



## TECHNICAL COMMITTEE MEETING MINUTES

Wednesday, April 12, 2023

4:30PM

Via VIDEO/TELECONFERENCE

### Attendees:

|                   |                                    |
|-------------------|------------------------------------|
| Merritt Nesin     | Chairman, Technical Committee      |
| Ed Kelly          | Committee Member                   |
| Steve Bagwin      | Committee Member                   |
| William Brink, PE | Executive Director, WPCA           |
| Ann Brown, P.E.   | Supervising Engineer, WPCA         |
| Robert Pudelka    | Plant Supervisor, WPCA             |
| Steve Pietrzyk    | Collection System Supervisor, WPCA |
| Brian Teitelbaum  | Stamford Resident                  |

1. **Call to Order and Roll Call** – M. Nesin called the meeting to order at 4:30PM and announced the attendees as listed above.

**Approval of February 15, 2023 and March 15, 2023 Meeting Minutes** - E. Kelly made a motion to approve the minutes of the February 15, 2023 Technical Committee Meeting; seconded by S. Bagwin. Motion carried 3-0-0. S. Bagwin made a motion to approve the minutes of the March 15, 2023 Technical Committee Meeting; seconded by M. Nesin. Motion carried 2-0-1.

2. **Public Comments** – None
3. **Discussion on Site Visit to Camden County Municipal Utilities Authority (CCMUA)** – WPCA staff and Technical Committee Chairman Merritt Nesin visited the CCMUA. M. Nesin stated that the plant is a 60 MGD facility with 4 digesters. The gas produced from the digesters is used to run the pumps. If WPCA constructed digesters, they would use the gas to run the sludge dryer. He asked if we would have enough gas production to run the dryer. W. Brink thought we would but said our engineers, Hazen, would answer that question. We will have Hazen prepare a responses to the following questions that were discussed:

Will we have enough gas production to run the dryer?

Our dryer runs 5 days/week, not 7. Will we be able to store 2 days of gas?

What is the estimated cost to construct digesters?

Do we have space on-site for the digesters?

W. Brink said that a digester will reduce the volume of sludge by almost half therefore, the dryer has capacity. No one knows what will happen with PFAS requirements which will determine sludge disposal.

4. **Discussion on Sludge Dryer Service Contract with Synagro expiring on March 3, 2024** – W. Brink indicated that the contract with Synagro expires next year and we have begun discussions on contract renewal. WPCA went through the RFQ process for the last contract with one other bidder besides Synagro responding to the RFQ. He said that the Synagro prices have increased and he would like to ask for justification for the increases and details of their markup. M. Nesin and E. Kelly said they wished there were more vendor options that would provide an alternative to Synagro.

5. **Discussion on Collection System** – S. Pietrzyk provided a summary of the Monthly Pump Station and Collection Systems Activities, which is attached and made part of these minutes. He outlined the breaks in the 10" force main from Saddle Rock Rd pump station over the years. WPCA will have a firm analyze the pipe that was removed where the break occurred to see if the condition of the entire force main can be determined.
6. **Discussion on Plant Operations** - R. Pudelka reviewed the Monthly Operating Report and Equipment Update with the Committee, which is attached and made part of these minutes. He stated that a temporary 1,000kW emergency generator is in place until the fuel pump on the standby generator can be replaced. The new fuel pump is scheduled to arrive in 3 weeks.
7. **Update on Engineering Studies and Designs** - A. Brown provided the committee with a Capital Projects Update including engineering studies and designs, which is attached and made part of these minutes.
8. **Update on Construction Projects** - A. Brown provided the committee with a Capital Projects Update including construction projects, which is attached and made part of these minutes.
9. **Old Business** – None
10. **New Business** – None

There being no further issues to discuss, E. Kelly made a motion to adjourn the meeting, seconded by S. Bagwin; motion carried 3-0-0. the meeting adjourned at 5:36pm.

## Monthly Activities (03/14/23 to 04/11/23)

### Collection and Pump Station Division

#### Overview of Pump Station and Gravity Collection Systems:

1. Pump station inspections for 22-sanitary sewer and 4-stormwater stations (154)
2. Pump station call-out activities (9)
3. Manhole Inspections (156)
4. Gravity line service calls investigated (7)
5. Private lateral investigations and repairs in City ROW (2)
6. Sewer line repair (1)
7. Manhole repair(s) (36)
8. CCTV sanitary sewer lines (0 LF)
9. Sewer line cleaning (1.52 miles)

#### Pump Stations:

1. Performed monthly landscape maintenance activities at pump stations.
2. Exercised portable generators.
3. Performed electrical preventative maintenance inspections at various pump stations.
4. Crew replaced and installed new sump pump at Cummings pump station.
5. Crew worked with Cook to have grease vacuumed from the wet well at Alvord Lane pump station (twice) and Commerce pump station
6. Crew pulled pump #1 from Alvord Lane pump station; removed rag materials and installed new mechanical seal;
7. Crew and electrician field reviewed Alvord Lane, Commerce, and Saddle Rock pump stations with Tighe and Bond staff.
8. Crew worked with Vitti Construction to contain a break in the 10" diameter ductile iron force main at 278 Ocean DR. West, until repair was completed.
9. Crew met with vendors for proposed pump repairs at Cummings pump stations.
10. Crew gathered additional information for Tighe and Bond regarding Alvord, Commerce and Saddle Rock.
11. Crew provided access and assistance to Kone crane for annual inspections of station's overhead cranes and equipment.
12. Crew provided access and assistance to Tighe and Bond at Alvord Lane and Commerce pump station so that these facilities and/or certain structures at these stations could be digitally scanned and measured.

#### Collection System:

1. Crew jetted lines on the easement between Ledge Lane and Autumn Lane; Edice RD.; and High Ridge RD., Ralsey RD., Stamford Ave., Stillwater Ave., Haig Ave., Summer ST. Ext., Main ST.
2. Crew witnessed sanitary sewer lateral tie-in connection to main sewer line at 25 Ponus Ave.
3. Crew witnessed sanitary sewer lateral tie-in connection to main sewer line at 777 Summer ST.
4. Crew removed a section of abandoned force main from MH-4336 for preparation of gravity line that needs to be replaced between MH-4332 and MH-4336;
5. Crew worked with Vitti Construction to contain a break in the 10" diameter ductile iron force main at 278 Ocean DR. West, until repair was completed.
6. Crew verified 19 Carter DR. has properly disconnected sump pump discharge via private sanitary sewer lateral.
7. Crew verified 82 Virgil ST. roof leader and sump pump discharges into stormwater system.

**Training:**

1. Training two (2) new mechanics in training (MITs) on pump station and collection system work related activities and use of the computer maintenance and management system (CMMS).

**Miscellaneous:**

1. Continue to work with CDMSmith on the GIS upgrade project.
2. Provided sanitary sewer plan sheet information to various civil engineers and/or contractors working on City development projects.
3. Participated in the sanitary sewer rehabilitation kick-off meeting with Ann Brown, CDMSmith, and National Water Main.
4. Worked with City's legal counsel in reviewing reimbursement claims against the City regarding damaged private laterals in City Row and/or property damages associated with private laterals damaged in the ROW and/or public sanitary sewer lines.

**Overview of Regulatory Compliance:**

1. Initial building permit reviews (13)
2. Re-review of building permit applications (16)
3. Sanitary sewer tie-in plan reviews (4)
4. Zoning permit application reviews (2)
5. Initial Food Service Establishment (FSEs) Inspections (85)
6. FSE Follow-up Inspections (0)
7. Notice of violations (NOVs) Issued (0)
8. CTDEEP General Permit plan reviews or applications (0)

**Work performed by outside contractors:**

1. Vitti Construction completed private lateral repair in City ROW; 61 Atlantic ST.
2. Vitti Construction completed emergency manhole repairs for 68 Ralsey RD.; 51 and 55 Ralph ST.
3. Vitti Construction replaced 13 linear feet of 10" diameter ductile iron force main pipe for Saddle Rock pump station near 278 Ocean Drive West. To date, there have been six (6) force main breaks and repairs along the 1,927 LF force main (Fig. 1.0) between 2003 and 2023.
4. Onevac assisted WPCA and Vitti in controlling wastewater flows at Saddle Rock pump station for the force main repair.
5. Vitti Construction completed private lateral repair in City ROW; 83 Sea Beach DR.
6. Cavaliere completed manhole repairs (33) for local roadways scheduled for milling and paving later this year. These include: ST. Benedict ST. Circle, Fieldstone RD., Fieldstone Terrace, Fieldstone Circle, Ocean DR. East, Sagamore RD., Stamford Ave., Ralsey RD., Ralph ST., Downs Ave., Houston Terrace, Charles ST.
7. Cook vacuumed grease from wet wells at Alvord Lane, Commerce ST., and Greenwich Avenue pump stations.
8. Northeast Generator replaced belts on standby generator at Alvord Lane.
9. Kone crane completed annual overhead crane and equipment inspections at Cove Island, Carter Drive, Cummings, West Beach, Alvord Lane.

## Saddle Rock Force Main (Approximately 1,927 LF of 10" Diameter Ductile Iron Pipe)

Located between Saddle Rock Pump Station and 176 Ocean Drive West.

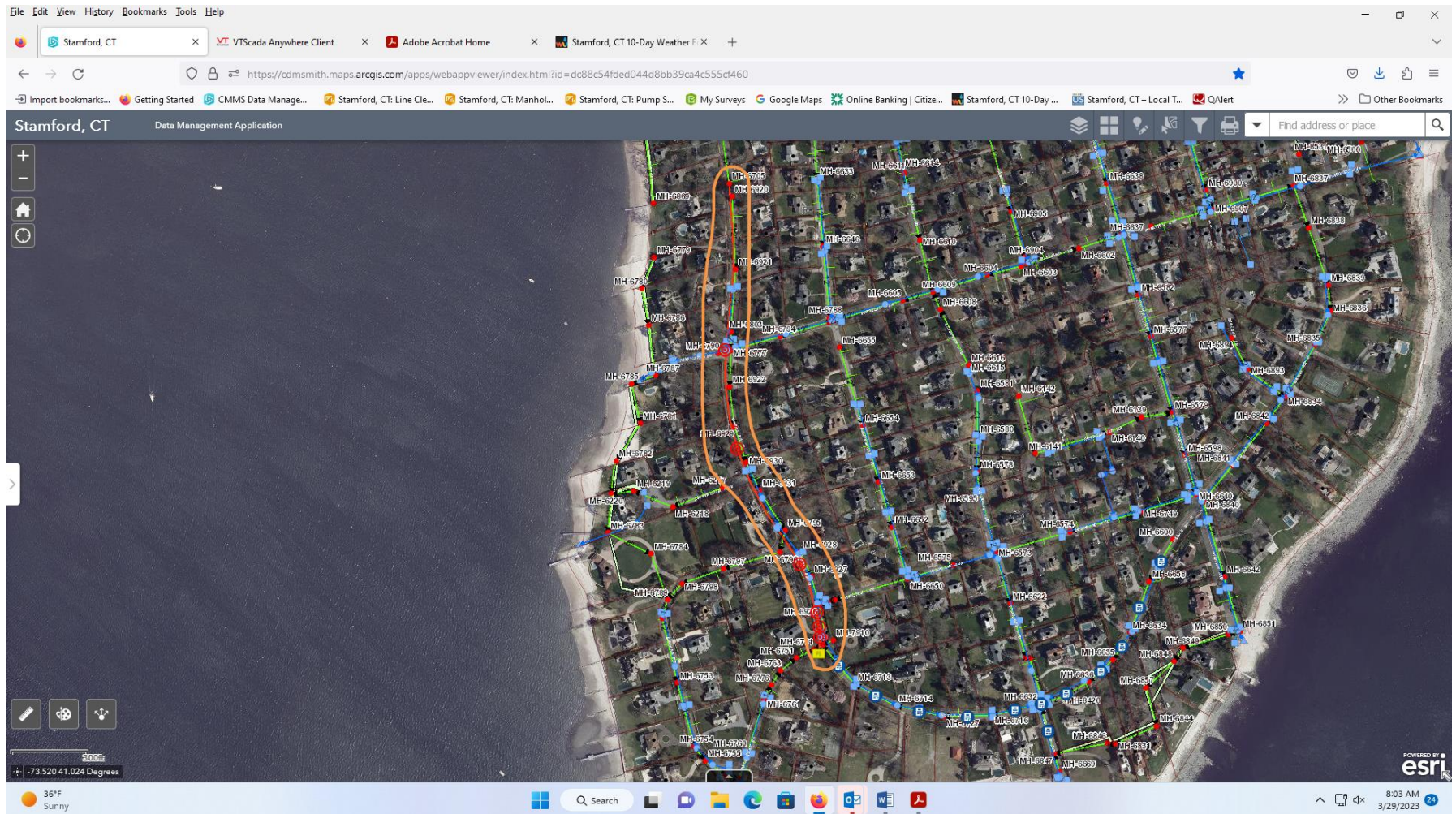


Fig. 1.0 General Location of the Six (6) Force Main Breaks and Repairs Completed between 2003 and 2023.



## APRIL 2023 TECHNICAL COMMITTEE REPORT

| Monthly Operating Report data: | MARCH Results         |                     |                                       | Permit Limit      |
|--------------------------------|-----------------------|---------------------|---------------------------------------|-------------------|
|                                | This month<br>(MARCH) | Last month<br>(FEB) | Historical<br>MARCH<br>Monthly<br>AVG |                   |
| Q (FLOW) DAILY AVG MGD         | 16.9                  | 14.7                | 18.4                                  | 24 MGD DESIGN AVG |
| Q PEAK FLOW RATE MGD           | 27.6                  | 23.2                | 42.3                                  | 58 MGD MAX AVG    |
| BOD INFLUENT AVG MG/L          | 222                   | 254                 | 191                                   |                   |
| BOD INFLUENT AVG LBS/D         | 31,290                | 31,140              |                                       |                   |
| BOD EFFLUENT AVG MG/L          | 3                     | 3                   | 6                                     |                   |
| BOD EFFLUENT MAX MG/L          | 6                     | 3                   |                                       | 20 mg/L           |
| BOD REMOVAL %                  | 98.8                  | 98.9                | 96.3                                  | 85%               |
| TSS INFLUENT AVG MG/L          | 311                   | 364                 | 249                                   |                   |
| TSS INFLUENT AVG LBS/D         | 43,834                | 44,626              |                                       |                   |
| TSS EFFLUENT AVG MG/L          | 5                     | 6                   | 13                                    |                   |
| TSS EFFLUENT MAX MG/L          | 9                     | 8                   |                                       | 20 MG/l           |
| TSS REMOVAL %                  | 98.3                  | 98.2                | 93.7                                  | 85%               |
| TOTAL N INFLUENT AVG MG/L      | 27.4                  | 32.2                | 29.7                                  |                   |
| TOTAL N INFLUENT AVG LBS/D     | 3862                  | 3948                | 4398                                  |                   |
| TOTAL N EFFLUENT AVG MG/L      | 2.45                  | 2.25                | 3.63                                  |                   |
| TOTAL N EFFLUENT LBS/D         | 344                   | 277                 | 586                                   | 926 LBS/D         |
| N REMOVAL %                    | 91.1                  | 93.0                | 86.2                                  |                   |
| TOTAL P INFLUENT AVG MG/L      | 3.63                  | 5.13                | 3.93                                  |                   |
| TOTAL P EFFLUENT AVG MG/L      | 0.19 *                | 0.21 *              | 0.6                                   |                   |
| P REMOVAL %                    | 94.8 *                | 95.9                | 83.7                                  |                   |
| UV EXCEEDANCES <30 mJ/cm2      | 0                     | 0                   |                                       |                   |

\* Tied or surpassed best historical performances for the month \*

### Plant Equipment Update

|             |  |
|-------------|--|
| Blower #2   | Motor bearing, sent out for warranty repair        |
| RSPS #2     | Obstruction in suction line                        |
| RAS Pump #2 | VFD replaced by Flowtech                           |
| Mixer       | Train 2 primary anoxic zone damaged cable          |
| STP Line    | Jetted two times to clear blockages.               |
| Skalar      | Nitrogen lab testing equipment - warranty issue    |
| Safety      | Horn and Strobe installed in RSPS basement for H2S |



**UPDATE OF CAPITAL PROJECTS  
TECHNICAL COMMITTEE MEETING  
April 12, 2023**

**UPDATE ON ENGINEERING STUDIES AND DESIGNS:**

**1. Infiltration Inflow Study**

Pre-Construction meeting was held with National Water Main Cleaning Co. Contractor. They are submitting shop prints for approval.

**2. Sludge Management Plan**

WPCA visited the Camden County Municipal Utilities Authority (CCMUA). CCMUA has three dryers and four sludge digesters. This is an item on the agenda for discussion.

**3. Plant Water, Return Activated Sludge (RAS) and Waste Activated Sludge (WAS)**

We met with Gannett Fleming (GF) to review the Basis of Design report. They will finalize the report to reflect discussions with WPCA. GF will submit a proposal and updated schedule for the design phase. The design period will be about 6 months. We anticipate bidding next spring.

**4. RFQ for Evaluation of the Alvord Lane, Commerce Rd and Saddle Rock Pump Stations**

Tighe and Bonds has begun investigating the pump stations for the Basis of Design report for each pump station. The investigations/site visits are ongoing.

**5. RFP for the Design and Supply of a Standby Generator at Clay Hill Pump Station**

Submitting a revised technical specification to purchasing to advertise for bids.

**6. Perna Lane, Phase I Collection Sewers**

We met with Tighe & Bond to review the Basis of Design report. They are working on the design of the system and pump stations based on discussions with WPCA.

**7. RFP for Architectural Services for New Building for Collection System Staff and SWPCF Existing Locker Room Renovations**

Issuing a RFP for architectural services to design a small building for the collection system staff and the electricians - 12 employees. This RFP will include renovations for the existing locker room at the administration building. Advertisement date is 4/20.

**8. Structural Evaluation of the Columns in the Sludge Dewatering Building**

Received the report and design drawings for the repair of the columns. Preparing bid documents for the repair.

**9. Bid for Repair of Storm Water Pumps #1 and 3 at Cummings Pump Station**

WPCA advertised for bids to repair storm water pumps #1 and 3 at the Cummings Pump Station. A walk-thru was held 3/30. Two firms attended. The bids are due 4/20.

**10. Bid for Painting of Final Clarifiers # 1, 2 and 4**

Preparing bid documents for painting of Final Clarifiers No. 1, 2 and 4.



**UPDATE ON CONSTRUCTION PROJECTS:**

**1. Design-Build Standby Generator for the Greenwich Ave. Pump Station**

Will rebid the purchase and installation of a generator for Greenwich Ave pump Station. We received the controls from the contractor and will advise in the bid that the controls will be provided by the WPCA.

**2. Preliminary, Secondary and Disinfection Treatment Improvements**

Proceeding with closeout of the project.

**3. Electrical Preventive Maintenance / Arc Flash**

WPCA is scheduling a meeting with Siemens and Tighe & Bond to review the information submitted and discuss what additional information is required.

**4. Sludge Degritting System Upgrade**

Project is in the submittal phase. We expect construction to begin in spring.

**Change Order Log as of 4/11/2023**

Copy of Change Order log for construction projects is attached. No changes.

Preliminary, Secondary and Disinfection Treatment Improvements (Contractor – CH Nickerson)

|                              |                  |
|------------------------------|------------------|
| Original Value of Contract = | \$ 26,751,500.00 |
| Total Approved CO Amount =   | \$ 3,703,000.43  |
| Contract Sum to Date =       | \$ 30,454,500.43 |
| Percent of total project =   | 13.8%            |

Sludge Degritting System Upgrade (Contractor – CH Nickerson)

|                                  |                 |
|----------------------------------|-----------------|
| Original Value of the Contract = | \$ 8,908,350.00 |
| Total Approved CO Amount =       | \$ 0            |
| Contract Sum to Date =           | \$ 8,908,350.00 |



Stamford WPCF Preliminary, Secondary and Disinfection Treatment Improvements  
Change Order Summary

| CHN PCCOR No. | CHN PCCOR Date | Description   | Contractor Amount | Status   | PCO             |                       |                         |                       |                |               | RFI        |             | RFP       |             | WCD        |                    |
|---------------|----------------|---|-------------------|----------|-----------------|-----------------------|-------------------------|-----------------------|----------------|---------------|------------|-------------|-----------|-------------|------------|--------------------|
|               |                |   |                   |          | Included in CO# | Total Approved Amount | Approved to Preliminary | Approved to Secondary | Approved to UV | Approved Date | No.        | Date Issued | No.       | Date Issued | No.        | Date Issued        |
| NA            | NA             | Replace the Issue for Bidding Specification Sections 00520 - Agreement and 00800 - Supplementary Conditions with the Attached Specifications  | \$ -              | Approved | 1               | \$ -                  |                         |                       |                |               | 5/10/2019  |             |           |             |            |                    |
| 01 (rev)      | 6/21/2019      | Programming Services Provider / Integration Services - Revised  | \$ 194,922.00     | Approved | 2               | \$ 194,922.00         | \$ 48,340.00            | \$ 110,000.00         | \$ 36,582.00   |               | 7/9/2019   |             |           |             |            |                    |
| 02 (rev)      | 1/20/2020      | Additional Plank Support Framing & Planking at UV Basin 1 Outfall   | \$ 35,257.23      | Approved | 3               | \$ 35,257.23          |                         |                       | \$ 35,257.23   |               | 2/27/2020  |             |           | H-01        | 11/19/2019 |                    |
| 03 (rev)      | 10/25/2020     | Changes to Moment Connection at UV Canopy   | \$ 4,076.36       | Approved | 3               | \$ 4,076.36           |                         |                       | \$ 4,076.36    |               | 12/12/2019 | H-019       |           |             |            |                    |
| 05            | 11/18/2019     | UV Pilasters  | \$ 2,689.46       | Approved | 3               | \$ 2,689.46           |                         |                       | \$ 2,689.46    |               | 11/19/2019 |             |           |             |            |                    |
| 09            | 1/28/2020      | Remove and Reinstal drain piping and electrical conduionboxes in Blower Room to install new fire rated wall. Plans did not call for this work | \$ 28,473.69      | Approved | 3               | \$ 28,473.69          |                         | \$ 28,473.69          |                |               | 4/7/2020   |             |           |             |            | W-06<br>11/20/2019 |
| 11            | 2/21/2020      | Add spool pipe to Septage Area  | \$ 1,214.84       | Approved | 3               | \$ 1,214.84           | \$ 1,214.84             |                       |                |               | 2/27/2020  |             |           |             |            | W-03<br>11/20/2019 |
| 13            | 3/9/2020       | Additional Rebar at UV Basin 1  | \$ 21,447.91      | Approved | 3               | \$ 21,447.91          |                         |                       | \$ 21,447.91   |               | 3/15/2020  |             |           |             |            | H-01<br>12/18/2019 |
| 17            | 4/14/2020      | UV Power Panel Relocation   | \$ 23,740.56      | Approved | 3               | \$ 23,740.56          |                         |                       | \$ 23,740.56   |               |            | H-095       | 4/8/2020  |             |            |                    |
| 14            | 3/18/2020      | Relocate Generator and Modify Bridge Crane per Building Department Request  | \$ 83,080.40      | Approved | 4               | \$ 83,080.40          |                         | \$ 83,080.40          |                |               | 8/19/2020  |             |           |             |            |                    |
| 18            | 6/19/2020      | Replace Missing Hardware @ AT Bridges   | \$ 5,082.33       | Approved | 4               | \$ 5,082.33           |                         | \$ 5,082.33           |                |               | 8/19/2020  |             |           |             |            |                    |
| 19            | 7/14/2020      | Provide Additional Thin Client Licensing & Integrate Existing Mixers per City Request   | \$ 23,618.32      | Approved | 4               | \$ 23,618.32          |                         | \$ 19,287.40          |                |               |            |             |           |             |            |                    |
| 16            | 4/4/2020       | Credit for Redundant Breaker @ ATS  | \$ (17,296.74)    | Approved | 5               | \$ (17,296.74)        |                         | \$ (17,296.74)        |                |               | 9/23/2020  |             |           |             |            |                    |
| 21            | 8/7/2020       | Add External Breaker for RSP-2  | \$ 9,061.48       | Approved | 5               | \$ 9,061.48           | \$ 9,061.48             |                       |                |               | 9/23/2020  |             |           |             |            |                    |
| 24            | 8/26/2020      | Additional Tags for The GE Historian  | \$ 8,590.02       | Approved | 5               | \$ 8,590.02           | \$ 2,863.34             | \$ 2,863.34           | \$ 2,863.34    |               | 8/26/2020  | H-164       | 8/19/2020 |             |            |                    |
| 25            | 9/14/2020      | Replace UV Channel #3 Inlet Gate  | \$ 37,004.86      | Approved | 5               | \$ 37,004.86          |                         |                       | \$ 37,004.86   |               | 9/15/2020  |             |           | H-02        | 9/3/2020   |                    |
| 27            | 9/15/2020      | Install Missing Wiring to MX 60-6 & 60-12   | \$ 16,235.90      | Approved | 5               | \$ 16,235.90          |                         | \$ 16,235.90          |                |               | 9/23/2020  |             |           |             |            |                    |
| 28            | 9/15/2020      | New Sampler Location at UV  | \$ 5,232.89       | Approved | 5               | \$ 5,232.89           |                         |                       | \$ 5,232.89    |               | 9/17/2020  | H-154       | 9/8/2020  |             |            |                    |
| 29            | 9/22/2020      | Replace Missing WML support rods in Aeration tank 1-4E/4W   | \$ 4,869.75       | Approved | 5               | \$ 4,869.75           |                         | \$ 4,869.75           |                |               | 9/23/2020  |             |           |             |            |                    |
| 31            | 9/22/2020      | Test Soils for City Storage tent  | \$ 1,525.86       | Approved | 5               | \$ 1,525.86           |                         | \$ 1,525.86           |                |               | 9/23/2020  |             |           |             |            |                    |
| 20            | 8/21/2020      | Cut Sumps in Aeration Tank Floors   | \$ 37,083.78      | Approved | 6               | \$ 37,083.78          |                         | \$ 37,083.78          |                |               | 10/5/2020  |             |           |             |            |                    |

Stamford WPCF Preliminary, Secondary and Disinfection Treatment Improvements  
Change Order Summary

|          |            |  |               |          |   |               |              |               |  |            |           |          |      |            |  |  |
|----------|------------|--|---------------|----------|---|---------------|--------------|---------------|--|------------|-----------|----------|------|------------|--|--|
| 30       | 9/22/2020  | Add Cable Tray and Bus Supports  | \$ 57,017.98  | Approved | 6 | \$ 57,017.98  |              | \$ 57,017.98  |  |            | 12/2/2020 |          |      |            |  |  |
| 33       | 10/2/2020  | Replace Failing Straub Coupling (Existing)   | \$ 5,513.98   | Approved | 6 | \$ 5,513.98   |              | \$ 5,513.98   |  |            |           |          |      |            |  |  |
| 40       | 11/2/2020  | Add Supports to Existing Pipe in Blower room   | \$ 16,024.43  | Approved | 6 | \$ 16,024.43  |              | \$ 16,024.43  |  | 11/11/2020 |           |          |      |            |  |  |
| 36       | 10/28/2020 | Paint UV Steel Walkway at Basins 1 & 2 - Option 1                                      | \$ 12,145.53  | Approved | 6 | \$ 12,145.53  |              | \$ 12,145.53  |  | 12/2/2020  |           |          |      |            |  |  |
| 37 (rev) | 12/8/2020  | Trench Cover at Spare Parts Building   | \$ 25,055.44  | Approved | 7 | \$ 25,055.44  |              | \$ 25,055.44  |  | 12/17/2020 |           |          | H-03 | 10/5/2020  |  |  |
| 41 (rev) | 12/8/2020  | Canopy Extension and Davit Crane   | \$ 36,975.66  | Approved | 7 | \$ 36,975.66  |              | \$ 36,975.66  |  | 12/17/2020 |           |          | H-05 | 10/22/2020 |  |  |
| 42 (rev) | 12/8/2020  | Maintenance Access at UV Electrode Sensors   | \$ 16,475.43  | Approved | 7 | \$ 16,475.43  |              | \$ 16,475.43  |  | 12/17/2020 | RFI-159   | 8/4/2020 |      |            |  |  |
| 44       | 12/22/2020 | Electrical Power in Spare Parts Building   | \$ 13,554.20  | Approved | 7 | \$ 13,554.20  |              | \$ 13,554.20  |  | 1/8/2021   |           |          | H-04 | 10/22/2020 |  |  |
| 43       | 1/11/2021  | Relocate Fire Alarm Conduit Around Door 1010c  | \$ 5,410.15   | Approved | 7 | \$ 5,410.15   | \$ 5,410.15  |               |  | 1/6/2021   |           |          |      |            |  |  |
| 45       | 1/11/2021  | Increase Conduit Size to CP-11   | \$ 1,191.24   | Approved | 7 | \$ 1,191.24   | \$ 1,191.24  |               |  | 1/12/2021  |           |          |      |            |  |  |
| 48       | 1/21/2021  | Add Bearing Cooling Water Gfeed to Influent Pumps                                      | \$ 16,267.28  | Approved | 8 | \$ 16,267.28  | \$ 16,267.28 |               |  | 3/1/2021   |           |          |      |            |  |  |
| 49       | 1/29/2021  | Unforeseen Below Grade Conditions @ RSPS   | \$ 19,244.40  | Approved | 8 | \$ 19,244.40  | \$ 19,244.40 |               |  | 3/1/2021   |           |          |      |            |  |  |
| 46       | 4/8/2021   | Demo Existing Embed at New Channel #3  | \$ 5,163.56   | Approved | 9 | \$ 5,163.56   |              | \$ 5,163.56   |  | 5/2/2021   |           |          |      |            |  |  |
| 50 (rev) | 2/3/2021   | (RFI-196) Heat Trace and Insulate 2" CW  | \$ 4,734.43   | Approved | 9 | \$ 4,734.43   |              | \$ 4,734.43   |  | 5/26/2021  |           |          |      |            |  |  |
| 52       | 3/15/2021  | Control Mods to Ex. NRCY Pumps to Meet Code  | \$ 2,924.08   | Approved | 9 | \$ 2,924.08   |              | \$ 2,924.08   |  |            |           |          |      |            |  |  |
| 53       | 3/15/2021  | Add EXP Motor to OH Door at RSPS   | \$ 2,815.39   | Approved | 9 | \$ 2,815.39   | \$ 2,815.39  |               |  |            |           |          |      |            |  |  |
| 54       | 3/15/2021  | Relocate HVAC Duct to Install Pump VFDs  | \$ 1,670.90   | Approved | 9 | \$ 1,670.90   | \$ 1,670.90  |               |  |            |           |          |      |            |  |  |
| 55       | 4/8/2021   | Assist in Opening Gate 5030  | \$ 3,710.78   | Approved | 9 | \$ 3,710.78   |              | \$ 3,710.78   |  | 5/2/2021   |           |          |      |            |  |  |
| 56       | 4/9/2021   | Separate Power/Control on Existing Mixer and Pumps to Maintain Curent Code Complaiance | \$ 19,078.76  | Approved | 9 | \$ 19,078.76  |              | \$ 19,078.76  |  |            |           |          |      |            |  |  |
| 57       | 4/9/2021   | Add Missing Wiring to New Ammonia Air Blast Kits                                       | \$ 9,299.78   | Approved | 9 | \$ 9,299.78   |              | \$ 9,299.78   |  |            |           |          |      |            |  |  |
| 58       | 4/9/2021   | Delete UPS's @ Blower LCPs   | \$ (2,057.30) | Approved | 9 | \$ (2,057.30) |              | \$ (2,057.30) |  |            |           |          |      |            |  |  |
| 60       | 4/20/2021  | Emergency repair Assistance - Failed Gate at Primary DBox                              | \$ 8,483.32   | Approved | 9 | \$ 8,483.32   | \$ 8,483.32  |               |  |            |           |          |      |            |  |  |
| 61       | 4/30/2021  | Handrail Around Opening at MWG for UV Channel #3                                       | \$ 2,105.85   | Approved | 9 | \$ 2,105.85   |              | \$ 2,105.85   |  | 5/19/2021  |           |          |      |            |  |  |

Stamford WPCF Preliminary, Secondary and Disinfection Treatment Improvements  
Change Order Summary

|          |           |   |                |          |    |                |               |                |           |      |          |   |           |  |      |           |
|----------|-----------|---|----------------|----------|----|----------------|---------------|----------------|-----------|------|----------|---|-----------|--|------|-----------|
| 62       | 5/10/2021 | (RFI-157A) Grating Grounding at UV Basins                                       | \$ 5,492.86    | Approved | 9  | \$ 5,492.86    |               | \$ 5,492.86    | 5/11/2021 | 157A |          |   |           |  |      |           |
| 64 (rev) | 5/12/2021 | (RFI-126) Accessibility of UV Transmittance Sensor                              | \$ 9,493.96    | Approved | 9  | \$ 9,493.96    |               | \$ 9,493.96    | 5/13/2021 | 126  |          |   |           |  |      |           |
| 65       | 5/12/2021 | Sawcut Overhand in Stairs in RSPS   | \$ 900.43      | Approved | 9  | \$ 900.43      | \$ 900.43     |                |           |      |          |   |           |  |      |           |
| 66       | 5/12/2021 | Rework Removable Railings at AT Mixers  | \$ -           | Approved | 9  | \$ -           | \$ -          |                |           |      |          |   |           |  |      |           |
| 67       | 5/12/2021 | Add Supports @ Influent Channel for Aluminum Plating                            | \$ 5,315.63    | Approved | 9  | \$ 5,315.63    | \$ 5,315.63   |                |           |      |          |   |           |  |      |           |
| 68       | 5/12/2021 | Notch Framing around new influent pump shafts @ 5 Locations                     | \$ 1,009.50    | Approved | 9  | \$ 1,009.50    | \$ 1,009.50   |                |           |      |          |   |           |  |      |           |
| 70       | 5/17/2021 | (WCD-H-03) Encase Electrical and Hydraulic Conduit in Basin #2 (T&M)            | \$ 23,166.63   | Approved | 9  | \$ 23,166.63   |               | \$ 23,166.63   |           |      |          |   |           |  | H-03 |           |
| 71       | 5/21/2021 | Provide 7 MGD Clean Recirculated Flow at UV Basin #2                            | \$ 4,372.78    | Approved | 9  | \$ 4,372.78    |               | \$ 4,372.78    | 5/26/2021 |      |          |   |           |  |      |           |
| 72 (rev) | 5/21/2021 | (RFI-222-H) Basin 2, Channel 3 Existing Wall Inconsistencies                    | \$ 8,436.33    | Approved | 9  | \$ 8,436.33    |               | \$ 8,436.33    | 6/6/2021  | 222  |          |   |           |  |      |           |
| 74       | 5/28/2021 | (RFI-167) Repair to Existing Concrete Beam at UV Effluent PS                    | \$ 42,048.45   | Approved | 9  | \$ 42,048.45   |               | \$ 42,048.45   | 6/6/2021  | 167  |          |   |           |  |      |           |
| 63 (rev) | 7/15/2021 | Investigate/Repair Failed 42" Force Main  | \$ 209,722.28  | Approved | 10 | \$ 209,722.28  | \$ 209,722.28 |                |           |      |          |   |           |  |      |           |
| 69 (rev) | 7/15/2021 | Install Temporary 24" HDPE Force Mains & Manifold                               | \$ 367,747.46  | Approved | 10 | \$ 367,747.46  | \$ 367,747.46 |                |           |      |          |   |           |  |      |           |
| 59       | 4/16/2021 | Add Current Transformers to Blowers to Accept signal and monitoring of Amperage | \$ 24,700.84   | Approved | 11 | \$ 24,700.84   |               | \$ 24,700.84   | 6/10/2021 | 237  |          |   |           |  |      |           |
| 75       | 6/9/2021  | Replace Mixer Meltic Connector to Match New Mixers                              | \$ 7,330.29    | Approved | 11 | \$ 7,330.29    |               | \$ 7,330.29    | 6/10/2021 |      |          |   |           |  |      |           |
| 77       | 7/12/2021 | Re-align Pumps 4 and 5 per GA Fleets Recommendation                             | \$ 2,924.56    | Approved | 11 | \$ 2,924.56    | \$ 2,924.56   |                |           |      |          |   |           |  |      |           |
| 78       | 7/15/2021 | Bypass Force Main Rental/Ops Costs 4/21/21 through 6/18/21                      | \$ 136,711.13  | Approved | 11 | \$ 136,711.13  | \$ 136,711.13 |                | 8/11/2021 |      |          |   |           |  |      |           |
| 80       | 7/29/2021 | Paint Existing Bridge Crane runway beams and crane rail at UV Basin #2          | \$ 8,221.33    | Approved | 11 | \$ 8,221.33    |               | \$ 8,221.33    | 7/29/2020 |      |          | 6 | 7/22/2021 |  |      |           |
| 81       | 8/13/2021 | Radar Level Sensor  | \$ 2,407.75    | Approved | 12 | \$ 2,407.75    |               | \$ 2,407.75    | 8/18/2021 |      |          |   |           |  | H-04 | 6/10/2021 |
| 83       | 8/13/2021 | Delete Blower Room Floor Painting   | \$ (12,915.20) | Approved | 12 | \$ (12,915.20) |               | \$ (12,915.20) | 8/25/2021 |      |          |   |           |  |      |           |
| 84       | 8/18/2021 | WCD-05-H UV PLC Programming Modifications - Add channel out of Service Status   | \$ 7,691.61    | Approved | 12 | \$ 7,691.61    |               | \$ 7,691.61    | 8/24/2021 |      |          |   |           |  | H-05 | 7/14/2021 |
| 85       | 8/24/2021 | (RFI-256) Protection around Fixed Ultrasonic Sensors at UV                      | \$ 3,053.06    | Approved | 12 | \$ 3,053.06    |               | \$ 3,053.06    | 9/3/2021  | 256  | 7/8/2021 |   |           |  |      |           |
| 89       | 8/27/2021 | Add WiFi to Aeration Tank Instruments   | \$ 15,421.01   | Approved | 12 | \$ 15,421.01   |               | \$ 15,421.01   | 8/30/2021 |      |          |   |           |  |      |           |
| 90       | 8/27/2021 | Replace Existing Plastic JBs on Aeration  | \$ 10,997.74   | Approved | 12 | \$ 10,997.74   |               | \$ 10,997.74   |           |      |          |   |           |  |      |           |

Stamford WPCF Preliminary, Secondary and Disinfection Treatment Improvements  
Change Order Summary

|     |            |  |               |                    |     |                 |                 |              |                |  |          |     |    |            |    |            |
|-----|------------|--|---------------|--------------------|-----|-----------------|-----------------|--------------|----------------|--|----------|-----|----|------------|----|------------|
| 92  |            | Add Meltric Plugs AT NRCY Pumps  | \$ 24,806.41  | Approved           | 12  | \$ 24,806.41    |                 | \$ 24,806.41 |                |  |          |     |    |            |    |            |
|     |            | Credit for Remaining Unit Price Item 4C - Surface Spall Repair   |               | Approved           | 12  | \$ (15,107.00)  |                 |              | \$ (15,107.00) |  |          |     |    |            |    |            |
|     |            | Credit for Remaining Unit Price Item 5C - Formed Spall Repair  |               | Approved           | 12  | \$ (35,000.00)  |                 |              | \$ (35,000.00) |  |          |     |    |            |    |            |
|     |            | Additional Unit Price Item 6C - Type I Crack Repair  |               | Approved           | 12  | \$ 875.00       |                 |              | \$ 875.00      |  |          |     |    |            |    |            |
|     |            | Credit for Remaining Unit Price Item 7C - Type II Crack Repair   |               | Approved           | 12  | \$ (3,750.00)   |                 |              | \$ (3,750.00)  |  |          |     |    |            |    |            |
|     |            | Credit for Remaining Unit Price Item 8C - Type III Crack Repair  |               | Approved           | 12  | \$ (13,855.00)  |                 |              | \$ (13,855.00) |  |          |     |    |            |    |            |
|     |            | Credit for Remaining Unit Price Item 9C - Disposal of Polluted Soils   |               | Approved           | 12  | \$ (14,250.00)  |                 |              | \$ (14,250.00) |  |          |     |    |            |    |            |
|     |            | Credit for Remaining Unit Price Item 10C - Disposal of Contaminated Soils  |               | Approved           | 12  | \$ (21,750.00)  |                 |              | \$ (21,750.00) |  |          |     |    |            |    |            |
| 15  | 3/18/2020  | Reroute roof drain from Screenings Building as required by the Stamford Building Department. Approved materials only. Labor to high so going T&M | \$ 6,912.20   | Partial Approval   | TBD | TBD             | TBD             |              |                |  | 4/7/2020 |     |    |            |    | W-01       |
| 23  | 4/24/2020  | Replace Cables for Gates Not Shown on Contract Drawing   | \$ 5,893.78   | Revisions Required |     |                 |                 |              |                |  |          |     |    |            |    |            |
| 76  | 6/15/2021  | Increase Influent Pump VFD and Cabling   | \$ 132,196.26 | Approved           | 12  | \$ 132,196.26   | \$ 132,196.26   |              |                |  |          |     |    |            |    |            |
| 73  | 11/23/2021 | Replace Primary D-Box Gates and Actuators  | \$ 96,748.25  | Approved           | 13  | \$ 96,748.25    | \$ 96,748.25    |              |                |  |          |     | 01 | 11/22/2021 |    |            |
| 94  | 11/23/2021 | Realign RSP 1,2 &3   | \$ 4,067.19   | Approved           | 13  | \$ 4,067.19     | \$ 4,067.19     |              |                |  |          |     |    |            | 37 | 9/27/2021  |
| 95  | 11/23/2021 | Add light to CP-96   | \$ 762.80     | Approved           | 13  | \$ 762.80       | \$ -            | \$ 762.80    |                |  |          |     |    |            | 26 | 12/15/2020 |
| 98  | 11/23/2021 | Configure Hach Controller for WiFi Use   | \$ 6,102.42   | Approved           | 13  | \$ 6,102.42     | \$ -            | \$ 6,102.42  |                |  |          |     |    |            | 31 | 4/20/2021  |
| 99  | 11/23/2021 | Add Aeration Blower VDV Alarm  | \$ 2,674.05   | Approved           | 13  | \$ 2,674.05     | \$ -            | \$ 2,674.05  |                |  |          |     |    |            | 51 |            |
| 105 | 11/23/2021 | Add Neoprene Pads on Roof  | \$ 2,370.74   | Approved           | 13  | \$ 2,370.74     | \$ 2,370.74     |              |                |  |          | 258 |    |            | 36 | 5/22/2021  |
| 106 | 11/23/2021 | Provide Additional Roof Duct Supports  | \$ 7,956.42   | Approved           | 13  | \$ 7,956.42     | \$ 7,956.42     |              |                |  |          | 288 |    |            | 54 | 10/7/2021  |
| 107 | 11/23/2021 | Change Pipe Colors in RSPS   | \$ 1,762.00   | Approved           | 13  | \$ 1,762.00     | \$ 1,762.00     |              |                |  |          | 289 |    |            |    |            |
| 109 | 11/23/2021 | SNEET Servoces Assist City   | \$ 4,014.79   | Approved           | 13  | \$ 4,014.79     | \$ 4,014.79     |              |                |  |          |     |    |            |    |            |
| 79  | 11/23/2021 | Force Main Repair and Slip Lining Assistance   |               | Approved           | 14  | \$ 1,302,438.55 | \$ 1,302,438.55 |              |                |  |          |     |    |            |    |            |
|     |            | Additional Work at Spare Parts Building Exterior Door  |               | Pending            |     |                 |                 |              |                |  |          |     |    |            |    |            |
| 97  | 10/1/2021  | CP-11 Reprogramming for Washpress Operations   | \$ 2,542.68   | Approved           | 15  | \$ 2,542.68     | \$ 2,542.68     |              |                |  | 1/4/2022 |     |    |            |    |            |



