicate the manholes, pipes, buildings, and other items investigated;

- Results of all water quality tests performed;¹

¹ It is not necessary to provide copies of analytic lab reports for each water quality test – summary tables of results are preferred.
• All manholes or other locations in each drainage area where the City found evidence of illicit discharges, and the evidence that supports these determinations;

• All manholes or other locations in each drainage area where the City determined that evidence of illicit discharges was not present, and the evidence that supports these determinations;

• Locations of all confirmed sources of illicit discharges found, the date on which each illicit source was confirmed, and the evidence that supports these determinations;

• Whether the confirmed sources of illicit discharges have been eliminated, and if so, on what date;

• The entity that eliminated the illicit discharge(s) (i.e., the City or a private entity); and

• If the confirmed sources of illicit discharge(s) have not been eliminated, the schedule according to which the illicit discharge(s) will be eliminated.

28. Submit a copy of the ordinance or other regulatory mechanism that the City has adopted to reduce pollutants in stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre pursuant to Section 6(a)(4)(A)(i) of the 2004 MS4 Permit.

29. Submit a copy of the ordinance or other regulatory mechanism that the City has adopted to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4 or directly to waters of the State pursuant to Section 6(a)(5)(A) of the 2004 MS4 Permit.

30. Submit documentation of all representative outfall monitoring that was performed by the City between January 1, 2011, and the date of receipt of this Request pursuant to Section 6(h) of the 2004 MS4 Permit.

31. Submit copies of all of the City’s MS4 Annual Reports that were prepared pursuant to Section 6(i) of the 2004 MS4 Permit for the years 2011, 2012, 2013, 2014, and 2015.
Attachment D

Statement of Certification

Complete and Include With Your Response

I declare under penalty of perjury that I am authorized to respond on behalf of the City of Norwalk. I certify that the foregoing responses and information submitted were prepared by me, or under my direction or supervision and that I have personal knowledge of all matters set forth in the responses and the accompanying information. I certify that the responses are true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

By

(Signature)

(Printed)

(Title)

(Date)
Attachment E

I/I Analysis and Project Certification
Infiltration/Inflow

I/I Analysis and
Project Certification

Ecology Publication No. 97-03
Introduction
As part of facilities planning for municipal wastewater treatment facilities, the grantee must demonstrate that contributing sewer systems are not, and will not be, subject to excessive infiltration or inflow. This brochure informs grantees and facility planners on how to determine whether excessive I/I exists, and how to certify that excessive I/I has been sufficiently reduced through sewer rehabilitation.

"Infiltration" occurs when groundwater enters a sewer system through broken pipes, defective pipe joints, or illegal connections of foundation drains. "Inflow" is surface runoff that enters a sewer system through manhole covers, exposed broken pipe and defective pipe joints, cross connections between storm sewers and sanitary sewers, and illegal connection of roof leaders, cellar drains, yard drains, or catch basins.

Virtually every sewer system will have some infiltration or inflow. Guidelines have been developed to help determine what amount of infiltration and inflow is considered "excessive." To make this determination, infiltration and inflow must be evaluated separately as discussed below.

Determination of Non-Excessive Infiltration
Based on Needs Survey data from 270 Standard Metropolitan Statistical Area Cities, the national average for dry weather flow is 120 gallons per capita per day (gpcd). This includes domestic wastewater flow, infiltration and nominal industrial and commercial flows. This average dry weather flow should be used as an indicator to determine the limit of non-excessive infiltration. If the average daily flow per capita (excluding major industrial and commercial flows greater than 50,000 gpd each) is less than 120 gpcd (i.e., a 7-14 day average measured during periods of seasonal high groundwater), the amount of infiltration is considered non-excessive.

The 120 gpcd flow rate guideline has been incorporated into EPA's final Construction Grant Regulations. These regulations provide that no further infiltration analysis work is required if the 120 gpcd guideline is not exceeded. If the average daily dry weather flow (DWF) exceeds 120 gpcd, the grantee may request special approval from the EPA Regional Administrator to proceed with project design without further infiltration studies. To receive such approval, the grantee must demonstrate that the increased flows due to infiltration can be cost-effectively treated, and that sufficient funding is available to pay for the local share of project construction and operating costs. In such cases, the additional cost of treatment capacity over and above 120 gpcd is not eligible for EPA construction grant funding.
The grantee’s basic options regarding determination of non-excessive infiltration are listed below:

*If Average DWF* \(_{\leq 120 \text{ gpcd}}\): 
  - Grantee may proceed with project design and construction without further infiltration study.
  - Grantee may investigate rehabilitation alternatives for specific sections of sewer system where excessive infiltration has been documented.

*If Average DWF* \(_{\text{marginally exceeds } 120 \text{ gpcd}}\): 
  - Grantee may request special approval from EPA Regional Administrator to proceed with the project without further study of infiltration correction alternatives.
  - Grantee must demonstrate that project is cost-effective (i.e., that treating increased flows due to infiltration is less costly than sewer rehabilitation).
  - Grantee must demonstrate that sufficient funds are available for the local share of project cost, including capital and operating costs.
  - The treatment facility must be sized to treat the total flow including infiltration; however, the incremental cost of treatment capacity above 120 gpcd is not eligible for EPA construction grant funding.

*If Average DWF* \(_{>120 \text{ gpcd}}\), and Special RA Approval is not granted: 
  - Further studies must be conducted to quantify excessive infiltration and evaluate alternative corrective measures.
  - Based on results of these studies, the most cost-effective sewer rehabilitation program is selected, and the treatment plant is sized to handle the infiltration that cannot be cost-effectively removed.
  - Upon approval of the proposed rehabilitation program by EPA, grantee may proceed with project design and construction. Total project cost (including sewer rehabilitation costs) is eligible for construction grant funding.

*Highest average daily flow recorded over a 7-14 period during a period of seasonal high groundwater.*
Determination of Non-Excessive Inflow

A statistical analysis of data from Sewer System Evaluation Survey (SSES) studies representing more than 45 different sewer systems (i.e., separate sanitary sewer system) indicated a strong correlation between inflow rate and service area population. Based on these data, the average wet weather flow (WWF) after removal of excessive inflow (i.e., that which can be cost-effectively removed) is 275 gpcd. This flow rate should be used as an indicator of non-excessive inflow.

If the average daily flow during periods of significant rainfall (i.e., any storm event that creates surface ponding and surface runoff; this can be related to a minimum rainfall amount for a particular geographic area) does not exceed 275 gpcd, the amount of inflow is considered non-excessive. This calculation should exclude major commercial and industrial flows (greater than 50,000 gpd each). If wet weather flows do not exceed 275 gpcd, the grantee may proceed with project design and construction without further study of inflow correction alternatives. However, if the treatment plant experiences hydraulic overloads during storm events, further study is required regardless of the wet weather flow (i.e., even in cases where WWF is less than 275 gpcd).

The determination of non-excessive inflow is made as follows:

If $WWF* \leq 275$ gpcd, and the treatment plant does not experience hydraulic overloads during storm events:
- Grantee may proceed with project design and construction without further inflow studies.
- Grantee may investigate rehabilitation alternatives for specific sections of the sewer system where excessive inflow has been documented.

If $WWF*> 275$ gpcd, or the treatment plant experiences hydraulic overloads during storm events:
- Further studies must be conducted to quantify excessive inflow and evaluate alternative corrective measures.
- Based on results of these studies, the most cost-effective sewer rehabilitation program is selected, and the treatment plant is sized to handle the inflow that cannot be cost-effectively removed.
- Upon approval of the proposed rehabilitation program by EPA, the grantee may proceed with project design and construction. Total project cost (including sewer rehabilitation cost) is eligible for construction grant funding.

*Highest daily flow recorded during a storm event.
I/I Cost-Effectiveness Analysis

Before obtaining a grant for sewer system rehabilitation, the grantee must determine the amount of infiltration and inflow that can be cost-effectively removed. This is essentially an estimate of the point at which the cost savings (i.e., reduction in transport and treatment cost less the cost of the rehabilitation program) is maximized. Generally, the planned I/I reduction (i.e., the target sought in a sewer rehabilitation project) is determined on the basis of a cost-effectiveness analysis. Figure 1 illustrates how the planned I/I reduction target is established from cost curves developed in the cost-effectiveness analysis. A separate cost-effectiveness analysis should be done for infiltration alternatives and for inflow alternatives.

Figure 1 Cost-Effectiveness Analysis
Certification of I/I Rehabilitation Performance

At the end of the one-year performance period (i.e., one year after initiation of sewer system operation), the grantee must certify that the rehabilitation project has achieved an acceptable level of I/I reduction. Ideally, this means that the planned I/I reduction target is achieved at a cost not exceeding that projected in the cost-effectiveness analysis. However, past experience has shown that it is difficult to measure the effectiveness of an I/I rehabilitation program simply by comparing flow data before and after sewer rehabilitation.

A sewer rehabilitation project will be considered certifiable as long as the project is cost-effective (i.e. transport and treatment cost savings exceed rehabilitation costs). Figure 2 illustrates how to determine the minimum acceptable I/I reduction using the transport and treatment cost curve from the cost-effectiveness analysis. A separate determination should be made for infiltration and inflow, consistent with the original cost-effectiveness analysis.

The actual cost of the rehabilitation program (i.e., the "sunk cost") should include design costs and the cost of the SSES study, as well as the cost of the sewer rehabilitation itself. The actual I/I reduction is determined by comparing post-construction flow to the flow data collected during the SSES study. The post-construction flow data should be based on plant flow records. Monitoring flows at multiple points throughout the sewer system is not recommended.

![Figure 2 Determining Acceptable Range of I/I Reduction](image)
If the actual I/I reduction is greater than the minimum acceptable I/I reduction derived from Figure 2, the rehabilitation project can be certified as meeting performance objectives. However, it should be noted that treatment plant design capacity is based on the planned I/I reduction projected in the SSES study. If the actual I/I reduction is significantly less than planned, redesign may be required to increase treatment capacity. Therefore, every effort should be made to develop realistic estimates of the amount of I/I that can be cost-effectively removed. As an I/I project proceeds from initial planning through design and construction, certain assumptions made during the cost-effectiveness analysis may prove to be invalid. This could affect the cost-effectiveness of the project and the determination of minimum acceptable I/I reduction. For example, if the actual rehabilitation cost is greater than projected, the range of acceptable I/I reduction is reduced (see Figure 3). If the reduction in transport and treatment costs is not as great as expected, this will also reduce the acceptable range.

![Figure 3 Effect of Underestimating Project Costs](image-url)

Therefore, it is important to recalculate the acceptable range of I/I reduction at different stages of the project (e.g., after approval of SSES study; after completion of design and preparation of detailed cost estimates; after receipt of construction bids; and at completion of various construction phases) using updated cost estimates or actual cost data.

As the minimum acceptable I/I reduction limit approaches the planned I/I reduction target, the
cost-effectiveness of the project should be reevaluated. The risk of the project not achieving the minimum acceptable I/I reduction increases as the acceptable range derived from Figure 2 diminishes. If there is evidence that actual rehabilitation costs will be much higher than projected, it may be advisable to reassess the objectives of the rehabilitation program, and modify the scope of work accordingly.

Summary
This brochure presents an overview on how to approach the implementation of an infiltration/inflow correction program. A schematic of the process is presented in Figure 4. The basic steps are as follows:
1. Determine if excessive infiltration exists using 120 gpcd guidelines.
2. Determine if excessive inflow exists using 275 gpcd guideline.
3. If infiltration and inflow are non-excessive, proceed with project design based on measured flow data.
4. If either excessive infiltration or excessive inflow exists, conduct sewer system evaluation survey (SSES) study.
5. Select most cost-effective sewer rehabilitation alternative.
6. Implement sewer system rehabilitation; verify project cost-effectiveness as updated cost data become available.
7. Upon completion of project (i.e., at end of one-year performance period), certify that I/I reduction is within acceptable range.

Figure 4  I/I Project Flow Chart

To achieve affirmative project certification, the estimates of rehabilitation cost and I/I reduction must be realistic. Underestimating project cost can invalidate the conclusions of the cost-effectiveness analysis conducted as part of the SSES study. It is important to include all cost items in the cost estimates (the cost of service line rehabilitation should be included even though it is not grant eligible).

Sewer rehabilitation programs can significantly reduce transport and treatment costs, and therefore should be given serious consideration. However, the cost-effectiveness of such projects must be carefully evaluated to assure that rehabilitation is justified. The requirements for project certification now mandate that project cost-effectiveness be confirmed at the completion of the project. Recipients and their engineers should carefully assess their I/I correction plans to be sure that project certification requirements can be satisfied.

Further guidance on this subject is available from U.S. EPA Regional Offices and delegated State agencies.
SEWER SYSTEM COMPLIANCE INSPECTION

CITY OF NORWALK, CONNECTICUT

INSPECTION REPORT

Inspection Dates:
November 12–13, 2015

Report Date:
January 28, 2016
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Inspection Dates: November 12–13, 2015
I. INTRODUCTION

On November 12–13, 2015, the U.S. Environmental Protection Agency (EPA), with assistance from PG Environmental, LLC, an EPA contractor, (hereinafter, collectively, the EPA Inspection Team) inspected the wastewater collection and conveyance system in the City of Norwalk, Connecticut (City). The primary focus of the inspection was an evaluation of the operation and maintenance (O&M) of the wastewater collection and conveyance system. This report summarizes the results of the inspection.

The inspection consisted of the following major activities:

- Discussions with representatives from the City regarding the O&M of its wastewater collection system, including the wastewater pump station, sanitary sewer overflow (SSO) response and reporting, collection system mapping, data management, and capital improvement program (CIP) plan.
- A physical inspection of sewer collection system assets, including sewer lines, manholes, siphons, and wastewater pump stations.
- A physical inspection of the wet-weather treatment train at the City’s Water Pollution Control Facility (WPCF).
- Examination of the City’s wastewater collection and conveyance system operations, maintenance, and overflow response and reporting records.

The City collects and conveys wastewater from its users to the Norwalk WPCF. The City owns its wastewater collection system and WPCF, but a contractor, Operations Management International, Incorporated (OMI; a subsidiary of CH2M Hill), operates them. Operation and maintenance of the collection system and WPCF are overseen by the Norwalk Water Pollution Control Authority (WPCA). The City maintains coverage under National Pollutant Discharge Elimination System (NPDES) Permit No. CT0101249 (the Permit) for discharges of sanitary sewage following secondary treatment and discharges of excess combined stormwater and sanitary sewage following microscreening and disinfection. The Permit was reissued by the Connecticut Department of Energy & Environmental Protection (CTDEEP) on September 29, 2005 (“2005 Permit”), and on March 24, 2014 (“2014 Permit”).

The following primary representatives were involved in the inspection:

City of Norwalk Representatives: Lisa Burns, Principal Engineer Ralph Kolb, Senior Environmental Engineer

CH2M Hill/OMI Representatives: Kevin Dahl, Regional Manager John Ahern, Project Manager Eric Muir, Engineer Vinta Varghese, Senior Technologist

CTDEEP: Craig Motasky, Inspector Susan Unger, Inspector

EPA Inspection Team: Jack Melcher, EPA Region 1 Danny O’Connell, PG Environmental, LLC Jake Albright, PG Environmental, LLC
II. \textbf{Inspection Observations and Records Review}

The EPA Inspection Team conducted site visits, accompanied by City representatives,\footnote{For the purposes of this report, “City representatives” includes staff employed by the City, WPCA, and the City’s contractor (i.e., OMI).} to multiple locations within the City’s service area and viewed various City assets, including the following:

- Multiple sewer pump stations.
- Two collection system siphons.
- Locations of previous SSOs and maintenance “hot spots.”
- Sewer vacuum/jetter combination truck demonstrations.
- City WPCF wet-weather treatment train.

\textit{Appendix 1} provides a tabular summary of the field activities and references photographs taken during the inspection. \textit{Appendix 2} contains all referenced photographs. In addition to the field activities referenced above, the EPA Inspection Team obtained information through a series of interviews with City representatives and the review of pertinent records. Documents supporting observations in this report are contained in \textit{Appendices 3 through 18}.

\textbf{A. Description of Facility}

The City’s collection system services approximately 84,000 residents in Norwalk, as well as a portion of the Town of Wilton and a small number of connections in the Town of Westport. The collection system is composed of approximately 180 miles of sewers. The City has a formal agreement with the Town of Wilton (representing approximately 3 percent of the WPCF flow), but not with Westport (approximately 10 connections total). The City monitors and records flow for billing purposes at the Town of Wilton connection point and bills the limited number of users in the Town of Westport directly. City representatives stated that the collection system has approximately 22,000 connections and approximately 400-500 industrial and commercial users in Norwalk and another 45 in the Town of Wilton. The City operates 22 pump stations in the collection system.

Sewage from the City and the two towns is conveyed through the City’s collection system and treated at the WPCF. The City does not own or operate the sewer infrastructure in the contributing municipalities. City representatives stated that a small portion of the City’s collection system is combined sewage and stormwater, mostly located in the older, downtown area. City representatives explained that over the years, the City has eliminated all combined sewer overflow outfalls in the collection system. However, the City still operates an emergency wet-weather overflow for the Ann Street Siphon as well as a wet-weather outfall at the WPCF for influent flows exceeding 30 million gallons per day (mgd).

\textbf{B. Facility Management}

Section 1(B) of the 2005 Permit and the 2014 Permit incorporates, by reference, Section 22a-430-3 of the Regulations of the Connecticut State Agencies (RCSA). Section 22a-430-3(f)(1) of the RSCA states the following:

\textit{The permittee shall at all times properly operate and maintain all facilities and systems and parts thereof for wastewater collection, storage, treatment and control which are installed or used by the permittee to achieve compliance with the terms and conditions of the permit. Proper operation and maintenance includes but is not limited to effective performance, adequate funding, and adequate operator staffing and training, including employment of certified operators as may be required by the commissioner pursuant to sections 22a-416-1 through 22a-416-10 of the Regulations of Connecticut State Agencies.}
as amended, and adequate laboratory and process controls, including appropriate quality assurance procedures.

The City entered into a 20-year contract with OMI in 2000 for the operation and maintenance of its wastewater collection system and WPCF. OMI is responsible for the O&M of the sanitary sewer collection system, including pump stations, force mains, pipes, siphons, and related manholes and appurtenances. As part of monitoring overall performance of the contract, the City hired Arcadis-US, Incorporated (Arcadis) to conduct annual analyses of OMI's work and generate a status report (refer to Appendix 3 for the 2014-2015 status report).

City representatives explained that the City has a 20-year financial model for the collection system and WPCF based on sewer use fees from residences and from commercial and industrial facilities. They stated that their annual operating budget is approximately $15 million, with about $5.5 million going to OMI. The rest of the budget is spent on various operating expenses, such as electricity and repair work.

The City of Norwalk Collection System Operations and Maintenance Plan (O&M Plan; refer to Appendix 4), dated November 2015, summarizes the City's practices for operating and maintaining its sewer collection system. An organization chart for OMI-Norwalk is provided in section 3.2 of the O&M Plan.

C. Pump Stations

The City has 22 wastewater pump stations, as well as three stormwater pump stations (not evaluated as part of the inspection).

One two-person crew from the City's Maintenance Division is responsible for inspections and preventive maintenance. City representatives stated that the crew tries to visit each station at least once per week.

The City's wastewater pumping stations are summarized in the Executive Summary of the Arcadis 2014-2015 Performance Evaluation Report (refer to Appendix 3), and are presented in Table 1, below. The Arcadis report states, "[S]tations designated as RR [Risk Ranking] 2 are likely to require upgrades and improvements in the near future to ensure reliable operation and/or prevent sewer overflows."
Table 1. WPCA Pump Station Condition Risk Rankings (Areasis)

<table>
<thead>
<tr>
<th>No.</th>
<th>Pump Station Name</th>
<th>Capacity (mgd)</th>
<th>Year 2012-2013</th>
<th>Year 2013-2014</th>
<th>Year 2014-2015</th>
<th>Risk Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bell Island</td>
<td>0.6</td>
<td>Δ</td>
<td>Δ</td>
<td>Δ</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Bethel Street</td>
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<td></td>
<td>Δ</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Bouton Street</td>
<td>0.9</td>
<td></td>
<td>Δ</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Calf Pasture</td>
<td>0.4</td>
<td></td>
<td>Δ</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Devil’s Garden (Erin Court)</td>
<td>0.4</td>
<td>Δ</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Five Mile River</td>
<td>2.6</td>
<td></td>
<td>Δ</td>
<td></td>
<td>3*</td>
</tr>
<tr>
<td>7</td>
<td>Fort Point</td>
<td>5.1</td>
<td>Δ</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Fox Run</td>
<td>0.1</td>
<td></td>
<td>Δ</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>Howard Avenue</td>
<td>0.3</td>
<td>Δ</td>
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</tr>
<tr>
<td>10</td>
<td>Huckleberry Drive</td>
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<td></td>
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<td>11</td>
<td>Karen Drive</td>
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<td></td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>Keefer Brook</td>
<td>4.0</td>
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<td></td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>Marvin Beach</td>
<td>1.3</td>
<td>Δ</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>Old Trolley Way</td>
<td>10.5</td>
<td>Δ</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15</td>
<td>Perry Avenue</td>
<td>3.3</td>
<td>Δ</td>
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<td></td>
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</tr>
<tr>
<td>16</td>
<td>Red Oak Lane</td>
<td>0.4</td>
<td>Δ</td>
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<td></td>
<td>3</td>
</tr>
<tr>
<td>17</td>
<td>Sammis Street</td>
<td>4.5</td>
<td>Δ</td>
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<td></td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>Shady Beach (Shorehaven)</td>
<td>1.0</td>
<td>Δ</td>
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<td>2</td>
</tr>
<tr>
<td>19</td>
<td>Strathmore Lane</td>
<td>0.4</td>
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<td>20</td>
<td>West Port Avenue</td>
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<td>Δ</td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Notes:
Δ = Inspected
* = Improvements are recommended to retain pump station operation reliability. Without improvements, risk ranking will drop to 2.

During the inspection, the EPA Inspection Team visited the following pump stations:
- Bethel Street,
- Devil’s Garden (Erin Court),
- Five Mile River,
- Fort Point, and
- Old Trolley Way.

Refer to Appendix 1 for a summary of observations at pump stations and Appendix 2 for photographs taken at pump stations. Observations are discussed in Section II.D., below.

D. System Mapping and Asset Management

City representatives explained that the City began developing its geographic information system-based (GIS-based) map and database in approximately 1999. The GIS contains information on various sewer system assets, including sewer manholes, pipes, and pump stations. City GIS personnel update the map based on as-built drawings and observations made by field personnel. City representatives stated that entries into the GIS go through a quality assurance protocol before they are finalized and uploaded to the system (updates occur once every one to two months). City sewer maintenance crews are provided with hardcopy maps printed from the GIS to take into the field when performing sewer maintenance activities.
City representatives stated that they use separate computerized maintenance management systems (CMMMS) for tracking horizontal (e.g., pipes and manholes) and vertical (e.g., pump stations) assets. The Cityworks program is used for tracking inspections, maintenance, and repairs on pipes and manholes, and the Maintenance Connection program is used to track work performed at pump stations, at the WPCF, and on the vehicle fleet.

Pipe segments and manholes have been given specific asset numbers in Cityworks (implemented in approximately 2008) in order to track field work more accurately. Information and map layers can also be shared between the GIS and Cityworks. For example, the City was able to provide map representations of areas inspected by closed circuit television (CCTV) in 2014 and 2015, as well as areas cleaned between 2010 and 2015 (refer to Appendix 5). The City was also able to provide a map layer showing the location of sewer “problem areas” (also referred to as “hot-spots”) during the inspection.

In addition to generating work orders, the City uses Cityworks for generating service requests based on customer calls. This is further described in section II.F, below.

**Horizontal Asset Record Keeping and Work Order Tracking**

Cityworks work orders for collection system pipes and manholes are typically generated after work has been completed (for both preventive and corrective maintenance), based on field operators’ handwritten daily log sheets. The lead collections operator explained that he transfers the information written on the logs into Cityworks (i.e., creates a work order) as he has time. He explained that when an order is created in Cityworks, a work order number is assigned, which is retroactively written on the daily work order logs.

In addition to the handwritten daily log sheets kept by the field operators, the City has a dedicated checklist for manhole inspections, which is also filled out by hand. City representatives explained that manhole inspections are primarily completed when crews are in the field doing CCTV and cleaning work, but there is not a formal schedule.

The EPA Inspection Team observed that other informal datasets were recorded by hand in several locations. For example, the lead collections operator displayed his personal logbook and day planner, which contains information about his daily activities and the available personnel (refer to Appendix 2, Photograph 99).

In many cases, there were no comments in Cityworks or the handwritten logs to document the uniqueness of the tasks/events completed. Most of the logs simply documented the location and how long the crew was there. City representatives stated that if a crew identifies a significant amount of grease or other anomaly in the lines, the crew verbally notifies the lead collections operator, who then assigns further cleaning, repair, or other maintenance. The field operators' daily log sheets included guidance for classifying the amount and type of debris; however, the system was not used in the documentation reviewed by the EPA Inspection Team.

**Pump Station O&M Tracking and Record Keeping**

The City uses Maintenance Connection to schedule and document work performed at pump stations.

During site visits to City pump stations, the EPA Inspection Team observed that operators were not following a specific protocol for documenting work performed. For example, the pump station operator present at the Fort Poin Pump Station site visit was using a notepad (refer to Appendix 2, Photograph 9) to record observations related to routine visual inspections. The note pad only contained documentation of run or operational hours for specific pieces of equipment, data that is usually stored in the SCADA system. Photograph 90 in Appendix 2 provides an example (from Five Mile River Pump Station) of a
typical screen display for run hours. The pump station operator explained that he typically brings his laptop computer into pump stations to enter routine inspection data into an electronic inspection checklist (generated through Maintenance Connection), but was not using it on the day of the inspection. He added that most pump station operators print out the checklist(s) and fill it out by hand as they make their rounds. The operator who performs the work enters data into Maintenance Connection at a later time. Section 2.1.12 of the Arcadis report for May 1, 2014 through April 30, 2015 states the following:

Each WPCA employee has been provided with a unique user/password for [Maintenance Connection] access. Many of the employees have chosen not to become familiar with the software and opt to place maintenance work requests verbally to the maintenance management staff (Maintenance Manager, Maintenance Clerk, or Lead Mechanic).

It was unclear if the Maintenance Connection entries were being completed and closed out appropriately for preventive maintenance work orders.

At the Devil’s Garden Pump Station, the EPA Inspection Team observed an infiltration flow of approximately 5–7 gallons per minute (gpm) and a heavy buildup of rags in the bar screen manhole immediately upstream of the station’s wet well. The EPA Inspection Team also observed a flooded check valve vault (refer to Appendix 2, Photographs 73 through 78).

It was unclear, based on a review of the available documentation, how long these conditions had existed. The Maintenance Connection screen for the station’s work orders (refer to Appendix 2, Photograph 105) showed no work orders associated with the conditions observed in the field and no corrective maintenance work orders.

The EPA Inspection Team observed a work order for a weekly inspection of the Devil’s Garden Pump Station, with a target date of November 9, 2015. This inspection was documented in the system as having been completed on November 2, 2015, and closed on November 6, 2015 (refer to Appendix 2, Photograph 105). When asked for the field documentation of the completed work for this inspection activity, City representatives explained that work order documentation (i.e., a Maintenance Connection-generated checklist) had not been completed. The Maintenance Connection work order checklist for this event contained six pre-populated sections; however, no additional information had been added (see Appendix 6).

The standard Maintenance Connection work order form for pump station inspections did not provide space for comments or documentation of unique observations and findings made during field activities. The checklist-style form did identify a list of tasks to be completed, which included pulling debris and checking the sump pump for proper operation. However, the task list did not include any reference to observing the level of wastewater at the bar screens or requiring evaluations of wet well conditions associated with accumulations of grease and general debris.

Based on observations made during the inspection, the pump station work orders were functioning more as a field rounds sheet manager (sheets documenting run hours and fuel levels) than a work order system used to manage specific maintenance activities and conditions of mechanical equipment. Further, the entries in Maintenance Connection did not necessarily describe the uniqueness of the activities or the observations made during the work process.

The EPA Inspection Team also reviewed corrective work orders in Maintenance Connection for the City’s pump stations (refer to Appendix 7). There were 26 corrective work orders documented between May 15, 2015, and November 13, 2015. Six of the corrective work orders were for actions associated with the Five Mile River Pump Station. Three of the corrective works orders were reflective of observations also made during a site visit conducted by the EPA Inspection Team.
Two of the Five Mile River Pump Station work orders were associated with the open access hatch to the wet well pit:

- Work Order NOR-31785, target date May 15, 2015, need permit-required confined space sign for wet well pit.
- Work Order NOR-33287, target date July 4, 2015, wet well access hatch cover needs replacement.

Photograph 85 of Appendix 2 documents the wet well access hatch condition at the time of the inspection. There was no hatch cover or "permit-required, confined space" sign as requested in the corrective work orders. A third corrective work order for the Five Mile River Pump Station (Work Order NOR-31784, target date May 15, 2015) was associated with Pump No. 4's needing a machine guard. Photographs 87 and 88 show that the drive shafts for both Pump No. 1 and Pump No. 4 were lacking safety guards at the time of the EPA Inspection Team's site visit. All three of these corrective work orders were approximately 6 months past their target completion dates.

In addition to the corrective work order observations mentioned above, the EPA Inspection Team also reviewed the Five Mile River Pump Station alarm historian (managed by the SCADA system), which revealed that the wet well intrusion alarm—which activates when the wet well access door is open—was activated for a period of 18 days between October 26 and November 13, 2015.

One of the commuter control panels at the Old Trolley Pump Station had a light illuminated requiring that maintenance be scheduled and conducted. There was no record of this maintenance being requested or placed into the Maintenance Connection system (refer to Appendix 7).

E. Collection System Cleaning and Inspections

Section 9(A)(2) of the 2014 Permit states the following:

*The permittee shall use, to the maximum extent practicable, available sewerage system transportation capabilities for the conveyance of combined sewage to treatment facilities.*

Section 9(A)(2) of the 2005 Permit and Section 9(A)(8) of the 2014 Permit state the following:

*The sewage system shall be inspected and maintained such that deposition of solids and/or other obstructions does not cause restrictions in flow resulting in unnecessary wet weather overflows and to ensure that dry weather discharges are not occurring.*

At the time of the inspection, OMI owned two combination vacuum/jet trucks, which were used to perform sanitary sewer maintenance activities. The City owned three additional combination trucks, used primarily for stormwater applications. In addition to the combination trucks, OMI owned one CCTV truck, two portable pumps, and two portable generators used for sanitary sewer maintenance. Sewer line cleaning consisted of using the jetting function of the combination truck to break up blockages and convey the material downstream. City representatives explained that they only used the vacuum function to remove material from the collection system if absolutely necessary (e.g., material being jetted in the line would cause an immediate danger for blockages downstream).

Appendix J of the O&M Plan (refer to Appendix 4) includes standard operating procedures (SOPs) as well as reporting forms and guidelines that are to be printed and kept in sewer maintenance vehicles. The appendix includes, among other documents, forms and guidelines for spill and SSO reporting as well as SOPs for vacuum jet cleaning, jet rodding, manhole cleaning, and root removal. During field visits conducted to City sewer cleaning operations, the EPA Inspection Team observed that crews kept the Appendix J information in their trucks.
Preventative Maintenance Cleaning

Section 3 of the O&M Plan (refer to Appendix 4) states the following:

Scheduled proactive maintenance of the sanitary sewer collection system can prevent sewer backups, sewer overflows and other problems from occurring. The focus of sewer system O&M activities is maintaining the hydraulic capacity of the sewer system since the primary function of the sanitary sewer system is conveyance.

Most operational defects affect the hydraulic capacity of the pipe. Roots, sediments, fats, oils, and grease can all reduce the cross-sectional area of the pipe, which in turn reduces its hydraulic capacity. Sewer cleaning and preventative maintenance activities are directed toward preventing or reducing the impacts of operational defects on the collection system. The sewer system maintenance program includes the following:

- Standard operating procedures needed to support maintenance activities
- A criticality based schedule of periodic cleaning of sewers and manholes
- Routine inspection and maintenance of the sewer system rights-of-way, stream crossings, stream banks adjacent to sewers, and force mains
- Tracking of maintenance activities/data in the CMMS, an asset management database, or in a GIS database, to facilitate easy access and coordination with other sewer system management-related activities
- Standard emergency procedures.

Schedule 2 of OMI’s contract with the City (refer to Appendix 8) states, the contractor is required to clean and CCTV the City’s collection system on a three-year cycle. Section 3.5 of the most recent Arcadis report (refer to Appendix 3), covering May 1, 2014, through April 30, 2015, states the following:

“As described in Section 5.9 of the Agreement, OMI is responsible for cleaning and CCTV inspection of all collection system components on a minimum 3-year rotational cycle. ... As first reported in the Year 2005-2006 Performance Evaluation conducted in March 2006, OMI had CCTV inspected 91.5% of the collection system. The remaining mileage to inspect was reportedly comprised primarily of sewers that are below existing easements or connected by covered (paved-over) manholes. This small percentage of sewers continues to be inspected as access becomes available or the need arises.

... Following OMI’s initial efforts to CCTV and clean the entire System (first completed FY 05-06), OMI has not resumed the task to CCTV and clean the entire System every 3-years as specified in the Agreement. In the past three fiscal years (FY 2011-2012, 2012-2013, and 2013-2014), OMI has CCTV approximately 160,076 feet of sewer and cleaned 1,279,532 feet. Assuming these are unique linear feet (not likely), this would reflect that only 17% of the System has been CCTV and 135% cleaned in the past three years.

... OMI and the WPCA have begun discussions regarding the value of the 3-year contract goal. A Plan has been drafted by CH2MHILL (City of Norwalk Collection System Operation and Maintenance Plan) outlining the current CCTV and cleaning needs within the system and a plan to address these needs. The Plan reevaluated the goals previously set by the 2009 Sanitary Sewer Collection System Master Plan using the historical data collected to date by OMI.”

OMI’s Senior Technologist explained that the preventive sewer cleaning and CCTV program was a “work-in-progress” at the time of the inspection. Section 3.1.3 of the O&M Plan states that the City will prioritize cleaning and CCTV based pipes’ Pipeline Assessment Certification Program ratings. “Priority
1" pipes will be cleaned and inspected annually, “Priority 2” pipes will be cleaned and inspected on a 5-year interval, and “Priority 3” pipes will be cleaned and inspected on a 10-year interval.

The Senior Technologist explained that, at the time of the inspection, the City’s strategy was to clean and inspect all of its clay lines (i.e., the oldest lines), and then move onto the next oldest subset. City representatives stated that they were approximately two-thirds complete with the clay line inspections.

The lead collections operator assigns the work based on a list of clay segments generated through the City’s GIS. Work is assigned by hand on a standard daily log sheet (refer to Appendix 2, Photograph 97). Section 2.3.1 of the O&M Plan states that the City is moving into using a formal work order program to schedule their collection system maintenance and track system performance.

In February 2014, the City began tracking miles of cleaning and CCTV inspections from Cityworks data. In November 2014, the City added manhole inspections. In December 2014, the City added hot-spot cleaning and CCTV inspections, protruding lateral repair, and raised manholes. OMI uses the data to determine key performance indicator (KPI) values for the different maintenance activities (refer to Appendix 9). Table 2, below, summarizes the monthly average maintenance KPI data for February 2014 through October 2015, and presents the performance data in terms of annual averages. Cleaning and CCTV information from areas that are not hot spots were estimated by the EPA Inspection Team by subtracting the hot-spot area performance from the total system performance.

### Table 2. Monthly Maintenance Data Summary (February 2014 through October 2015)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Units</th>
<th>Running Monthly Average</th>
<th>Annual Average</th>
<th>Average Percent Completed Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning (total system)</td>
<td>Miles</td>
<td>5.81</td>
<td>70</td>
<td>39%</td>
</tr>
<tr>
<td>Hot-spot cleaning</td>
<td>Miles</td>
<td>1.83</td>
<td>22</td>
<td>-</td>
</tr>
<tr>
<td>Estimated non-hot spot cleaning</td>
<td>Miles</td>
<td>3.98</td>
<td>48</td>
<td>27%</td>
</tr>
<tr>
<td>CCTV (total system)</td>
<td>Miles</td>
<td>1</td>
<td>12</td>
<td>7%</td>
</tr>
<tr>
<td>Hot-spots CCTV</td>
<td>Miles</td>
<td>0.07</td>
<td>0.84</td>
<td>-</td>
</tr>
<tr>
<td>Estimated non-hot spot CCTV</td>
<td>Miles</td>
<td>0.93</td>
<td>11</td>
<td>6%</td>
</tr>
</tbody>
</table>

Note: Average Percent Completed Annually figures based on 180 miles of gravity sewer lines.

The performance of CCTV cleaning for this period appears to have occurred at a rate that is less than the rate described in either the OMI Agreement or the O&M Plan.

**Hot-Spot Cleaning**

City representatives explained that they had implemented a hot-spot cleaning program to target problem areas in the collection system that require more frequent cleaning. City representatives provided the EPA Inspection Team with a hot-spot cleaning list, which contains a list of 167 sewer segments to be cleaned on a 6-week cycle (refer to Appendix C of the City’s O&M Plan [in Appendix 4 of this report]).

Section 3.1.3 of the O&M Plan states that the hot spots will be cleaned quarterly (every 13 weeks).

The City provided sewer cleaning work order histories for the last five years for 13 hot-spot locations linked to the EPA Inspection Team’s field activities (refer to Appendix 10). Table 3 below summarizes an evaluation of hot-spot cleaning work orders and shows time periods between cleaning activities for these locations.
Table 3. Hot-Spot Cleaning Work Order Summary

<table>
<thead>
<tr>
<th>Location (Asset #–Street (Manhole #s))</th>
<th>Number of Cleaning Events</th>
<th>Oldest Event</th>
<th>Most Recent Event</th>
<th>Weeks Since Last Documented Cleaning**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1069–Connecticut Avenue (12-162 to 12-163)*</td>
<td>12</td>
<td>9/30/2011</td>
<td>7/24/2015</td>
<td>15.9</td>
</tr>
<tr>
<td>4881–Edgewater Place (01-156 to 01-157)</td>
<td>24</td>
<td>9/1/2011</td>
<td>10/9/2015</td>
<td>4.9</td>
</tr>
<tr>
<td>1210–Main Avenue (09-101 to 09-102)</td>
<td>9</td>
<td>12/1/2011</td>
<td>3/9/2015</td>
<td>35.5</td>
</tr>
<tr>
<td>1215–Main Avenue (09-100 to 09-101)</td>
<td>9</td>
<td>9/19/2011</td>
<td>6/1/2015</td>
<td>23.5</td>
</tr>
<tr>
<td>1216–Main Avenue (09-99 to 09-100)</td>
<td>9</td>
<td>9/19/2011</td>
<td>6/1/2015</td>
<td>23.5</td>
</tr>
<tr>
<td>4177–Bouton Street (16-14 to 16-15)</td>
<td>18</td>
<td>10/7/2011</td>
<td>10/29/2015</td>
<td>2.1</td>
</tr>
<tr>
<td>5526–Ely Avenue (16-11 to 16-12)</td>
<td>7</td>
<td>2/24/2012</td>
<td>8/28/2015</td>
<td>10.9</td>
</tr>
<tr>
<td>1614–Honeysuckle Drive (06-226 to 06-227)*</td>
<td>15</td>
<td>8/5/2011</td>
<td>2/27/2014</td>
<td>89.1</td>
</tr>
<tr>
<td>4943–Clara Drive (05-118 to 05-119)*</td>
<td>14</td>
<td>9/8/2011</td>
<td>9/29/2015</td>
<td>6.4</td>
</tr>
<tr>
<td>4946–Clara Drive (05-115 to 05-116)*</td>
<td>14</td>
<td>9/8/2011</td>
<td>9/29/2015</td>
<td>6.4</td>
</tr>
</tbody>
</table>

*Locations were observed to be clean on November 13, 2015.
**Timeframe based on time elapsed between the last documented cleaning and November 13, 2015.

Given the variety observed in the time elapsed since the last cleaning and the different plans for hot-spot cleaning provided by City representatives and the O&M Plan, it is unclear to the EPA Inspection Team how often the City should be performing hot-spot cleaning. In its field inspection, the EPA Inspection Team observed that some manholes and sewer segments inspected had large amounts of solids present, indicating a more frequent cleaning schedule may be appropriate; other areas were observed to be clean during the inspection, which may indicate a less frequent schedule would be appropriate.

Unique observations were rarely included in daily work logs or Cityworks to indicate the condition of the lines at the time of cleaning. There was no asset condition historian record or document, which could be used to provide data for modification of preventive maintenance practices. The field operator’s daily log sheets included guidance for classifying the amount and type of debris; however, the EPA Inspection Team observed that system did not appear to be being used in the field or work order documentation reviewed (refer to Appendix 2, Photographs 97 and 98).

During the Honeysuckle Drive site visit, the operators were working on locations from the “Week 3” and “Week 6” lists (both dated November 13, 2015). They explained that they work through the lists as they have time and do not necessarily go in order or complete the work in 6-week increments. A portion of the Week 6 list was marked as “Done.” The operators explained that these were locations cleaned during previous cleaning events; but it was unclear when the work had been completed, since the entries were
not dated. The operators at the Connecticut Avenue location were working from an assignment list for “Week 1” hot spots.

The City provided minutes from collection system maintenance progress meetings involving WPCA and OMI (refer to Appendix 11). The minutes from April 2015 indicate that one cycle of the City’s hot-spot cleaning started in November 2014 and took 10 weeks to complete. The following round of hot-spot cleaning was not initiated until March 2015.

As part of the inspection, the EPA Inspection Team visited manholes in the vicinity of the Bouton Street and Ely Avenue hot-spot locations. The City’s hot-spot inventory includes the segments between Manhole Nos. 16-14 and 16-15 (Bouton Street) and 16-11 and 16-12 (Ely Avenue).

The EPA Inspection Team observed grease and heavy, bulky debris in Manhole Nos. 16-15, 16-16.1, 16-16, 16-17, and 16-18.1 on Bouton Street, as well as in Manhole No. 16-13.1 on Ely Avenue (refer to Appendix 2, Photographs 23 through 32). Manhole Nos. 16-18 (Bouton Street; the furthest upstream observed) and 16-12.1 (Ely Avenue; the furthest downstream observed) were mostly free of grease. City representatives stated that manholes in the area had been cleaned approximately two weeks prior to the inspection, but it was unclear exactly which ones. City representatives stated multiple segments in the line had been jetted (not vacuumed), but there was no documentation to state exactly which ones, or if any unique conditions were observed. Based on the service request data provided by the City, at least 10 bypasses and backups had occurred on Bouton Street within 0.5 miles of the manholes observed (refer to Appendix 12) between February 25, 2010, and June 22, 2015. It was unclear why the City does not remove the material from the collection system and allows grease and heavy debris to build up in the sewer line.

City representatives stated that the sewer between Bouton Street and Ely Avenue travels under active railroad tracks, and has many operational protocol and accessibility restrictions. The City has had problems finding contractors with the proper experience and credentials to clean this length of sewer. The segment under the tracks was last cleaned by a contractor under a $42,600 Capital Improvement Plan (CIP) project in December 2013. This area has been selected for a hydraulic upgrade CIP project (projected to be completed in FY18–19), as discussed in Section II.J, below.

As part of the inspection, the EPA Inspection Team also visited a hot-spot area on Edgewater Place. City representatives stated that the area is a hot-spot for silt and has a history of overflows. The segment between Manhole Nos. 01-156 and 01-157, which runs along 2nd Street, is on the City’s hot-spot list.

City representatives stated that a local oyster fishing company, Norm Bloom and Son Copps Island Oyster, washes product at their business, located at the south end of Edgewater Place. City representatives stated that sewage, wash water, and general debris (e.g., silt and sand) from oyster cleaning is collected in a sump and pumped into the collection system. They stated that this results in a large amount of silt and sand accumulation in the lines in the vicinity. The EPA Inspection Team observed a large buildup of silt in three manholes between the business and the intersection of 2nd Street and New Street, which is located just downstream of the business’s sewer connection (refer to Appendix 2, Photographs 94 through 96). According to information provided by the City, the segment was last cleaned approximately 4.9 weeks prior to the inspection. It was unclear if the cleaning crew had cleaned any other segments (upstream or downstream) in the area during the activity.

The impacts (e.g., elimination of sewer line capacity and higher wear on pump components) from flushing sediment and debris downstream through other assets in the collection system were unclear and were not observed in documentation reviewed as part of the inspection. In addition, it was unclear if the City’s pretreatment program was evaluating the impacts of the oyster company’s wastewater discharge on the collection system with respect to the local sewer use ordinance.
F. Sewer-Related Complaints and City Response

City staff explained that complaint calls are typically received at the City’s centralized call center during business hours (i.e., Monday through Friday, 8:00 a.m. - 4:30 p.m.). According to City representatives, the call center operator logs pertinent information into Cityworks while the customer is on the phone. City representatives also stated that the service request template in Cityworks has drop-down menus, which help the call center operators identify issues and the proper departments to address them. Once a service request is issued, the reported problem is forwarded to the appropriate department for response.

In the case of a basement backup, the City responds by visiting the location to observe the conditions and to determine whether the stoppage was caused by the City’s sewer system or the homeowner’s sewer lateral or internal plumbing. If the stoppage is in the City’s sewer line, the City’s sewer maintenance crew typically uses one of the combination vacuum/jet trucks to clear the blockage.

Section 3.1.1 of the O&M Plan (refer to Appendix 4) provides flow charts showing the City’s protocols for receiving and responding to calls during normal business hours and after hours.

G. Water Pollution Control Facility

The WPCF was not a primary focus of the inspection; however, the EPA Inspection Team evaluated the City’s protocols for managing the facility during wet weather events.

The City’s WPCF has a design, dry-weather flow rate of 18 mgd. When influent flows exceed 30 mgd, the City is authorized to divert flow via an overflow weir to a wet-weather treatment train that consists of grit removal in the WPCF’s headworks, six drum-style microscreens, and chlorination for disinfection. The City does not dechlorinate discharges from its wet-weather treatment train. Two microscreens were out of service at the time of the inspection. The wet-weather flows are discharged through a different outfall (002-1) from the WPCF’s main discharge of sanitary sewage following secondary treatment (001-1).

Section 4 of the Arcadis report (refer to Appendix 3) states the following:

Currently, only the Supplemental Facility CSO/Weat Weather Preliminary Treatment System continues to be awarded the lowest risk ranking at the WPCF, a ranking of 2 (significant risk). The system, which originally consisted of 6 micro-drum screens, only has 4 operable micro-drum screens (since inception of the Agreement). Although the system screens are past their useful lives, OM&I continues to maintain and repair the units as needed to maintain system operations. This system has been identified by the WCPA for capital improvements within their 5-year capital planning program. Improvements have been planned for FY 2015-2016.

The EPA Inspection Team made similar observations during the site visit conducted on November 12, 2015 (refer to Appendix 1).

Section 4(A) of the 2005 Permit states the following:

Flows up to 30 million gallons per day must receive advanced treatment with denitrification followed by hypochlorite disinfection and bisulfite dechlorination prior to discharge to the Norwalk River through outfall number 001-1.

Section 9(A)(3) of the 2014 Permit states the following:

When influent flows exceed 30 MGD, in response to wet weather flow, i.e. rainfall or snowmelt conditions, the permittee is authorized to discharge from outfall serial number 002-1, chlorine-disinfected microscreen treated excess combined sewer wastewater.
According to City representatives, influent flow to the WPCF is pumped through the main lift pumps, which consist of six 141 mgd pumps at the facility headworks. Flow from the main lift pumps enters aerated grit chambers, and then flows to a junction box, where an overflow weir can direct flows into the wet-weather treatment train. Through discussions with City representatives, the EPA Inspection Team learned that the weir’s height is adjustable, but it was in a fixed position at the time of the inspection. They explained that it is not typically adjusted during wet weather.

A wet weather operations SOP, dated December 9, 2014, was posted at the main operations desk at the WPCF (refer to Appendix 2, Photograph 38). The wet-weather operations SOP referenced manual changes to be made to an influent flow control gate when influent flows reach 25 mgd and states the influent gate should initially be adjusted in 6-inch increments during wet weather, and then reassessed. Through discussions with City representatives, the EPA Inspection Team learned that the gate was in a fixed position at the time of the inspection, and that it is not typically adjusted during wet weather. City representatives stated that the set points controlling the overflow to the wet-weather treatment train had been calibrated and that none of the mechanical valves/weirs upstream of the overflow point are typically manipulated during wet weather.

Based on a review of SCADA trends for a wet-weather event occurring on October 29, 2015, it appeared as though flow to the WPCF was diverted to the wet-weather treatment train prior to the Permit-specified influent flow level of 30 mgd (refer to Appendix 2, Photographs 40 and 41). The EPA Inspection Team reviewed influent and wet-weather treatment flow trends via the SCADA monitoring station at the WPCF. The SCADA trends indicated that flow was sent to the wet-weather system and discharged through Outfall No. 002-1, even though the trend line labeled “Main Lift Pumps Discharge Flow” peaked at approximately 28.5 mgd. City representatives stated this trend line was indicative of the WPCF influent flow. Flow to the wet-weather treatment train peaked at approximately 10 mgd during the event. The operator’s log book kept in the control room indicated that the overflow to the wet-weather treatment train began at 1:15 a.m. and lasted until 3:00 a.m. (refer to Appendix 2, Photograph 42).

On January 6, 2016, City representatives provided EPA with a spreadsheet of SCADA data from the five most recent discharges from the wet-weather outfall. The spreadsheet indicates that the maximum influent flow on October 29, 2015, was 28.43 mgd at 1:40 a.m. The spreadsheet indicates that flow to the wet-weather outfall occurred between 1:20 a.m. and at least 2:50 a.m., with a maximum flow of 10.21 mgd at 1:50 a.m. The minimum influent flow indicated in the SCADA spreadsheet during this time is 27.92 mgd. In its email transmitting the SCADA spreadsheet, the City stated that, since the inspection, OMI had adjusted the storm weir gate to increase flow though full treatment during heavy storm events.

According to the operator’s log book, a wet-weather event occurred on August 11, 2015, when flow was discharged through the wet-weather outfall between 9:30 a.m. and 11:30 a.m. (refer to Appendix 2, Photograph 43). According to the spreadsheet provided to EPA by the City on January 6, 2016, the maximum influent flow during this time was 29.47 mgd; the minimum influent flow was 26.55 mgd. The maximum flow observed directed to the wet-weather outfall was 17.12 mgd at 9:30 a.m.

II. Siphons

The Ann Street Siphon, located upstream of the WPCF fence line, has an emergency outfall. Discharges from the structure are considered bypasses and are to be reported to CTDEEP. The bypass information provided by CTDEEP contained three reported bypasses from the structure (one in 2011 and two in 2012). The siphon chamber is equipped with a level sensor, although City representatives noted that it had been dislodged (and subsequently replaced) in 2011 and in 2012.

A wet weather operations SOP for the Ann Street Siphon was posted at the main operations desk at the WPCF (refer to Appendix 2, Photograph 39). The SOP is also included in the O&M Plan (Appendix 4).
The SOP requires operators to monitor SCADA trends for the siphon and to inspect the siphon overflow structure when the water level in the upstream siphon chamber reaches 8 feet. When SCADA indicates that the level of the water surface exceeds 9.4 feet, a bypass is considered to have occurred. It was unclear if an operator should have checked the siphon chamber during wet-weather events on August 11, 2015, and October 29, 2015; these events caused discharges from Outfall No. 002-1. No documentation regarding the Ann Street Siphon was included in the operators’ log book for either event. It was unclear if the water surface level in the chamber reached 8 feet or if the information would be documented anywhere else.

As part of the inspection, the EPA Inspection Team visited the Ann Street Siphon and observed infiltration into the siphon chamber from the Norwalk River through overflow pipes (refer to Appendix 2, Photographs 102 and 103). The infiltration at the time of the inspection was estimated to be approximately 10 gpm at 10:55 a.m.; high tide on November 13, 2015, in South Norwalk harbor was at 12:02 p.m. The source of the water flowing into the siphon chamber could not be confirmed due to the level of the Norwalk River and the architectural lattice hiding the siphon’s overflow pipes. City representatives stated that the source of infiltration was likely the tide gates on the overflow pipes. The list of collection system CIP projects provided by the City indicated that the chamber had been rehabilitated in 2007, including the replacement of the tide gates (refer to Appendix 13).

A review of the Ann Street Siphon annual inspection work order (generated in Maintenance Connection; refer to Appendix 14) indicated that the annual inspection had been marked as completed; however, there were no field activity dates or times documented on the completed form. The boxes associated with individual tasks, one of which (Task #90) requires the recording of “all time, date, and issues found on the work order,” were checked as completed. The labor section of the work order only contained the prepopulated data from the Maintenance Connection system. In addition, there was no requirement on the work order that the annual inspection be conducted during high tide or high river conditions in order to evaluate the possibility for inflow from the Norwalk River.

During a field visit to the Merrill’s Lane Siphon, City team members were unable to locate the manhole over the upstream chamber. Later in the day, the City was able to locate the manholes, which were buried under mulch, with a metal detector. It was unclear how often the asset was being inspected and maintained.

I. Inflow and Infiltration (I/I) Removal

Section 9(A)(5) of the 2005 Permit and Section 9(A)(9) of the 2014 Permit state the following:

*The permittee shall reduce excessive infiltration/inflow to the sewer system.*

Through conversations with City representatives and a review of information provided at the time of the inspection, the EPA Inspection Team observed that the City had completed numerous sewer rehabilitation projects and point repairs in an effort to eliminate I/I and to reestablish wet-weather capacity in some areas of the collection system. City representatives explained that in the years prior to the inspection, average annual influent flows to the WPCF were above 14 mgd, but at the time of the inspection, the average annual flow had been lowered to approximately 12.7 mgd.

City representatives provided several examples of past projects aimed at decreasing I/I. For example, the City had completed sewer improvements to the Beacon Street Interceptor in the summer of 2015. The City also performed sewer rehabilitation in the Westport Avenue Sewershed in 2007. The City provided a list of completed past and proposed future Collection System Projects, which includes proposals for general sewer rehabilitation as well as specific project targeted at restoring capacity (e.g., along the East Avenue Interceptor; refer to Appendix 15).
Even though the City had taken steps to reduce and eliminate I/I in some areas, City representatives stated that the City is foregoing I/I rehabilitation efforts and sewer separation in some remaining combined-sewer areas (e.g., the older downtown area) in favor of treating stormwater at the WPCF.

J. Capital Improvement Program (CIP)

The City’s Capital Budget Summary for FY 2014-15 through FY 2019-20 is included in Appendix 13. The City has projected just under $22 million for WPCF and collection system CIP projects between FY 2014-15 and FY 2015-20. Projects proposed in that time period include pump station upgrades and replacement, WPCF lift station replacement, Ely Avenue and Bouton Street hydraulic repair, collection system rehabilitation, supplemental treatment upgrade, and a solids handling facility. City representatives explained that the projects are aimed at mitigating known problem areas and replacing aging and outdated assets.

City representatives stated that the City began assigning Pipeline Assessment and Certification Program (PACP) ratings to pipes based on CCTV inspections in 2014, documenting the data in Cityworks. They also stated that the data is used to assist in the evaluation of areas for CIP purposes and that pipeline condition data exists in different formats for inspections conducted as far back as the year 2000. Furthermore, they stated that the City has also used CCTV recently to benchmark the condition of sewer cleaning hot-spot areas and that they consider hot-spot areas when planning CIP projects. For example, according to City representatives, sewer lines in the Bouton and Ely Avenue vicinity are hot-spots for grease, and have been targeted for hydraulic upgrades.

For FY2015-16 and FY2016-17, no Collection System Rehabilitation capital budget is provided for collection system projects besides the Ely Avenue and Bouton Street Hydraulic Repair.

The Capital Budget Summary provides a total of $2,500,000 in FY 2014-15 and FY 2016-17 for Supplemental Treatment Upgrades. It is not clear if this refers to the wet weather treatment system at the WPCF; City representatives did not state that any improvements to this system were planned.

The Collection System Projects Table (Appendix 15) shows a slightly different projection of collection systems projects than the Capital Budget Summary.

The East Avenue Interceptor project described in the Collection System Projects Table (proposed for FY2017-2018 and estimated to cost $1,000,000) does not appear in the Capital Budget Summary, although a $1,000,000 is provided for unspecified Collection System Rehabilitation for FY 2017-18.

The Sanitary Sewer Rehabilitation (Various Priority) and Marvin Beach PS FM Replacement Project described in the Collection System Projects Table for 2016-17 does not appear in the Capital Budget Summary.

The Keeler Brook Pump Station upgrade projected for FY 2018-19 in the Capital Budget Summary does not appear in the Collection System Project Table.

K. Collection System Bypasses and Sanitary Sewer Overflows

Section 1(B) of the 2005 Permit and the 2014 Permit incorporates, by reference, Section 22a-430-3 of the Regulations of the Connecticut State Agencies (RCSA). Section 22a-430-3(k) of the RCSA states the following:

(1) The permittee shall not at any time bypass the collection system or treatment facilities or any part thereof unless...
(A)(i) such bypass is unanticipated, unavoidable, and necessary to prevent loss of life, personal injury or severe property damage, and (ii) there were no feasible alternatives to the bypass, including but not limited to the use of auxiliary or back-up treatment facilities, retention of untreated wastes, stopping the discharges, or maintenance during normal periods of equipment down-time; or

(B) the permittee receives prior written approval of the bypass from the commissioner in order to perform essential maintenance, and the bypass does not cause effluent limitations to be exceeded. The commissioner may impose any condition on such an approval which he or she deems necessary to protect the waters of the state, including but not limited to requirements for special monitoring or reductions in the release of pollutants and water to the treatment system.

... 

(4) If any bypass occurs or may occur, the permittee shall, within two hours of becoming aware of such condition or need, notify the director during normal business hours (566-3245), and the department’s Emergency Response Unit at all other times (566-3338) and submit within five days a written report including the cause of the problem, duration including dates and times and corrective action taken or planned to prevent other such occurrences. In addition, if the permittee has reason to believe that any effluent limitation specified in the permit may be violated, the permittee shall immediately take steps to prevent or correct such violation, including but not limited to employing an alternative scheme of collection or treatment, and/or control the production of the wastewater and shall monitor and record the quality and quantity of the discharge in accordance with the permit terms and conditions or an approved alternative schedule. Such monitoring shall be submitted with the next monitoring report required by the permit, and shall not be used to meet the routine monitoring requirements of the permit.

Appendix I of the City’s O&M Plan includes a bypass-reporting SOP, which describes the CTDEEP definitions of a collection system and sewage treatment facility bypass (refer to Appendix 4).

CTDEEP maintains a database of bypass reports. Prior to the inspection, the EPA Inspection Team obtained a list of all bypasses present in CTDEEP’s database for the period between November 23, 2010, and September 8, 2015. One-hundred-twenty-nine (129) bypasses were listed in the CTDEEP database. Of these, 96 were in the sewer collection system, not at the WPCF. Appendix 16 provides a list of bypasses in Norwalk, filtered by the EPA Inspection Team to show only collection system bypasses.

Sixteen (16) bypasses included notes regarding wet weather as the cause of the bypass. Appendix 17 provides a list of bypasses in Norwalk, filtered by the EPA Inspection Team to show only collection system bypasses with wet weather included as a cause.

The City provided a list of service calls received at its call center between January 6, 2010, and September 8, 2015 (refer to Appendix 12). The list included 126 entries identified as bypasses, including at least 14 entries that did not appear to be included in the data provided by CTDEEP. The service request entries included problems described as “SEWER-BACKUP,” “SSO_BYPASS,” “LATERAL BACKUP,” and “OMI-MISC.” It was unclear if the 14 additional events had been reported appropriately. The 14 service request bypasses that were not included in the CTDEEP database are summarized in Table 4, below.
Table 4. Bypasses Included in City Service Requests and not in CTDEEP Bypass Database

<table>
<thead>
<tr>
<th>Problem</th>
<th>Address</th>
<th>Date Initiated</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEWER-BACKUP</td>
<td>35 Pine Point Rd.</td>
<td>03/29/2015</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>35 Pine Point Rd.</td>
<td>03/27/2015</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>1 MacIntosh Rd.</td>
<td>03/17/2015</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>261 Ely Ave.</td>
<td>03/17/2015</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>14 Westport Ave.</td>
<td>03/15/2015</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>228 Fillow St.</td>
<td>09/19/2015</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>2 Oak St.</td>
<td>07/23/2014</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>26 Loundsbury Ave.</td>
<td>05/21/2014</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>261 Ely Ave.</td>
<td>12/26/2013</td>
<td>Bypass</td>
</tr>
<tr>
<td>SSO_BYPASS</td>
<td>38 Bouton St.</td>
<td>08/12/2013</td>
<td>Bypass</td>
</tr>
<tr>
<td>SSO_BYPASS</td>
<td>16 Washington St.</td>
<td>06/04/2012</td>
<td>Bypass</td>
</tr>
<tr>
<td>SEWER-BACKUP</td>
<td>345 Main Ave.</td>
<td>02/08/2012</td>
<td>Bypass</td>
</tr>
<tr>
<td>LATERAL BACKUP</td>
<td>188 South Main St.</td>
<td>05/25/2011</td>
<td>Bypass</td>
</tr>
<tr>
<td>SSO_BYPASS</td>
<td>3 Ryan Ave.</td>
<td>04/19/2011</td>
<td>Bypass</td>
</tr>
</tbody>
</table>

The City provided a list of service requests from January 1, 2015, through November 20, 2015, which resulted in work orders being generated to mitigate the results of a bypass (refer to Appendix 18). The list included one additional bypass (note that the date range for this dataset extended further than the CTDEEP database), occurring at 1 Gray Rock Road on November 14, 2015.